

Augmenting Experiences – a Bridge Between Two Universities

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ABSTRACT

In different projects, Media Design students from Moholy-Nagy University of Art and Design (MOME) and programming students from Eötvös Loránd University (ELTE) produce a braid supplementing each other to produce a productive workshop for urban games and museum applications. In this paper we introduce projects where AR and mixed reality technologies, in the broadest sense, are used to enhance experience in museums and in a city. By bringing together students of different background and exploiting the artistic, creative approach and the professional ICT knowledge and skills, novel applications come to life, as well as a new way of learning is demonstrated. In order to experience technology and use it as a tool for collaboration a platform for step-wise immersion was developed, introduced and used to invoke innovative ideas.

KEYWORDS: museum, social media, interaction technologies, ambient intelligence, augmented reality.

INDEX TERMS: C.0. [General], J.m [Miscellaneous], K.3. [Computers and Education]

1 INTRODUCTION

We are witnessing a constant development in the hardware and software environments making possible Augmented and Mixed Reality applications. There is a real challenge in how to harvest the emerging technological possibilities. Our own experiences with teaching in two universities students with different background and interests – that is, information technologies, and media design –, as well as international examples suggest that novel applications and experiences can be invented by bridging the two kinds of expertise and attitude. At the same time, such projects challenge the traditional educational paradigms.

In this article we introduce our approach and provide examples of AR and Mixed Reality applications from two domains: museums and online urban games. We take the notion of AR and Mixed Reality in the broad sense, including ambient experiences.

2 AUGMENTING THE MUSEUM EXPERIENCE

In our days museums too cannot ignore the phenomena of the technological developments, and the change of learning and communication habits of the new internet generations. While educators – themselves not belonging to the net generation – are

heavily discussing the effect of the new learning and information seeking habits of those born after 1980, it is a fact that the youth

of today (in Western societies) is more interested in and used to visuals and interaction, fast-space or parallel activities than reading or wondering around in a physical space like the typical 19th century museum. But besides the “running after our audience” imperative, the technologies the new generation is used to are offering very exciting ways to extend the experience of visiting the physical museum, as well as offering virtual versions. The permanent technological developments offer challenging new ways for transforming the static and building-centred image of the museum into something different, where interactive experience is central.

The museums are in the process of assessing and exploiting the possibilities. Conferences like the *Museums and the Web*¹, running since 1997 in the USA or the 4 year old European counterpart *MuseumNext*² attract hundreds of participants, representing also the oldest and most famous collections. Looking at the current topics of the 53 years old professional periodical of the museum, the Curator – which nowadays also maintains a rich digital-only blog for discussion – we see that a majority of the articles are related to digital presentation technologies, participatory museums, the web, etc. From the other side, content providers are eager to show the potentials. In February 2011 the *GoogleArt project*³ was launched, in cooperation with and for satisfaction of 17 museums and galleries of the highest reputation. “Nicholas Serota, director of the Tate Museums in London, pointed out at the project’s launch that the first generation of museums on the Web was concerned with quantity of information and getting as many objects on line as possible. Now a second generation is emerging, and it’s focusing on depth and quality of content.”⁴ Tools like HTML5 are available for authoring extendable and fine-tuned configurations like Vision Explorer at the National Museum of China⁵.

The 2010 Horizon Report [1]: Museum Edition summarises six technologies to watch placed along three adoption horizons:

- Present horizon (within 2010) mobiles and social media.
- Near term horizon (one to two years) augmented reality and location based services.
- Far term horizon (three to four years) gesture-based computing and the semantic web.

Each technology is described in detail, explaining its relevance to museum education and gives a list of examples for best practices as well as relevant links. The report furthermore makes a strong

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statement that should be taken into consideration for all institutes in the field:

“Any museum that is not making reasoned continual investment in its technological future is putting the museum’s ability to engage with ever more networked audiences at significant risk.”

In order to help to pin down the potential benefits of AR and Mixed Reality technologies, it is useful to make a list of the functions and activities of the musea as institutions:

Scholarly functions,

- Preserve and restore historical relics,
- Document objects,
- Make collection accessible for research purposes,

General public functions – related to old-fashioned exhibition organisations and museum visit,

- PR: get potential visitors informed and interested,
- Increase the appeal of the museum visit by offering direct involvement experiences,
- Orient visitors in – often huge - space and collections,
- Inform about exhibits and their usage context,
- Make the visitor remember, recollect and reuse what was seen.

