

D6.4.1 **EVALUATION OF ENABLERS**June 2014

ABSTRACT

This document aims to summarize the experiences of the Flcontent partners with using Fl-Ware Generic Enablers. Based on a standardized survey, each partner provided information for each GE they evaluated. The results are summarized in a general overview and details are given per GE.

This document is a deliverable of the FI-CONTENT 2 integrated project supported by the European Commission under its FP7 research funding programme, and contributes to the FI-PPP (Future Internet Public Private Partnership) initiative.







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EXECUTIVE SUMMARY

The aim of this deliverable is to summarize the experiences of Flcontent partners with Fl-Ware Generic Enablers (GE). It compiles the results of the evaluations of the selected enablers performed by WP2-4 & 6. The objectives are to validate their usability, give feedback to their providers, and especially enable decision-makers to select technologies according to formal criteria for phase 3 as well as for commercial products.

The technical partners of Flcontent contributed to this deliverable by summarizing their evaluation results in a standardized survey for each Generic Enabler they evaluated. In total, 36 evaluations were performed by partners. As some GEs were evaluated by more than one partner, 24 distinct enablers were evaluated by 10 technical project partners.

The results of the evaluation can be summarized as follows. The functionality of GEs was perceived very positively with over 90% of evaluations claiming that the GE provides the documented functionality. However, not all GEs covered the partner's needs. In total, about two thirds of evaluations resulted in an actual usage of the GE. The main reasons given for not implementing a GE were lack of functionality or extensibility, high integration effort and availability of other (open source) components that seemed more suitable.

Documentation is available for all the GEs, but is not always sufficient or up-to-date. Additionally, training material (tutorials, webinars) is not always available and the material that is available was rated slightly worse than the documentation.

Of those GEs that need to be installed, most were available for the desired target platforms and their installation process was well documented. Some of the server-side GEs had issues with down times, especially since these were not announced in advance.

The terms and conditions of GEs were mostly acceptable for the partners. However, the conditions and availability of GEs after the end of the FI-PPP program was not always clear, especially in terms of commercial exploitation. The same applies to further development of GEs.



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TABLE OF CONTENTS

EXECUTIVE SUMMARY	3
LIST OF AUTHORS	4
Table of contents	5
1 - Introduction	7
1.1 - Scope of evaluating Generic Enablers	7
1.2 - Methodology for evaluating Generic Enablers	7
2 - OVERALL RESULTS OF EVALUATING GENERIC ENABLERS	8
2.1 - General	8
2.2 - Functionality & API	14
2.3 - Documentation	15
2.4 - Installation, integration & usage	16
2.4.1 - For a library or installable GE	16
2.4.2 - For a server-side GE that you want to use as a service already provided by others	
2.4.3 - For a server-side GE that you want to deploy and host yourself	
2.5 - Terms & conditions	
2.6 - Support & sustainability	
2.7 - Summary	
3 - RESULTS PER GENERIC ENABLER	
3.1 - Apps Chapter - Application Mashup	
3.2 - Apps Chapter - Service Mashup	26
3.3 - Cloud Chapter - Cloud Portal	29
3.4 - Cloud Chapter - Cloud Proxy	32
3.5 - Cloud Chapter - DataCenter Resource Management	35
3.6 - Cloud Chapter - Object Storage	38
3.7 - Data Chapter - Metadata Preprocessing	41
3.8 - Data Chapter - Semantic Annotation	44
3.9 - I2ND Chapter - (I2ND) Connected Device Interfacing (CDI)	47
3.10 - MiWi Chapter - 2D-3D-Capture	50
3.11 - MiWi Chapter - 2D-UI	53
3.12 - MiWi Chapter - 3D-UI	56
3.13 - MiWi Chapter - Advanced Middleware	59
3.14 - MiWi Chapter - Augmented Reality	61
3.15 - MiWi Chapter - GIS Data Provider	65



ANNEX 1: Su	JRVEY	95
3.24 - Secu	rity Chapter - Identity Management [One-IDM / NSN]	92
3.23 - Secu	rity Chapter - Identity Management [KeyRock / UPM]	89
3.22 - Secu	rity Chapter - Identity Management [GCP / DT]	86
3.21 - Secu	rity Chapter - Identity Management [DigitalSelf / NSN]	82
3.20 - MiWi	Chapter - Virtual Characters	80
3.19 - MiWi	Chapter – Synchronization	77
3.18 - MiWi	Chapter - Real-Virtual Interaction	74
3.17 - MiWi	Chapter - POI Data Provider	71
3.16 - MiWi	Chapter - Interface Designer	68



1 - Introduction

This chapter sets out to provide a general introduction to the document at hand. To do so, section 1.1 defines the document's scope with respect to task 6.4 and its deliverable D6.4.1. Subsequent, section 1.2 explains the logic and process of the evaluation methodology applied with respect to the task's scope.

Following the introduction, the document is structured as follows: For each Generic Enabler that was evaluated, an individual chapter provides its respective evaluation results following a common structure. To be more precise, each GE chapter consists of seven blocks (General, Functionality & API, Documentation, Installation, Integration & Usage, Terms & Conditions, Support & Sustainability, and Summary). The appendix provides the questionnaire used to gather the input data on Generic Enablers from the partners.

1.1 - Scope of evaluating Generic Enablers

The objectives of evaluating Generic Enablers are to validate their usability, give feedback to their providers and especially enable decision-makers to select technologies according to formal criteria for FI-PPP Phase 3 as well as for commercial products. The deliverable at hand is the first release of this evaluation; a final one will be released M24. Thus, questions regarding GE usability that are currently open, shall be addressed in this upcoming deliverable.

1.2 - Methodology for evaluating Generic Enablers

In order to achieve the objectives outlined above, Flcontent partners carried out evaluation activities in three steps: First, an initial screening was performed for selecting GEs. Secondly, a technical screening was conducted by partners for checking technical feasibility of actually using certain GEs for their respective implementations. Thirdly, partners validated the GEs selected through experimentations and performance tests. While doing so, partners established and kept contact with GE providers for solving implementation and usage issues via the FI-WARE helpline.

Information gained during this process was collected via standardized questionnaires (see annex). These were structured based on seven dimensions – General, Functionality & API, Documentation, Installation, Integration & Usage, Terms & Conditions, Support & Sustainability, Summary. The dimensions are seen to cover several areas of interest both of GE providers and Phase 3 participants. In order to put feedback in place that provides actionable insights for these two target groups, partners filled out one questionnaire per GE evaluated.



2 - OVERALL RESULTS OF EVALUATING GENERIC ENABLERS

This section summarizes the overall results of the GE evaluation by providing insights to several aspects of GE usage. It is organized just as the survey that was filled out by the partners with a separate subsection corresponding to each part of the survey respectively. When possible, results are aggregated and visualized in diagrams and charts. However, for a detailed analysis per GE, please consult the next section "Results per Generic Enabler".

2.1 - General

For this deliverable, 10 Flcontent partners summarized their experiences after evaluating 24 distinct Generic Enablers. 9 of these enablers were evaluated by more than one partner, resulting in 36 evaluations in total. Table 1 gives an overview on the evaluated Generic Enablers including a short summary of the evaluation results while Table 2 lists the partners who contributed to the deliverable.

Table 1: Evaluations per Generic Enabler

Chapter	Generic Enabler	Evaluations
Apps Chapter	Application Mashup	1

The GE has been evaluated for the use case of combining various media analysis and content enrichment services. Therefore there is the need for a means to combine and to trigger the execution of those services. During the evaluation it became apparent that the GE only allows combining dedicated preselected services, but not arbitrary services like the ones used for media analysis and content enrichment. Since the focus of this GE is the composition of high level, graphical services, it is not applicable for the given use case. Due to the missing feature for the given use case, the GE was not further evaluated and is therefore not assessed in terms of installation, integration and usage.

Apps Chapter Service Mashup

Also this GE has been evaluated for the use case of combining various media analysis and content enrichment services. The combination and execution of arbitrary media analysis and content enrichment services is needed. Again the GE does not allow extending the set of services that can be used for service composition and is therefore again not applicable for the given use case. It is uncertain if one could expect the GE to provide the possibility to combine arbitrary services. Due to the missing feature for the given use case, the GE was not further evaluated and is therefore not assessed in terms of installation, integration and usage.

Cloud Chapter Cloud Portal

This GE has been evaluated by four different partners and for four different use cases. The overall rating is very satisfactory in terms of functionality and APIs. A few answers vary to some extends. This might be due to subjectivity but they could also come from different times of evaluation. For example, two partners rate the quality of the documentation as not sufficient whereas the other two think it is good and up-to-date. After asking for further details, it became apparent that the documentation is well and sufficient for some part of the functionality, but it covers not all parts. The same is true for the provided training material. For this GE the terms and conditions after Phase 3 of the FI-PPP are completely unclear. Same applies to the question if they allow partners to use a GE in a commercial product. Nevertheless, the GE is currently used and is well worth the efforts of integration.

Cloud Chapter Cloud Proxy

The GE was evaluated as a possibility to give users a choice of the processing location since especially broadcasters have copyright restrictions that might prevent them from analysing their content in the cloud. Since the GE is only available as a fixed combined software / hardware solution which cannot be deployed on custom hardware and due to its focus on non-professional use cases the GE is insufficient for the given use case. It was therefore not further evaluated and not assessed in terms of installation, integration and usage as well as in terms of sustainability.



Chapter	Generic Enabler	Evaluations
Cloud Chapter	DataCenter Resource Management	2

This GE was evaluated by two partners, one partner only tried to install and use it; the other one has successfully installed and used it. Both partners are not informed about terms and conditions after phase 3 of FI-PPP as well as about sustainability. For one partner the GE does not sufficiently meet the performance requirements, due to network latency that assessed as unpredictable and unmanageable. The other partner points out that the service is unavailable more often than expected. This results in that both partners do not know if the gains obtained through using the GE are well worth the efforts, although one partner is using the GE. The other partner is still actively evaluating this GE, but so far has concerns over managing network delay.

Cloud Chapter Object Storage

The GE was evaluated by two partners and is now used by both of them. The overall rating is good in all aspects, but the functionality can easily be provided by any other web storage since it provides little incentives over web storage services. Both encountered downtimes without prior notifications. In summary one partner does not know if the gains obtained through using the GE are well worth the efforts. Especially for commercial use the partner states that one might use a solution that has defined SLAs and support.

Data Chapter Metadata Preprocessing

The GE was evaluated to transform XML formats coming out of media analysis and content enrichment services in another format preferred by the user. The GE is well documented but its functionality is very limited, so that it did not met the requirements of the use case. Due to the missing functionality and benefit compared to other open source solutions, the GE was not further evaluated and is therefore not assessed in terms of installation, integration and usage as well as in terms of sustainability. The terms and conditions are not acceptable as there is no support provided for the GE. The GE is therefore not used and its gains are not worth the efforts.

Data Chapter Semantic Annotation 1

This GE was evaluated to enlarge the functionality of the Content Optimisation SE. It is well documented and easy to use, but the evaluating partner misses a better scalability, support for more languages, integration of additional data sources for linking and training for a better entity recognition. Although it is in constant use, the partner stated that the gains obtained through using the GE are not worth the effort in integrating it. This is due to the fact that the performance requirements are not met. The partner indicated that even annotations of short texts can take more than one minute and the whole service is way too slow.

I2ND Chapter (I2ND) Connected Device Interfacing (CDI) 1

The GE was evaluated to discover connected TV devices in a home network and to use the TV as a remote display. For this use case the provided functionality is not satisfactorily. Although no specific feature is missed by the partner, it is stated that the installation and use is not really easy and requires additional software packages and background knowledge. Other solutions are easier and faster to integrate. This is amongst others due to the missing of a good documentation and training material. Overall the GE is used but the partner stated that the gains obtained through using the GE are not worth the effort in integrating it. The GE seems not to be the best choice for the given use case, instead the partner would prefer to use for example the W3C Webscreen API.



Chapter	Generic Enabler	Evaluations
MiWi Chapter	2D-3D-Capture	1

The GE was evaluated because all augmented reality use cases require tracking of either a certain target or feature of the surrounding environment. In particular SLAM-like tracking purposes and 3D reconstruction require such capabilities, which the GE partially addresses. The partner misses the "3D Scene Builder" which is described in the documentation but seems to be neither part of this GE nor be available as a separate module. The documentation is not sufficient and the training material is hard to find. Due to the missing functionality it is currently not used. The partner currently sees no gain from using this GE as standalone, but it is not clear to him how this GE interacts with other available GEs/modules to obtain gain.

MiWi Chapter 2D-UI 1

This GE simplifies the access to device input interfaces, such as keyboard, mouse, touch, gamepad, etc. It is used as an abstraction layer for user interaction with scenario application prototypes. The overall impression of the GE is good. Its functionality and API is very satisfactorily. The documentation and the training material are good. Terms and conditions are clearly defined and although long term sustainability is unknown, support and updates are provided currently. The GE is in current use and well worth the efforts of integration.

MiWi Chapter 3D-UI 2

The GE was evaluated by two partners, both have successfully installed and used it, one partner uses the GE constantly in an end user application. The overall impression of the GE is good, although one partner misses HW-Support for Xflow-Nodes and the other one a larger set of features. The documentation and the training material are good. Terms and conditions are clearly defined. One partner sees a risk related to data protection/content rights since the GE might ease the access to copyrighted 3D content, which was published using this GE. Long term sustainability is offered and support and updates are provided constantly. Both partners have stated that the GE is in current use and its gains are well worth the efforts of integration. In the remaining project time performance improvements are expected by one partner.

MiWi Chapter Advanced Middleware

This GE is evaluated and used with the Synchronization GE. The overall impression is good. The partner only misses a support for a binary protocol. The documentation is good but hard to find, but the provided training material is not sufficient. Terms and conditions are clearly defined. Long term sustainability is offered and support and updates are provided constantly. The GE is in current use and its gains are well worth the efforts of integration.

MiWi Chapter Augmented Reality 2

This GE was evaluated by two partners, which gave in parts different assessments. For one of the partners use cases the functionality of the GE is insufficient. The partner misses natural feature tracking for predefined image markers. The other partner rated the functionality to be sufficiently but misses also natural image marker tracking. The documentation is good but hard to find, the provided training material is even harder to find, since one partner stated that there is no training material available. One partner stated that including the GE resulted in a huge overhead of dependencies. The other partner still uses native mobile application libraries for tracking, since the GE has not yet proven to be fast enough for general game application uses. Terms and conditions are clearly defined, although one partner stated that some game and application publishers cannot include open source in their run-time applications, due to potential of ownership litigation. One partner has asked for support for natural feature tracking and received an insufficient answer in terms of a rejection. The GE is in current use by one of the partners who also thinks that its gains are well worth the efforts of integration. The other partner is not using the GE because it provides no added value over DFKI's Marker Tracking SE.



