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Version	Date	Name	Institution	Role
6	30/04/2019	Jannicke Baalsrud Hauge	BIBA	QM

Statement of originality

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LIST OF FIGURES

LIST OF ABBREVIATIONS

ABR	DESCRIPTION
D	Deliverable
DoA	Description of Action
KPI	Key Performance Indicator
LA	Learning Analytics
R&D	Research and Development
VET	Vocational Education and Training

EXECUTIVE SUMMARY

Tangible and perceivable impact requires a dissemination strategy to deliver a positive and lasting experience to the people to ensure they get the most value from the use of the BEACONING project outcomes. This report details stakeholder engagement dissemination and business activities across regional, national and international borders with targeted outputs that are appropriately formatted to that community of users. The Dissemination and Communication plan (D2.1) provided the BEACONING strategy and further supports all project partners in obtaining and maximizing impact.

Effective dissemination is utilising opportunities to build partnerships with existing networks and projects (e.g. RAGE), as well as to create new ones. To this end the BEACONING project has exploited existing conferences (e.g. GALA), industrial symposiums (e.g. Wearable Technologies) and parliamentary public engagement events (e.g. European Parliament, Scottish Parliament) to exchange knowledge, facilitate policy-making and raise awareness of our work. Appendix 1 showcases the success cases of most relevance and impact of BEACONING activities.

This document collects the KPIs on the dissemination activities carried out during the totality of the project, building up from the previous deliverable which stated the results of the first 18 months of the project (D2.3). These results include articles published in high impact scientific journals, papers presented at international conferences, workshops and other dissemination events. The dissemination results are compared against the KPIs established in T2.1.

The current results show that **the project has exceeded the expected results from the DoA** and that **all the main KPIs have been successfully achieved**. In particular, the project has derived more than 60 high-level publications (conference papers, journal papers and book sections), being part of more than 65 international and national conferences, with partners giving BEACONING related presentations at more than 45 events.

Additionally, we have **identified a set of success cases** (described in full detail in Appendix 1) in 7 different countries and contexts (schools, colleges, education fairs and labs, conferences), and covering different stakeholders (teachers, students, business developers, managers, educational authorities) to prove impact of the project in a variety of settings. On these success cases, a total of around 13,500 people were directly reached or involved in BEACONING activities, including the Cross-European Location-Based event where 450 users participated across 17 cities.

1   INTRODUCTION

As described in "D2.1 Dissemination and Communication plan", the BEACONING project requires tangible and perceivable results, where the strategy to maximize this impact was described specifying five main objectives:

1. Increase awareness.
2. Contribute to the advancement of BEACONING R&D .
3. Promote open access of and stimulate interest.
4. Promote the adoption of the project outcomes.
5. Inform decision and policy makers in education.

Dissemination has been an ongoing part of the whole project, creating awareness and impact at the same time that the BEACONING technology and products were being designed and created.

1.1. ROLE OF THIS DELIVERABLE IN THE PROJECT

This deliverable provides evidence and demonstrates how the project's goals for dissemination and business communication activities have been achieved in the totality of the project. This deliverable updates and extends the results reported for the first 18 months of the project in deliverable "D2.3 Dissemination Results 1".

This document further provides an outline of success cases achieved in the project, with different partners involved in their contexts and countries and with different types of stakeholders as target of the activities.

1.2. APPROACH

This document has been prepared following the Dissemination and Communication Plan (D2.1) which, in turn, was an extension and improvement of the guidelines set in the BEACONING DoA.

1.3. STRUCTURE OF THE DOCUMENT

The deliverable is structured as follows:

Section 2 describes in detail the Key Performance Indicators and the achieved levels applied in the full duration of the project to benchmark the of the Dissemination and Communication Plan.

Section 3 provides the conclusions of the dissemination results.

We also include two **Appendices** with more detailed information about:

Appendix 1 details all the success cased identified in the project with detailed descriptions.

Appendix 2 provides additional Twitter statistics.

2 KEY PERFORMANCE INDICATORS (KPI)

To quantify the quality of the dissemination activities and achievements, a number of Key Performance Indicators (KPIs) were defined as a reference during the project's lifetime. The main goal of these KPIs is to measure and track the impact of project outcomes.

At this point, we analyse for each KPI is current state at month 39. Reference KPI were established as of month 36, so we compare with those. **More than 100 dissemination activities** have been carried out where **the main stakeholders** in most of the countries **have been reached**.

2.1. DIGITAL COMMUNICATION ACTIVITIES

Project website

General description of the structure and content of the BEACONING website can be found in "D2.2 Project Branding and Website Start-up".

KPIs defined in DoA for the project website and their expected values were:

Website KPI	M7	M19	M25	**M36**	5 years
Page hits	500	5000	10000	**30000**	60000
Unique visitors	20	300	500	**2000**	4000
Incoming links	14	37	47	**67**	100
Countries made aware	10	15	25	**50**	60

Table 1. KPIs and target values for the BEACONING Website.
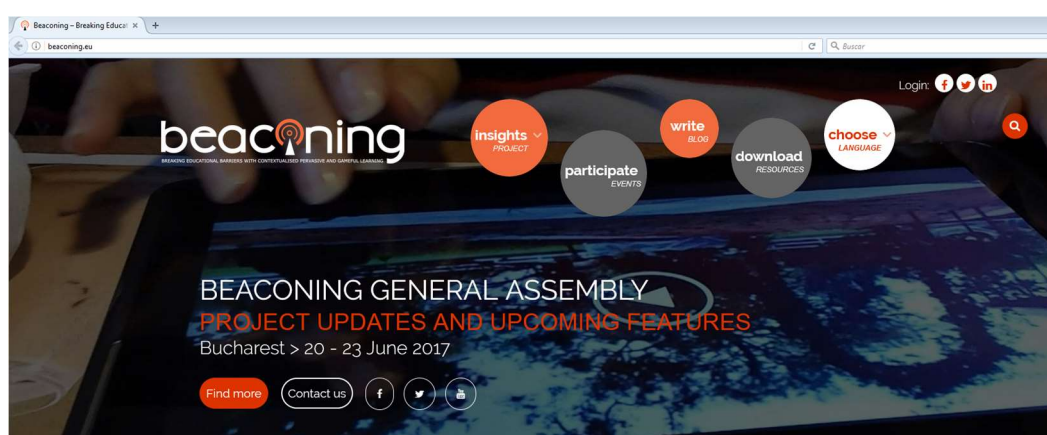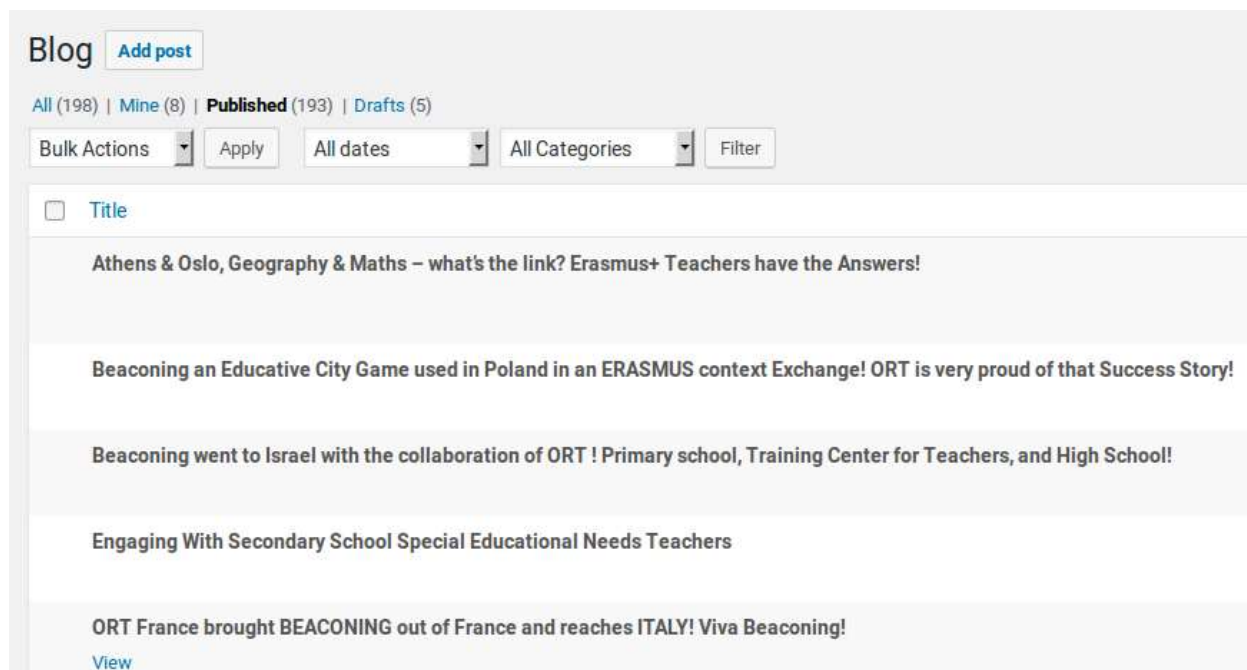
Figure 1. BEACONING Website main page at http://beaconing.eu/

Final state from statistics from Google Analytics and Google Webmaster Tools for the number of links to Beaconing portal:

Website KPI	M39
Page hits	65.402
Unique visitors	15.131
Return visitors*	1.876
Incoming links	6043 links from 198 domains
Countries made aware	142
User accounts on website*	132
Post in events section*	198
Post in blog section*	193

Table 2. KPIs and target values for the BEACONING Website reached at month 18

Were not originally specified in DoA.

Figure 2. BEACONING Website blog posts.
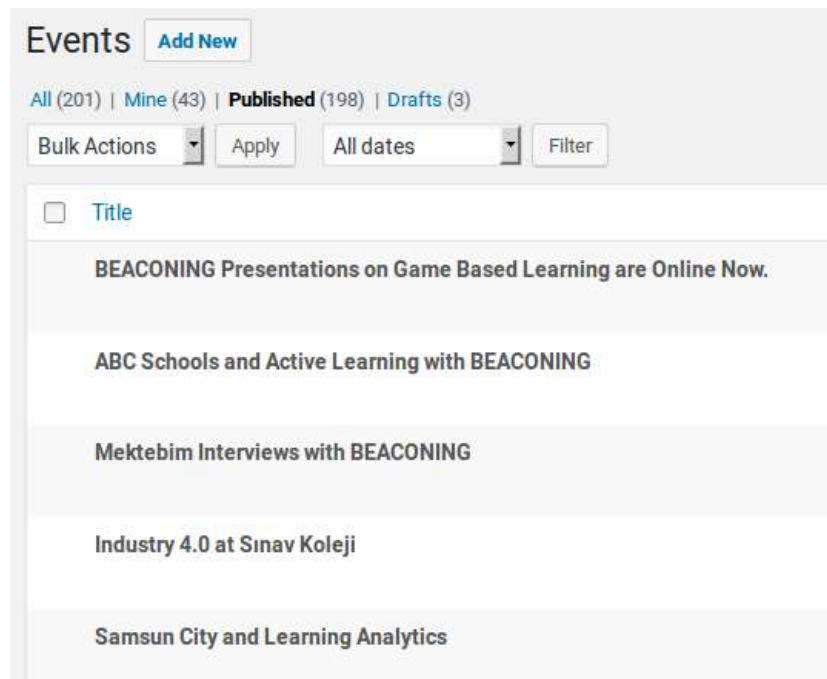
Figure 3. BEACONING website events.

Social media

KPIs defined in DoA for social media impact and their expected values were:

Social Media KPI	M7	M19	M25	**M36**	5 years
Number of posts	10	50	100	**200**	300
Number of subscribers	30	200	500	**750**	1000
Interactions (FB Likes, Twitter Retweet, Share, etc.)	20	100	200	**400**	600
Reach (prints, visits, etc.)	500	5000	10000	**50000**	75000

Table 3. KPIs and target values for the BEACONING Social Media channels

Final state obtained from Facebook stats and Twitter Analytics:

Social Media KPI	M39
Number of posts	338 (Facebook) 1188 (Tweets)
Number of subscribers	584 (Facebook) 837 (Twitter followers)
Interactions (FB Likes, Twitter Retweet, Share, etc.)	572 Facebook likes
Reach (prints, visits, etc.)	43707 Twitter accounts reached* 132421 Twitter impressions*

Table 4. KPIs and target values for the BEACONING Social Media channels reached at the project ending

* Data from https://tweetreach.com. Further statistics about Twitter obtained with its Twitter Analytics tool are provided in Appendix 2.

The Twitter account has been linked to the Facebook page to simplify the publication of news and posts, so any contribution from the BEACONING twitter account also appears in the Facebook page.
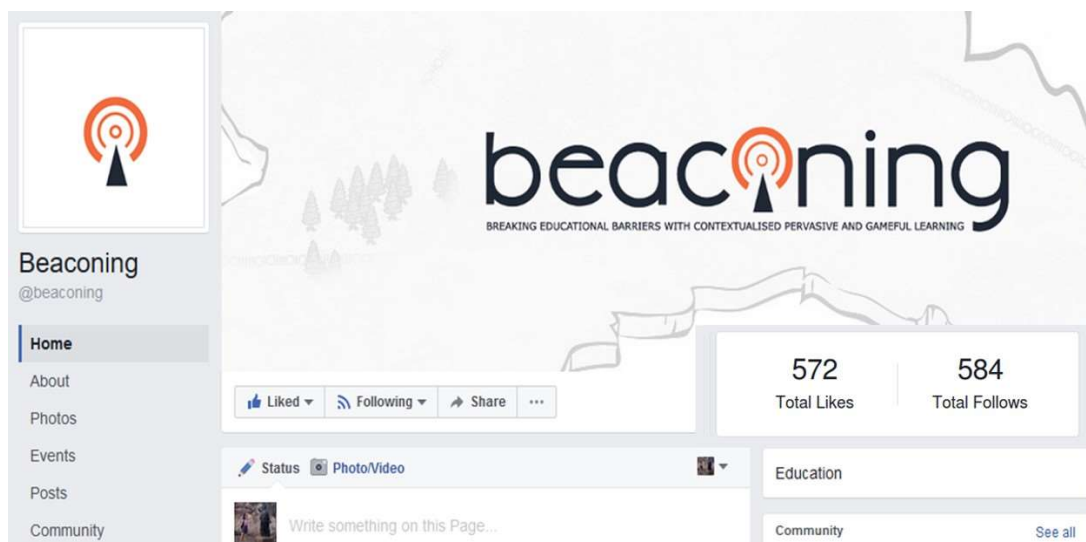
Figure 4. Screenshot of the BEACONING Facebook page, with detail of page likes and followers.

Figure 5. Screenshot of the BEACONING Twitter main page.

Detailed Twitter statistics are presented in Appendix 2.

Newsletters

KPIs defined in DoA for newsletters impact and their expected values were:

Newsletter KPI	M7	M19	M25	**M36**	5 years
Number of newsletters	1	3	4	**6**	10
Number of subscribers	100	200	250	**600**	1000

Table 5. KPIs and target values for the BEACONING newsletters

Final state obtained as number of newsletters published and number of subscribers (calculated as count of distinct IPs having read at least one of the five newsletters):

Newsletter KPI	M39
Number of newsletters	11
Number of subscribers	747

Table 6. KPIs and target values for the BEACONING newsletters reached at project ending

2.2. ACADEMIC ACTIVITIES

2.1.1   Publications

Scientific papers, Conferences, Newspaper articles, etc.

KPIs defined in DoA for publications (e.g. scientific papers, conferences, newspaper articles, etc.) impact and their expected values were:

Publication KPI	M7	M19	M25	**M36**	5 years
Conference papers		9	15	**25**	30
Journal papers		1	2	**8**	12
Newspaper articles	1	3	4	**5**	10
Books				**1**	

Table 7. KPIs and target values for the BEACONING academic papers

For publications dissemination, the Zenodo BEACONING open repository was created (accessible at https://zenodo.org/communities/beaconing_eu/). All the scientific publications having BEACONING in acknowledgments appear there as open documents (either the final version when possible or a final draft or author personal copy).

Final state from Zenodo webpage for H2020 BEACONING PROJECT Community:

Publication KPI	M39
Conference papers	49
Journal papers	9
Newspaper articles**	11
Books	2 sections
Poster*	3
Other*	34

Table 8. KPIs and target values for the BEACONING academic papers reached at the project ending

*Were not specified on original D2.1 Dissemination and Communication Plan.

