1) **Team name:** SharksAndMinnows

2) **Group Members:**
   David Stern
   Matthew Carrington-Fair
   Matthew Epstein

3) **Project:** Our goal is to create a concurrent, multiplayer sharks and minnows game. Players will take control of small fish in a tank and will attempt to avoid sharks of increasing count and speeds with each wave, and the last player alive will be declared the victor.

4) **Minimum:**
   At minimum, we expect the following. At least two players from different machines should be able to join a lobby. One of the players should be able to host this lobby. We expect that each player should be represented by a thread, and each shark to be represented by one as well. There would be a queue for threads to be launched and a Semaphore that allows new sharks to be spawned once old sharks have left the screen. There will also be a maximum number of sharks, so that we do not create infinite threads. We also expect that players will lose upon coming in contact with a shark, and the last player alive will win. After research into the conventions of modern games, we have decided that a tie should be determined by chance; if the last two players are hit by a shark at the same time, the winner will depend on which fish the shark thread sensed a collision with first; collisions between different minnows, however, will be prohibited. Lastly, we expect the visual representation of the game to be ASCII.

   Maximum:
   At maximum, we would like to implement the game with sprites, as opposed to ASCII art. We would also like to introduce gameplay above the tank, with the ability to jump out of the water to avoid sharks. This would introduce new enemies as well: seagulls. Another goal would be randomized terrain, which fish must go around to avoid sharks, making it inaccessible space in the tank. We would also like to implement a leaderboard. This would be represented as a server, which the host would send requests to after a game to update it. This would be accessible to view from the login screen.

5) **First Step:** We believe our first step should be drawing a tank and a fish on the screen and allowing for a user to control the movements of the fish. This would be quickly followed up by allowing two fish (different players) to currently be added to the tank, and move on their own.

6) **Biggest Initial Challenge:** We foresee our biggest initial challenge to be networking issues. We do not have any experience setting up lobbies with people hosting and joining. There seems to be a lot of support online, however, so we do not think it will be too difficult to overcome.