

digital and STEM careers



TEAMSTAR Software Manual v1.0f

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



Olivier Heidmann, UTH

Konstantinos Kastimedes, UTH

Sotiris Evangelou, UTH

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.

TEAMSTAR USER MANUAL

TABLE OF CONTENTS

<i>Introduction</i>	3
<i>Word of caution</i>	4
<i>First steps in the game</i>	5
Setting things up	5
Main Menu	5
Logging In	6
Home Screen	6
Settings Screen	7
Credits Screen	11
<i>The Teacher Experience</i>	12
My Scenarios	13
Public Scenarios	14
Creating a scenario	16
<i>The Student Experience</i>	18
My Scenarios	18
Public Scenarios	20
Join	20
<i>The Game Interface</i>	22
Teacher Game Interface	22
The Camera tools	23
City general information	24
The construction tool bar	24
The contextual INFO BOX	26
Student Game Interface	27
The construction tool bar	28
Building Specific Interfaces	29
<i>Table of figures</i>	38

Game Manual

INTRODUCTION

In recent years, the unemployment rate of young people is high in different European Countries. The youth unemployment tends to be higher than unemployment in older age groups. Typically, teenagers who are fresh out of education do not find jobs right away. All in all, the number of unemployed persons worldwide is projected to rise, and this is not due to the economic crisis alone, but also the industrial automation of processes previously performed by workers. The transformations of the worldwide economy lead to the need for digital skills for nearly all jobs where ICT complements the existing tasks. However, the percentage of young people who have basic or above basic overall digital skills is considerably low. It is apparent that digital and entrepreneurial skills must be introduced early on in the education process.

In order to achieve those goals, the TEAMSTAR project deploys a Unity-based city builder type serious game (that we will refer to as the TEAMSTAR Software or TEAMSTAR from now on) promoting to students entrepreneurial and digital skills.

Both the teacher and the student experience happen entirely inside the TEAMSTAR software.

The core structure of the TEAMSTAR 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 TEAMSTAR 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 TEAMSTAR. 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 TEAMSTAR, they can check their existing private scenario list, enroll into a new one 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.

The current manual aims to explain how to use TEAMSTAR 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.

Game Manual

WORD OF CAUTION

The TEAMSTAR 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.

Game Manual

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 TEAMSTAR 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: TEAMSTAR Archive Content

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

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.

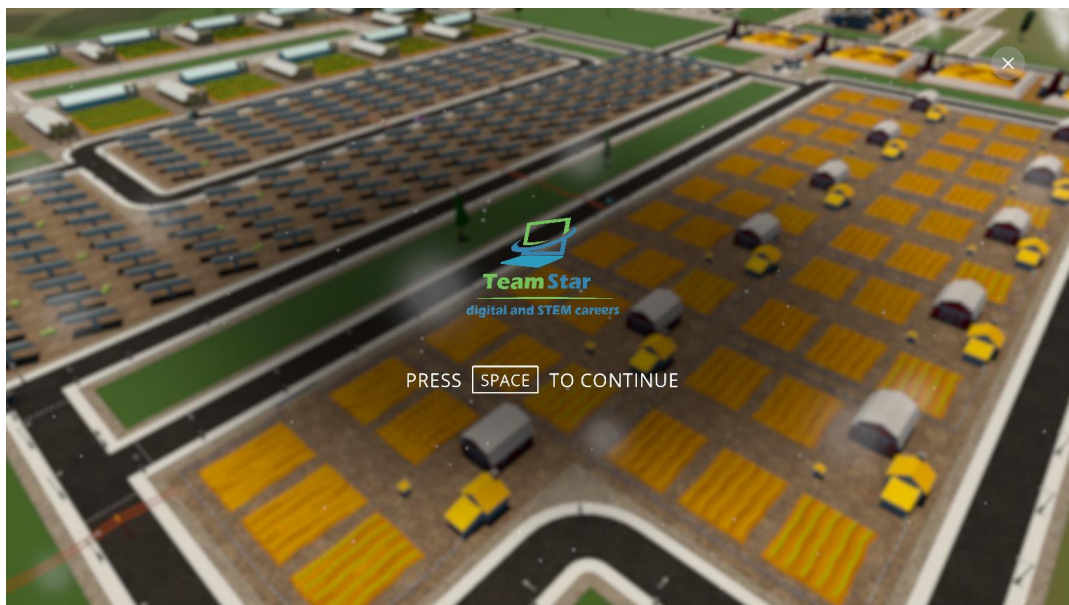


Figure 2: TEAMSTAR Main Menu

Game Manual

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 3: Authentication Screen

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

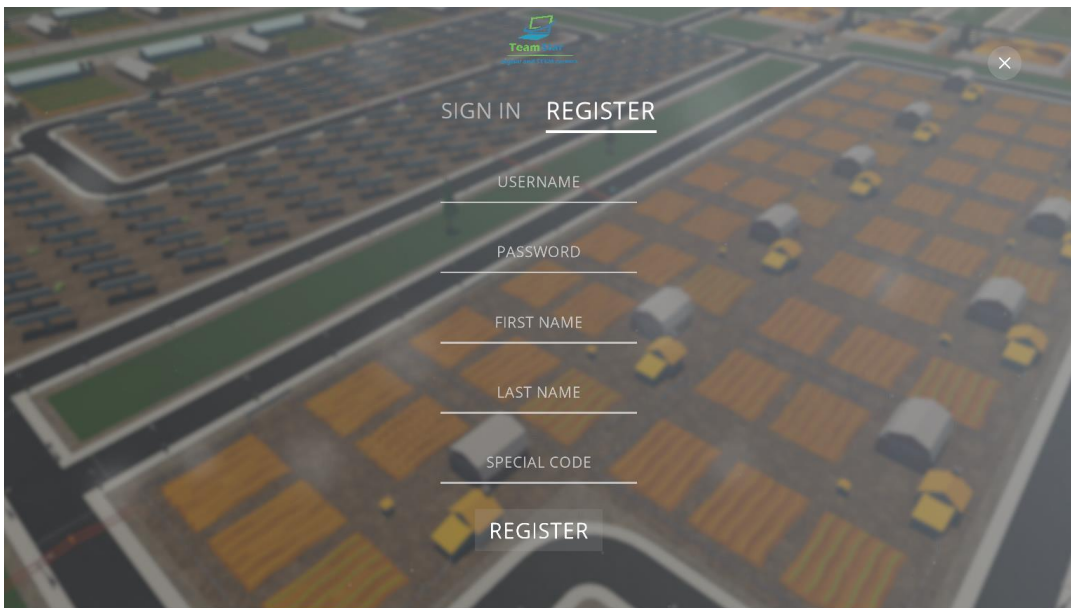


Figure 4: Account Creation Screen

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 TEAMSTAR platform. Contact us to get the teacher code.

HOME SCREEN

Game Manual

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.

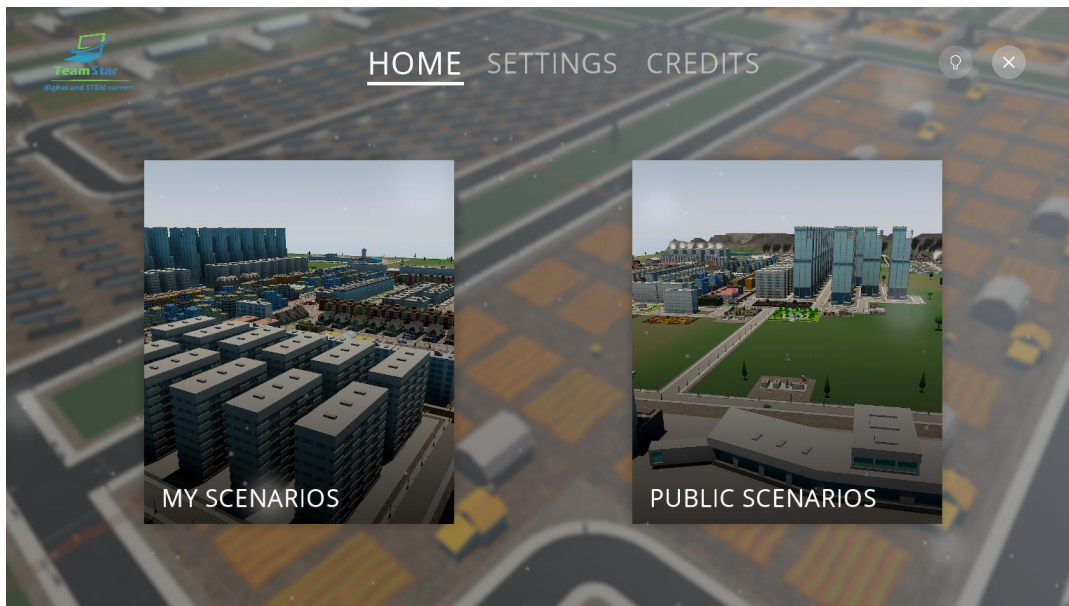


Figure 5: Teacher Home Screen

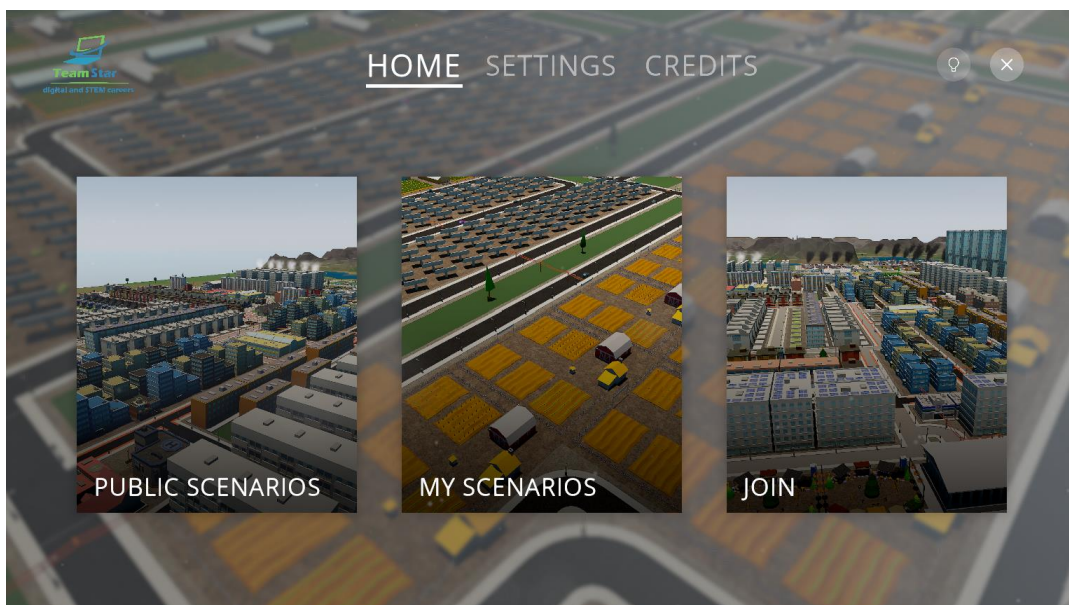


Figure 6: Student Home Screen

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.

