BIG GAME

LIFE PROJECT PORTFOLIO

Project team: Thomas Saar, Leili Mård, Haris Ali Baig, Jing Li, Egle Vestrik, Elvira Laidinen

Supervisor: Mikhail Fiadotau

1. Project report

1.1 Context

The BIG GAME is a European (Erasmus+) funded project with partners in several European countries. The main mission of the project is to promote STEM education (Sciences, Technology, Engineering, and Mathematics) among middle school students, support digital transformation in institutions of education, as well as raise awareness and fight climate change.

The project provides an overview of environmental challenges humanity is facing, creating opportunities for the young generation to learn about the underlying mechanisms and how these challenges can be tackled. This is accomplished through a combination of game-based and problem-based learning, which is to be thought to be more effective for the younger generation than the traditional textbook learning. To be specific, middle school students are invited to participate in a game where they role-play as teams of the fictional United Nations Anti-Apocalypse Force (UNAAF) with their task being designing solutions to open-ended environmental problems (referred to as "missions" in the game) that are set in the near future.

The game will be piloted with groups of 11-16 years olds, as they get instructions and directions from their teachers. The teachers also played a role in inspiring the first scenarios used in the game. The project hopes to encourage students' interest in STEM subjects and partaking in climate action, while also providing teachers an opportunity to increase student engagement.

More information about the project is available at https://big-game.eu-track.eu/

1.2 LIFE project outline

The **aim of this LIFE project** is to support the development of materials and content for the BIG GAME project. The **deliverables** the LIFE team has developed includes:

- *missions* (fictional scenarios involving climate issues) for student teams to tackle
- *non-playable characters* (fictional characters that players will engage with)
- *dialogue* for the characters (in order to introduce the missions)
- *a prototype* of the digital environment the pilot version of the game will use.

The team was divided in half, with one half working on the technical side of the project and the other half working on creating content for the BIG GAME.

Key **stakeholders** of the project include the students and teachers in the school partners participating in the project: Tartu International School (Estonia), Joensuun Lyseon Peruskoulu (Finland), EuroEd (Romania), and Maria Montessori Institute (Italy). Additionally, the researchers and educators involved in the project include staff at the University of Turku (lead partner), Tallinn University, and EU-Track and Pixel (both R&D institutions in Italy).

As the LIFE project will provide materials for the main project, the **sustainability** of its results is ensured by the Erasmus+ project consortium using these materials when playing the game in the autumn of 2023 and preserving them online following the conclusion of the project in the following year.

2. Outcomes and deliverables

1.1 Main outcomes

The main results of the LIFE project are listed below:

- **5 mission descriptions** for the game
- **5 character dialogues** (1 per mission) and **2 dialogue files** made in Ink (tool to script the dialogue for use in the Unity game engine)
- **3 non-player characters** for the game
- A **high-fidelity prototype** for the game, which can be played here and whose source code is available here
- **6 image assets** for the game: three character images, two backgrounds, and one logo

1.2 Media coverage

As this LIFE project complements the main Erasmus+ project, it is not designed to provide its own media coverage — rather, this is a task the main project team has been dealing with. For example:

Link to the project's website: https://big-game.eu-track.eu/

Link to the game trailer (draft): https://youtu.be/DnwiWRRZ32A

3. Team members' self-reflection

Leili Mård, MA Asian Studies / Asian Societies

I did character and narrative design for the BIG GAME project. As I have been working for several years, my learnings were not so much in regards to project work, but just enforcing already known factors about teamwork, collaboration and communication. When working in a team, I cannot rely only on my personal opinions but together with others through collaboration the best result is achieved. I also learned about new features in the Discord platform and got familiar with the text scripting tool Inky.

Jing Li, MA Estonian Studies

I have been mostly serving as a scenario writer throughout my involvement in the Big Game project, responsible for researching actual or potential problems and adapting them into engaging scenarios, which students are challenged and supposed to solve when playing this game.

The Big Game project provided me with an opportunity to expand my knowledge and skills in problem researching, which keeps me synchronised with current nature related discussions and issues, as well as utilising various technological tools. The supervisor and technical group members were really nice and they offered a helping hand leading me to familiarise myself with a new tool for text scripting – Inky. Working on this project has deepened my understanding of the significance of cooperation and collaboration while broadening my horizons.

Haris Ali Baig, MSc Human Computer Interaction

Being a part of the technical team I contributed in designing and developing the application. I used Unity3d to make interactable front-end of the application. I took part in the UI design process, worked closely with UI/UX designers to understand the project's requirements and translate them into practical UI elements. We created wireframes, mockups, and prototypes to visualise the UI layout and interactions. Once the design was finalised, I implemented the UI components in Unity

using tools like Unity's UI system, Canvas, and Event System. To develop interactive story based games I learned the Ink framework for unity. Throughout the development process, I actively participate in bug fixing and iteration cycles. I test the UI for usability, identify and resolve issues like layout problems, input handling glitches, or visual inconsistencies.

Elvira Laidinen, BA English Language and Culture

My role in the project was to write scenarios for the game. I researched current and recurring environmental crises, as well as possible catastrophes that could happen in the future as a consequence of climate change.

My participation in the project allowed me to expand my skills for research and gain knowledge on environmental issues that I didn't have deeper knowledge on prior to the project. Researching current and potential future catastrophes has raised my awareness of the problems climate change is already causing, therefore motivating me to play a more active role in the fight against climate change. The team consists of very pleasant people. This project allows me to gradually become more comfortable with teamwork.

Thomas Saar, BA Computer Science

After in-depth analysis I suggested the best framework which we will use to develop the pilot version of this project and after explaining possibilities we all agreed to use Unity3D. As a part of the technical team I was excited to work on anything and soon the back-end became my responsibility. My main tasks were to work on solutions like log-in system and database. It was a real challenge, since I've done similar tasks long ago and wasn't very confident in them, especially in a quite unfamiliar environment Unity 3D. Nevertheless I managed to complete the main task and learned a lot about how to properly set up a working back-end solution. There were some problems with file-uploading, but thankfully a team member was able to complete it. Also I worked closely with team members responsible for front-end and UI/UX design. I helped to correct the UI and made suggestions for further improvements since it is related to my studies and I have experience in design. Also worked with the mission team, but not that much, because we had completely different tasks. I am glad I learned a lot and gained experience which has already aided me in my studies.

Egle Vestrik, BA Computer Science

As a technical team member, I ended up doing UI/UX design. At start I made paper wireframes just to better the understanding of the project, which ended up as an original design. After the first meetings they were updated and redone, getting more in depth of what we needed. From paper wireframes I moved to actually designing the UI and adding colours. Choosing the right program

ended up being more difficult than originally anticipated. From testing Figma to just using random box programs. I ended up choosing Clip Studio Paint but due to not being familiar with the program the progress was slow. After small changes I redid the Clip Studio Paint design in Unity, our chosen fireframe. Throughout the project I took part in discussions with the mission team and technical team, being up to date on the projects progress and updating UI/UX design as required.