SIMULTRA PROJECT

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SIMULATION OF LOGISTICS AND TRANSPORT PROCESSES

INTELLECTUAL OUTPUT A.5.7

Supply Chain Management Game Manual [4-3-2019]

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1. INTRODUCTION

This manual will give the players of the supply chain game a short introduction of the game where the game is explained.

Also the instruction on how to install the game are given as well as the registration to the game. Also the explanation on how the play the game is given.

2. What is the Supply Chain Management Game (SCMG)

This simulator allows calculating all costs related to the transport of a container, departing from the Chinese port of Shanghai and destined to the port of Antwerp. Therefore, it allows planning and organizing the entire transport chain, taking also into consideration the historical costs of freight and shipping companies. It includes the evaluation over the simulated time of any change and adjustment to reduce costs for the company that exports the container and the company that organizes the shipment. The simulated process refers to the task mainly carried out by a Supply Chain Designer / Planner.

This game consists of two levels, and each level contains 55 missions. The mission in level 1 is to transfer cargo from Shanghai to Parma, and in level 2 to transfer cargo from Shanghai to Zaragoza. The purpose is to select the 'shipping line', 'European port' and 'Hinterland mode' for transportation in order to end up with minimum cost.

In each mission, one can select 'spot market contract' or fix the current price for future months by choosing "futures contract". Use 'futures contract' whenever the price will likely rise in the future.


What is a Futures Contract

A futures contract is a legal agreement to buy or sell a particular commodity or asset at a predetermined price at a specified time in the future. Futures contracts are standardized for quality and quantity to facilitate trading on a futures exchange. The buyer of a futures contract is taking on the obligation to buy the underlying asset when the futures contract expires. The seller of the futures contract is taking on the obligation to provide the underlying asset at the expiration date.

What is Spot Market:

Also called the cash market or the physical market, the spot market is where assets are sold for cash and delivered immediately.

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3. SCMG structure

The supply chain management game is made with 'Unity engine' and uses C# language programming. The game is server-based and all user information and databases are located on the Linux server. PHP language is used as a means of communication between game and server or SQL database.
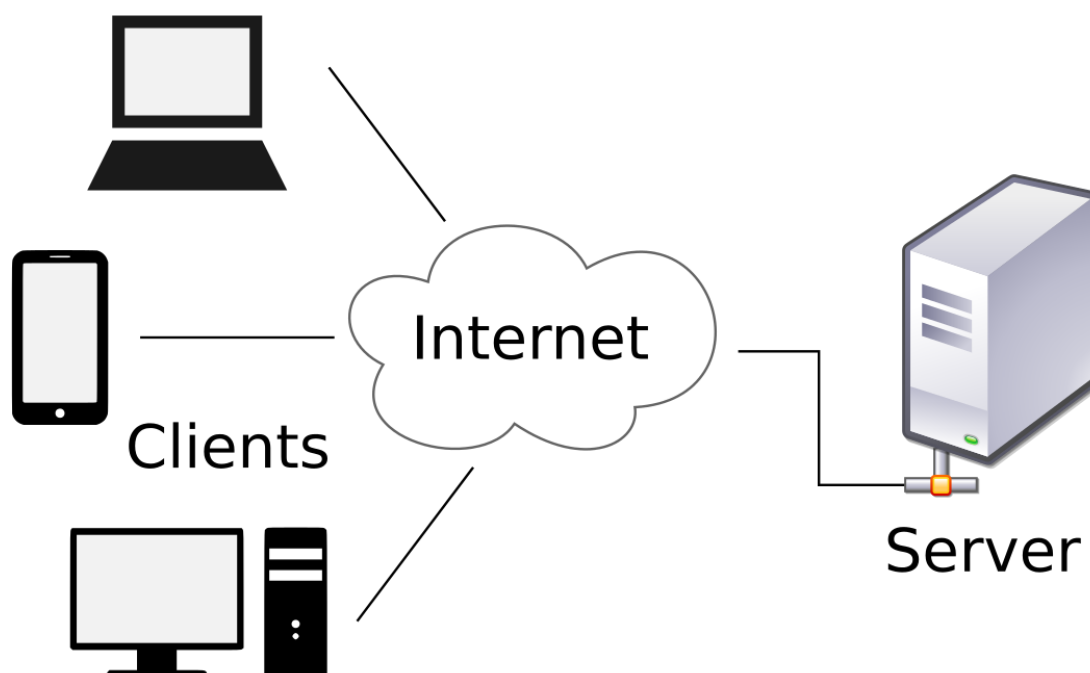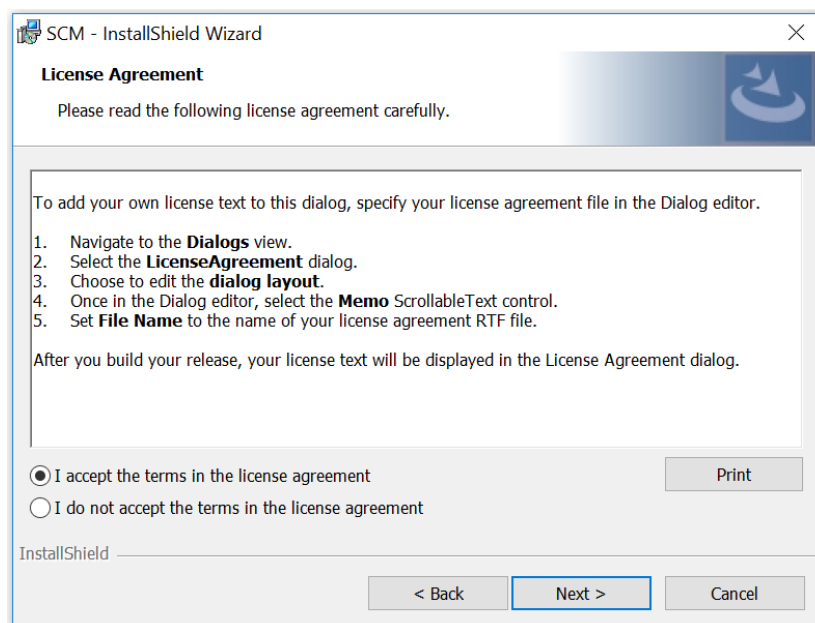
4. SCM installation