SETTINGS SCREEN

Game Manual

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

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

- English
- Greek
- Italian
- Latvian
- Bulgarian

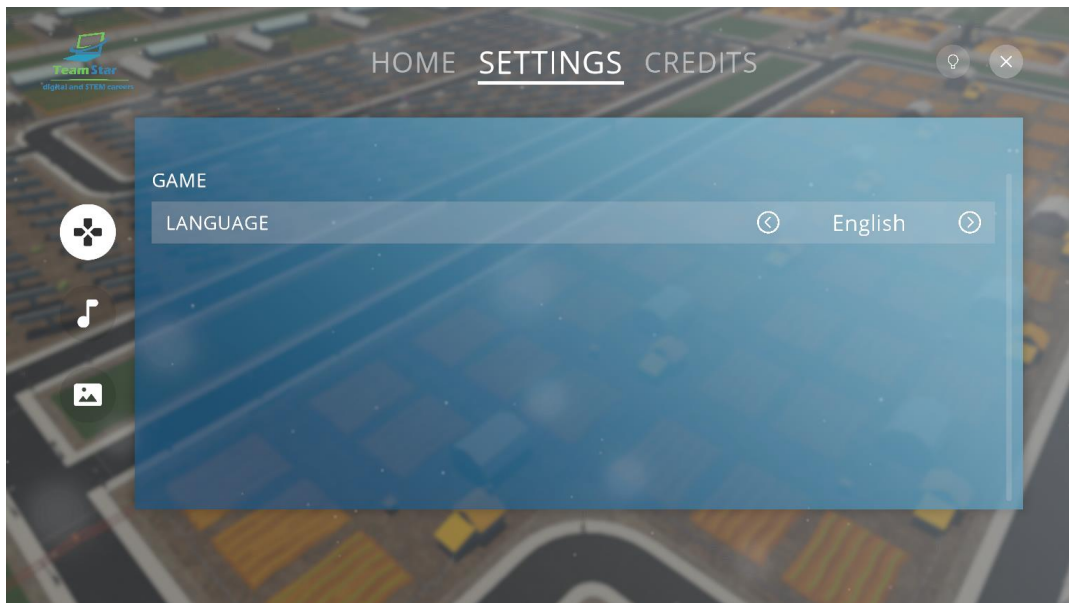


Figure 7: Gameplay Settings Screen

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

Game Manual



Figure 8: 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.

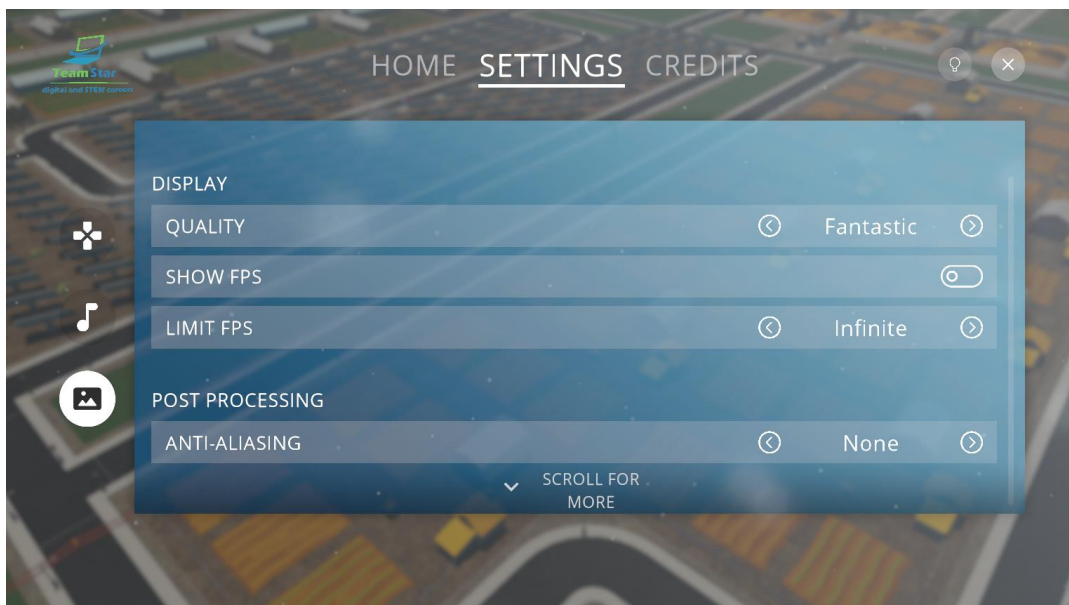


Figure 9: Visuals Settings Screen

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.

Game Manual

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).

Game Manual


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 10: 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, 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.

Game Manual

THE TEACHER EXPERIENCE

There are two categories available in the Home screen:

- My Scenarios
- Public Scenarios

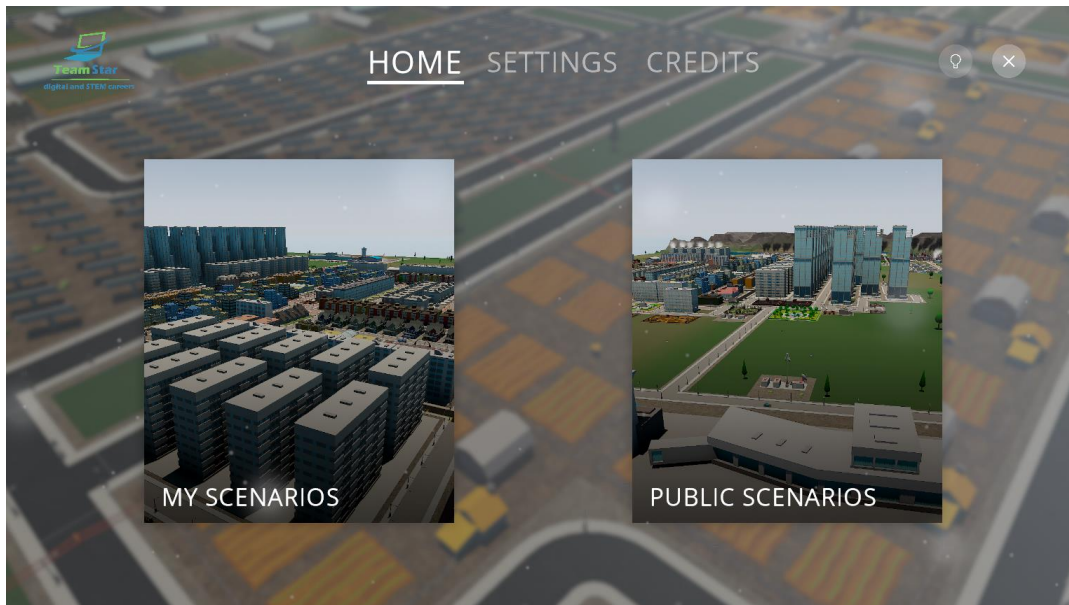


Figure 11: Teacher Home Screen

Game Manual

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.

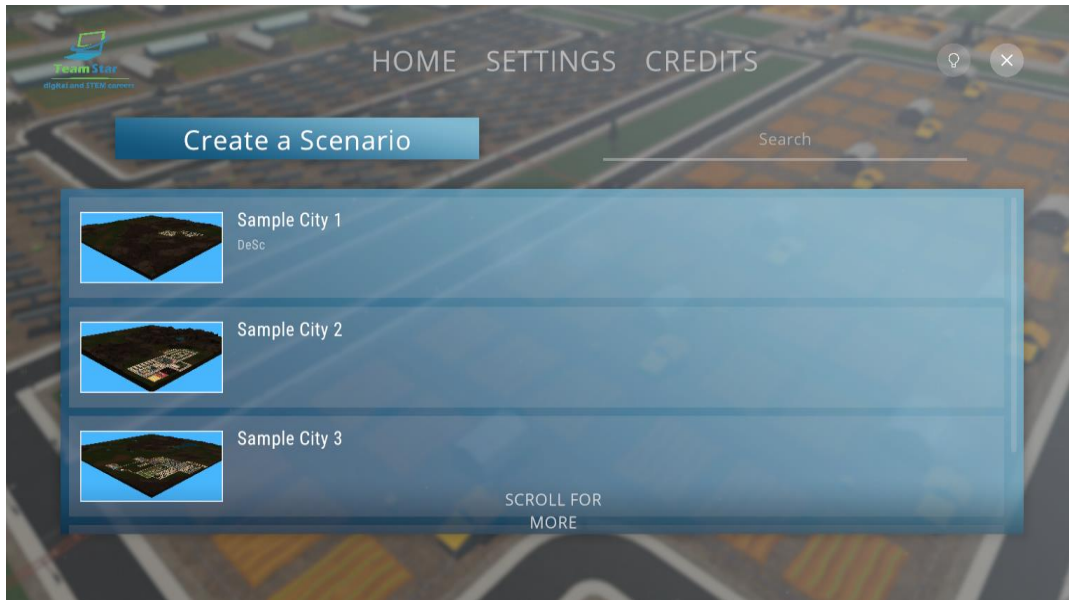


Figure 12: Teacher My Scenarios Screen

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

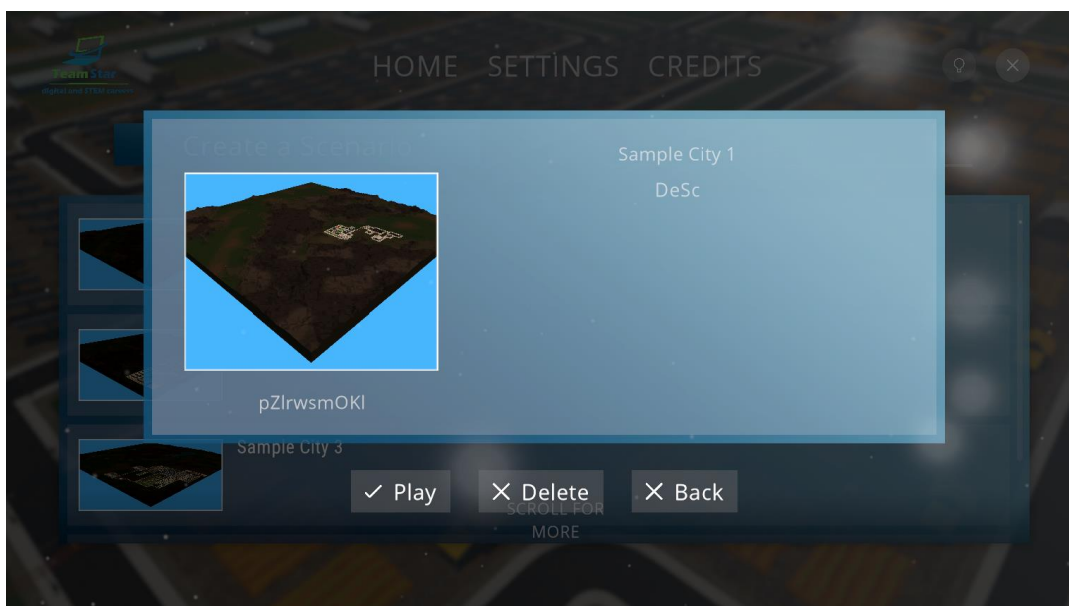


Figure 13: Selected Teacher Scenario Screen

Game Manual

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

Below the thumbnail there is a code, which is unique for each scenario. The teachers should give their student's that code, if they wish them to participate in a scenario.