Our educational objective was to create an environment for students to be able to experience themselves the necessities of new technologies in the own everyday life, as a student, as a professional, and as a citizen enjoying learning experiences.

3 THE EDUCATIONAL CONTEXT OF THE PROJECTS

Moholy-Nagy University of Art and Design (MOME) is a small, traditional art and design university, with students excelling in visual design and creativity in different disciplines, including Media Design, Eötvös Loránd University (ELTE) is a big old general university, with several Faculties, including informatics. MOME’s Creative Technology Lab and ELTE T@T lab has a strong motivation to join forces, due to the fact that the former’s profile is media design while that of the later is media programming, thus the two produce a braid supplementing each other to produce a productive workshop for creative edutainment and museum technologies. So far we already had some successful integrated projects that we managed by combining project works from both universities. MOME students were responsible for conceptual and visual design, ELTE students provided latest technologies. In this paper we give an account of projects where the task was to create augmented experiences.

In the Fall of 2010, in the framework of the Media Design MA education at the Moholy-Nagy University of Art and Design (MOME), we organized a project-based educational unit around the topic “The Museum of the 21st century”. After visiting several musea in Budapest, and collecting international examples of usage of technologies, students were challenged to improve one or more of the above functions of a couple of musea visited [2]. In case of the National Museum of Hungary, it was part of the assignment to exploit the recent information technologies.

In course of another course, 2nd year Media Design students were challenged to use locative media and smart phones to create augmented reality applications for Budapest as urban context. In the rest, we introduce those which address cultural heritage issues. It was a major goal to get prototypes implemented and – whenever possible – tested in use. This is far beyond the

capacities and skills of the MOME students. So for most of the projects, we arranged that joint groups were formed:

- the conceptual and visual design came from MOME students
- making them technologically feasible and doing the implementation was taken care by computer programming students of ELTE.

At Eötvös Loránd University (ELTE), Faculty of Informatics we started a Media Informatics MSc, with a module on Creative Media, which is the responsibility of T@T lab, dedicated to Technology Enhanced Learning R&D. These courses and software technology labs not only provide the background to mastering technology and theory at masters level, it also links with the doctoral school for R&D at PhD level, as well as allows BSc students to join in by creating applications entering with non-compulsory credits. These combinations give soil for interdisciplinary projects that can be easily implemented within the everyday rationales a few of which shall be mentioned here.

QR project: A QR portal⁶ has been created, where add-on applications provide facilities for enhanced use of QR codes, tracking their access throughout the process. Different applications are being developed to ease university life and lift the spirit of students with edutainment applications.

AR project: An AR portal⁷ has been created, where add-on modules provide facilities for enhanced use of AR codes using different AR Toolkits, creating markers and paring markers with media files to produce augmented effects. This technology is implemented within several sub-projects: producing augmented models for 3D modelling course handouts, educational 3D models for school-work applied by future teachers during their school practice work, story books and storytelling, official faculty brochures, name-cards, ear rings, design for AR T-shirts, ...etc.

3D modelling: Within the coursework students produce 3D models that are needed for different projects to be fulfilled. Basic course modules use the AR markers within the handouts to illustrate and allow virtual touch of 3D models to turn and have a look from all sides in order to be able to develop the model by themselves.

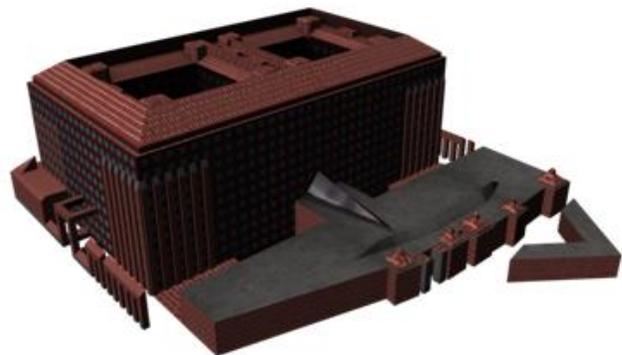


Figure 1. 3D model of ELTE popping up in AR application.

