

WG5 meeting: Education, Implementation, Dissemination

Santorini, October 10-11, 2024

The second meeting of WG 5 (the first in-person) took place on 10 and 11 October in Santorini.

Day 1

The meeting opened with an introduction by Dorina Moullou who presented the aims of the WG according to the MoU and its structure, consisting of three focus groups working on the general game system, educational material and digital exhibition. The first day was entirely dedicated to the presentation of case studies and research projects within the scope of the WG and the Action (education, communication and dissemination), with the aim of generating a fruitful reflection on the Action's final deliverables.

The talks summarized useful experiences, synthesized empirical evidence on the effectiveness of AI and gamification for education, and identified areas for further research.

Éric Piette and Achille Morenville addressed potential benefits of using games in Computer Science and AI Education; Tiago Hirth focused on mathematical games, integrating games into primary mathematics lessons. Gerda Sula offered an insight into how to gamify learning and gamification strategies. Presentations by Mike Cosgrave and Meisam Taheri focused on their teaching experiences based on game design assignments. Eleni Meletiadou and Elias Stouraitis illustrated specific game-based educational materials produced and used with primary and higher education students. Walter Crist talked about the activities of the Past at Play Lab (Leiden University), which allows students to experience the past through videogames and offers a videogame design programme; he also presented in detail a videogame based on The Royal Game of Ur. Marco Tibaldini presented the newly launched PAST project, which provides teaching modules on history through games, available on the web and downloadable. (<https://giochieciviltà.jimdofree.com/>).

Véronique Dasen presented the project *Palamedes* targeting museums and aiming at sharing up-to-date materials resulting from recent research on games that hardly reach users outside the academic world. The project aims to produce a multimedia and interactive Handbook of Play and Games in Classical Antiquity in two formats: printed and Open Access with interactive and multimedia content for museums and educational needs. Barbara Carè presented the project “*Graffiti in the Shadow of the Acropolis – People, Gaming, and Urban Landscape*”, aiming at developing an innovative approach to graffiti, investigating its context, users and producers, to be developed along three different axes: games, people and urban landscape. Deliverables of this project includes analytical tools and descriptors of game boards based on a common typology and terminology, as to overcome the lack of shared standards in this field of studies; also, the collection of these patterns – and the rich database *Ludii* – can lead to the development of an app based on image-search to identify the pattern as a board game.

The in-person participants then took a field trip to the ancient city of Thera to explore ancient board games preserved among the ruins.

Day 2

The second day included both in-depth discussions and a field trip to the prehistoric site of Akrotiri, where participants explored the site and examined an ancient board game. Members were organized into three focus groups to discuss specific objectives:

1. **General Game System**
2. **Production of Educational Materials**
3. **Development of a Digital Exhibition**

The outcomes from each focus group are as follows:

1. Game System focus group

The focus group started on the observation that the general game system that we expect to use within GameTable is built on Ludii, and thus very dependent on the knowledge and mastery of it from Eric Piette. Achilles and Eric showed us various UI possibility (code, graphic interface and logical mind map) all with strength and limitation. The main difficulty for them was to identify objectives and needs of potential future users, what best balance the tool should provide and what should be a priority.

The focus group identified different publics following two criteria:

1. Category of use
2. Objective of use
3. Level of skill

The potential categories of public can be regrouped thusly:

1. Designer:
 - Mathematician
 - Game Jam and design exercises
 - Teacher in design or mathematics
2. Players:
 - Discovery/casual
 - Competitive scene
 - Exhibition, cultural mediation (Wikipedia) and visitors
 - Teaching game literacy (discovery of ancient games Or specific game mechanics)
3. Historical exploration:
 - Collection (Ludii already cover this)
 - Curation
 - Comparison
 - Teaching history

After discussion, it was established that the player aspect and the historical exploration involve too many variations and/or are already covered by the Ludii project. For design, it is very dependent on the coding skills of the creator.

On the opposite, use of the general game system as a teaching tool, in any category (Design, Players or Historical exploration) was interesting as it would allow developing any other usage. It was thus established that the “teaching” category was a priority and main aim of the focus group.