**Including news in digital newspapers (see Appendix 1 on success cases for more details).
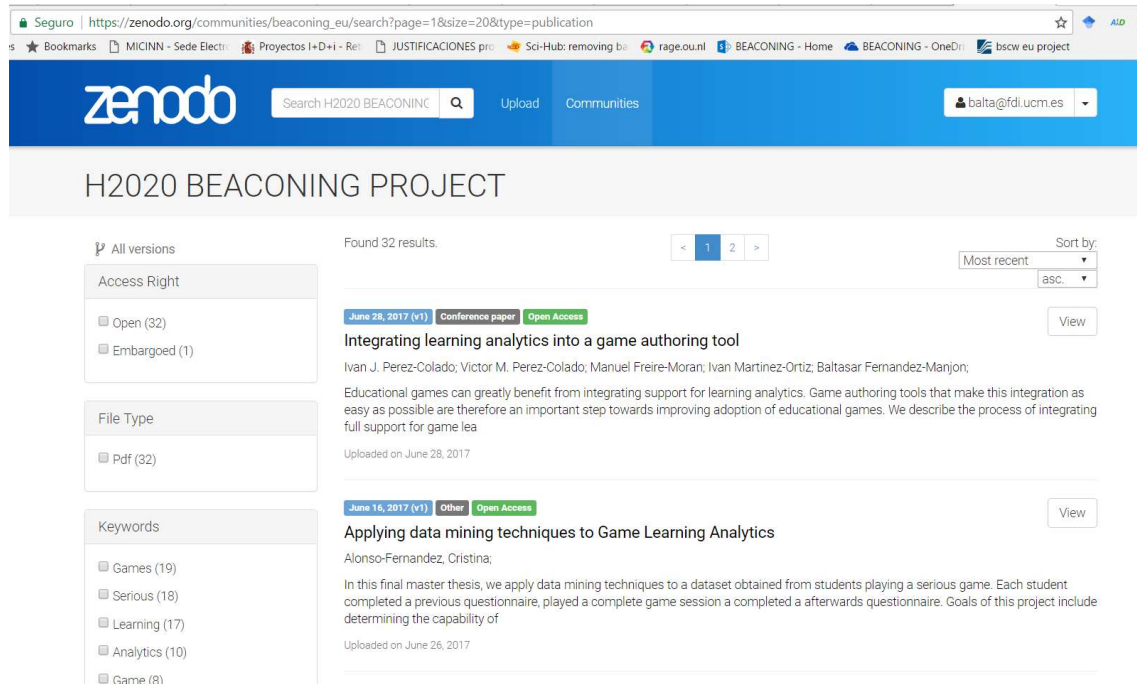
Figure 6. Screenshot of Zenodo BEACONING project repository.
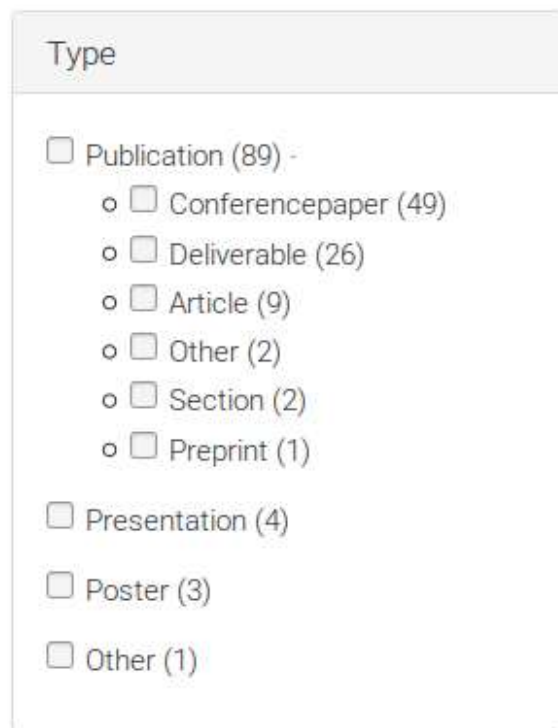
Figure 7. Screenshot of Zenodo publications.

2.1.2   Dissemination events

Summary of the number of dissemination events by partner:
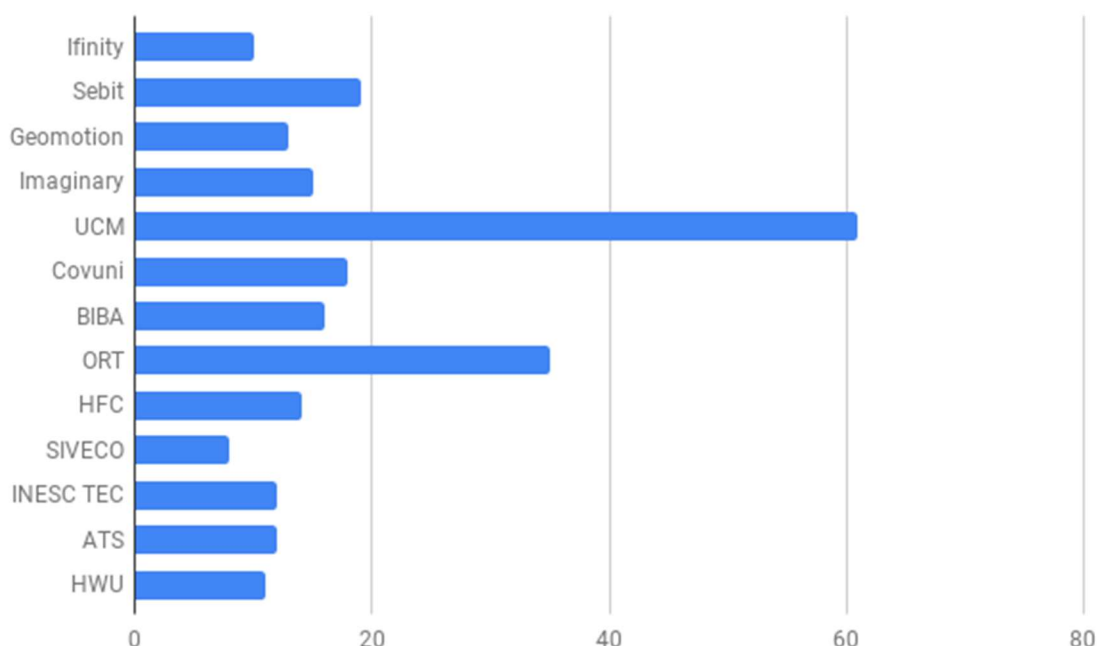
Figure 8. Number of dissemination events by partner.

Even if not all dissemination events report the number of people involved, currently, at least with the provided numbers, **more than 1000 people have been reached by BEACONING events**. More details about those events, including links and photos, can be found on the BEACONING website. This number is even bigger taking into account technology validation experiences and pilots.

Among all those events, some of them stand out including that:

- BEACONING was nominated for the Best Education Project Award in the Gamification World Congress 2016
- BEACONING was one of sixteen projects showcased by invitation at the European Parliament for the Exhibition on Technology and Innovation for Social Good.

Conferences, seminars, workshops

KPIs defined in DoA for conferences, seminars and workshops impact and their expected values were:

Workshop KPI	M7	M19	M25	**M36**	5 years
Number of conferences, seminars and workshops		7	7	**9**	18
Number of attendants (each region)		50		**100**	150

Table 9. KPIs and target values for the BEACONING conferences, seminars and workshops

Final state:

Workshop KPI	M39
Number of conferences*	67
Number of seminars	8
Number of workshop	30

Table 10. KPIs and target values for the BEACONING conferences, seminars and workshops reached at the project ending

* conferences include paper presentations, poster presentations, invited keynotes, and others. Full details are reported in the BEACONING website.

Examples of participation in conferences are:

- 7th International Conference on Software Development and Technologies for Enhancing Accessibility and Fighting Info-exclusion 2016
- International Conference on Education and Learning – ICEL 2017
- 17th International Conference on Web-based Learning (ICWL) 2018
- Interactive Futures 2019 conference

Keynote presentations and Lectures

KPIs defined in DoA for keynote presentations and lectures impact and their expected values were:

Keynotes and lectures KPI	M7	M19	M25	**M36**	5 years
Number of keynotes and lectures	3	15	25	**40**	50
Number of attendants (cumulative)	60	300	500	**800**	1000

Table 11. KPIs and target values for the BEACONING participation in keynotes and lectures

Final state:

Keynotes and lectures KPI	M39
Number of keynotes	15
Number of presentations	49

Table 12. KPIs and target values for the BEACONING participation in keynotes and lectures reached at the project ending

Full details are reported on the BEACONING website.

Examples of conferences were keynotes were presented are:

- European Conference on Game Based Learning (ECGBL) 2016
- 7th International Conference on Software Development and Technologies for Enhancing Accessibility and Fighting Info-exclusion (DSAI 2016)
- The International Conference on E-learning and Games (Edutainment) 2017
- Joint Conference on Serious Games (JCSG) 2017

2.3. FACE TO FACE ACTIVITIES

"On-site" visits and stakeholder involvement

KPIs defined in DoA for on-site visits and stakeholder involvement impact and their expected values were:

Stakeholder involvement KPIs	M7	M19	M25	**M36**	5 years
Number of industrial partners	5	10	25	**30**	50
Number of end-user intermediaries	4	10	25	**30**	50
Number of research organizations	7	10	25	**30**	50
Number of interviews (industry-level)		10		**30**	
Number of focus groups	14	20	30	**50**	

Table 13. KPIs and target values for the BEACONING stakeholder involvement

The final state of these face-to-face activities is described in the dissemination activities with all the details on the website including photos and url links. The stakeholders involvement in the project has included educational authorities, including ministries of education and local and regional authorities; teachers and practitioners; schools and vocational training facilities; students.

Contact with related EU projects

KPIs defined in DoA for events related with other EU projects impact and their expected values were:

Project networking KPI	M7	M19	M25	**M36**	5 years
Number of events	3	15	25	**40**	50
Number of attendants (cumulative)	60	300	500	**800**	1000

Table 14. KPIs and target values for the BEACONING contact with related EU projects

Contact with other projects was greatly simplified by the Digital Learning Meeting organized by the EU in March 27th, 2017 in Luxembourg which reunited participants from 30 projects. Main contact has been established with the following EU projects: Tesla, Rage, Jamtoday, Crowd4roads, and Magellan.

A particular close collaboration was established with the H2020 Project RAGE as the architecture developed for RAGE is being reused, extended and improved in BEACONING. The technology developed at BEACONING in terms of game trackers, teacher dashboards and visualizations, and extension proposed for geolocalization to the Serious Games xAPI Profile, was contributed back to the RAGE infrastructure and ecosystem.

Partners also stablished synergies with other local, regional and national projects related with the use of games in education at large. For instance, UCM stablished a cooperation with other projects such as DownTown (Francisco de Vitoria University), Telefónica Chair on Digital Education and Serious Games and with the Network of Excellence eMadrid in the Madrid region. This is also the case in other countries such as France and the UK.

2.4. OTHER ACTIONS AND COMMUNICATION CHANNELS

As described in D2.1, we are also using secondary channels for creating impact. Examples of these are presented below.

2.1.3   Promotional videos

YouTube promotional videos at the BEACONING Channel that are also linked from the BEACONING website:

Title	YouTube account	Visualizations	URL
Beaconing promo video	Imaginary	1982	https://www.youtube.com/watch?v=dJA7ohE9X8g
What is Beaconing about?	Beaconing Channel	291	https://www.youtube.com/watch?v=33my7ilwcOU
Beaconing challenges with ORT France	Beaconing Channel	72	https://www.youtube.com/watch?v=vMxhE5-0nZI
Beaconing challenges with SEBIT	Beaconing Channel	42	https://www.youtube.com/watch?v=KLnT8LUZ1Vg
Beaconing challenges with INESC TEC & SIVECO	Beaconing Channel	58	https://www.youtube.com/watch?v=_9hCwfDx65U
Beaconing challenges with IMAGINARY & PLAYSOFT	Beaconing Channel	35	https://www.youtube.com/watch?v=TEx96FNYIh8
Beaconing challenges with Heriot-Watt University	Beaconing Channel	48	https://www.youtube.com/watch?v=hc7jXHH1bhc
Beaconing challenges with UCM	Beaconing Channel	33	https://www.youtube.com/watch?v=iRnBS3olA2c
Beaconing challenges with Coventry University	Beaconing Channel	89	https://www.youtube.com/watch?v=7a3B8CL1q68
Beaconing challenges with Ifinity	Beaconing Channel	43	https://www.youtube.com/watch?v=68dPg3O6rl4

Table 15. KPIs and target values for the BEACONING contact with related EU projects
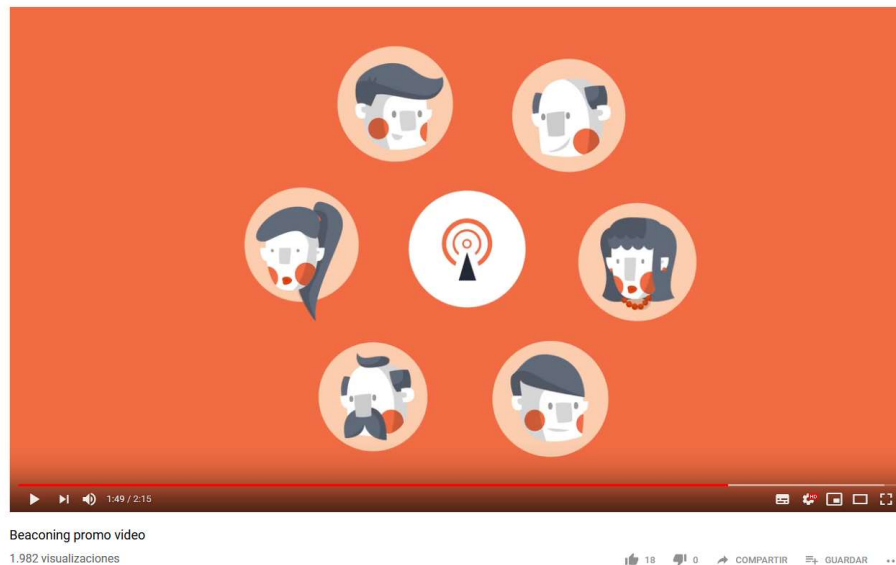
Figure 9. Screenshot of the BEACONING promo video on YouTube.

2.1.4   SlideShare

SlideShare has been promoted as the preferred channel for slide distribution. Some partners have their own personal SlideShare accounts with presentations about BEACONING having a great impact, as the ones specified below.

- Presentation of BEACONING project (681 views), by Sylvester Arnab (COVUNI), accessible at
  https://es.slideshare.net/sarnab75/beaconing-2minute-summary-for-dgconnect-event-lux
- Presentation of BEACONING Game Learning Analytics (682 views), by Baltasar Fernández Manjón (UCM), accessible at
  https://www.slideshare.net/BaltasarFernandezManjon/rev-gaming-learning-analytics-rage-and-beaconing
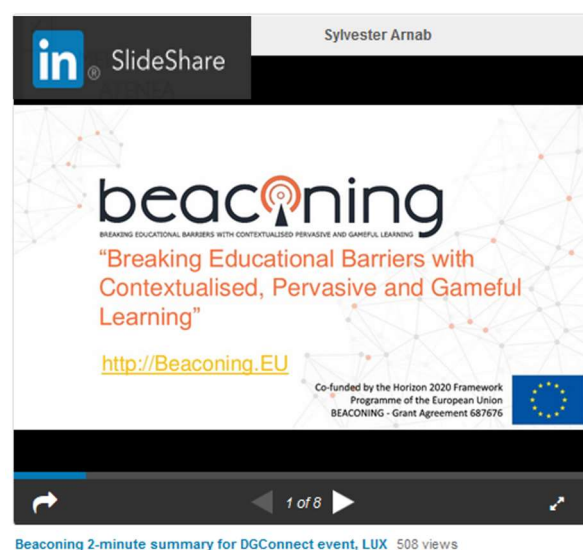
Figure 10. Screenshot of a BEACONING project short SlideShare presentation

Figure 11. Screenshot of a BEACONING project short SlideShare presentation

2.1.5 ResearchGate

ResearchGate has been proposed as a channel for dissemination of scientific publications and presentations. A BEACONING project page was also created, accessible at https://www.researchgate.net/project/BEACONING. The project has 49 followers and 459 reads.

Figure 12. Screenshot of ResearchGate BEACONING project page.

Figure 13. Screenshot of ResearchGate BEACONING article uploaded by Baltasar Fernandez (UCM).

2.1.6 Other Events

On the BEACONING website, there are other disseminations events and activities reported (apart from the previously described conferences, workshop, keynotes, etc.).

