

TAKE IT SERIOUS

TiS Software Manual v1.5f

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



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This project has been funded with support from the European Commission. This software reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

TAKE IT SERIOUS USER MANUAL

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INTRODUCTION

Disasters have become an increasingly serious and frequent problem both nationally and internationally, provoking severe and profound issues. As the increasing frequency and complexity of disasters affecting communities has risen significantly over the past decade, the negative impacts of natural disasters like floods, wildfires, earthquakes, droughts and heatwaves have increased in many parts of the world. Thus, recent disasters have created the need to develop strategies and plans to diminish their negative impacts. The Take It SERIOUS software aims to help teach disaster education in schools, in a gamified environment to foster disaster management skills and to increase awareness about disaster-related issues to young students. This software is also a tool for teachers that support them to educate in matters of risk reduction, emergency preparedness and response to disaster situations; but also raise awareness of children in the field of natural disasters and disaster management cycle.

In order to achieve those goals, the Take It SERIOUS project deploys a Unity-based city builder type serious game (that we will refer to as the Take It SERIOUS Software, Take It SERIOUS or TiS from now on) demonstrating to students how to prevent, prepare and recover from different type of disasters in a city-wide environment.

Both the teacher and the student experience happen entirely inside the Take It SERIOUS software.

The core structure of the Take It SERIOUS Software is called a scenario. Scenarios are created by teachers and can be made public to offer fellow teachers interesting examples and to make them available to all the students to play using the Take It SERIOUS Software. Any public course can be duplicated and then customized and used by any teacher who desires to do so, encouraging the development of a community of content creators around Take It SERIOUS. Once a scenario has been created or duplicated by a teacher, it is available in their private scenario list. The teacher will associate a unique code (auto generated for them by the system) to their scenario and will distribute this code to the students they want to see working on that scenario.

Once a student starts Take It SERIOUS, they can check their existing private scenario list, enroll into a new by entering a new code or they can check the public scenario list. Selecting a certain scenario, they can see what the scenario is talking about, and they can start playing, continue their progress or even reset a scenario to its original state if they want to get a fresh experience again.

The current manual aims to explain how to use Take It SERIOUS whether you are a teacher or a student and will show and explain all the facets of the software.

From now on, students will be referred to as students or players and teachers as teachers and content creators. The term user will be employed if the experience is the same for both students and teachers.

WORD OF CAUTION

The Take it SERIOUS software is a work in constant progress. This means that the online version of the tool is updated frequently in order to add new features and correct bugs, up to several times a day. So until the software reaches its very final version, this manual is also a work in progress.

You might find for example that there are some discrepancies between some screenshots and the actual images included in the manual, or maybe some features in the software are not detailed in the manual. Don't worry, it just means that a new version of the manual is about to be published.

If you have any questions, please feel free to send an email to the lead developer at this email address, he will answer you promptly: olivier.heidmann@gmail.com.

FIRST STEPS IN THE GAME

SETTING THINGS UP

The game is available at this URL: <https://ctl.e-ce.uth.gr/index.php/tis/>

The Take it SERIOUS software is compiled to run on computers using the Windows operating system in a 64b edition. The file downloaded at the above URL is an archive containing all the files necessary to play the game.

Name	Date modified	Type	Size
Take it SERIOUS_Data	11/10/2021 9:32 PM	File folder	
GameAssembly.dll	11/10/2021 9:32 PM	Application extens...	24,333 KB
Take it SERIOUS.exe	11/10/2021 9:30 PM	Application	636 KB
UnityCrashHandler64.exe	3/17/2021 8:23 AM	Application	1,069 KB
UnityPlayer.dll	3/17/2021 8:23 AM	Application extens...	25,403 KB

Figure 1: TiS archive content

Once the archive is downloaded, extract all the files and double click on the **Take it SERIOUS.exe** file to start the game.

Make always sure you are running the latest version of the game. At the time of the writing of the manual, this was version N. The name of the version is embedded in the name of the archive you have downloaded, so in case of version N the archive is called *Take-it-SERIOUS-v1.0n.zip*.

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POSSIBLE ISSUES

When starting the game, your version of windows might pop some warning message such as illustrated in figure 2 and 3 if the SmartScreen functionality becomes overzealous.

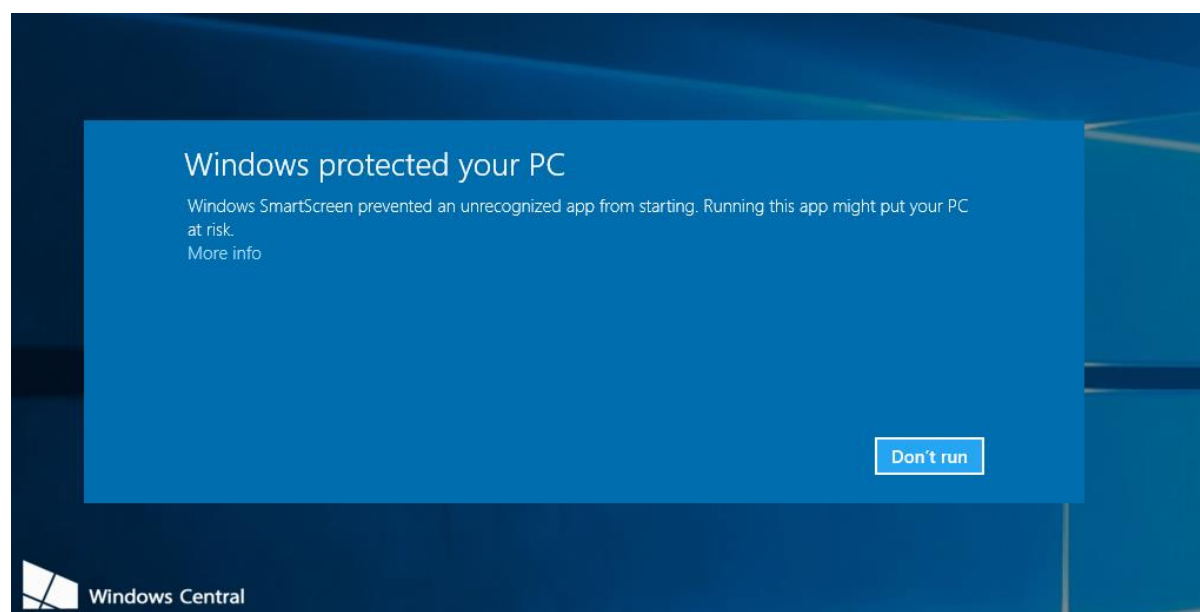


Figure 2: Possible warning from Windows Smartscreen

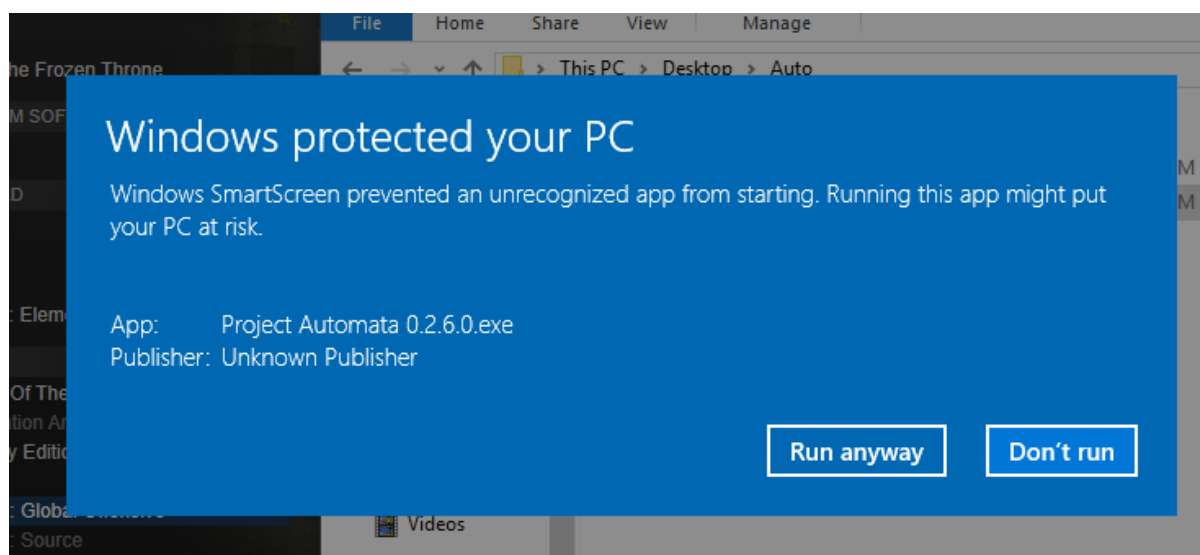


Figure 3: alternate warning from Windows Smartscreen

If you find yourself in the case illustrated by figure 2, please click on *More info* and then run the game.

If you find yourself in the case illustrated by figure 3, please click on *Run anyway*.

MAIN MENU

This is the first screen you will encounter when you start the game. Press the Space button on your keyboard to proceed to the authentication screen.

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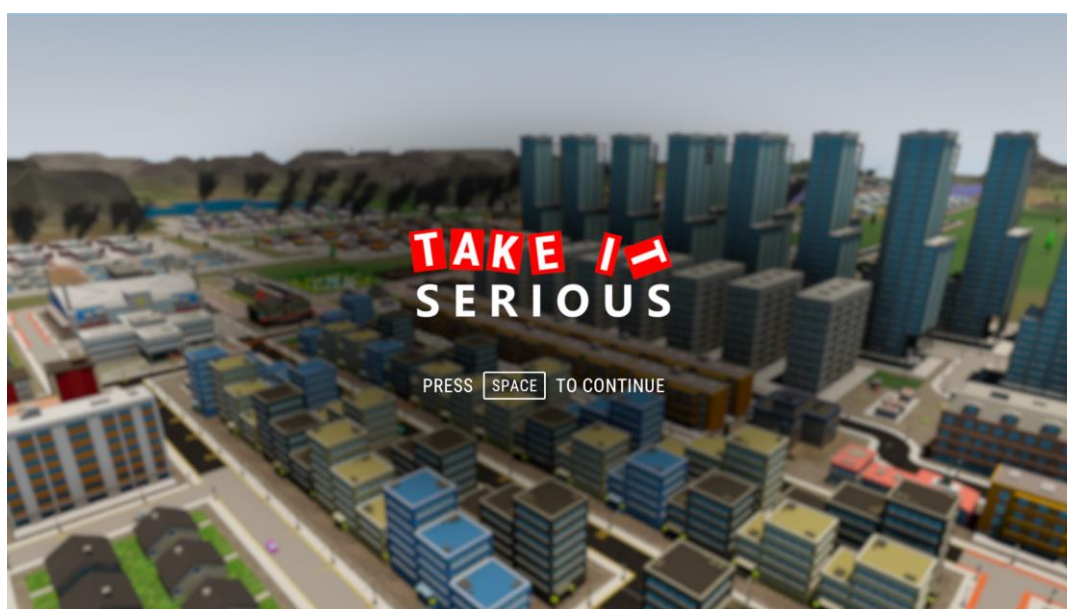


Figure 4: TiS main menu

LOGGING IN

If the user already has a username and password, they will enter them and click on the sign in button to login the game.