But we were not sure we covered every usage, and the category is still too broad to be realistic. Thus it was decided that Eric Piette would submit a first survey form that participant of the COST action could edit and then disseminate toward teachers and other educative usage of games, their needs and potential limitation.

This could allow to better target identified public and future users for the general game system, and their need. Which could be managed through curated setting selection and limitation, allowing experienced users to unlock the full potential of Ludii, while more user-friendly approach targeted around specific use and need would be provided. A further selection of profiles would still be needed. It was also discussed that teaching how to code for Ludii would be needed, to allow more people to share the skills needed to add games, add new design or even mechanics.

2. Educational Focus Group

This document is structured as follows: it begins with a comprehensive collection of all ideas, followed by assigning tasks, responsible parties, collaborators, and deadlines.

Part I

1. Extensions and Variations

Ideas for alternative versions of the game that incorporate different educational themes (e.g., math, history, language).

2 - Playmobil and Legos

Table game -Based Literacy

Two videos – two papers

3 - Booklets for Table Games: A Guide for Future Teachers

1. Introduction to Table Games

Importance of table games in education: fostering collaboration, critical thinking, and engagement.

4. Assessment Tools

Rubrics or checklists for educators to assess student engagement and learning outcomes during gameplay.

5 - AI Adventure Game: Teaching Educators How to Use AI and Games

Game Structure

- **Levels:** Each level focuses on a different aspect of AI in education (e.g., adaptive learning, gamification, data analysis).
- **Pop-Up Scenarios:** Interactive scenarios where players make decisions on using AI and games for specific teaching situations.
- **Voice Narration:** AI-generated voiceovers guide players through the story, providing tips and insights.

Strategy Guides

- Tips and strategies for winning or improving gameplay.
- Insights into game mechanics and how to leverage them effectively.
- Dynamic Customization – (invite people).

5.1 - Invitation to Present New Games at the Online Innovative Gametable Conference

5.2 - Invitation to Present at the Innovative Gametable Webinar

6 - Case Studies: Data-Based Educational Games and Interactive Training Sessions

7 - List of Types of Educational Games

Board Games, Card Games, Digital Games, Role-Playing Games (RPGs), Puzzle Games, Simulation Games, Physical Games, Trivia Games

Next Steps and Responsibilities

Part II

1. Playmobil Legos Table Game

1.1. Tasks: Conduct a Survey on Table Game-Based Literacy Online for Students and Teachers.

Responsible: Name ELENi MELETIADOU

Collaboration: Names – Lúcia, Marija Renic?; Indre JB; Magdalena; Joanna; Eriola, Dorela; Gerda, Elias, Dorina, Meisam, Mike.

Deadline: Complete the survey and analyze results within the next six months, with a maximum extension to one year, to plan to implement a pilot test of the findings by February.

Conference Presentation: Prepare to present the results at the upcoming conference.

1.2 Tasks: Videos – Using Playmobil and Legos in Education

Responsible: Name ELENi MELETIADOU

Collaboration: Marija Renic; Indre JB; Magdalena; Joanna; Erioula, Dorela; Gerda, Elias

Deadline: Oct 25

2. Booklets for Table Games: A Guide for Future Teachers

Tasks: How to use gamification in education.

Responsible: Name – Gerda Sula

Collaboration: Indré; Dorela – for the design.

Deadline - Specify date – Gerda will send a link in the week between 14th to 19th for a meeting. And ask who wants collaborate – Target will be the teachers and future teachers. – Will be finished until the end of Oct.

3. Gamification in Higher Education

Tasks: Content and design

Responsible: Name - Dorela

Collaboration: Eriola

Deadline - Specify date – end of October.

4. Glossary for Table Games

Responsible: Dorela and Mike

Collaboration: Names -

Deadline: 14.10. end of the month – October

5. Assessment Tools

Tasks: Develop rubrics and checklists for assessing student engagement and learning outcomes.

Responsible: Lúcia Gomes

Collaboration: Names

Deadline: The first draft will not be sent so that you can provide your contributions for the final version.

○ **AI Adventure Game**

Game Structure

Tasks: Design the levels, scenarios, and voice narration (e.g., teachers and players, educational games).

