

User Stories

Basic Requirement User Stories:

1. As a player, I want to be able to place a token on the board at an empty line intersection so that I can place all nine of my tokens, in turn, on the board.
2. As a player, I want to be able to slide one of my tokens along a board line to an empty adjacent intersection (not diagonally), so that I can possibly form a mill consisting of a straight row of three tokens along one of the board's lines (not diagonally).
3. As a player, I want to be able to remove my opponent's token that is not part of the "mil" from the board when I can form a straight row of three tokens so that I can gradually remove my opponent's tokens until he/she has fewer than three tokens on the board and eventually win the game.
4. As a player, I want to be able to "fly" one of my tokens to any empty intersection on the board when I have 3 tokens left only so that I can possibly form a straight row of three tokens along one of the board's lines (not diagonally) to win the game.
5. As a player, I want to be able to play the game against another human player, so that I can improve my skills in the game by learning from their playstyles and developing counter strategies against their moves.
6. As a player, I want to be notified when I have won the game, so that I can celebrate my victory.
7. As a game board, I want to detect the position of the selected token and the destination of the move, so that I can validate if the move is legal and update the game state accordingly.
8. As a game board, I want to ensure that players cannot move their tokens outside of the board boundaries, so that the gameplay remains fair and each token remains confined to its designated area on the board.
9. As a game display, I want to show the board interface to the players, so that they can see the current state of the game.
10. As a game display, I want to show a message telling whose turn it is and the remaining number of tokens for each player, so that the players can keep track of the game state and make informed decisions.
11. As a game engine, I want to keep track of the number of tokens each player has left on the board, so that I can notify the players when they have reached the minimum required number of tokens to enable the "flying" rule.
12. As a game engine, I want to ensure that the players cannot place more than nine tokens on the board, so that the game can be played correctly and fairly according to the rules.

13. As a game engine, I want to detect when a player has no legal moves left or fewer than three tokens on the board, so that I can declare the winner and end the game automatically.
14. As the game engine, I want to detect when a mill has been formed, which is a straight row of three tokens, so that the player is notified and can remove one of their opponent's tokens from the board.

The advanced requirement we chose:

1. Considering that visitors to the student talent exhibition may not necessarily be familiar with 9MM, a tutorial mode needs to be added to the game. Additionally, when playing a match, there should be an option for each player to toggle "hints" that show all of the legal moves the player may make as their next move.
2. A single player may play against the computer, where the computer will randomly play a move among all of the currently valid moves for the computer, or any other set of heuristics of your choice.

Advanced Requirement User Stories:

1. As a player, I would like to have a button for me to press to show the hints of "all next legal moves", so that I can proceed with the game nicely.
2. As a player, I would like to be able to choose to play against the computer, so that I can practise and improve my skills even when there is no one else to play with.
3. As a player, I want to have a step-by-step guide available in the tutorial mode accessible from the game's main menu, so that I can understand and learn how to play the game easily and effectively.
4. As a game engine, I want to generate all of the valid moves for the computer player, so that the computer can randomly choose from them during the game.
5. As a game board, I want to ensure that the legal moves shown during the "hints" option are accurately displayed so that the players can make informed decisions about their next moves.
6. As a game display, I want the tutorial mode to provide clear explanations of the game mechanics, so that players can gain a better understanding of how to play the game.