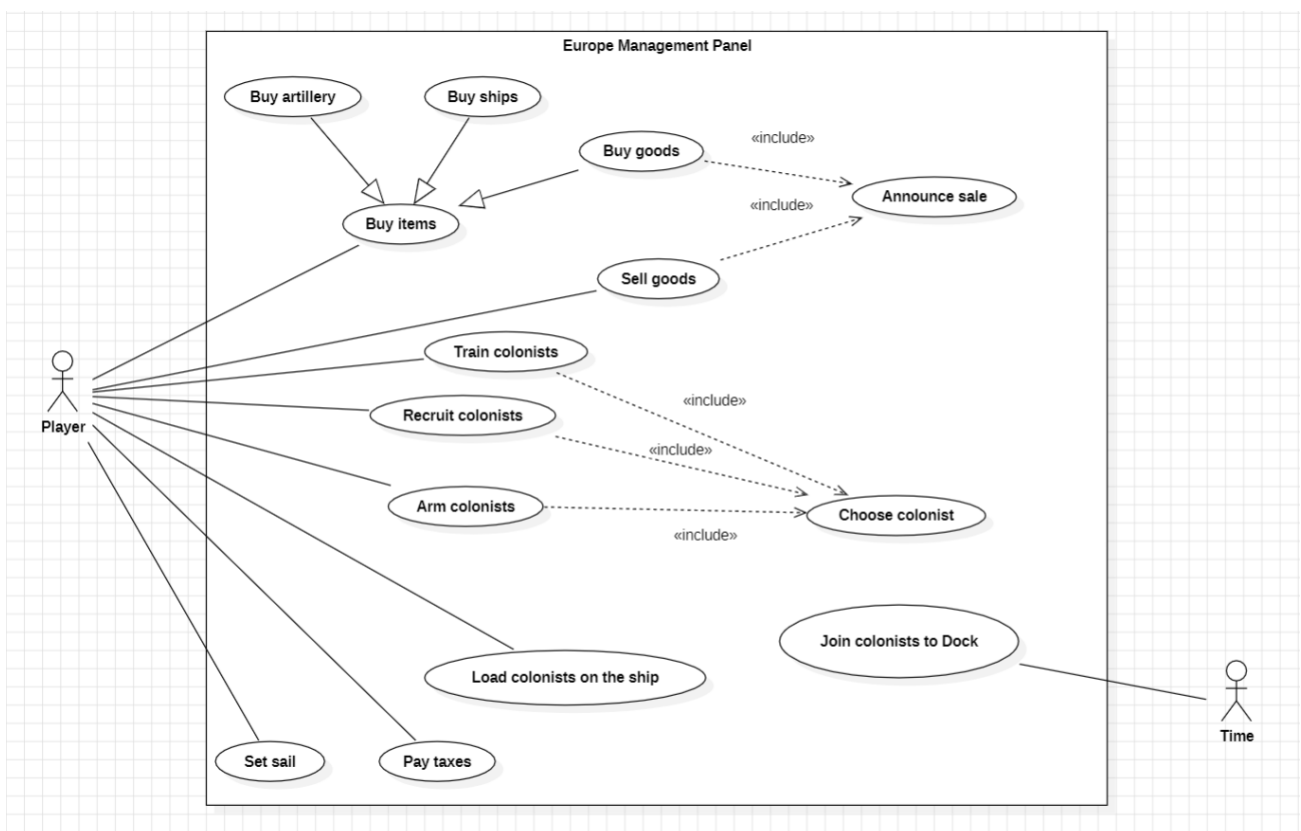


## Software Engineering Project

### Use Case Diagram

Since *Freecol* game is a very complex system, we decided to divide it in small sub-diagrams. In this report I will be focusing on the interaction between a player and the Europe Panel that he can access when he has a ship on a European port. In that panel, he can do some actions that are represented in the next diagram in the form of use cases. Then I'll proceed to give a small explanation for each Use Case and Actor represented on it.



### 1. Actors

For this Use Case diagram, I identified two different types of actors that interact with the system:

**Player:** represents a human or an AI that plays the game.

**Time:** represents a random period of time that makes new colonists appear on the European panel.

## 2. Use Cases

Use case: **Buy items**

ID: 1

Description: The player tries to buy items such as artillery, new ships, or goods from the market. To buy them, the player must have enough gold.

Main actor: Player

Secondary actors: None

Use case: **Buy artillery**

ID: 2

Description: The player tries to buy artillery to use on his lands.

Main actor: Player

Secondary actors: None

Use case: **Buy goods**

ID: 3

Description: The player tries to buy goods (such as food, cotton, lumber, etc) from the market and load them on his ship.

Main actor: Player

Secondary actors: None

Use case: **Buy ships**

ID: 4

Description: The player tries to buy ships (such as caravels, galleons, frigates, etc).

Main actor: Player

Secondary actors: None

Use case: **Announce sale**

ID: 5

Description: When the player buys or sells goods, appears on the screen a message with information about the sale (the name of the goods being purchased/sold, quantity, price).

Main actor: Player

Secondary actors: None

Use case: **Sell goods**

ID: 6

Description: The player can sell the goods that are on his boat to the market and make money from it.

Main actor: Player

Secondary actors: None

Use case: **Train colonists**

ID: 7

Description: The player can train a colonist to become an expert unit to then embark on his ship. To do it, the player must choose a colonist and pay for it.

Main actor: Player

Secondary actors: None

Use case: **Recruit colonists**

ID: 8

Description: The player can recruit a colonist from the New World to then embark on his ship.

To do it, the player must choose a colonist and pay for it.

Main actor: Player

Secondary actors: None

Use case: **Arm colonists**

ID: 9

Description: The player can arm a colonist with tools. To do it, the player must pay for tools and then choose a colonist from the dock to arm with it.

Main actor: Player

Secondary actors: None

Use case: **Load colonists on the ship**

ID: 10

Description: The player can move colonists from the dock to the ships that are in European port.

Main actor: Player

Secondary actors: None

Use case: **Pay taxes**

ID: 11

Description: The player can pay taxes from boycotted goods allowing him to then sell his previous boycotted goods on the market.

Main actor: Player

Secondary actors: None

Use case: **Set sail**

ID: 12

Description: The player can remove his ship from the European port to the ocean for sailing.

Main actor: Player

Secondary actors: None

Use case: **Join colonists to Dock**

ID: 13

Description: The time makes colonists appear on the Dock panel. The player can then decide if he wants to load them on his ship.

Main actor: Time

Secondary actors: None