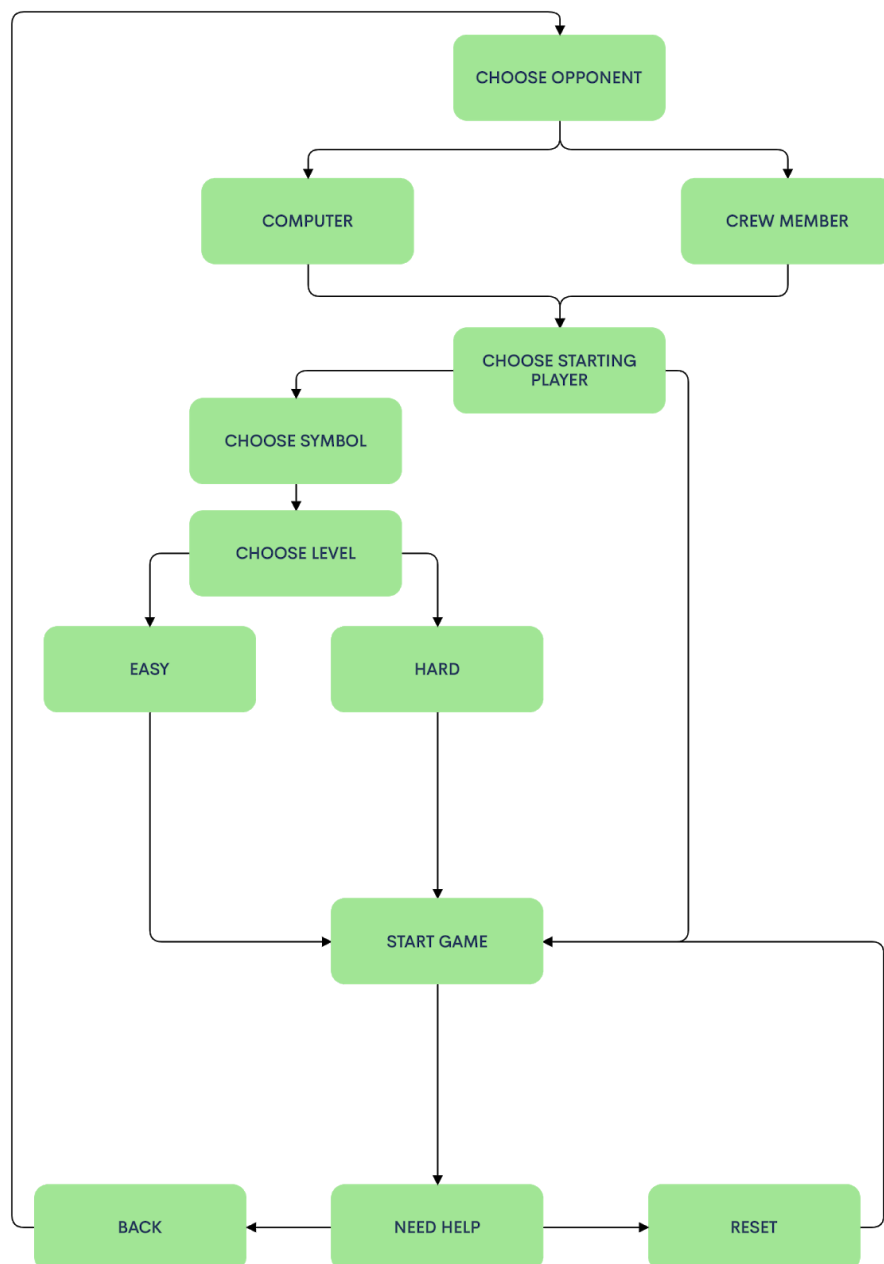

TEAM POWERPUFF

TANYA GUPTA
PRANJALI BAJPAI

