Algonquin College Logo

# SCHOOL OF ADVANCED TECHNOLOGY

### ICT - Applications & Programming

### Computer Engineering Technology – Computing Science



A11

Game Interface

Team:

Andrew Lorimer - Id:041056170

Game Proposal - Battleship

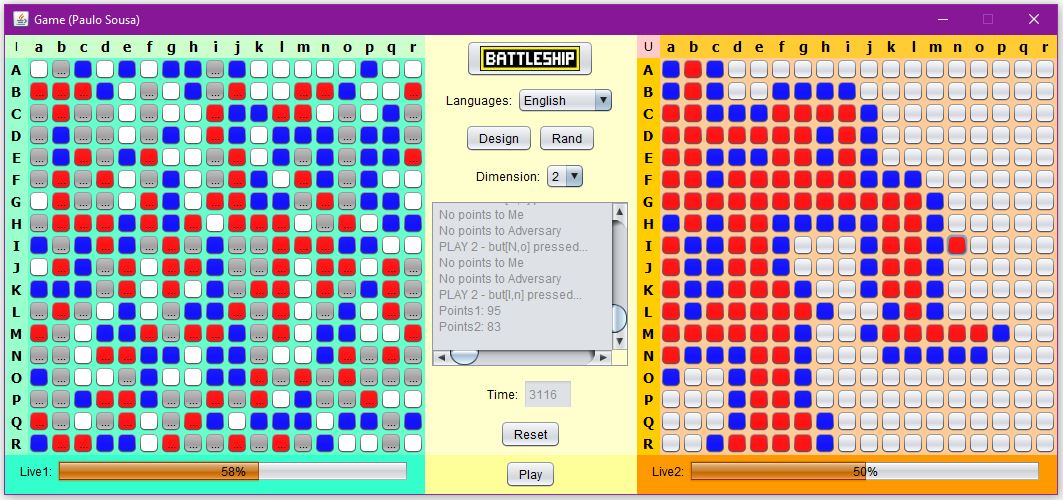
***This template is suggested (not mandatory) to answer A11 Specification.***

|  |  |
| --- | --- |
| **Part**  **1** | **GUI Definition** |

**EXPLANATION**

*The purpose of this assignment is to define the elements of the GUI application to be used in your game implementation.*

* ***Example (Prof. suggestion)****:*



* ***Note****: The professor interface is also a proposal. It means that your own implementation can be different. What does matter is that the game functionality will be respected.*
  1. **Defining the Functionalities**

**Main Behavior**

*Include the list of functionalities that you imagine to have in the game (they can be from Swing or JavaFX).*

Display ships that are not sunk next to life indicator

**Functionalities and Behaviors**

*Check, for example, on-line examples (*[*https://www.battleshiponline.org/*](https://www.battleshiponline.org/)*):*

My version of the battleship games aims to make the GUI as simple as possible for users so that anyone could use it without a tutorial. The elements present are:

1. Two boards containing the current players board on the left and the adversary with a hidden board on the right.
2. A language selector for either French or English
3. A Game log displaying all plays including hits, misses and ships sunk
4. Option to randomly create a board or manually place ships at the game start
5. A reset button to restart the game.
6. Play button to start the game
7. Life indicator, showing the percentage of life left, in addition to a battleship display showing which ships are sunk and which are alive.



*What are the behaviors and functionalities that you will provide? How these elements are related with functionalities.*

***Example****: Answer these questions:*

* *Who are the actors (who can design / play the game)?*
* *What are the preconditions (requirements) for some functionalities?*
* *And the post-conditions / results?*

**Languages**

*Define (at least two) languages to be used – remembering that English is mandatory for one option.*

***Example****: The second language (French) will be chosen, since this is my natural (birthplace) language.*

**Details**

*Drawn the UC (Use-Case) diagram (ex: in an image from Paint / Visio / Powerpoint slide, or any sketch tool), describing:*

* *Manual / automatic features (ex: user selections / time features);*
* *Relationships between actors / functionalities.*
  1. **Template Solution**

**UC Diagram** (example):



**Actors table** (example):

|  |  |
| --- | --- |
| **Actors** |  |
| Bank Customer | This actor represents a person with a valid Bank Card. The Bank Card is theirs and they know the PIN Code. |
| Bank | This actor represents the financial institution that provides services to the ATM. Responsible for verifying Bank Customers, authorizing transactions and recording completed transactions. |
| Maintenance Person | This actor represents the person responsible for maintaining the Automated Teller Machine, refilling paper, and replenishing cash. |

**UC table** (example):

|  |  |
| --- | --- |
| **Use Cases** |  |
| Withdraw Cash | This use case describes how the Bank Customer uses the ATM to withdraw money his/her bank account. |
| Transfer Funds | This use case describes how the Bank Customer uses the ATM to transfer money between different bank accounts. |
| Deposit Funds | This use case describes how the Bank Customer deposits money to an account. |
| Refill Machine | This use case describes how the Maintenance Person refills money, receipt paper and envelopes. |

**Basic cycle**

*Create a brief description about how your game can be used.*

***Example****: If you have to design the solution to be saved and played later, how are the stems. Most importantly, how someone can play the* ***Battleship****.*

* *Note: your process does not need to be followed exactly when you are going to the implementation. For while, it is only a script about how to play.;*

**FINAL SUGGESTIONS**

*Here some ideas to think about your language....*

* *Try to create a game whose execution can be very intuitive (easy to be played).*
* *Remember that this game will be in fact implemented only in the next assignment.*

**References**

*[Include eventual references used here]*

* ***NOTE****: Even if you use one specific tool (ex: ChatGPT), report it here.*

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