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: medium, large and huge.

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

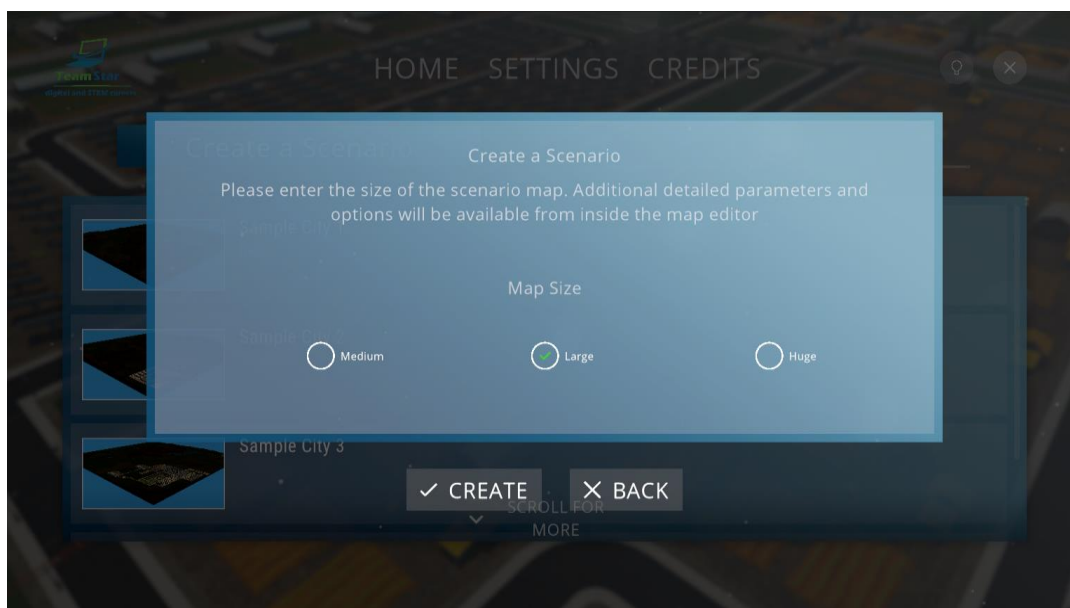



Figure 14: Selecting The Size Of The Map

PUBLIC SCENARIOS

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

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

Game Manual



Figure 15: Public Scenarios Screen

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.

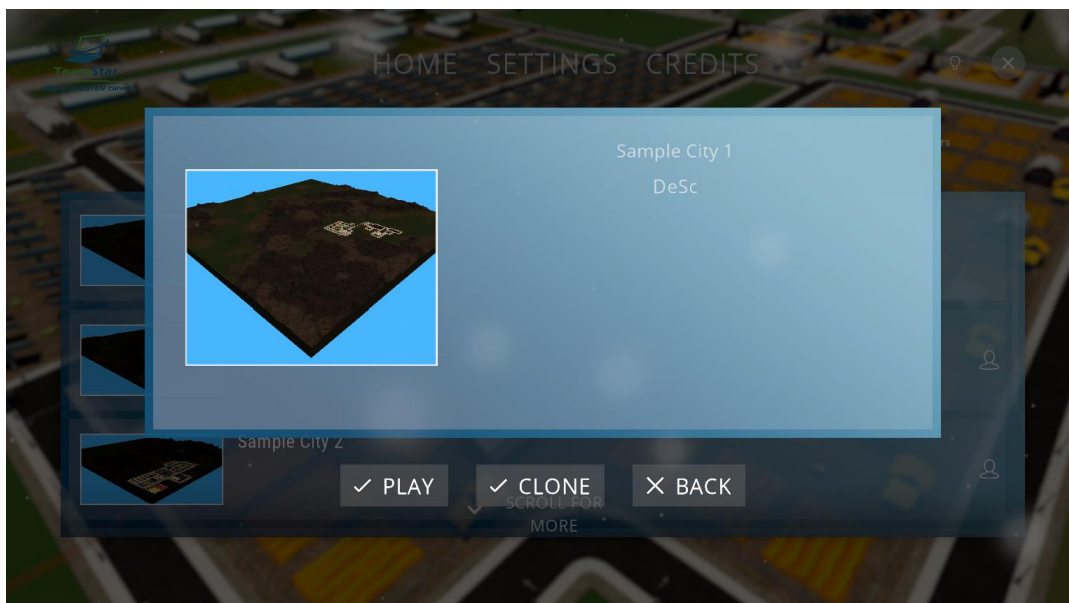


Figure 16: Selected Public Scenario Screen

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.

Game Manual

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.

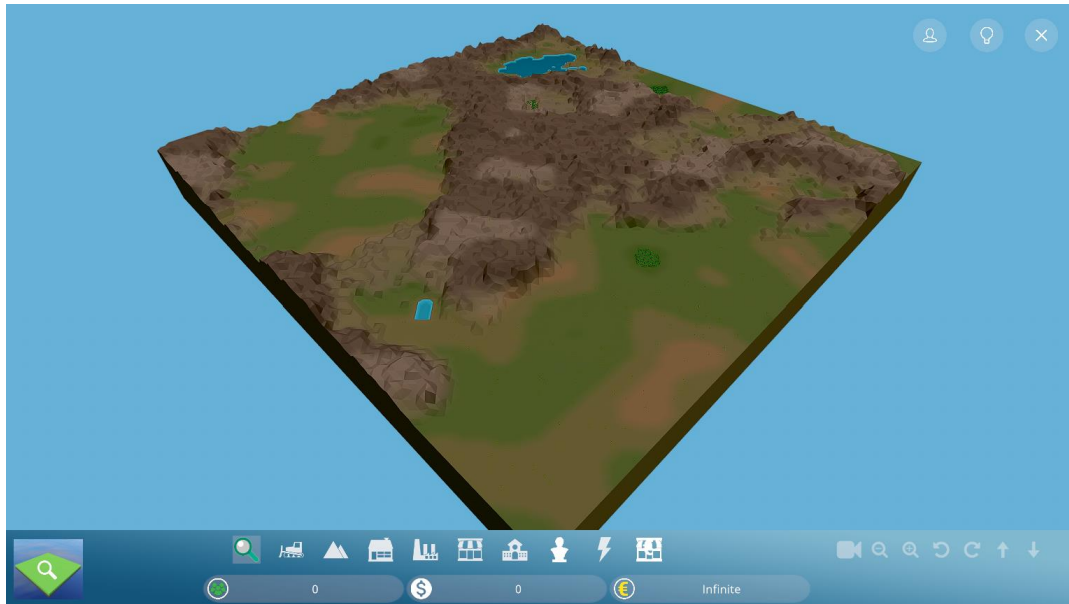



Figure 17: Game Interface

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.

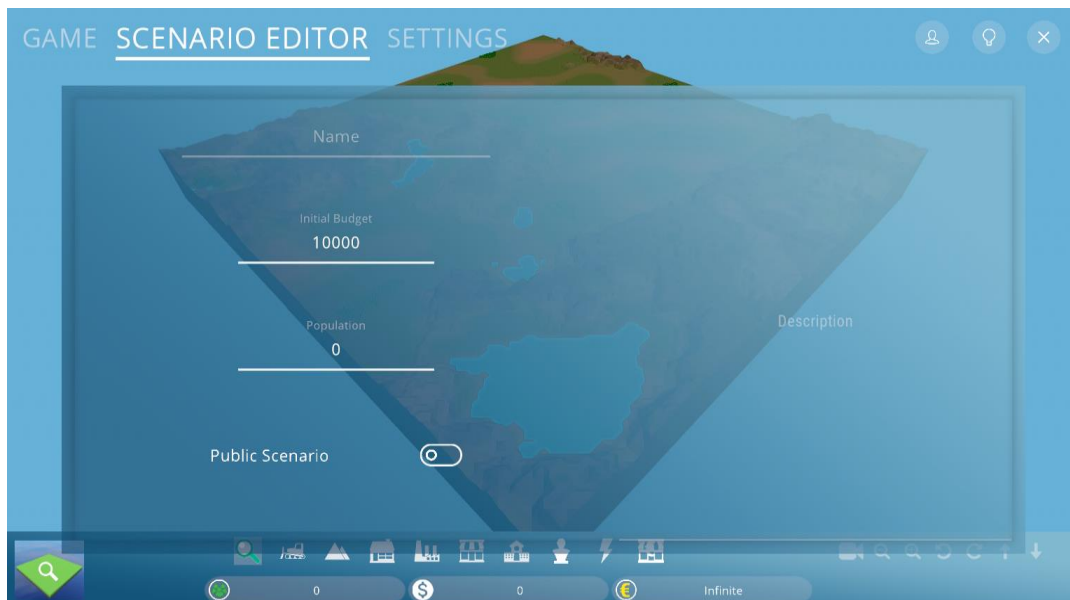


Figure 18: Scenario Editor Window

Game Manual

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 initial city budget available to the player
- The population of the city
- Is the scenario public?

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 19: Exit Menu Options

Game Manual

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

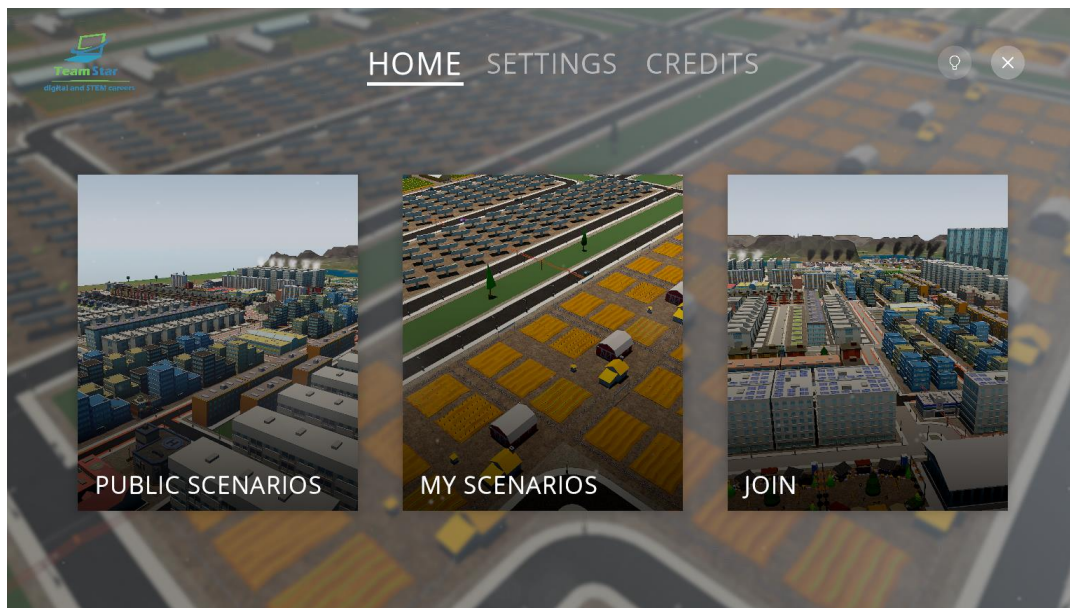


Figure 20: Student Home Screen

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.