Chapter	Generic Enabler	Evaluations
MiWi Chapter	GIS Data Provider	1

The GE provides terrain and building data in various formats. The GE is used to retrieve geospatial data compliant with the 3D-UI GE to be used in location-related scenario applications, such as Smart City applications and city-wide games. The overall impression of the GE is very good. It is providing the needed functionality and a good documentation which could be better to find. Terms and conditions are clearly defined and an excellent support is provided. Only long term sustainability is unknown. The GE is in current use and well worth the efforts of integration.

MiWi Chapter Interface Designer

The GE is evaluated for editing of 3D scenes on the web. Its functionality is not satisfactorily since it misses advanced editing features for convenience (e.g. custom asset import, transform-object-relation handling, persistence, etc.). Documentation and training material are good but hard to find. Terms and conditions are clearly defined and although long term sustainability is unknown, support and updates are provided currently. Due to the missing functionality it is currently not used. The partner is currently not sure if there is a gain from using this GE, but this might change when further functionality is provided.

MiWi Chapter POI Data Provider

This GE was evaluated by two partners. One partner has successfully installed and used it; the other one only tried to and therefore has not assessed the GE in terms of installation, integration and usage. In terms of functionality both partners are missing features. One partner misses custom data components, data import tools; whereas the other one misses sub-pixel location point accuracy for full featured augmented reality application. Documentation and training material could be improved. The GE is in current use by one of the partners who also thinks that its gains are well worth the efforts of integration. The other partner is unsure about the gains and will likely use this GE in connection with OpenDataSoft SE. If it can be used directly for city AR POIs yet, is not clear.

MiWi Chapter Real-Virtual Interaction 2

This GE was evaluated by two partners. One partner has successfully installed and used it; the other one only had a look on the documentation and therefore has not assessed the GE in terms of installation, integration and usage. The partner who only read the documentation stated that the GE is still not released yet, whereas the other partner did not. There seems to be a lack of information about the status of this GE and updates in terms of functionality, documentation and training material. In terms of functionality one partner misses the final integration with the POI-DP GE to retrieve information about possible interaction with devices associated with POI through this GE. However, this request was communicated already to the GE owners and the partner is involved in the process. Terms and conditions are clearly defined. One partner sees a risk related to the missing access control. The support is excellent, only long term sustainability is unknown. The GE is in current use by one of the partners who also thinks that its gains are well worth the efforts of integration. The other partner is unsure about the gains and cannot tell if the GE will be used without having tested it.

MiWi Chapter Synchronization

The GE was evaluated for several scenario applications. The overall impression is very good. Functionality is excellent although the partner misses dynamic content delivery. Documentation and training material are also very good. Terms and conditions are clearly defined and the support is also very good. Only long term sustainability is unknown. The GE is in current use and its gains are well worth the efforts of integration.



Chapter	Generic Enabler	Evaluations
MiWi Chapter	Virtual Characters	1

This GE was evaluated for the use as a common description of virtual characters. The functionality is currently satisfactorily although the partner does not miss a specific feature. Documentation and training material are both not sufficient and should be improved. Terms and conditions are clearly defined and the support is satisfactorily. Only long term sustainability is unknown. The GE is in current use and its gains are well worth the efforts of integration.

Security Chapter Identity Management [DigitalSelf / NSN]

The GE was evaluated by two partners. One partner has successfully installed and used it; the other one only had a look on the documentation and decided than to work with an easier IDM GE. Therefore the evaluation of this partner is incomplete. The functionality is satisfactorily and one partner misses a TV tailored and HbbTV compliant front-end. Training material is not available. The assessment of the quality of documentation greatly differs. For one partner it is good and easy to find, whereas for the other one it is insufficient. Terms and conditions are clear for the current project phase only. No exact T&C are provided for a commercial use later. These would need to be discussed on a case by case basis - which seems to be acceptable for the partner. The partner also sees a risk related to data protection/content rights since there are strict data protection and privacy laws in place for TV services. Before deploying commercial services on top of the Second-Screen Framework, an agreement with the underlying GE provider would have to be found on the handling of personal data. The end-users T&C for the service application would need to explain the fact that personal information is forwarded to a third party. There's a certain risk that this is not deemed acceptable. The support for this GE is excellent, only long term sustainability is unknown. The GE is in current use by one of the partners who also thinks that its gains are well worth the efforts of integration. The other partner is not using the GE due to the insufficient documentation and uses instead another IDM GE.

Security Chapter Identity Management [GCP / DT]

The GE was evaluated to allow users to register and login to the server-based SEs of the partner. The partner misses a front-end to manage users and a feature to allow data storage of users' usage. Therefore the functionality was rated not satisfactorily. The documentation and the training material are good but hard to find. Since the service was not available for several times, it does not meet the performance requirements of the partner. The terms and conditions especially for beyond FI-PPP are uncertain. The partner also sees a risk related to data protection/content rights since the data each user enters is stored on servers of the GE provider and it is not possible to check which data is stored and how secure the storage is. The support is good but long term sustainability is unknown especially since there is no further development. The GE is in use but its gains are not worth the efforts due to the missing features and the uncertain future status of the GE.

Security Chapter Identity Management [KeyRock / UPM] 3

This GE was evaluated by three partners. One partner has successfully installed and used it, whereas two partners only tried to do so. One partner evaluated the GE at a time with no sufficient documentation and therefore stopped the evaluation. The partner only assessed the GE in parts. The overall impression of the other two partners is good in terms of functionality and documentation. For this GE the terms and conditions after Phase 3 of the FI-PPP are uncertain at least for two of the partners. Long term sustainability is unknown as well as the status of updates. All three partners are uncertain whether or not the gains of the GE are worth the efforts, although it is used at least by one partner. One is not using it and the third partner has not yet decided, but might evaluate the GE again now that the documentation is updated.

2



Chapter	Generic Enabler	Evaluations
Security Chapter	Identity Management [One-IDM / NSN]	1

The GE was evaluated for user authentication at the first connection to the VOD Search & Discovery service. Since the GE does not us OAUth 2.0 authentication the functionality is insufficient for the use case. The documentation is excellent although there is no training material available. For this GE the terms and conditions after Phase 3 of the FI-PPP are uncertain. Long term sustainability is unknown as well as the status of updates. Due to the missing functionality the GE is not used and it is not worth the effort of integration.

Table 2: Partners contributing to the evaluation

Partner name
DFKI
ETH Zürich
Fraunhofer FOKUS
Fraunhofer IAIS
Institut für Rundfunktechnik (IRT)
Lancaster University
Pixelpark
Technicolor
Thales Communications and Security
The Walt Disney Company Ltd

As Figure 1 shows, the number of evaluated GEs per platform is almost equal for each of the three platforms. Some evaluations were performed for more than one platform, resulting in a larger number of evaluations in the pie chart than actually submitted.

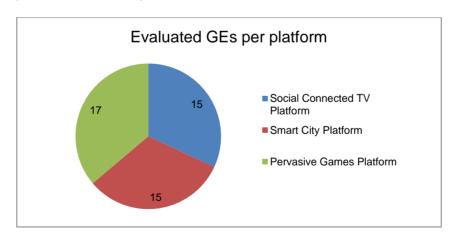


Figure 1: Number of evaluated Generic Enablers per platform



2.2 - Functionality & API

The first part of the survey asked users to rate the functionality provided by a Generic Enabler. When asked to which degree a GE provides the documented functionality, over 90% were at least satisfied with the coverage of the documented functionality of the GE. Figure 2 illustrates the percentage for each possible answer.

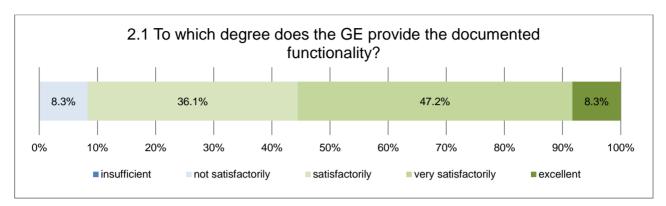


Figure 2: To which degree does the GE provide the documented functionality?

When asked to which degree a GE covers the partner's needs, two thirds were at least satisfied with the GE (Figure 3). This result matches the overall outcome of this survey: About two thirds of the evaluations resulted in the actual implementation of a GE (See section 0



Summary).

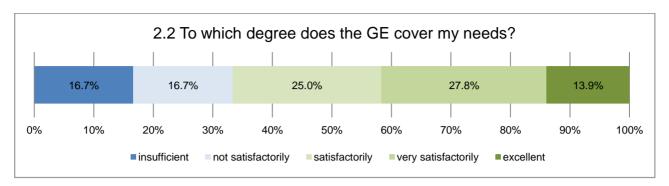


Figure 3: To which degree does the GE cover my needs?

Developers were very satisfied with the APIs of Generic Enablers. Over 86% rated their ease of usage as satisfactorily or better (Figure 4). Additionally, all APIs were compliant to industry-adopted standards when applicable. The most common standards used are REST for service interfaces and OAuth 2.0 for authentication. Furthermore, many enablers implement a variety of other standards that are specific to the domain of the GE. Although compliance with standards is provided and has been positively evaluated in general, the level of compliance was not asked in the survey.

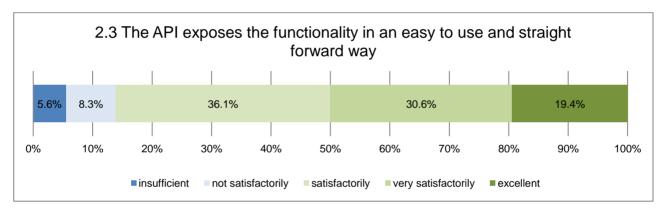


Figure 4: The API exposes the functionality in an easy to use and straight forward way

2.3 - Documentation

When choosing Generic Enablers it is crucial to understand quickly what the GE provides and how it can be used. Over 85% were at least satisfied with the documentation of GEs in this regard (Figure 5).

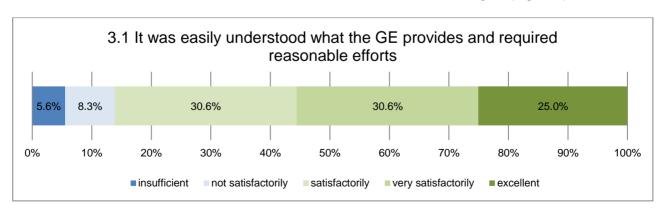


Figure 5: It was easily understood what the GE provides and required reasonable efforts



The participants of the survey were also asked how easy it was to find documentation and training material for a GE and how good the provided material is. The results lead to the conclusion that documentation is available for all the GEs, but is not always sufficient or up-to-date (Figure 6).

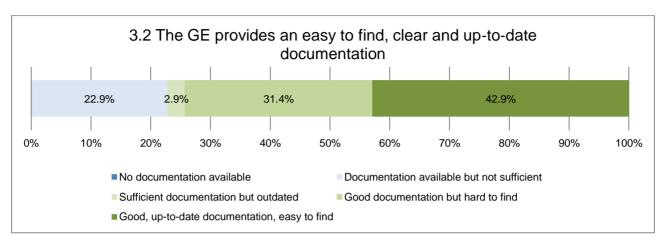


Figure 6: The GE provides an easy to find, clear and up-to-date documentation

However, training material (tutorials, webinars) is not always available (Figure 7). In addition, the material that is available was rated slightly worse than the documentation.



Figure 7: The GE provides good training material

2.4 - Installation, integration & usage

Due to the different categories (library, server component etc.) of GEs, this section is divided into three subsections. However, it is not always possible to assign a GE to a single category, meaning that some GEs contribute to more than one section.

2.4.1 - For a library or installable GE

This section contains all GEs that can be categorized as a library that is used in other software products. For this type of GE, it is crucial to know if it is compatible with existing platforms and components. In 80% GEs are available for the desired target platform and the installation process is well documented (Figure 8). Only 5% are not available for the desired target platform and are not compatible with existing components and requirements (Figure 8 and Figure 9).



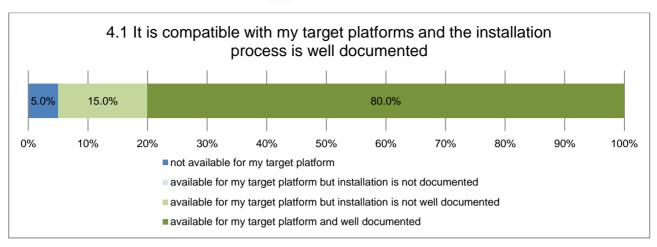


Figure 8: It is compatible with my target platforms and the installation process is well documented

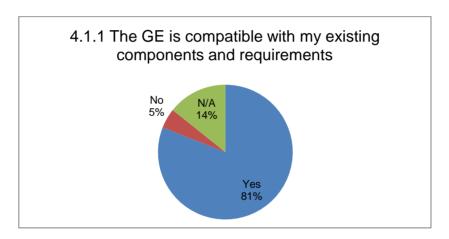


Figure 9: The GE is compatible with my existing components and requirements

2.4.2 - For a server-side GE that you want to use as a service already provided by others

Some of the server-side GEs cannot be installed locally but are provided by others (e.g. they are installed in FI-Lab). For these enablers it is very important to meet the performance requirements necessary to use them in a production environment. Almost 77% of the GEs meet the performance requirements (Figure 10).

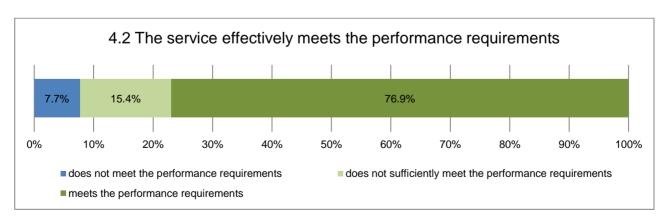


Figure 10: The service effectively meets the performance requirements



Down time is a very important factor when considering the implementation of a foreign component in a production environment. Over 70% of the evaluated GEs had down times more often that once in 3 months (Figure 11). For none of the GEs these down times were announced in advance.

