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P2P Services

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Abstract:

This deliverable outlines the main P2P Services that have been developed and sketched up to a level of research and/or commercial prototype during the P2P-Next project.

P2P Services accompany the development of the Next-Share platform and its components and bridge the gap between research work and commercial implementation. P2P Services are built from the tools developed in the corresponding RTD work packages of the project to which business ideas and logic have been added to create pre-commercial prototype services.

These are designed to reference ways how the tools developed in the project may be monetised as part of the core open source Next-Share offering and as part of commercial services using e.g. SaaS or ASP business approaches. There is one main P2P-Next service that operates the NextShare platform, plus four accompanying services enhancing the core offering a) Interactive TV related services, b) Payment related services incl. Security and c) Free View related services (using the P2P-Next Targeted Ad and Editorial and Promotional content Device - TAEPD) and e) Pay View (Subscription and Pay per View) related Services that will be developed taking into account the legal and regulatory assessment work of P2P-Next.

While the main service and the accompanying services a) – b) have been sketched in this deliverable the latter two services c) – d) have been detailed in the “sister” deliverable D2.5.2.

Keyword list: WP2, Interaction, transaction, participatory TV, DRM, P2P Operating Service, payment service, micropayment

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1 Executive Summary

This deliverable outlines the main P2P Service that has been developed and sketched up to a level of research and/or commercial prototype during the P2P-Next project.

P2P Services accompany the development of the Next-Share platform and its components and bridge the gap between research work and commercial implementation. P2P Services are built from the tools developed in the corresponding RTD work packages of the project to which business ideas and logic have been added to create pre-commercial prototype services.

These are designed to reference ways how the tools developed in the project may be monetised as part of the core open source Next-Share offering and as part of commercial services using e.g. SaaS or ASP business approaches.

There is one main P2P-Next service that operates the NextShare platform, plus four accompanying services enhancing the core offering a) Interactive TV related services , b) Payment related services incl. Security and c) Free View related services (using the P2P-Next Targeted Ad and Editorial and Promotional content Device - TAEPCD) and e) Pay View (Subscription and Pay per View) related Services that will be developed taking into account the legal and regulatory assessment work of P2P-Next.

While the main service and the accompanying services a) – b) have been sketched in this deliverable the latter two services c) – d) have been detailed in the “sister” deliverable D2.5.2.

2 Business Plan for P2P Service: Operating Service (FairShare Media World)

2.1 General Assumptions

In update 2 of this deliverable we assumed that for the main P2P operational service we would act like a publisher running a portal and having extensive technology, programming and development capabilities. We further assumed that the portal is mainly a free view ad based portal with no or little subscription and premium content (video content).

We sketched that we want to add video to our offering by means of aggregation and self production, but a proper calculation of costs and revenues has revealed that video may not be properly monetised applying a plain free view ad based concept. We further assumed that we have an established user base of which we think that about 5 % - 10 % are willing to add premium services to the core free view base offering and paying for content. Of these 5 % - 10 % ,another 15 % – 25 % may be willing to click a dedicated p2p option (like in Flash), willing to share bandwidth with other users and be part of a “closed swarm” subscription based p2p content offering.

We now decided to introduce a premium content offering mixing professional content with user generated content. The content can only be watched by those who have signed up for the subscription model. Those who have not clicked the p2p option will receive the content the traditional way (Client - Server or CDN), those who have clicked the p2p option will receive the content either the traditional way or via p2p delivery. They will also receive an additional bonus as we have created a virtual bandwidth account for each user who has ticked the p2p option.

Applying the bandwidth as an additional currency concept users can earn credits if they frequently donate bandwidth to the subscriber group. In return they can choose between getting discounts on their subscription, receive coupons to purchase goods at reduced prices or can view extra content for free depending on the credits they have earned.

We also assumed that a central control engine was to define how to deliver the content. In general the engine may use CDN delivery for live streaming, classic client-server transmission for very niche type content and p2p delivery if the quality of delivery is above a certain threshold.

The service was sketched to be payment service agnostic and payment method agnostic. This means that within certain boundaries it is left to the user to decide how he wants to pay (as long as he pays). It was furthermore assumed that in monetising the content the system will be enhanced and may make use of the other services developed in the project.

Linear programming may be enhanced by the LIMO based Interactive TV services. This enhancement may come from the original producers or from subscribers adding e.g. comments. Contents may be paid directly using the P2P Payment Service.

Other contents may be watched for free accepting advertisements. As an alternative mechanism the user may decide how he pays by making use of the hybrid monetisation engine and choosing from the list of engagements with the content to pay for it.

Implementing the methodology we used the following scheme:

| <i>Efficiency</i> | | | <i>Value</i> | | |
|--|---|--|--|---|--------------------------|
| Key Partners | | Key Activities | Value Proposition Publisher/Portals/Content Producers | Customer Relationships | Customer Segments |
| 1. Strategic alliances with non-competitors a) Portals b) Publishers + Producers | 1. Tool management, service provisioning, platform promotion 2. B2B Sales (Publishers, Professional Producers + Prosumers) | 1. Video-delivery service making use of p2p-technology for subscribers to deliver premium content (long form and short form) 2. Switch between CDN, Client-Server and p2p type of delivery according to usage patterns, delivery quality and optimal costs 3. Hybrid payment schemes | 1. A hybrid model composed of a) Personal assistance b) Dedicated personal assistance c) Self-service d) Automated services e) Communities f) Co-creation | 1. Publisher 2. Prosumers and Direct video producers selling dirty feed video content 3. Digital Video ASP and Aggregators of Video | |
| 1. 2. Coopetition a) ISP's, b) CDN's, ASP's | | | Channels | | |
| 2. 3. Joint ventures – none | | | 1. Primary Own channels, partner channels (ISP, CDN) 2. Direct channels | | |
| 3. 4. Buyer-supplier relationships 1. Prime publishers 2. Prime producers | Key Resources | | Channel Phases | | |
| 4. Reaching 1. Optimization and economy of scale 2. Reduction of risk and uncertainty 3. Acquisition of particular resources and activities | 1. Physical 2. Intellectual 3. Human 4. Financial | | 1. Awareness (Fares, PR, Free open source installation of base version) 2. Evaluation (Demo, Free Test) 3. Purchase (Discounts first) 4. Delivery (QoE, QoS) 5. After sales (Customer Value) | | |
| Cost Structure | | Revenue Streams | | Pricing Mechanisms | |
| 1. Cost-driven 2. Fixed costs + Variable costs 3. Economies of scale - yes 4. Economies of scope - yes | | 1. Set-up Fee + 2. Monthly Rent + 3. Usage fee | | 1. Fixed Pricing - List price, product feature and volume dependent 2. SaaS Approach | |
| | | Main instruments | | To do Conjoint Analysis | |
| | | 1. B-2-B Sales Funnel 2. Scaling + Usage Factor Calc. | | 1. to find out right pricing structure and 2. customer segments to start selling | |

Table 1: Business Model of P2P Main Operating Service

We sketched 3 milestones related to the development in 2011 and 2012.

Milestone 1 – Functional and Technical Specification Complete - 31st March 2011

Milestone 2 – Individual Development Complete - 30th September 2011

Milestone 3 – Individual Stress Tests - completed Interaction between Services provided (Integrated Service Provisioning) – 30th April 2012.

Since having sketched the main operating service and the accompanying enhancement services we have further developed the services and underlying business models. We have turned the main P2P Operational Service into the Fair Share Media World CDN approach. The approach takes large parts of the ideas elaborated upon in 2010, but also includes new approaches while deleting others.

2.2 Introduction of the FairShare Media World CDN

The FairShare MediaWorld CDN (Content Distribution Network) enables anyone to distribute digital content to any other user of the Internet at a very low cost. Distribution can be both private and professional and a number of different business models are available. An integrated Payment System handles all necessary payment functions including micro payments for all relevant business models. All usage of the FairShare MediaWorld is Self-Service through the FairShare MediaWorld Portal and underlying functionality. All distribution resources within FairShare MediaWorld are owned or commanded by the Users. Everyone who provides such resources in addition to basic resources, will enjoy the possibility to get compensated for their contribution. Typical resources are bandwidth and server/storage capacity.

FairShare MediaWorld has been realized by DACC Systems AB with peer-to-peer software developed within the European Union funded project P2P-Next. DACC is one of the twenty project partners from EU and Efta member states.

A first technical test (Alpha) is ongoing together with Acreo (A Swedish research organization) within their test network in Hudiksvall in Sweden. A more comprehensive test (Beta) with payment functionality and commercial content is planned for 2012 together with Acreo, Mid Sweden University and Servanet (A provider of high speed broadband networks in Hudiksvall and Sundsvall and surroundings) for test with private users.

FairShare MediaWorld is a fully legal and secure community of users – consumers and providers – that help each other with resources and content to achieve best quality experience of the available content to lowest possible cost.

