

USE CASE: "HUMAN MOVE DEMONSTRATION"

Ricochet Robots Project

Group #6:

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Primary Actor: Player

Stakeholders and Interests:

- Player: Wants to understand the game, have as few moves as possible, entertaining and a bit challenging.
- User: Wants a fully functional game, which does not lag, which implements physical board games logic and coherence.
- Parents: Wants the game to be child friendly and easy to understand.
- Team Members: Wants to test the game to make sure it works, want the game requirements met including the logical aspect of the game.

Preconditions: The system has started up correctly and the game has been set up. A turn has begun so a target chip has been selected, the players have entered bids, and the player who entered the lowest bid has been found by the system. The game is fully functional and ready for the user input.

Success Guarantee (Postconditions): The robot has been successfully moved to its target space. A position marker that matches each robot's colour is placed at the new location of the robot which the system validated.

Main Success Scenario:

1. The system recognizes that a solution has begun and allows the player with the lowest bid to start demonstrating.
2. While a robot has not reached the chosen target space, the player selects one of the robots and moves it to a new valid location: See use case "Moving a Robot".
3. Each time a robot is moved, the system records that a move has been successfully made and increases the number of moves made for the current solution by one.
4. The system eventually recognizes that a robot has reached the chosen target space.
5. The system determines that the robot on the chosen target space is the correct colour. That is, the system compares the colour of the robot and the colour of the target space and recognizes that they match, or the chosen target space is the multicoloured vortex target space. [Alt 1: The robot is not the correct colour]
6. The system determines that the solution contains more than one move and is therefore valid. [Alt 2: The solution does not contain more than one move]
7. The system recognizes that the player has successfully demonstrated a solution and the use case ends.

Alternative Flows:

Alt 1: The robot is not the correct colour

1. The system recognizes that the chosen target space is not the correct colour. That is, the system compares the colour of the robot and the colour of the target space and recognizes that they do not match, and the chosen target space is not the multicoloured vortex target space.
2. The system determines that this is an invalid solution and the use case ends.

Alt 2: The solution does not contain more than one move

1. The system recognizes that only one move or less was made to get the robot to the target space.
2. The system determines that this is an invalid solution and the use case ends.

Exceptions:

- If the user exits the system during the game, the use case ends.

Special Requirements:

- The game should cater for people with color deficiency through the visual assistance aid.

Open Issues:

- How should the system handle invalid solutions?