Game Manual

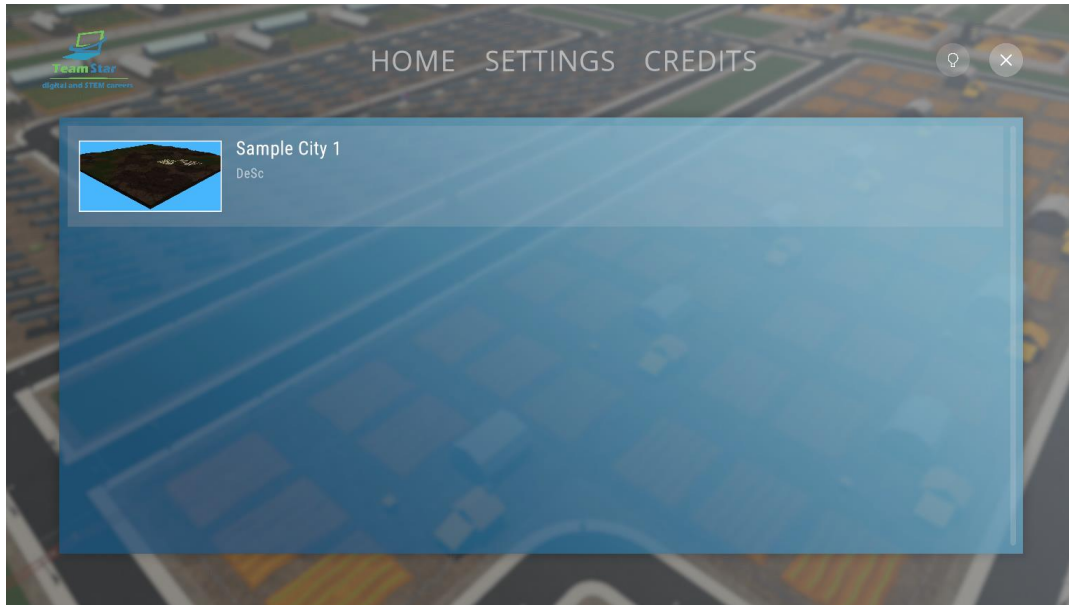


Figure 21: Student My Scenarios Screen

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

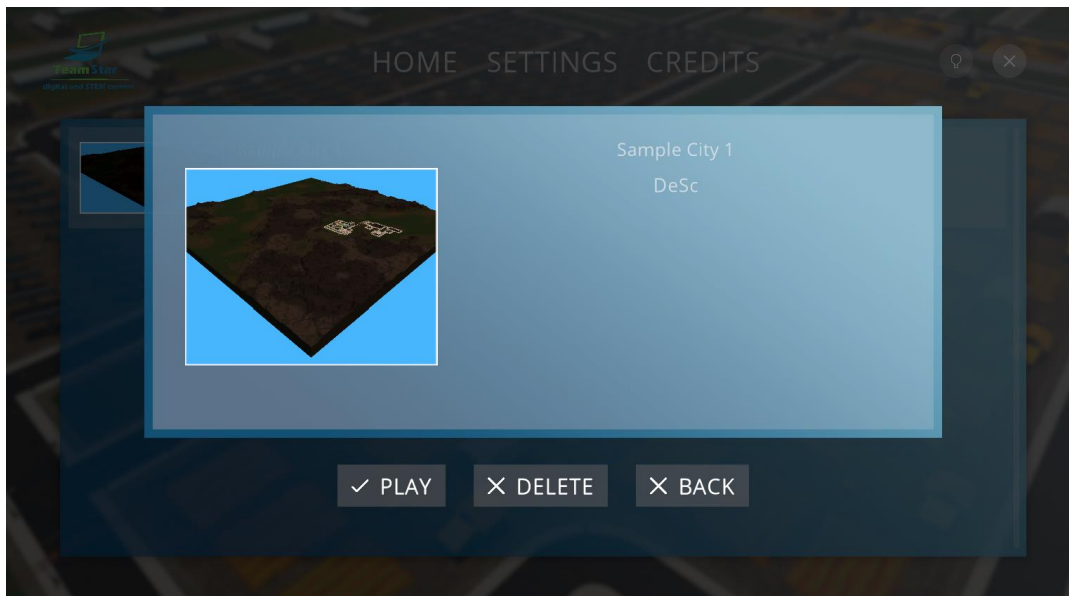


Figure 22: Selected Student Scenario Screen

The Play button will open the game interface for that scenario allowing the student to start the scenario.

The Delete button will remove the scenario from the student's scenario list.

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

Game Manual

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.

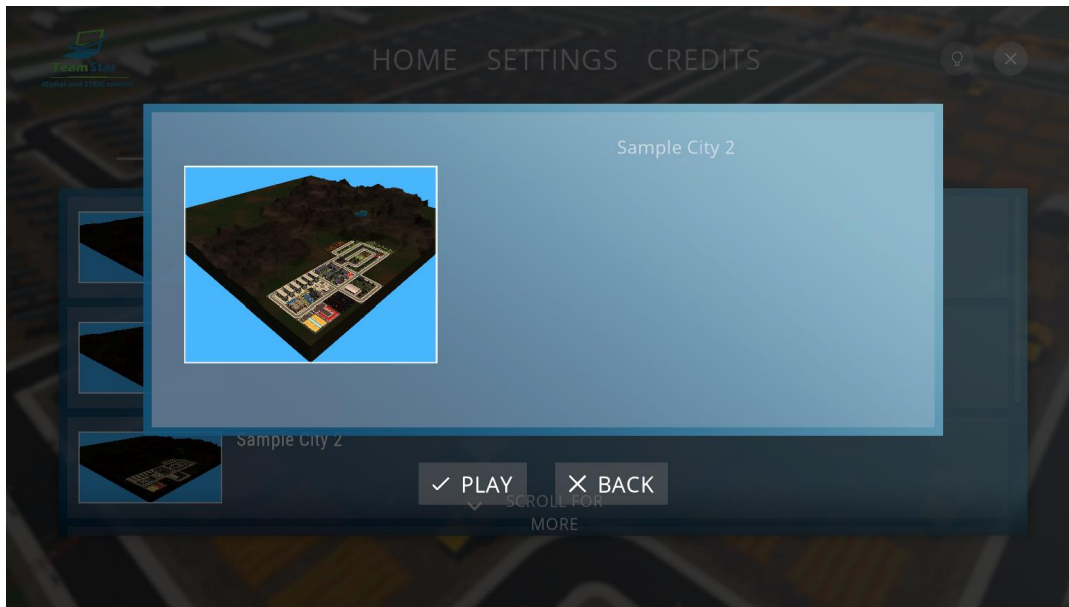


Figure 23: Selected Student Public Scenario Screen

The Play button will open the game interface for that scenario allowing the student to start the 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.

Game Manual

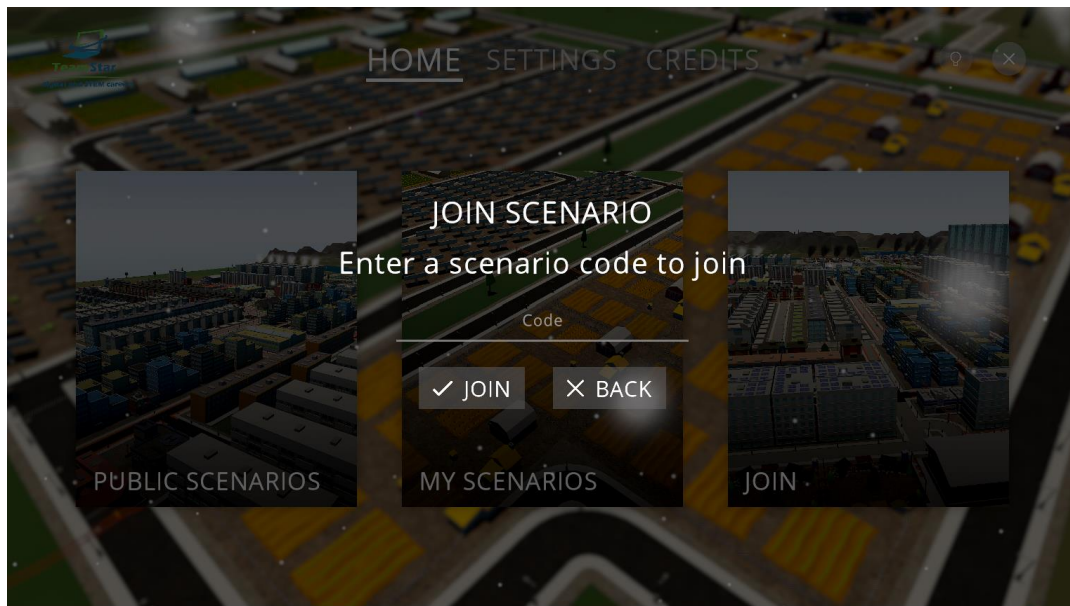


Figure 24: Join Scenario Screen

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.

Game Manual


THE GAME INTERFACE

TEACHER GAME INTERFACE

The teacher game interface offers them the tools to create a whole city which will end up reflecting the requirements for resources that the player will have to provide.



Figure 25: Teacher 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.

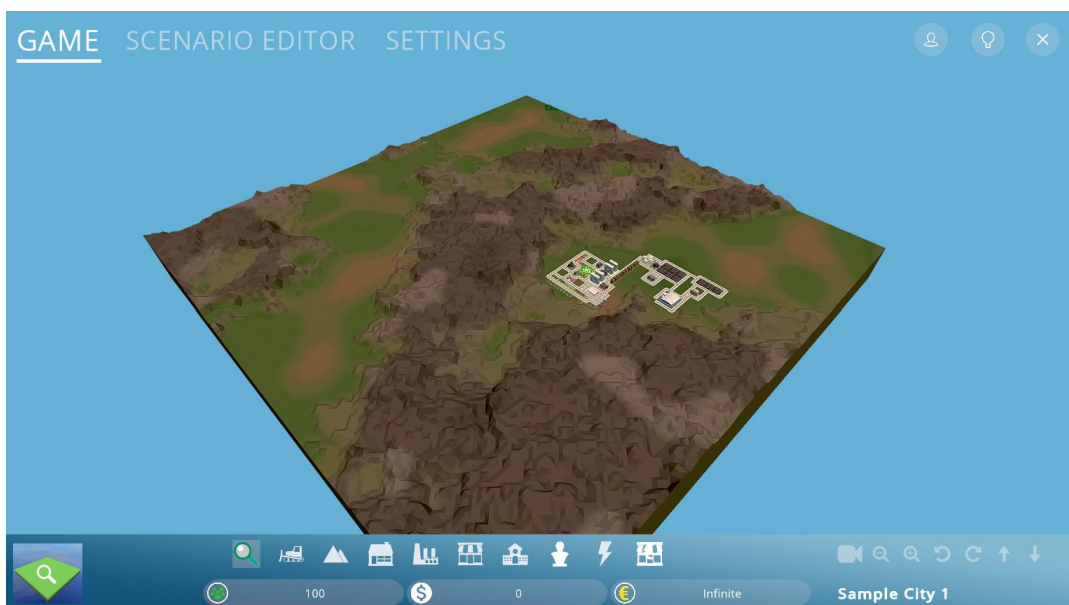


Figure 26: Teacher Game Interface (2)