Virtual world project: Virtual environments are being exploited on different platforms [3]: SecondLife⁸ (where students

experience different approaches to virtual existence and its educational potential, joining different existing SLurls where exploitation of best practice can be achieved in order to clarify research aspects), Visuland⁹ (where students build their own situated learning environments and interactive presentation to exploit their educational potential), OpenSim¹⁰ (where students import their 3D models and build educational scenery for creating a constructivist learning environment involving development of interactives) as well as Edusim¹¹ (where students experiment production of 3D interactive for whiteboards), Unity¹² (where students create 3D learning games) and Flash¹³ (where students create education games and media for augmentation).

Mobile programming project: Our mobile programming BSc course has been topped by the MSc course called Interactive media, which introduces multidisciplinary project work throughout a horizontal technology platform. AR applications as well as educational game development is of high priority.

4 CASE STUDIES

All developed technologies serve the educational and everyday needs of the courses at ELTE, staff, students, but at the same time they were created as a reference prototype that could be used as museum technology, some of which has already been exploited in this direction.

4.1 QR portal

A QR portal¹⁴ has been created, where add-on applications provide facilities for enhanced use of QR codes:

- All staff rooms are labeled with QR codes leading to the web page of staff members providing information on contact details and other relevant notes.
- All labs and lecture halls are labeled with QR codes leading to the web page of their weekly schedule and related arrangements.
- At dedicated places QR codes provide orientation by showing a map of “where-you-are” and buttons to filter search information, plus a data-base where a room or staff could be searched giving its location visually.
- At specific places QR codes lead to questions and tasks related to a Challenge Quest that is run at specific university events and prizes can be won by those gaining the most points in a given time schedule.
- Several everyday objects like T-shirts, earrings, necklace and other wearables have been created for fun and other artistic initiatives are also emerging, like the QR wall¹⁵ (see Figure 3.), which gives access to different QR codes describing facets of Faculty life (like the 375 years of ELTE University timeline in Dipity¹⁶), where the codes are placed giving the picture of the Faculty logo, which also functions as an AR marker.

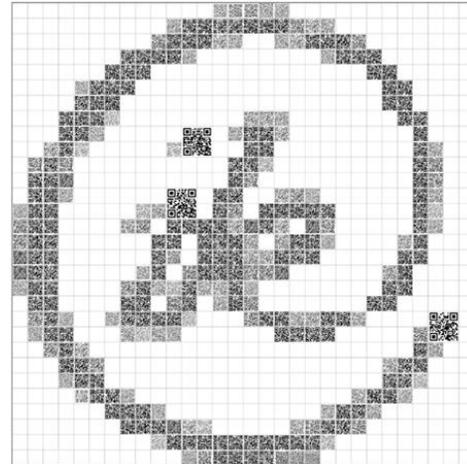


Figure 2. QR wall.

4.2 Calendar brochure with AR logo

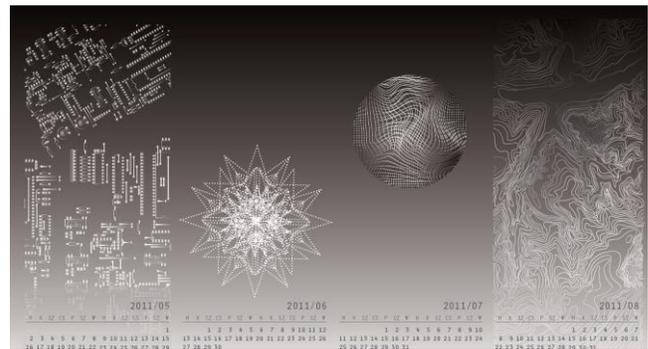


Figure 3. Calendar brochure with AR logo.

A calendar brochure was produced for ELTE Faculty of Informatics where the design (see Figure 2.) originated from a MOME student, while the AR model of the Faculty (see Figure 1.) came from an ELTE student. The model was further enhanced with 3D Graphics engine to facilitate inside-out travel through the building and to access facilities, schedules of rooms and staff.

4.3 Talking statues

This installation aimed at augmenting the 19th century statues of famous historical and cultural personalities, lining the upper gallery of the staircase. We turned the statues to talking personalities, by using standard motion sensors to control the audio coming from speakers hidden in the supporting columns of the statues.



Figure 4. Talking statues.