To enjoy any content or service on FairShare MediaWorld, the user needs an Internet enabled device (PC, Set-Top-Box, Smartphone, etc.) with a browser and a browser plug-in. The plug-in is available for download from FairShare MediaWorld for the first time user.

In the first edition of FairShare MediaWorld DRM (Digital Rights Management) will not be used. In future implementations all content in FairShare MediaWorld may be protected by an access control function. There are basically two DRM concepts to consider.

A protection method developed in P2P-Next is the concept of Closed Swarms, which means that users outside of the Closed Swarm will not be provided any seeds from other peers and the content will thus not be accessible.

A more powerful protection method, also developed within P2P-Next, to be considered is an Access Control System (ACS) that encrypts everything that is uploaded in FairShare MediaWorld CDN.

In order to consume any content the user (consumer) must acquire the appropriate access key that is used to decrypt the content at time of usage. All content in any node (Peer, Cache, or Resource

Server – Super Peer) of FairShare MediaWorld is thus stored in encrypted form and cannot be consumed unless an appropriate key has been provided by the Access Control System.

Such keys are only provided to users (consumers) that fulfil the conditions specified in Metadata for each content item. Any content can be revoked from further consumption by disabling the corresponding key in the Access Control System. Revocation can only be done by the original Content Provider (Up-loader) and the Operator of the Access Control System.

Content, once decrypted, which is permanently stored by any user for consumption cannot be revoked. Normally FairShare MediaWorld is used for streaming of content to users and the content is thus never stored in the user's device, although a content provider can specify when uploading that his content is available for download.

The Closed Swarms and/or the Access Control System do not provide any Digital Rights Management (DRM) system outside FairShare MediaWorld and after the content has been consumed or downloaded and decrypted. If a Provider wants to impose a DRM system of his own, he is free to do so because FairShare MediaWorld is completely DRM agnostic.

Consumption of free or paid content, if it is not restricted in FairShare MediaWorld, can be done by anybody without registration (Anonymously), while all upload of content requires the user to be registered and known by the FairShare MediaWorld i.e. registered in DACCPAY (The Payment System in FairShare MediaWorld).

Consumption of restricted content can only be done by registered Users to enable the Access Control functions in FairShare MediaWorld to check if access is allowed according to what is specified in Metadata for each content item.

FairShare MediaWorld will be introduced in steps with successively increasing functionality and content.

The availability of interesting content is crucial for success. Ideally a large number of popular and new films from established film makers and plenty of music would be perfect, but this is not realistic as it would require big investments and time consuming negotiations. Examples of established actors in this area are Spotify, Simfy, tape.tv, Voddler, Netflix, and many cable TV providers, YouTube, but also many more or less legal alternatives like Pirate Bay.

Instead we have to find some niche markets with enough valuable content and/or offer a completely different experience to the media consumer.

Our unique selling points (UPS's) are:

1. No length restrictions. Even TV is possible. HD quality.
2. High capacity at low (almost no) cost.
3. Integrated payment system.
4. Self service and choice of many business models.

We also have some weaknesses:

1. We have not enough enticing content from start.
2. We are unknown. Why should anyone go to FairShare MediaWorld?

3. It is necessary to download a plug-in to use FairShare MediaWorld.
4. It does not work with all browsers and not with all devices, especially not all Set-Top-Boxes and consequently cannot easily be viewed on the TV.
5. Quality problems and technical problems may occur.
6. We don't have full functionality to start with.
7. Support may be inferior due to resource limitations.
8. We lack financial strength.
9. There may be legal issues arising from providing an open self-service feature.

How do we "sell" our USP's and how do we overcome the weaknesses?

The first step is to approach content owners for which the USP's are important while the weaknesses do not mean too much.

We believe that possible groups of content providers are:

- Amateur creators of videos, films, and music
- Professional and semi-professional but independent creators of short films and documentaries
- Organizations with "orphan" works and other content, which they want to make available to the public

The absence of length restrictions, the low cost, and the availability of a number of business models with payment together with Self Service operation should attract these groups.

With no substantial resources to market the existence of FairShare MediaWorld to large consumer groups we will have to rely on:

1. The content partners above to tell their users that their content is available on FairShare MediaWorld,
2. What we can do ourselves using social media,
3. Possible press coverage,
4. Viral marketing i.e. users tell each other about FairShare MediaWorld.

For the viral marketing to work in a positive direction it is required that the content is good, quality is acceptable, and the Portal/System is easy to use. If those conditions are not fulfilled there is a great risk that the brand will be destroyed and after that it would be difficult to come back.

Below follows a more comprehensive analysis of the three markets: Amateurs, Independent professionals, and Organizations. FSMW will be used as a short name for FairShare MediaWorld.

2.3 Actors - Amateur Creators

Amateur creators are an important group of users for the FSMW to become a great success, but competition from established distribution channels like YouTube is strong. We believe that the unlimited size, the availability of a payment system, and the self-service are three factors that may attract amateur content owners.

To reach this group at a large scale we have to rely on viral marketing, i.e. users recommend FSMW to each other and promote through their own home pages and social networks.

To get it started, however, we need to get enough publicity and our goal is to get press coverage as a new and inexpensive content distribution offering.

Before we do that and let anybody use the system with self-service it is important that the system works without significant problems and that we have solutions to the legal issues that will arise. As we cannot allow illegally copied (pirated) content to be distributed and with an open self-service function it is impossible for us to control what content is ingested, it will be necessary to sign individual contracts with anyone who wants to distribute.

Therefore a complete self-service offering is not possible in the short term. Self-service will only be offered to users with whom we have signed contract with. This will seriously limit the number of ingesters.

Depending on how the legal landscape develops in the future we may be able to offer full open self-service.

2.4 Actors - Independent but Professional and Semi-professional Creators

Background

Ubiquitous distribution of Documentary and Short Films is today hampered by a lack of suitable and affordable channels. TV and cinemas are obvious channels but they either have limited time space or limited audience for this kind of films as is described below. Distribution via the Internet is an obvious alternative, which also reaches a very large potential audience and has no volume restrictions. There are currently a number of ways to distribute over the Internet like YouTube, Glimz, agreements with a CDN (Content Distribution Network), and various File Sharing Networks like Pirate Bay. Everyone of these has at least some important drawback like limited file size, no payment possibility, limited audience (national), high cost, complicated sales process (offline contracts), and doubtful legality.

Short description of the Swedish documentary film landscape

During the last ten years more and more short- and documentary films has been created. As an example 64 new films were created during 2005¹. Several of the films had first performance on cinema and many have been shown on SVT (Sveriges Television) and a few on the major film festivals in Sweden.

The positive results is due to the state aid introduced 1997 which strengthened the regional structure. But even though this area has a noticeable plastic force it is not without problems. Much of what is presented below comes from a study by Svenska Filminstitutet.²

Production conditions

- Too many production companies produces too little (29 production companies produced 21 documentary films), not enough continuity. Development support and support to independent producers play an important role here.
- Too many film directors direct too little.
- Few film productions have a stable creative team.

Financing conditions

- Budget level is too low and own efforts not realistically counted. The budget mirrors an estimated finance level rather than a realistic estimate of the costs.
- Producers own efforts are too high and there is no realistic possibility to earn back the investment.
- SVT has praxis for co-production but gets disproportionate rights. The producer has a disproportionate investment own burden. SVT has first priority when sharing the incomes.
- Producers are uncertain about the international market.

Distribution conditions

1. Too many films get a small audience. Most films have less than 2000 visitors. A few has more than 10.000 visitors. The key problem is connected to the spread of the cinema space and not how the cinema space is administered. Many of the documentaries are not fit for cinema.
2. Documentaries are not mass media but rather niche media for the chosen few.
3. The distribution model with many performances during a long time period may not be optimum.
4. Exclusive performances yield more visitors and added value.
5. Support from Svenska Filminstitutet to introduce a film requires that the film is finished

¹ Regionalt finansierad kort-och dokumentärfilm 2005. Report. Svenska Filminstitutet

² Dokumentären på vita duken – succé eller olycklig kärlek? Report. Svenska Filminstitutet, <http://www.sfi.se/sv/statistik/rapporter>

6. Co-ordination of the distribution windows (film, TV, DVD, VoD) is far from perfect.
7. All stakeholders are awaiting the new digital distribution initiatives. Very little experience with such new digital distribution means.
8. All producers and directors want to show the film on cinema but that is not where the audience is. The audience is very thinly spread over the country and very seldom close to the same cinema.
9. 97 % of film is not watched on cinema but elsewhere.³

We will focus on point 4 in the Distribution conditions above to design our products and services.

Customer segments

- Documentary and short film producers and directors
- Film producers and directors encounter many of the problems
- End users – the audience
- More end users that the chose few will be able to experience documentary films.

What products/services do we offer?

In FSMW we will offer a number of products and services to help producers and directors reach their audience and solve some of the issues 1-8 above.