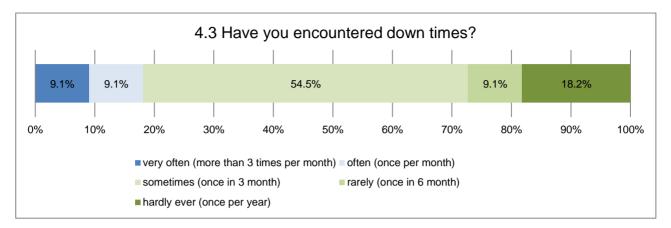


Figure 11: Have you encountered down times?

2.4.3 - For a server-side GE that you want to deploy and host yourself

Some server-side GEs can be deployed and self-hosted. The installation process is usually documented, but not always sufficiently (Figure 12).

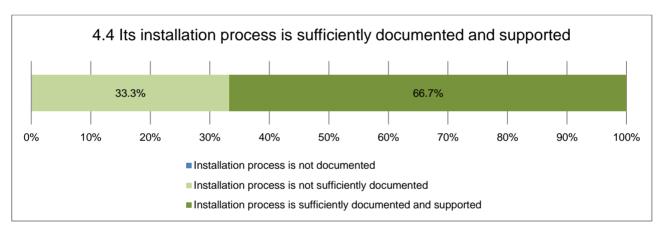


Figure 12: Its installation process is sufficiently documented and supported

2.5 - Terms & conditions

One of the most important aspects for using a GE within Flcontent is the terms & conditions that apply. In most cases (91%) terms and conditions are clearly specified and up-to-date for the current project phase. However, for some GEs (17%) they are not acceptable e.g. in terms of date of validity, licensing, price etc. (Figure 13). Among other reasons the lack of support, lack of pricing information, licensing issues and no indication about terms & conditions for commercial use after FI-PPP were mentioned.



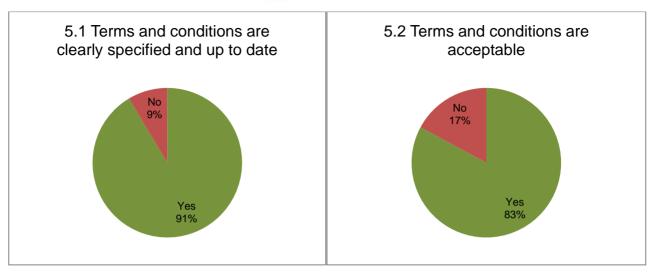


Figure 13: Acceptability of terms & conditions

Another important aspect is the risks and restrictions related to data protection or content rights introduced by using a Generic Enabler (Figure 14). Users criticized that the actual location of virtual servers might be unknown and that data protection, licensing and copyright issues might result from using such an infrastructure.

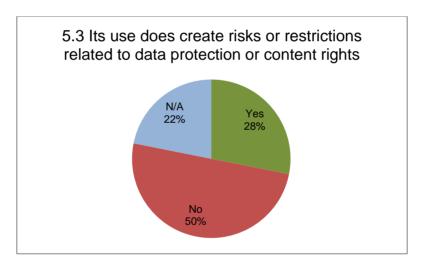


Figure 14: Its use does create risks or restrictions related to data protection or content rights

Besides the terms and conditions that apply for using a GE within the FI-PPP, it is important to know which conditions apply after Phase 3 of the FI-PPP and if they allow partners to use a GE in a commercial product. The results of the survey indicate that the terms and conditions are often unclear or do not even allow using the GE after the FI-PPP (Figure 15).



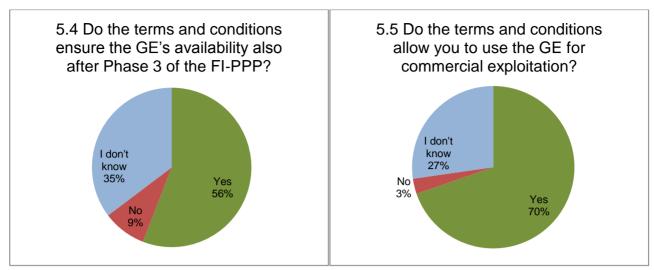


Figure 15: Terms & conditions after Phase 3 and for commercial exploitation

2.6 - Support & sustainability

In 20 of the 36 evaluations, partners asked the GE provider for support either via email or in a face-to-face situation (meeting, video conference, phone call). Requests were usually answered within a few days or less with only a few exceptions. Overall (95%), the users were satisfied with the answers (Figure 16).

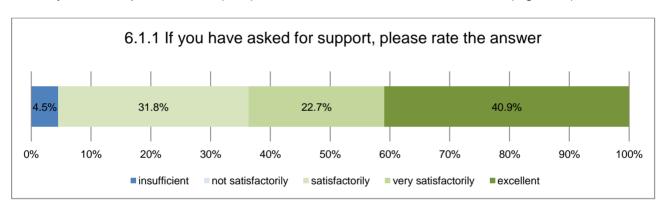


Figure 16: If you have asked for support, please rate the answer

Before implementing a GE into a production environment, it is crucial to know if the GE will be further developed and maintained. In over 32% of the evaluations only very limited support or no support at all are provided. 20% have the impression that the evaluated GE is maintained by an active developer community (Figure 17).



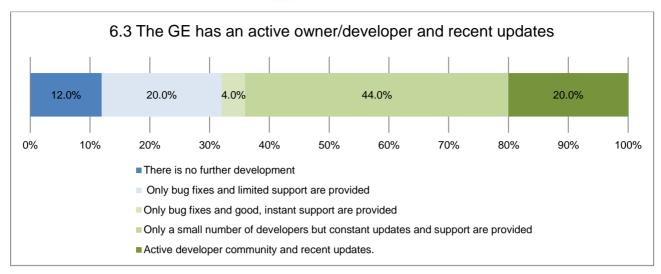


Figure 17: The GE has an active owner/developer and recent updates

For most of the users it was rather unclear how updates and API changes are announced (Figure 18).

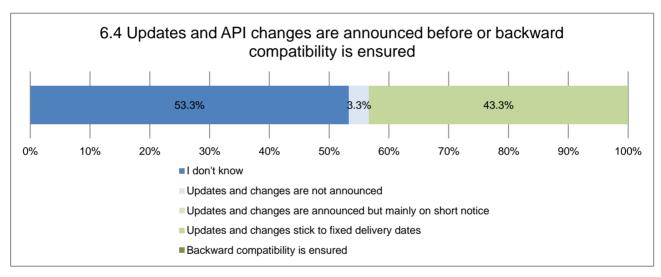


Figure 18: Updates and API changes are announced before or backward compatibility is ensured



2.7 - Summary

When asked if the gains obtained through using and implementing a Generic Enabler are worth the integration effort, 44% of the evaluations answered with yes. However, almost 64% of the evaluations resulted in an actual usage of the GE, meaning that some users implemented a GE even though they were not sure if it is useful or not (Figure 19).

The main reasons given for not implementing a GE were lack of functionality or extensibility, high integration effort and availability of other (open source) components that seemed more suitable. Some partners want to consider the evaluated GE again in the upcoming project phase.

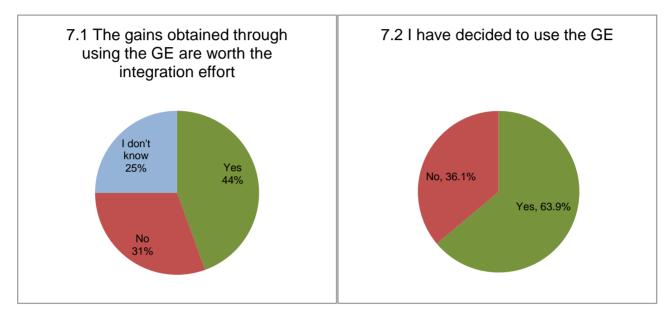


Figure 19: Integration of GEs



3 - RESULTS PER GENERIC ENABLER

3.1 - Apps Chapter - Application Mashup

The GE has been evaluated for the use case of combining various media analysis and content enrichment services. Therefore there is the need for a means to combine and to trigger the execution of those services. During the evaluation it became apparent that the GE only allows combining dedicated preselected services, but not arbitrary services like the ones used for media analysis and content enrichment. Since the focus of this GE is the composition of high level, graphical services, it is not applicable for the given use case. Due to the missing feature for the given use case, the GE was not further evaluated and is therefore not assessed in terms of installation, integration and usage.

General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	1
SEs / scenarios / applications the GE was evaluated for	Rich Content Scenario
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)
Evaluation use case(s)	When automatic content enrichment is needed, users often want to use a combination of various services instead of individual services. Therefore, they need a means to combine services and trigger their execution. The Application Mashup GE was evaluated to find out, if it could help users combining content enrichment services.
Functionality & API	
To which degree does the GE provide the documented functionality?	very satisfactorily
To which degree does the GE cover my needs?	insufficient
Evaluated features	Service composition
Missing features	The focus of this GE is the composition of high level, graphical services. It is not possible to orchestrate content enrichment services to a mashup.
The API exposes the functionality in an easy to use and straight forward way	very satisfactorily
The APIs are compliant with industry-adopted standards	Yes No N/A
Documentation	
It was easy understood what the GE provides and required reasonable efforts	satisfactorily



Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find
Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find
Installation, integration and usage	
For a library or an installable GE GE compatibility	
62 65pa.ii.	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented
GE is compatible with existing components / requirements	Yes No N/A
For a server-side GE that you want	to use as a service already provided by others (e.g. FI-LAB)
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements
Please indicate which of your requirements are not met	
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)
For a server-side GE that you want	to deploy and host yourself
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported
Terms & Conditions	
The terms and conditions are clearly specified and up to date	Yes No
The terms and conditions are acceptable	Yes No
Its use does create risks related to data protection/content rights	Yes No N/A
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know
The terms and conditions allow commercial exploitation	Yes No I don't know



Support & sustainability	
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now
If you have asked for support, please rate the answer	
If you have asked for support, how long did the answer take?	-
If you have asked for support, please give more details about the issue you had and how it was handled	-
Long-term sustainability is offered and well explained	Yes No I don't know
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know
I have decided to use the GE. If not, please give the main reason.	Yes No It does not provide the desired functionality



3.2 - Apps Chapter - Service Mashup

Also this GE has been evaluated for the use case of combining various media analysis and content enrichment services. The combination and execution of arbitrary media analysis and content enrichment services is needed. Again the GE does not allow extending the set of services that can be used for service composition and is therefore again not applicable for the given use case. It is uncertain if one could expect the GE to provide the possibility to combine arbitrary services. Due to the missing feature for the given use case, the GE was not further evaluated and is therefore not assessed in terms of installation, integration and usage.

General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	1
SEs / scenarios / applications the GE was evaluated for	Rich Content Scenario
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)
Evaluation use case(s)	When automatic content enrichment is needed, users often want to use a combination of various services instead of individual services. Therefore, they need a means to combine services and trigger their execution. The Service Mashup GE was evaluated to find out, if it could help users combining content enrichment services.
Functionality & API	
To which degree does the GE provide the documented functionality?	satisfactorily
To which degree does the GE cover my needs?	insufficient
Evaluated features	Service composition
Missing features	It is currently not possible to extend the set of services that can be used for compositions. Thus, it is not possible to add content enrichment services to a mashup.
The API exposes the functionality in an easy to use and straight forward way	not satisfactorily
The APIs are compliant with industry-adopted standards	Yes No N/A Web Services (SOAP), BPEL
Documentation	
It was easy understood what the GE provides and required reasonable efforts	very satisfactorily
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find



Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find
Installation, integration and usage	
For a library or an installable GE	
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented
GE is compatible with existing components / requirements	Yes No N/A
For a server-side GE that you wan	t to use as a service already provided by others (e.g. FI-LAB)
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements
Please indicate which of your requirements are not met	-
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)
For a server-side GE that you wan	t to deploy and host yourself
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported
Terms & Conditions	
The terms and conditions are clearly specified and up to date	Yes No no indication about terms & conditions after FI-PPP
The terms and conditions are acceptable	Yes No
Its use does create risks related to data protection/content rights	Yes No N/A
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know
The terms and conditions allow commercial exploitation	Yes No I don't know
Support & sustainability	
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now



If you have asked for support, please rate the answer	very satisfactorily
If you have asked for support, how long did the answer take?	1-5 days
If you have asked for support, please give more details about the issue you had and how it was handled	Extensibility of the service, access to the service
Long-term sustainability is offered and well explained	Yes No I don't know
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know
I have decided to use the GE. If not, please give the main reason.	Yes No Not extensible and thus not usable for new services



3.3 - Cloud Chapter - Cloud Portal

This GE has been evaluated by four different partners and for four different use cases. The overall rating is very satisfactory in terms of functionality and APIs. A few answers vary to some extends. This might be due to subjectivity but they could also come from different times of evaluation. For example, two partners rate the quality of the documentation as not sufficient whereas the other two think it is good and up-to-date. After asking for further details, it became apparent that the documentation is well and sufficient for some part of the functionality, but it covers not all parts. The same is true for the provided training material. For this GE the terms and conditions after Phase 3 of the FI-PPP are completely unclear. Same applies to the question if they allow partners to use a GE in a commercial product. Nevertheless, the GE is currently used and is well worth the efforts of integration.

General	
Evaluated by platform(s)	Social Connected TV (3) Pervasive Games Smart City (1)
Number of evaluating partners	4
SEs / scenarios / applications the GE was evaluated for	Audio Mining SE, Audio Fingerprinting SE, Content Optimisation SE, Second Screen Framework, VOD Search & Discovery, Content sharing SE
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it (1) It is in constant use (by end user application) (3)
Evaluation use case(s)	 All our enablers are server-based services. The Testbed Cloud Portal is used to provision virtual machines and scale the processing capacities of our services. It is intended to use the portal for provisioning instances of our enablers to Phase 3 partners. Host the Second-Screen Framework for the use by third parties within FI-PPP. This GE is designed to be used for TV application hosting The Cloud portal GE is used to access instances of virtual machines running on Fi-Lab. These virtual machines run the server side application of the Content Sharing enabler.
Functionality & API	
To which degree does the GE provide the documented functionality?	very satisfactorily (3,75)
To which degree does the GE cover my needs?	very satisfactorily (3,75)
Evaluated features	 Provisioning of virtual machines; Creating blueprints for automatic scalability Install and run virtual server, assign IP address to virtual server We needed a web server on which the TV application can be installed. I have created two instances of virtual machines.
Missing features	Volumes overview is cluttered with old and crashed volumes; Volumes are not displayed user-wise so that each user can corrupt other instances by deleting their volumes; Containers overview need pagination because of browser crashes due to too many objects; No deletion of non-empty containers leads to unusable containers when filled up with too many objects.
The API exposes the functionality in an easy to use and straight forward way	very satisfactorily (4,25)



The APIs are compliant with industry-adopted standards	Yes (1) No N/A (3) SSH access with private/public keys.
Documentation	
It was easy understood what the GE provides and required reasonable efforts	very satisfactorily (4,00)
Quality of documentation	No documentation available Documentation available but not sufficient (2) Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find (2)
Quality of training material	No training material available (1) Training material available but not sufficient (1) Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find (2)
Installation, integration and usage	
For a library or an installable GE	
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented (1)
GE is compatible with existing components / requirements	Yes No N/A
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements (4)
Please indicate which of your requirements are not met	
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) (1) sometimes (once in 3 months) (2) rarely (once in 6 months) (1) hardly ever (once per year)
For a server-side GE that you want	
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported (2)
Terms & Conditions	
The terms and conditions are clearly specified and up to date	Yes (4) No No pricing information beyond FI-PPP The Responses apply to project phase only.
The terms and conditions are acceptable	Yes (3) No (1) No exact T&C are provided for a commercial use later. These would need to be discussed on a case by case basis - which seems acceptable.