SCM Installer file is 133 MB; installation starts by double-clicking on the "Supply Chain Manager 01.msi" installer file.

SupplyChain Manager 01.msi
Type: Windows Installer Package

Date modified: 2/5/2019 3:52 PM
Size: 133 MB
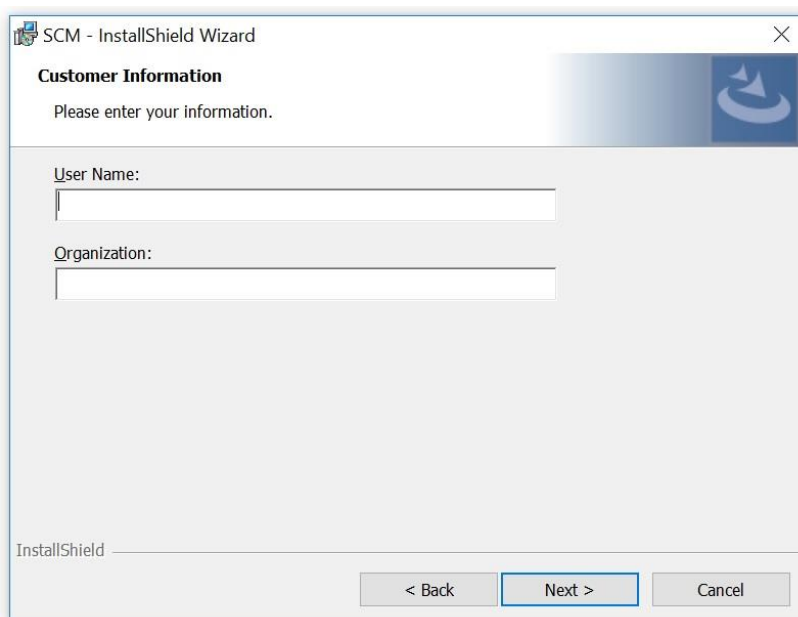
In the 'welcome window', click 'Next' button.