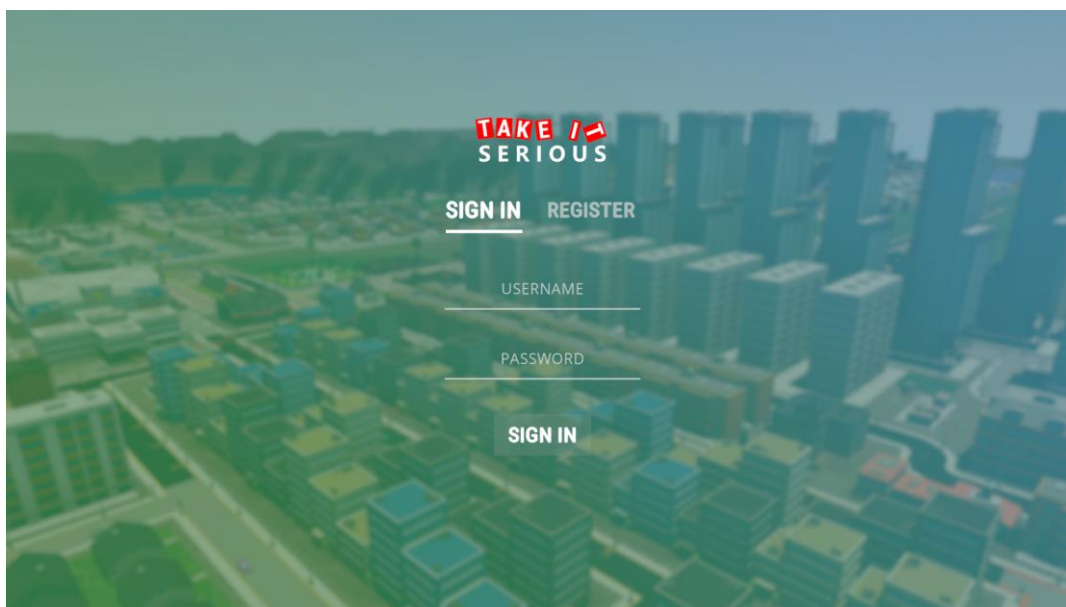


Figure 5: Authentication screen

If it's the first time the user is using the Take it SERIOUS software, they need to create an account.

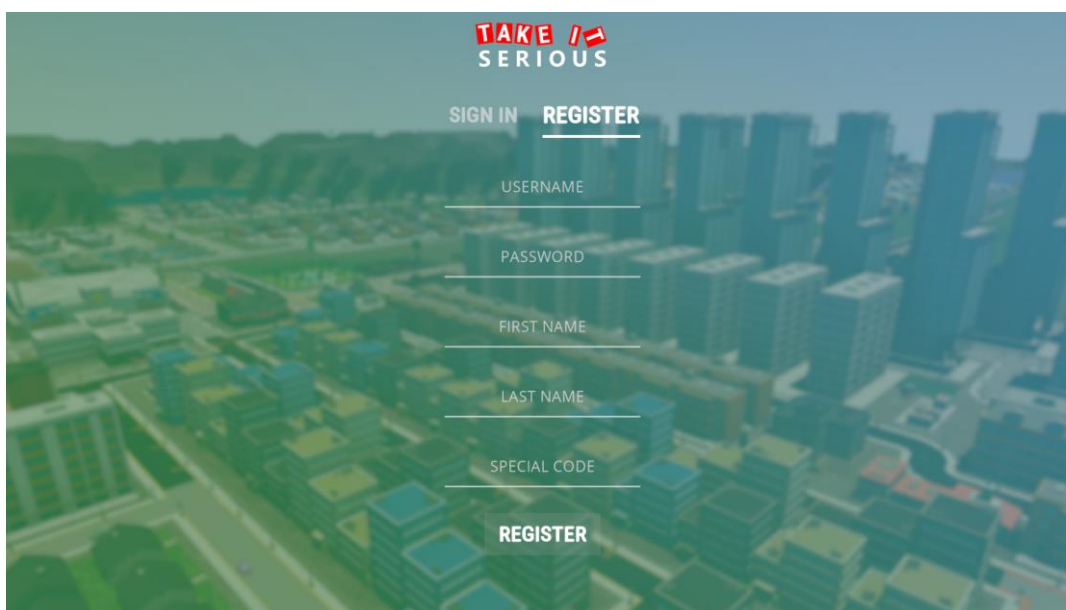


Figure 6: Account creation screen

When creating an account, the user needs to enter a Username, a Password and their First and Last Name. No email address will be asked in order to minimize the number of personal data kept on our servers. If the user is a teacher, they can enter a special code to get access to the teacher side of the Take it SERIOUS platform. Contact us to get the teacher code.

HOME SCREEN

After logging in the user will arrive at the home screen of the main menu. The view will be slightly different depending on the type of account the user has.

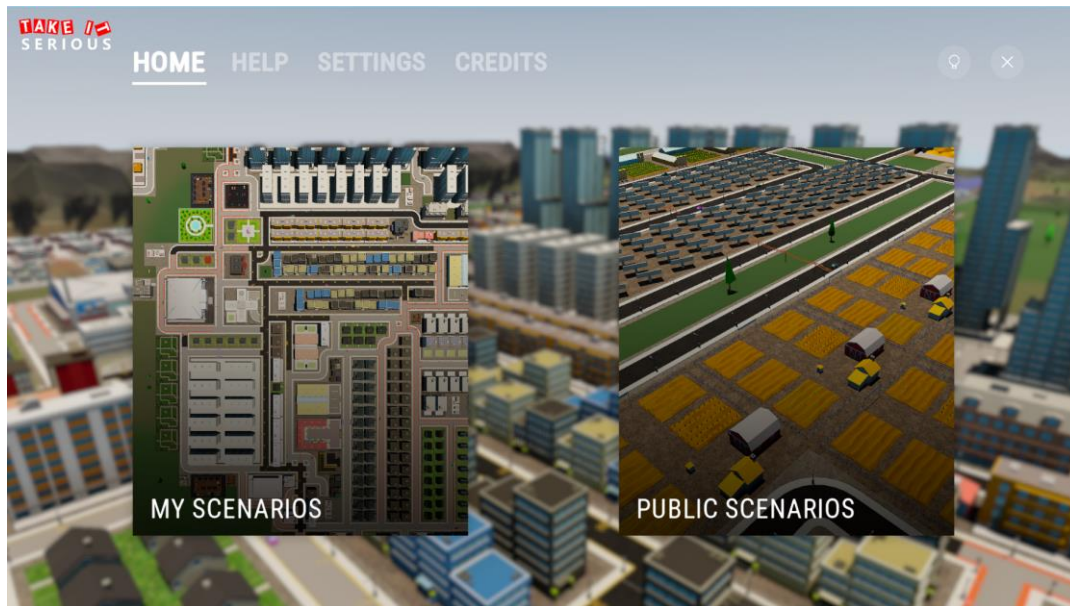


Figure 7: Teacher home screen

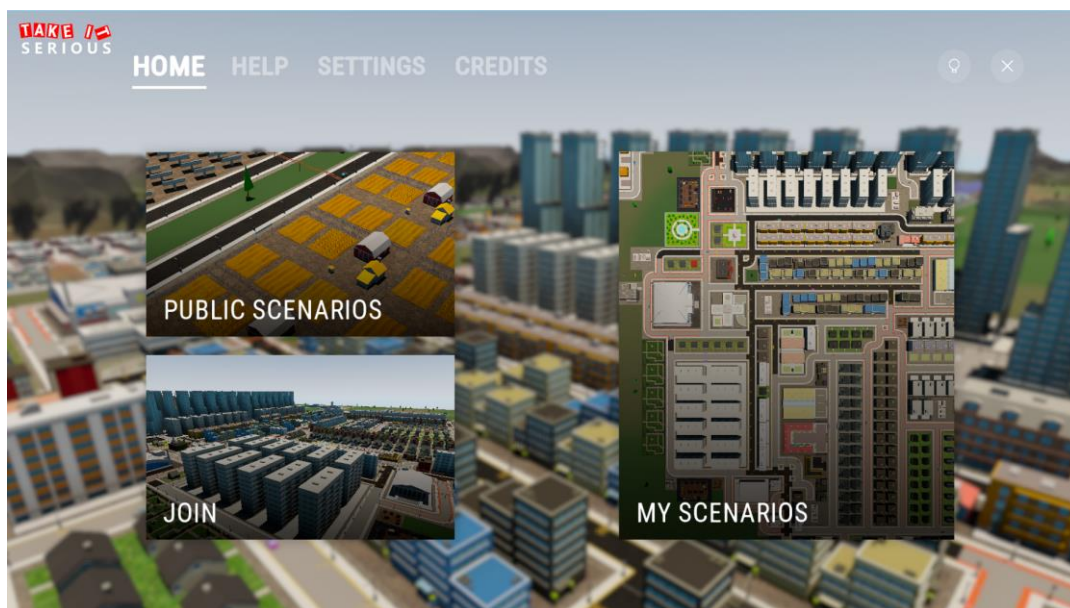


Figure 8: Student home screen

The rest screens and functionalities of the main menu are common for both account types, so we will cover these first and the Home screen will be covered separately for each role later on.

HELP SCREEN

By clicking on the HELP button at the top bar the user will arrive at the help screen.

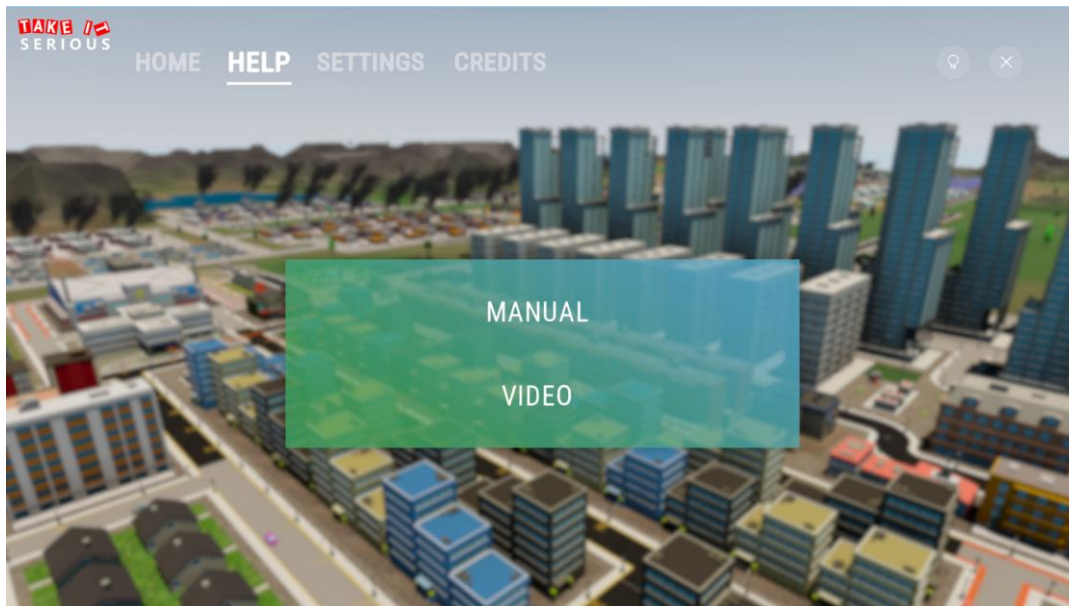


Figure 9: Help screen

The MANUAL and VIDEO are hyperlink buttons that if clicked they will open the game written manual or the video manual of the Take it SERIOUS game respectively.

