

It's a role-based multiplayer game in which players have to team up to improve a certain aspect of a city while achieving their own goals and complying with team or individual restrictions. The game includes several layers that mimic the development of a city and the challenges to be solved in the process, involving the management of problems like pollution, utilities provisioning, natural disaster management, etc.

The game is based on scenarios formed mainly by a 3D map of a city and the description of a problem to be solved by a team of up to 4 players with different in-game roles. This scenario setting enables the development of a wide range of learning activities.

Let's dive in!

## Game Features

Both players and scenario creators have powerful tools to transform the city:

- Terrain formatting, which enables the user to change the layout of a map by adding elevations such as hills and mountains, valleys or water bodies such as lakes, rivers, etc.
- Bulldozer, to destroy any type of building or infrastructure.
- Create city infrastructure, like roads, parking lots, different types powerplants, green energy sources, power cables, transformers, etc.
- Create utilities and communication structures, such as internet service, mobile antennas, and more.
- Build city service buildings, like police stations, fire stations, schools, hospitals, airports, etc.
- Build cultural and sports infrastructures, such as stadiums and museums.

- Build city decorations, such as festive lights, fireworks, and Christmas markets.
- Build commercial buildings, such as shopping malls, fresh markets, barber shops, coffee shops, general shops, office buildings, and more.
- Build residential buildings, from skyscrapers to small houses, with or without garages to affect traffic and parking space.

The game also implements traffic, including a rich collection of utility vehicles, such as police vehicles, ambulances, buses, firefighting and trucks. Traffic can't be controlled directly by the players but it is affected by the road layout, the parking space, the public transportation network, the weather, etc.

Speaking about weather, it is also present in the game, alongside with day/night cycles and seasons, all of them affecting the evolution of the scenario while played.

# Creating scenarios



**Map tools menu.** From left to right: bulldoze, terraforming, housing, industry (selected), commerce, public services, culture, infrastructure and layers.

Scenarios in the HERA game have 2 main components: the city, where the players will play, and the scenario description, where a challenging problem and the corresponding learning activity are defined.

At first, creating a scenario can be as simple or complex as the city or town you want to create. Due to the game mechanics, the buildings need to be connected with the rest of the city by roads, electric power lines, etc., just as a real city, in order to be able to mimic real problems.

## Creating a city

When creating a city, teachers can start from a public scenario, which has a fully functional city already created, as the foundation for their own scenario. This way, it's easier and faster to create a new learning activity as they don't need to build an entire city from scratch.

Teachers don't have in-game time or budget restrictions to modify any existing city in a scenario. The idea behind this is that scenario creators can generate a city that is suitable for the problem they are going to present, so it provides a suitable context with different viable solutions. At the same time, the city also has an influence on the difficulty of the scenario.

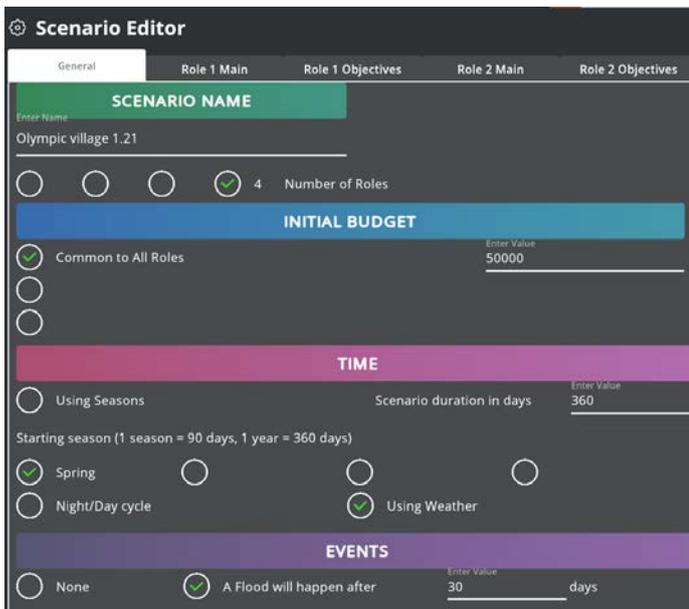


## Defining the scenario

The real complexity for the players relies on how the scenario is described, specifically how the tasks and capabilities of the roles are distributed.

The scenario description includes the main goal and tasks for the team, a description of each player's role with individual goals, capabilities and restrictions. This last part determines how the players will deal with their tasks as a team.

Scenario creators can also decide about weather conditions, with the possibility of triggering natural disasters, day/night cycles seasons and the duration of the scenario in days.



**Scenario creator main menu.** Includes scenario name, number of roles, budget, time variables and events. A text description of the scenario is also provided.

**Role capacities menu.** This view also includes a role description with the tasks assigned to this role.



## Olympic Games come to our city

Prepare the city for celebrating the next Olympic Games



Brainstorming tool



Agile tool

## Playing the game: features for students

Students access the game through a course. Once inside, they pick a team and then a role within that team. Team members can discuss through the integrated chat or an external comms system how to approach the challenge and how they organize and coordinate their tasks. In order to plan how to tackle all the tasks, they can use the brainstorming board and the agile board, both powerful tools to gather information and plan their solution. In a well designed scenario, how they adapt to teamwork, their problem solving skills, assertiveness, etc. will determine the success or failure of their solution.

## Creating a course

In order to be played, a scenario has to be included in a course. A course is a learning activity that includes one scenario, a variable number of player teams set by the teacher and a set of tools focused on teamwork that can be used during the game. This set includes a chat, an agile board and a brainstorming board. Teachers can leave the boards empty or fill them with information, pre-set setups for the agile board, etc.

A city can be used in different scenarios, and the same scenario can be used in different courses, for instance, to do the same learning activity with different groups.

The HERA game challenges students to solve realistic, non-trivial problems inspired by real-life. It livens up the classroom, promotes learner engagement, enriches interaction, and encourages experimentation, while putting students' soft skills to good use.

Get the game at  
<http://heraproject.eu>

**A full beta version of the game is available on our website for anyone to try.**

## Partners



Universidade de Vigo



Co-funded by the  
Erasmus+ Programme  
of the European Union

Project 2019-1-EL01-KA203-062952

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