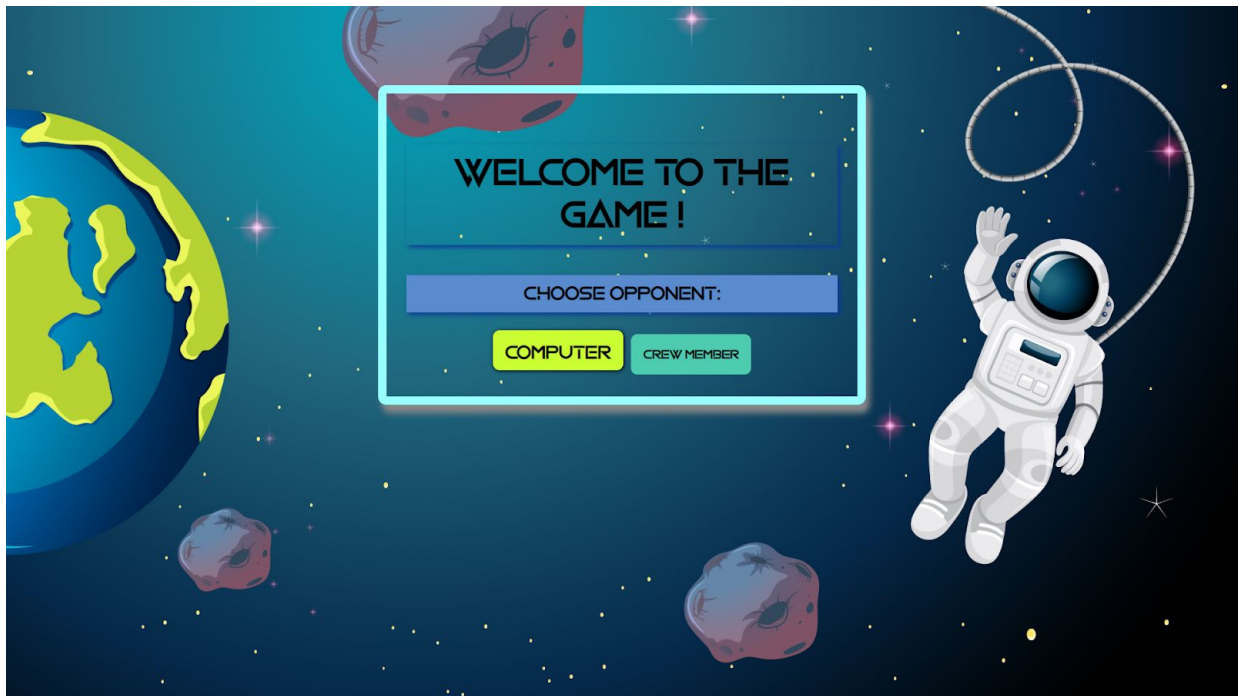
AI POWERED TIC TAC TOE

25th JULY 2020

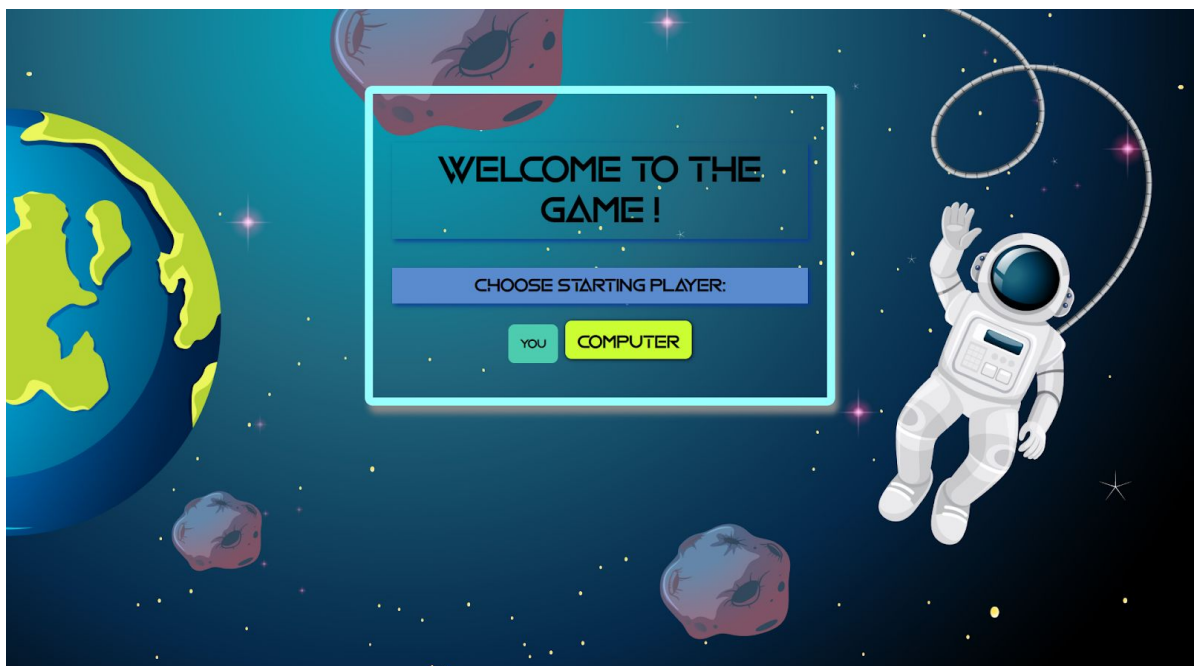