In the 'License agreement window', accept license agreement by clicking on the appropriate radio button. Afterwards, click on the 'Next' button.
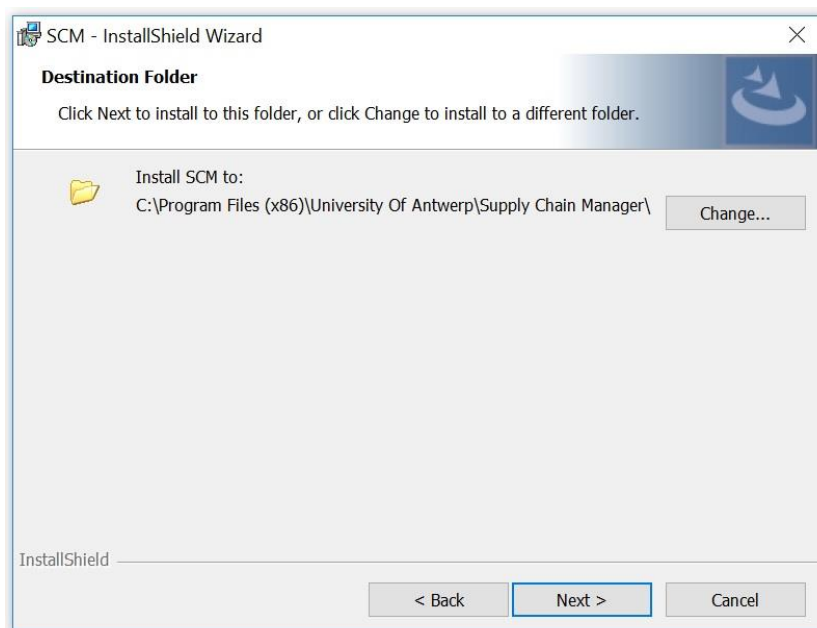
Enter your User Name and your Organization name in the following window and click on the 'Next' button.

Change the installation folder in the below window if necessary, otherwise click on the 'Next' button.

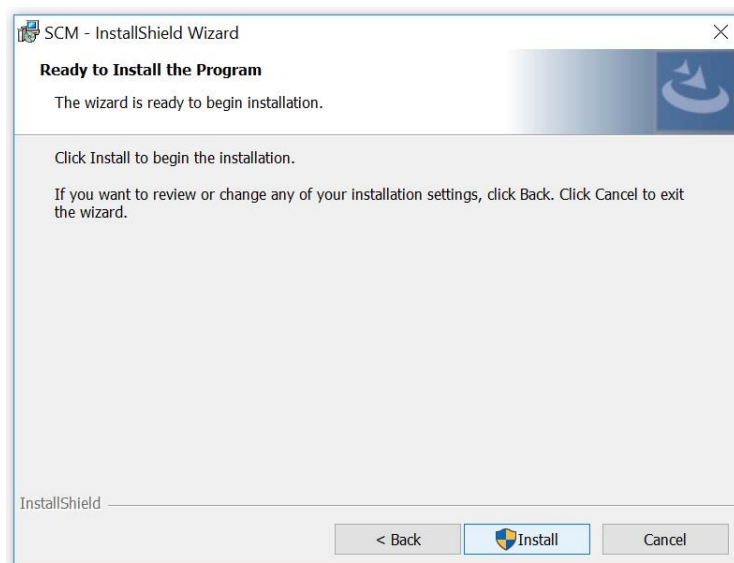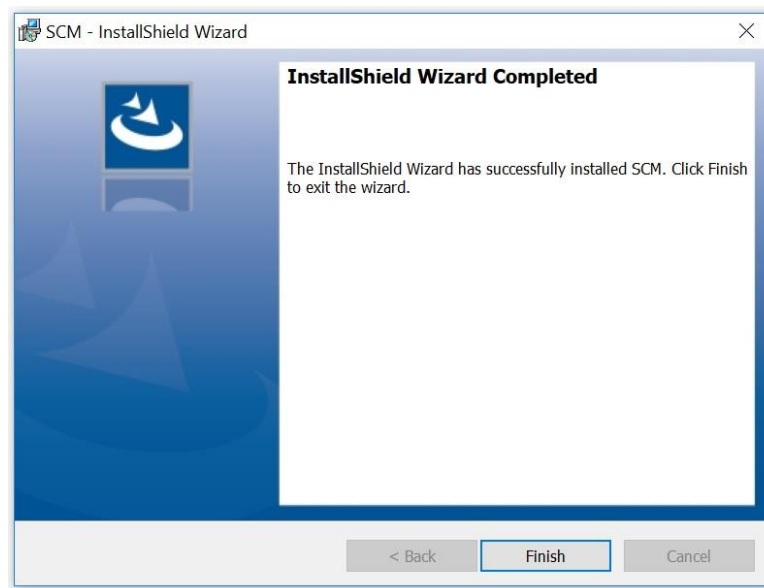In the 'Setup Type' window, select 'Complete' and click on the 'Next' button.
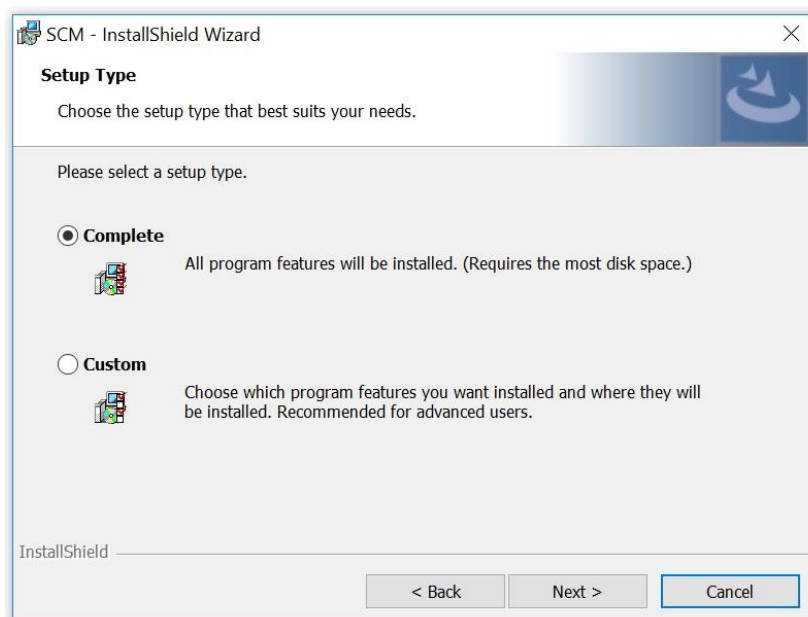
In the following window, installation will begin by clicking on the 'Install' window.