- Ubiquitous distribution of documentary and short films: Digital distribution of high quality (“hi-fi”) films and video over broadband networks.
- Film availability and accessibility: Downloadable software for the individual end user to easily find and experience documentary and short films
- Payment system: Possibilities for producers and directors to get paid by the audience according to several business models.
- Mobile solutions to experience documentary and short films – especially the very short ones (5-15 minutes)

What main problems does the product/service solve or what benefits does it provide to the customer?

- Producers and directors can have a new production economy where the creators are in a more direct contact with the film consumers.
- Producers and directors can reach a much larger audience than what is possible with cinema distribution.
- Our payment system can help the producers and directors to earn more money
Examples:
TV-sale: Today producers and directors receive 5000 – 10000 SEK for a typical Nordic/international TV-sale. 50% of this goes to SVT if they have co-financed the production.

³ <http://kulturekonomi.se/analysbrevet/ke0309>

Cinema sale: Income from cinema can perhaps be estimated in the following way: about 2000 viewers per film on cinema. Ticket price 10€ and 50% goes to the distributor (cinema owner) and 50% to the producer. Thus about 10.000 € income per documentary film. But again if the film has been supported by SVT a substantial part of the 10.000 € goes to SVT, say 50%. Left is about 5.000 € for the producer. Cost for rights for a cinema to show a short documentary film is 40 €⁴ See also the calculations in chapter payment

- End users can experience a lot more documentary and short films than what is presented at local cinemas.

What is the added value of the product/service versus competitors and/or existing solutions on the market?

For competitors see also chapter 2.5.3

- FSMW vs. cinema

Producers and directors can reach a larger audience and potentially earn more money.

The end user can enjoy films on-demand.

- FSMW vs. SVT Play

FSMW can serve on-demand services with longer availability and the producer has the full control of it, when, and how the films shall be made available

- FSMW vs. for instance Glimz.net:

New business models for producers and directors.

2.5 Model

Stakeholders in the value chain

2.5.1 How will the product be sold?

⁴ Private Communication with Lasse Pettersson

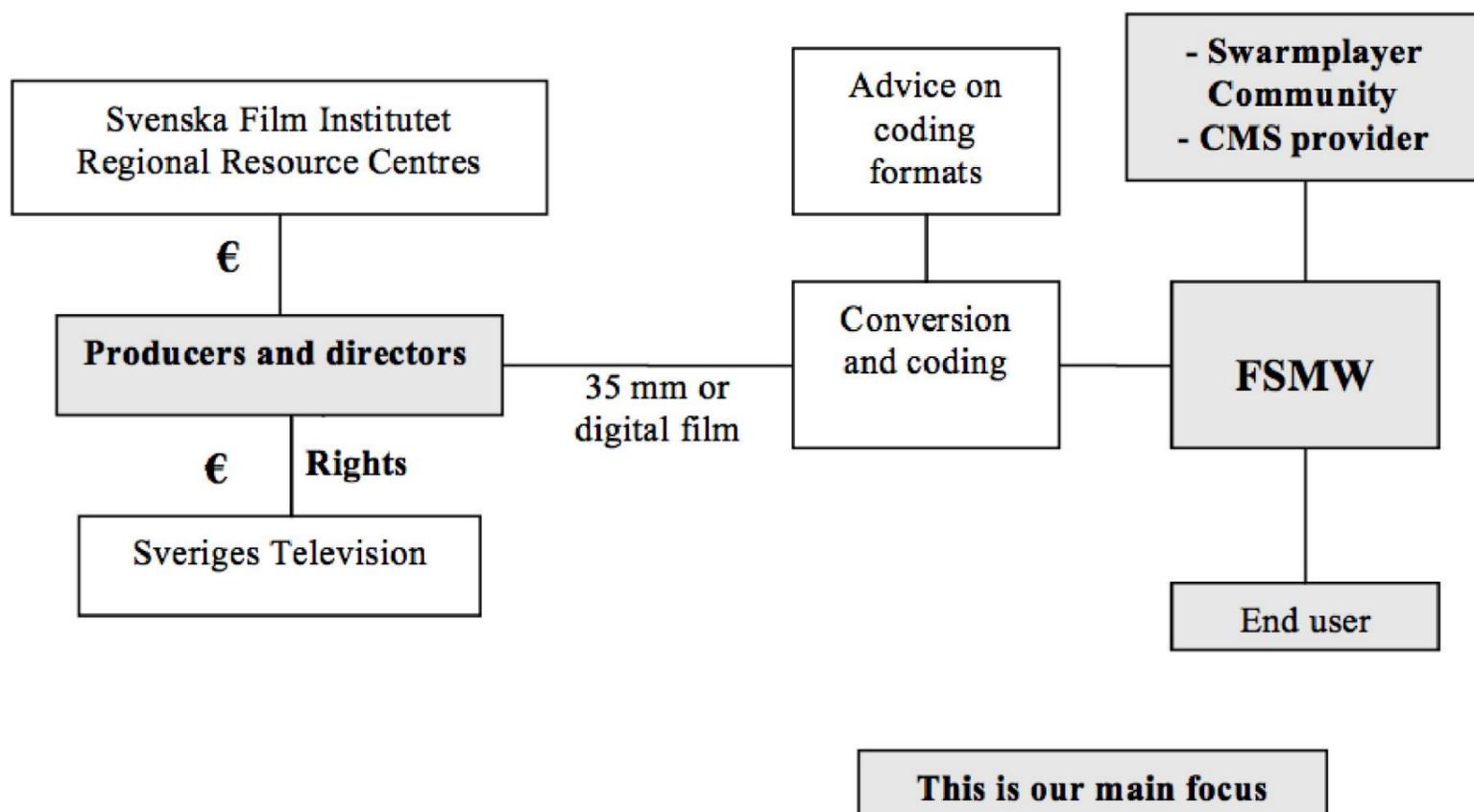


Figure 1: Shareholders in the value chain

Sales to documentary film producers and directors

Initially by taking contact with

- Filmcafe.se (www.filmcafe.se)
- Oberoende filmares förbund (www.off.se)
- A selected number of established documentary filmmakers
(http://sv.wikipedia.org/wiki/Kategori:Svenska_dokument%C3%A4rfilmare)
- Film advisory officers at regional resource centres in Sweden
(http://www.kultur.nu/Film_och_foto/Filmkonsulenter/index.asp)

Sales to documentary film consumers

Initially by setting up social networks on Facebook and Twitter.

Who will pay for the product/service?

- Producers and directors will pay a very small fee for uploading content to hinder misuse.
- If producers and directors do not have seeding servers a small fee is necessary.
- Producers and directors will have to pay for STIM licensed music if applicable.
- End users

2.5.2 Quantification of the market

What is the estimation of the size of the market?

Typical accumulated figures for documentary film consumers on cinema and TV are⁵

| Year | Number of documentary films | Number of cinema performances | Number of viewers on cinema | Number of viewers on TV |
|------------------------|-----------------------------|-------------------------------|-----------------------------|-------------------------|
| 2009 (first half year) | 4 | 1 516 | 40 418 | 648.000 |
| 2008 | 11 | 3.174 | 39.318 | 945.000 |
| 2007 | 4 | 476 | 3.944 | 945.000 |
| 2006 | 6 | 2.074 | 47.125 | 4.617.000 |

Table 2: Accumulated figures for documentary film consumers on cinema and TV, 2006-2009

The table above shows the accumulated figures per year. Other typical figures are that 2/3 of the films are seldom seen by more than 2000 viewers on cinema and that the number of TV viewers is 75-130 times higher for the same figure.

A rough estimate for on-line viewers of documentary films is somewhere between 30.000 and 1.000.000 keeping in mind that the figures in the table are for just a few documentary films.⁶ The main interest is probably in the countryside.

Documentary film producers in Sweden between 25 and 75 years are 240 with experience ranging from rookie to the ones with professional experience. A similar figure for directors is 390.

To get a rough figure on income for FSMW let us suppose that there are 30.000 interested viewers per year and that they watch one documentary film per month and are willing to pay a small donation of about 5€ twice per year, i.e. 300.000 €/year. (A typical price for a cinema ticket is 10 €)

If FSMW would charge 10% for the administration of the payments FSMW would get 30.000 € per year.

This means that FSMW would contribute to producers of documentary films with 270.000 € This figure should be compared with the regional economic support 750.000 €/year 2005 (later figures not available).

To get an understanding for the market in Europe similar statistics as above needs to be used. Up until now it has not been possible to find such figures. Simple scaling with respect to population will probably not give realistic figures.

2.5.3 Market risks and barriers

Barriers

⁵ Dokumentären på vita duken – succé eller olycklig kärlek? Report. Svenska Filminstitutet, <http://www.sfi.se/sv/statistik/rapporter/>

⁶ It should be noted that occasional documentary film may have had up to 40.000 viewers on cinema.

All stakeholders are awaiting the new digital distribution initiatives. Very little experience with such new digital distribution means. (see chapter 2.4 Distribution Conditions, point 7, above).

Risks

Film becomes like the future of music: ubiquitous, mobile, shareable, and as pervasive and diverse as the human cultures that create it. I.e. no money in distribution.