Game Manual

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

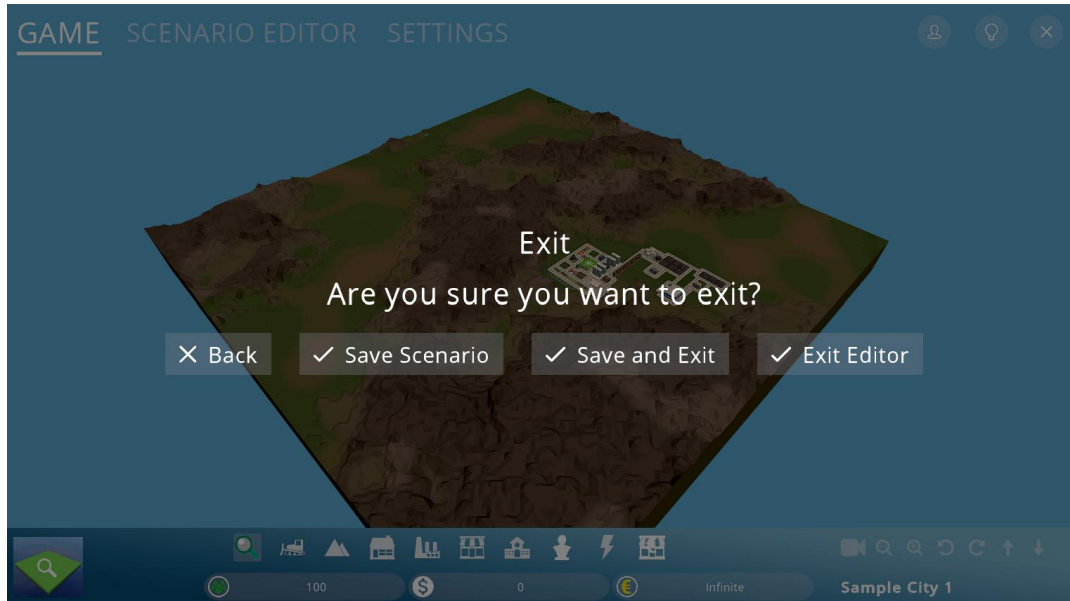


Figure 27: Teacher Game Exit Options

The Back button will close the menu and return the teacher back to editing the city.

The Save Scenario button will save the current state of the city and return the teacher back to editing.

The Save and Exit button will save the current state of the city and return the teacher back to the main menu.

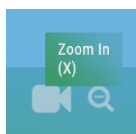
The Exit Game button will return the teacher to the main menu without saving the current state of the city.

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

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.

Game Manual

CITY GENERAL INFORMATION



The lower part of the bottom bar displays the population, along with the loaned money, city's treasury and population and the name of the current scenario.

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 essential buildings on the map and see more information about them.



The Bulldozer tool allows the user to destroy any building they want.

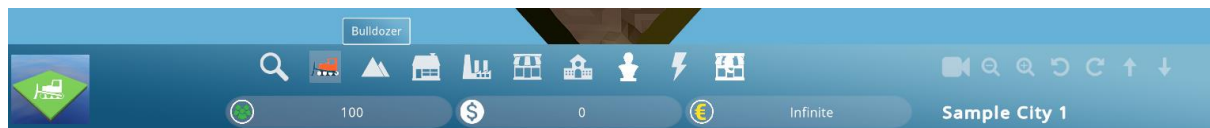


Figure 28: Bulldozer Tool



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.

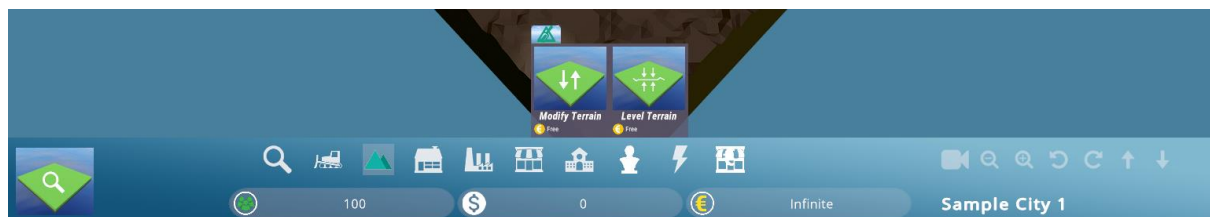


Figure 29: Terraforming Tools



The house tools allow you to build any available dwelling in town. These buildings contribute to the energy, water, internet, food and clothing demands of the city.

Game Manual



Figure 30: Choice of Houses



The industry tools allow you to build any available industry in town. These buildings contribute to the energy, water, internet, ore and oil demands of the city.



Figure 31: Choice of Industries



The commerce tools allow you to build any available commercial building in town. These buildings contribute to the energy, water and internet demands of the city.



Figure 32: Choice of Commercial Buildings



The public services tools allow you to build any of the available public services in town. These buildings contribute to the energy, water and internet demands of the city.



Figure 33: Choice of Public Services



The culture tools allow you to build buildings related to culture. These buildings contribute to the energy, water and internet demands of the city.

Game Manual



Figure 34: Choice of Culture Buildings



The energy infrastructure tools allow you to build roads, all the electrical and energy-related infrastructures and communications buildings.

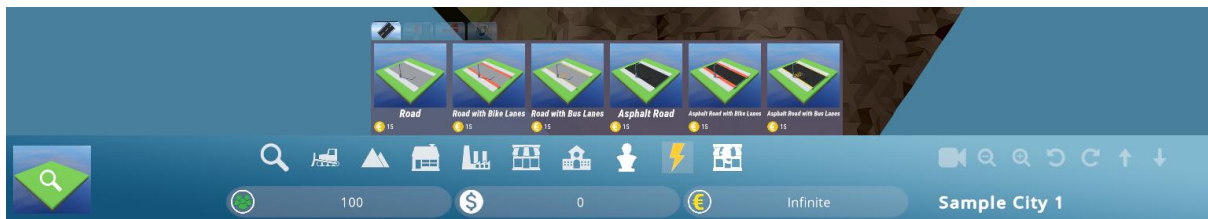


Figure 35: Choice of Infrastructures

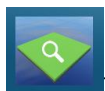


The basic business infrastructure tools allow you to build all the core buildings related to business management.



Figure 36: Choice of Basic Business Infrastructure

THE CONTEXTUAL INFO BOX



The contextual info box allows you to always know what building is selected while you are using building tools. Figure 38 shows that the currently selected building is a Factory and one of them will be built if the players click on the map.



Figure 37: Contextual Info Box

Keep in mind that you always want to build a police station, a bank and a city hall in your town in order to be functional for the players.

Game Manual

STUDENT GAME INTERFACE

The student interface allows the player to open and develop businesses that will cover the needs of the cities that were created by the teachers.

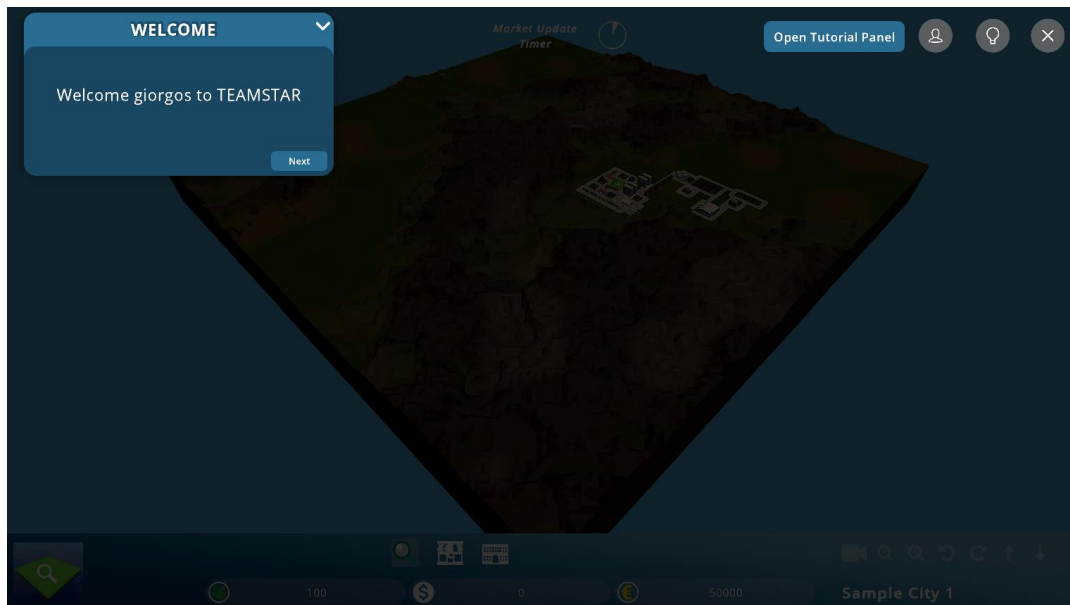


Figure 38: Student Game Interface (1)



Figure 39: Student Game Interface (2)

Game Manual

As you can see in Figure 40, at the top right of the screen, there is a tutorial panel that will guide the players through their early steps in the game. The tutorial itself will not be covered in this manual, but in short it helps the players to open a business and the build essential buildings for its management. Each of these buildings has a unique user interface and will be covered later in this manual.

The tutorial panel can be closed at any time by pressing the downwards arrow at the right top of its panel and can be opened again by pressing the Open Tutorial Panel button at the top right of the screen.

THE CONSTRUCTION TOOL BAR

Bottom part of the screen displays the same city information and has the same camera functionalities as it does for the teachers. The only difference here is the available construction tools.



Figure 40: Student Construction Tool Bar



The magnifying glass allows the user to click on essential buildings on the map and see more information about them.



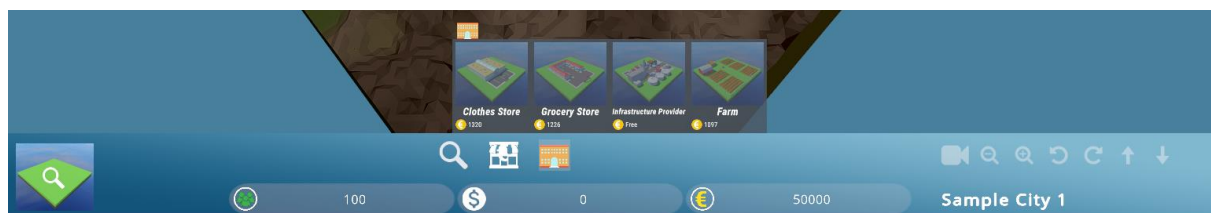
The basic business infrastructure tools allow you to build all the core buildings related to business management. Keep in mind you can have only one per type of building in your city.



Figure 41: Choice of Basic Business Infrastructure



The businesses tools allow you to build businesses once you have acquired the permission to open a specific business. Keep in mind you can have only one per type of business in your city.