Responsible: Meisan

Collaboration: All

Deadline: the prototype must be completed by the end of ?? Ask Meisan

Teaching Educators How to Use AI and Games

Game Structure

6. **Levels:** Each level focuses on a different aspect of AI in education (e.g., adaptive learning, gamification, data analysis).
7. **Pop-Up Scenarios:** Interactive scenarios where players make decisions on using AI and games for specific teaching situations.
8. **Voice Narration:** AI-generated voiceovers guide players through the story, providing tips and insights.

Strategy Guides

9. Tips and strategies for winning or improving gameplay.
10. Insights into game mechanics and how to leverage them effectively.
11. Dynamic Customization – (invite people).

Other ideas

a. **Invitation to Present New Games**

- Prepare presentations for the Online Innovative Gametable Conference.

b. **Invitation to Present at the Webinar**

Tasks: Organize and prepare webinars presentations.

c. **Case Studies: Data-Based Educational Games**

Tasks: Gather data and develop case studies on educational games.

Responsible: Magdalena

Collaboration: Dorela, Eriola

Deadline: Specify date

General Considerations

- **Regular Check-Ins:** Schedule monthly? meetings to discuss progress and address any challenges
- **Documentation:** Keep all project-related documents organized in a shared drive for easy access by all members – teams

3. Digital Exhibition

As part of the breakout sessions of the Santorini in person meeting for WG5 on October 11, 2024 we gathered and discussed and started planning for a digital exhibition as a prospective output for the action developed in the scope of WG5.

The think tank had two moments, before and after which a balance was made. During the second session various members of the focus group on a general game play system joined the discussion.

The idea that originated the proposal in the project application was outlined and served as a basis of conversation. In this regard the Smithsonian Institution's Digital Exhibits served as a parting point.

While multiple considerations were made about the applicability and use of the work for physical exhibit such as using Virtual Reality, through screens, or other technological interfaces, it was agreed that the focus should be an online format, with prospect of having parts of it possibly used by partnering third parties on site.

Various digital formats were discussed, it being agreed that a webpage should be the baseline for the exhibition and other gamified alternatives would be an additional option. Some of the alternative formats included a virtual space in gather.town, [Construct](#) or a simple game made with the Unity engine. This gamified exhibit space was agreed to be looked into and prototyped by Daniela, Daniele and Tiago.

The contents of said formats would include materials such as audio, video, text, images, game implementations, posters, .pdfs and other downloadable files, etc.

Some narrative options were discussed, such as using an interactive map, timeline, or story.

The overall message of the exhibit was discussed to some extent. The unifying theme was the universality of games. In this regard three topics stuck out:

1. Cultural Networks and Exchange - highlighted in and through games. How different cultures play similar games, game related propagation of concepts, etc.
2. Epistemology of Games - Effects and a window of understanding of concepts related to games. Examples include the concept of probability (decision by the gods, vs. mathematical likelihood), or how political decision makers started making choices based on Game Theory in WW2
3. Humanity of Games - the processes unique to humans or the lack thereof in automata, AI, other species that play, iconography of games (i.e. chess as symbol of intelligence, etc.)

One idea was to fragment the approach to individual topics into various angles: "Social Sciences" (History, Archeology, Anthropology, Sociology, etc.), "Mathematical Sciences" (Computer Science, Mathematics, other relevant sciences, i.e. physics in regards to finding balanced dice etc.), and "Pedagogical" (Psychology, Philosophy, Education, etc.)

One aspect that garnered a lot of interest was to include a feature to the exhibit which allowed active participation by visitors, namely through commentaries (i.e. guest book), but also as part of Citizen Science input, namely on various Socio-cultural aspects. Some points to be gathered included games and their variants; Location and time of play; Demographical data.

Finally, the game practice to be treated was discussed. Diler, Jean-Emanuelle and Sam agreed to query the wider group with a set of questions to make a thematic survey and poll potential participation of the action members.

Within the scope of the exhibit it was agreed upon that the exhibit would be treating Tabletop / Board Games as the main topic, leaving room for other interpretations, such as Serious Games, or Video Games to be treated.