Solution: Availability and accessibility is key. In principle music is like water today – free flowing and possible to find on Internet. But Spotify found a possibility to set up a service and earn money – a service where one can find almost any piece of music. Same approach should be possible for documentary films. It is the completeness and that it is easy to find a specific piece of music that is attractive and worth paying for.

Competition

- SVT Play: Distributes already documentary films. Has financing capability.
- FilmCentrum: Has started “institutional (?) broadband distribution”
- Glimz.net: Service provider to producers that are willing to upload their films.
- Glimz aggregate rights for all media, including on-line (VoD, DST, IPTV, mobile, etc) and we deliver film copies in most digital formats (MPEG, WMV, DV, etc, via FTP).
- Scandinavia (reference given in a report from Sfi)
- Sales on DVD

2.5.4 Organisations with Orphan Works

This collection of organisation is not focusing on organisations archiving only music, films or video. The collection is more general. However the organisations may have such collections in relationship with the ordinary collections.

The list is not exhaustive.

National Library of Sweden (<http://www.kb.se/hjalp/english/>)

The National Library of Sweden has been collecting virtually everything printed in Sweden or in Swedish since 1661.

National Archives and the regional state archives of Sweden (<http://www.riksarkivet.se/default.aspx?id=2138>)

At the National Archives documents stores documents from administrative authorities and private persons from the Middle Ages and onward. The collective cultural heritage shall be preserved and made available to the public.

Besides the regional state archives there is also the Military Archives and a few archives with responsibility for state wide archiving.

Filmarkivet

(<http://www.filmarkivet.se/>)

Filmarkivet makes it possible to experience unique moving image material like short, documentary-, journal- and advertising films.

Filmdelta (<http://www.filmdelta.se/filmarkiv/>)

This site collects information about Swedish films.

The Swedish National Heritage Board

(http://www.raa.se/cms/extern/en/about_us/our_mission/our_mission.html)

The Swedish National Heritage Board is Sweden's central administrative agency in the area of heritage and the historic environment.

County Agencies

The County agencies have responsibility for state and regional cultural environmental management, preferentially regarding buildings, churches and ancient remains. Sweden has 21 counties.

Municipal Archives

There are 290 municipals in Sweden, all with a responsibility to preserve the local history. All have archives which provide archival material for research, education and culture.

The Centre for Business History (<http://www.naringslivshistoria.se/Dolda-sidor/Information-in-english>)

The Centre for Business History is an independent organization working in the area of corporate and industrial history in all forms. More than 7000 corporate archives are located at The Centre for Business History containing documents, photographs, films and objects.

Church archives

The church archives consist of documents that has been registered by the ecclesiastical administration. The archives go back to 17th century. After 1991 the archives were transferred to the County Agencies.

Museums and libraries

Museums and libraries have archives of works some of them very profiled and linked to local heritage.

A list of museums can be found here:

http://sv.wikipedia.org/wiki/Lista_%C3%B6ver_museer_i_Sverige

A list of major libraries can be found here:

http://www.foark.umu.se/infosok/adr_ovrb.htm

Company archives

All companies generate a lot of material. Most of it is related to the board, the directors' activities, the personnel and accounting. But there is also material such as advertising and photographs etc.

Some companies preserve the material, some transfer the material to an institution that has as its task to collect material from the private business world.

Examples of such institutions are Arkiv Västmanland, Näringslivens förening, Skånes Näringslivsarkiv

- Arkiv Västmanland (http://sv.wikipedia.org/wiki/Arkiv_V%8Astmanland)
- Centrum för Näringslivshistoria See under the heading The Centre for Business History above (http://sv.wikipedia.org/wiki/Centrum_f%9Ar_N%8Aringslivshistoria)
- Näringslivsarkivens förening (http://sv.wikipedia.org/wiki/N%8Aringslivsarkivens_f%9Arening)
- Skånes Näringslivsarkiv (http://sv.wikipedia.org/wiki/Sk%8Cnes_N%8Aringslivsarkiv)

Research archives

A list of research archives can be found at (http://www.foark.umu.se/infosok/adr_ovra.htm)

The Royal Theaters' Archive (<http://www.operan.se/omoperan/Om-Operan/Arkiv-bibliotek-och-samlingar/Vara-arkiv/>)

The collections consists of older material (photographs and music) from The Royal Swedish Opera and The Royal Dramatic Theatre.

The Swedish Patent and Registration Office (PRV) (<http://www.prv.se/en/>)

PRV is a centre for industrial property protection and protects ideas with the help of patents, design protection and trademark protection.

Universities

The collections are mostly related management of the university and to education.

Other organisations

There are many non-profit organisations that hold own small collections of material of different kind compiled from their activities.

3 Enhancement Service 1 - Interactive Service

3.1 Interactivity in P2P-Next

In WP5 the BBC has developed the LIMO (Lightweight Interactive Media Objects) tool for P2P-Next. The main research objective was to find a simpler way to provide interactivity alongside content when moving television from the current linear channel model towards an on-demand, personalised and interactive medium. LIMO implements a lightweight generic solution to support different levels of interactivity and different types of interactive content that will work with the P2P architecture as well as other types of networks.

With regard to interactivity there are two main *types of content* both of which are supported by the LIMO framework:

- Sequential content, e.g. video and audio requires some form of content player and
- Non-sequential content, e.g. a page of text or an image requires some form of content viewer

There are also two main *ways of viewing* content both of which are supported by the LIMO framework:

- On demand, e.g. video on demand or requesting a web page
- Live, e.g. a live channel or an event

The figure below (source: D5.4.1a, p.7) shows how types of content and ways of viewing relate to one another and gives some practical examples:

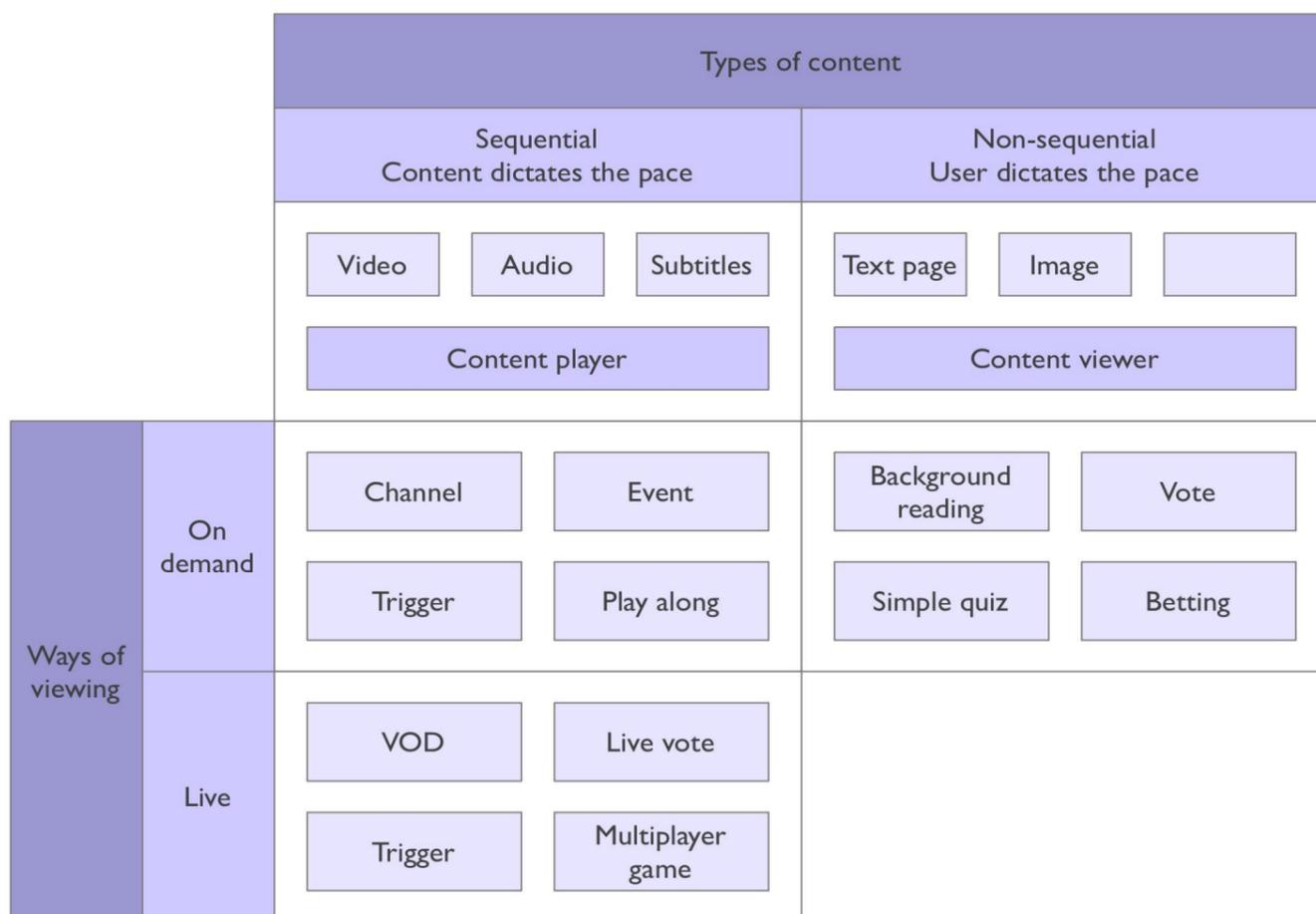


Figure 2: Types of content Addressed by LIMO and P2P-Next Interactive TV Service

The LIMO framework was designed and developed taking the following platforms into consideration, the key feature for LIMO being that it is sufficiently flexible for interactivity to be fully integrated with content on each of these platforms:

- Web application
- Web browser plug-in
- Set top box for TV
- Mobile application

The following diagram shows how the interactivity is described in a format based on HTML (specifically HTML5) and can be implemented in a P2P environment with the simplest elements transferred via HTTP (source: D5.4.1a, p.15):

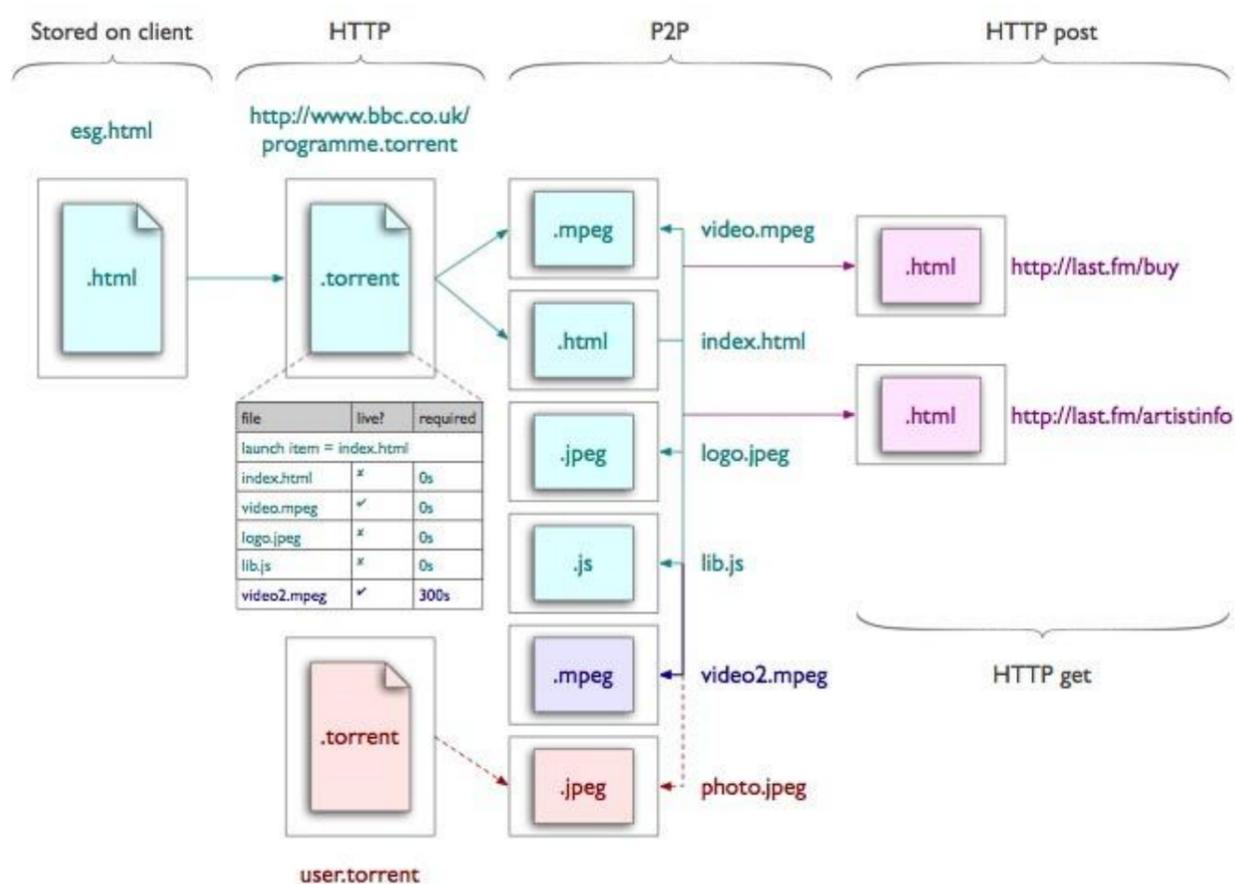


Figure 3: Interactivity in a P2P Environment

WP5 demonstrated the use of this approach for subtitles, chapter points, further information content panels, and quizzes. The same approach can be extended for other forms of interactivity that can be used to support interactive advertising.

While the early LIMO prototypes focused on video-on-demand (and therefore interactivity-on-demand) WP5 realised that a key challenge in making the interactive framework truly flexible was synchronising a live audio/video stream played within a browser to the timed metadata (e.g. LIMO events) streamed alongside it. Tackling this problem could lead to truly seamless interactivity that can be transferred between devices (e.g. set top box or mobile) and between different time contexts (e.g. live to on-demand). This is fully described in D5.4.1d

The approach described above provides the interactivity alongside video but not within the video stream. The traditional approach to interactivity is to include the interactive elements in the video stream itself in some way (i.e. this is the model for traditional broadcast television).

The LIMO approach decouples the interactivity from the stream but reattaches a separate interactive stream through the relationship between a timestamp in the LIMO manifest and a related timestamp in the video stream.

Having the two pieces of content decoupled in this way enables personalised, targeted advertising scenarios because the interactive content does not need to be in the video that is delivered to all viewers.

Different interactivity can easily be swapped in and out without the need to edit the original video stream. This applies equally to related overlays as to related video content which can be triggered from the main video stream as necessary.

The final LIMO deliverable demonstrates content that can be either overlaid or displayed side by side with the video, and shows how this can be layered with multiple streams of interactivity being possible if required (source: D.5.4.1d, p.41):

Working demo UI

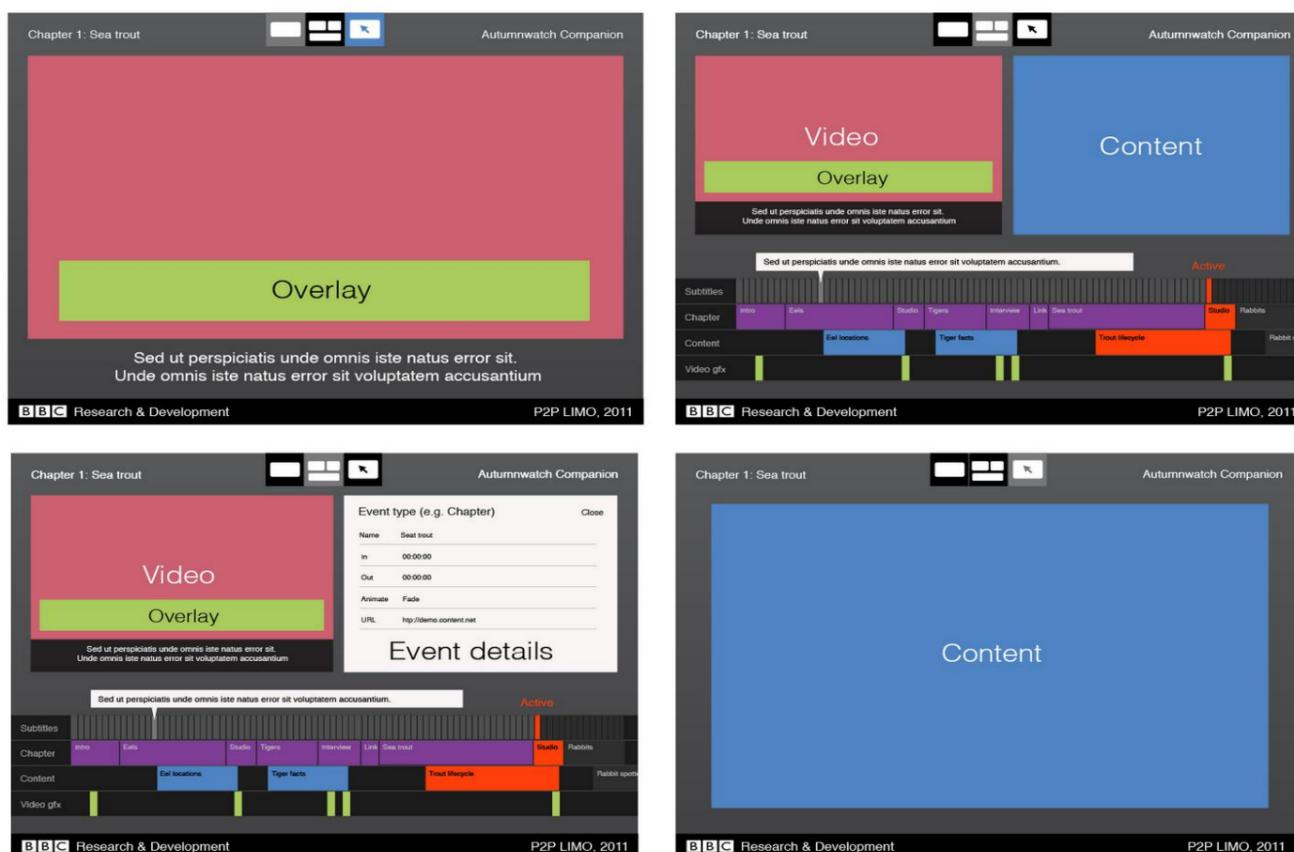


Figure 4: Presentation of alternative LIMO interactive elements related to a common stream

3.2 Methodology

The following methodology was derived by Alexander Osterwalder and Yves Pigneur “Business Model Generation. A handbook for Visionaries, Entrepreneurs and Game Changers, Self-Published 2010. It serves as a method how to build a business from an idea and a technical development. It contains the following elements

1. Customer Segments

The Customer Segments Building Block defines the different groups of people or organizations an enterprise aims to reach and serve.