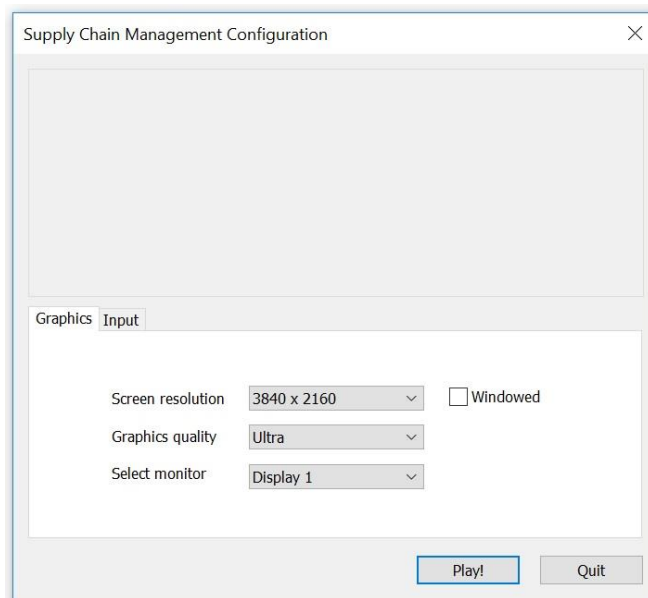Installation will be terminated by clicking on the 'Finish' button.

A starting icon will be created on the desktop automatically.

5. SCMG Registration and Login

Run the 'Supply Chain Management' game by double-clicking on the corresponding Icon on the desktop.

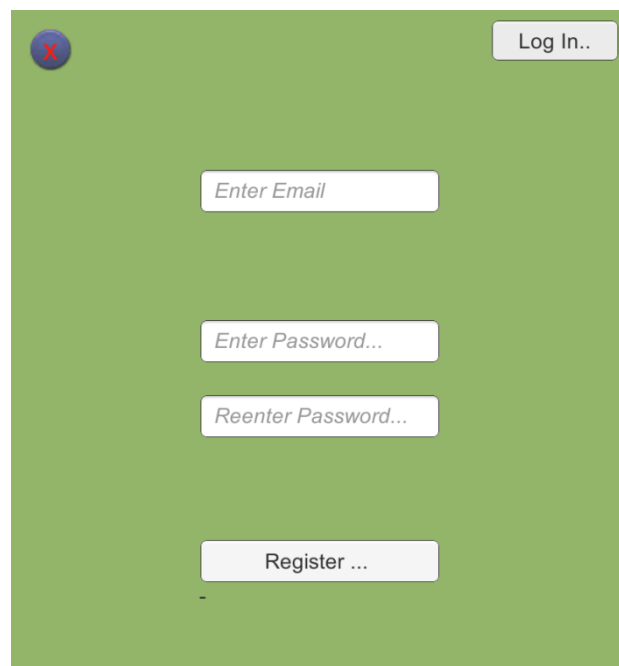In the 'Supply Chain Management Configuration' window, click on 'Play' in order to start the game.