Normally, one passes by without even noticing the identity of these statues, as they form the decoration of the staircase, without even a (written) sign of the persons in question. The installation made it possible that the statues address the approaching visitors. Each personality was telling some details about himself, quoting from original memoirs or letters. The quotes contained both big statements about the lot of the nation or poetic program, and comments from the every-day human on the passing of time or health and personal affairs. Visitors were caught by surprise and got engaged: they kept listening to the messages from the past.

4.4 A cupful blink

In several exhibitions of the museum “as if real-life” static installation are to be seen. One of these is a turn of the century cafe house – one of the many providing place for a vivid literary and civic life in the bustling town. In order to bring back some of the authentic atmosphere, the ‘dead’ environment was brought to life by augmenting the physical space with media elements: contemporary photos, films and sound fragments of a cafe. Instead of putting these on a stand-alone computer screen and loudspeakers, which are alien to the surrounding, the multimedia elements were embedded into the setting. One has to peep into a coffee cup or an ash-tray put on the table to see moving images from the time. At the same time, some ambient sound dissolves the deadly silence of the musea.



Figure 5. A blink to the past.

4.5 Panorama of frescoes

The staircase of the museum is decorated with 19th century frescoes paintings by renewed artists – depicting scenes of the Hungarian history. As it is often the case in musea, here too there was a single board with identification of the topics. But one could not even see all the paintings from the location, some were blocked completely, not to mention the difficulty with identifying the personages from a distance. We used current mega-pixel zooming technology to take photographs of the full environment of different resolution, and to chain these in such a way that one can click on points to get information, or to zoom into the fresco.

In the current realisation, a touch screen was placed at the central location in the staircase, where visitors could explore the frescoes from a proximity impossible otherwise. Also, information (in different languages) could be gained on the general scenes and the participants. Ad the technology can be used from a browser, a virtual tour is also possible from home, before or after the museum visit, or even instead – extending the museum visit experience in time and space.

Further, as soon as location and orientation identification on smart phones will improve further, a smart phone app can be developed, to be used on the visitors phones in the musea.

4.6 Revealing the city as hidden museum

In Budapest – just like in most of the cities – there are far more interesting buildings than the few official monuments. In Budapest for instance, there are dozens of houses built at the end of the 19th century, hiding remarkable treasures behind their – nowadays always locked – doors. But even inside, many of the original details are only partly seen or altered. One passes by day by day, without being aware of the architectural and historical relevance of the place.

In 2011 April 50 houses were open to the public for a week-end, in the framework of the Budapest100 event. A group of students used QR codes to augment the real visit, in two ways:

- the QR code made direct access to a web page possible, containing information about the builder, contemporary photos etc (this was provided by the organizers of the event)
- after registration, the visitors could play a quiz on the location. They had to answer questions which made them explore the building physically, and collect information from the inhabitants.

4.7 Guerilla gARdening

Finally, this is one of the several projects using AR technology in the strict sense. We present this as we find it the most witty, and generating social activity, even if it has indirect cultural heritage context. Other student projects using smart phones and location-based media in a similar way aimed at augmenting a city trip with music or photos from the past.

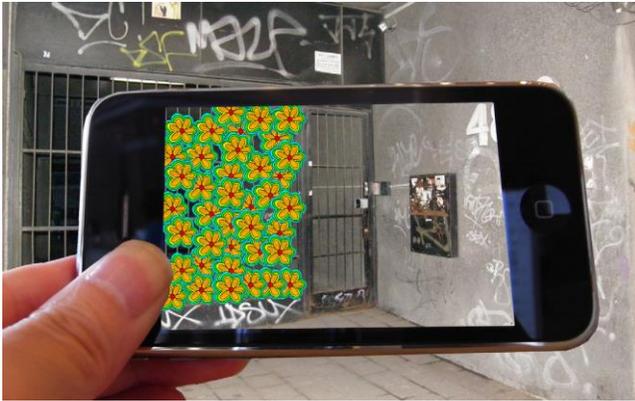


Figure 6. A disappointing urban location augmented with a garden.

The purpose of the guerilla gARdening is to plant virtual plants to enhance (ugly, broken down, neglected) city locations. Citizens may plant virtual plants, which survive and develop only if get regular care from by-passers (or the person who planted it). The merit of the virtual gardens are multiple:

- they turn parts of the city appealing, where real plants may not be planted,
- they induce social contacts,
- they raise the attention for the lack of green in urban environments.