Its use does create risks related to data protection/content rights	Yes (2) No (1) Data is stored on virtual servers with unknown location There are strict data protection and privacy laws in place for TV services. Before deploying commercial services on top of the Second-Screen Framework, an agreement with the underlying GE provider has to be found on the handling of personal data. The end-users T&C for the service application would need to explain the fact that personal information is forwarded to a third party. There's a certain risk that this is not deemed acceptable.
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know (4)
The terms and conditions allow commercial exploitation	Yes No I don't know (4)
Support & sustainability	
I have already asked for support	yes, via e-mail (3) yes, in a face-to-face situation (meeting, video, call) (1) yes, via a bug tracking tool no, I have not asked for support until now
If you have asked for support, please rate the answer	excellent (4,5)
If you have asked for support, how long did the answer take?	1-2 days
If you have asked for support, please give more details about the issue you had and how it was handled	 downtimes; login/firewall issues; bugs Due to an error I tried to restart VM but the process hung up. I did not get an answer to a request for help via mail. So I reinstalled the whole system. The server was down and needed to be restarted Support for installation and port forwarding.
Long-term sustainability is offered and well explained	Yes No (1) I don't know (3)
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates (1)
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced (1) updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know (3)
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes (4) No I don't know
I have decided to use the GE. If not, please give the main reason.	Yes (4) No



3.4 - Cloud Chapter - Cloud Proxy

The GE was evaluated as a possibility to give users a choice of the processing location since especially broadcasters have copyright restrictions that might prevent them from analysing their content in the cloud. Since the GE is only available as a fixed combined software / hardware solution which cannot be deployed on custom hardware and due to its focus on non-professional use cases the GE is insufficient for the given use case. It was therefore not further evaluated and not assessed in terms of installation, integration and usage as well as in terms of sustainability.

General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	1
SEs / scenarios / applications the GE was evaluated for	Audio Mining SE, Audio Fingerprinting SE, Content Optimisation SE
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)
Evaluation use case(s)	Institutions like broadcasters have copyright restrictions on their video content which might prevent them from analysing it using cloud services. The cloud edge software was evaluated as a possibility to give users a choice over the processing location: Either local or in the cloud.
Functionality & API	
To which degree does the GE provide the documented functionality?	not satisfactorily
To which degree does the GE cover my needs?	insufficient
Evaluated features	
Missing features	Cloud Edge is only available as a fixed Software/Hardware solution which cannot be deployed on custom hardware. It focuses on home-based use cases and not professional use cases as intended by Fraunhofer IAIS.
The API exposes the functionality in an easy to use and straight forward way	not satisfactorily
The APIs are compliant with industry-adopted standards	Yes No N/A
Documentation	
It was easy understood what the GE provides and required reasonable efforts	very satisfactorily
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find



Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find
Installation, integration and usage	
For a library or an installable GE	
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented
GE is compatible with existing components / requirements	Yes No N/A
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements
Please indicate which of your requirements are not met	-
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)
For a server-side GE that you want	t to deploy and host yourself
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported
Terms & Conditions	
The terms and conditions are clearly specified and up to date	Yes No No information about pricing yet; Only available as a fixed hardware solution; Probably a minimal number of hardware units must be ordered
The terms and conditions are acceptable	Yes No
Its use does create risks related to data protection/content rights	Yes No N/A
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know
The terms and conditions allow commercial exploitation	Yes No I don't know
Support & sustainability	
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now



If you have asked for support, please rate the answer	
If you have asked for support, how long did the answer take?	
If you have asked for support, please give more details about the issue you had and how it was handled	
Long-term sustainability is offered and well explained	Yes No I don't know
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know
I have decided to use the GE. If not, please give the main reason.	Yes No



3.5 - Cloud Chapter - DataCenter Resource Management

This GE was evaluated by two partners, one partner only tried to install and use it; the other one has successfully installed and used it. Both partners are not informed about terms and conditions after phase 3 of FI-PPP as well as about sustainability. For one partner the GE does not sufficiently meet the performance requirements, due to network latency that assessed as unpredictable and unmanageable. The other partner points out that the service is unavailable more often than expected. This results in that both partners do not know if the gains obtained through using the GE are well worth the efforts, although one partner is using the GE. The other partner is still actively evaluating this GE, but so far has concerns over managing network delay.

General	
Evaluated by platform(s)	Social Connected TV (1) Pervasive Games (1) Smart City
Number of evaluating partners	2
SEs / scenarios / applications the GE was evaluated for	Leaderboard SE / Augmented Resistance, Zürich Hackathon, city wide games, Personalised Media scenario
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it (1) I have successfully installed / integrated / used it (1) It is in constant use (by end user application)
Evaluation use case(s)	 We use the DCRM to host the Leaderboard SE and also tried an installation of the Keyrock Identity Management GE. We evaluated DCRM for supporting the Personal (Activity) Data and Cross-Device Resume Play scenario. A DCRM-based virtual infrastructure is used to ensure high availability by hosting user session activity data as well as related application logic to enable seamless cross-device functionality. The requirements were to provide versatility in terms of scaling the infrastructure to handle periods of high user demand, to migrate virtual appliances to handle user requests and data, and to make sure that users' quality of experience is maintained throughout the system.
Functionality & API	
To which degree does the GE provide the documented functionality?	very satisfactorily (3,5)
To which degree does the GE cover my needs?	satisfactorily (2,5)
Evaluated features	 Creating new instance and security key pairs, rebooting instance. Monitor and manage VM usage. Maintain persistent data on the VM. Secure access to the VM. Resource optimisation and capacity management.
Missing features	 Very little information is provided when the service is down or under maintenance. An independent server with status information would be very helpful. Log files or remote VNC sessions exist in the API but are not (yet?) implemented. QoS assurance outside VM resources, such as network latency.



The API exposes the functionality in an easy to use and straight forward way	satisfactorily (3,0)
The APIs are compliant with industry-adopted standards	Yes No N/A (1) REST
Documentation	
It was easy understood what the GE provides and required reasonable efforts	satisfactorily (3,0)
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find (1) Good, up-to-date documentation, easy to find (1)
Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated (1) Good training material but hard to find Good, up-to-date training material, easy to find (1)
Installation, integration and usage	
For a library or an installable GE	
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented (1)
GE is compatible with existing components / requirements	Yes (1) No N/A
For a server-side GE that you want	to use as a service already provided by others (e.g. FI-LAB)
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements (1) meets the performance requirements (1)
Please indicate which of your requirements are not met	 The service is unavailable more often than expected. Network latency is unpredictable and unmanageable.
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) (1) often (once per month) sometimes (once in 3 months) (1) rarely (once in 6 months) hardly ever (once per year)
For a server-side GE that you want	to deploy and host yourself
Its installation process is sufficiently documented and supported	not documented not sufficiently documented (2) sufficiently documented and supported



Terms & Conditions	
The terms and conditions are clearly specified and up to date	Yes (2) No
The terms and conditions are acceptable	Yes (2) No
Its use does create risks related to data protection/content rights	Yes (1) No N/A We have little control over hosted services in regards to where the data resides (important for licensing issues).
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes One I don't know (2)
The terms and conditions allow commercial exploitation	Yes No (1) I don't know (1)
Support & sustainability	
I have already asked for support	yes, via e-mail (1) yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now (1)
If you have asked for support, please rate the answer	very satisfactorily (4,0)
If you have asked for support, how long did the answer take?	Usually within a few hours.
If you have asked for support, please give more details about the issue you had and how it was handled	Usually questions about downtimes or crashed VMs I could not restart myself. Information about downtimes was fuzzy. The restarting was done quickly.
Long-term sustainability is offered and well explained	Yes No I don't know (2)
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know (2)
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know (2)
I have decided to use the GE. If not, please give the main reason.	Yes (1) No We are still actively evaluating this GE, but so far we have concerns over managing network delay.



3.6 - Cloud Chapter - Object Storage

The GE was evaluated by two partners and is now used by both of them. The overall rating is good in all aspects, but the functionality can easily be provided by any other web storage since it provides little incentives over web storage services. Both encountered downtimes without prior notifications. In summary one partner does not know if the gains obtained through using the GE are well worth the efforts. Especially for commercial use the partner states that one might use a solution that has defined SLAs and support.

General	
Evaluated by platform(s)	Social Connected TV (2) Pervasive Games Smart City
Number of evaluating partners	2
SEs / scenarios / applications the GE was evaluated for	Smart City Guide, Content Optimisation SE
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it (1) It is in constant use (by end user application) (1)
Evaluation use case(s)	 The Object Storage GE is used in the Smart City Guide App to store UGC video attached to POIs. Users can record videos using the smartphone. These videos can be enriched using the Content Enrichment SE. The idea of the Content Optimisation SE is to automatically enrich textual data and store the enriched content in a database. The Object Storage GE allows us to store any kind of data in a distributed, shared and scalable way.
Functionality & API	
To which degree does the GE provide the documented functionality?	satisfactorily (3,0)
To which degree does the GE cover my needs?	excellent (4,5)
Evaluated features	 storage of video content CDMI capabilities for creating, retrieving and maintaining containers and objects.
Missing features	
The API exposes the functionality in an easy to use and straight forward way	satisfactorily (3)
The APIs are compliant with industry-adopted standards	Yes (2) No N/A REST, Cloud Data Management Interface (CDMI)
Documentation	
It was easy understood what the GE provides and required reasonable efforts	satisfactorily (2,5)
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find (2)



Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find (2)	
Installation, integration and usage		
For a library or an installable GE		
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented (1) available for my target platform and well documented	
GE is compatible with existing components / requirements	Yes No N/A	
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)	
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements (1)	
Please indicate which of your requirements are not met	-	
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) (1) rarely (once in 6 months) hardly ever (once per year)	
For a server-side GE that you want to deploy and host yourself		
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported	
Terms & Conditions		
The terms and conditions are clearly specified and up to date	Yes (2) No	
The terms and conditions are acceptable	Yes (2) No	
Its use does create risks related to data protection/content rights	Yes (1) No (1) The location of the servers may vary over time and this may provoke issues regarding copyright of specific contents in other countries where the servers are hosted.	
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes (2) No I don't know	
The terms and conditions allow commercial exploitation	Yes (2) No I don't know	



Support & sustainability		
I have already asked for support	yes, via a bug tra	face situation (meeting, video, call)
If you have asked for support, please rate the answer		satisfactorily (3,0)
If you have asked for support, how long did the answer take?	1-7 days / Less than	a day up to two weeks
If you have asked for support, please give more details about the issue you had and how it was handled	• •	
Long-term sustainability is offered and well explained	Yes No	I don't know (2)
The GE has an active owner/developer and recent updates	bug fixes and go a small number	er development nited support are provided (2) ood, instant support are provided of developers but constant updates / support are provided r community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and cha	anges are not announced anges are announced but mainly on short notice anges stick to fixed delivery dates atibility is ensured
Summary		
The gains obtained through using the GE are well worth the effort in integrating it	Yes (1) No	I don't know (1)
I have decided to use the GE. If not, please give the main reason.	Yes No (2)	GE is used but the used function can easily be provided by any other web storage; for commercial use one might use a solution that has defined SLAs and support



3.7 - Data Chapter - Metadata Preprocessing

The GE was evaluated to transform XML formats coming out of media analysis and content enrichment services in another format preferred by the user. The GE is well documented but its functionality is very limited, so that it did not met the requirements of the use case. Due to the missing functionality and benefit compared to other open source solutions, the GE was not further evaluated and is therefore not assessed in terms of installation, integration and usage as well as in terms of sustainability. The terms and conditions are not acceptable as there is no support provided for the GE. The GE is therefore not used and its gains are not worth the efforts.

General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	1
SEs / scenarios / applications the GE was evaluated for	Audio Mining SE, Content Optimisation SE
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)
Evaluation use case(s)	The metadata that is automatically generated by the Audio Mining SE and the Content Optimisation SE is usually stored in XML formats such as MPEG7. The Metadata Preprocessing GE was evaluated to transform XML formats depending on the users' requirements.
Functionality & API	
To which degree does the GE provide the documented functionality?	satisfactorily
To which degree does the GE cover my needs?	not satisfactorily
Evaluated features	
Missing features	
The API exposes the functionality in an easy to use and straight forward way	satisfactorily
The APIs are compliant with industry-adopted standards	Yes No N/A XSLT
Documentation	
It was easy understood what the GE provides and required reasonable efforts	very satisfactorily
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find



Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find
Installation, integration and usage	
For a library or an installable GE	
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented
GE is compatible with existing components / requirements	Yes No N/A
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements
Please indicate which of your requirements are not met	-
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)
For a server-side GE that you want	t to deploy and host yourself
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported
Terms & Conditions	
The terms and conditions are clearly specified and up to date	Yes No No support
The terms and conditions are acceptable	Yes No
Its use does create risks related to data protection/content rights	Yes No N/A metadata has to be processed on the providers servers
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know
The terms and conditions allow commercial exploitation	Yes No I don't know
Support & sustainability	
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now



If you have asked for support, please rate the answer	
If you have asked for support, how long did the answer take?	
If you have asked for support, please give more details about the issue you had and how it was handled	
Long-term sustainability is offered and well explained	Yes No I don't know
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know
I have decided to use the GE. If not, please give the main reason.	Yes No very limited functionality, can easily be provided by various open source solutions



3.8 - Data Chapter - Semantic Annotation

This GE was evaluated to enlarge the functionality of the Content Optimisation SE. It is well documented and easy to use, but the evaluating partner misses a better scalability, support for more languages, integration of additional data sources for linking and training for a better entity recognition. Although it is in constant use, the partner stated that the gains obtained through using the GE are not worth the effort in integrating it. This is due to the fact that the performance requirements are not met. The partner indicated that even annotations of short texts can take more than one minute and the whole service is way too slow.