Final state:

Other events KPI	M39
Number of presentations	49
Number of small pilots	24
Number of press activities	14
Number of talks	11
Number of meetings	7
Number of round tables	5
Number of blog posts	3
Number of webinars	3
Number of focus groups	3
Number of lessons	2
Number of radio events	2

Table 16. KPIs and target values for the BEACONING participation in other events reached at the project ending
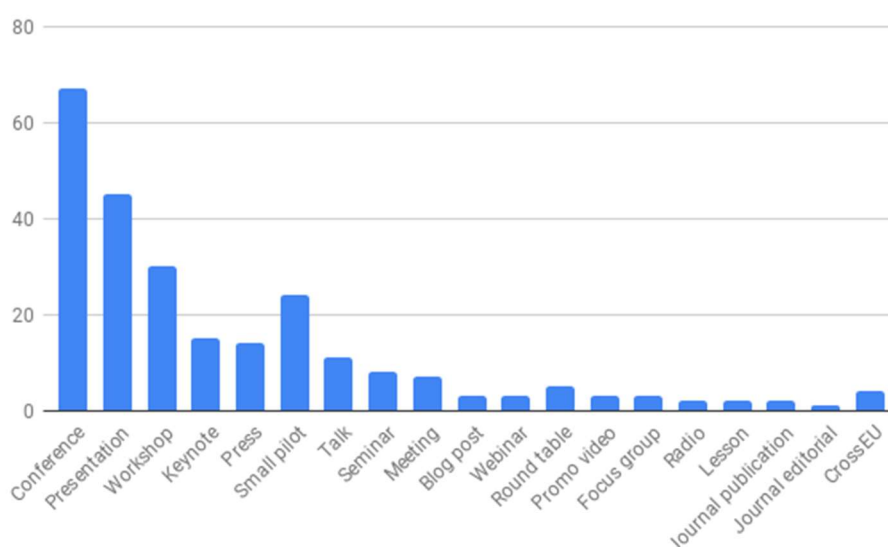
Figure 14. Summary of all BEACONING dissemination events.

Among all the dissemination events carried out in the project, we have identified a set of success cases that showcase the impact of BEACONING dissemination in different scenarios, covering different stakeholders and purposes.

These success cases are described in full detail in **Appendix 1**.

As a summary, these cases cover 7 different countries and contexts (schools, colleges, education fairs and labs, conferences), and a wide range of all different stakeholders (teachers, students, business developers, manager, educational authorities and ministries of education). On these success cases, a total of around 13500 people were directly reached or involved in BEACONING activities, including the Cross-European Location-Based event coordinated by Geomotion where 450 users participated across 17 cities, an Education Fair in Paris with more than 8000 attendants where ORT presented BEACONING results, a demo stand for public education authorities by Sebit with more than 2000 visitors, or the testing of the Analytics System for more than 1000 students by UCM.

3 CONCLUSIONS

The dissemination results reported on this final deliverable show that **the project has exceeded the expected results and all the main KPIs stablished regarding dissemination and communication** of the BEACONING Project.

The project has been present in a great number of educational and technology events in the duration of the project, including international and national conferences and educational fairs, with partners presenting BEACONING progress and results in different talks and presentations and also publishing the results in journal and conference papers. These events have allowed partners to share BEACONING contributions with other stakeholders and companies in related fields of education, gamification and learning technologies.

Workshops and different events have also been carried out to directly involve educational stakeholders: students, teachers, institutions and managers have been part of events where they have been able to test and work with BEACONING technology at different stages of the process, providing valuable feedback about their experiences.

The **set of success cases identified** for the project covers a great deal of different settings: including different countries, contexts, stakeholders and purposes. They all have proven the impact of the project in a variety of settings, and can provide a baseline of opportunities for other partners in future projects.

Dissemination of the project can be considered a success, as **all the KPIs have been attained** and in many cases have been clearly exceeded. From our previous description, it has been demonstrated that **BEACONING has been able to make a clear impact** and now it is recognized as one of the most success EU innovative research projects using games and gamification approaches.

APPENDIX 1: SUCCESS CASES

Following the requirements identified by the reviewers in the project review, this appendix describes the success cases carried out by partners in the different countries. The goal of this appendix is to distribute the cases carried out to share the actions taken and the lessons learned to provide examples that can be replicated from other partners in different countries or contexts, or to provide different ideas for dissemination contributions in the final months of the project.

The success cases identified cover seven countries (Spain, France, Romania, Portugal, UK, Italy, Turkey) and an additional case that covered many cities in Europe (the Cross-European location-based event). In particular, this document includes the cross-EU event, 4 success cases for France, 3 for Italy, 1 for Portugal, 3 for Romania, 2 for Spain, 3 for Turkey and 10 for the UK.

1. GAME LEARNING ANALYTICS (UCM, SPAIN)

ACTIVITY

This activity consists of a set of experiments in schools with teachers to promote the adoption of serious games and to test the acceptability of the resulting analytics dashboards while students play a serious game in class. These experiments also provide information on the applicability and perception of games as an educational tool to promote discussion and reflection in the classroom.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

BEACONING Game Learning Analytics: BEACONING analytics have been used with *Conectado*[1], a serious game to raise awareness about bullying and cyberbullying in schools. The game has been developed by the e-UCM Research Group. The choice of game was driven by the high interest on this subject from schools and educational authorities in Spain.

STAKEHOLDERS

The main stakeholders involved in the activity are schools, teachers, educational sciences students and educational authorities.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

We have contacted INTEF[2] (*Instituto Nacional de Tecnologías Educativas y de Formación del Profesorado*), part of the Ministry of Education, Culture and Sport of Spain; and the Madrid Regional Government educational authorities. A regional education association in Madrid[3] has also been contacted for increased exposure. Outreach collaboration agreements have also been established with the Telefónica-Complutense Chair on Serious Games, with the regional Network of Excellence in e-learning eMadrid, and with the H2020 RAGE project.

The set of initial validation experiments of the game was conducted with 257 students from 3 schools (located in Madrid, Zaragoza and Teruel), validating the game itself and basic analytics collection. As of April 2019, experiments using the game and collecting Game Learning Analytics data using the BEACONING Analytics System, have been conducted with a total of 100 teachers,

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[1] https://www.e-ucm.es/conectado/
[2] http://educalab.es/intef
[3] http://orientacionyeducacion.es/

nearly 150 educational students and more than 1100 students, in different schools around Spain, including the cities of Madrid, Murcia, Zaragoza, Teruel, Cádiz and Soria.

CONTEXT

This activity focuses on the Learning Analytics (LA) framework for use by teachers. The main goals of this activity are to:

1. Increase the adoption of games in schools
2. Involve teachers in the application of games in schools
3. Analyze the use and acceptability by teachers of the analytics dashboards

As the BEACONING Analytics System is general, results are applicable to both BEACONING and non-project games.

IMPACT OR RELEVANCE

The game validation experiments gained significant coverage in the media, including television:

- http://www.rtve.es/alacarta/videos/telediario/telediario-15-horas-15-05-17/4020638/ (National Spanish television)
- http://www.telemadrid.es/programas/telenoticias-1/telenoticias-1-11052017 (Madrid Region television)

And journal and media websites:
- http://www.efeescuela.es/noticias/escolares-la-piel-una-victima-ciberacoso/
- http://www.abc.es/familia/educacion/abci-receta-contra-obesidad-infantil-menos-plato-mas-zapato-y-videojuegos-201705112222_noticia.html
- http://meristation.as.com/noticias/el-videojuego-que-busca-concienciar-sobre-el-%E2%80%98bullying%E2%80%99/2243097
- http://ecodiario.eleconomista.es/sociedad/noticias/8738032/11/17/Preparan-un-videojuego-que-hace-
- http://www.servimedia.es/Noticias/Detalle.aspx?n=746919

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

To be reproduced in a different country or context, the game to be used should be integrated with the BEACONING Analytics System. As stated above, the game used has been developed by the Telefonica-Complutense chair on Serious Games, and is currently only available in Spanish. The topic addressed by the game should be of interest to schools and educational authorities.

Beyond that, BEACONING Analytics could be used in any other country/context. Dashboards could require a minimum configuration to the local language. In the previous experiments in Spain, labels in visualizations were written in English.

OTHER INFORMATION

Related publications:

- Antonio Calvo-Morata, Dan-Cristian Rotaru, Cristina Alonso-Fernandez, Manuel Freire, Iván Martínez-Ortiz, Baltasar Fernández-Manjón (2018): ***Validation of a Cyberbullying Serious Game Using Game Analytics***. IEEE Transactions on Learning Technologies (in press), DOI: 10.1109/TLT.2018.2879354 [IF 1,869 JCR].
- Antonio Calvo-Morata, Baltasar Fernández-Manjón (2017): http://pubman.e-ucm.es/drafts/e-UCM_draft_321.pdf Revista Didáctica, Innovación y Multimedia, núm. 36 http://dimglobal.net/revistaDIM36/revistanewbuenaspracticas.htm#ciberbullying

- Antonio Calvo-Morata (2017): http://pubman.e-ucm.es/drafts/e-UCM_draft_320.pdf. Final Master Thesis. Complutense University of Madrid, Faculty of Informatics.

The experiments are built on top of a previous experience for LA validation at UCM using the game *DownTown*, where the initial version of the BEACONING LA system was incorporated to a previously created game (produced by Francisco de Vitoria University at Madrid) and tested with 45 people with different cognitive impairments (mainly Down syndrome). These experiments are described in detail in the deliverable *D2.3 Dissemination Results 1.*

2. EDUCATION FAIR AND CONFERENCE (ORT, FRANCE)

ACTIVITY

A stand for a 3-day-participation at the Education Fair in Paris and a 1-hour conference on BEACONING.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

BEACONING platform and ecosystem, authoring tool and mini-games.

STAKEHOLDERS

Teachers at secondary school, VET and university, training directors, business developers, representatives, marketing directors, ministry of education, digital learning managers.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

150 during the conference, around 8000 participants to the fair.

CONTEXT

The presentation of BEACONING Ecosystem (from the R&D to the Pilot perspectives) at a conference organized by ORT that gathered around 150 attendees from the Educational sectors and also during the 3 days of the Fair, at the dedicated stand BEACONING was showcased to teachers, Educational professionals, Education networks (such as Canope, Espe, CRI...) that were later engaged to promote the BEACONING solution. This fair attracts all education professionals in France.

IMPACT OR RELEVANCE

Posts on twitter on @educatectice, @BEACONINGeu, @minedu accounts that have around 15000 followers, advertisement of BEACONING on the fair website (http://www.educatec-educatice.com/exposant_397_5297_p.html?eid=11323) and on ORT Innovation website.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

During the fair, we prepared Brochures and Small posters in French to be distributed and we had 2 laptop computers (one for teachers side and one for student side) with the BEACONING platform to demonstrate and we also printed out QRcodes to launch a geolocalized quest done for the purpose of the EDUCATEC Fair:

https://atcc.BEACONING.eu/app.php?game=359&device=browser#modal0

This quest has been trialed by 45 users.

Also, following those events, we produced tutorials both by video and by writing, that can be reached here:

User manual BEACONING: Créer sa quête gamifiée géolocalisée : http://BEACONING.eu/wp-content/uploads/2018/03/BEACONING-ORT-Manuel-Utilisateur-V1.1.pdf

OTHER INFORMATION

- Photos of the conference below, showing the huge success, around 150 participants to the conference, 8000 visitors and around 300 persons coming to our stand during the 3 days.
- The event was disseminated through different media: twitter, Facebook.
- Follow-up activities: description of any other related activity originated from this one
- A large and diverse public were attracted, the conference can easily be in French and/or English, as there were no language issues.
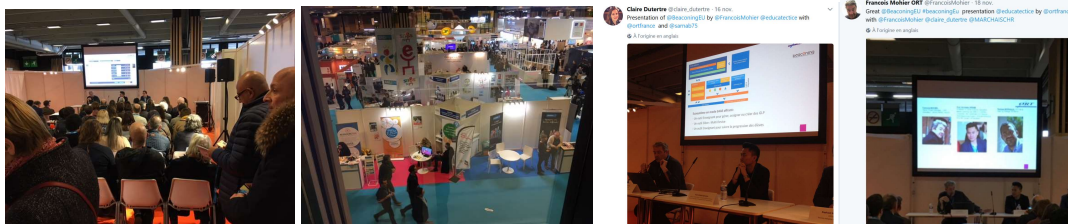
Figure 15. Pictures of participants and tweets of BEACONING presentation at fair Educatec Educatice for digital and innovative education (France).

Figure 16. Tweets about the fair Educatec Educatice for digital and innovative education (France).

Official invitation sent:

As announced, ORT will be attending the three days (15-17th Nov) to the EDUCATICE Fair (for educational professional) in Paris.
We will be more than happy if you want to meet us on the Hall7.1 of Portes de Versailles Expo, where we have reserved a booth there to showcase BEACONING to the Educational stakeholders.
We will also present BEACONING Ecosystem on the 15th of November in a conference, from 2PM to 3PM, dedicated to educational stakeholders; and our expert On Gamification, Pervasiveness, Mr Sylvester Arnab, will present the BEACONING basements to the audience.
For that purpose, we've created a geolocalised challenge around Porte de Versailles that can be played flashing that QRCODE:

Following to that EVENT, we were invited by: The French ESPE Network on the 2-3 Feb: http://BEACONING.eu/fr/beaconin-presentation-au-reseau-espe-paris/
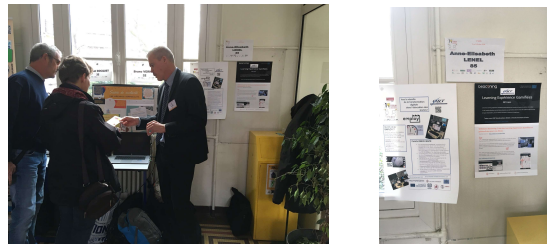
Figure 17. French ESPE Network.

The French CANOPE Educational Network during 2 workshops :

https://medium.com/@Orme2/la-ludification-en-m%C3%A9diation-4485bfc6657b

Marseille: http://BEACONING.eu/events/BEACONING-presentation-and-hands-on-workshops-in-marseille-with-canope-network/ for which a dedicated geolocalised quest has been created for engaging attendees (around 100 persons) to go by walk from the Canope premise to the Bibliothèque 13 premise during the break: The quest https://atcc.BEACONING.eu/app.php?game=755 has been played by 45 users :

Figure 18. The French CANOPE Educational Network.

In the afternoon, an hands-on workshop was organized aiming at providing early access to stakeholders to the BEACONING geolocalised authoring tool

Manosque:http://beaconing.eu/events/beaconing-presentation-participation-at-a-round-table-and-hands-on-workshop-in-manosque/

In which BEACONING was presented to the attendees (around 70 teachers from the region of PACA in France), followed by a hands-on workshop in the afternoon aiming at providing early access to stakeholders to the BEACONING geolocalised authoring tool.
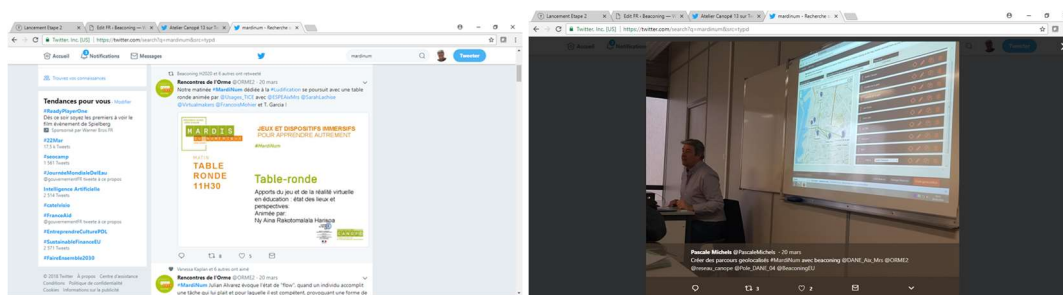
Figure 19. Hands-on workshop at The French CANOPE Educational Network.

We launched a series of Webinars both in French and English: http://BEACONING.eu/fr/webinaire-le-20-ou-le-21-fevrier-prochain-pour-apprendre-a-creer-des-learning-experiences-gamifiees-et-geolocalisees/ that gathered around 40 attendees training them to practise with the BEACONING solution.

3. SCHOOLS WORKSHOPS (SIVECO, ROMANIA)

ACTIVITY

Running 4 workshops in schools with teachers and students in order to present and test the BEACONING project developed tools.

We presented:

- User interface,
- Authoring tool,
- Meta-game,
- Mini-games
- Example of scenario

We also sent, after the workshop, the links of the tools in order to collect a more accurate feedback. Survey link, provided by BIBA, to be completed by the participants after covering the tools presented. All the participants were pleased with the tools presented and they are eager to see them in the final version and to start the large-scale pilot. We really need user guidelines for all the tools that they will use.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

During these workshops we presented to the participants:

- The project platform;
- The meta-game;
- The Authoring Tool;
- Serious games

STAKEHOLDERS

The main stakeholders involved in the activity are schools, teachers and students.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

SIVECO experts participated at 2 sessions with teachers and students at "Grigore Moisil" National College, Bucharest, "Saint Mary" Special Middle School for Hearing Impaired, Bucharest and another 2 sessions on-line.

At the 1st session from "Grigore Moisil" National College, 22 teachers and 7 students participated from the following schools:

- "Grigore Moisil" National College, Bucharest
- High School "William Shakespeare", Timisoara
- National College Grigore Moisil, Timisoara
- High School "Aurel Lazar"
- National College "Mircea cel Batran"
- Technical College Energetic
- National College "Stefan Odobleja", Craiova
- High School Videle

At the 2nd session from "Saint Mary" Special Middle School for Hearing Impaired, 8 teachers participated from the following schools

- Saint Mary" Special Middle School for Hearing Impaired
- National Vocational College "Nicolae Titulescu" Slatina, Olt

- Technological High School "Virgil Madgearu", Rosiorii de Vede, Teleorman
- High School "Aurel Lazar"

At 3rd and 4th online sessions, 14 teachers and 35 students participated from the following schools:

- Technical College "Mihai Bravu", Bucharest
- National College "Grigore Moisil", Bucharest
- Technical Energetic College, Constanta
- High School "Aurel Lazar"
- National College "Mihai Eminescu", Satu Mare
- National Vocational College "Nicolae Titulescu", Slatina
- High School "William Shakespeare", Timisoara
- High School Videle
- Saint Mary" Special Middle School for Hearing Impaired

CONTEXT

Presenting the developed tools within BEACONING project, tools that will be used by the teachers and students in piloting stage.

