**Microsoft Mars Colonization**

By

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The Problem chosen here is

**Entertain the Crew** : Engage your Crew by Using Minimax algorithm to build an unbeatable Tic Tac Toe game powered by AI.

A tic tac toe game is set up on a 3 X 3 board.

The crew member has a choice to either play with his fellow crewmate **PvP** or proceed to play against the AI for which the difficulty can be modified **PvE**. If the player is in need of a helping had sure he can get that by clicking on **Guided Mode** which gives suggestions for the next move that the player can make. After a Win condition or a Tie occurs the score is updated and they can play the game again by clicking on Replay. After every game player can reflect on the decisions that they made by clicking **Timeline** which shows the order in which the moves are made and preform well the next time.

The AI uses a minmax algorithm to find out best possible move to make with some extra tweaks to make it more competitive and less time consuming.

We thought that if a player was able to see what mistakes he made during the last game he would react upon it had have a better game when doing again that was the main reason behind adding **View Timeline** feature.

Plus, for a Bonus we have added 4 X 4 Board which could also be played if the player thinks that 3 X 3 is getting repetitive.

This contains most of the features from our 3 X 3 Board like playing against fellow crew or AI and once game is completed players can use **Timeline** to see how the game was played.