If you are not registered, click on the 'Sign up…' button top right of the window in order to register on the server.
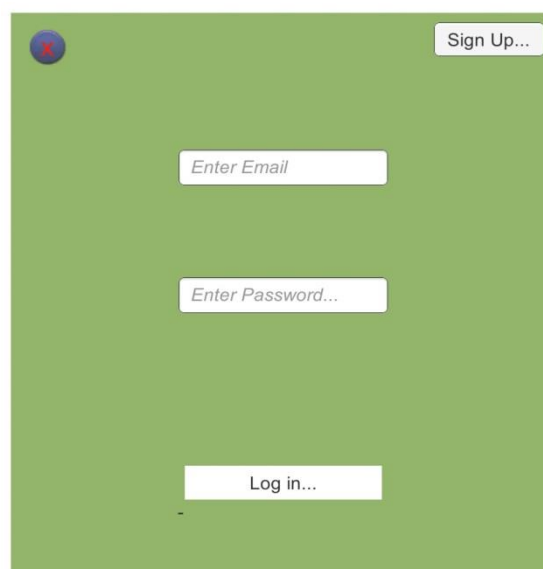
In the registration window, enter a valid email address, choose a password and re-enter the password again. Then click on the 'Register…' button.

After registration, click on the 'Log in..' button top right of the window, and in the 'Login' window enter your e-mail and password. Then click on 'Log in…' button.

Welcome to the Supply Chain Management office….!

6. How to play the SCMG

To move inside the office, press the arrow keys, and the selection moves between individual directions, either forward or backward, or left or right, depending on the arrow key you press. By moving mouse left and right, you can rotate the player inside the office.

- Press 'f' to freeze mouse movement (Rotation).
- Press 'f' again to unfreeze mouse movement (Rotation).

On the top of the screen, following information can be seen;

- Current date
- Cargo amount
- Cargo origin
- Cargo destination

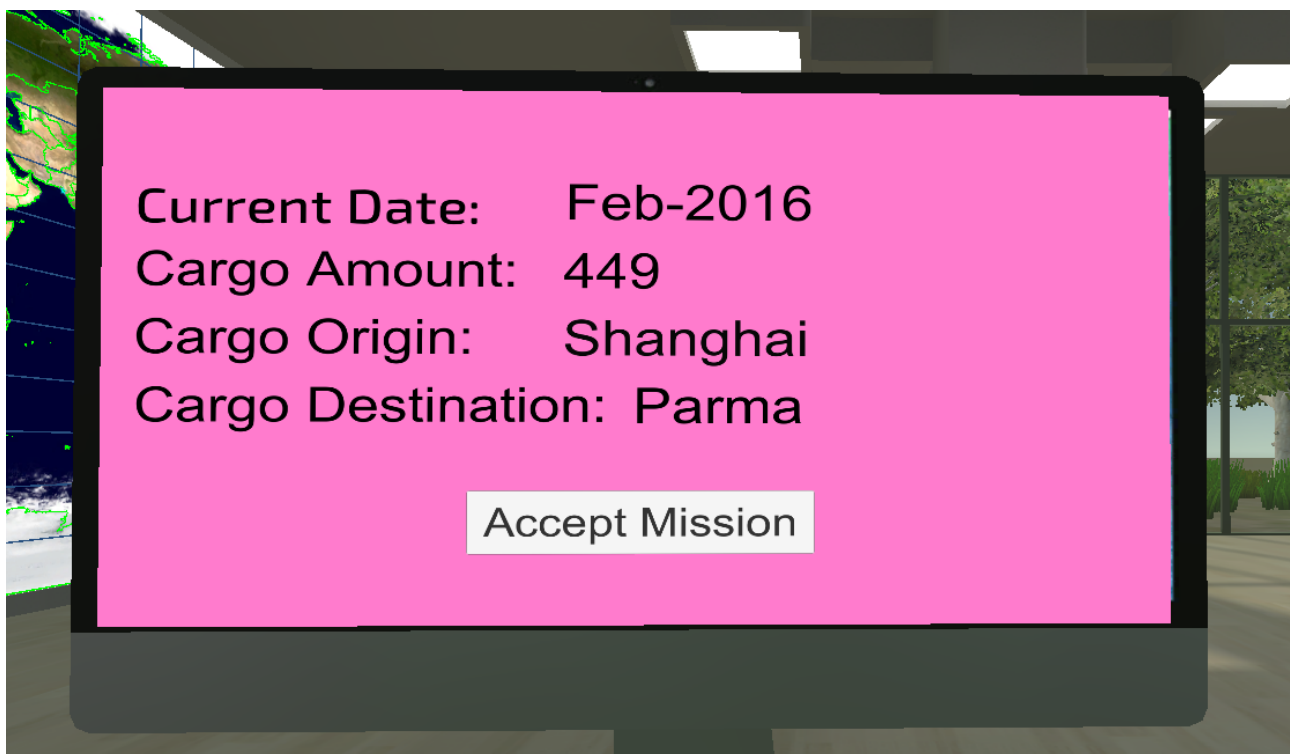Follow the arrows to the SCM office, and directly to towards the computer in the room.