IMPACT OR RELEVANCE

Posts on twitter (@BEACONINGEU #STEM #seriousgames). Also, 29 more schools were reached and are on a waiting list.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

Dissemination of the event among schools, laptop/desktop available in the meeting room, internet connection, projector.

OTHER INFORMATION

In January 2018 new workshops will follow with teachers and students in order to collect new feedback and hopefully success stories.

Figure 20. Pictures of workshops in schools with teachers and students (Romania).

4. GAME AUTHORING TOOL (INESC TEC, PORTUGAL)

ACTIVITY

The activity consisted of two game jams focused on developing narratives that take advantage of the location of the player to provide learning.

The first part consisted of a workshop focused on instructing attendees on how to use BEACONING's authoring tool to build a narrative-based sequence of challenges that supported learning activities while walking the streets of the city center of Porto. As a result, each group of participants was able to create a location-based narrative that challenged players to solve mini-games in distinct locations of the city.

The software was disclosed as a simple application that required no programming skills, and attendees were only required to bring an Android smartphone, to select a learning topic and to create a narrative that took place in Porto.

In the second part of the event, participants travelled outside to test and experience their creations, only to return for informal discussion and feedback, providing information on design, workflow logic and usability of the authoring tool.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

Authoring tool.

STAKEHOLDERS

The main stakeholders involved in the activity were schools, students, and media labs.

NUMBER OF PEOPLE/ COMPANIES/ PUBLIC INSTITUTIONS DIRECTLY INVOLVED

The first event involved PhD students (about 12) of the Doctoral Program in Digital Media and occurred during the event Creative Colab 17.

The second event involved a random sample of subjects, but mainly higher education students with many attending their first year (about 20), during the Future Places 2017: Media Lab for Citizenship, an international open event.

The first occurred at the Faculty of Engineering and the second at the Media Innovation Labs, both at the University of Porto.

CONTEXT

This activity was focused on the design, workflow logic and usability of the authoring tool. The main goals of this activity were to:

1. Analyse the workflow logic of interaction with the tool;
2. Analyse its capabilities to create linear and non-linear learning paths;
3. Obtain feedback on the usability of the authoring tool;
4. Analyse the experience of geolocated games.

IMPACT OR RELEVANCE

The events/ experiments gained coverage in the media, including:

- Journal and media websites:

  o http://futureplaces.org/labs/BEACONING/

- Publications on the original game validation experiments:

  o Master thesis: João Miguel Polónia Pascoal Faria, Pervasive Games for Education, Mestrado Integrado em Engenharia Informática e Computação, FEUP, 2017. http://hdl.handle.net/10216/106178

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

To be reproduced in a different country or context, the authoring tool only needs to support different languages; however, English was used instead of Portuguese in these events.

5. VET (HWU, UK)

ACTIVITY

This activity consists of a series of workshops in vocational education and training (VET) colleges in Scotland, with students and teachers to promote the adoption of gamified learning and to test the technologies for anywhere, anytime learning. The students conducted the gamified learning in a class and in the workshops. These trials also provide information on the applicability and perception of games as an educational tool to promote discussion and reflection in the classroom.

BEACONING AND SCOTTISH QUALIFICATIONS AUTHORITY

BEACONING VET-game SQA requirements

BEACONING VET-game is to ensure students understand the importance of workplace activities with respect to their vocational trade, in this case stonemasonry. The game has been developed by Imaginary SRL, who is also a partner in BEACONING project. The choice of game was driven by the Scottish Vocational Qualifications (SVQs) and other SQA accredited qualifications. SVQs are based upon national standards, and provide evidence that learners can do their jobs well. Studied in the workplace, in college or with training providers, SVQs are available in many subject areas that cover STEM. The VET-game is intended for SVQ Level 3 (SCQF Level 6 & 7) onwards with students typically aged 16 years onwards.

STAKEHOLDERS

The main stakeholders involved in the activity are VET colleges, teachers, students and educational authorities.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

We have contacted Edinburgh College[4] and City of Glasgow College in Scotland[5] to increase the exposure of the VET-game. Both colleges conduct stonemasonry courses and are the leading colleges in this sector.

Outreach collaboration has also been established with the CyberBuild Lab[6] in Serious Games and different levels of immersive reality continuums to support the construction industry. There is communications with the Construction Industry Training Board (CITB) [7], which is UK's Industry Training Board for the construction industry and a partner in ConstructionSkills, the Sector Skills Council, devoted to building competitive advantage for the construction industry and the people who work in it.

The goal is to reach as many stonemasonry education and training institutes. It should be noted that a cohort of 15-20 students per year is considered very large in stonemasonry. As of this writing (December 2017) 2 colleges with a total of 6 teachers have participated in examining the perception and applicability of the VET-game. A total of 30 teachers and professionals for the Dutch vocational education sector were also introduced to the VET-game when they visited The

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[4] http://www.edinburghcollege.ac.uk/

[5] https://www.cityofglasgowcollege.ac.uk/

[6] cyberbuild.hw.ac.uk/

[7] https://www.citb.co.uk/

City of Glasgow college. Initial experiments of the game with 17 students from 2 schools were carried out, validating the game itself and basic analytics collection.

The colleges and teachers have already been contacted for further experiments. As of November 2017, they have confirmed their participation. It is intended in May 2018 to conduct further trials with the improved version of the VET-game

CONTEXT

This activity focuses on the applicability of desktop and wearable technologies for use by teachers and students to understand different stonemasonry processes and SQA requirements. The main goals of this activity are to:

1. Increase the adoption of digitalised connected game-based learning in schools
2. Involve teachers in the application of new pedagogical technologies in schools
3. Analyse the use and acceptability by teachers and students of the BEACONING platform

As the game structure is general, the results are applicable to both BEACONING and non-project games that have highly physical-virtual inter-activeness.

The trial on the wearable technology was to establish the acceptability and the uptake of connected systems able to provide objective analytics of learning and competency gained. The gradient scoring method proposed is applicable to future cyber-physical based education technology, particularly where learning is happening in the workplace and the transition of learning from classroom to the workplace.

IMPACT OR RELEVANCE

HWU has been invited to a Commissioning meeting with CITB (Construction Industry Training Board) worth £1.5M from the UK Government. HWU has also been invited to showcase its Hololens VET-game developments at an international technology event (https://www.wearable-technologies.eu/) in Munich, January 2018. VET-game will validation experiments gained significant coverage in the media, including:

- Publications:
    - Sivanathan, A., Mcgibbon, S., Lim, T., Ritchie, J., & Abdel-Wahab, M. (2017, August). A Cyber-Physical Gaming System for Vocational Training. In ASME 2017 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference (pp. V001T02A063-V001T02A063). American Society of Mechanical Engineers.
    - Read, A., Ritchie, J., & Lim, T. (2016, August). A UNITY Sketch Based Modelling Environment for Virtual Assembly and Machining to Evaluate DFMA Metrics. In ASME 2016 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference (pp. V01BT02A049-V01BT02A049). American Society of Mechanical Engineers.
    - Brock, A., Lim, T., Ritchie, J. M., & Weston, N. (2016, August). Context-Aware Content Generation for Virtual Environments. In ASME 2016 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference (pp. V01BT02A045-V01BT02A045). American Society of Mechanical Engineers.
    - Hauge, J. M. B., Lim, T., Kalverkamp, M., Haase, F., & Bellotti, F. (2016, August). Analysis on Educating Mechanical Engineers Through Serious Games Using Pervasive Technologies. In ASME 2016 International Design Engineering

Technical Conferences and Computers and Information in Engineering Conference (pp. V01BT02A050-V01BT02A050). American Society of Mechanical Engineers.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

To be reproduced in a different country or context, the VET-game should be integrated with the BEACONING platform and its tools. The topic addressed by the game would be of interest to the schools and educational authorities seeking advancement in mixed reality learning environments.

Beyond that, the VET-game could be used in any other country/context. The non-reliance on textural schemes brings a host of advantages from the perspective of languages. Additionally, dashboards would require a minimum configuration to visualise and track progress.

OTHER INFORMATION

The trails are built on top of a previous experience for cyber-physical systems and body area networks used in training and human factors logging for Scottish Water and the production of training material and understanding the associated ergonomics for stonemasonry.

6. CO-DESIGNING PLAY-LESSON PATHS WITH THE BEACONING LEARNING TAXONOMY (COVUNI, UK)

ACTIVITY

All the teachers from a local primary school in Coventry (Howes Primary) participated in a full-day workshop aimed at introducing them to game based learning design, and to the BEACONING conceptual and pedagogical architecture.

This started with a presentation and discussion of the underlying theory of game based learning and game design based learning, then moved to a hands-on game prototyping exercise based on modifying known games toward obtaining the intended learning outcomes.

Having done this, participants were introduced to the basic concepts of pervasive gaming, and were introduced to the BEACONING Learning Taxonomy as a useful tool to scaffold the creation of pervasive game scenarios.

In the conclusive activity of the day, the participants used all the knowledge and processes discussed and experienced throughout the day to create a number of BEACONING Missions, closely connected to the local learning opportunities of Coventry, and even to connect them into a non-linear and interlinked Gamified Lesson Paths.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

The BEACONING taxonomy was used for developing lesson paths. Mini-games, the location-based component and the authoring tool were introduced to the teachers.

STAKEHOLDERS

The participants in the workshops were 12 primary school teachers, plus the headteacher. While primary schools are generally outside the scope of BEACONING, Howes primary has an excellent portfolio of STEM education as part of the Scientix and VEX robotics networks, therefore constituting an optimal testbed for both grounding the conceptual pedagogical innovations that are integral part of the BEACONING project, and for envisioning future extensions of it.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

12 teachers (and the Headteacher) from 1 primary school.

CONTEXT

The activity was a full day workshop, framed as professional development for the participants, and carried out in the Disruptive Media Learning Lab of Coventry University, a versatile space designed to foster an informal and collaborative approach to teaching and learning.

IMPACT OR RELEVANCE

The workshop helped these already technologically savvy teachers to take a further step and focus on the co-design of interactive activities with their students. In particular, it enabled us to provide an initial, grounded validation of the Learning Taxonomy, and to establish an ongoing collaboration with a relevant local partner (see also follow-up activities).

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

While the aforementioned space is specifically designed to be conducive for this kind of creative and collaborative activity, the overall workshop could be easily reproduced, as it is, by choice, completely paper based, so as to enable even less tech savvy participants to fully engage with the underlying process.

It is however very important that the facilitator has a sound knowledge of the landscape of game based learning and game design (to properly scaffold the participants in moving their first active steps), and an in-depth understanding of the BEACONING Learning Taxonomy.

OTHER INFORMATION

- **Media content:**

Figure 21. Pictures from the workshop in a local primary school in Coventry to introduce game based learning design and BEACONING conceptual and pedagogical architecture.

- **Follow-up activities:**

From this initial workshop an ongoing collaboration has been established with Howes Primary, which will work with Coventry University and Coventry University College to further validate the BEACONING Platform, now moving from a paper based creative workshop to actual engagement with the online platform.

- **Lessons learned:**

This workshop validated the Learning Taxonomy as a functional scaffolding tool for teachers, even if at a level that is different from the general BEACONING scope, as the participants were easily able (after being provided with the appropriate conceptual tools through appropriate but brief training) to work within the framing provided, which in turn supported creativity and ease of formalization. This provides us with two main insights:

1) The Learning Taxonomy is a valuable play/learning design tool, though of course it will be further iterated through the pilots.
2) Teachers work at their best when provided with a broad training (but still brief), not only on the BEACONING platform, but on the general principles of game based learning design.

7. MILAN EVENT SMALL SCALE PILOT (IMAGINARY, ITALY)

ACTIVITY

On November 30th, 2017 in Sesto San Giovanni, a small city close to Milan, the BEACONING project has been piloted at I.I.S. "Enrico De Nicola" technical and artistic high school.

One classroom of students was engaged for nearly 3 hours with the BEACONING's treasure hunt game in chasing clues and quests prepared by their teachers.

The treasure hunt game has been organized inside the school's building and players have been provided with the location-based component linked to a set of STEM mini-games.

Students, bringing their own device (BYOD approach) and split in 4 small groups, had to follow the clues triggered by each successfully completed mini-game to reach the prize that their teachers prepared for the winner team.

It was really impressive the players' engagement in solving as quick as possible the math and physics challenges prepared by their teachers in order to reach the end of the path sooner than their mates.

The perceived feeling is that this kind of activity represented really a fun and engaging innovation both for students and teachers not used in experiencing the school duties in a such fun way.

At the end of the game was also exploited the pilot event to perform some short interviews with some students to collect their feelings and feedback about the BEACONING experience.

The output of this event is available in the following video:

https://www.youtube.com/watch?v=bPDG0jY1oiQ

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

Mini-games, location-based component, authoring tool and the learning analytics platform.

STAKEHOLDERS

Students and their teachers from I.I.S. "Enrico De Nicola" technical and artistic high school.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

This event engaged two classes of students belonging to the 3rd year of the high school for a total amount of 24 players and 2 teachers.

CONTEXT

The context for this event was a half day of BEACONING's treasure hunt indoor activities performed inside the I.I.S. "Enrico De Nicola" high school.

IMA's staff coached the teachers before the event on how to assist the teams during the game and prepared some paper material to foster and enhance the "gamified" approach of the experience (e.g. paper leaderboard, paper badges with the team logo and the player's name).

IMPACT OR RELEVANCE

A derived impact for this kind of activity is to leverage on the pilot activity to record and edit a video to be used to document and disseminate the BEACONING experience using an engaging media such as the videos.
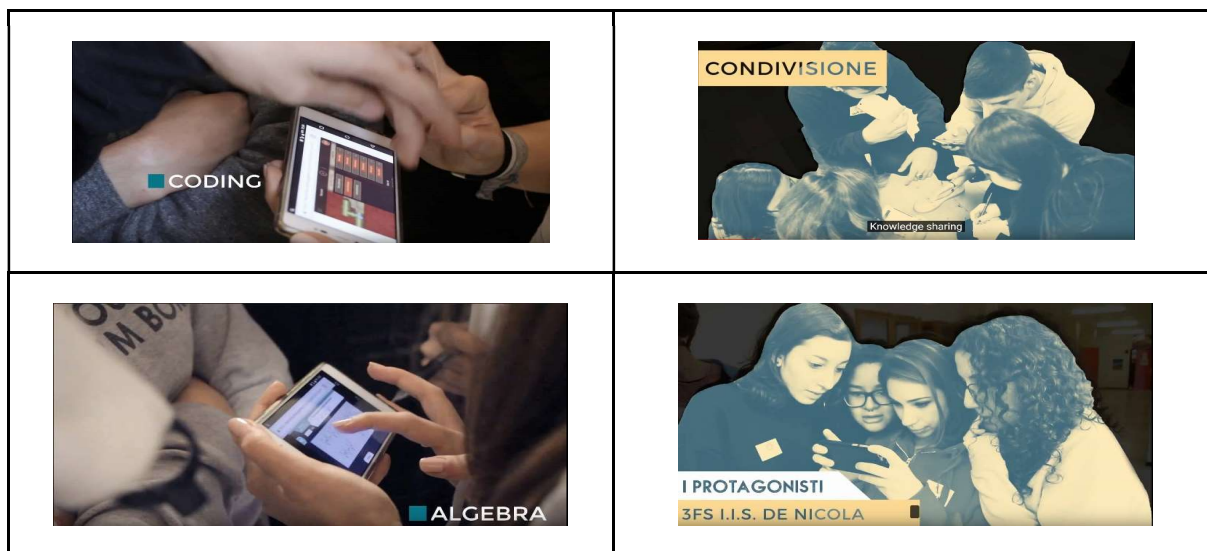
Figure 22. Pictures from the small-scale pilot in a high school in Milan.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

To be able to reproduce this experience partners have to record small video snippets and take pictures during the game play and (if possible) to record some short interviews to students or teachers asking about how the experience was and put all together in a short video (up to 3 minutes length) to be shared on social networks. The recording of the interviews and the texts present in the video can be in the original language of the country where the event takes place, then the final video can be subtitled directly on YouTube.