Game Manual

Figure 42: Choice of Businesses

BUILDING SPECIFIC INTERFACES

Using the magnifying glass tool on key buildings in the city will bring up their unique building interface.

In the police interface the players will acquire their unique user ID by pressing the plus button, which is required in order to gain the permission to open a business.



Figure 43: Police Interface

In the bank interface the players will open a bank account, using their personal ID, by pressing the plus button.

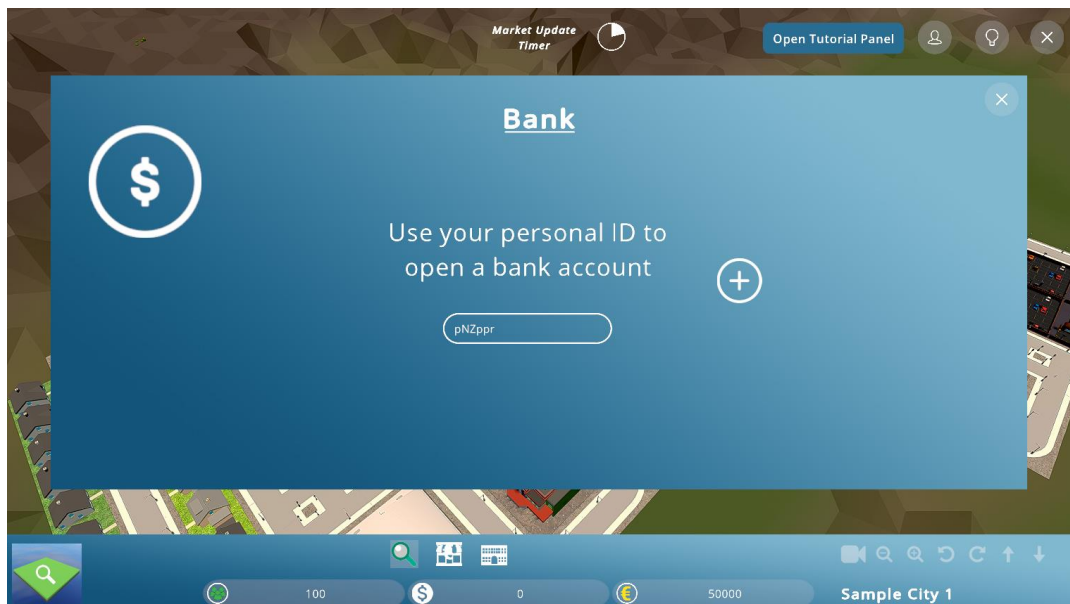


Figure 44: Bank Interface (1)

After that, the players will be able to deposit, withdraw and loan money from the bank.

Game Manual

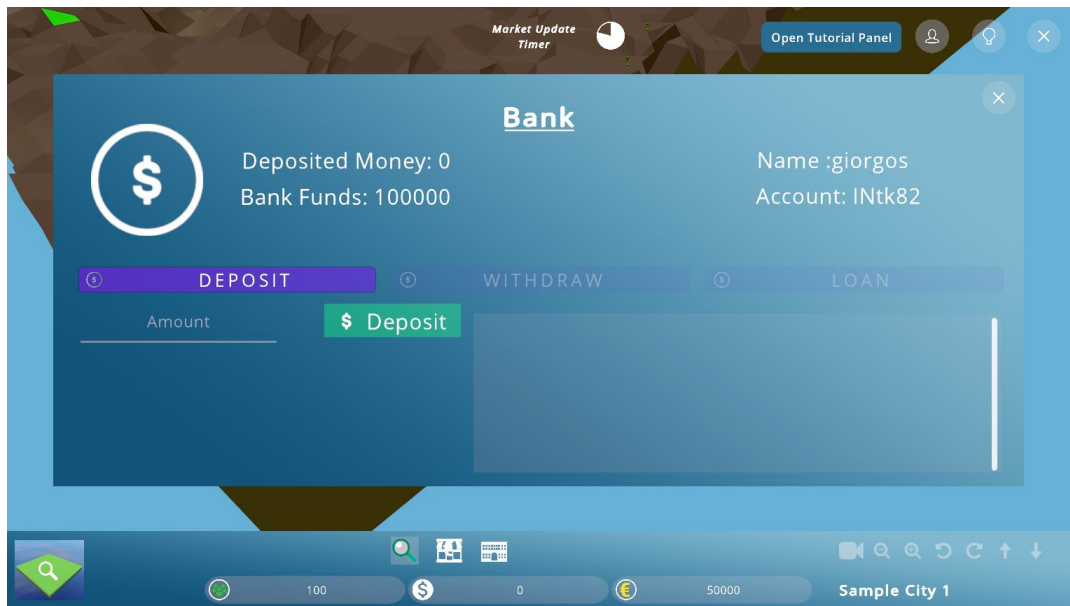


Figure 45: Bank Interface (2)

In the city hall interface the players will acquire the permission to open businesses, using their personal ID and bank ID.

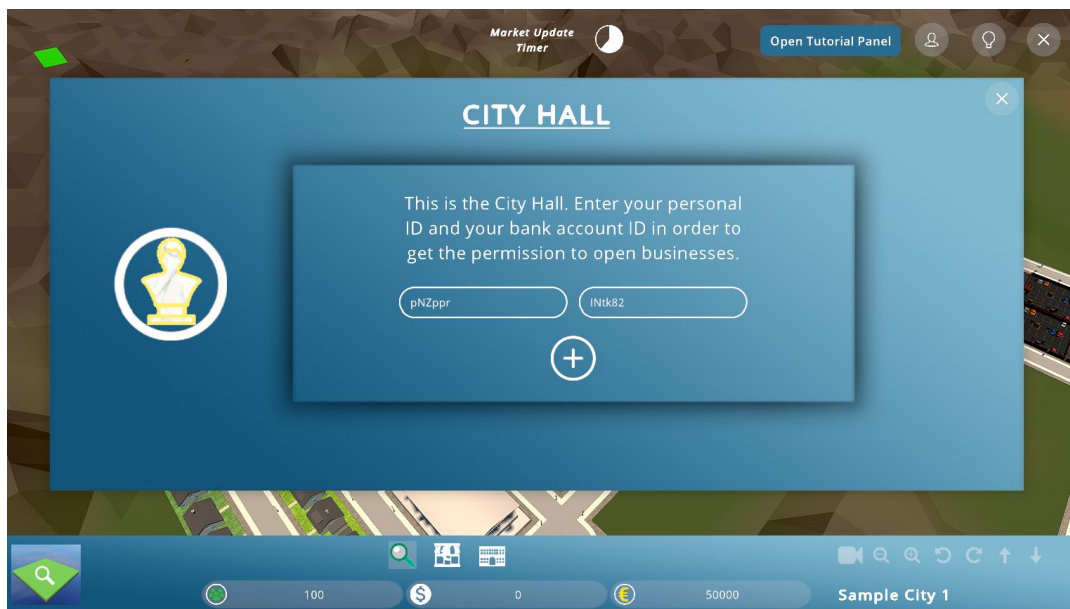


Figure 46: City Hall Interface (1)

Once the permission has been acquired, the players will be able to open specific businesses.

Game Manual



Figure 47: City Hall Interface (2)

The business interface shows all the products that your business can produce. In Figure 48 you can see the interface for a clothes store business.

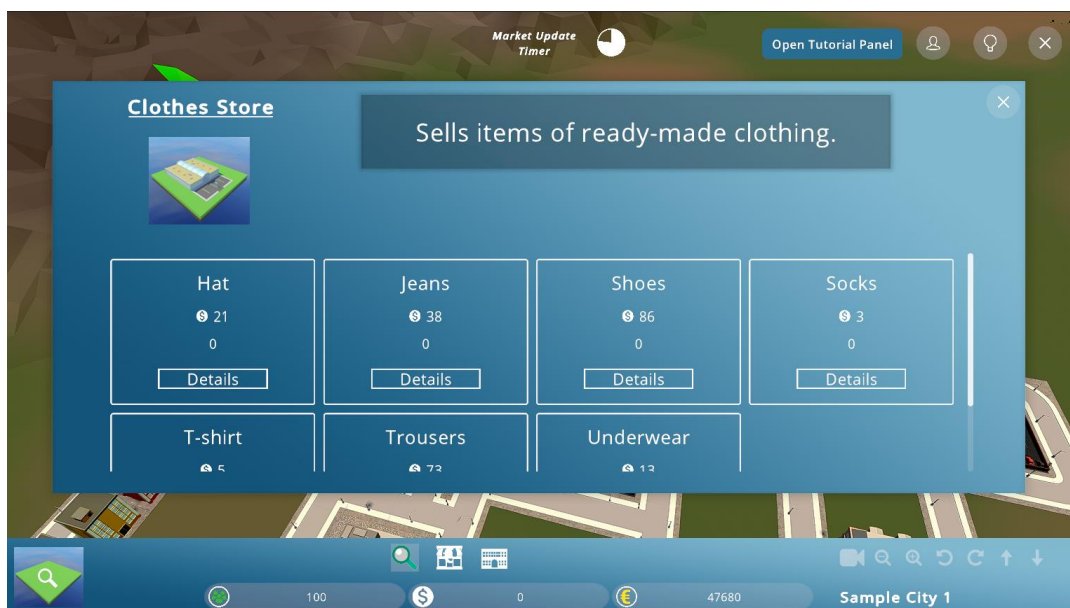


Figure 48: Business Interface

Clicking on the Details button of any product will bring up a panel showing all the relevant details about that product .

Game Manual

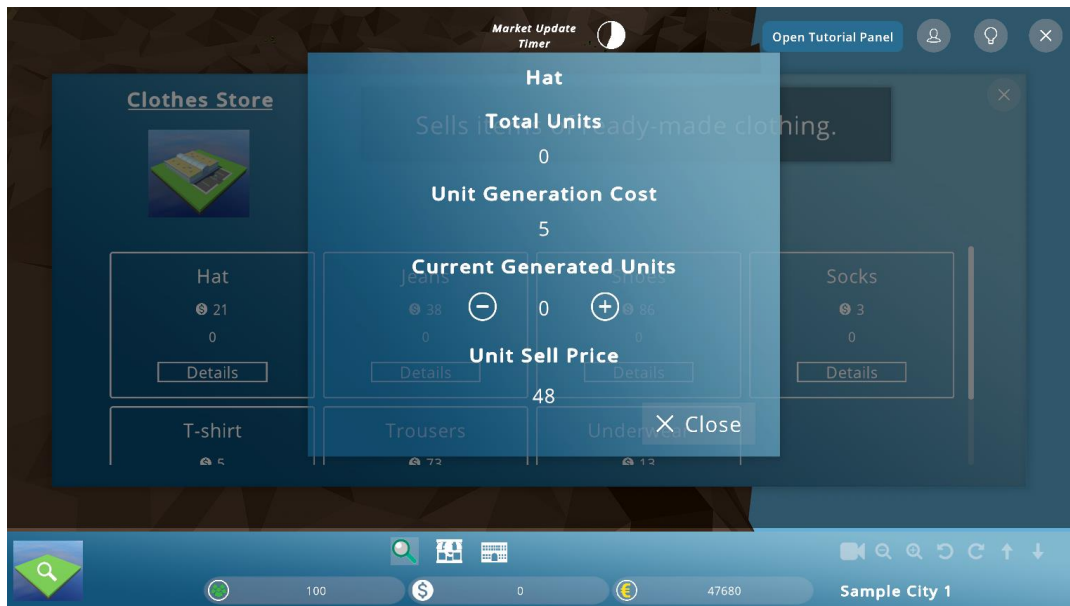


Figure 49: Product Details

In this panel the players can see the total number of product units they have, the required cost generating a unit, the unit sell price and they can adjust the number of units to be produced in a market cycle.