2. Value Propositions

The Value Propositions Building Block describes the bundle of products and services that create value for a specific Customer Segment.

3. Channels

The Channels Building Block describes how a company communicates with and reaches its Customer Segments to deliver a Value Propositions

4. Customer Relationships

The Customer Relationships Building Block describes the types of relationships a company establishes with specific Customer Segments.

5. Revenue Streams

The Revenue Streams Building Block represents the cash a company generates from each Customer segment (costs must be subtracted from revenues to create earnings).

6. Key Resources

The Key Resources Building Block describes the most important assets required to make a business model work

7. Key Activities

The Key Activities Building Block describes the most important things a company must do to make its business model work

8. Key Partnerships

The Key Partnerships Building Blocks describes the network of suppliers and partners that make the business model work.

9. Cost Structure

The Cost Structure describes all costs incurred to operate a business model.

| | | | | |
|--|--|--|--|--|
| <i>Efficiency</i> | | | <i>Value</i> | |
| <i>Key Partners</i> | <i>Key Activities</i> | <i>Value Proposition</i> | <i>Customer Relationships</i> | <i>Customer Segments</i> |
| <ol style="list-style-type: none"> Strategic alliances with non-competitors Coopetition Joint ventures Buyer-supplier relationships <p>Reaching</p> <ol style="list-style-type: none"> Optimization and economy of scale Reduction of risk and uncertainty Acquisition of particular resources and activities | <ol style="list-style-type: none"> Production (designing/making/delivering product in quantities + quality) Problem solving (knowledge management, training, problem spotting) Platform/network (platform management, service provisioning, platform promotion) | <ol style="list-style-type: none"> Newness Performance Customization Getting the job done Design Brand/status Price Cost reduction Risk reduction Accessibility Convenience/usability | <ol style="list-style-type: none"> Personal assistance Dedicated personal assistance Self-service Automated services Communities Co-creation | <ol style="list-style-type: none"> Mass market Niche market Segmented vs. diversified vs. multi-sided platforms (markets) |
| | <i>Key Resources</i> | | <i>Channels</i> | |
| | <ol style="list-style-type: none"> Physical Intellectual Human Financial | | <ol style="list-style-type: none"> Own vs. partner Direct vs. indirect <p><i>Channel Phases</i></p> <ol style="list-style-type: none"> Awareness Evaluation Purchase Delivery After sales | |
| <i>Cost Structure</i> | | <i>Revenue Streams</i> | <i>Pricing Mechanisms</i> | |
| <ol style="list-style-type: none"> Cost-driven vs. value-driven Fixed costs Variable costs Economies of scale Economies of scope | | <ol style="list-style-type: none"> Asset sale Usage fee Subscription fees Lending/renting/leasing Licensing Brokerage fees Advertising | <ol style="list-style-type: none"> Fixed Pricing - List price, product feature dependent, customer segment dependent, volume dependent Dynamic pricing - Negotiation of partners, Yield management, Real-time market, Auctions | |

Figure 5: Business Model Generation Methodology

3.3 Implementation of the Methodology

Within P2P-Next interactivity can be delivered at different levels of complexity in different ways. The toolset can be considered of made up of distinct elements as depicted in the figure below (source: D5.4.1b, p.8) whereby:

- Basic interactivity can be put together with a creation tool
- More complex interactivity can be hand-coded using more advanced elements in the LIMO code library
- Highly complex interactivity can be created by supplementing core LIMO code with additional scripts

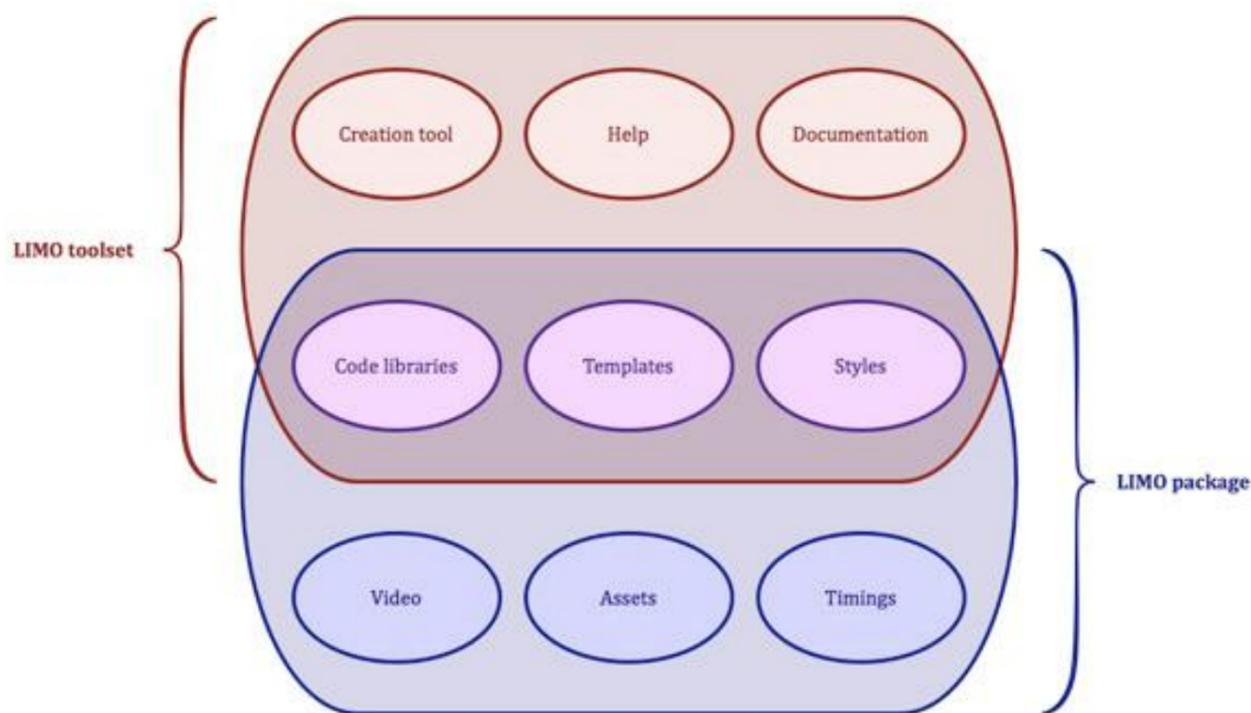


Figure 6: The LIMO toolset

LIMO enables interactivity that goes beyond what is currently offered by digital TV services and enables community like features to be added to the viewing experience – in line with the general trend towards adding widgets to the television viewing experience.

Enhanced interaction capabilities can include back channel interactivity and allow for the creation of user generated content as alternative interactivity can be swapped in and out without the need to edit the original video stream.

In terms of local interactivity the following features can be made available to video producers:

- Static program-related information
- Dynamic program-related information
- Program-independent information
- Play list navigation / keyword search
- Related Search
- Video previews
- Program information with outbound links

Return channel interactivity may refer to the following type of features:

- Jukebox
- Voting during live stream
- Answering a lottery question of a live stream
- Ordering an advertised product
- Rating videos / memberships
- Composing personal play lists of existing material
- Podcasts and notification messages

The following circular content related features have been are possible:

- Creating a mashup
- Super-distribution of a user-generated video
- Super distribution of a recommendation list

Transaction capabilities refers to interactive commercials and facilities to purchase goods or services as well as embarking on activities such as betting or taking part in a quiz. This will be made available ranging from static to time critical participations (e.g. in an auction type process).

Time critical participation of users will be the core element of the participatory TV element of the interactive TV services offered alongside Next-Share.

