Technical Design Document

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For Project 1 for OnlineGamingTech (Lei Shi)

Feature 1: Choosing Screen
Description:
The purpose of this feature is to give the player the choice to either:

1. Create a server and host the game.
2. Create a client and try to join a server.

Option 1 above will create a server and once it is established, it will then create a client and join that server (ie player always is a client). To implement this choice I created a 'ChoosingScreen' class which would render 2 buttons, one for each choice above. Each button, once pressed it carries out commands to set up/join.

Feature 2: Updating Positions
Description:
The purpose of this feature is to send position updates to all the clients. This is done by sending position updates, formed as packets to all clients so all screens show player objects in the same positions at the same time.

Feature 3: Collision Checks (Tagging)
Description:
The purpose of this feature is to check if the 'tagged' player collides with any other player which would result in a 'Tag'. These checks are only done by the host player. The checks are done by utilising SFML's 'getGlobalBounds().intersects()' function. Once a new tag is discovered, the gameplay freeze's its updating for 5 seconds, during this time text is displayed as an overlay of the gameplay render. The text declares who was tagged and how long they lasted. Once the 5 seconds are up, each client resets all player positions to starting positions and the last player to be tagged is now the chaser, and the game begins again.

Feature 4: Boundary Check
Description:
The purpose of this feature is to do boundary checks for each player object so that they can't move offscreen. This is done by checking the player's position coordinates against the screen boundaries.