General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	1
SEs / scenarios / applications the GE was evaluated for	Content Optimisation SE
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)
Evaluation use case(s)	The idea of the Content Optimisation SE is to automatically enrich textual data and store the enriched content in a database. The Semantic Annotation GE allows us to process English, Portuguese, Spanish and Italian texts and perform Named Entity Recognition.
Functionality & API	
To which degree does the GE provide the documented functionality?	satisfactorily
To which degree does the GE cover my needs?	satisfactorily
Evaluated features	Semantic text annotation
Missing features	better scalability; support for more languages; Integration of additional data sources for linking; training for better entity recognition
The API exposes the functionality in an easy to use and straight forward way	excellent
The APIs are compliant with industry-adopted standards	Yes No N/A REST
Documentation	
It was easy understood what the GE provides and required reasonable efforts	very satisfactorily
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find



Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find
Installation, integration and usage	
For a library or an installable GE	
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented
GE is compatible with existing components / requirements	Yes No N/A
For a server-side GE that you want	to use as a service already provided by others (e.g. FI-LAB)
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements
Please indicate which of your requirements are not met	Even annotations of short texts can take more than one minute. The whole service is way too slow.
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)
For a server-side GE that you want	to deploy and host yourself
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported
Terms & Conditions	
The terms and conditions are clearly specified and up to date	Yes No No support
The terms and conditions are acceptable	Yes No
Its use does create risks related to data protection/content rights	Yes No N/A
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know
The terms and conditions allow commercial exploitation	Yes No I don't know
Support & sustainability	
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now



If you have asked for support, please rate the answer	very satisfactorily
If you have asked for support, how long did the answer take?	1-20 days
If you have asked for support, please give more details about the issue you had and how it was handled	questions about future developments (answered); questions about downtime (solved); questions about the speed of the service (not solved)
Long-term sustainability is offered and well explained	Yes No I don't know
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know
I have decided to use the GE. If not, please give the main reason.	Yes No



3.9 - I2ND Chapter - (I2ND) Connected Device Interfacing (CDI)

The GE was evaluated to discover connected TV devices in a home network and to use the TV as a remote display. For this use case the provided functionality is not satisfactorily. Although no specific feature is missed by the partner, it is stated that the installation and use is not really easy and requires additional software packages and background knowledge. Other solutions are easier and faster to integrate. This is amongst others due to the missing of a good documentation and training material. Overall the GE is used but the partner stated that the gains obtained through using the GE are not worth the effort in integrating it. The GE seems not to be the best choice for the given use case, instead the partner would prefer to use for example the W3C Webscreen API.

General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	1
SEs / scenarios / applications the GE was evaluated for	VOD Search & Discovery
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)
Evaluation use case(s)	The GE is used to discover connected TV devices in a home network from the SCG app. Once discovered and selected the user can push Smart City Content from the app to the TV, which acts as a remote display.
Functionality & API	
To which degree does the GE provide the documented functionality?	not satisfactorily
To which degree does the GE cover my needs?	not satisfactorily
Evaluated features	device discovery, remote display
Missing features	No specific, but other solutions are easier and faster to integrate.
The API exposes the functionality in an easy to use and straight forward way	insufficient
The APIs are compliant with industry-adopted standards	Yes No N/A REST
Documentation	
It was easy understood what the GE provides and required reasonable efforts	insufficient
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find



Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find	
Installation, integration and usage		
For a library or an installable GE		
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented	
GE is compatible with existing components / requirements	Yes No N/A installation and use is not really easy and requires additional software packages and background knowledge	
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)	
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements	
Please indicate which of your requirements are not met		
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)	
For a server-side GE that you want	t to deploy and host yourself	
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported	
Terms & Conditions		
The terms and conditions are clearly specified and up to date	Yes No	
The terms and conditions are acceptable	Yes No	
Its use does create risks related to data protection/content rights	Yes No N/A	
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know	
The terms and conditions allow commercial exploitation	Yes No I don't know	
Support & sustainability		
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now	



If you have asked for support, please rate the answer	
If you have asked for support, how long did the answer take?	
If you have asked for support, please give more details about the issue you had and how it was handled	
Long-term sustainability is offered and well explained	Yes No I don't know
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know
I have decided to use the GE. If not, please give the main reason.	Yes No GE is used for the described prototype implementation, but it seems that the GE is not the best choice for the given use case; W3C webscreens api or similar should be used instead



3.10 - MiWi Chapter - 2D-3D-Capture

The GE was evaluated because all augmented reality use cases require tracking of either a certain target or feature of the surrounding environment. In particular SLAM-like tracking purposes and 3D reconstruction require such capabilities, which the GE partially addresses. The partner misses the "3D Scene Builder" which is described in the documentation but seems to be neither part of this GE nor be available as a separate module. The documentation is not sufficient and the training material is hard to find. Due to the missing functionality it is currently not used. The partner currently sees no gain from using this GE as standalone, but it is not clear to him how this GE interacts with other available GEs/modules to obtain gain.

General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	1
SEs / scenarios / applications the GE was evaluated for	Tier 2 / tier 3 use case scenarios of the Pervasive Games Platform
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)
Evaluation use case(s)	All augmented reality use cases require tracking of either a certain target or feature of the surrounding environment. In particular SLAM-like tracking purposes and 3D reconstruction require such capabilities, which the GE partially addresses.
Functionality & API	
To which degree does the GE provide the documented functionality?	satisfactorily
To which degree does the GE cover my needs?	insufficient
Evaluated features	
Missing features	This GE provides a "2D3D Capture Server" to collect images and their meta data. It also talks about a "3D Scene Builder", which shall enable 3D reconstruction using these images, but the "3D Scene Builder" seems neither be part of this GE nor be available as separate module (e.g. GE).
The API exposes the functionality in an easy to use and straight forward way	satisfactorily
The APIs are compliant with industry-adopted standards	Yes No N/A
Documentation	
It was easy understood what the GE provides and required reasonable efforts	not satisfactorily
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find



Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find
Installation, integration and usage	
For a library or an installable GE	
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented
GE is compatible with existing components / requirements	Yes No N/A
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements
Please indicate which of your requirements are not met	
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)
For a server-side GE that you want	to deploy and host yourself
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported
Terms & Conditions	
The terms and conditions are clearly specified and up to date	Yes No
The terms and conditions are acceptable	Yes No
Its use does create risks related to data protection/content rights	Yes No N/A
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know
The terms and conditions allow	Yes No I don't know



Support & sustainability	
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now
If you have asked for support, please rate the answer	
If you have asked for support, how long did the answer take?	
If you have asked for support, please give more details about the issue you had and how it was handled	
Long-term sustainability is offered and well explained	Yes No I don't know
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know
I have decided to use the GE. If not, please give the main reason.	Yes No At least not now. There is no gain from using this GE as standalone. On the other hand, it is not clear how this GE interacts with other available GEs/modules to obtain gain.



3.11 - MiWi Chapter - 2D-UI

This GE simplifies the access to device input interfaces, such as keyboard, mouse, touch, gamepad, etc. It is used as an abstraction layer for user interaction with scenario application prototypes. The overall impression of the GE is good. Its functionality and API is very satisfactorily. The documentation and the training material are good. Terms and conditions are clearly defined and although long term sustainability is unknown, support and updates are provided currently. The GE is in current use and well worth the efforts of integration.

General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	1
SEs / scenarios / applications the GE was evaluated for	All scenario applications built on top of 3D-UI GE (almost all).
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)
Evaluation use case(s)	This GE simplifies the access to device input interfaces, such as keyboard, mouse, touch, gamepad, etc. We use it as an abstraction layer for user interaction with scenario application prototypes.
Functionality & API	
To which degree does the GE provide the documented functionality?	very satisfactorily
To which degree does the GE cover my needs?	very satisfactorily
Evaluated features	Registration of input event and their handling.
Missing features	Camera input devices and other sensors. There is a misleading reference ("Kinect: http://kineticjs.com/, http://jswipekinetic.codeplex.com/") in the open specification.
The API exposes the functionality in an easy to use and straight forward way	excellent
The APIs are compliant with industry-adopted standards	Yes No N/A
Documentation	
It was easy understood what the GE provides and required reasonable efforts	satisfactorily
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find
Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find



Installation, integration and usage	
For a library or an installable GE	
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented
GE is compatible with existing components / requirements	Yes No N/A
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements
Please indicate which of your requirements are not met	
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)
For a server-side GE that you want	t to deploy and host yourself
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported
Terms & Conditions	
The terms and conditions are clearly specified and up to date	Yes No
The terms and conditions are acceptable	Yes No
Its use does create risks related to data protection/content rights	Yes No N/A
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know
The terms and conditions allow commercial exploitation	Yes No I don't know
Support & sustainability	
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now
If you have asked for support, please rate the answer	



If you have asked for support, how long did the answer take?	
If you have asked for support, please give more details about the issue you had and how it was handled	
Long-term sustainability is offered and well explained	Yes No I don't know
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know
I have decided to use the GE. If not, please give the main reason.	Yes No



3.12 - MiWi Chapter - 3D-UI

The GE was evaluated by two partners, both have successfully installed and used it, one partner uses the GE constantly in an end user application. The overall impression of the GE is good, although one partner misses HW-Support for Xflow-Nodes and the other one a larger set of features. The documentation and the training material are good. Terms and conditions are clearly defined. One partner sees a risk related to data protection/content rights since the GE might ease the access to copyrighted 3D content, which was published using this GE. Long term sustainability is offered and support and updates are provided constantly. Both partners have stated that the GE is in current use and its gains are well worth the efforts of integration. In the remaining project time performance improvements are expected by one partner.

General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	2
SEs / scenarios / applications the GE was evaluated for	Reality Mixer - Reflection Mapping SE, Augmented Reality - Marker Tracking SE, Networked Virtual Character SE, Augmented Resistance, Spider Game Demo, Star Tours, Dragon Flight, Augmented Reality - Image Marker Tracking SE, Reality Mixer - Reflection Mapping SE, Star Tours (Seamless Augmented Reality on the Web), Spider Demo (Virtual Character Synchronization on the Web)
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it (1) It is in constant use (by end user application) (1)
Evaluation use case(s)	 The 3D-UI GE is utilized for the 3D rendering on the web. It provides a convenient way to embed 3D content into web-based interactive applications and games. Beside various demos and showcases using the 3D-UI GE, we introduced a couple of SEs to amend it with functionality from the game-related domain (i.e. augmented reality, reality mixer, virtual characters, etc.). The use case of 3D-UI is to provide a web accessible 3D display connected to pervasive game platform applications. Typically these applications run on PC for web display and are connected to native enablers running efficiently on mobile devices. 3D-UI has demonstrated effectively to run basic 3D applications on mobile devices.
Functionality & API	
To which degree does the GE provide the documented functionality?	excellent (4,5)
To which degree does the GE cover my needs?	satisfactorily
Evaluated features	XML3D rendering and Xflow processing including custom shaders and custom operators; 3D display of spider and teapot characters.
Missing features	HW-Support for Xflow-Nodes; Within the specification the features expected are present. A larger set of features could be realised in this space to match typical game engine/sdk full feature set (such as unity), but at considerably more cost/investment.
The API exposes the functionality in an easy to use and straight forward way	excellent (5,0)



The APIs are compliant with industry-adopted standards	Yes (1) No N/A (1) The standardization of 3D content of the web is an ongoing process; Xml3D, Three.js, WebTundra
Documentation	
It was easy understood what the GE provides and required reasonable efforts	excellent (4,5)
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find (1) Good, up-to-date documentation, easy to find (1)
Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find (1) Good, up-to-date training material, easy to find (1)
Installation, integration and usage	
For a library or an installable GE	
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented (2)
GE is compatible with existing components / requirements	Yes (2) No N/A
For a server-side GE that you want	to use as a service already provided by others (e.g. FI-LAB)
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements
Please indicate which of your requirements are not met	Performance is mostly adequate. The demands of high quality games are yet not quite met by 3D-UI. This could be addressed soon with appropriate choices and investment.
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)
For a server-side GE that you want to deploy and host yourself	
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported
Terms & Conditions	
The terms and conditions are clearly specified and up to date	Yes (2) No Some game and application publishers can't include open source in their run-time



The terms and conditions are acceptable	Yes (2) No applications, due to potential of ownership litigation. However, this is less relevant to phase 2 intentions.
Its use does create risks related to data protection/content rights	Yes (1) No (1) The 3D-UI GE might ease the access to copyrighted 3D content, which was published using this GE. For instance, the automotive industry is using 3D renderings of their products, but will not give away the original 3D data. To achieve interactive visualizations and address this issue, there is ongoing work on server-based rendering and hybrid-rendering approaches.
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes (2) No I don't know
The terms and conditions allow commercial exploitation	Yes (2) No I don't know
Support & sustainability	
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) (1) yes, via a bug tracking tool (1) no, I have not asked for support until now
If you have asked for support, please rate the answer	very satisfactorily (4,0)
If you have asked for support, how long did the answer take?	From hours to a couple of days; Same day
If you have asked for support, please give more details about the issue you had and how it was handled	 Reported bugs and request their fixes, feature requests to address special issues for SEs or demo applications Status of performance. Model format conversion. Shader feature support.
Long-term sustainability is offered and well explained	Yes (2) No I don't know
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided (1) Active developer community and recent updates (1)
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates (2) backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes (2) I don't know
I have decided to use the GE. If not, please give the main reason.	Yes (2) No We incorporated this enabler in our experiment scenarios, over the remaining time we expect performance to improve further. It's not committed to in terms of commercial products however.



3.13 - MiWi Chapter - Advanced Middleware

This GE is evaluated and used with the Synchronization GE. The overall impression is good. The partner only misses a support for a binary protocol. The documentation is good but hard to find, but the provided training material is not sufficient. Terms and conditions are clearly defined. Long term sustainability is offered and support and updates are provided constantly. The GE is in current use and its gains are well worth the efforts of integration.