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SETTINGS SCREEN

By clicking on the SETTINGS button at the top bar the user will arrive at the settings screen. The settings are divided between 4 categories.

In the gameplay category the user can select the game language. The available languages for the Take it Serious game are:

- English
- Greek
- Spanish
- Turkish
- Bulgarian

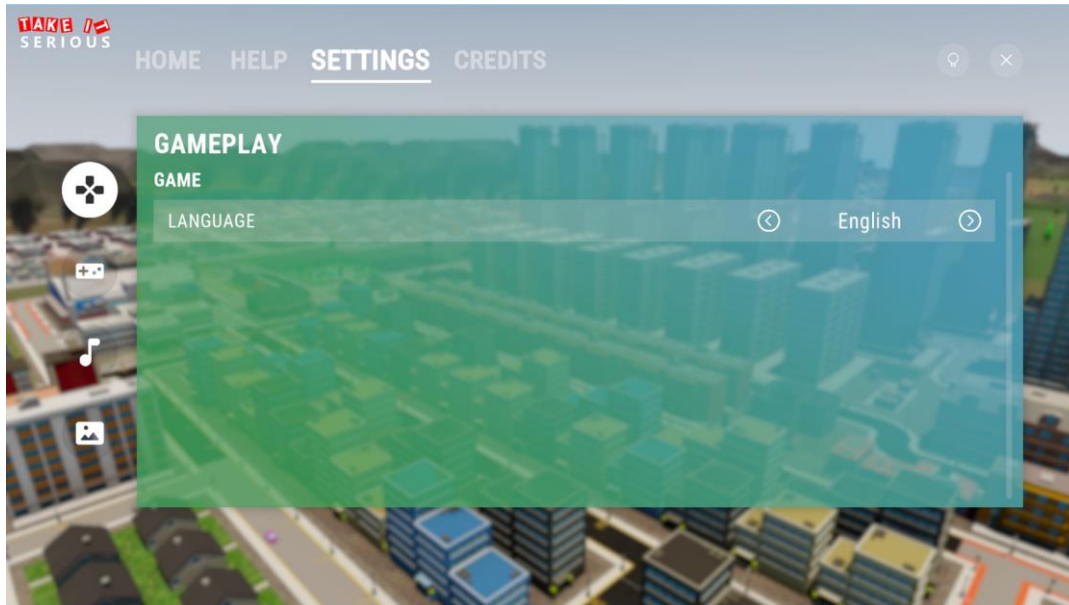


Figure 10: Gameplay settings screen

In the sound category the user can customize their sound experience in the game.

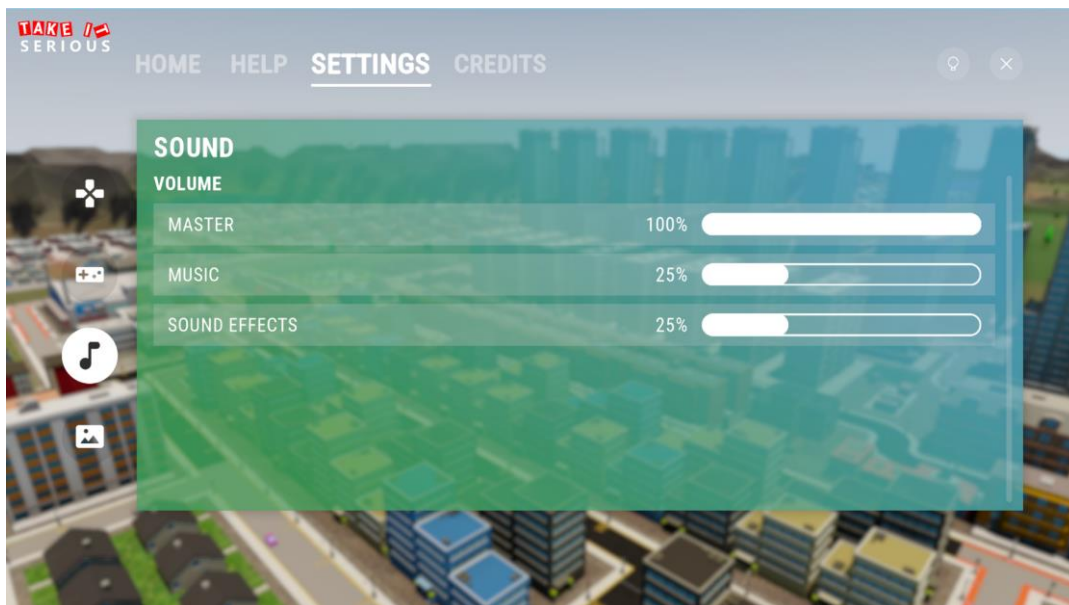


Figure 11: Sound settings screen

There are options for the sound effects volume, the music volume and the overall sound volume. The sound volume can be set anywhere between 0 and 100%.

In the visuals category the user can influence the overall quality of the game graphics by interacting with the quality selector.

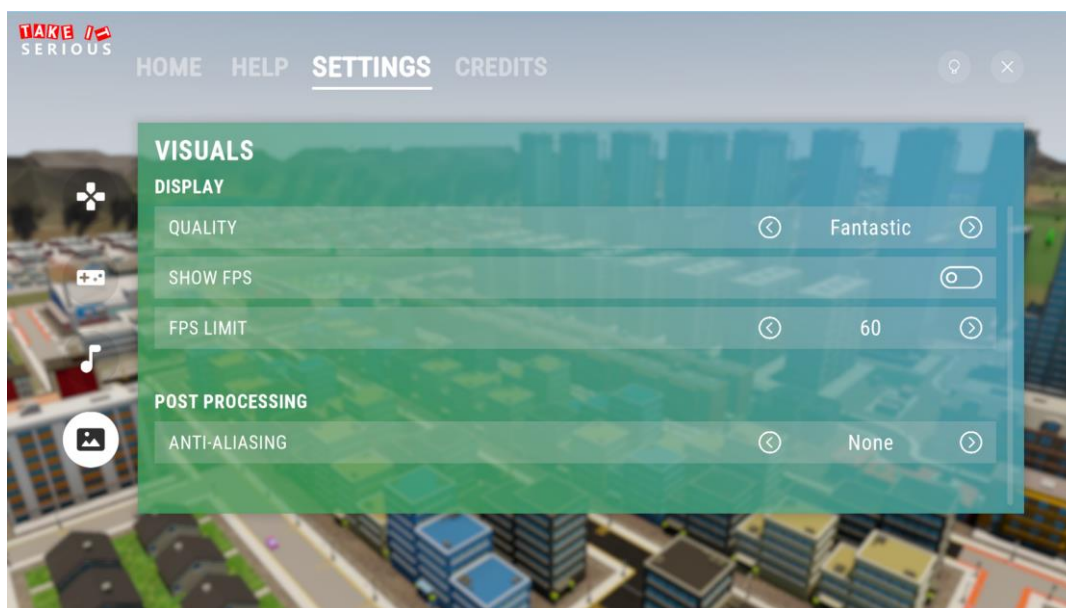


Figure 12: Visuals settings screen

Six different values are available for the graphical quality, ranging from Very Low to Fantastic. If you have issues with the game playing slowly, try to lower the overall graphical quality.

In order to help the user check how well the game is running, a FPS (frame per seconds) counter can be displayed by clicking on the SHOW FPS option. If the FPS counter is displayed, it will appear as three numbers

100
097
014

on top of each other on the top right corner of the screen. The top number indicates the highest number of FPS displayed. The middle number indicates the average number of FPS, and the bottom one indicates the lowest amount of FPS displayed. All numbers are colored according to their value, following this convention:

- Green indicates FPS above 60
- Blue indicates FPS between 45 and 60
- Yellow indicates FPS between 30 and 45
- Orange indicates FPS between 15 and 30
- Red indicates FPS below 15

There is also an option to limit the FPS of the game if there are performance issues. The default setting for the FPS is set to unlimited.

The last option allows the user to enable the anti-aliasing effect in game, which improves the overall visual quality, but it may have an impact on the performance. This setting can be set to none, FXAA (a middle ground solution between visual quality and performance) and SMAA(best visual quality but not recommended on low-end computers).

CREDITS SCREEN

By clicking on the CREDITS button at the top bar the credits screen will appear. It displays the Erasmus+ disclaimer, the partners involved in the project and of all the participating individuals.



Figure 13: Credits screen

Lastly, at the top right of the screen there are two buttons.



The will hide or show the top bar containing the HOME, HELP, SETTINGS and CREDITS button.



By pressing the button a menu will appear with the options to log out, exit or return back to the game.

THE TEACHER EXPERIENCE

There are two categories available in the Home screen:

- My Scenarios
- Public Scenarios

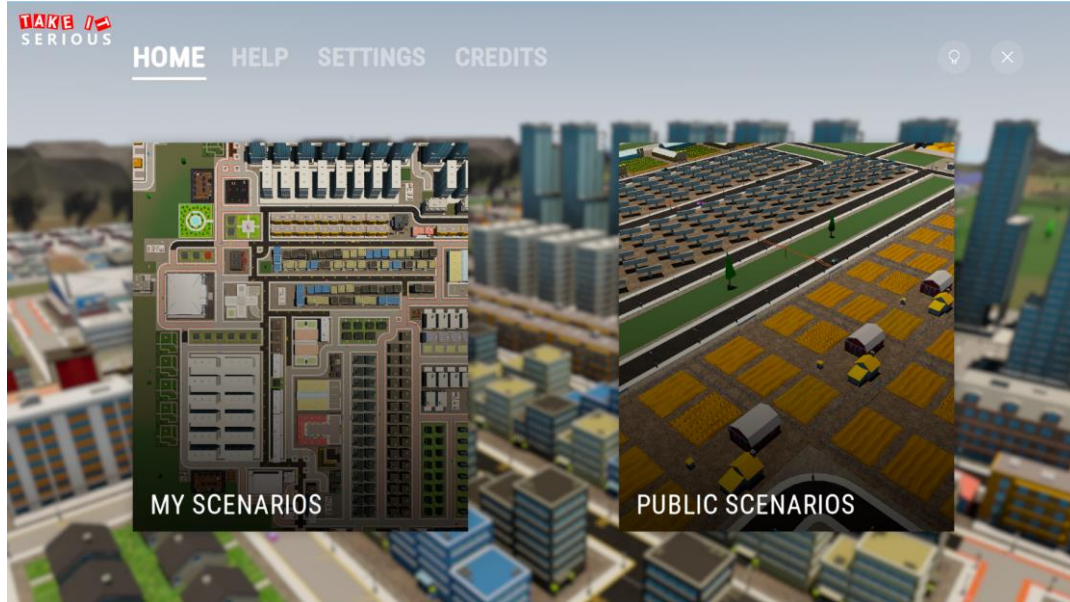


Figure 14: Teacher home screen

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MY SCENARIOS

My Scenarios screen displays all the scenarios created by the user. Each entry containing a title, description and a thumbnail represents an individual scenario.