8. MILAN TREASURE HUNT GAME ON ADDICTIONS PREVENTION (IMAGINARY, ITALY)

ACTIVITY

Participation to the "*International Day Against Drug Abuse and Illicit Trafficking*" (http://www.un.org/en/events/drugabuseday/) on 2018 June the 26th, with a treasure hunt game in Milan (Italy) dedicated to students (Target: 1st and 2nd classes of high school) organized in collaboration with Società Italiana Tossicodipendenze (www.sitd.it). The goal is to raise awareness in teenagers about addictions' risks, engaging them in a location-based activity in their town. Such event is supposed to raise a big impact in terms of dissemination and communication from all the local media connected to this international day event. The institution that will be organizing the event operates in tight collaboration with Regione Lombardia, this means that this event is supposed to be the first of a series of similar events organized in the future in collaboration with Regione Lombardia using the same approach but addressing different use cases related to the health topic.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

Mini-games, location-based component, authoring tool and the learning analytics platform.

STAKEHOLDERS

Teenagers and their parents, social health institutions belonging to the Milan district (ASL, ASST) local media and local newspapers.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

Regione Lombardia, Società Italiana Tossicodipendenze (http://www.sitd.it)

CONTEXT

The pedagogical content will be provided to IMA by SITD and IMA will create the treasure hunt game narrative and mini-games. The web link to the game will be provided to the participants through social media events creation and fliers distribution. Teenagers and their parents will have the opportunity to access the game using their own device (BYOD approach) with no special requirements in terms of HW and SW specifications.

IMPACT OR RELEVANCE

The impact of this event is very high as held within the context of the International Day Against Drug Abuse and Illicit Trafficking so we expect local institutions such as Regione Lombardia, Società Italiana Tossicodipendenze and the local health authority actively support the event with press releases, social media communications and onsite presence during the event.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENTE COUNTRY/CONTEXT

To reproduce in other countries, the recommendation is to select an International Day or a big local event supposed to raise high attention by the local media and the citizens and organize a treasure hunt game using BEACONING mini-game with the goal to raise awareness or assess knowledge about the specific topic addressed by the event. To maximize the impact, the active engagement of the local authorities that support the event, is more than recommended.

9. BEACONING SCIENTIX COLLABORATION (ORT, FRANCE)

ACTIVITY

A plenary conference and a Workshop session to Scientix Ambassadors in FCL, in Brussels, during the 17th Science Projects Workshop in the Future Classroom Lab (SPW@FCL), Scientix.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

BEACONING platform and ecosystem, authoring tool and mini-games.

STAKEHOLDERS

Teachers at primary, secondary school, Scientix AMBASSADORS.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS INVOLVED

45 during the conference, 12 participants to the workshop.

CONTEXT

The presentation of BEACONING at the conference was made at the **17th Science Projects Workshop in the Future Classroom Lab (SPW@FCL), organized by Scientix,** for digital and innovative education.

IMPACT OR RELEVANCE

Posts on twitter, advertisement of BEACONING on the Scientix website (http://www.scientix.eu/spw17-at-fcl-after). The Twitter account #SPW17 reported the event and the courses about BEACONING presentation was given to the 45 Scientix Ambassadors from

different EU countries on the 18th of November. Further to that short introduction ORT conducted a Webinar session with 15 teachers recorded.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

Brochures to be distributed, laptops with the BEACONING platform to demonstrate, Presentation. A ready to run Geolocalised quest to be done in the location of your event: printing out Qrcodes to simulate the fact that end-users are moving from a Point Of Interest to another (as usually end-users are not willing to get out with their mobiles).

OTHER INFORMATION

If you look for the hashtag #spw17 you can see what happened this weekend, for example:
https://twitter.com/search?f=tweets&vertical=default&q=%23spw17&src=typd

Figure 23. Scientix webpage and pictures from the 17th Science Projects workshop.

10. BEACONING WEBINARS (ORT, FRANCE)

ACTIVITY

Webinars organized both in English and French to showcase the BEACONING Ecosystem and engage stakeholders. Different webinars have been conducted both in English and in French with contacted stakeholders during the events (Educative, Scientix Ambassadors, ESPE teachers, Canope Event); The webinars have been recorded live and have been later distributed to participants and new comers.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

BEACONING platform and ecosystem, authoring tool and mini-games.

STAKEHOLDERS

Teachers at primary, secondary school, Scientix AMBASSADORS.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

50 persons during the webinars.

CONTEXT

The webinar BEACONING at the conference was made on the 19th of December, the 17th of January, the 18th of January, the 25th of January, the 23 and 24 the of March.

After the webinar, the participants have received an email like that one below:

"Dear BEACONING Webinar attendees,

Thanks for participating on January 18th to the BEACONING Webinar.

We've attendees from different EU countries (That's Europe) and that was with great pleasure for me and my colleague to showcase the BEACONING ecosystem to all of you.

You can find the PowerPoint presentation of the BEACONING Webinar https://1drv.ms/p/s!AoW_zOSmslaBg9EriwYESOFawjbrHQ and you can view the BEACONING ecosystem demo video at that link : http://BEACONING.paris.ort.asso.fr/VIDEO/BEACONING%20DEMO%20FULL%20GAME.mp4

Also, if you've missed the beginning of the Webinar, you can find the recording of the live session here : https://meet12407274.adobeconnect.com/pl04qc74mzde/

To receive your credentials for accessing the BEACONING Ecosystem, please fill-in first that questionnaire https://survey.biba-gaminglab.com/survey/index.php?p=survey&survey=5&groups=75

and you'll receive the credentials for accessing the platform. In the survey, please to the question: "Please name the Workshop ID:" write: "ORT your Name"

Also, you can find more information on the BEACONING Website http://BEACONING.eu and a BEACONING video here : https://www.youtube.com/watch?v=dJA7ohE9X8g

All the Best from BEACONING board,

And Happy to be on the way of BEACONING Ambassadors!"

IMPACT OR RELEVANCE

Posts on twitter on the ScientixEU network were made relaying the event on the BEACONING Website, advertisement of BEACONING on the BEACONING.EU website and also on the ORT EDLAB website: http::edlab.paris.ort.asso.fr/edlab including registration forms.

REQUIREMENTS TO BE REPRODUCES IN A DIFFERENT COUNTRY/CONTEXT

Presentation, Video Recording of a session. We conducted the webinars using an Adobe Connect solution that can have up to 100 participants to the meeting and recording facilities. A PowerPoint presentation was prepared: https://1drv.ms/p/s!AoW_zOSmslaBg9EriwYESOFawjbrHQ

A running BEACONING platform, with a pre-set GLP need to be defined to run the demo.

OTHER INFORMATION

- Twitter/Facebook/ http://edlab.paris.ort.asso.fr/2017/12/05/1801-BEACONING-create-and-share-your-gamified-lesson-paths-2pm-4pm-cet/
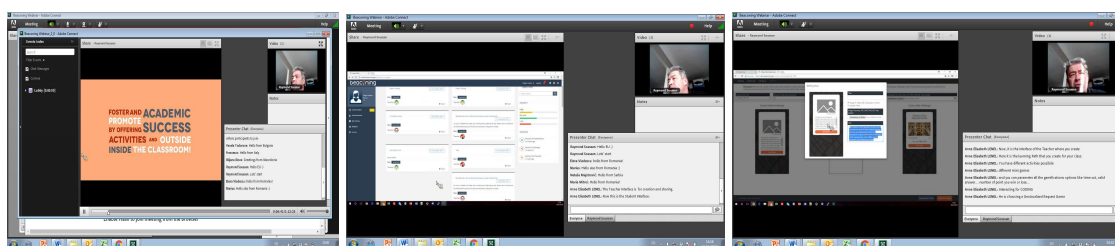

Figure 24. Screen captures of the BEACONING webinar by ORT.

11. CREATING GLPS IN WORKSHOPS AND SCHOOLS (SEBIT, TURKEY)

ACTIVITY

Engaging and Educational Gamified-Lesson Plan creation with head teachers (in two workshops) and with subject teachers (in two schools).

Designing GLPs on BEACONING is not trivial for teachers who attend the workshops, but also professional instructional designers in SEBIT. The authoring tools of BEACONING (putting the narrative authoring tool aside) are powerful tools, but to use them effectively and to create engaging learning experiences in STEM topics is a trial and error learning process. Therefore, we devote time with our volunteer teachers to develop best practices for creating GLPs.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

BEACONING platform: Authoring Tool and Context Aware Challenges Authoring Tool.

STAKEHOLDERS

Teachers at secondary schools, instructional designers, educational coordinators, head teachers, ministry of education, digital learning managers.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

A total of 150 head teachers in two workshops and 10 subject teachers in two schools.

CONTEXT

SEBIT's first responsibility is to run large scale pilots and that relies on the quality of GLPs which will be presented to the 70K+ students who use SEBIT's private schools platform VCloud. Therefore, it is critical to develop best practices of creating GLPs.

IMPACT OR RELEVANCE

A number of impact areas can be identified: i) preparing training material and user guides for the authoring tools ii) quality GLPs to be taken to the large-scale pilots, iii) engaging head teachers who can train other teachers iv) gaining experience on using BEACONING platform and discovering its limits and affordances inform exploitation plans and activities.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

Best Practices in creating quality (engaging and educational) GLPs is planned to turn into user manuals and training materials so that other teachers and/or instructional designers can also create quality GLPs or reuse/repurpose the existing ones effectively.

OTHER INFORMATION

Figure 25. Introduction to head teacher and Hands-on GLP design trials by teachers.

12. CROSS EUROPEAN LOCATION-BASED EVENT (GEOMOTION GAMES)

ACTIVITY

Geomotion Games have led the organization of a cross European location-based game. The event takes advantage of the geolocation technologies developed in the project by Geomotion Games to create a playful urban experience in which young citizens from all over the European continent participate in a collaborative location-based game on the same day and at the same time while discovering their city and learning STEM skills.

The purpose of the event was to bring together young people from all over the European continent on the same day and at the same time in a fun urban gamified experience in which collaboration and the discovery of context become a key aspect of the game.

Objectives & Outcomes

- Engage local stakeholders in the participation of outdoor educational activities through ICT.
- Create an educational location-based game using BEACONING technologies that can be played on the same day and same time.
- Encourage learning and discovery of the cities through games and gamification.
- Promote the BEACONING Project and context-aware technologies applied to education and STEM skills development.
- Location-based game to be played in 16 European cities.

Event Day: 10th February 2018

Event Time: from 10h to 20h (CEST time)

THE GAME

Summary of the experience

The Earth Special Agency have discovered that a mysterious tycoon called "Ulrik Morgan" runs a double-sided private corporation. Publicly it is dedicated to the research and development on sustainable energies and technologies. But it's been leaked that this corporation have a network of secret installations where is hiding toxic products with which they really make profits illegally.

Several informants from the Earth Special Agency have collected 4 parts of the map that will guide agents to the clandestine underground facilities. But they cannot be together in the city because of security reasons.

Participants will need to access the treasure-hunt game through their smartphones, find the informants hidden in the city, demonstrate their knowledge on energy and environment and unlock the clues to uncover their exact locations in the city to finally find the hidden facilities, unmask the bad guy and save the environment.

Game Time: 120m

Game Type: Treasure Hunt

Game Theme: Energy & the Environment

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

Context Aware Challenges Authoring Tool.

STAKEHOLDERS

- Students at secondary schools.
- Teachers at secondary schools.
- Families and youngsters between 12 and 16 years old.
- Local partners: each project partner linked with local partners, both to drive the advertising and for charitable ends. Total local partners engaged: 9.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

- 450 users have participated.

- Cities around the World: 17 cities.

- Local Partners engaged: 9 partners

- Find below partners involved and local partners engaged in each city:

Country	City	Local Partner
UK	Coventry	Coventry City Libraries, Fab Lab, City of Culture bid
UK	Haywards Heath	Burgess Hill School for Girls, Burgess Hill Academy, Armstrongs Opticians
SPAIN	Madrid	
SPAIN	Barcelona	Urban explorer
FRANCE	Paris, Montreuil	ORT and EdFab
FRANCE	Strasbourg, Marseille, Toulouse, Lyon	ORT
TURKEY	Ankara	TEMA

- Some of the Facebook Events created:

  o IMAGINARY - Milano (Italy): https://www.facebook.com/events/1526647120759409/
  o COVENTRY UNI - Coventry (UK): https://www.facebook.com/events/1846432105656160/
  o HANDS FREE COMPUTING - Haywards Heath (UK): https://www.facebook.com/events/1607638835981480/
  o GEOMOTION GAMES: https://www.facebook.com/events/571887463152535/
  o BIBA: https://www.facebook.com/events/1760030027374971/

CONTEXT

Geomotion Games is responsible for developing the Context Aware Challenges Authoring tool to create educational location-based games. As a location-based gaming industry leader Geomotion took the lead to coordinate the creation of this event.

IMPACT OR RELEVANCE

A number of impact areas can be identified:

i) Creating a location-based game that needs to be repurposed in each city.

ii) Testing Context Aware Challenges Authoring Tool.

iii) Testing location-based game experience and technology.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

Best Practices in creating quality (engaging and educational) location-based games that can be repurposed only changing the Points of Interest but keeping the same narrative that engages users across different countries and cultures.

OTHER INFORMATION

- Pictures of the experience in different locations:

Figure 26. Pictures from the event in Barcelona (Spain, left) and Paris (France, right)

Figure 27. Pictures from the event in Ankara (Turkey)

Figure 28. Promotional materials for the event

13. CO-DESIGNING LOCATION-BASED GAMES FOR USERS WITH SPECIAL NEEDS (COVUNI, UK)

ACTIVITY

Students from the Coventry University Therapeutic Horticulture module have engaged with the Consortium to co-design a pervasive game experience that is aimed at supporting students from a special needs school to both explore STEM (natural science and math related contents) and experience an increased autonomy as learning. This translated into the co-design of a nature-oriented treasure hunt location-based game.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

Location-based authoring tool.

STAKEHOLDERS

The participants in the workshops were Therapeutic Horticulture University students, and students from a primary special needs school.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

4 Therapeutic Horticulture University Students teachers and 20 special needs primary school students.

CONTEXT

The activity was a series of tutorials, where we supported the students from the Therapeutic Horticulture module in designing a location-based game aimed at enabling and supporting children with special needs to explore and appreciate a natural environment. The actual activity with the children was run in an enclosed nature park, therefore ensuring the safety and controlled conditions of the experience.

IMPACT OR RELEVANCE

The workshop helped us as co-designers to ensure that the BEACONING Location-Based Authoring tool can be deployed as a pedagogical design tool even with scarcely technologically literate users. It also enabled to run a basic usability check, and to establish an ongoing collaboration with relevant local partners.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

The co-design experience does not require anything specific, aside from a sound knowledge of the functions of the authoring tool and a willingness to engage in co-design.

The co-designed nature trail itself could easily be adapted to any similar park or nature-oriented context, although the difficulty of the challenges should probably be raised were it to be used with different audiences.

14. BEACONING ANALYTICS INTEGRATED IN UADVENTURE SERIOUS GAMES AUTHORING TOOL AND USED IN DIFFERENT EDUCATIONAL SCENARIOS (UCM, SPAIN)

ACTIVITY

BEACONING Analytics has been successfully integrated into the serious game authoring tool and editor uAdventure. This integration allows teachers to co-create games with analytics included at almost no cost. Most of the analytics are automatically created by the uAdventure system with almost no effort by the game designer. Additionally, this integration allows us to define ad-hoc analytics at the design phase of the game, with a clear definition of the useful information that can be extracted from that specific tracked data. All the user analytics data is captured in ADL xAPI standard format but in a transparent way for the game creator. Game developers do not need to have technical knowledge of xAPI as uAdventure hides that complexity making that standard accessible to designers and teachers. Analytics can also be obtained in a low-tech environment as the associated tracker can save the analytics data locally (therefore not requiring to have an analytics server in the cloud).

The combination of uAdventure and the BEACONING Analytics System has been tested with students both of design and of videogame development to create stories, and define and contrast what analytics information can be extracted from their created games.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

BEACONING Game Learning Analytics and the serious games authoring tool UAdventure.

The open-source serious games authoring tool uAdventure for Unity has been developed by the e-UCM Research Group based on their previous created tool eAdventure (that was Java-based).

Building up from the RAGE Analytics System, the increased, enlarged and improved version of the Analytics System for BEACONING has been successfully integrated in uAdventure, where game creators can define their own analytics and automatically track them with their uAdventure built games.

STAKEHOLDERS

Design students and videogame development bachelor students.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

60 students and 2 institutions involved (25 students from Escuela Superior de Diseño of Madrid and 35 from Complutense University of Madrid).

uAdventure and their integrated BEACONING Analytics have been tested with 25 design students in the Escuela Superior de Diseño of Madrid (http://esdmadrid.es/) about how to create interactive stories and narrative games, then they can contrast with actual users if their stories work as expected; and with 35 students of the Videogame Development degree at UCM to teach them how to define, integrate and deploy analytics in a game they create.

CONTEXT

Testing sessions have been carried out in lessons at the Escuela Superior de Diseño of Madrid and at the Faculty of Informatics of the Complutense University of Madrid.