General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	1
SEs / scenarios / applications the GE was evaluated for	Networked Virtual Character SE, Dragon Flight, Spider Game Demo
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)
Evaluation use case(s)	The Synchronization GE is built on top of the Advanced Middleware GE. This enabled us to develop an additional platform client to be used with the Sync GE integrated into Unity3D. Hence, we are able to bridge players across platforms from the provided xml3d client.
Functionality & API	
To which degree does the GE provide the documented functionality?	satisfactorily
To which degree does the GE cover my needs?	satisfactorily
Evaluated features	Interfacing remote functions, data transmission
Missing features	Support for a binary protocol
The API exposes the functionality in an easy to use and straight forward way	very satisfactorily
The APIs are compliant with industry-adopted standards	Yes No N/A
Documentation	
It was easy understood what the GE provides and required reasonable efforts	very satisfactorily
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find
Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find



Installation, integration and usage		
For a library or an installable GE		
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented	
GE is compatible with existing components / requirements	Yes No N/A Unity3D uses an old, customized Mono version, which was not compatible with the C# frontend of the GE in the first place (but that's a Unity-specific problem).	
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)	
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements	
Please indicate which of your requirements are not met		
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)	
For a server-side GE that you want	t to deploy and host yourself	
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported	
Terms & Conditions		
The terms and conditions are clearly specified and up to date	Yes No	
The terms and conditions are acceptable	Yes No	
Its use does create risks related to data protection/content rights	Yes No N/A	
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know	
The terms and conditions allow commercial exploitation	Yes No I don't know	
Support & sustainability		
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now	
If you have asked for support, please rate the answer		
If you have asked for support, how long did the answer take?		



If you have asked for support, please give more details about the issue you had and how it was handled	
Long-term sustainability is offered and well explained	Yes No I don't know
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know
I have decided to use the GE. If not, please give the main reason.	Yes No

3.14 - MiWi Chapter - Augmented Reality

This GE was evaluated by two partners, which gave in parts different assessments. For one of the partners use cases the functionality of the GE is insufficient. The partner misses natural feature tracking for predefined image markers. The other partner rated the functionality to be sufficiently but misses also natural image marker tracking. The documentation is good but hard to find, the provided training material is even harder to find, since one partner stated that there is no training material available. One partner stated that including the GE resulted in a huge overhead of dependencies. The other partner still uses native mobile application libraries for tracking, since the GE has not yet proven to be fast enough for general game application uses. Terms and conditions are clearly defined, although one partner stated that some game and application publishers cannot include open source in their run-time applications, due to potential of ownership litigation. One partner has asked for support for natural feature tracking and received an insufficient answer in terms of a rejection. The GE is in current use by one of the partners who also thinks that its gains are well worth the efforts of integration. The other partner is not using the GE because it provides no added value over DFKI's Marker Tracking SE.



General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	2
SEs / scenarios / applications the GE was evaluated for	Star Tours, Spider Game Demo, Reality Mixer - Reflection Mapping SE, Star Tours Scenario (Seamless Augmented Reality on the Web)
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it (2) It is in constant use (by end user application)
Evaluation use case(s)	 The AR GE provides tracking capabilities and device sensor access. We want to use the AR tracking capabilities for our gaming demo applications with predefined markers. This use case provides marker tracking as a camera frame of reference upon which to apply our Reality Mixer enablers and associated business application demonstrations for the Pervasive Games Platform. The GE provides an Xml3D in browser capability for basic augmented reality tracking.
Functionality & API	
To which degree does the GE provide the documented functionality?	very satisfactorily (4,0)
To which degree does the GE cover my needs?	not satisfactorily (2)
Evaluated features	 We used the fiducial marker tracking for an integration prototype. Augmented reality marker tracking. The tracking supported is fiducial marker tracking, which provided a coordinate frame of reference for a camera. With this reference, augmented reality graphics are integrated.
Missing features	 Natural feature tracking for predefined image markers. The fiducial marker tracking is basic (similar to simple version of QR-codes). Natural image marker tracking, like we regularly use in the free Vuforia SDK from Qualcomm is rather more useful, performant and robust. That said, any platform independent marker tracking 'in browser' without plugin download is a step forward for that solution space. I believe it is on the plan to optimize towards similar feature level of image marker tracking.
The API exposes the functionality in an easy to use and straight forward way	very satisfactorily (3,5)
The APIs are compliant with industry-adopted standards	Yes (1) No N/A (1) REST
Documentation	
It was easy understood what the GE provides and required reasonable efforts	very satisfactorily (4,0)
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find (2) Good, up-to-date documentation, easy to find



Quality of training material	No training material availad Training material available Sufficient training material Good training material but Good, up-to-date training	but not sufficient but outdated hard to find (1)
Installation, integration and usage		
For a library or an installable GE		
GE compatibility	available for my target pla	platform tform but installation is not documented tform but installation is not well documented tform and well documented (2)
GE is compatible with existing components / requirements	Yes No N/A	Huge overhead of dependencies to include this GE; For responsive games, we still revert to native mobile application libraries for tracking, such as our Augmented Reality - Fast Feature Tracking SE and Vuforia. The Augmented Reality GE has not yet proven fast enough for general game application uses, but ok for a subset of use case. It's worth noting that Fast Feature Tracking is suitable for performant use in browser and GE status.
For a server-side GE that you want	to use as a service already pr	ovided by others (e.g. FI-LAB)
The service effectively meets the performance requirements	does not meet the perform does not sufficiently meet meets the performance re	the performance requirements
Please indicate which of your requirements are not met		
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per r often (once per month) sometimes (once in 3 mor rarely (once in 6 months) hardly ever (once per year	nths)
For a server-side GE that you want	to deploy and host yourself	
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented ar	
Terms & Conditions		
The terms and conditions are clearly specified and up to date The terms and conditions are acceptable	Yes No (2) No (2) No	Some game and application publishers can't include open source in their run-time applications, due to potential of ownership litigation. However, this is less relevant to phase 2 intentions.
Its use does create risks related to data protection/content rights	Yes No N/A	



Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know
The terms and conditions allow commercial exploitation	Yes (2) No I don't know
Support & sustainability	
I have already asked for support	yes, via e-mail (1) yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now (1)
If you have asked for support, please rate the answer	insufficient
If you have asked for support, how long did the answer take?	From hours to a couple of days;
If you have asked for support, please give more details about the issue you had and how it was handled	We requested support for natural feature tracking since the underlying library supports it, but the request was rejected;
Long-term sustainability is offered and well explained	Yes (1) No I don't know (1)
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided (1) a small number of developers but constant updates / support are provided (1) Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates (2) backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know (1)
I have decided to use the GE. If not, please give the main reason.	Yes (1) The AR GE provides no added value over DFKI's Marker Tracking SE, which is already available since Sep 2013 (the GE is still not officially released). We incorporated this enabler in our experiment scenarios, over the remaining time we expect performance to improve further. It's not committed to in terms of commercial products however.



3.15 - MiWi Chapter - GIS Data Provider

The GE provides terrain and building data in various formats. The GE is used to retrieve geospatial data compliant with the 3D-UI GE to be used in location-related scenario applications, such as Smart City applications and city-wide games. The overall impression of the GE is very good. It is providing the needed functionality and a good documentation which could be better to find. Terms and conditions are clearly defined and an excellent support is provided. Only long term sustainability is unknown. The GE is in current use and well worth the efforts of integration.

General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	1
SEs / scenarios / applications the GE was evaluated for	
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)
Evaluation use case(s)	The GIS-DP provides terrain and building data in various formats. We utilize this GE to retrieve geospatial data compliant with the 3D-UI GE to be used in location-related scenario applications, such as Smart City applications and citywide games.
Functionality & API	
To which degree does the GE provide the documented functionality?	excellent
To which degree does the GE cover my needs?	very satisfactorily
Evaluated features	Querying for geometry of terrain.
Missing features	
The API exposes the functionality in an easy to use and straight forward way	excellent
The APIs are compliant with industry-adopted standards	Yes No N/A The GIS-DP GE uses a GeoServer implementation, which is a OGC compliant implementation of a number of open standards such as Web Feature Service (WFS), Web Map Service (WMS), and Web Coverage Service (WCS).
Documentation	
It was easy understood what the GE provides and required reasonable efforts	very satisfactorily
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find



Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find	
Installation, integration and usage		
For a library or an installable GE		
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented	
GE is compatible with existing components / requirements	Yes No N/A	
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)	
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements	
Please indicate which of your requirements are not met		
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)	
For a server-side GE that you want to deploy and host yourself		
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported	
Terms & Conditions		
The terms and conditions are clearly specified and up to date	Yes No	
The terms and conditions are acceptable	Yes No	
Its use does create risks related to data protection/content rights	Yes No N/A	
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know	
The terms and conditions allow commercial exploitation	Yes No I don't know	
Support & sustainability		
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now	



If you have asked for support, please rate the answer	excellent
If you have asked for support, how long did the answer take?	Instantly
If you have asked for support, please give more details about the issue you had and how it was handled	Requests regarding supported/unsupported features - clearly elaborated. Access to preinstalled instance with sample data - got it (instance at FI-Lab).
Long-term sustainability is offered and well explained	Yes No I don't know
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know
I have decided to use the GE. If not, please give the main reason.	Yes No



3.16 - MiWi Chapter - Interface Designer

The GE is evaluated for editing of 3D scenes on the web. Its functionality is not satisfactorily since it misses advanced editing features for convenience (e.g. custom asset import, transform-object-relation handling, persistence, etc.). Documentation and training material are good but hard to find. Terms and conditions are clearly defined and although long term sustainability is unknown, support and updates are provided currently. Due to the missing functionality it is currently not used. The partner is currently not sure if there is a gain from using this GE, but this might change when further functionality is provided.

General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	1
SEs / scenarios / applications the GE was evaluated for	All scenario applications built on top of 3D-UI GE (almost all).
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)
Evaluation use case(s)	Editing of 3D scenes on the web
Functionality & API	
To which degree does the GE provide the documented functionality?	satisfactorily
To which degree does the GE cover my needs?	not satisfactorily
Evaluated features	Adding and modifying of 3D object.
Missing features	This GE provides somehow a web frontend of a DOM editor. But we missed advanced editing features for convenience (e.g. custom asset import, transform-object-relation handling, persistence, etc.)
The API exposes the functionality in an easy to use and straight forward way	satisfactorily
The APIs are compliant with industry-adopted standards	Yes No N/A
Documentation	
It was easy understood what the GE provides and required reasonable efforts	satisfactorily
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find
Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find



Installation, integration and usage		
For a library or an installable GE		
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented	
GE is compatible with existing components / requirements	Yes No N/A	
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)	
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements	
Please indicate which of your requirements are not met		
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)	
For a server-side GE that you want	t to deploy and host yourself	
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported	
Terms & Conditions		
The terms and conditions are clearly specified and up to date	Yes No	
The terms and conditions are acceptable	Yes No	
Its use does create risks related to data protection/content rights	Yes No N/A	
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know	
The terms and conditions allow commercial exploitation	Yes No I don't know	
Support & sustainability		
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now	
If you have asked for support, please rate the answer		
If you have asked for support, how long did the answer take?		



If you have asked for support, please give more details about the issue you had and how it was handled	
Long-term sustainability is offered and well explained	Yes No I don't know
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know
I have decided to use the GE. If not, please give the main reason.	Yes No At least not for the moment. When the GE evolves and will partially provide missed features, we will reconsider it for utilization.



3.17 - MiWi Chapter - POI Data Provider

This GE was evaluated by two partners. One partner has successfully installed and used it; the other one only tried to and therefore has not assessed the GE in terms of installation, integration and usage. In terms of functionality both partners are missing features. One partner misses custom data components, data import tools; whereas the other one misses sub-pixel location point accuracy for full featured augmented reality application. Documentation and training material could be improved. The GE is in current use by one of the partners who also thinks that its gains are well worth the efforts of integration. The other partner is unsure about the gains and will likely use this GE in connection with OpenDataSoft SE. If it can be used directly for city AR POIs yet, is not clear.

General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	2
SEs / scenarios / applications the GE was evaluated for	POI Explorer SE, Open City Database SE, OpenDataSoft (ODS-DP) SE, Smart City Guide, Agent vs Agent, City wide games (tier 3) in development
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it (1) I have successfully installed / integrated / used it (1) It is in constant use (by end user application)
Evaluation use case(s)	 The POI-DP GE enables storing and retrieving of POI-related data in the fashion of pre-defined data components. We used the GE specification to build services and interface libraries against the POI-DP to integrate POIs into several demo prototypes. The POI information is intended to be used in le merce application for positioning of application events through the city. Coarse resolution POI may be sufficient in combination with Augmented Reality image tracker (with Vuforia for example). OpenDataSoft SE which also plans to build upon POI DP is aligned to this use case.
Functionality & API	
To which degree does the GE provide the documented functionality?	very satisfactorily (3,5)
To which degree does the GE cover my needs?	satisfactorily (2,5)
Evaluated features	Storing, spatial querying, filtering, and updating POI-related information. The point of interest location format is primary feature of use. This with query, record and transmission of POIs is intended for City wide application.
Missing features	Custom data components, data import tools; Sub-pixel location point accuracy for full featured augmented reality application is not present in the enabler, so this will be extra effort to achieve in combination with this GE.
The API exposes the functionality in an easy to use and straight forward way	very satisfactorily (3,5)
The APIs are compliant with industry-adopted standards	Yes No N/A (2) The standardization of a POI format specification is an ongoing process based on this GE.



Documentation		
It was easy understood what the GE provides and required reasonable efforts	satisfactorily (3,0)	
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated (1) Good documentation but hard to find Good, up-to-date documentation, easy to find (1)	
Quality of training material	No training material available (1) Training material available but not sufficient Sufficient training material but outdated (1) Good training material but hard to find Good, up-to-date training material, easy to find	
Installation, integration and usage		
For a library or an installable GE		
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented	
GE is compatible with existing components / requirements	Yes No N/A	
For a server-side GE that you want to use as a service already provided by others (e.g. FI-LAB)		
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements	
Please indicate which of your requirements are not met		
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)	
For a server-side GE that you want	t to deploy and host yourself	
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported (1)	
Terms & Conditions		
The terms and conditions are clearly specified and up to date	Yes (2) No	
The terms and conditions are acceptable	Yes (2) No	
Its use does create risks related to data protection/content rights	Yes No N/A	



Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes (1) No I don't know (1)		
The terms and conditions allow commercial exploitation	Yes (1) No I don't know (1)		
Support & sustainability			
I have already asked for support	yes, via e-mail (1) yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now (1)		
If you have asked for support, please rate the answer	satisfactorily		
If you have asked for support, how long did the answer take?	A couple of days.		
If you have asked for support, please give more details about the issue you had and how it was handled	We asked for minor issues on the level of the format specification to match our requirements. We got so far sufficient answers and we are now involved in a POI working group as a joint-activity of Flcontent and FI-WARE WP13.		
Long-term sustainability is offered and well explained	Yes No I don't know (1)		
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided (1) Active developer community and recent updates		
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates (1) backward compatibility is ensured I don't know		
Summary			
The gains obtained through using the GE are well worth the effort in integrating it	Yes (1) No I don't know (1)		
I have decided to use the GE. If not, please give the main reason.	Yes (2) No I will likely use this GE in connection with OpenDataSoft SE, it's not clear I can use it directly for city AR POIs yet.		