In the headquarters interface the players can see the overview of city requirements, which will help them decide which businesses they want to build and which products to produce.

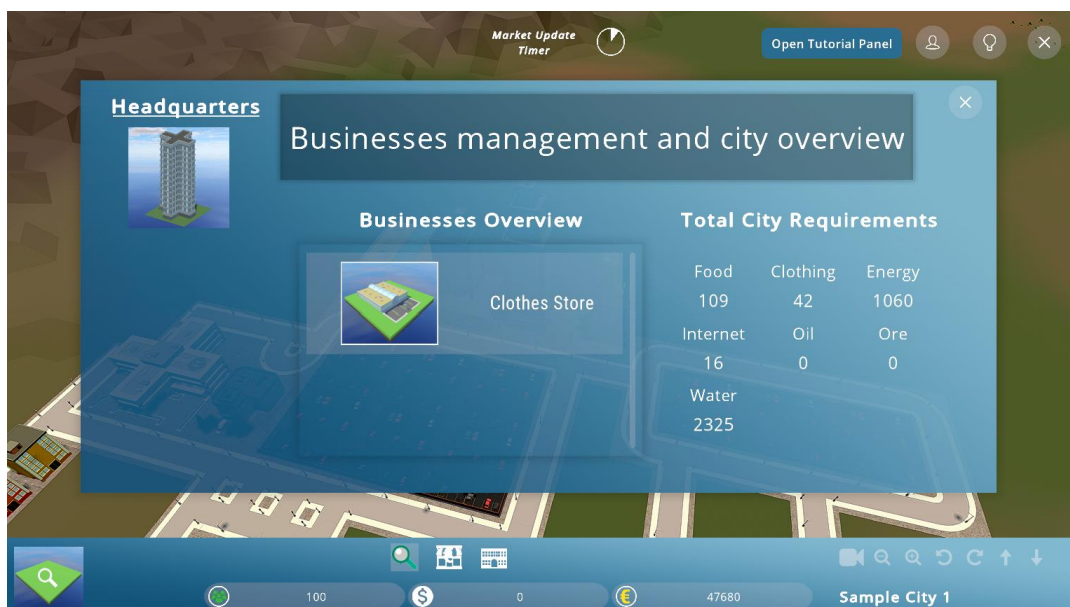


Figure 50: Headquarters Interface

Clicking on a business in the businesses overview panel will bring up a panel showing some important information about the selected business.

Game Manual

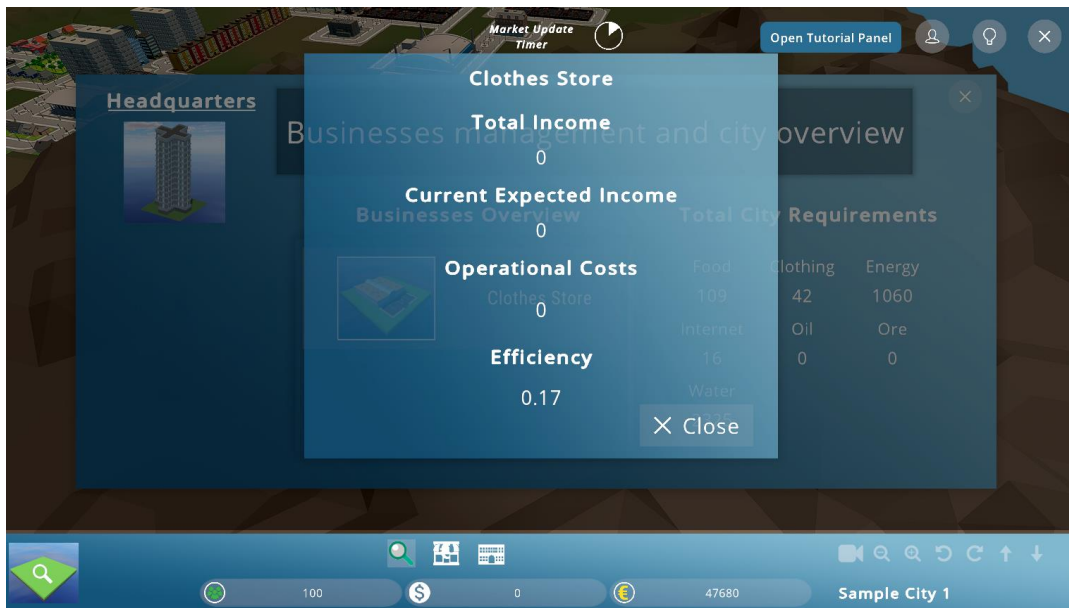


Figure 51: Business Overview

As shown in Figure 51, the total income, current expected income, operational costs and efficiency information are available for the clothes store business.

In the trade market interface the players will be able to sell their products. After selecting a business from the green dropdown menu all the available products for selling will be shown.

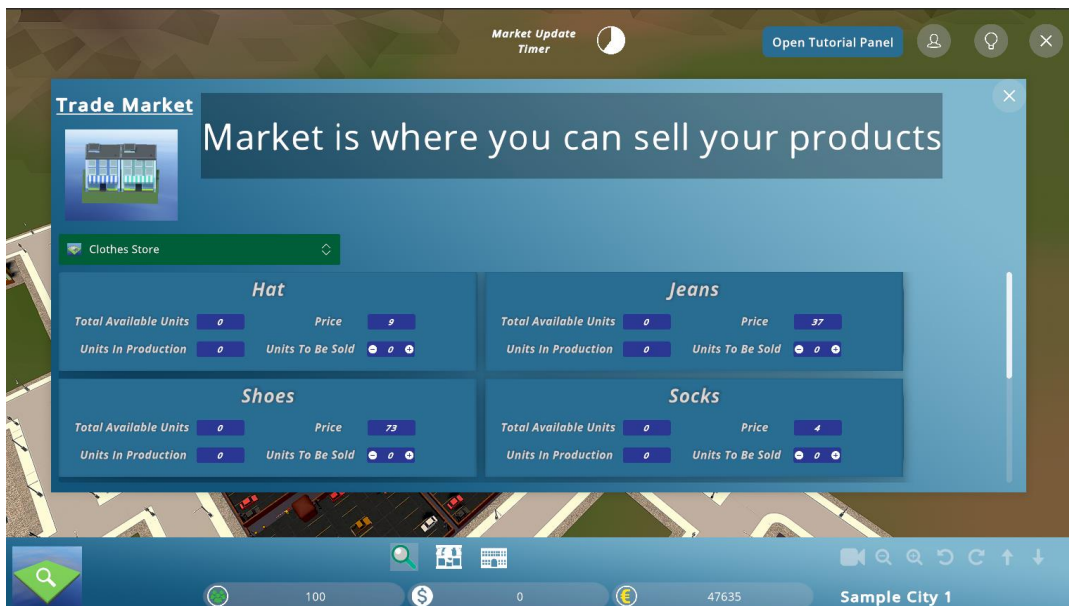


Figure 52: Trade Market Interface

For each product there is information regarding the total available units, the unit price and the current units in productions. The players can adjust the units to be sold in the current market cycle at any time, by clicking on the plus and minus buttons in the panel of each product.

Game Manual

This is a good time to talk about the market update cycle. At the middle top of the screen there is a timer indicating when the market will be updated. When a cycle passes product units will be sold and produced and the city requirements for products will change.



Figure 53: Market Update Timer

In the headhunter firm interface the players will be able to hire employees and assign them to their businesses. The interface has two parts, the employees and the properties.

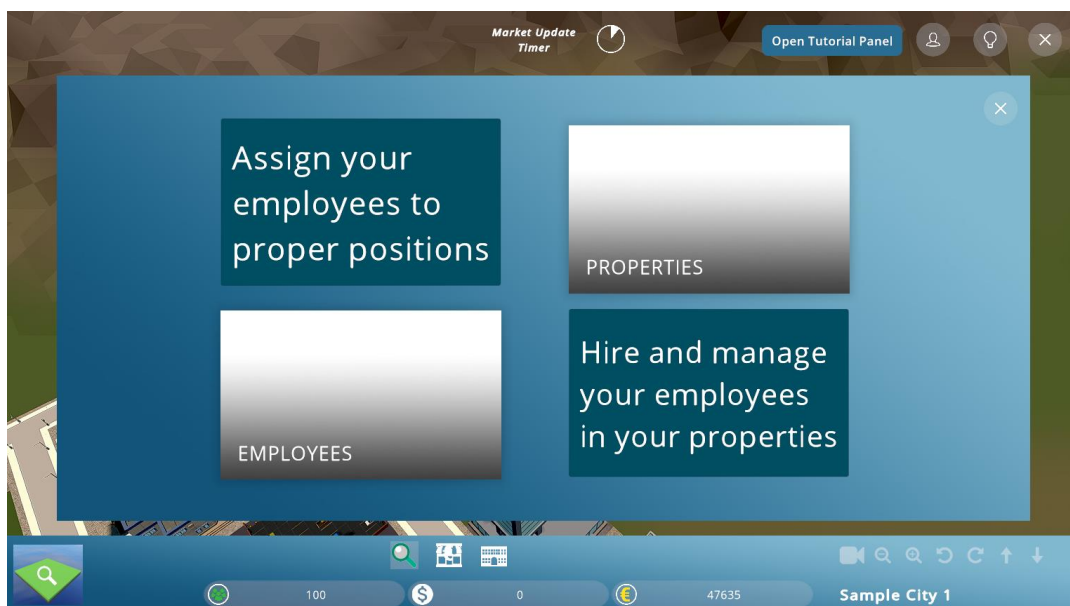


Figure 54: Headhunter Firm Interface

The employees interface shows the available employees for hire and the recruited employees.