OVERVIEW



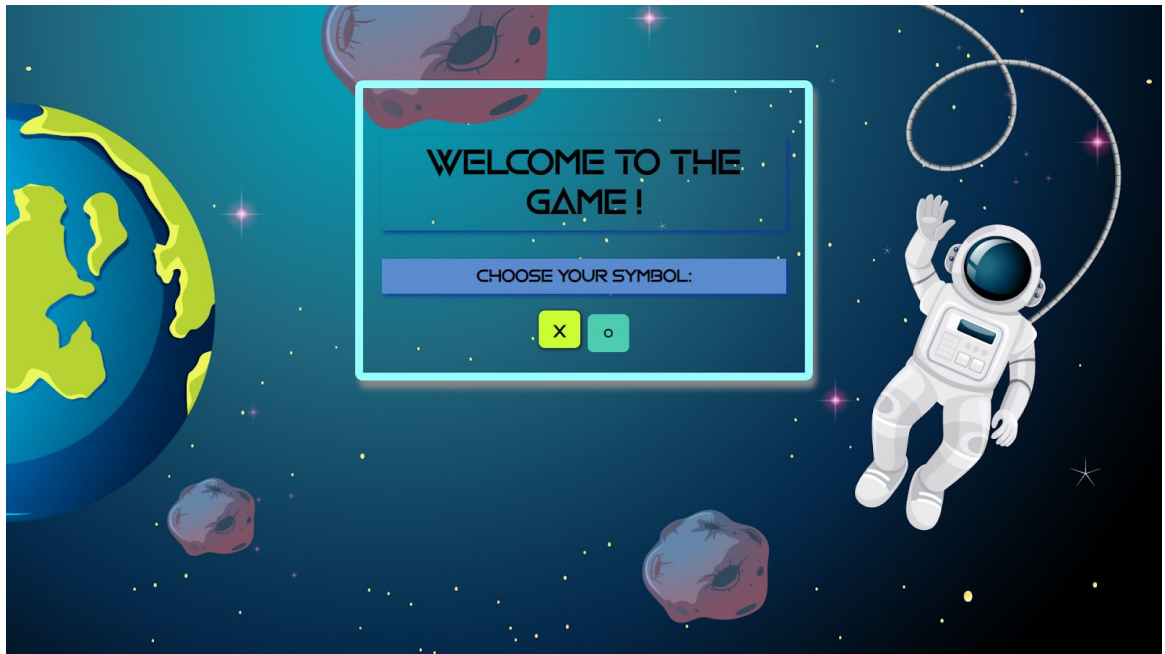
- CHOOSE OPPONENT