3.18 - MiWi Chapter - Real-Virtual Interaction

This GE was evaluated by two partners. One partner has successfully installed and used it; the other one only had a look on the documentation and therefore has not assessed the GE in terms of installation, integration and usage. The partner who only read the documentation stated that the GE is still not released yet, whereas the other partner did not. There seems to be a lack of information about the status of this GE and updates in terms of functionality, documentation and training material. In terms of functionality one partner misses the final integration with the POI-DP GE to retrieve information about possible interaction with devices associated with POI through this GE. However, this request was communicated already to the GE owners and the partner is involved in the process. Terms and conditions are clearly defined. One partner sees a risk related to the missing access control. The support is excellent, only long term sustainability is unknown. The GE is in current use by one of the partners who also thinks that its gains are well worth the efforts of integration. The other partner is unsure about the gains and cannot tell if the GE will be used without having tested it.

General			
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City		
Number of evaluating partners	2		
SEs / scenarios / applications the GE was evaluated for	Advanced augmented reality scenarios either in the fashion of Smart City Services or Pervasive Games; Reality Mixer - Simulation Continuum, City wide game (tier 3)		
How was the evaluation performed	I had a look at the documentation (1) I have tried to install / integrate / use it I have successfully installed / integrated / used it (1) It is in constant use (by end user application)		
Evaluation use case(s)	 The Real-Virtual Interaction GE provides means for connecting real world devices consisting of sensors and actuators in to augmented or virtual reality applications. This in particular relevant when bridging between real world objects and associated virtual content (i.e. with regard to interactive POIs) or the IoT context. The ability to sense and actuate devices through this enabler with respected to a physical tangible augmented reality application is desired. 		
Functionality & API			
To which degree does the GE provide the documented functionality?	very satisfactorily (4,0)		
To which degree does the GE cover my needs?	very satisfactorily (3,5)		
Evaluated features	 Interaction with registered devices through the backend server. Although not available yet, it appears to provide IoT like capabilities in a low-latency scenario, which suits the Pervasive Games Platform. 		
Missing features	 The final integration with the POI-DP GE to retrieve information about possible interaction with devices associated with an POI through this GE. However, we kicked-off this request already to the GE owners and are actively involved in the progress. It's not possible to assess yet. The connection to deployable actuators/sensors has been demonstrated, but not clear if this is useable to custom application, such as Le Merce event in Barcelona. 		



The API exposes the functionality in an easy to use and straight forward way	very satisfactorily (3,5)	
The APIs are compliant with industry-adopted standards	Yes No N/A	
Documentation		
It was easy understood what the GE provides and required reasonable efforts	excellent (4,5)	
Quality of documentation	No documentation available Documentation available but not sufficient (1) Sufficient documentation but outdated Good documentation but hard to find (1) Good, up-to-date documentation, easy to find	
Quality of training material	No training material available (1) Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find (1) Good, up-to-date training material, easy to find	
Installation, integration and usage		
For a library or an installable GE		
GE compatibility	not available for my target platform (1) available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented (1)	
GE is compatible with existing components / requirements	Yes (1) No N/A	
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)	
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements	
Please indicate which of your requirements are not met		
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)	
For a server-side GE that you want to deploy and host yourself		
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported (1)	



Terms & Conditions			
The terms and conditions are clearly specified and up to date	Yes No (2)		
The terms and conditions are acceptable	Yes No (2)		
Its use does create risks related to data protection/content rights	Yes No (1) N/A As far as I know, there is no access control yet. Thus, sensors and in particular actors should be public.		
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes (2) No I don't know		
The terms and conditions allow commercial exploitation	Yes No I don't know		
Support & sustainability			
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) (2) yes, via a bug tracking tool no, I have not asked for support until now		
If you have asked for support, please rate the answer	excellent (4,5)		
If you have asked for support, how long did the answer take?	Instantly; Same day		
If you have asked for support, please give more details about the issue you had and how it was handled	Feature request: We asked for the integration with the POI-DP GE (e.g. to retrieve information about possible interaction with devices associated with a POI through this GE) and are now actively involved in the progress.		
Long-term sustainability is offered and well explained	Yes No I don't know (2)		
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided (1) bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided (1) Active developer community and recent updates		
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates (1) backward compatibility is ensured I don't know (1)		
Summary			
The gains obtained through using the GE are well worth the effort in integrating it	Yes (1) No I don't know (1)		
I have decided to use the GE. If not, please give the main reason.	Yes (1) No (1) It's a risk to commit to make use of this without having tested it. We see potential still to use it perhaps.		



3.19 - MiWi Chapter - Synchronization

The GE was evaluated for several scenario applications. The overall impression is very good. Functionality is excellent although the partner misses dynamic content delivery. Documentation and training material are also very good. Terms and conditions are clearly defined and the support is also very good. Only long term sustainability is unknown. The GE is in current use and its gains are well worth the efforts of integration.

General			
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City		
Number of evaluating partners	1		
SEs / scenarios / applications the GE was evaluated for	Networked Virtual Character SE, Dragon Flight, Game Synchronization SE, Spider Game Demo, Augmented Resistance, Agent vs Agent		
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)		
Evaluation use case(s)	We have several scenario applications that benefit from the cross-platform client synchronization capabilities of this GE. Moreover, we developed several plugins to this GE in particular to extend the capabilities with domain-specific features (i.e. Networked Virtual Character SE) to synchronize the precise motions of virtual characters.		
Functionality & API			
To which degree does the GE provide the documented functionality?	excellent		
To which degree does the GE cover my needs?	very satisfactorily		
Evaluated features	Server component including default plugins, such as Avatar, Motion, etc., and custom plugins together with the xml3d-based example client.		
Missing features	Dynamic content delivery, e.g. on-demand generated meshes or modified models.		
The API exposes the functionality in an easy to use and straight forward way	excellent		
The APIs are compliant with industry-adopted standards	Yes No N/A		
Documentation			
It was easy understood what the GE provides and required reasonable efforts	excellent		
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find		



Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find	
Installation, integration and usage		
For a library or an installable GE		
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented	
GE is compatible with existing components / requirements	Yes No N/A	
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)	
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements	
Please indicate which of your requirements are not met		
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)	
For a server-side GE that you want to deploy and host yourself		
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported	
Terms & Conditions		
The terms and conditions are clearly specified and up to date	Yes No	
The terms and conditions are acceptable	Yes No	
Its use does create risks related to data protection/content rights	Yes No N/A	
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know	
The terms and conditions allow commercial exploitation	Yes No I don't know	
Support & sustainability		
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now	



If you have asked for support, please rate the answer	excellent		
If you have asked for support, how long did the answer take?	From hours to a couple of days.		
If you have asked for support, please give more details about the issue you had and how it was handled	Requested additional explanations of internals (was then taken into account for documentation updates). Feature requests, bug reports -> all were treated or we were pointed to the right place to do it ourselves and resulting in pull requests.		
Long-term sustainability is offered and well explained	Yes No I don't know		
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates		
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know		
Summary			
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know		
I have decided to use the GE. If not, please give the main reason.	Yes No		



3.20 - MiWi Chapter - Virtual Characters

This GE was evaluated for the use as a common description of virtual characters. The functionality is currently satisfactorily although the partner does not miss a specific feature. Documentation and training material are both not sufficient and should be improved. Terms and conditions are clearly defined and the support is satisfactorily. Only long term sustainability is unknown. The GE is in current use and its gains are well worth the efforts of integration.

General			
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City		
	Social Connected TV Pervasive Games Smart City		
Number of evaluating partners	1		
SEs / scenarios / applications the GE was evaluated for	Networked Virtual Character SE, Dragon Flight, Spider Game Demo		
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)		
Evaluation use case(s)	We will use this GE as a common (and cross-framework) description of virtual characters. The specification offers an open format specification to provide information of the characters' bone/joint structure and mesh.		
Functionality & API			
To which degree does the GE provide the documented functionality?	satisfactorily		
To which degree does the GE cover my needs?	satisfactorily		
Evaluated features	Character descriptions		
Missing features			
The API exposes the functionality in an easy to use and straight forward way	satisfactorily		
The APIs are compliant with industry-adopted standards	Yes No N/A		
Documentation			
It was easy understood what the GE provides and required reasonable efforts	satisfactorily		
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find		
Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find		



Installation, integration and usage		
For a library or an installable GE		
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented	
GE is compatible with existing components / requirements	Yes No N/A	
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)	
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements	
Please indicate which of your requirements are not met		
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)	
For a server-side GE that you want to deploy and host yourself		
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported	
Terms & Conditions		
The terms and conditions are clearly specified and up to date	Yes No	
The terms and conditions are acceptable	Yes No	
Its use does create risks related to data protection/content rights	Yes No N/A	
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know	
The terms and conditions allow commercial exploitation	Yes No I don't know	
Support & sustainability		
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now	
If you have asked for support, please rate the answer	satisfactorily	
If you have asked for support, how long did the answer take?	Instantly	



If you have asked for support, please give more details about the issue you had and how it was handled	Specific questions on provided features beside back then not-yet-available documentation.	
Long-term sustainability is offered and well explained	Yes No I don't know	
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates	
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know	
Summary		
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know	
I have decided to use the GE. If not, please give the main reason.	Yes No	

3.21 - Security Chapter - Identity Management [DigitalSelf / NSN]

The GE was evaluated by two partners. One partner has successfully installed and used it; the other one only had a look on the documentation and decided than to work with an easier IDM GE. Therefore the evaluation of this partner is incomplete. The functionality is satisfactorily and one partner misses a TV tailored and HbbTV compliant front-end. Training material is not available. The assessment of the quality of documentation greatly differs. For one partner it is good and easy to find, whereas for the other one it is insufficient. Terms and conditions are clear for the current project phase only. No exact T&C are provided for a commercial use later. These would need to be discussed on a case by case basis - which seems to be acceptable for the partner. The partner also sees a risk related to data protection/content rights since there are strict data protection and privacy laws in place for TV services. Before deploying commercial services on top of the Second-Screen Framework, an agreement with the underlying GE provider would have to be found on the handling of personal data. The end-users T&C for the service application would need to explain the fact that personal information is forwarded to a third party. There's a certain risk that this is not deemed acceptable. The support for this GE is excellent, only long term sustainability is unknown. The GE is in current use by one of the partners who also thinks that its gains are well worth the efforts of integration. The other partner is not using the GE due to the insufficient documentation and uses instead another IDM GE.



General			
Evaluated by platform(s)	Social Connected TV (2) Pervasive Games Smart City		
Number of evaluating partners	2		
SEs / scenarios / applications the GE was evaluated for	Second Screen Framework, VOD Search & Discovery		
How was the evaluation performed	I had a look at the documentation (1) I have tried to install / integrate / use it I have successfully installed / integrated / used it (1) It is in constant use (by end user application)		
Evaluation use case(s)	 Extension of implemented second-screen solution to support features such as: attribution of devices to persons, personalisation of services and TV applications (e.g. for social media, browsing usage history, recommendation, interactive multiplayer TV show games) This GE is designed to be used for the user to be authenticated at the first connection to Search & Discovery service. 		
Functionality & API			
To which degree does the GE provide the documented functionality?	satisfactorily (2,5)		
To which degree does the GE cover my needs?	very satisfactorily (4,0)		
Evaluated features	Authentication mechanism, user profile		
Missing features	TV tailored and HbbTV compliant front-end, NSN works on resolving this gap.		
The API exposes the functionality in an easy to use and straight forward way	satisfactorily (3,0)		
The APIs are compliant with industry-adopted standards	Yes (2) No N/A REST, Many authentication standards offered		
Documentation			
It was easy understood what the GE provides and required reasonable efforts	satisfactorily (3,0)		
Quality of documentation	No documentation available Documentation available but not sufficient (1) Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find (1)		
Quality of training material	No training material available (2) Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find		



Installation, integration and usage			
For a library or an installable GE			
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented (1) available for my target platform and well documented		
GE is compatible with existing components / requirements	Yes No N/A (1)	We preferred to work with an easier IDM GE (KeyRock)	
For a server-side GE that you want	t to use as a service already pr	ovided by others (e.g. FI-LAB)	
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements (1)		
Please indicate which of your requirements are not met			
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per n often (once per month) sometimes (once in 3 mor rarely (once in 6 months) hardly ever (once per year	nths)	
For a server-side GE that you want	t to deploy and host yourself		
Its installation process is sufficiently documented and supported			
Terms & Conditions			
The terms and conditions are clearly specified and up to date The terms and conditions are	Yes (1) No	Responses apply to current project phase only. No exact T&C are provided for a commercial use later. These would need to be discussed on a	
acceptable	Yes (1) No	case by case basis - which seems acceptable.	
Its use does create risks related to data protection/content rights	Yes No N/A	There are strict data protection and privacy laws in place for TV services. Before deploying commercial services on top of the Second-Screen Framework, an agreement with the underlying GE provider (IDM.NSN Digital Self) has to be found on the handling of personal data. The end-users T&C for the service application would need to explain the fact that personal information is forwarded to a third party. There's a certain risk that this is not deemed acceptable.	
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No (1) I do	on't know	
The terms and conditions allow commercial exploitation	Yes No I do	on't know (1)	



Support & sustainability				
I have already asked for support	yes, via e-mail (1) yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now			
If you have asked for support, please rate the answer	excellent (5,0)			
If you have asked for support, how long did the answer take?	<1day			
If you have asked for support, please give more details about the issue you had and how it was handled	The current version of the GE does not include the required TV-specific and HbbTV-compliant GUI for user registration and log-in processes. Thus, the use of this GE is currently not possible in an HbbTV application. We reported that issue directly to NSN/Nokia.			
Long-term sustainability is offered and well explained	Yes No I don't know (1)			
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided (1) Active developer community and recent updates			
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know (1)			
Summary				
The gains obtained through using the GE are well worth the effort in integrating it	Yes (1) I don't know			
I have decided to use the GE. If not, please give the main reason.	Yes No (1) The documentation was not sufficient.			



