Driven by the successes of digital leisure games industry (now is even outperforming both the film industry and the music industry), games are increasingly being used for serious purposes in health, education, industry and public administration. Because of the mix of creative design, new technologies and the engaging qualities of it offers, applied gaming is considered the frontrunner in creative industries, capable of procuring a flourishing market that would create new jobs and at the same time contribute to social innovation by addressing societal problems in the fields of e.g. media literacy,
education, cultural heritage and social inclusion.

Although its business growth potential is widely recognised, the applied game industry displays many features of an emerging, immature branch of business, such as weak interconnectedness of a large number of independent players, limited knowledge exchange, and absence of harmonising standards. In addition, the upfront investments needed for developing quality games are high, and product quality tends to be well below leisure games standards.

Supported by the Horizon2020 programme of the European Commission RAGE is making available a set of advanced software components that assist game developers at creating applied games easier, faster and more cost-effectively. Components cover a wide range of game functionalities particularly relevant for applied gaming (e.g. learning analytics, learning assessment, emotion recognition, adaptation, text analysis, among other topics). RAGE will use the technology components in newly developed games and test their applicability in real world application scenarios in diverse usage contexts. RAGE works in close co-operation with principal stakeholders across Europe, e.g. applied game studios, applied gaming hubs, national and international associations, to be able to take into account developer needs and to obtain comments and feedback about the new technologies. We enable game studios to offer new and better products to a wider variety of marketplaces and to adopt innovative business models and new commercialisation channels. RAGE will make accessible all technology components as well as a wide variety of knowledge resources and training materials through a community-driven social platform that will possibly become a major European hotspot for applied game stakeholders. Hereby RAGE helps to remove fragmentation while it promotes knowledge sharing and reuse of software and contributes to harmonising standards.

Work performed from the beginning of the project to the end of the period covered by the report and main results achieved so far

During the first 18 months RAGE has designed and validated a technical framework for the development of software components, which supports the interoperability and portability of components across different game engines, platforms and programming languages: that is, RAGE-compliant software components can seamlessly work together by exchanging data and they can be easily integrated in a diversity of game engines. Hereby the RAGE components offer a toolbox for the swift inclusion of respective functionalities without the need for detailed programming. So far first versions of 29 game software components have been released for testing in diverse game projects. A centralised knowledge sharing platform supported with a software repository and media archive was designed as the basic infrastructure for the addressing and involving targeted user communities. An early version of this anticipated “hot-spot” was released and evaluated. It will gradually be extended with more content and community functions.

Progress beyond the state of the art and expected potential impact (including the socio-economic impact and the wider societal implications of the project so far)

The RAGE game component architecture, the specific repository infrastructure and the associated game component metadata definition are original contributions to the field. RAGE compliant
components allow for being reused in a variety of technical conditions and thus accommodate game developers at developing applied games more efficiently and making them better suited for their purpose. By gradually involving and connecting a wider range of stakeholders, both from applied game studios and research institutes, the community building and harmonisation of the applied gaming industry take shape.

RAGE logo

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