Go directly towards the computer until the mission will appear on the computer, see the below photo for more details.

On the computer screen, an email icon can be seen. The player should click on this icon to get the first order.

Next the mission details are shown.

By clicking on "accept mission" you go the main menu where choices have to be made. You must transfer cargo from origin to the destination by selecting the following items, in order to end up with the minimum cost:

- Shipping line

- European port
- Hinterland mode
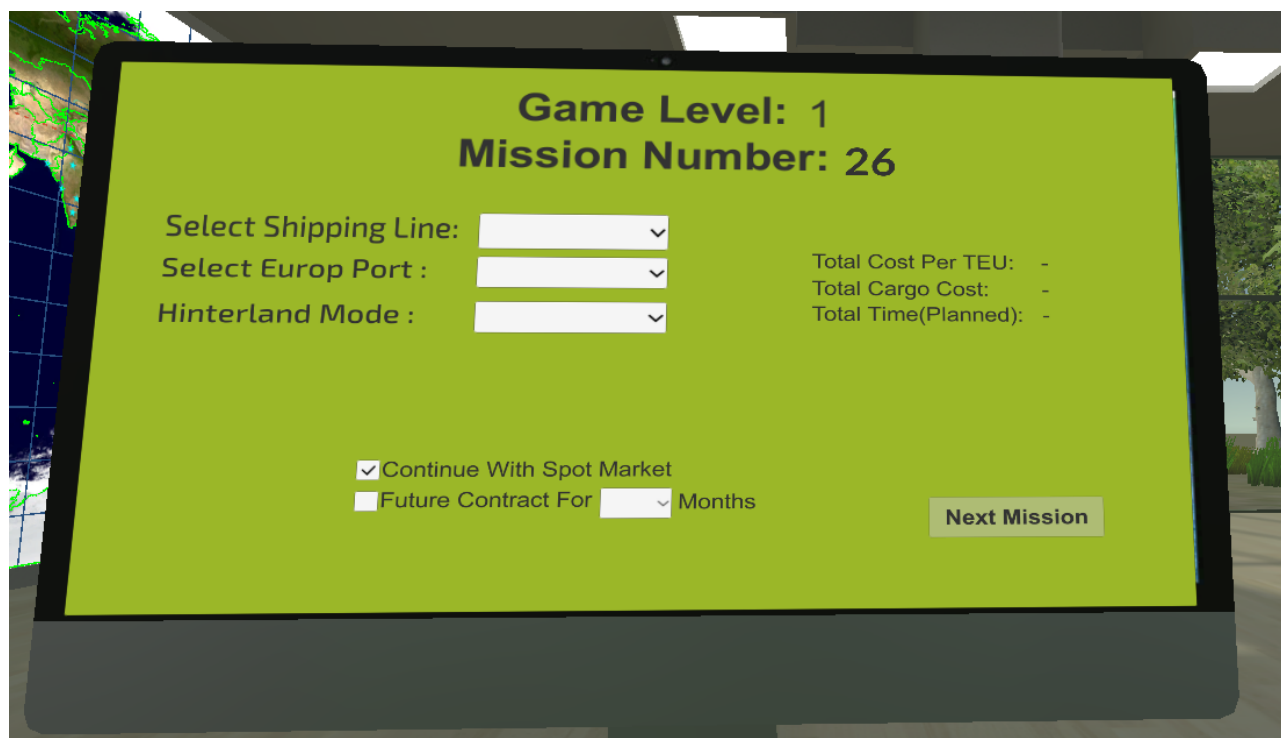
On the right side of the screen, following options are available.