The following action and/or timeline related facilities is provided:

- Betting
- Participation in a quiz show
- E-commerce on a music channel
- Chatting with a live TV channel
- Interactive advertising

The Interactive TV service includes a small number of predefined styles for how a LIMO package can be laid out. These use CSS stylesheets and for many scenarios predefined styles are available. When a LIMO package is published the style or styles that have been selected will also be published so the package will display the content as the user has specified.

Data for a LIMO presentation consists of an array of "event" objects, each of which represents the state of a "receiver" page element for a particular range of values emitted by a "sender". For example, the text displayed in a subtitle element (the receiver) is synchronised with the current playback time of a video (the sender).

The LIMO framework has capability to deliver all the features in the three categories proposed above by WP2. The framework has built in support for basic interactivity which includes adding subtitle captions, chapter bookmarks, further information content panels and quizzes to an existing video. More advanced interactive proposed by the other features would come under group c) i.e. supplementary code with additional scripts.

More details are provided in D5.4.1d where the LIMO developments over the full course of the P2P-Next project are described in full. All the code developed for the LIMO framework has been made available under open source licence with working examples available for developers to follow.

| <i>Efficiency</i> | | | <i>Value</i> | |
|---|---|--|---|--|
| <p>Key Partners</p> <ol style="list-style-type: none"> 1. Strategic alliances with non-competing firms 2. ISP's, CDN's, ASP's 3. Portals + Publishers 2. Coopetition - none 3. Joint ventures – none 4. Buyer-supplier relationships <ul style="list-style-type: none"> • Prime publishers • Prime agencies • Prime producers <p>Reaching</p> <ol style="list-style-type: none"> 1. Optimization and economy of scale 2. Reduction of risk and uncertainty 3. Acquisition of particular resources and activities <p>Issues</p> <ol style="list-style-type: none"> 1. Link with Content 2. Own Acquisition of Ads | <p>Key Activities</p> <p>1. Content management, service provision, platform promotion</p> <p>2. B2B sales (Publishers, Professional Producers + Prosumers)</p> | <p>Value Proposition</p> <p>Publisher/Portals/Content Producers</p> <ol style="list-style-type: none"> 1. Enhance linear video by different levels of interaction incl. 1. Enhanced interaction capabilities 2. Transaction capabilities and 3. (Time-critical) participation with core programming elements | <p>Customer Relationships</p> <ol style="list-style-type: none"> 1. A hybrid model composed of 1. Personal assistance 2. Dedicated personal assistance 3. Self-service 4. Automated services <p>And and in the future potentially</p> <ol style="list-style-type: none"> 5. Communities 6. Co-creation | <p>Customer Segments</p> <ol style="list-style-type: none"> 1. Publishers + Site marketing agencies (sell side) 2. Prosumers and Direct video producers selling dirty feed video content 3. Digital Video ASP and Aggregators of Video |
| <p>Key Resources</p> <ol style="list-style-type: none"> 1. Physical 2. Intellectual 3. Human 4. Financial | | | <p>Channels</p> <ol style="list-style-type: none"> 1. Primary Own channels, partner channels (ISP, CDN) 2. Direct channels <p>Channel Phases</p> <ol style="list-style-type: none"> 1. Awareness (Fares, PR, Free open source installation of base version) 2. Evaluation (Demo, Free Test) 3. Purchase (Discounts first) 4. Delivery (QoE, QoS) 5. After sales (Customer Value) | |
| <p>Cost Structure</p> <ol style="list-style-type: none"> 1. Cost-driven 2. Fixed costs + Variable costs 3. Economies of scale - yes 4. Economies of scope - yes | | <p>Revenue Streams</p> <ol style="list-style-type: none"> 1. Set-up Fee + 2. Monthly Rent + 3. Usage fee 4. Optional – Advertising Rev Share <p>Main instruments</p> <ol style="list-style-type: none"> 1. B-2-B Sales Funnel 2. Scaling + Usage Factor Calc. | <p>Pricing Mechanisms</p> <ol style="list-style-type: none"> 1. Fixed Pricing - List price, product feature and volume dependent 2. SaaS Approach <p>To do Conjoint Analysis</p> <ol style="list-style-type: none"> 1. to find out right pricing structure and 2. customer segments to start selling | |

Table 3: Business Model of Interactive Service

4 Enhancement Service 2 - Payment Service

4.1 Overview of the P2P-Next Payment Service

In WP4 DACC has developed a Payment System (PS) for micro-payments.

The main research objective was to find system architecture and methods for a user to approve payments while keeping costs down and avoid or at least minimise bank charges and credit card charges.

Other objectives for the PS have been:

- fostering sustainable business opportunities
- technological support for commerce
- supporting micro-payments between *any two peers*⁷ within NextShare (from Annex I).

The PS has been designed to support many business models such as

- subscription
- pay-per-view
- circular content
- donations

In the normal case user will pay with money in the business models but the PS can just as well handle resources.

The PS can also be used for other purposes such as

- transfer of money/resources between users
- distribution of money/resources between several IPR owners
- statistics of usage

For simplicity we will stick to money for the rest of the presentation.

All users of the PS are supposed to have registered in the PS and have a User track-account. This track-account stores the sum of the money paid or received by that specific user. In the general case the user shall register in the PS with name, e-mail, mobile phone number, username, password or a subset thereof dependent on the business prerequisites.

Non-registered users are possible in the PS but then a temporary track-account is created.

In the general case a user, which is not a provider, shall have a small amount of pre-paid money in the PS bank account and the corresponding amount on the track-account. When a user has decided to experience some content (a video, a service or some kind of experience, etc.) the user shall ap-

⁷ In the general case a Peer can have several users and a user can be using several Peers. Thus the text in Annex I should be interpreted as supporting micro-payments between *any two users* within NextShare.

prove the purchase. The PS supports two ways to approve a purchase- with username and password or using the mobile phone.

The PS supports two ways for a user to input money.

- by credit card
- payment from an own PayPal account

The system architecture and functionality has been reported in deliverable M24 4.0.3.

Based on this payment service DACC is developing a operating service – FairShare MediaWorld CDN (Content Distribution Network).

Details on the functionalities as well as underlying properties and requirements of the P2P-Next payment system have been described in the deliverable 2.5.3d and previous 2.5.1 deliverables.

4.2 Methodology

| <i>Efficiency</i> | | | <i>Value</i> | |
|---|---|--|--|--|
| <p>Key Partners</p> <p>1. Strategic alliances with non-competitors</p> <ol style="list-style-type: none"> ISP's, CDN's, ASP's Portals + Publishers <p>2. Cooperation – none</p> <ol style="list-style-type: none"> 3. Joint ventures – none <p>4. Buyer-supplier relationships</p> <ol style="list-style-type: none"> Prime publishers Prime agencies Prime producers <p>Reaching</p> <ol style="list-style-type: none"> Optimization and economy of scale Reduction of risk and uncertainty Acquisition of particular resources and activities <p>Issues</p> <ol style="list-style-type: none"> Link with Content Own Acquisition of Ads | <p>Key Activities</p> <p>1. Tool management, service provisioning, platform promotion</p> <p>2. B2B Sales (Publishers, Professional Producers + Prosumers)</p> | <p>Value Proposition Publisher/Portals/Content Producers</p> <p>1. Can handle several track-accounts simultaneously and in that respect new services where for instance paid for real time services can be combined with other content experiences.</p> <p>2. Micro-payments provided that an account is pre-paid.</p> <p>3. Support at least the business models defined (BM1-BM5) for NextShare.</p> <p>4. Interact with content metadata and in particular the pricing information to enable flexible billing.</p> <p>5. Billing for real time SIP-based services.</p> <p>6. Use strong authorisation mechanisms in a mobile phone to pay for NextShare experiences. (To be determined)</p> | <p>Customer Relationships</p> <p>1. A hybrid model composed of</p> <ol style="list-style-type: none"> Personal assistance dedicated personal assistance Self-service Automated services <p>And and in the future potentially</p> <ol style="list-style-type: none"> Communities Co-creation | <p>Customer Segments</p> <p>1. Publisher</p> <p>2. Prosumers and Direct video producers selling dirty feed video content</p> <p>3. Digital Video ASP and Aggregators of Video</p> |
| <p>Cost Structure</p> <ol style="list-style-type: none"> Cost-driven Fixed costs + Variable costs Economies of scale - yes Economies of scope - yes | | <p>Revenue Streams</p> <ol style="list-style-type: none"> Set-up Fee + Monthly Rent + Usage fee <p>Main instruments</p> <ol style="list-style-type: none"> B-2-B Sales Funnel Scaling + Usage Factor Calc. | <p>Pricing Mechanisms</p> <ol style="list-style-type: none"> Fixed Pricing - List price, product feature and volume dependent SaaS Approach <p>To do Conjoint Analysis</p> <ol style="list-style-type: none"> to find out right pricing structure and customer segments to start selling | |

Table 4: Business Model of Payment Service

Payments are implemented as a simple web service⁸. The service will be able to run encrypted over https. It is assumed that the same level of security as today for transfer of payment data will apply. In addition to encryption, authentication is done with a combination of challenge, mac-address, serial number, SMS, passwords and time etc. The http variable authtype can also contain the strings https. The string https would require secure http connection. Dependent of available data and secur-

⁸ http://en.wikipedia.org/wiki/Web_service

ity level data is selected and concatenated and a secure hash is calculated from the string. This selected string is then transferred back over https, or http in case of no https support, and is compared with the same operation on the server. By requiring a time string encoded in the hash the hashed string will be unique only a certain time period which will make fraud even harder. The time string requires that the clocks on the payment client and the payment server are fairly synchronised. That the timezone is known and compensated for and that some tolerance is accepted in differences between the clocks. If SMS authentication is chosen the buyer has to supply a received SMS or send a certain SMS to a specific number to authenticate.