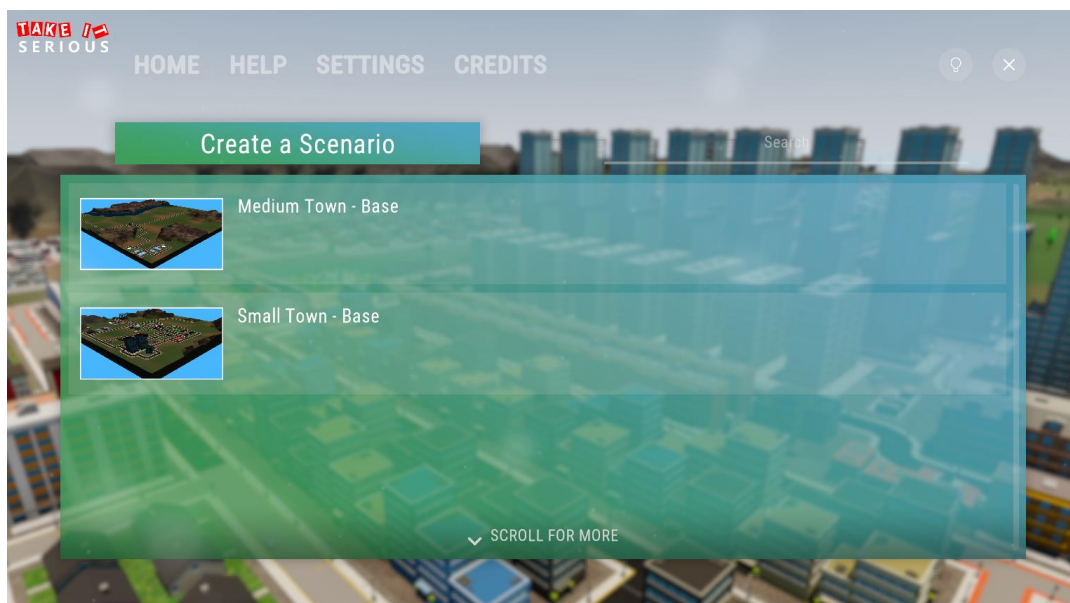


Figure 15: Teacher My Scenarios screen

Clicking on a specific scenario brings up the scenario entry, containing all the details and the actions available to the user for that scenario.

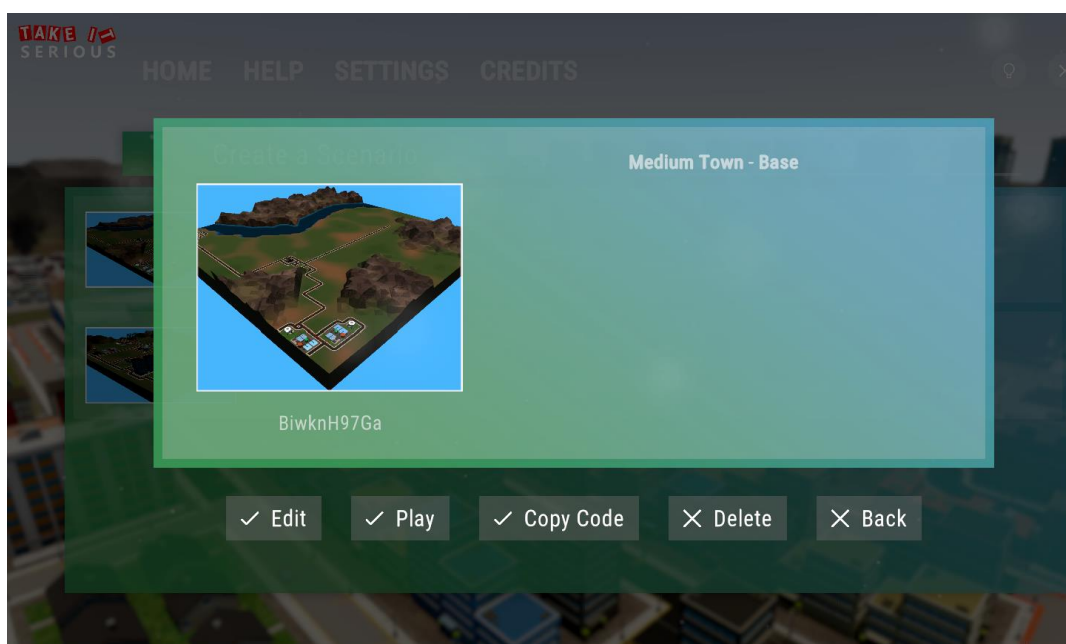


Figure 16: Selected Teacher Scenario screen

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The Edit button will open the scenario editor allowing the user to modify that specific scenario.

The Play button will allow the user to effectively play the scenario they created, as if they were students.

The Copy Code button will copy the unique scenario code to the clipboard allowing the teacher to give it easily to the students they wish to play their scenario.

The Delete button will delete the scenario and it won't be available to access after that action.

The Back button returns the user to the My Scenarios screen.

At the top left of the My Scenarios screen there is the Create a Scenario button, which allows teachers to create new scenarios. If you create a new scenario, you'll first be prompted with a screen asking you to define the size of the map used in the scenario. Three sizes are available: small, normal, and large.

At the top right of the screen there is a search bar that allows teachers to search for specific scenarios based on their names.

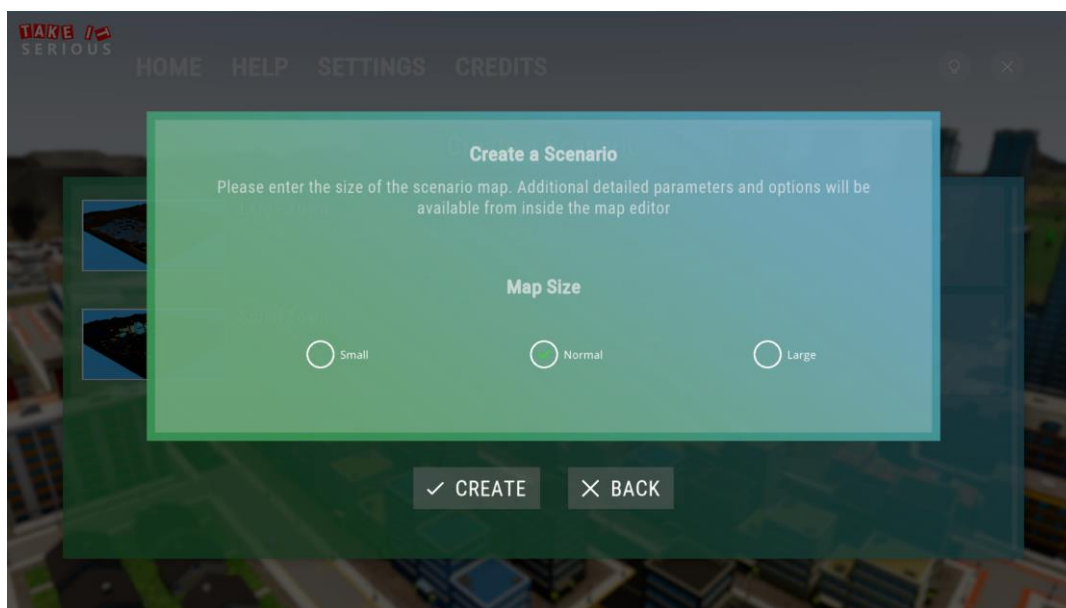




Figure 17: Selecting the size of the map

PUBLIC SCENARIOS

The Public Scenarios screen shows you all the scenarios that are available to all the teachers and content creators of the Take it SERIOUS platform.

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You can spot it easily if you are the author of a public scenario by looking for the  icon at the right side of a public scenario entry and the template scenarios by looking for the  icon. Scenarios can be edited only if you are the scenario author.

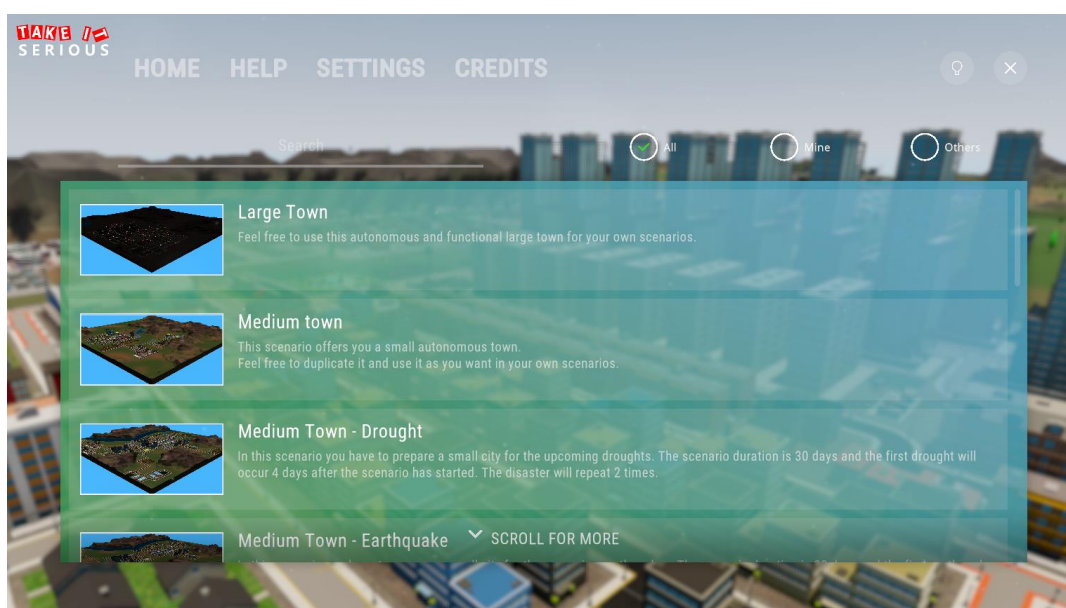


Figure 18: Public Scenarios screen

The template scenarios are scenarios that can be used as a template for other teachers and content creators, to modify and build on top of them, providing them a solid base to start creating their scenarios. Template scenarios are only visible to teacher accounts, as there is no need for students to have access to them.

Any scenario displayed can be played by any user and it can be duplicated by clicking on the clone button. When a user clones a public scenario, it will appear at their own My Scenarios list from where they can modify it as they please.

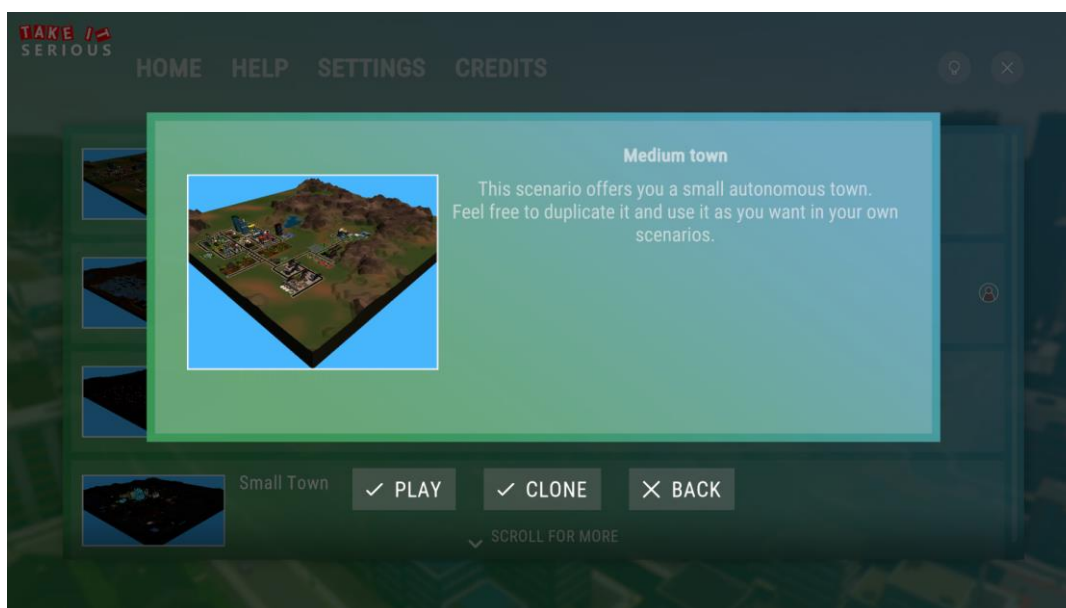


Figure 19: Selected Public Scenario screen

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At the top left of the screen there is a search bar and at the top right there are some filtering options. The option “All” will display all the public scenarios available, the “Mine” option will display the public scenarios created by the current user and the “Others” option will display all the public scenarios created by all the other users.