- Cost per TEU
- Total monthly Cost

And

- Bar graph
- Graph chart

Click on the 'Bar Graph' and Graph'Chart ' toggles to see the results on the corresponding graphs.

- The red bar in the bar graph represent the user selection.
- The cyan bar in the bar graph represent the minimum cost which is possible in the spot market at that moment.
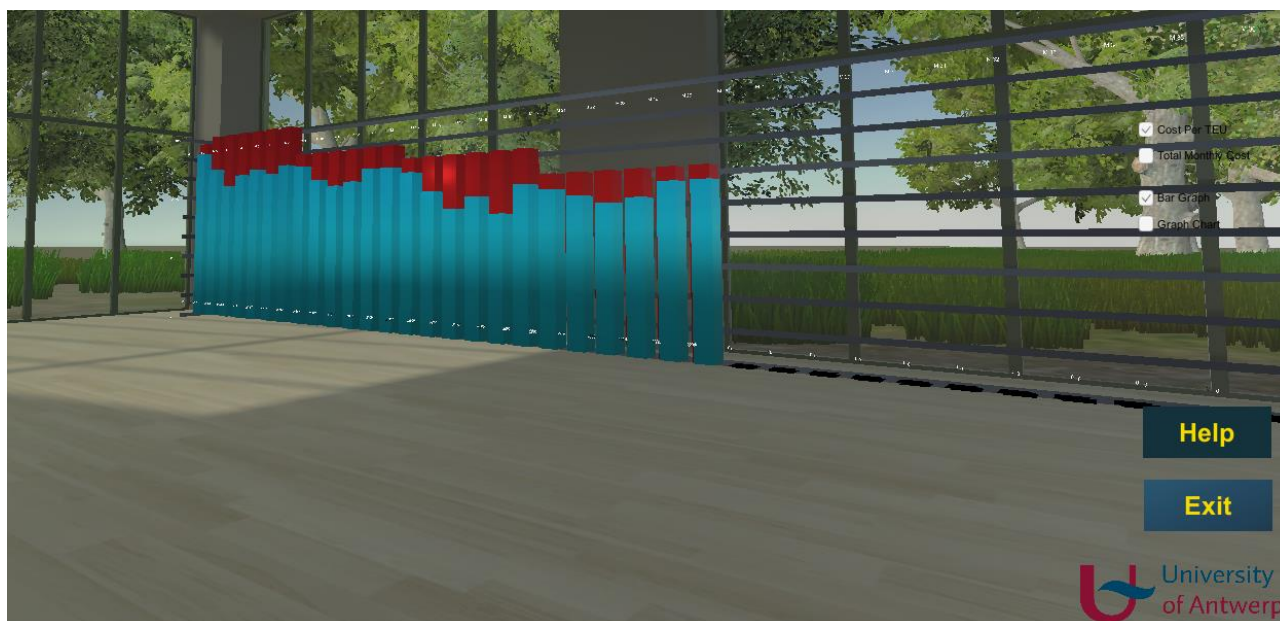
Click on the 'Cost Per TEU' and 'Total Monthly Cost' toggles to see their corresponding cost on the Graph.

- The orange line on the graph represents the user selection data
- The yellow line represents the minimum applicable price.

7. SCGM Score

The user score can be seen from the left-lower side of the screen:

- A minus figures shows the amount of money overspent in comparison with the minimum cost.
- A positive number shows the amount of money saved for the company until present time in comparison with the minimum cost. This will happen only if the user chose the appropriate future contract!

If in each and every mission, the user selects the minimum price for the cargo transfer, then the 'Score%' will be 100 and 'Score (Euro)' will be zero.

On the other side, if the user selects the maximum price for all the missions, then the 'Score %' will be zero.

The score can be more than 100 if the user selects the appropriate futures contract and saves money for the company.

The main aim of the game is to get the highest score possible. To do this, the player must have a good insight in the development of the future market developments.