In the latest scenario, videogame development students are provided with a simplified version of the serious game *Conectado* (https://www.e-ucm.es/conectado/), including all the art assets, developed by the e-UCM Research Group with the aim to increase students' awareness about bullying and cyberbullying. Building up from some parts of the game and using the serious game editor uAdventure, students are encouraged to design a new game story, decide the analytics they aim to extract and define the metrics they plan to apply to better understand what is happening in their games when users play. Once they fully understand the analytics process, students are required to integrate the analytics tracker in their games.

IMPACT OR RELEVANCE

This activity showcase how some of the BEACONING components can be reused and integrated in third parts games and products. This integration demonstrates the Technical Readiness Level (TRL) of our analytics software. In this case, the integration of the BEACONING Game Learning Analytics system with the serious games authoring tool uAdventure has increased the possibilities of used for this analytics system: in the shown scenarios, both future designers and game developers can create their stories and easily develop their analytics information to be captured from their games.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

uAdventure (https://github.com/e-ucm/uAdventure) and the BEACONING Analytics System are open-source available at GitHub. English is the default language for both systems.
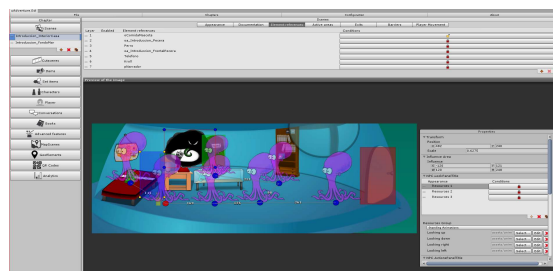
OTHER INFORMATION

- **Media content:**

Figure 29. uAdventure editor main page

	Chapters		Configuration		About	
			Analytics			
Game starts in Introduccion_InteriorCasa						
Ends when:						
Final Scene is reached						
Game progress:						
Number of levels completed						
ID	Start	End	Progress	Score		
First part	player reaches scene Introduccion_Interior	en player reaches scene Introduccion_Fondo	Define progress	IdVar		
Second part	When a condition is satisfied	When a condition is satisfied	Define progress	IdVar		
Third part	When player interacts with character Cabeza	When player interacts with character Kroll	Define progress	IdVar2		
Forth part	When player completes Third part	When player interacts with character Puerta	Define progress	IdVar2		

Figure 30. uAdventure Analytics editor

Figure 31. Design students of the Escuela Superior de Diseño of Madrid using uAdventure and BEACONING Analytics.
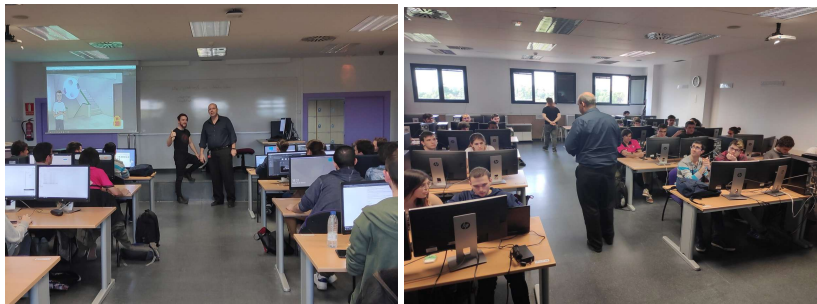

Figure 32. Students of Videogame Development degree testing uAdventure and the BEACONING Analytics System.

● **Related publications:**

- About the integration of Analytics with uAdventure: Ivan Perez-Colado, Víctor Manuel Pérez-Colado, Manuel Freire, Iván Martínez-Ortiz, Baltasar Fernández-Manjón (2017): *Integrating learning analytics into a game authoring tool*. ICWL 2017: 16th International Conference on Web-based Learning. Cape Town, South Africa, 20 September -22 September 2017.

- About the xAPI-SG Profile: Ángel Serrano-Laguna, Iván Martínez-Ortiz, Jason Haag, Damon Regan, Andy Johnson, Baltasar Fernández-Manjón (2017): *Applying standards to systematize learning analytics in serious games.* Computer Standards & Interfaces 50 (2017) 116–123, http://dx.doi.org/10.1016/j.csi.2016.09.014

- About Game Learning Analytics: Ivan Perez-Colado, Cristina Alonso-Fernandez, Manuel Freire, Iván Martínez-Ortiz, Baltasar Fernández-Manjón (2018): *Game Learning Analytics is not informagic!*. IEEE Global Engineering Education Conference (EDUCON), April 18-20, 2018, Santa Cruz de Tenerife, Canary Islands, Spain.

15. DEMONSTRATION AT SCOTTISH PARLIAMENT (HWU, UK)

ACTIVITY

Scottish Traditional Buildings Forum Skills Demonstrations at the Scottish Parliament, 11 & 12 September 2018

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

BEACONING mixed reality VET game, GLP platform

STAKEHOLDERS

Historic Environment Scotland (HES). Scottish Further Education, Higher Education and Science. CITB Scotland

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

- 16 students from St. John's Academy
- 16 students from St. Modan's
- 16 students from Musselburgh CAT Centre
- 16 students from Hillhead High

Other institutions:

- Falkirk THI
- Edinburgh College
- West College Scotland
- City of Glasgow College
- Historic Environment Scotland

Members of staff from facilities management from the Parliament: Murdo Fraser MSP; Rt Hon Ken Macintosh MSP; Alexander Stewart MSP; Rachael Hamilton MSP, Bill Bowman MSP; Maurice Golden MSP; Liam Kerr MSP; Graeme Dey MSP; Sandra White MSP: Anas Sarwar MSP

CONTEXT

The event is for S2 and S3 school students to try their hand at traditional construction skills, including stonemasonry, slating, joinery and painting.

IMPACT OR RELEVANCE

The Scottish Traditional Building Forum is a network of local traditional building forums with representatives across the supply chain. The forums have local representation who work together to raise the profile of specific issues relating to traditional buildings and building practices and work together to address these.

This event has been organised and approved through the Scottish Parliament's Corporate Body. http://stbf.org.uk/uncategorized/edinburgh-traditional-building-festival-recognised-in-parliamentary-motion/

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

Engage with industry and higher education such that invitations to participate and/or organize similar high-profile demonstrations.

16. DIGITAL CONSTRUCTION AT COLLEGE (HWU, UK)

ACTIVITY

Digital construction at City of Glasgow College 27th November 2017

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

BEACONING PC and mixed reality VET game, GLP platform

STAKEHOLDERS

City of Glasgow College. The Netherlands Further Education.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

3 teachers and 10 students

40 participants from The Netherlands Further Education College

CONTEXT

To bring a new digital pedagogy by embracing digital technology in construction.

IMPACT OR RELEVANCE

This event has been organised and approved through the STEM and Innovation Project, City of Glasgow College.

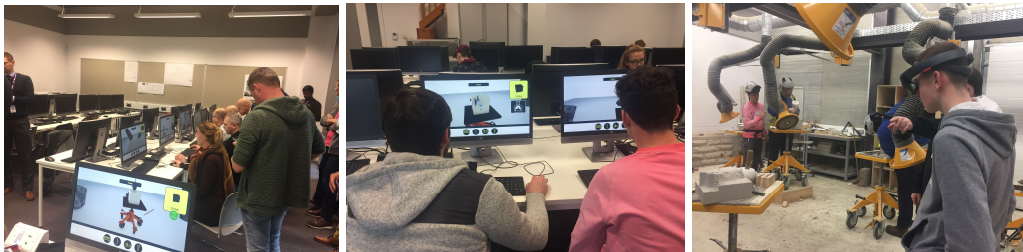### REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

Memorandum of understanding to be agreed and instated prior to implementation.

Facilities:

- Dedicated classroom, computer and general workshops
- Data and AV infrastructure
- Beacons and GIS optional

OTHER INFORMATION

Figure 33. Pictures from the Digital construction at City of Glasgow College event.

17. SHOWCASE AT CONFERENCE (HWU, UK)

ACTIVITY

Invitation to showcase at WT | Wearable Technologies Conference Munich January 2018

Presentation and Exhibitor

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

BEACONING wearable sensors, Hololens VET game, Data management

STAKEHOLDERS

Research groups in digital pedagogy, construction and manufacturing:

CyberBuild Lab

Digital Tools Manufacturing Group

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

2 people from each stakeholder

HWU registered as an Exhibitor to:

700 international attendees from the whole wearable ecosystem (C-Level Management and R&D)

CONTEXT

Mixed reality cyber-physical gaming, digitally connected and game-based pedagogy

IMPACT OR RELEVANCE

https://www.wearable-technologies.com/exhibitors-wt-wearable-technologies-conference-2018-europe

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

Working demonstrators with minimum functional components at TRL 5.

18. ESCAPE GAME IN CARLEPONT, A PRIMARY SCHOOL OF VAL D'OISE, NEAR PARIS (ORT, FRANCE)

ACTIVITY

BEACONING was used for creating geolocalized quests featuring an escape game in the primary school of Carlepont in March 2019.

The BEACONING Activity was prepared in collaboration with the manager of the school and the involved teacher. It was decomposed on in 2 phases, namely:

- Using the software on a computer, more precisely a laptop, (1h)
- Going out of the classroom, on the school playground and play the escape game(1h)

The GLP was tailored to tackle subjects in general culture, chemistry, French, math, and robotics.

STAKEHOLDERS

The Ecole Primaire Carlepont (https://www.ecoledecarlepont.fr/) (Primary School) is a public organism, and belongs to the UNESCO network. Carlepont joined the network in 2014. It is the only primary education in Picardy, and the management and teachers are very involved in the usage of new pedagogical methods.

They are then connected with UNESCO, and the Ministry of Education in France. https://d.docs.live.net/Users/adx984/Downloads/%0dhttps:/www.ecoledecarlepont.fr/ %0d

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

- The Manager of the school and 7 teachers
- 50 students between 9 to 10 years old

CONTEXT

The activity BEACONING was organized to show students that they can learn in a different manner, and could also even be teachers as they were allowed to create games.

Students discovering BEACONING on computer first and then on tablet in the context of an escape game puts forward the importance of soft skills which are a key point in the escape game

as the whole team has to decide and stay together during all the game. At the end of the activity, a discussion with the class happened, in order to reflect on the soft skills necessary to triumph in the escape game. The teachers were aware that they don't have so many tools or opportunities to mobilize these competences which are more and more important in Education now. Young students also learnt a lot about themselves.

IMPACT OR RELEVANCE

- Newspaper article: http://www.leparisien.fr/oise-60/a-carlepont-l-escape-game-s-invite-dans-la-cour-de-recreation-21-03-2019-8037114.php
- School portal: https://www.ecoledecarlepont.fr/ESCAPE-GAME-EN-CLASSE-UNE-INNOVATION-PEDAGOGIQUE-_a2861.html
- Twitter: https://twitter.com/anneelisabethle/status/1109143192639811585

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

This user case is a good example to replicate in other country with students between 8 to 12-year-old. To do so, the requirements are:

- PHASE 1: To have laptops with a full battery or on charge, with the Google Chrome browser installed, supporting Adobe Flash Player, and a decent Wi-Fi connection. Students can be grouped, up to 2 students on one computer. Testing can be done by the teacher the week before through a URL.
- PHASE 2: To organize groups of 4-5 students, each with: 1 tablet or smartphone with 4G or WIFI in the playground, with a charged battery, and a pre-installed QR code reader app.

OTHER INFORMATION

- **Novelty**

This activity was really novel and appreciated by the students. They asked at the end when they do it again! And the teacher agreed to use it several times.

- **Media content**

See Photos and link to Newspaper online and paper: Le Parisien a National Newspaper.

- https://sfrpresse.sfr.fr/article/718b20df-3b95-4221-815e-66cad14e9169
- https://twitter.com/anneelisabethle/status/1110874762832764929

Figure 34. Picture and newspaper Le Parisien about the escape game activity.

- **Social media impact:**

- **Lessons learned:**
  - It is important to test the computers before the activity starts, for example one week before. This allows checking the reliability of the internet connection or the browser compatibility. It is also important to check that all laptops are fully charged.
  - It is also important to prepare in advance small papers with the user/password codes and the link to go to connect the student platform of BEACONING.
  - Don't forget that the aim of the activity is to propose learning while playing and that means a system of rewards as to be designed and used, as students expect it.

19. SCHOOL 'ST MARY' REWARD AND GAME TEST (SIVECO, ROMANIA)

ACTIVITY

As a National Coordinator of the Romanian BEACONING Project, SIVECO decided to nominate and to reward the most implied Romanian Schools and teachers. A very active Romanian school is "St. Mary" Special School for Hearing Impaired, Bucharest (www.scoalasurzi2bucuresti.ro/). This Special School is one of the BEACONING SCHOOLS RO and it has been very involved in running this project.

Figure 35. BEACONING School RO St. Mary.

The Special School for Hearing Impaired "St. Mary" is a public educational institution, where almost 100 students are studying with different degrees of hearing impairment from the kindergarten to the 12th grade. Since 2014, the school has a vocational education level; the vocational classes prepare 42 students in the field of "Polygraphed Techniques", the qualification "offset printer".

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

The GLP named General culture test was developed for testing the BEACONING platform and its features. It contains ten contains 10 mini-games linked via the linear metagame.

STAKEHOLDERS

In "St. Mary" Special School for Hearing Impaired, the students with moderate or mild disabilities pass through the general curriculum of mass education adapted to their abilities, and participate, like high school students, in national evaluation through high school or vocational training. Students with severe and deficient disabilities pass the curriculum for hearing impaired students; students with multiple sensory deficits pass the special curriculum.

The purpose is to educate children with special needs to integrate them into society, which is the basis of the knowledge pyramid for the continuous improvement of their communication capacity to achieve superior performance in their activities with the passage of time.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

The staff of this school consists of 46 teachers (25 teaching staff, 7 substitute teachers, 4 retired teachers and 10 associate teachers), 13 auxiliary teachers and 7 non-teaching staff. There are psychology teachers, English teacher, biology professor, chemistry and physics professors, mathematics teachers, art professor, physical education teacher.

95 students with hearing impairments were involved in testing this lesson.

CONTEXT

The students from 13-19 years old tested the lesson - named *General culture test* during which they discovered the pleasure of checking their general knowledge while playing, which gave them great satisfaction.

IMPACT OR RELEVANCE

The Impact of using innovative pedagogical approaches to children with hearing disabilities, more precisely the usage of new technologies like mini-games in the process of learning, consists in the fact that DHH students developed new skills of self-control, reflection, evaluation and re-evaluation of the results obtained and appropriate adjustment of their own actions in the game develop. The mini-games are also beneficial for developing socializing and teamwork skills. DHH students can acquire complex, social behaviors using game-based learning, practicing them in contexts as close to real as possible.

The game-based learning approach stimulates also the self-directed learning, although the latter is poorly developed in DHH students.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

The usage of new technologies, like mini-games, in the process of the teaching children with hearing impairment is one of the first requirements for the replication in different contexts. Also, the active involvement of teachers is necessary for guiding the DHH students, as they are not trained to look for information voluntarily, nor do they have well-trained individual work skills. All these skills require training and experience in the use of information sources, but above all a good self-knowledge of DHH students own analysis and synthesis skills, objectives defining skills and optimal pathway choosing skills.

OTHER INFORMATION

- Media content

Figure 36.Tweet about celebration of the school and BEACONING event.

- Related publications
  - A paper named "UTILITY OF GAME-BASED LESSONS PLANS (GLP) IN THE REMEDIAL EDUCATION OF CHILDREN WITH DEFICIENCIES" will be presented in the National Symposium TRADITION AND MODERNITY IN EDUCATION, on the 8th of April 2019, at

The Technical College "Gheorghe Asachi" Bucharest in partnership with the Didactic Corps House, IV edition, with the theme INTERACTIVE EVALUATION STRATEGIES.

20. SCHOOL 'GRIGORE MOISIL' REWARD AND TEST (SIVECO, ROMANIA)

ACTIVITY

As a National Coordinator of the Romanian BEACONING Project, SIVECO decided to nominate and to reward the most implied Romanian Schools and teachers. One of the very active Romanian schools is "Grigore Moisil" National College, Bucharest (www.moisil.ro). Located in the 6th district of Bucharest, established in 1967, and starting from 1990 it bears the name of the Romanian mathematician, Grigore Moisil. The school motto is: "Learn together with the best!" - Per aspera ad astra. This college is one of the best BEACONING SCHOOLS RO and it has been very involved in running this project from its beginning. The platform has been used by the children between 14-19 years old.

The teachers decided to link their BEACONING students 'unique Ids into their own Learning management system. In this respect, the BEACONING platform, along with Moisil own learning management system are now used together. This integration provides a gaming experience to learn specific STEM contents. Students using both platforms can benefit of a blended learning approach, which provides them the context of using the laboratory equipment and computers to complement the class sessions and strengthen the teaching process through practice and the application of theories learned in class. Also, are feeling engaged with different subjects through game mechanisms that creates a challenge around them and provides them a strong internal motivation for the learning process.