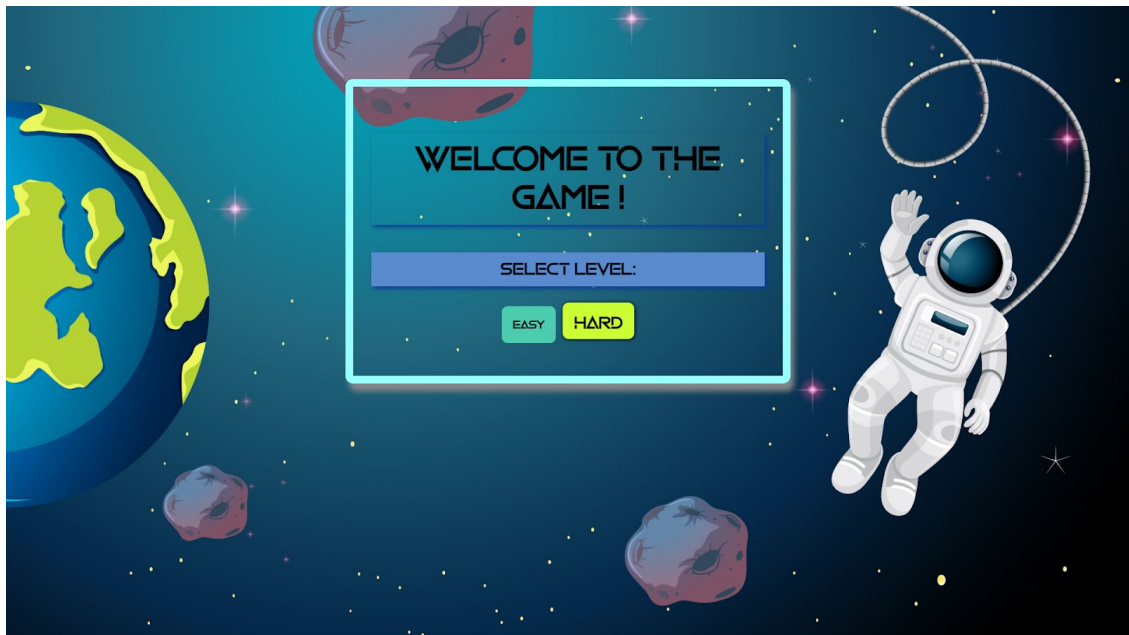
- CHOOSE STARTING PLAYER



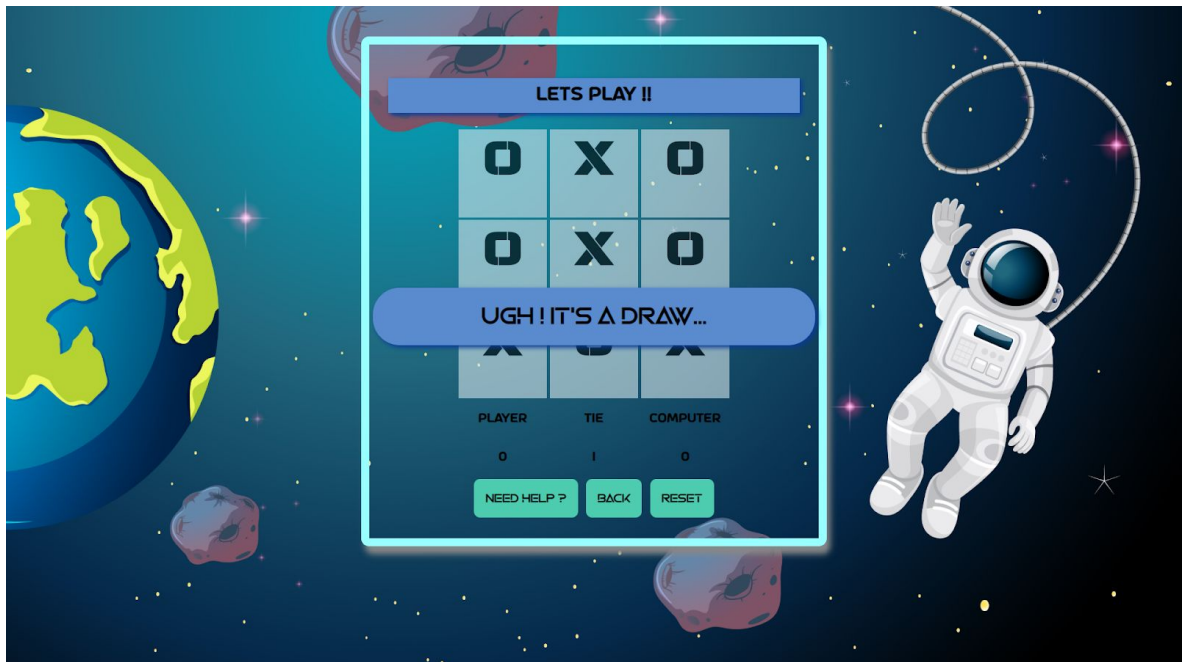
