**Summarize Game and Programming Task**

The game board is composed of hexagons and will have an edge size of five or seven depending on the number of players. Games of two or three players will have a board size of five hexagons per edge, four players will have edge size of five or seven, and six players will have seven.

Each player will represent a colored team and will have three robots on their team, all of which will begin the game in the team’s respective corner. Gameplay is divided into turns and rounds; each turn will consist of up to three rounds depending on the amount of tanks in play. On the first round, each team plays their robot that has the highest speed stat. On the second round, their second fastest and on the third, the slowest robot. If a team does not have a robot to play during a round, they will be skipped. Once all rounds are complete, a new turn begins.

Plays can be any combination of movement and shooting as long as they have movement points available. Moving costs one point and will move the robot one hexagon in the specified direction. Shooting also costs one movement point and deals the robot’s damage to **all** robots occupying the target hexagon. Robots cannot fire at any hexagons outside of their respective range. Once a robot is out of movement points, their play is over and the next team’s play begins. Each robot’s movement points are replenished at the beginning of each turn. If a robot’s health reaches zero, the robot is dead and removed from play.

Robots can only see as far as many hexagons as their range stat allows. Players will only be able to see hexagons and their contents if they fall within the range of one of their robots. All other hexagons will be blacked out and any occurrences in those hexagons will not visible to the player: this is called the fog of war. Fog of war will be updated for respective teams as their robots move around the board.

Once there is only one team with robots remaining in play, the game will be over and the team declared the winner.

The task of this project is to translate this game to a computer-based application. The main rules of the game will remain the same for the most part, with slight changes made to better suit a computer version. For instance, players will not be able to see the entire board as they would in a physical version. Instead, hexagons that fall within the player’s range will be visible and all others will be blacked out. These blacked out sections are called the fog of war. Players won’t know about any occurrences that take place in the fog of war. This gives the game another level of strategy that a physical version would not have.

One benefit a computer version will have is the AI-controlled opponents. This allows for solo players as well as adding replay value to the game. The game will support up to two human players on the same computer. One disadvantage this brings is the possibility for cheating. Player one could watch player two make their move and play based on it.

Another advantage of our computer-version is the ease of access. Users can choose multiple opponents, leading to different board sizes requiring no set-up time. In a physical version, up to six teams may not be possible and board sized may be fixed. As well, robots will be customizable and keep track of their own individual stats over multiple games. The system will also support updating, adding, and removing robots. For a user to do this with a physical game would require a lot of extra book-keeping and attention, while our system does it all with ease.