The recipientID and payerID can be based on permID or something else. The transfer-type can be either immediate payment or reserve payment.

The pay-type can be either prepaid, bill, credit-card, telephone-bill, SMS T4.4.1, mobile-data T4.4.2 (Google-Checkout, PayPal) or other.

Procedure of transaction:

1. Buyer provides initial data in a web-call like this. Data can also be provided in POST variables. Example: `https://daccr.for-the.biz/transfer.php?transfertype=pay&authtype=https,challenge,mac,serialno,geoposition,imei,phonenum,SMS,passwd,timespan&paytype=card&recipientID=d1&payerID=d2`
2. Web server responds with the following data
challengedata: string consisting of random data to be added before the identification data, sent if requested with challenge authtype.
SMSkey: string with 5 letters that the user must to send in with SMS to authorise, sent if requested with SMS authtype.
sessionID: ID of the payment session
error: if no transaction can be initiated an error is being returned.
3. Buyer send the following (authdata will be 40 byte with sha1sum)
Example:
`https://daccr.for-the.biz/transfer.php?price=7.28¤cy=EUR&sessionID=2678d8a8f8ce&authdata=432d9ea...9a6ddff`
4. Web-server responds with the following
error: any error responses, no error means transaction succeeded

Details

The **authdata** variable is composed of the sha1sum of the concatenated variables challenge, mac, serialno, imei, phonenum passwd to the extent they are present on the first call in the authtype variable. The are concatenated in alphabetical order. The challenge is 40 characters 0-9,a-f.

Current debug settings

The SessionID is simplified. The final implementation will have hard to guess SessionIDs. Debug output is turned on for some variables like account balance.

To be determined in the future

There can be different ways to determine the phone number, either via pre stored database and challenge, SMS or caller ID. More auth types might be defined. A stronger checksum might be used with options to choose different checksums.

4.3 Business Aspects

A great number of new forms for payments using mobile devices are appearing. These new forms for payments gets more and more interest in the business to consumer area but requires access to ubiquitous, globally accepted, easy to use and secure methods.

Mobile terminals, not only mobile phones but also other mobile equipment such as smart phones, tablets etc. are generally accepted. Bank cards (credit-, charge card) are also generally accepted. Thus there are good conditions that a combination of mobile devices and bank cards will gain good acceptance for payments if the user can be convinced that the security is ensured.

However, today almost all payment service providers have (their own) mobile payment applications based on credit card, so the competition will be hard. Looking at the different approaches almost all are based on own patents or approaches. Mobile payments are supposed to replace cash when the customer is going to pay for goods and services. Near Field Communication (NFC) is the technology that shall transmit the payment information between the merchant's payment terminal and the user's mobile devices. Several hundreds of NFC trials have been conducted⁹ but few have lead to full scale deployment of services.

DACC has developed a Mobile Payment Application (MPA) and submitted a patent application to the Swedish Patent Office. The application does not use NFC-technology.

Due to the competitive area of NFC based payment DACC will use the MPA patent application – if approved – and follow two routes in the business development:

1. Apply Mobile payment Application (MPA) options in the business development of Fair-ShareMediaWorld (FSMW) and
2. Investigate the possibilities in the area of Internet of Things (IoF).

MPA in FSMW

a: FSMW focuses in its business plan on short- and documentary films. Such films are quite often very short (< 10 minutes) and thus can easily be experienced in a smart (mobile) phone for instance when a user has a short break. Application development in this area will be investigated. The success of such an application depends a lot on what type of short- and documentary films will be available from producers.

b: The Mobile Payment Application will also be used for direct payments of services in FSMW.

MPA and IoT

“A new dimension has been added to the world of information and communication technologies: from *anytime, any place* connectivity for *anyone*, we will now have connectivity for *anything*. Con-

⁹ http://en.wikipedia.org/wiki/Near_field_communication

nections will multiply and create an entirely new dynamic network of networks – an Internet of Things (IoT).” Other definitions exist such as IoT is an infrastructure where devices can connect and communicate between each other to build more automated and digital systems for industry, government and consumers.

Driving technologies behind IoT are

- Identity: To be able to communicate with other objects an object needs a unique identity. Examples are IP-addresses and RFID-codes.
- A network: If objects shall be able to connect to other objects they must become nodes in a communication infrastructure (network). Examples are Internet and the mobile network.
- Applications: Applications are necessary to move, store and interpret data that are collected by sensors.
- Sensors: All applications need sensor data to be put into context.

Examples are:

- Push buttons
- Temperature
- Acceleration
- GPS-data
- RFID-reader

Particularly RFID-readers are expected to play important roles since they can announce presence of an object or that an object is passing and read stored data.

- User interface. All applications require an interface to the user through which the user is informed of the status of the application.
- Security and where appropriate privacy

Different estimations on the number of connected objects in the not too distant future vary from 50 billions to 500 billions.

The Machine-to-Machine (M2M) communication market is estimated to be worth 5 billion€ by 2014.

Application areas for IoT are energy services, transport and logistics, care and health, media and entertainment.

DACC Systems AB will explore MPA in the area of media and entertainment more specifically cultural heritage. This area complements the FSMW market approach.

5 Third Party Development Arrangements and Integration into P2P-Next

5.1 Content for FairShare MediaWorld (FSMW)

FSMW will be introduced in steps with successively increasing functionality and content (pointed out in the FSMW business plan chapter 5.2). The availability of interesting content is crucial for success. Ideally a large number of popular and new films from established film makers and plenty of music would be perfect, but this is not realistic as it would require big investments and time consuming negotiations. Examples of established actors in this area are Spotify, Voddler, Netflix, and many cable TV providers, YouTube, but also many more or less legal alternatives like Pirate Bay.

Instead FSMW will focus on some niche markets with enough valuable content and/or offer a completely different experience to the media consumer. Three possible groups of providers of such niche content are:

- 1) Amateur creators of videos, films, and music
- 2) Professional and semi-professional but independent creators of short films and documentaries
- 3) Organizations with “orphan” works and other content, which they want to make available to the public

Within the category 2 above two actors (Please see below) have provided content to FSMW so far, but much more content from the 3 groups above is required to make FSMW interesting for a broad audience.

Videos from Hultsfred Festival

Hultsfred Festival¹⁰ is a music festival in Hultsfred people's park. Generally the festival takes place in the summer (June) during a few days. Pop and rock have always been strong elements while extreme variations of hard rock and dance music in the 2000s had to stand back. During the 90's and mid 00's it was Sweden's biggest music festival. 24 festivals were held until Hultsfred Festival got economic problems and went broke. The festival was taken over by a German organizer that set up a new festival during 14 - 16 June 2011.

Daniel Johansson, a researcher at Royal Institute of technology and taking part in P2P-Next, was active at the Hultsfred Festival. When Hultsfred Festival got economic problems Daniel Johansson fortunately acquired access to all recorded material/music videos produced during the first 25 years. Daniel Johansson has given FSMW the possibility to publish 15 out of these videos. Of the 15 videos 6 are on DVD format and directly ready for FSMW after transcoding and the rest of the videos are in DigiBeta format and needs to be converted to a computer readable format and transcoded to be possible to distribute over Internet from FSMW.

¹⁰ http://en.wikipedia.org/wiki/Hultsfred_Festival

Videos from Torvision

Torvision¹¹ is an independent film company specializing in documentary and presentation films. Several of their productions have been shown on Swedish television. Torvision has negotiated rights to publish some of their documentary films for publication on Internet and also acquired rights from STIM, the Swedish collecting Society, for publishing the music. Torvision has kindly provided FSMW with five of those documentary films (Traktor, Kära traktor, Forntiden upp i dagen, Stigarna till Nidaros, Till minne av Hansa) during a test period. Torvision has also expressed an interest in using FSMW as one of their future publishing channels.

¹¹ <http://torvision.se>

6 Conclusion and Next Steps

The basic functionalities of the main operation P2P-Next prototype service and 2 enhancement services - the Interactive TV Services and the payment Services have been outlined. The other two project services have been detailed in D2.5.2.

The project is able to show that all services interact with each other so that a comprehensive integrated service can be demonstrated that may serve as one possible role model how video production and delivery may be provided in the years ahead.

A methodology and a specific business proposition has been worked out during 2011 making use of the methodology.