3.22 - Security Chapter - Identity Management [GCP / DT]

The GE was evaluated to allow users to register and login to the server-based SEs of the partner. The partner misses a front-end to manage users and a feature to allow data storage of users' usage. Therefore the functionality was rated not satisfactorily. The documentation and the training material are good but hard to find. Since the service was not available for several times, it does not meet the performance requirements of the partner. The terms and conditions especially for beyond FI-PPP are uncertain. The partner also sees a risk related to data protection/content rights since the data each user enters is stored on servers of the GE provider and it is not possible to check which data is stored and how secure the storage is. The support is good but long term sustainability is unknown especially since there is no further development. The GE is in use but its gains are not worth the efforts due to the missing features and the uncertain future status of the GE.

General	
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City
Number of evaluating partners	1
SEs / scenarios / applications the GE was evaluated for	Audio Mining SE, Audio Fingerprinting SE, Content Optimisation SE
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)
Evaluation use case(s)	All of our SEs are server-based and can be configured using a web frontend. To secure this frontend we needed software that allowed users to register and login. We choose the Identity Management GE GCP because it implements the desired functionality and can be easily integrated using the OpenID standard.
Functionality & API	
To which degree does the GE provide the documented functionality?	very satisfactorily
To which degree does the GE cover my needs?	not satisfactorily
Evaluated features	Registration of new users, OpenID Login
Missing features	A frontend to manage users; A feature to allow data storage for users e.g. to track how often a certain function was used
The API exposes the functionality in an easy to use and straight forward way	very satisfactorily
The APIs are compliant with industry-adopted standards	Yes No N/A REST, OpenID
Documentation	
It was easy understood what the GE provides and required reasonable efforts	satisfactorily
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find



Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find					
Installation, integration and usage						
For a library or an installable GE						
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented					
GE is compatible with existing components / requirements	Yes No N/A					
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)					
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements					
Please indicate which of your requirements are not met	Service was down several times without notice in advance					
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)					
For a server-side GE that you want	t to deploy and host yourself					
Its installation process is sufficiently documented and supported						
Terms & Conditions						
The terms and conditions are clearly specified and up to date	Yes No No indication of terms and conditions beyond FI-PPP; reference to the Collaboration Agreement which is not available for users to download					
The terms and conditions are acceptable	Yes No					
Its use does create risks related to data protection/content rights	Yes No N/A The data each user enters is stored on servers of Deutsche Telekom. It is not possible to check which data is stored and how secure the storage is					
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know					
The terms and conditions allow commercial exploitation	Yes No I don't know					



Support & sustainability	
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now
If you have asked for support, please rate the answer	very satisfactorily
If you have asked for support, how long did the answer take?	1-15 days
If you have asked for support, please give more details about the issue you had and how it was handled	Requested access to a test instance, questions about future development plans
Long-term sustainability is offered and well explained	Yes No I don't know
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know
I have decided to use the GE. If not, please give the main reason.	Yes No



3.23 - Security Chapter - Identity Management [KeyRock / UPM]

This GE was evaluated by three partners. One partner has successfully installed and used it, whereas two partners only tried to do so. One partner evaluated the GE at a time with no sufficient documentation and therefore stopped the evaluation. The partner only assessed the GE in parts. The overall impression of the other two partners is good in terms of functionality and documentation. For this GE the terms and conditions after Phase 3 of the FI-PPP are uncertain at least for two of the partners. Long term sustainability is unknown as well as the status of updates. All three partners are uncertain whether or not the gains of the GE are worth the efforts, although it is used at least by one partner. One is not using it and the third partner has not yet decided, but might evaluate the GE again now that the documentation is updated.

General	
Evaluated by platform(s)	Social Connected TV (1) Pervasive Games (1) Smart City (1)
Number of evaluating partners	3
SEs / scenarios / applications the GE was evaluated for	integration with leaderboard, Social Network, VOD Search & Discovery
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it (2) I have successfully installed / integrated / used it (1) It is in constant use (by end user application)
Evaluation use case(s)	 Authentication for some leaderboard operations like creating and deleting games or connecting to the Social Network enabler. We needed user authentication for our Cologne experiment. This GE is designed to be used for the user to be authenticated at the first connection to Search & Discovery service.
Functionality & API	
To which degree does the GE provide the documented functionality?	very satisfactorily (4,0)
To which degree does the GE cover my needs?	excellent (5,0)
Evaluated features	OAuth2.0
Missing features	
The API exposes the functionality in an easy to use and straight forward way	very satisfactorily (3,5)
The APIs are compliant with industry-adopted standards	Yes No N/A OAuth2.0
Documentation	
It was easy understood what the GE provides and required reasonable efforts	very satisfactorily (4,0)
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find (1) Good, up-to-date documentation, easy to find (1)



Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated (1) Good training material but hard to find (1) Good, up-to-date training material, easy to find					
Installation, integration and usage						
For a library or an installable GE						
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented (2)					
GE is compatible with existing components / requirements	Yes No N/A					
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)					
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements (2)					
Please indicate which of your requirements are not met						
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)					
For a server-side GE that you want	t to deploy and host yourself					
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported					
Terms & Conditions						
The terms and conditions are clearly specified and up to date	Yes (3) No AGPL 3.0 license doesn't allow a commercial use without providing source code.					
The terms and conditions are acceptable	Yes (2) No (1)					
Its use does create risks related to data protection/content rights	Yes No N/A					
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes (1) No I don't know (2)					
The terms and conditions allow commercial exploitation	Yes (1) No I don't know (2)					
Support & sustainability						
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now (3)					



If you have asked for support, please rate the answer						
If you have asked for support, how long did the answer take?						
If you have asked for support, please give more details about the issue you had and how it was handled						
Long-term sustainability is offered and well explained	Yes No I don't know (3)					
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates (1)					
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know (3)					
Summary						
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know (3)					
I have decided to use the GE. If not, please give the main reason.	Yes (1) No (1) -The integration efforts are too significant -The documentation has been updated since the last attempt to use this GE, therefore we have not yet decided if we will use it.					



3.24 - Security Chapter - Identity Management [One-IDM / NSN]

The GE was evaluated for user authentication at the first connection to the VOD Search & Discovery service. Since the GE does not us OAUth 2.0 authentication the functionality is insufficient for the use case. The documentation is excellent although there is no training material available. For this GE the terms and conditions after Phase 3 of the FI-PPP are uncertain. Long term sustainability is unknown as well as the status of updates. Due to the missing functionality the GE is not used and it is not worth the effort of integration.

General						
Evaluated by platform(s)	Social Connected TV Pervasive Games Smart City					
Number of evaluating partners	1					
SEs / scenarios / applications the GE was evaluated for	VOD Search & Discovery					
How was the evaluation performed	I had a look at the documentation I have tried to install / integrate / use it I have successfully installed / integrated / used it It is in constant use (by end user application)					
Evaluation use case(s)	This GE is designed to be used for the user to be authenticated at the first connection to Search & Discovery service.					
Functionality & API						
To which degree does the GE provide the documented functionality?	very satisfactorily					
To which degree does the GE cover my needs?	insufficient					
Evaluated features	Authentication					
Missing features	The GE doesn't use OAuth 2.0 authentication					
The API exposes the functionality in an easy to use and straight forward way	not satisfactorily					
The APIs are compliant with industry-adopted standards	Yes No N/A SAML 2.0					
Documentation						
It was easy understood what the GE provides and required reasonable efforts	excellent					
Quality of documentation	No documentation available Documentation available but not sufficient Sufficient documentation but outdated Good documentation but hard to find Good, up-to-date documentation, easy to find					
Quality of training material	No training material available Training material available but not sufficient Sufficient training material but outdated Good training material but hard to find Good, up-to-date training material, easy to find					



Installation, integration and usage							
For a library or an installable GE							
GE compatibility	not available for my target platform available for my target platform but installation is not documented available for my target platform but installation is not well documented available for my target platform and well documented						
GE is compatible with existing components / requirements	Yes No N/A OAuth 2.0 needed						
For a server-side GE that you want	t to use as a service already provided by others (e.g. FI-LAB)						
The service effectively meets the performance requirements	does not meet the performance requirements does not sufficiently meet the performance requirements meets the performance requirements						
Please indicate which of your requirements are not met							
Have you encountered down times? If you encountered down times, were you informed about it by e.g. FI-Ware or the GE owner	very often (> 3 times per month) often (once per month) sometimes (once in 3 months) rarely (once in 6 months) hardly ever (once per year)						
For a server-side GE that you want	t to deploy and host yourself						
Its installation process is sufficiently documented and supported	not documented not sufficiently documented sufficiently documented and supported						
Terms & Conditions							
The terms and conditions are clearly specified and up to date	Yes No						
The terms and conditions are acceptable	Yes No						
Its use does create risks related to data protection/content rights	Yes No N/A						
Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP?	Yes No I don't know						
The terms and conditions allow commercial exploitation	Yes No I don't know						
Support & sustainability							
I have already asked for support	yes, via e-mail yes, in a face-to-face situation (meeting, video, call) yes, via a bug tracking tool no, I have not asked for support until now						
If you have asked for support, please rate the answer							



If you have asked for support, how long did the answer take?	
If you have asked for support, please give more details about the issue you had and how it was handled	
Long-term sustainability is offered and well explained	Yes No I don't know
The GE has an active owner/developer and recent updates	there is no further development bug fixes and limited support are provided bug fixes and good, instant support are provided a small number of developers but constant updates / support are provided Active developer community and recent updates
Updates and API changes are announced before or backward compatibility is ensured	updates and changes are not announced updates and changes are announced but mainly on short notice updates and changes stick to fixed delivery dates backward compatibility is ensured I don't know
Summary	
The gains obtained through using the GE are well worth the effort in integrating it	Yes No I don't know
I have decided to use the GE. If not, please give the main reason.	Yes No This GE doesn't correspond to the expected need of authentication and authorization.



ANNEX 1: SURVEY

1 G	ieneral					
1.1	Your full name:					
1.2	Your organization:					
1.3 1.3.1	GE name: -> please select one Other: (if not available in list)					
1.4	FI-Content 2 platform you are working on:	-> please se	lect one			
1.5	FI-Content 2 SEs/scenarios/applications the	GE was evalu	uated for	:		
	More than one answer possible.					
1.6	GE usage: -> please select one					
1.7	Describe your use case for the GE in 3-5 ser	ntences:				
2 F	unctionality & API To which degree does the GE provide the do	ocumented fu	unctional	ity?		
	To which degree does the GE provide the do	ocumented for the contract of	unctional O 2	ity? O 3 satisfactorily	O	O 5 excellent
	To which degree does the GE provide the do	O 1 ufficient	0	3	O ₄	5 excellent
2.1	To which degree does the GE provide the do	o 1 ufficient ds?	0	3 satisfactorily	O ₄	5 excellent O 5 excellent
2.1	To which degree does the GE provide the do	1 ufficient ds? 0 1 ufficient	2	3 satisfactorily	O ₄	O 5
2.1	To which degree does the GE provide the do	1 ufficient ds? 0 1 ufficient	2	3 satisfactorily	O 4	O 5
2.1	To which degree does the GE provide the do	of the state of th	0 2	3 satisfactorily	O 4	O 5
2.2	To which degree does the GE provide the do	of the state of th	0 2	3 satisfactorily	O ₄	O 5
2.2	To which degree does the GE provide the do	of the second of	O 2	satisfactorily Satisfactorily	O 4	O 5
2.2 2.2.1 2.2.2	To which degree does the GE provide the do	of the second of	O 2	satisfactorily Satisfactorily	O ₄	O 5
2.2 2.2.1 2.2.2	To which degree does the GE provide the do	of to use and so the ficient of the using.	o 2 sing.	satisfactorily Satisfactorily satisfactorily orward way. Satisfactorily	↓↓↓ANo:	s excellent



3	Documentation							
3.1	It was easy understood what the GE provides and required reasonable efforts.							
		1 insufficient	2	3 satisfactorily	4	5 excellent		
3.2	The GE provides an easy to find, clear	ar and up-to-date (documenta	ation.				
3.3	It has good training material (tutorial -> please select one	als, w ebinars).						
4	Installation, integration a	nd usage						
4.1	For a library or an installable GE: It is compatible with my target platf -> please select one	orms and the insta	Illation pro	ocess is well docum	nented.			
4.1.1	The GE is compatible with my existing (in terms of operating system, langu			nents N/A:				
4.1.2	Please describe any issues encounte	ered.						
4.2	For a server-side GE that you want The service effectively meets the pe and bandwidth> please select one					-		
4.2.1	If applicable, please indicate which of your requirements are not	met.						
4.3	For a server-side GE that you want Have you encountered down times?			rovided by others	(e.g. FI-LAB	3):		
4.3.1	If you encountered down times, we (announcement before, duration, re		oout it by e		GE owner			
4.4	For a server-side GE that you want to deploy and host yourself (e.g. your own dedicated VM in FI-LAB or elsewhere):							
	Its installation process is sufficiently	documented and	supported	(e.g. by tutorials,	scripts).			

-> please select one



5 Terms & Conditions

5.1	The terms and conditions are clearly specified and up to date. Yes: No:
5.2	The terms and conditions are acceptable (date of validity, licensing, price). Yes: No:
5.2.1	If not, please indicate why they are not acceptable for you.
5.3	Its use does create risks or restrictions related to data protection or content rights. Yes: $No: NA:$
5.3.1	Please explain which risks or restrictions you foresee or which you have already encountered when using the GE.
5.4	Do the terms and conditions ensure the GE's availability also after Phase 3 of the FI-PPP? Yes: No: I don't know:
5.5	Do the terms and conditions allow you to use the GE for commercial exploitation if it is integrated into your SE or application? Yes: No: I don't know:
6 Su	pport & sustainability
6.1	I have already asked for support> please select one
6.1.1	If you have asked for support, please rate the answer:
	1 2 3 4 5 insufficient satisfactorily excellent
6.1.2	If you have asked for support, how long did the answer take?
6.1.3	If you have asked for support, please give more details about the issue you had and how it was handled (wa it solved, in which way it was solved, etc.)
6.2	Long-term sustainabilty (bug fixes, updates) is offered and well explained. Yes: No: I don't know
6.3	The GE has an active owner/developer and recent updates> please select one
6.4	Updates and API changes are announced before or backward compatibility is ensured.
	-> please select one
7 Su	ımmary
7.1	The gains obtained through using the GE are well worth the effort in integrating such a foreign component. Yes: No: I don't know:
7.2	I have decided to use the GE. Yes: No:
7.2.1	If not, please give the main reason.
7.3	Final comments, feedback to the survey: