

Position Paper for the Usage Area:

Content

for the Workshop on 21 – 22 June 2010 by Carmen Mac Williams
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(1) What use case and scenario in your area would you consider the most appropriate and representative one for large-scale experimentation with the Future Internet platform to be built starting from?

Use case Scenario: Future Internet Learning World

The vision is to reform the learning and teaching process in European schools by developing novel, creative methods for both learners and teachers in an innovative Future Internet Learning World providing novel interaction paradigms for user centric content. The idea is to show that learning can be a motivating experience for all actors in real as well as virtual learning teams and to make education in Europe the envy of the world. We will put enjoyment at the forefront of education and encourage students and teachers to explore their ideas in order to nurture their creative talents. In our ideal Future Internet Learning World students and teachers are peer-to-peer actors, some more advanced than others. They learn together and teach each other; their roles and activities are interchangeable. We see the learning process as a lifelong playing and researching activity. The learning and teaching process itself will take the form of a personalised active experience that adapts to the needs and expectations of the students and teachers. We aim to empower the learners and teachers to build their own curriculum and a new credit system introducing individual level credit points and collaborative credit points awarded for meeting goal achievements at the end of the project time. How students reach the achievements is a creative, individual as well as collaborative process much like game playing. We want to change the concept of school – traditionally a drab, top down institution – into a colourful journey of creation and exploration where students are heroes instead of victims of the educational process.

The first user scenario to unleash such creative capital will be a pan-European large scale pilot called **“Explore and save the planet” with 65.000 European schools collaborating together from 27 European countries.** The idea is to collaborate globally in virtual teams and act locally in real teams in the neighbourhood by activating communities such as parents, local institutions and businesses. The real and virtual teams will strategically collaborate and explore the world via virtual geo-maps, combined with real-time explorations on the ground discovering, filming and creating 3D models of the local hot spot. A practical example will be to compare environmental pollution hot spots in European smart cities and regions. Credits will be given for innovative solutions to change the pollution in local hot spots. Students will be engaged in scientific analysis and research to think of constructive and scientifically sound solutions to the problems they identify as well as creative and innovative presentations. The virtual project team members interact naturally by gestures and natural language with each other and the dynamic audiovisual content and help each other to solve the environmental problems and create 3-D Models of the hot spot.

(2) What innovative Internet functionality and technologies would you consider important for your suggested use case and scenario (e.g. context awareness, sensor networks, advanced real time processing capabilities handling huge volume of data, ad hoc service composition and mash-up, managed broadband connectivity and

services, embedded media support for interfaces easing the interpretation of processed contextual data, etc.)?

Our Future Internet Learning World will be a stimulating and secure, freely and permanently accessible, playful open source 3D learning environment with novel innovative Internet functionality and technologies to enable creative expression and collaboration by students and teachers:

The core FI functionality for the Future Internet Learning World is an intelligent content and context aware user centric network able to match data extracted from a student with the data characterising an audiovisual content. Students shall be able to interact with content as well as virtually with each other by means of natural language and gesture.

(3) Which of the identified functionalities would you expect the Future Internet core technology platform to deliver to support your and other usage area scenarios?

The FI core technology platform shall provide high speed content and context aware networks to enable novel paradigms of intuitive and natural embodied interactions between users and content, which can be integrated with everyday physical activity. The FI platform shall support new forms of personalised, context-aware, participatory user experiences of creative content.

(4) What kind of experimentation environment would you consider necessary for broad large scale testing of the platform to be developed in your use area? What would be needed to experiment new services and applications cutting across use areas (services and application mash-up) and building a new services and application ecosystem around the prototype implementations of the platform?

As experimentation environment we will collaborate with the existing school network “eTwinning” <http://www.etwinning.net/en/pub/index.htm> of over 65,000 European schools and **Smart Cities and Regions** since they represent a natural concentration of students and teachers and services. The pilots will be evaluated using sound pedagogical assessment methodology performing quantity as well as quality measurements to produce solid evaluated results.

These results will provoke change in schools by highlighting best practice examples and will encourage development of new co-creative services and applications with students and teachers. Since the Future Internet Learning World **is based on self empowerment of the stakeholders**, the impact is not inhibited by the limitations of traditional educational initiatives. Such traditional approaches follow a “top-down” strategy that tries to deliver learning objects to teacher-centred education which is in contrast to the EU’s goal of enabling, creative innovation in teaching and learning. The Future Internet Learning World will empower **teachers and learners to use the platform in a self-motivated grassroots approach** providing for a major “bottom-up” leveraging impact.

On top of the grassroots effect, the proposed large scale pilot project will give to European decision makers a solidly evaluated insight into the future classroom as a basis of decision-making. It demonstrates a learner model for both the learner and the teacher and the underlying change process for the future education that builds on the following key aspects:

- Individualisation
- Collaboration
- Creativity and Expressiveness

To secure the long term impact on the future European education system and the underlying change process, we will set up an international foundation. The foundation will secure the

future use of the Future Internet Learning World as an open-source environment for the establishment of a permanent international community of schools, students and teachers. This community will work together to create innovative school projects and lobby governments, thereby continuing to stimulate change in pan-European school curricula.

(5) How do you see the potential role of your organisation in the FI-PPP, in the context of Usage areas taking a prominent role in the Initiative, to ensure an appropriate application driven approach?

Fraunhofer IAIS together with Grassroots Arts and Research and can take over the role of the Project Coordinator, because we cooperate already with a huge pan-European cluster of innovative media industries, research institutions, media archives and public broadcasters, SMEs and educational organisations and governments.