The project is currently being implemented by programmers from ELTE. We look for cooperating city authorities (in Hungary as well as abroad) to get it running in real. In a cultural heritage context, some well-places virtual plants could enhance the experience of visits to historical monuments, as well as could serve as indicators of the number of (attentive) visitors in a period.

5 DISCUSSION

The presented projects were realised in a single year, as a first attempt to bring together interdisciplinary teams to exploit the possibilities of augmented and mixed realities by university students. We had a double motivation:

- to come up with novel, real-life applications where current technologies are used to augment the physical experience,
- to see if such applications can motivate and bridge students of different background in university educational context.

We found our experiences promising. Students were enthusiastic by the 'real-life' context of the study. They liked the perspective that they are themselves to improve their environment, in musea and in town. On the other hand, both groups of students were inspired to aim at a realised project, not just single halves (conceptual design, or technological foundations). Finally, some projects have raised the interest of potential partners. However, we must admit, that we encountered great difficulties in managing the co-operation and running the parallel projects with the two universities being in separate locations, time schedules of classes being different and communication being scarce between participants, due to technological issues.

6 NEW ERA FOR CO-OPERATION

Probably the most difficult part of the co-operation is synchronising communication and monitoring collaboration:

- Having different technological backgrounds and use of such tools, students need to be introduced to technology through their own experiences in order to raise their attention to new developments and allow emergence of innovative ideas.
- Informatics students are highly disciplined and use different technologies for sharing files, but are less communicative. On the other hand, art students are more philosophical and refer mainly to *Raison D'être*.
- The timing of different courses cannot be synchronised, so real-time meeting are quite difficult to achieve.

We have already tried several approaches in using collaborative technology (Goole Sites, BSCW¹⁷), but none were really working, especially due to our persistent requirement to log actions of collaboration in order to be able to monitor events from both sides, whether the projects are progressing in a good pace.

6.1 Step-wise immersion

We have thus devised a new methodology for immersing our students into mixed realities step-wise, by experiencing technology and museum environments, being precise and concise, respecting deadlines, getting to know collaborative technologies and their significance in communication, developing an inventory of common vocabulary for discussions, being able to find own added values to supplement each other in projects, documenting feedbacks and steps taken, getting more and more immersed in virtual reality by shifting collaboration towards this area and developing experiences that could lead to innovation of ideas well useable context of musea. Thus the user experience during an emerging co-operation could lead to innovative design ideas and technological awareness in choosing proper tools to accomplish goals. The same applies to musea, which are the least aware of the demanding changes of time and are reluctant to ask for help from both sides, but are uneasy at becoming a technology user themselves in the first place.

6.2 Common Project on Developing Serious Games

The MOMELTE project (co-operative project between MOME and ELTE universities) was launched building *Serious Games* on MOMELTE¹⁸ web page, describing the details of the competition. The portal also provides links to comprehensive descriptions of technology used. The announcements were sent out to all students' mailing lists in both universities as well as in form of Tweets to reach those already in connection to the organisers after partially completing previous courses. Some predefined courses at both universities composed their aims to take part in this project specifically, but any student from either universities, were welcomed to join in.

Requirements for entering the competition were:

- The serious game should have connection to some form of formal or informal learning, indoors or outdoors of museum area or any other specified location, including virtual spaces, concentrating on motivating the learner into getting involved.

- At least one of the following three technologies have to be involved: multi-touch or other gestures, augmented reality, locative mobile technology.
- Work has to be done in groups, containing at least one student from MOME and at least one student from ELTE and a consultant from either university.
- Work steps have to be traceable within the build virtual collaborative platform.

Awards: Some awards for original works were offered by both universities and others were offered by industry as well as further awards are still under negotiation as the interest is being raised in several creative circles.

Background for work: At MOME the Creative lab offered premises and technology for experimentation, while at ELTE T@T Lab offered premises, technology and equipped the large student area with various technologies to experience while enjoying leisure time. Both universities offered several courses, which would specifically help students with progress in achievements. MOME has a specific course in which common projects are built with specific museums, thus a critical number of museums are involved from the beginning, but others are also welcome to join. ELTE offers several courses dealing with the basics and programming of technologies involved, as well as offers a weekly SZIKRÁK (Sparks) Workshop, where most of the consultants and participants could be reached and technology is accessible.