CREATING A SCENARIO

When a user creates a new scenario, they will arrive at an empty, randomly generated map. The interface of the game is shown below and will be described later in this manual.

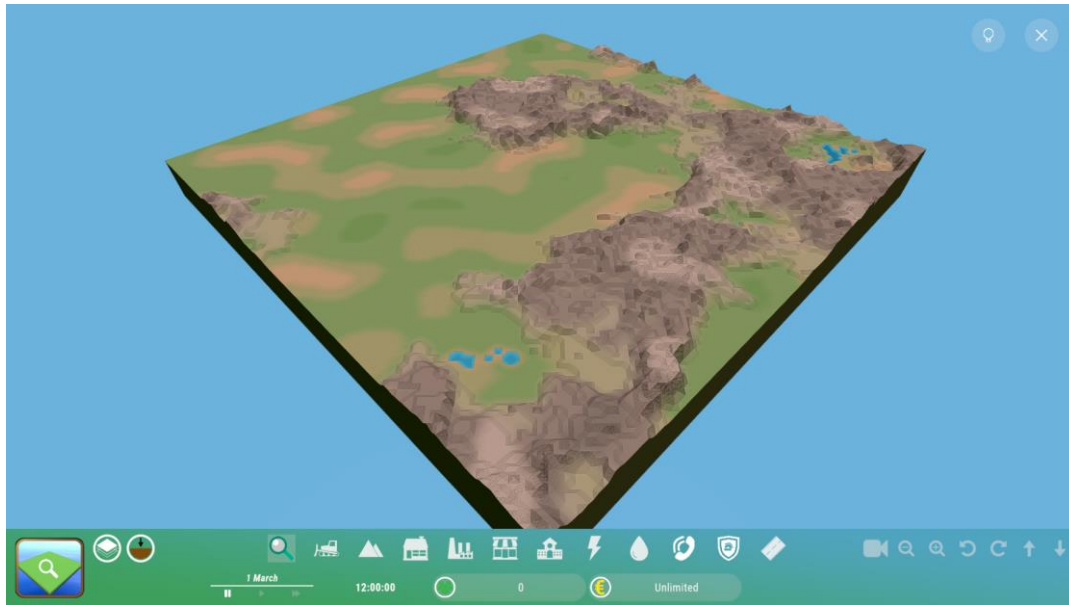



Figure 20: Game interface

Clicking on the lightbulb button  on the top right of the screen will make the top option bar appear. Selecting the scenario editor button will make the scenario editor window open.

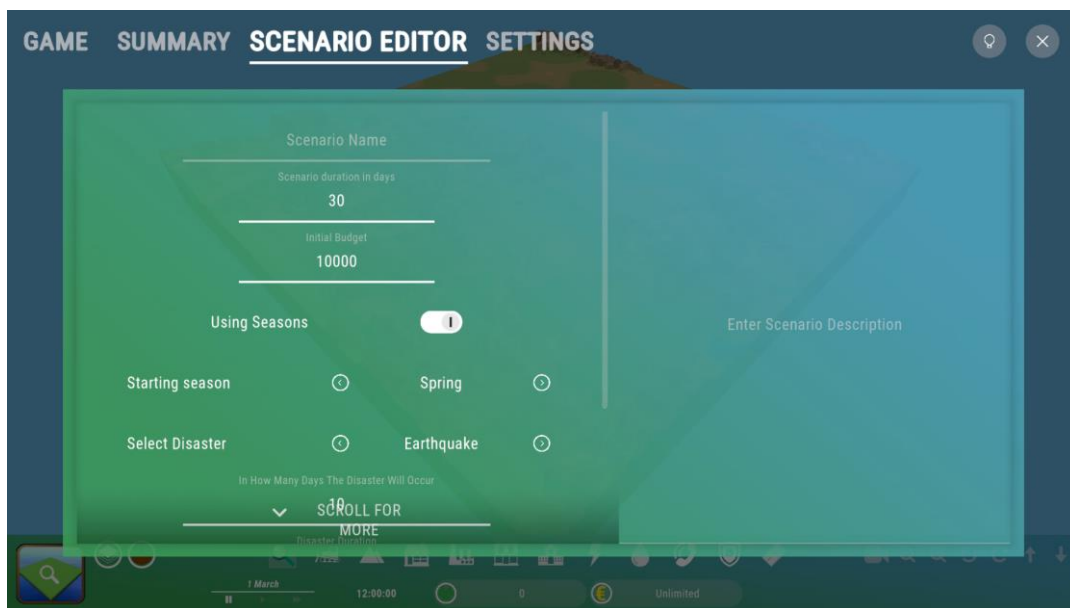


Figure 21: Scenario Editor window (1)

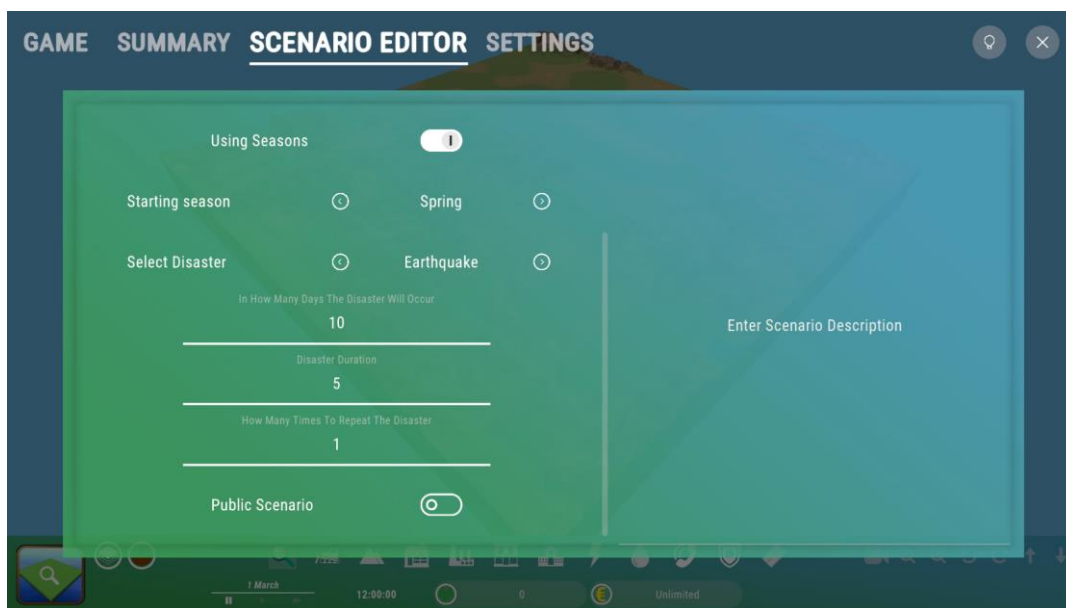


Figure 22: Scenario Editor window (2)


The scenario editor allows the teacher or content creator to insert the following information about the scenario:

- The scenario's name
- The scenario description
- The scenario duration, in in-game days
- The initial city budget available to the player
- The season of which the scenario will start
- The disaster that will happen. The currently available disasters are:
 - Earthquake
 - Wildfires
 - Flood
 - Drought
 - Heatwave
- In how many in-game days the disaster will happen after the start of the scenario
- The duration of the disaster
- How many times the disaster will get repeated
- Is the scenario public?
- Is the scenario a template?

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Once all that information has been set by the teacher/content creator, they can begin building the town in the game interface to perfectly suit the scenario.

Once both the town and all the data are ready, the teacher/content creator can save the scenario and exit the

scenario creation tool by clicking on the  icon on the top right of the screen and picking one of the available options.

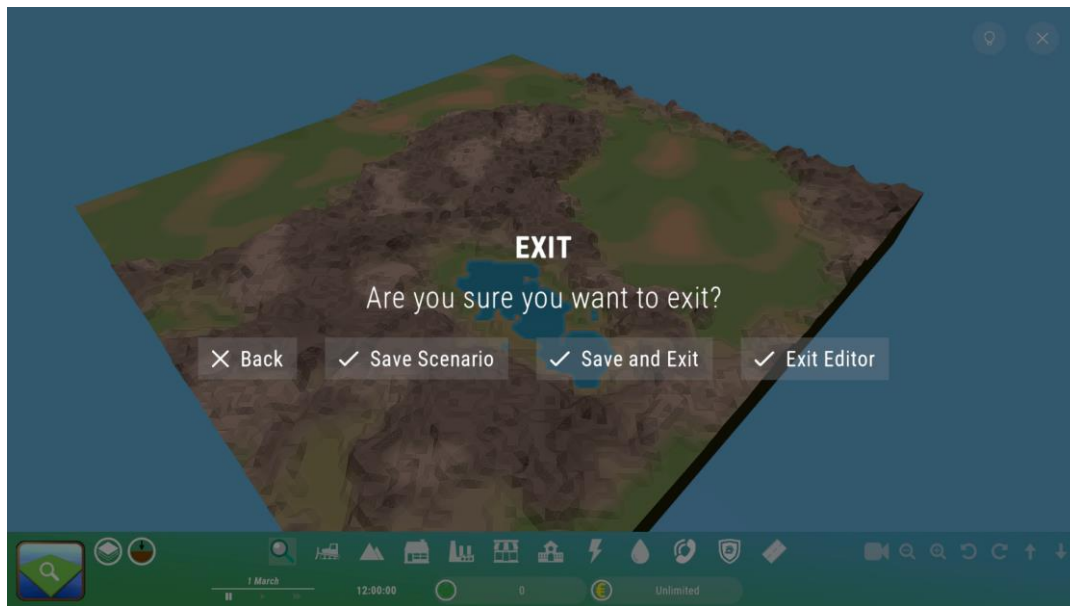


Figure 23: Exit Menu options

THE STUDENT EXPERIENCE

Students will start the game and log in the same way teachers do and as it was described above.