Figure 37. BEACONING School RO 'Grigore Moisil'

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

"Grigore Moisil" National College linked their students Unique IDs to the LMS of the school and they can follow the BEACONING lessons from their school portal now:
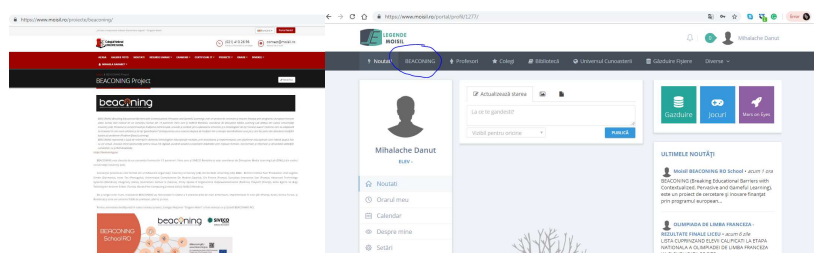

Figure 38. BEACONING link to "Grigore Moisil" National College LMS.

STAKEHOLDERS

The Moisil team is characterized by cohesion and determination in reaching all the set objectives, as the members have worked together for many years to shape the young generation towards European integration and to help them invest in their career development, to teach them teamwork, taking responsibility and efficient intercultural communication. The students'

parents are very committed to the educational process and they want to have the best educational technologies for their children.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

Approximately 1100 students attend classes – middle school and high school level; 50 teachers work in this school. All of the students pass the national exams with flying colors. We prepare: Math and Computer Science, Natural Sciences, Social Sciences and Languages.

The school has been involved in many national and international projects and the students have been awarded many prizes in local, national and international competitions.

The school provides students with a safe, healthy environment and ensures that the programs are provided and evaluated by qualified and competent staff. Most teachers are involved in training/retraining programs, including higher, postgraduate and doctoral studies.

150 students were involved in testing this platform.

CONTEXT

The students from 14-19 years old tested the BEACONING lessons during which they discovered the pleasure of learning while playing, which gave them great satisfaction.

IMPACT OR RELEVANCE

The usage of modern technologies, especially e-learning, in the educational process, by testing the mini-games with students under the supervision of their teachers, facilitates the inspection of their usability and also their utility, by identifying possible barriers towards their usage in the learning environment.

Also, the BEACONING platform, along with the schools' own learning management system can be used together for providing a gaming experience to learn specific STEM contents. In this way, the BEACONING platform assures the intrinsic motivation of the students to learn and to be more involved in the learning process.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

A first requirement is the integration of BEACONING platform to dedicated school learning management systems. In this way, the BEACONING platform, along with the schools' own learning management system can be used together for providing a gaming experience to learn specific STEM contents.
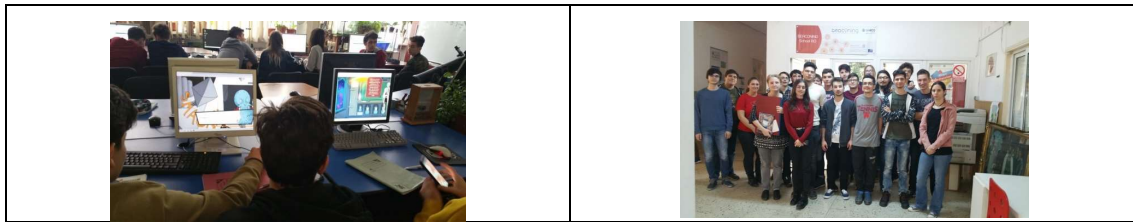
OTHER INFORMATION

- **Media content**
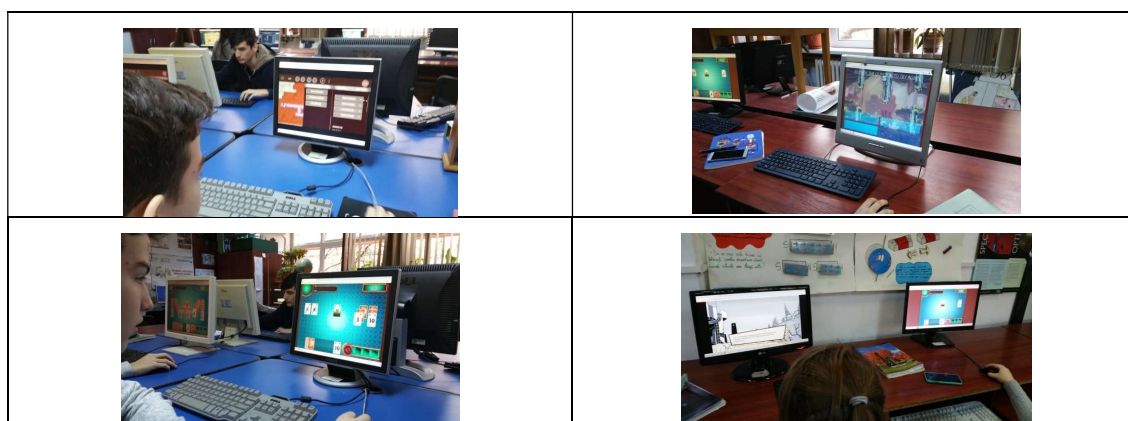
Figure 39. Students of 'Grigore Moisil' School testing the BEACONING platform.

The dissemination of the BEACONING activities took part on the school portal and social media channels like Facebook:
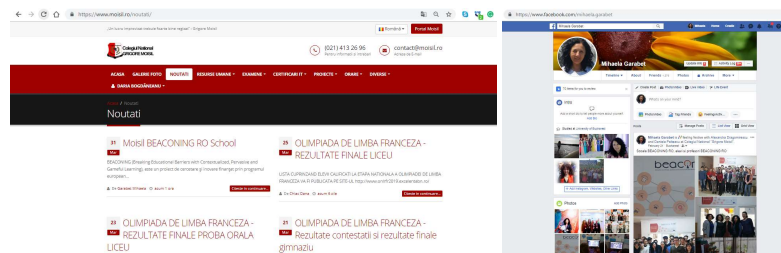

Figure 40. Dissemination of BEACONING activity in the school portal and Facebook.

- **Related publications**
- A paper named "BEACONING Project", written by Marius Preda, Mihaela Garabet and Dorothea Caraman, where Moisil's results are high lightened, was presented in the International Conference on Virtual Learning –ICVL, on the 27th of October 2018, at The University of Alba-Iulia, Romania.

21. BEACONING ON AN IN-USE EDUCATIONAL PLATFORM DISSEMINATION (SEBIT, TURKEY)

ACTIVITY

BEACONING Gamified Lesson Plans (GLPs) can be authored, assigned and used over the BEACONING student/teacher web sites. However, to achieve a rapid market replication, an existing channel can be utilized and so disseminating to the stakeholders of such a channel expedites the penetration and eventual impact of the outcomes. SEBIT VCloud is a next generation collaborative educational management platform, which is used by 100,000+ students and teachers. GLP bundles presented over VCloud has the potential to reach a large group of users. In order to engage this user base, SEBIT took BEACONING to the centre stage during VCloud dissemination event where new features were introduced to school leaders, teachers and other stakeholders. Among the potential new features game-based learning and BEACONING GLPs were covered.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

BEACONING GLPs (both geolocation and meta-game based) and Accessabar were the main components that were disseminated. The role of the gamified approach in supporting essential skills and in inclusion of students with special educational needs were discussed by SEBIT experts in their presentations to the stakeholders. VCloud Educational Management Platform was showcased as the product channel to reach BEACONING outcomes.

STAKEHOLDERS

School founders, educational coordinators, head teachers and school leaders were present. There is a new role in schools which is called the "projects teacher." The teachers among the attendees were mostly projects teachers. These are the teachers who usually volunteer to

manage school improvement projects. Most projects teachers are computer supported education experts and so they are ideal candidates for disseminating new digital learning tools in the school.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

Nearly 200 attendees from 80 private schools were present in the seminars. Although about 10% of all schools in Turkey are private, the ratio increases a lot in large cities. For example, in Istanbul, half of all schools are private. Since private schools are freer to choose the digital learning tools they would like to use, they are very valuable as a target group.

CONTEXT

SEBIT's role in the consortium is to run large scale pilots and then lead the exploitation activities. Naturally the dissemination activities that would be committed are selected to have impact on the stakeholders that would either directly use the project results or those who would commission the use. VCloud dissemination events where new digital tools are presented to the potential users are a good opportunity for that purpose. This goal somewhat limits the parts of the BEACONING Ecosystem that will be disseminated but this foot-in-the-door tactic is instrumental when the technology that is presented would affect not only the teaching methodologies in the school but also the pedagogical approach that the teachers are comfortable with.

IMPACT OR RELEVANCE

Several impact areas can immediately be identified: i) Starting the conversation on serious games in schools which are already managed with a collaborative digital platform and so likelier to adopt ii) Onboarding school management iii) engaging head teachers who can train other teachers.

The observable impact of the activity was the large number of schools who demanded to participate in the pilot activities. 17 school managers announced their intention to participate.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

The success case can be summarized as utilizing an established channel to the end-users and/or decision makers to disseminate project outcomes. Firstly, a discrimination must be made between the end-users and customers. In case of educational technology products, usually the customer is not the end-user. For instance, the end-users can be students, but the customer who pays could be the school management. Secondly, existing channels to the target group that is addressed must be determined. Thirdly, the outcome which will be disseminated must be related to the channel in a meaningful way. Finally, the identified product channel will be utilized as the dissemination channel.

OTHER INFORMATION

Research and innovation actions usually target academic communities as the target group to disseminate their outcomes. However, innovation actions which aim at market replication may choose to address end-users and/or customers as the target group to disseminate. In that case, utilizing an established channel to the target group is likely to cause immediate and actionable impact.

This success case activity was followed-up with site visits and engagements with individual schools. With some schools, exploitation workshops or training events were organized. Some of

the schools with high influence in the Turkish educational community were chosen as pilot schools and potential institutions for the future market implementation.

Photos from the event are below:

Figure 41. Seminars about SEBIT VCloud.

22. DEMO STAND FOR PUBLIC EDUCATION AUTHORITIES (SEBIT, TURKEY)

ACTIVITY

The largest target groups for BEACONING are in public education. However, public education decision makers are hard to reach, and government procurement is always prone to tedious bureaucracy. On the other hand, most ministries of education organize events, which serve as a beauty contest for the ministry to observe supply side offerings. Educational Technology Summit (ETZ) is the main government-initiated Ed-Tech event in Turkey. During the 2017 and 2018 ETZ summits, at the SEBIT stand, BEACONING was showcased to the visiting officers. The officers had the chance to experience the BEACONING GLPs and authoring tools, using the laptops available at the stand. Moreover, other product developers that showcased their portfolio in other stands also had the chance to try BEACONING and some of them considered to become 3rd party providers for BEACONING.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

BEACONING GLPs (both geolocation and meta-game based), the authoring tools and Accessabar were the main components that were disseminated. The national educational IT platform in Turkey is called EBA and it is also partly developed by SEBIT. Mockup examples on how to include BEACONING in EBA were also made available. Among the exhibitors was LEGO, whose Head of Education Esben Stærk JØRGENSEN had a presentation in the event. Mr. JØRGENSEN also had a demo session with BEACONING and he was engaged to establish future collaboration. LEGO is the most active company in bringing play in formal education. It is beneficial to work together with LEGO as a dissemination partner to explain the value and impact of game-based learning. Minecraft game-based learning design mentors were also at the event.

STAKEHOLDERS

Ministry officers, public school head teachers, project members of national educational IT platform were present, as well as other for-profit and non-profit institutions who had educational technology offers for public schools.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

Nearly 2000 attendees from Ministry of Education and related organizations were present. Nearly 100 officers had a chance to try or observe BEACONING GLPs. About 40 companies were exhibitors and of the exhibitors, some 10 of them showed interest in partnering with BEACONING. Most notable was LEGO and Minecraft whose education department also aims at improving STEM skills.

CONTEXT

Educational Technology Summit, organized by the Ministry of Education was used as a context by SEBIT to introduce game-based learning in general and BEACONING in particular to the public institutions. Just like SEBIT integrated BEACONING to its education management platform VCloud for private schools, SEBIT can also integrate BEACONING to the national educational IT platform EBA, because SEBIT is the main developer of the platform. However, this is only possible if the ministry commissions this activity. Therefore, it was vital to disseminate the project outcomes to the public education decision makers.

IMPACT OR RELEVANCE

Not only high-level decision makers at the ministry of education had a chance to observe BEACONING project outcomes and the game-based learning approach adopted by the project, but also officers from the educational technology department of the ministry had a chance to try out BEACONING GLPs and authoring tools. In addition, potential partners for global dissemination such as LEGO company was informed about the project outcomes at head of education level.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

The success case can be summarized as utilizing a government organized exposition event to showcase and disseminate the project outcomes that public institutions could consider for procurement. Most ministries of education do organize such events to observe new products and services to gain knowledge about the supply side. However, the project outcome needs to be stable and at a high readiness level to be able to stand the scrutiny of the officers.

OTHER INFORMATION

When public institutions are a target group for dissemination, instead of organizing an event and inviting public officers to the event, the project team can make use of an event that the government organizes itself, to gain knowledge about available technologies. The media coverage for such events are usually poor since officers may not appreciate to be seen, but the impact of such dissemination activity on the public decision makers would be very high.
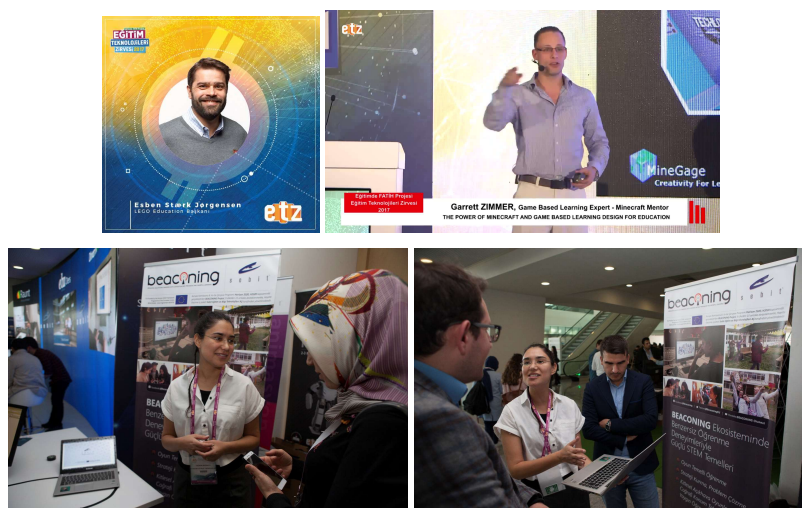
Photos from the event are below:

Figure 42. Presentations at Educational Technology Summit (top) and BEACONING stand (bottom).

23. PLAYING BEACONING MINI-GAMES WITH STUDENTS (IMAGINARY, ITALY)

ACTIVITY

BEACONING mini-games powered by Imaginary provide a gaming experience to learn specific STEM contents. Students playing mini-games can benefit of feeling engaged with different school subjects through game mechanisms that create a challenge around them. Games range from simple questions, (Generic Quiz) with the possibility of additional media contents to improve their quality, to more structured game environments that enables teaching specific subject, such as computer programming (RoboCode). Finding the best subjects that fit the game structures provided is a way to shape the mini-games to real contexts.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

BEACONING mini-games were disseminated with students in order to gain feedback about usability, pleasantness and to identify possible ways to improve them. Mini-games were shown and played by students under the supervision of the teachers and a researcher, also with the help of the Treasure Hunt modality of geolocalized contents provided by Geomotion. Authoring Tool was also adopted to fit subject to the structure of mini-games.

STAKEHOLDERS

Head teachers and school coordinators attended the meeting. They helped in creating the contents testing the game structures provided by BEACONING. Teachers supported each activity by managing the group of students during the game experience: students were not only asked to play the games, but also to think about the concept of playing with school subjects with the related strengths and weaknesses.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

Almost 100 students from 2 public schools attended the two meetings, scheduled in a school institute and in a public fair dealing with environmental sustainability.

CONTEXT

Imaginary's role in the consortium is to design, define and create the mini-games that are used in the pilots. Users' involvement in the process is a key issue and their involvement is required also to check usability when games are ready to play.

IMPACT OR RELEVANCE

Creating live sessions to test the mini-games with students under the supervision of teachers and their help in the creation of contents allows to check usability and to identify possible barriers towards their usage in learning environments. Besides supporting the execution of the trials scheduled by the project, these meetings were scheduled in order to have a direct touch with students and to have the possibility to discuss both the games and the global approach with teachers and students.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

A preliminary contact with teachers is necessary to involve students while avoiding a possible usage without any supervision that could lead to subjects that are not relevant for students. Moreover, providing a gaming frame for the different mini-games proved to be crucial, as hypothesized and targeted by BEACONING, otherwise single mini-games can be perceived as unrelated to one another and therefore lose a bit of their efficacy.

OTHER INFORMATION

Teachers and students were glad to take part to meetings that involved mini-games and they tangibly supported the researcher in the creation of a gaming experience around them, even while the platform provided by BEACONING was still not fully available.

