Face 5 Final Development Project Report Summary

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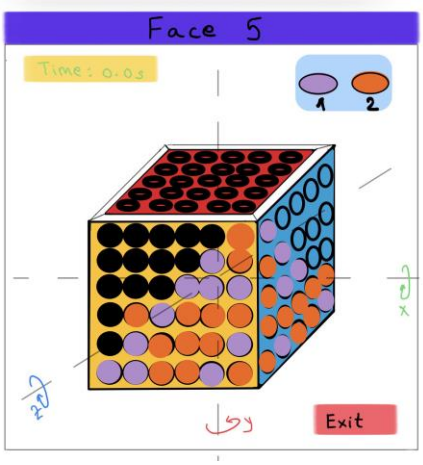
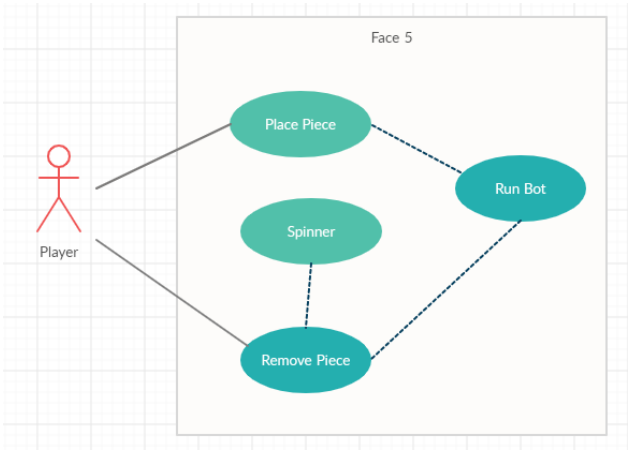
Description



This game is a 3-Dimensional cube 2+ players, Connect 4 style game. The game is played by the user starting on one face of the cube, from this starting face the player has to create a path through the cube to the face across. The player's opponent is always going to be one or more AI agents. Before a player can make a move into the cube they first have to connect 5 of their colors on their face. After that is done, the player can rotate the 3D square and decide where the next best location for their disc is. After a random number of turns a spinner function will be activated that will choose a random player. The chosen player can either add a second disc to the cube in the same turn or clear a path by removing another player's disc from the cube.

Product Use Case Diagram



This diagram shows a basic use case for playing Face 5. The player can either place pieces or remove pieces if prompted to by the spinner function. An opposing player run by the system can also perform these same actions.

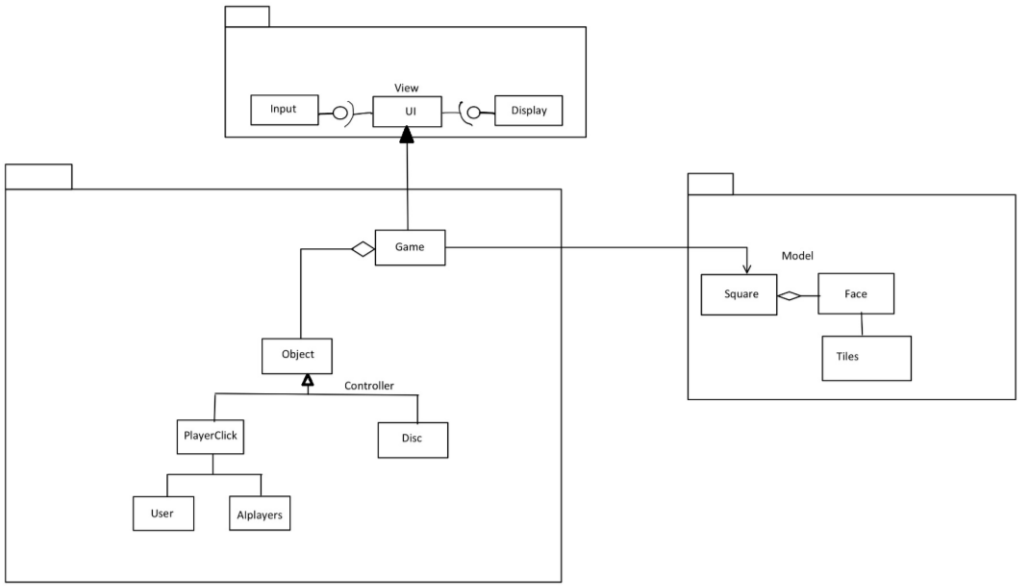
Functional Requirements

The main functional requirements for this project are that the system must provide a means for a user to start a new game. This means that the user would be able to start a game any time and that the game would start after a few seconds. Another functional requirement is that the system must provide a means for a user to save the game at any time and continue the saved game. In order to play, the system must be able to take in coordinate data from the user either through mouse clicks or presses on a touch screen. The system will also allow a player to switch between levels, play more advanced ones - meaning with less or more AI players, after the user has finished the easier levels.

Performance Requirements

The main performance requirement is the system's response to moves, rotation and zooming in of the square. The game is synchronized with 4 users; updating all the users at a fast rate is important to keep the game fair to all. The display of the system should also have a 60 frames per seconds. The users will have a feature of zooming into the cube having a faster frame rate will allow for a smoother zoom in transition.

Package Overview



The model view controller would be the best fit for the system. This model will ensure that the user gets a quick response; which is crucial for this multiplayer game. The game class will be the model, display class will be view and lastly the input class will be the controller. The UI class will be responsible for listing to the user input as well as the graphics display. PlayerClicks and Discs classes will be inherited from the Object class. Tiles is the main component of the Cube. The Faces is made up of Tiles, which in turn the Square class will be made up of a collection of Faces. Lastly, the Game class will be the main communication for all classes along with being the main logic of the game. All the information will be sent to the Game class and it will distribute it accordingly.

Design Goals

- Compatibility: Design should be compatible with Android, iOS and PC platforms with cross compatibility for all platforms.
- Reliability: This product should be available for the user to play 24 hours a day with minimal issues.
- Performance: Face 5 should respond quickly to user input and interaction with up to 4 players.

Project Issues

One of the project issues is that console platforms were not considered for initial development but console development could be considered if there is a demand. In addition to that, the users with color blindness or other visual impairment may have difficulty seeing the display.