

Take a Turn

Primary Actor: Player

Stakeholders and Interests:

- Player: wants to be able to specify the number of moves required for the robot piece to reach the target symbol on the board, wants to be able to demonstrate the steps to reach the target symbol on the board by moving the robot piece, wants to be allocated the correct amount of time during one's turn.
- Computer System: wants to accurately allocate current amount of time for every player's turn, wants to accurately record every player's moves and specified number of moves, wants to ensure player's move is legal, wants to provide correct hints to the players when hint setting is enabled and omit the display of hints when hint is disabled, wants to display different names of the players to distinguish between human players and also computer players.

Preconditions:

- Game settings has been predefined by the player and gameplay has started.

- Target chip has been flipped.

Success Guarantee (Postconditions):

- Player is aware of his/her chosen moves and specified number of moves. Robot piece is moved according to the player's predetermined steps. Each player's moves are recorded and revealed to other players.

Main Success Scenario:

1. The system displays the name of the player during his/her/its turn, and countdown timer is initialized.
2. The player moves the robot piece to the target symbol on the board. [*Alt 2: Player ran out of time*]
3. The system display and deduct the number of moves that the player has left at every step that the robot piece takes.
4. The player has successfully moved the robot piece to the target symbol on the board. [*Alt 1: Player fails to move robot piece to target symbol on the board*]
5. The system records and displays the number of steps that the player has taken.
6. The system chooses and display the player with the lowest number of steps. [*Alt 3: End of the first/second/third player's turn*]

7. The system increments the player with the lowest number of steps by one.
8. The system display and informs the user the game is proceeding to the next round.
9. The system flips and displays the target chip. [Use case ends]

Alternatives:

Alt 1: Player fails to move robot piece to target symbol on the board

1. The system informs the user that he/she/it has failed to move the robot piece to the target symbol on the board.
2. The system removes the player from selection of the winner for that round.
3. The system switch to the next player's turn.
4. Flow resumes on Step 1.

Alt 2: Player ran out of time

1. The system informs the user that he/she/it ran out of time.

2. The system switch to the next player's turn.
3. Flow resumes on Step 1.

Alt 3: End of the first/second/third player's turn

1. The system records the current player's number of moves.
2. The system switch to the next player's turn.
3. Flow resumes on Step 1.

Exceptions:

- If at any time the system is unable to switch between players' turns, keep track of the gameplay, the system informs the user of the problem, attempts to reboot the program and the use case ends.

Special Requirements:

- **Colors of the target chip and board elements must be distinguishable to the visually impaired users (color blindness)**

Open Issues:

- Does the system prompt the players to specify the number of steps needed to reach a target symbol on the board first and then

proceed with moving the robot piece on the board or does the system allows the players to move the robot piece during their turns while it keeps track of the number of steps that the robot piece moves and at the same time records the path that the players took ?