Once a student is connected, they will arrive at the student Home screen. There are three categories available in the Home screen:

- My Scenarios
- Public Scenarios
- Join

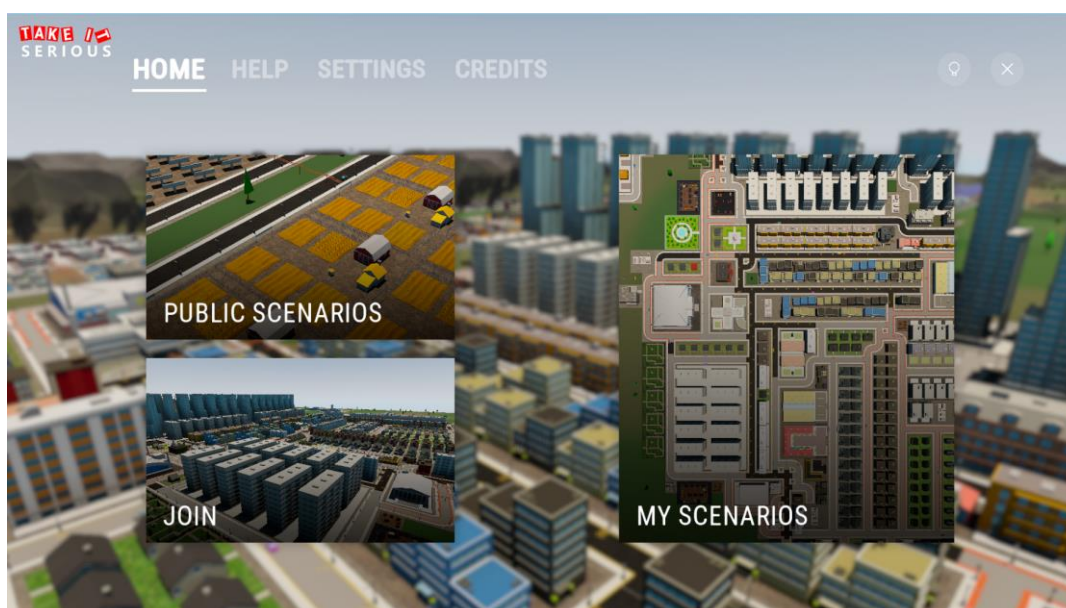


Figure 24: Student home screen

MY SCENARIOS

My Scenarios screen displays all the scenarios the student has joined. Each entry containing a title, description and a thumbnail represents an individual scenario.

At the top middle of the screen there is a search bar where students can search for specific scenarios based on their names.

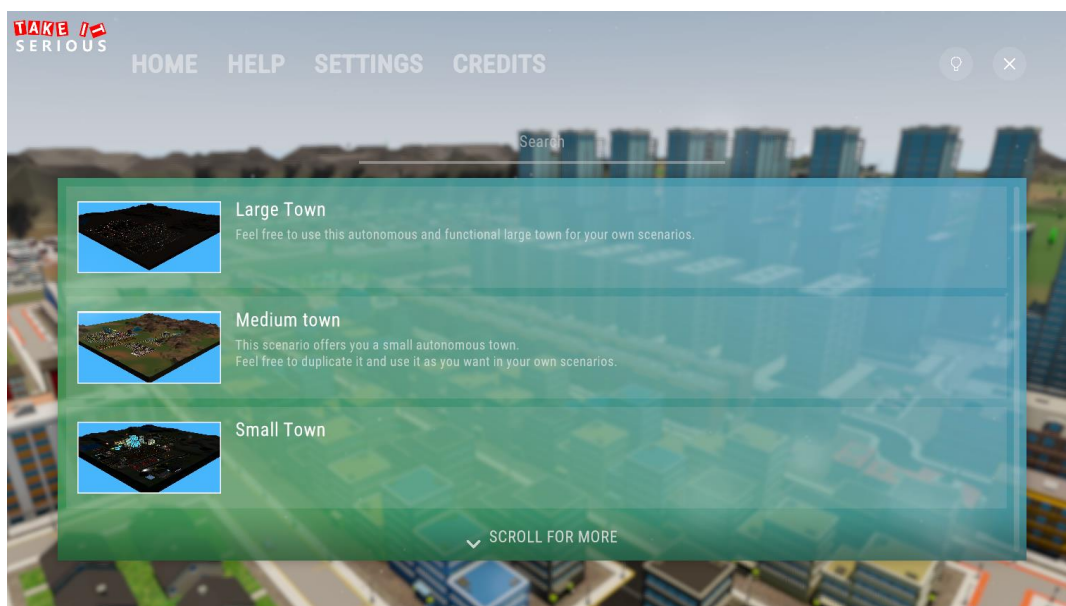


Figure 25: Student's My Scenarios screen

Clicking on a specific scenario brings up the scenario entry, containing all the details and the actions available to the student for that scenario.

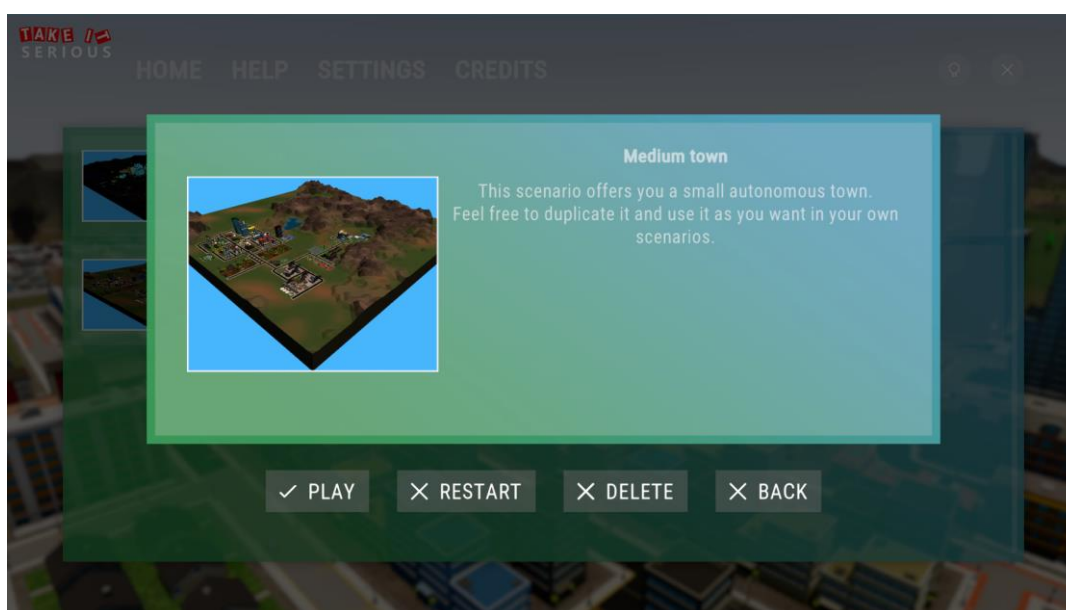


Figure 26: Selected Student Scenario screen

The Play button will open the game interface for that scenario allowing the student to start or continue their progress on that scenario.

The Restart button will erase the student's progress on that scenario and restore the scenario to its original state.

The Delete button will remove the scenario from the student's scenario list, deleting their progress as well on that scenario.

The Back button returns the student to the My Scenarios screen.

PUBLIC SCENARIOS

The Public Scenarios screen for the students is identical to the screen of the teachers, displaying all the public scenarios created by teachers or content creators, but the filtering options aren't available to them as they can't create any new scenarios.

Also the students have another set of options when selecting a public scenario.

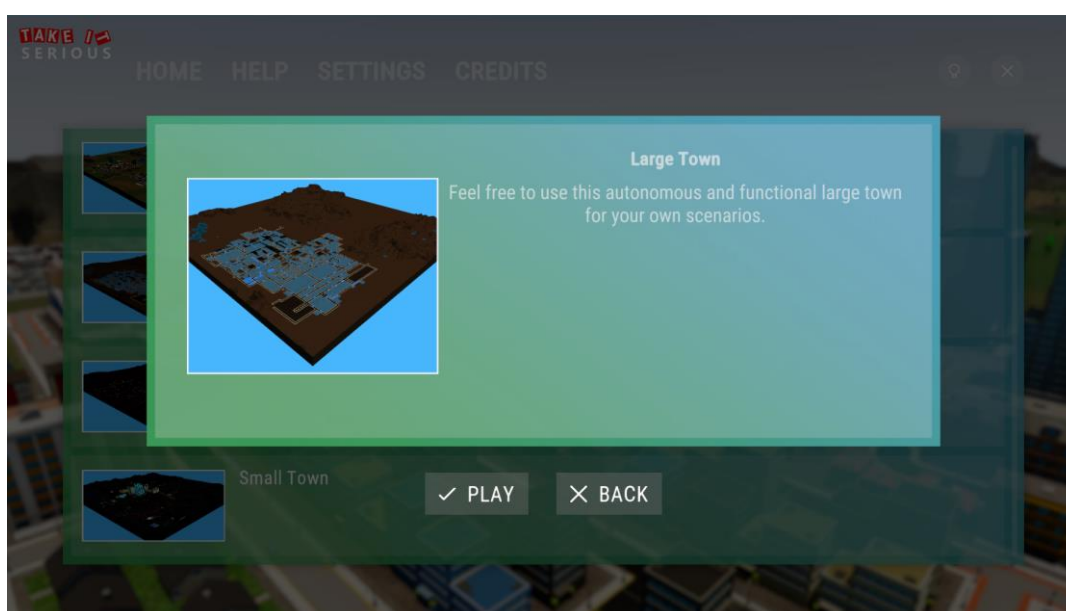


Figure 27: Selected student Public Scenario screen

The Play button will open the game interface for that scenario allowing the student to start or continue their progress in that scenario. If they are doing it for the first time, the scenario will be added automatically to their My Scenarios list allowing them to access it from there as well.

The Back button returns the student to the Public Scenarios screen.

JOIN

The Join screen allows students to join a scenario directly by entering a scenario specific code provided to them by a teacher.

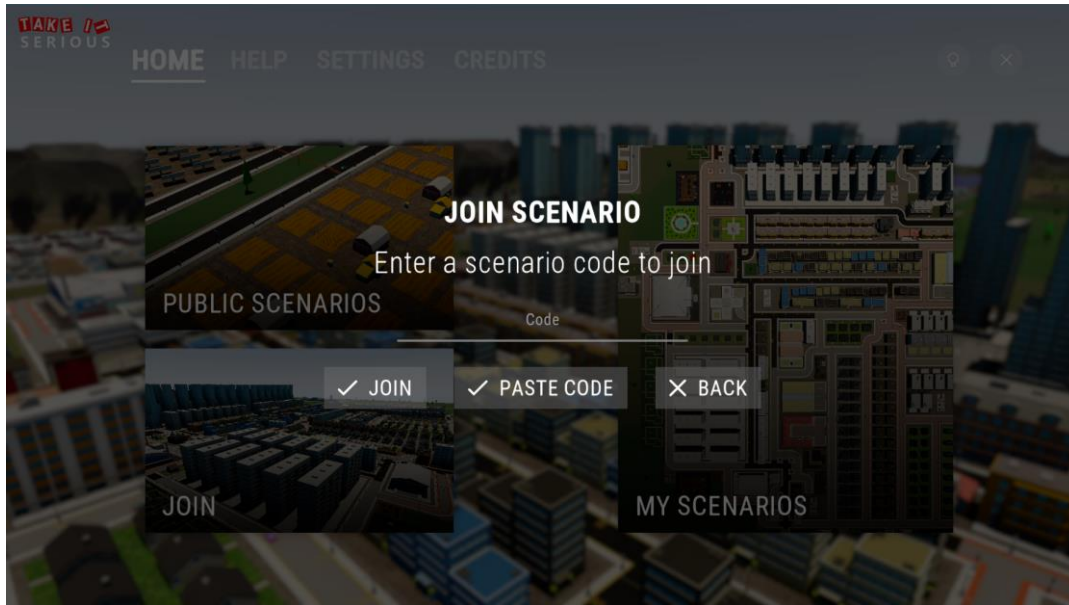


Figure 28: Join Scenario screen

The student can enter the code manually or paste it to the input field by clicking the Paste Code button if it's copied to their clipboard first.