- CHOOSE SYMBOL



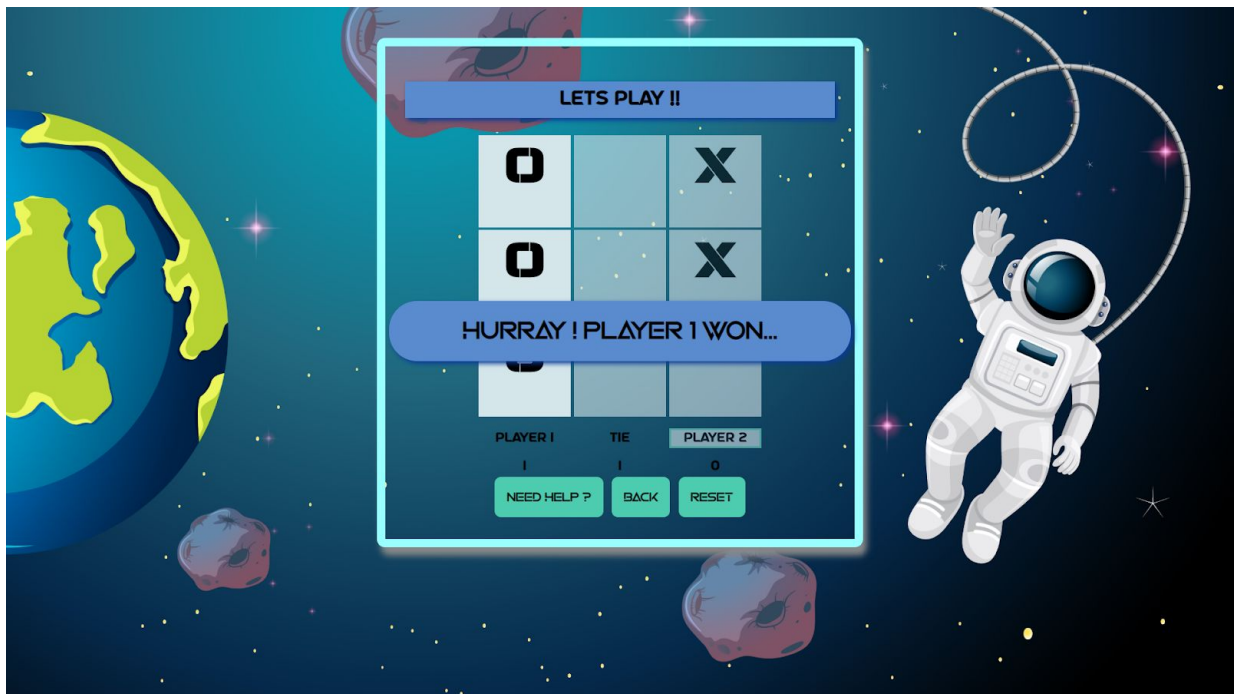
- CHOOSE LEVEL (AGAINST COMPUTER)