Timing of real world events: The project was launched on the 6th of September circulating the web page and inviting students to the project introductory event on the 16th of September, where some starting ideas would be introduced, already achieved common projects illustrated and some ideas on the importance of collaboration between Art and Computer Science introduced with respect to emerging artefacts of creative media, that could be utilised in museum context. Twitter and VV (Virtual World) is also introduced and weekly workshops offered in real life as well as online. The next event in real life would be on 7th October, where project teams are supposed to introduce themselves as well as their projects and get feedback from audience, encouragements from mentors and musea contacts. Finalised projects should be submitted and demonstrated on the 16th of December, being the last day of the semester and awards shall be delivered by 14th of January 2012.

6.3 Steps leading to immersion

Steps to enter competition:

1. Take part in the introductory event on September 16th.
2. Read incoming project ideas in form of Tweets coming into @MOMELTE and the web page blog for news on the project and checking out the calendar for important dates.
3. Composing own project ideas, saving it in PDF and uploading it into a public area.
4. Sending out a Tweet with own project idea including: name of project, Keyhole Markup Language (KML) positioning in town, link of a relevant picture and link of the PDF file introducing the project. Profile of user should illustrate his/her background!
5. Venues of the project ideas could be located in two ways: if one has smart phone, then launching Junaio application and allocating MOMELTE channel, or if

one has access only to desktop applications, then the Junaio developer page allows the search for channels and shows all Points Of Interests (POI) after searching for e.g. Budapest.

6. Search for partners by Tweeting using #MOMELTE as hashtag.
7. Choose consultant from either MOME or ELTE.
8. Attend the PechaKucha¹⁹-like project introduction event, introducing the group and the project itself.
9. Ask for an account on VV (Virtual World) file server.
10. Ask for a group Forum on VV for co-operation.

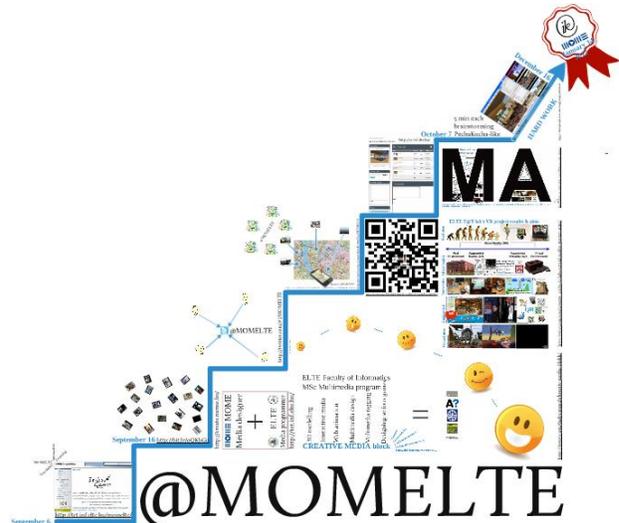


Figure 7. Step-wise immersion (Prezi)²⁰.

Step-wise immersion – the user experience:

1. It is important for all participants to get to know the project in details and be able to identify major participants to make contact within real life. The event is recorded, so it could be streamed any time for those, who could not attend. Real connections and visual illustrations are of high importance at the start of any project, with encouragement of direct communication between potential partners.
2. Twitter is being introduced on a reader level, to experience how ideas could be published and read instantly using this technology. The need and relevance of concise messages could also be experienced here for later practice. Raising the attention of students to project ideas could soon lead to willingness in participation, which needs registration on Twitter to be able to send own ideas and feedback.
3. Students are already used to submitting work in PDF-s, however they have to make sure that they are placing it into a publicly available storage area, which can provide an accessible link to anyone.
4. Sending out concise messages is of crucial importance, thus great discipline is needed at this point. A well defined profile should illustrate the institutional background and profile of the user. A detailed description is provided on using Twitter and helping to produce the required shortened links of picture and PDFs as well as allocation of KML for positioning. This

provides a good background for several locative technologies. Students or consultants from either universities and well as musea contacts can all initiate emerging projects this way and get to master the technology as well.