Photos from the event are below:
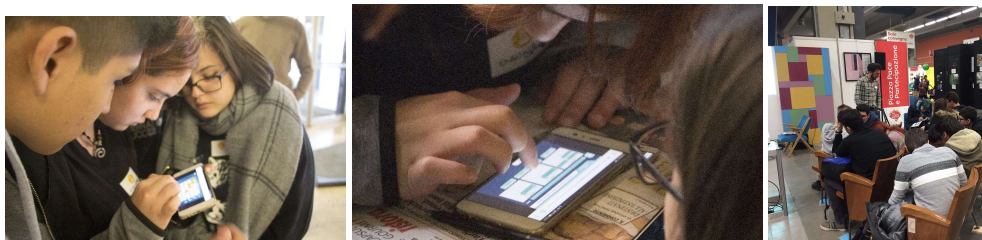
Figure 43. Pictures of the event with students playing BEACONING mini-games.

24. BEACONING DISSEMINATION FOR RESEARCHERS AND LECTURERS (COVUNI, UK)

ACTIVITY

On 12th November 2018, the Coventry University BEACONING team led a half-day dissemination workshop for researchers and HE lecturers, designed to engage with target stakeholders and in so doing, to break through barriers that can obstruct access within this target group to innovative teaching and learning, and increase adoption of the BEACONING solution.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

1 BEACONING Platform and Ecosystem
2 Authoring Tool
4 Mini-games
9 Accessabar
10 Game Learning Analytics

STAKEHOLDERS

The stakeholders (participants at the workshop) were representatives from different disciplines including modern languages, business administration, computing, engineering and digital technologies and social and therapeutic horticulture. Some stakeholders teach within Coventry University, one teaches at CU Coventry (the University's partner HE College), one is an independent researcher and one a visiting scholar from the Italian National Research Council. As part of the preparation for this event we also engaged with representatives from aerospace engineering and CU Online (the University's institute for online degree delivery).

This group of stakeholders is of importance as they represent HE teaching and learning, work with students in the 18+ age-group, and are potential users of BEACONING in HE.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

A total of 8 participants in the workshop representing 4 public institutions.

CONTEXT

The workshop purpose was to introduce the BEACONING project, demonstrate the platform, and provide hands-on tuition for participants to test the Accessabar features and Authoring areas of the platform for themselves. The context for this was to promote the BEACONING solution to colleagues from the HE sector, and to offer opportunities to pilot the solution with their students. Providing time away from other commitments, for the stakeholders to gain

insight into the aims and objectives of the BEACONING.eu program, to try first-hand using the Teacher Authoring enabled the opportunity to consider benefits of a gamified approach to learning and how this might complement and extend their own teaching delivery.

IMPACT OR RELEVANCE

The workshop promoted the BEACONING solution to HE researchers and lecturers who are now able to understand the relevance of the solution to their course delivery.

Evidence of impact is demonstrated by the adoption of the BEACONING solution in real deployment for teaching and learning in HE. As a direct result of the workshop, 4 lecturers from 2 public institutions worked with the Coventry pilot lead researcher to plan and deliver pilots with their students exploring a range of user case scenarios.

Following the success of the workshop, we ran a follow-up half-day workshop on 3rd December for 3 of the modern languages lecturers who wanted to further explore the BEACONING platform and integral Location-Based Games. This has led to adoption of the BEACONING solution for real deployment with student-teachers and with language learners as part of ongoing teaching modules. These are both user-communities from beyond the initial target groups of BEACONING and constitute the case for BEACONING beyond STEM for language learners and as a tool for student-teachers to create their own multi-media language resources – an area identified by their course leader as currently underserved and relying predominantly on outdated behavioral approaches to language learning.

Also, as a direct result of the workshop, contact was established with a specialist SEN (Special Educational Needs) secondary education Academy, for whom we have since delivered a dissemination workshop, and are currently supporting to pilot BEACONING with their students. Teachers have created their own Gamified Lesson Plans, leading to real-case examples of how the BEACONING platform can be used to support SEN teaching and learning in a range of subject areas beyond STEM.

Therefore, the impact of the workshop has spread beyond the initial cohort of stakeholders who attended, these include HE lecturers and undergraduate students of Information Management, Spanish, Italian, and student-teachers of English Language (as a second language), also SEN secondary teachers and their students. Impact has also rolled out through the stakeholders present – the CU College lecturer has introduced the BEACONING concept to her department colleagues, as an approach that she suggests could be used across Foundation and 1st Year teaching in Engineering, and is particularly attractive given the College's move to an Open Space teaching style with all resources deliverable online.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

Individual meetings as required to introduce the BEACONING concept and stimulate interest for the workshop.

Introductory presentation / BEACONING introductory video.

Individual workstations for each participant, with internet access and Chrome browser.

Individual logon for BEACONING TA and Student user interface.

Quick-guide to use of TA.

Quick-guide to use of Accessabar and DITO.

Follow-up consultation to support stakeholders wishing to adopt the BEACONING solution.

OTHER INFORMATION

- **Media content**

https://twitter.com/sarnab75/status/1061967345755832321

https://twitter.com/CovJackie/status/1110896440728055808

Figure 44. Pictures of dissemination for researchers and lectures [photos by Michael Loizou]

25. BEACONING DISSEMINATION FOR PRIMARY SCHOOL TEACHERS (COVUNI, UK)

ACTIVITY

On 12th February 2019, the Coventry University BEACONING pilot leader led a dissemination workshop at the DMLL, Coventry University, for primary school teachers, designed to engage with target stakeholders and in so doing, to break through barriers that can obstruct access within this target group, and increase adoption of the BEACONING solution. This workshop was the direct result of Coventry University's previous engagement with Howes Primary School in an early BEACONING workshop to introduce gamification as an innovative teaching and learning strategy, and to create lesson scenarios to inform development of the BEACONING solution.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

1 BEACONING Platform and Ecosystem
2 Authoring Tool
3 Context Aware Challenges Authoring Tool
4 Mini-games
6 Beacons configuration application
9 Accessabar

STAKEHOLDERS

The stakeholders (participants at the workshop) were the deputy head and two other teachers from Howes Primary School, Coventry.

This group of stakeholders is of importance as they represent Primary teaching and learning, work with students in the 5-11 years age-group, and are potential users of BEACONING in Primary education.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

A total of 3 participants in the workshop representing 1 public institution.

CONTEXT

The workshop purpose was to introduce the BEACONING project, demonstrate the platform, and provide hands-on tuition for participants to test the Accessabar features and Authoring areas of the platform for themselves. An initial meeting had already been held on-site at the school, with the deputy head teacher, to present the BEACONING solution and explore how it might best complement the school teaching approach. The context for this workshop was to promote the BEACONING solution to colleagues from the Primary sector, and to offer opportunities to pilot the solution with their students, with a focus chosen by the deputy head teacher, of context-aware-challenges to be triggered by GPS, Beacon or QR code.

IMPACT OR RELEVANCE

The workshop demonstrates cumulative impact through engagement with stakeholders in the early design consultation phase of the project. From initial engagement with the school teachers, this has now led to three teachers deploying the solution in their teaching as part of the Coventry pilot in spring term 2019, and to the school making future plans for projects that will use the BEACONING solution in extra-curricular cultural activities with their students and with international partner schools, with the potential for uptake of BEACONING in those partner schools. Impact demonstrates the use of the BEACONING platform beyond initial targets, to include cultural exchange and beyond STEM teaching and learning solutions.

The workshop promoted the BEACONING solution to Primary School educators who are now able to understand the relevance of the solution to their curriculum delivery and children's engagement with anytime anywhere learning solutions. Howes Primary School is pro-active in leading innovative work with other schools locally, nationally and internationally, so they are a valuable stakeholder to have engaged with BEACONING.

As a direct result of the workshop, Howes Primary School have asked us to introduce BEACONING to teachers from the ERASMUS program that they coordinate. We have arranged a one-day workshop and half-day study session on 4th and 5th April at Coventry University, led by BEACONING researchers, for 8-10 Primary school teachers from Malta, Norway, Italy, Greece, Poland in addition to staff from Howes Primary School, all partners in the ERASMUS program. The aim of the workshop is to familiarise the ERASMUS teachers with the BEACONING solution and for them to use BEACONING within their own schools.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

Individual meetings as required to introduce the BEACONING concept and stimulate interest for the workshop.

Introductory presentation / BEACONING introductory video.

Individual workstations for each participant, with internet access and Chrome browser.

Individual logon for BEACONING TA and Student user interface.

Quick-guide to use of TA.

Quick-guide to use of Accessabar and DITO.

Quick-guide to use of Context Aware Challenges Authoring Tool.

Follow-up consultation to support stakeholders wishing to adopt the BEACONING solution.

OTHER INFORMATION

- **Media content**

Figure 45. Pictures of dissemination for primary school teachers [photos by Jackie Calderwood]

26. BEACONING DISSEMINATION FOR SPECIAL EDUCATIONAL NEEDS SECONDARY SCHOOL TEACHERS (COVUNI, UK)

ACTIVITY

On 30th January 2019, the Coventry University BEACONING pilot leader led a dissemination workshop for SEN Secondary School teachers at Riverbank Academy, designed to engage with target stakeholders and in so doing, to break through barriers that can obstruct access within this target group to innovative teaching and learning, and increase adoption of the BEACONING solution.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

1 BEACONING Platform and Ecosystem
2 Authoring Tool
3 Context Aware Challenges Authoring Tool
4 Mini-games
6 Beacons configuration application
9 Accessabar

STAKEHOLDERS:

The stakeholders (participants at the workshop) were the deputy head and two other teachers with an existing interest in digital technologies, from Riverbank Academy, Coventry.

This group of stakeholders is of importance as they represent SEN teaching for secondary school students aged 11-19 years.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

A total of 3 participants in the workshop representing 1 public institution.

CONTEXT

The workshop purpose was to introduce the BEACONING project, demonstrate the platform, and provide hands-on tuition for participants to test the Accessabar features and Authoring areas of the platform for themselves. An initial meeting had already been held on-site at the school, with the deputy head teacher, to present the BEACONING solution and explore how it might best complement the school teaching approach. The context for this workshop was to promote the BEACONING solution to colleagues from the SEN sector, and to offer opportunities to pilot the solution with their students, with a focus chosen by the deputy head teacher, of context-aware-challenges to be triggered by GPS, Beacon or QR code.

Providing time away from other commitments, on their own school site, was essential for the stakeholders to gain insight into the aims and objectives of the BEACONING.eu program.

IMPACT OR RELEVANCE

The workshop promoted the BEACONING solution to SEN secondary school educators who are now able to understand the relevance of the solution to their curriculum delivery and children's engagement with anytime anywhere learning solutions.

Following the success of the workshop, we ran a follow-up half-day workshop on 27th February for the same staff to provide support and troubleshooting and test out their own authored QR-triggered context aware games, and a further session on 27th March to support teachers deploying their completed gamified lesson plans.

The teachers have created their own context aware games for use within the school grounds, addressing curriculum delivery for cookery, life skills (safe road crossing) and design technology (materials). This provides real-world examples of application of the BEACONING platform for teaching and learning for young people with special educational needs, and has highlighted the requirements of this sector in order to integrate BEACONING into their classroom delivery.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

Individual meetings as required to introduce the BEACONING concept and stimulate interest for the workshop.

Introductory presentation / BEACONING introductory video.

Individual workstations for each participant, with internet access and Chrome browser.

Individual logon for BEACONING TA and Student user interface.

Quick-guide to use of TA.

Quick-guide to use of Accessabar and DITO.

Quick-guide to use of Context Aware Challenges Authoring Tool.

Follow-up consultation to support stakeholders wishing to adopt the BEACONING solution.

OTHER INFORMATION

- **Media content**

https://twitter.com/CovJackie/status/1111036485942292489

https://twitter.com/CovJackie/status/1101040693244502018

Figure 46. Pictures of dissemination for special educational needs secondary school teachers [photos by Jackie Calderwood]

27. STUDENTS AS CO-CREATORS OF BEACONING GAMEPLOT NARRATIVE ARTWORK (COVUNI, UK)

ACTIVITY

The aim of this activity was to produce a model of practice whereby students are actively involved in the creation of gameplots for the BEACONING platform, with the intention of creating engaging plots with peer-created artistic and narrative content, thereby attractive to student players. This peer-created design can help to break through barriers that can obstruct access to innovative teaching and learning, and increase adoption of the BEACONING solution.

BEACONING AND THIRD-PARTY PRODUCTS INVOLVED

1 BEACONING Platform and Ecosystem
2 Authoring Tool
   Succubus BEACONING Level Editor
   Succubus BEACONING Scenario Editor

STAKEHOLDERS

The stakeholders were the Coventry University research team working on BEACONING, with additional input from other staff at the University's Disruptive Media Learning Lab. The team worked with two undergraduate students from Coventry University Faculty of Art and Humanities: Vytautas Vasiliauskas, third-year Fine Art & Illustration, and Rachael Till, first-year Animation and Illustration.

This group of stakeholders is of importance as they represent HE teaching and learning, work with students in the 18+ age-group, and are potential users of BEACONING in HE. As the next-generation of artist-illustrators, the students are important co-creators who bring a fresh perspective to gameplot design, potentially increasing appeal for younger students. The DMLL team have extensive expertise in innovation for playful and gameful learning and the process of game creation.

NUMBER OF PEOPLE/COMPANIES/PUBLIC INSTITUTIONS DIRECTLY INVOLVED

2 students and 5 staff from 1 public institution – Coventry University.

CONTEXT

From July 2018 to January 2019 the Coventry University BEACONING team worked with two Coventry University students to produce a series of artwork narratives from which to build gameplots for use in the BEACONING gamified lesson plans as authored by teachers using the platform. The Coventry University researcher leading on the artwork production created a series of gameplots using the artwork developed.

IMPACT OR RELEVANCE

The initial Basic Narrative gameplots featuring 'Professor Rob' and 'Professor Tibia' have become popular with BEACONING partners in the small and large-scale pilots. As a result, new versions of the gameplots have been created offering play in Spanish, French, Turkish, Romanian and Italian in addition to English language. Character artwork has been adopted in promotional materials for BEACONING and used at exhibition stands at the European Parliament Exhibition *Technology and Innovation for Social Good*, Brussels and at *ICT-2018* Exhibition, Vienna.

The gameplots developed have had a significant impact on the pilot delivery, as they provide ease-of-authoring and quick-play alternatives to the longer, more complex 3D gameplots. Initial

feedback is that the gameplots are well received by players, in particular the younger students taking part in the pilot.

The model of practice developed has provided a first step towards further co-creative narrative development. A new set of visuals has been created in Romania, taking the Professor Tibia Basic Narrative structure as a starting point, and producing new artwork featuring the historical figure of Vlad the Impaler. BEACONING partner Playsoft have created a range of assets that can be used in future by student-programmers to create new variations building on the current gameplots and working towards a model of student co-creativity.

Impact for future application of this co-creative model is high, given that both teachers and students taking part in the pilot have expressed a desire for themselves or their colleagues to be able to create or edit their own gameplots in the future.

REQUIREMENTS TO BE REPRODUCED IN A DIFFERENT COUNTRY/CONTEXT

Engage creative students.

Provide brief on artwork required to fit with existing model of narrative (e.g. Basic Tibia) and produce text script.

Supervise production, facilitating students' creativity and collaboration with regular progress review meetings.

Work with ATS and Succubus to create secure connections to server and access to Level Editor and Scenario Editor.

Work with Succubus to learn the Editors and to program new gameplots with the resources produced.

Work with ATS to have gameplots added to TA.

Pilot games and respond to feedback as appropriate.

OTHER INFORMATION

- **Media content**

https://twitter.com/sarnab75/status/1070405372962324480

https://twitter.com/sarnab75/status/1088717358397616129

https://twitter.com/sarnab75/status/1090361157892915201

APPENDIX 2: TWITTER STATISTICS

The following twitter statistics have been retrieved from the Twitter Analytics tool (https://analytics.twitter.com) for the BEACONING Twitter account @BeaconingEU.

Statistics are considered up to 19th April 2019.

Figure 47. Tweet impressions in the last 3 months for BEACONING Twitter account.

Figure 48. Followers in the last month for BEACONING Twitter account.
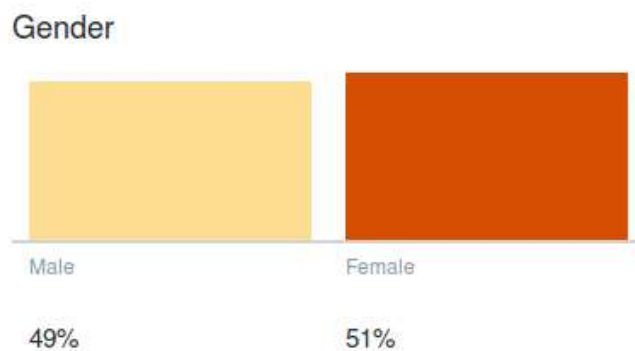
Figure 49. Gender distribution of followers of BEACONING Twitter account.

Figure 50. Top 5 tweets for BEACONING Twitter account in the last 3 months.