- GAME AGAINST COMPUTER



- GAME AGAINST A CREW MEMBER



SPECIFICATIONS

- LEVELS

Our game will allow players to choose two different difficulty levels when playing against the computer:

- EASY

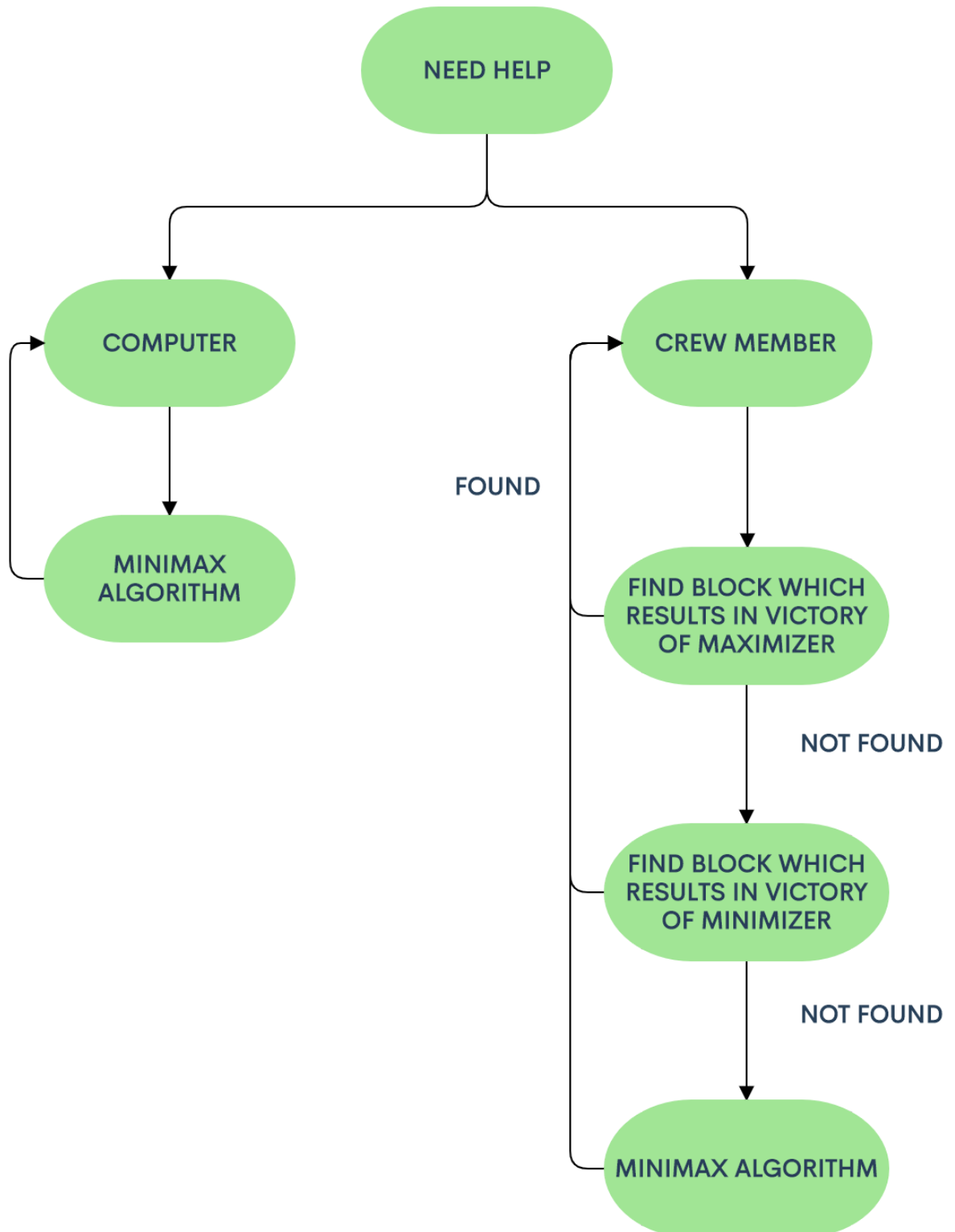
In easy level, the computer will choose its move randomly from the available set of moves. The player has a possibility to win in this level.