5. Locative technology could also be mastered at a next level using smart phones and Junaio technology. This could facilitate participants to search for the proposed venues and examine the environment where the specific projects are to be launched to provide adequate background knowledge for the aims. But, if someone does not have a smart phone, the Junaio developers web page also allows the access for the same information online, it just needs a separate step to go out and check the location on spot.
6. Tweeting in search for partners needs a more immersed practice in this technology. This would later provide a form of immediate communication in project work.
7. Choosing a consultant is for practical reasons, making sure that everyone will have a helper and could get credit for project work. Besides, this also forces the university staff to get immersed themselves :-)
8. The Pecha-Kucha-like event provides all project groups to introduce themselves through a 5 minutes presentation each and gives ground to feedback and encouragement as well as orientation or attraction of further partners.
9. VV file server works as a general web-based collaborative file sharing and discussion area, where one can find: the short project description and links to the most important files for contact details and project details, group Tweets that contain both the #MOMELTE and the #groupname hashtags, file uploading and downloading, as well as discussion on each file or on the project as a whole. Musea contacts taking part in the project would most probably use this level for contact throughout the project, but might be motivated (if brave enough) go further one step.
10. The VV environment provides a visually appealing 3D immersive space for collaboration, where all the Tweets, project descriptions could also be found and high levels of interaction is allowed on these objects as well as Voice over IP (VOIP) and soon video streaming. Students can share their emerging work online, while their collaboration can be monitored from either side. Students are obliged to take at least one action per week to show their progress, either online in VV world or in form of a Tweets, piped in-world. Student collaboration requires discipline as all objects scattered shall be removed and only those that are placed on shelves would be backed up on a daily bases.

Development of the Step-wise immersive environment:

*Google Sites*²¹: provides informative web pages with a counter indicating the number of days left till the final deadline.

*Twitter*²²: provides immediate communication of disciplined content which can be filtered and piped into further applications as RSS feed²³.

File stores: Google docs²⁴, Microsoft Live²⁵, Drop-box²⁶, or any other services on campus could be used to upload PDF files.

*KML*²⁷: Google Maps²⁸ or Bing Maps²⁹, Wikipedia, Twitter's own place locator or other services could be used to obtain KML positioning of an institute.

Picture: Flickr³⁰, Twitter's own predefined services, or any other service could be used to upload pictures taken.

Short links: Bit.ly³¹ or Twitter's own service could be used to shorten URL-s.

*Junaio*³²: is a free application for iPhone³³ and Android³⁴, that are the most popular smart phones used in Hungary. The developer account allows creation of channels, where a locally hosted Apache server³⁵ or Hoppala³⁶ free service can host POI-s³⁷ submitted. Tweets of required data are piped into the pre-defined POI structures. Junaio developers page³⁸ allows an overall view of all POIs on desktop view as well as on smart phones.

*VV file server*³⁹: is actually the web access of an OpenQwaq⁴⁰ server that has been installed for this project. All project groups are provided with a subdirectory using their project names and we have developed and extension for this access to accommodate a project description, Tweet gadget and Forum for discussion (on group level and concerning individual files) using iFrames⁴¹.

VV Virtual World: is the 3D immersive OpenQwaq access for collaborative workspace. We have created a Common Area for project participants to gather and brainstorm. All incoming project ideas are piped in-world and land on the Brainstorming wall, Tweets are piped on a communication board and sticky notes provide brainstorming and feedback. Text chat and VOIP is provided and soon video streaming is also facilitated. Several working areas provide interactive boards to share presentations, program codes and documents that could be edited online collaboratively. Each project group is provided with a separate room for collaboration, including a communication board with group tweets being piped in-world, white boards and all the above interactive collaboration functionality that is also available in the Common Area. The rooms are built to illustrate a comfortable working environment, but students are encouraged to change and create new artefacts to increase their own comforts. We have also prepared user guides in Hungarian language to help users.

Automating this process is currently being implemented, so at present only semi-automation provides data piping and our own Apache server hosting POI-s is also under development, that would hopefully be ready after this first project development process is fulfilled and we have adequate experiences to be able to fine-tune needs and aims.

7 CONCLUSION

This new set-up for step-wise immersion into mixed realities has just been introduced recently, so we have no results at hand. OpenQwaq technology has been released only this May, so there is just an emerging community of developers, apart from the fact that its origin, TelePlace⁴² service has been around for some time. We presume that our first experiences will arise after fighting ourselves through the first process of experiencing this devised procedure. We are ourselves looking forward to find out how this set-up would work out for us in augmenting experiences and bridging the two universities through mixed realities.

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