Clicking on the Join button after a valid code has entered, it will add the scenario to the student's My Scenarios list.

The Back button returns the student to the Home screen.

THE GAME INTERFACE

The in-game interface (shown figure below) allows the player to get many details about the city and its environment and interact with it.

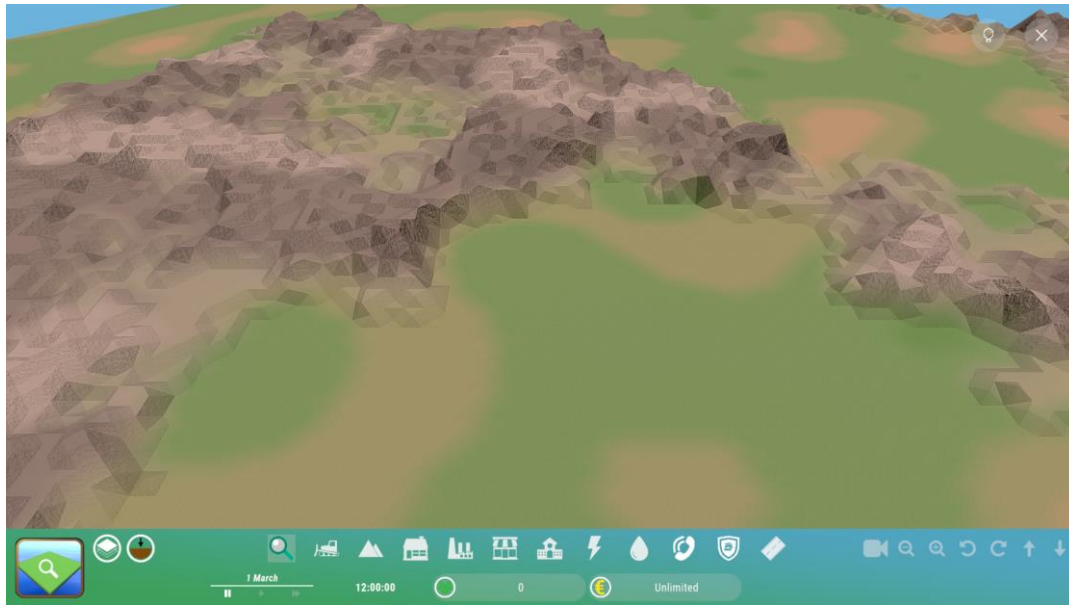


Figure 29: In-game interface (1)


The interface is divided in two main zones: the bottom bar and the top bar. The top bar, as mentioned above, can be accessed by clicking on the  icon on the top right of the screen.



Figure 30: In-game interface (2)

At any moment the player can leave the game and go back to the main menu by clicking on the exit button at the top right of the screen.

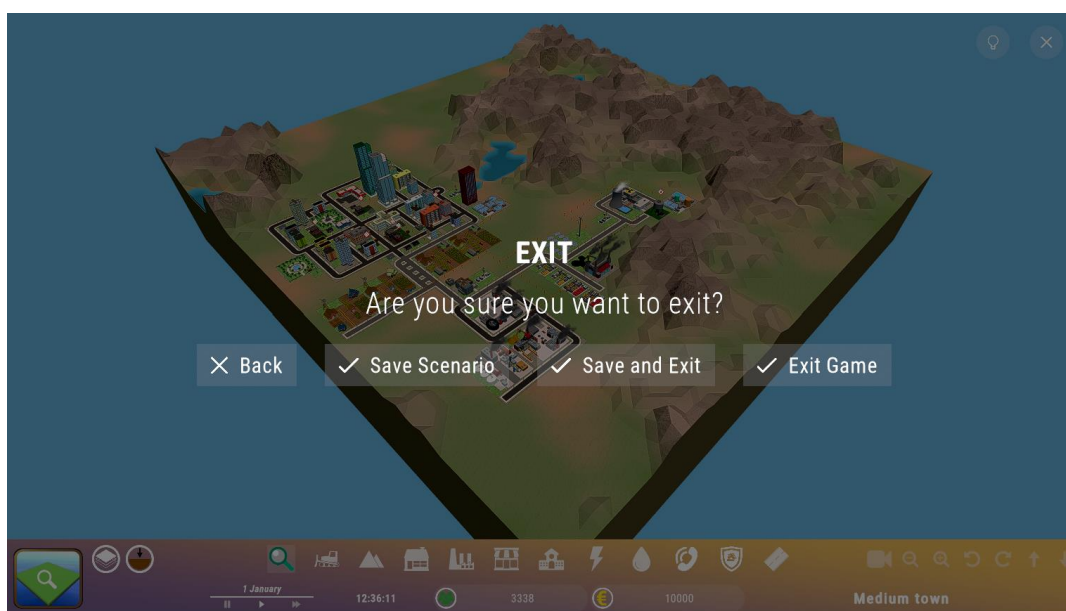


Figure 31: Student game exit options

The Back button will close the menu and return the player to the game.

The Save Scenario will save the player's current progress and after that the player will resume their play session.

The Save and Exit button will save the player's current progress and return the player to the main menu.

The Exit Game button will return the player to the main menu without saving their progress.

The entire game interface is using tooltips, so the players should let their mouse hover over objects for a second to get additional information about that object's role.

BOTTOM BAR BUTTONS

We will start with the left most buttons.



Displays the different information layers available to the players.



Displays the underground of the map.

INFORMATION LAYERS

The information layers display the map by showcasing a special type of information, shown as a layer on top of the current map. This helps the user to better understand the situation quickly by displaying data which might not be easily available otherwise.

To illustrate the different color codes used by the layer system, an explanatory legend is displayed at the bottom left of the screen. Figure 30 shows a city displaying its energy layer. The player can immediately see what zones are using low voltage energy (yellow on the map), what zones are using medium voltage energy (orange on the map) and where the power factory is (red on the map corresponding to high voltage energy).



Figure 32: Showing the Energy layer

Figure 31 shows the same city seen through the pollution layer, and the player can immediately see that some industries and power plants are causing pollution issues in the town.

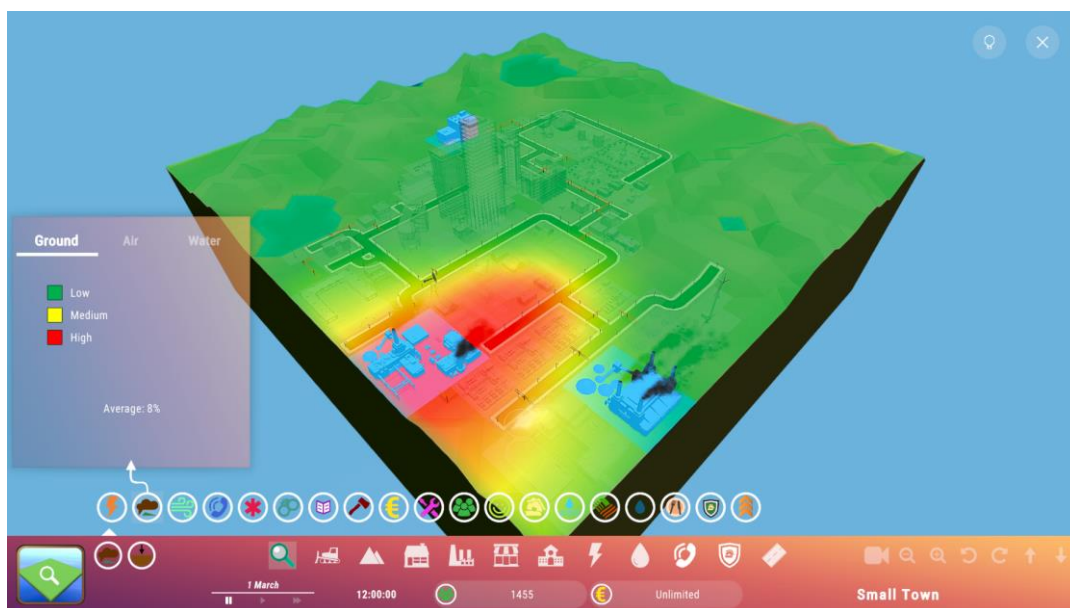























Figure 33: Showing the Pollution layer

There are a total of 20 different layers available to the player by clicking on the  button:

-  displays all the information related to energy
-  displays the different types of pollutions on the map
-  displays the wind levels on the map
-  displays the telecommunication services coverage on the map
-  displays the health level on the map
-  displays the police coverage on the map
-  displays the level of education on the map
-  display the fire-fighters coverage on the map
-  displays the revenue levels in the city
-  displays maintenance costs on the map
-  displays the population information on the map
-  displays the happiness levels of the population
-  displays the level of integrity of all buildings on the map
-  displays the available water resources of the map
-  displays the arable lands resource of the map
-  displays all the information related to the water supply system
-  displays all the information about food sources and consumers on the map
-  displays the disaster protection and awareness on the map
-  displays all the information related to building upgrades

The last layer is:

-  displays the soil properties related to earthquake and water resistance
- and it's only available in earthquake and flood scenarios because it's irrelevant for the rest.

Most of the layers include sub-layers related to the theme of the layer. Each sub layer contains a legend explaining the color coding on the map. Figure 32 shows the communications layer, which contains the internet, cellphone and landline coverage.



Figure 34: All the layers related to communications

A layer can be selected by clicking on its icon and can be de-selected by clicking again on its icon.

UNDERGROUND

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Clicking on the underground button simply displays what is underneath the map, at the underground level.

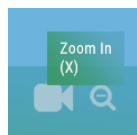


Figure 35: Underground

THE CAMERA TOOLS



The camera toolbar allows the player to manipulate the in game camera as they see fit. There are buttons to make it go up, down, rotate left, right, zoom in and zoom out.



Leaving the mouse hovering over a button shows a tooltip explaining the button function and also showing the keyboard key that can be pressed for the same result. Here we see we can zoom in by pressing the X key.

CITY GENERAL INFORMATION



The lower part of the bottom bar displays the in-game date and time, along with the city's treasury and population and the name of the current scenario.

The time when the teachers are creating or editing a scenario will be frozen, but when playing a scenario the time will move. There is also the option to stop or accelerate the time with the buttons that are below the date.

THE CONSTRUCTION TOOL BAR



This toolbar allows the player to build and destroy anything on the map, up to and including its terrain.



The magnifying glass allows the user to click on a building on the map and see more information about it. The window that opens has two tabs, one for the building's problems and one for the building's upgrades. Figure 34 shows the information panel about the problems and later on this guide the upgrades part will be covered as well.



Figure 36: Problems panel for a power plant



The Bulldozer tool allows the user to destroy any building they want, within the limits of what is allowed by their role.