- HARD

In this case, the computer chooses its next move from the MINIMAX ALGORITHM. Due to which the opponent human player will not be able to win in this level. The result of the game for human player will be either draw or defeat.

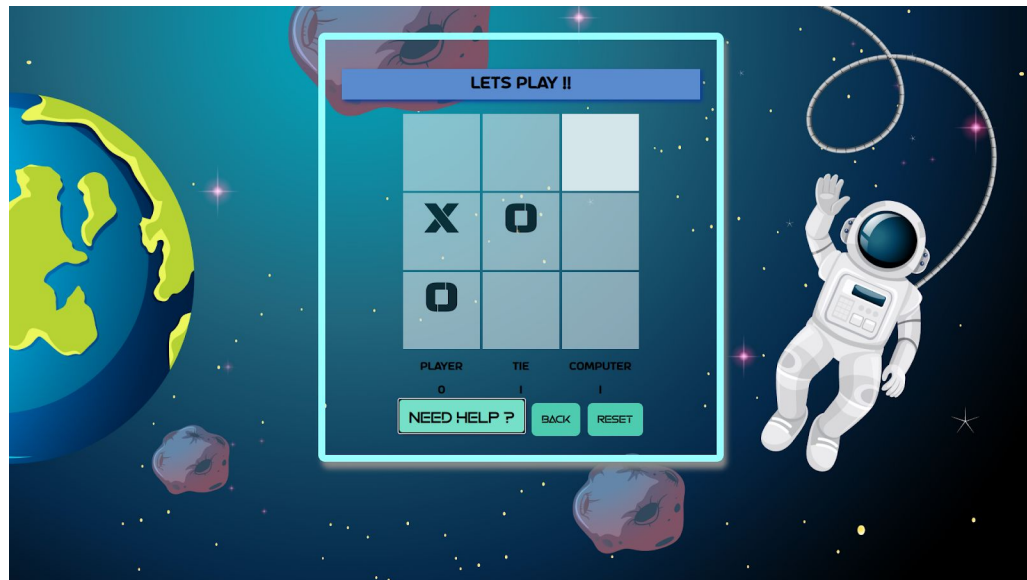
- NEED HELP BUTTON

Upon pressing the Need Help button, Suggested Move for the current user will be highlighted on the board. The Suggested Move function uses minimax function with current player as maximizer and opponent as minimizer to determine the best possible move for the current player, thereby helping the player to make a way to either win or draw the game.