Game Manual



Figure 55: Recruit Employees Panel

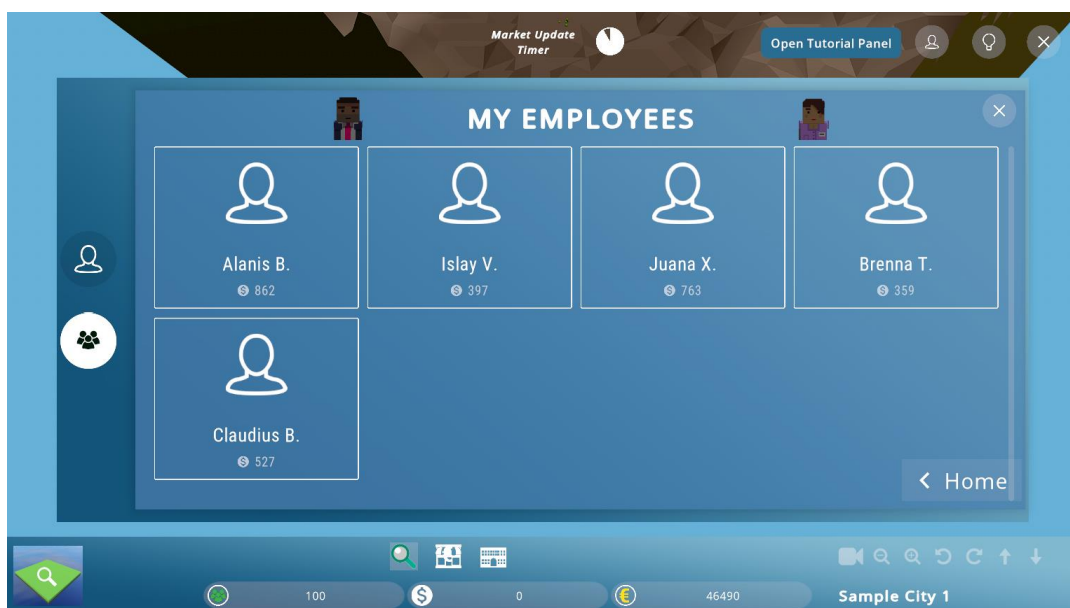


Figure 56: My Employees Panel

Each employee has three characteristics : productivity, service and notability. The players can hover their mouse over an employee card to view them. Employees with better characteristics will have a bigger impact on the efficiency of a business.

Game Manual



Figure 57: Employee Characteristics

The properties interface shows all the businesses the user has built in the city.

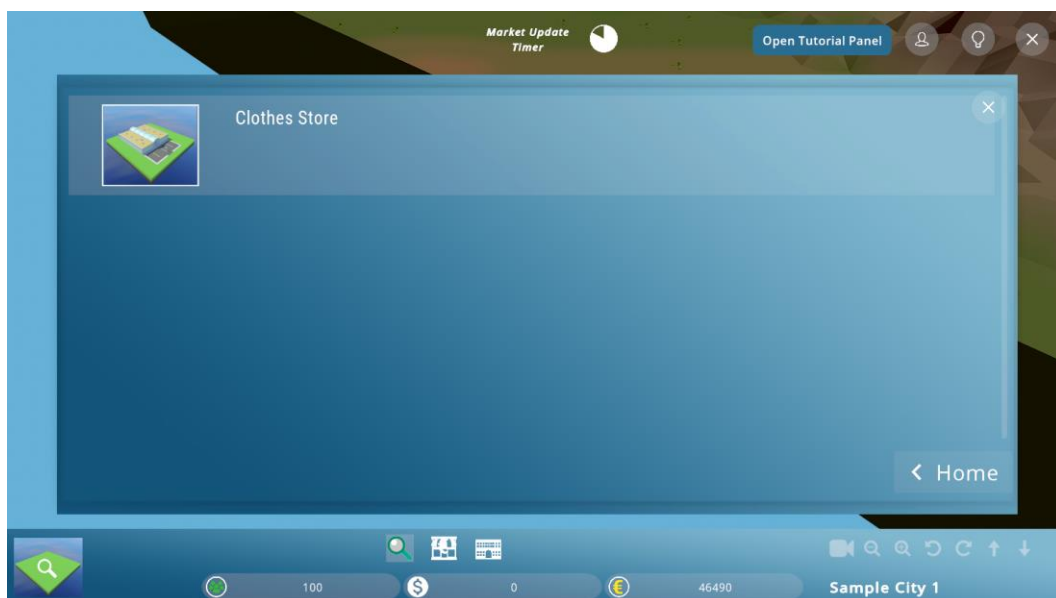


Figure 58: Properties Panel

Clicking on one, brings up the panel for that business. Here the players can assign their employees in key positions inside the business.

Game Manual

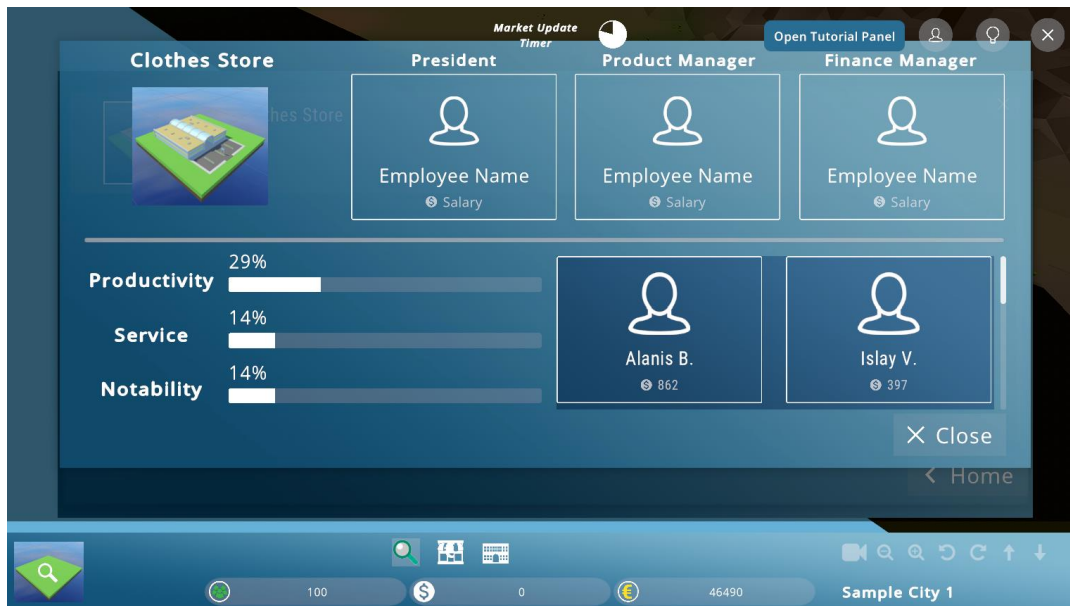


Figure 59: Assign Employees

Each business has also three characteristics that the players can improve by assigning employees into the three available positions. In Figure 60 you can see how having all three positions covered have affected the characteristics .

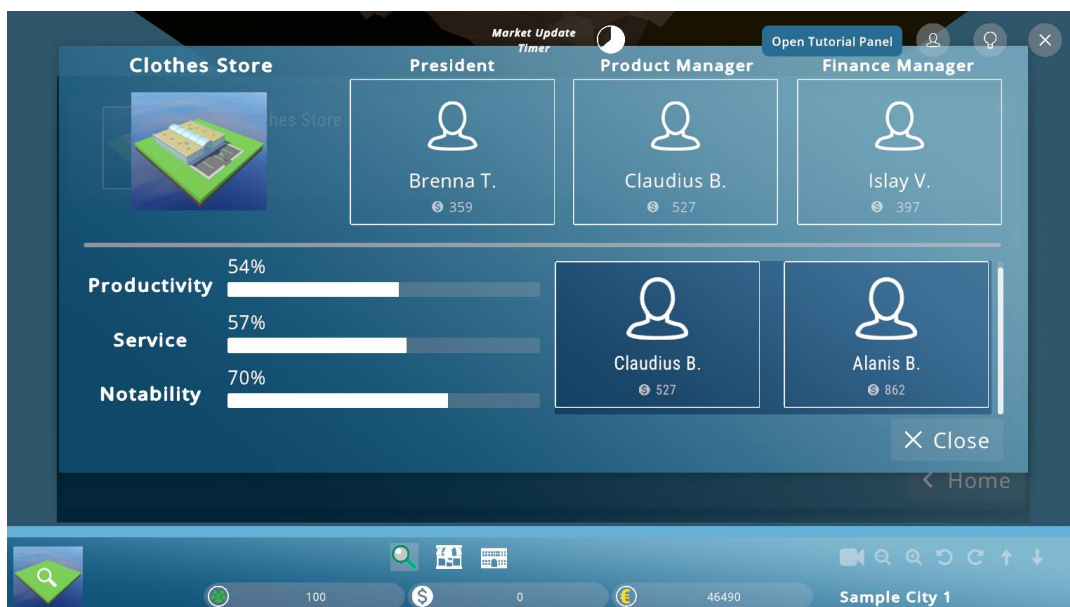


Figure 60: Improved Characteristics

These three characteristics affect the efficiency of a business, which means higher values lead to better production efficiency which leads to bigger profits.

Game Manual

TABLE OF FIGURES

Figure 1: TEAMSTAR Archive Content	5
Figure 2: TEAMSTAR Main Menu	5
Figure 3: Authentication Screen	6
Figure 4: Account creation Screen	6
Figure 5: Teacher Home Screen	7
Figure 6: Student Home Screen	7
Figure 7: Gameplay settings screen	8
Figure 8: Sound Settings Screen	9
Figure 9: Visuals Settings Screen	9
Figure 10: Credits Screen	11
Figure 11: Teacher Home Screen	12
Figure 12: Teacher My Scenarios Screen	13
Figure 13: Selected Teacher Scenario Screen	13
Figure 14: Selecting The Size Of The Map	14
Figure 15: Public Scenarios Screen	15
Figure 16: Selected Public Scenario Screen	15

Game Manual

Figure 17: Game interface	16
Figure 18: Scenario Editor Window	17
Figure 19: Exit Menu Options	18
Figure 20: Student Home Screen	19
Figure 21: Student My Scenarios Screen	20
Figure 22: Selected Student Scenario Screen	20
Figure 23: Selected Student Public Scenario screen	21
Figure 24: Join Scenario Screen	22
Figure 25: Teacher Game Interface (1)	23
Figure 26: Teacher Game Interface (2)	24
Figure 27: Teacher Game Exit Options	24
Figure 28: Bulldozer Tool	25
Figure 29: Terraforming Tools	26
Figure 30: Choice of Houses	26
Figure 31: Choice of Industries	26
Figure 32: Choice of Commercial Buildings	26
Figure 33: Choice of Public Services	27
Figure 34: Choice of Culture Buildings	27
Figure 35: Choice of Infrastructures	27
Figure 36: Choice of Basic Business Infrastructures	27
Figure 37: Contextual Info Box	28
Figure 38: Student Game Interface (1)	28
Figure 39: Student Game Interface (2)	29
Figure 40: Student Construction Tool Bar	29
Figure 41: Choice of Basic Business Infrastructures	30
Figure 42: Choice of Businesses	30
Figure 43: Police Interface	30
Figure 44: Bank Interface (1)	31
Figure 45: Bank Interface (2)	31

Game Manual

Figure 46: City Hall Interface (1)	32
Figure 47: City Hall Interface (2)	32
Figure 48: Business Interface	33
Figure 49: Product Details	33
Figure 50: Headquarters Interface	34
Figure 51: Business Overview	34
Figure 52: Trade Market Interface	35
Figure 53: Market Update Timer	35
Figure 54: Headhunter Firm Interface	36
Figure 55: Recruit Employees Panel	Error! Bookmark not defined.
Figure 56: My Employees Panel	37
Figure 57: Employee Characteristics	37
Figure 58: Properties Panel	38
Figure 59: Assign Employees	38
Figure 60: Improved Characteristics	39