Figure 37: Bulldozer tool



The terraforming tools allow the user to modify the terrain. Modify Terrain will raise or lower the terrain according to the player clicking with their left or right mouse button and Level Terrain will set a portion of terrain to the same height. Regenerate Terrain will open a new panel that allows the player to regenerate the whole terrain with some customizable options.



Figure 38: Terraforming tools



The house tools allow you to build any available dwelling in town. Four different categories of houses are available: Individual Houses, Low Rise Buildings, Apartments and Skyscrapers.



Figure 39: Choice of houses



The industry tools allow you to build any available industry in town. Three different categories are available: Factories, Industrial Farms and Organic Farms.



Figure 40: Choice of industries



The commerce tools allow you to build any available commercial building in town. Two different categories are available: Food Distribution Buildings and Shopping Malls.



Figure 41: Choice of commercial buildings



The public services tools allow you to build any of the available public services in town. Five different categories are available: Fire Stations, Hospitals, Police Headquarters, Schools and Parks.



Figure 42: Choice of public services



The energy infrastructure tools allow you to build all the electrical and energy-related infrastructures. There are several energy production sources, energy transformers and power cables available.



Figure 43: Choice of energy infrastructures



The water infrastructure tools allow you to build all the necessary water supply infrastructures. Four different categories are available: Water Pumps, Water Pipes, Water Treatment Facilities and Sewage Treatment Facilities.



Figure 44: Choice of water infrastructures



The communications tools allow you to build all the internet, landline and cellphone providers.



Figure 45: Choice of communications



The disaster buildings tools allow you to build buildings related to disaster protection and awareness. The last three paint brush tools offer the option to mass purchase building upgrades. The section covering the upgrades will be covered later in this manual.



Figure 46: Choice of disaster buildings



The road tools allow you to build two different kinds of roads. The normal type and an asphalt type.

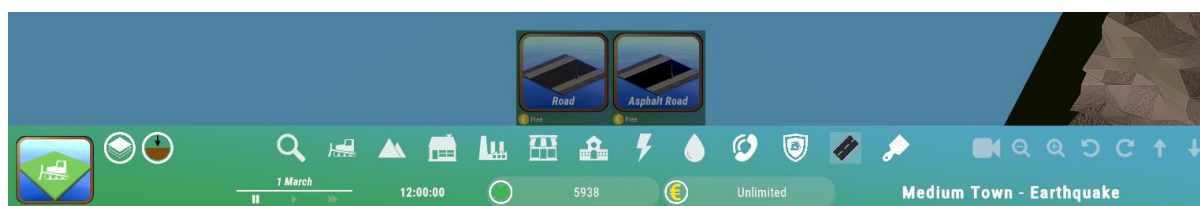


Figure 47: Choice of roads



The paint soil properties tools allow you to paint on the map fault lines and water resistance areas on the map. You can paint by holding down the left mouse button and by clicking on the right mouse button you can cycle through the available options to paint. The options are : low, moderate and high risk areas.



Figure 48: Painting Terrain Properties

THE CONTEXTUAL INFO BOX



The contextual info box allows you to always know what building is selected while you are using building tools. Figure 46 shows that the currently selected building is a Factory and one of them will be built if the players click on the map.

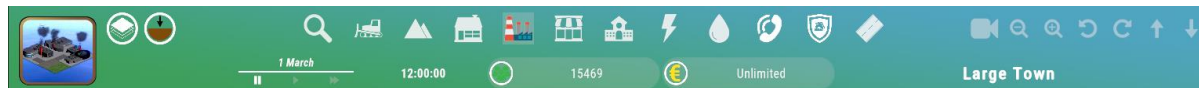


Figure 49: Contextual Info Box

THE UPGRADES PANEL

As mentioned in the previous part, using the magnifying glass tool on a specific building, opens a panel with two tabs containing more information about that building. The second tab has all the data related to upgrades of that building. Figure 48 shows the available upgrades for a coal power plant.

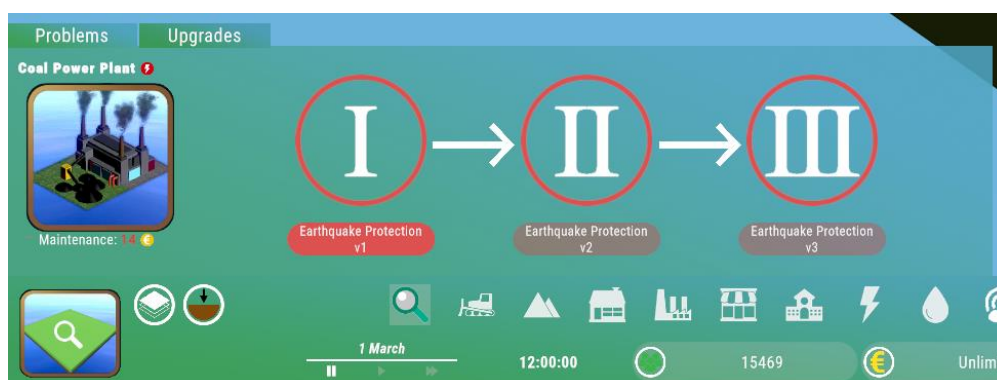


Figure 50: Upgrade Panel for a coal power plant

Players can purchase upgrades for buildings in order to make them more resistant to specific disasters. Clicking on a specific upgrade will bring up a panel that allows the player to purchase it, as shown in Figure 49.



Figure 51: Purchase upgrades panel

The players can purchase upgrades for individual buildings with the method mentioned above or they can use the Upgrade Tools of the Disaster Buildings Tools category to select multiple buildings and upgrade them all at once.

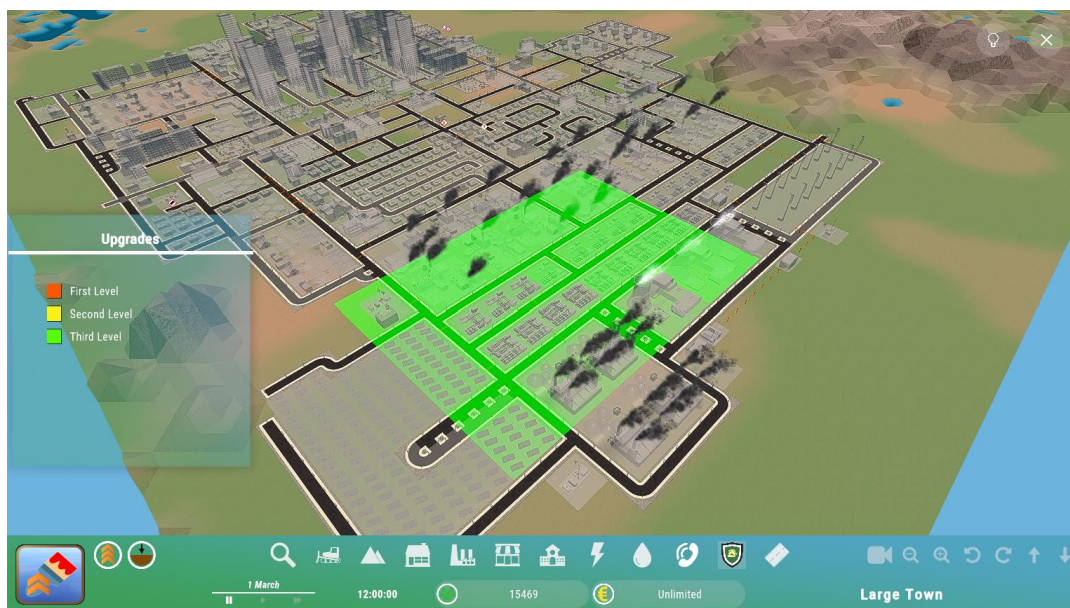


Figure 52: Selecting multiple buildings to upgrade

Keep in mind that different numbers and types of upgrades will be available based on the selected disaster for a scenario.

TOP BAR BUTTONS



Clicking on the Game button returns the player back to the game and hides the top bar.

The Scenario Editor and Settings panels are covered in a previous part of the manual. Keep in mind that the scenario editor button is only available for teachers and won't appear for students.

Clicking on the Summary button brings up the city summary panel, which contains all the information about the city in one place.



Figure 53: Summary panel

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DISASTER RELATED SCREENS

During the playtime, every three minutes, at the top right of the screen there will be a message relaying useful information on what someone should do in case of a disaster.

The messages are tailored for each type of disaster available in the TiS software. In the figure shown below, there is a message about what someone should do during an earthquake.



Figure 54: Useful disaster information message

There are also messages at the top left of the screen, warning the player when the disaster approaches, starts and ends. The figures below show these three types of messages for an earthquake scenario.



Figure 55: Disaster Warning message



Figure 56: Message showing a disaster occurring



Figure 57: Message showing the end of a disaster

END GAME SCREENS

When the game ends a summary screen will appear showing some total data related to the disaster, gathered throughout the game.



Figure 58: End Game Summary screen

Clicking on the Show Graphs button, a selection of graphs will be available for the player to view, displaying some more specific data, gathered daily, related to the disaster.

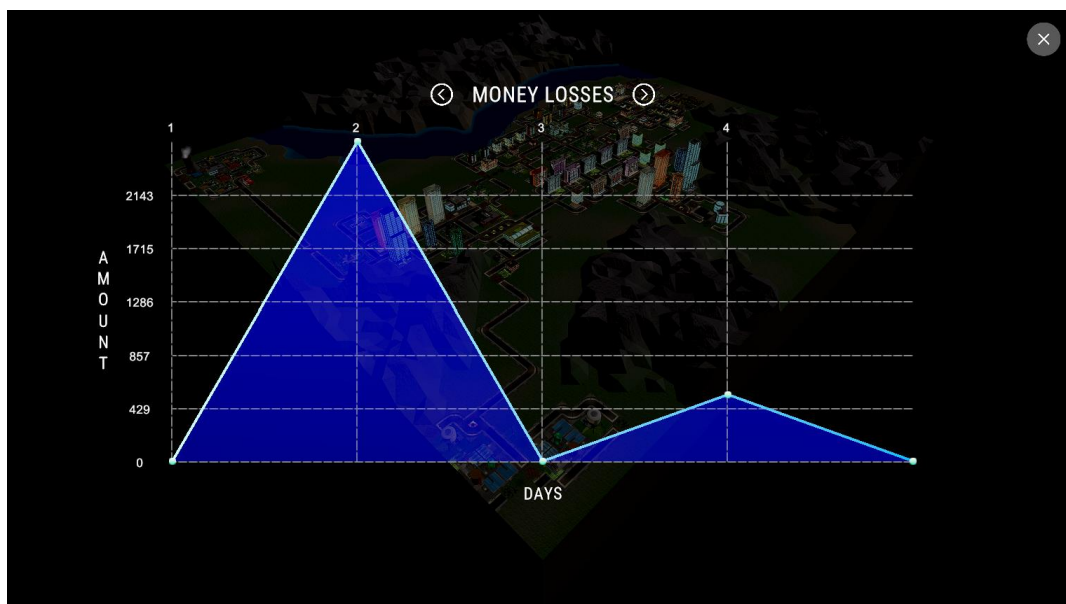


Figure 59: Money Losses graph

Hovering the mouse over a data point of the graph will display the exact value of Y coordinate for this point.

The following graphs are available: Money Spent, Money Losses, Damaged Buildings, Human Losses, Injured People, Population and Average Happiness. The player can cycle through the graphs by clicking on the arrow buttons next to the name of the currently displayed graph.

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