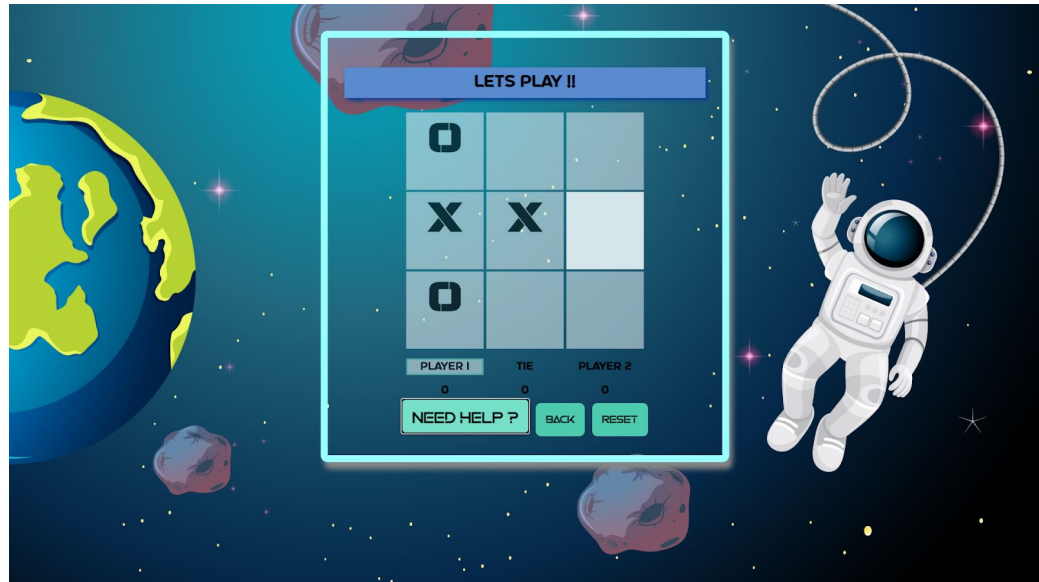
- **AGAINST COMPUTER**

In this case, the computer is 'O' and the player is 'X'. When the player presses the NEED HELP button then the 3rd block on the board will be highlighted, hence blocking the computer.

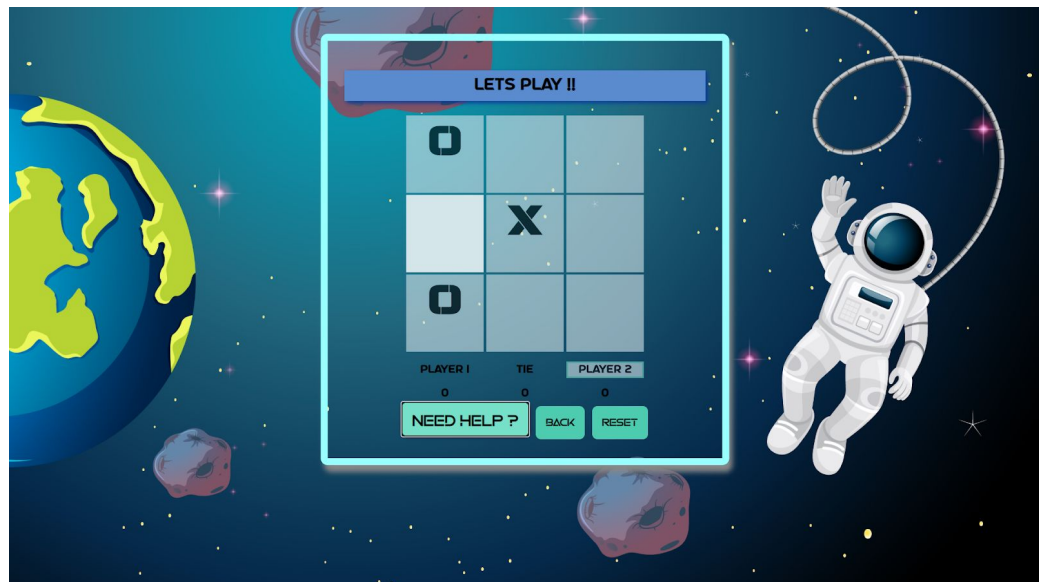


- **AGAINST A CREW MEMBER**

In this case in order to determine the best possible move for the current player, slight modification in the minimax algorithm was introduced. The current player was set to maximizer and the opponent to minimizer. Firstly the block was determined which could result in victory of the current player. If such block was found this block was suggested else if no such block was found then the block was checked which could result in the victory of opponent. If this kind of block was found then maximizer is suggested to make next move to this block, else if no such block was found then next suggested move was found using MINIMAX ALGORITHM.



SUGGESTED MOVE FOR PLAYER 'O'



SUGGESTED MOVE FOR PLAYER 'X'

- **BACK**

This button will redirect the player to the homepage of the web-app.

- **RESET**

This button will reset the game, and a new game will be started.

URL : <https://pranjalibajpai.github.io/Tic-Tac-Toe/>

GITHUB REPOSITORY:
<https://github.com/pranjalibajpai/Tic-Tac-Toe>