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User Story1:

As a user, I want to see my game history and the highest score, so that I can continue with last time’s game when I open it again.

Priority: Medium

Estimate: <2 Hours>

User Story 2:

As a user, I want to know how many numbers of users matched in this game, so that I can know how popular of this game.

Priority: High

Estimate: <2 Hours>

User Story 3:

As a user, I want to know that operation methods quickly, so that I can play this game very easy.

Priority: High

Estimate: <2 Hours>

User Story 4:

As a user, I want to have the guidebook for beginners, so that I will not be unfamiliar with the rules and operations of the game.

Priority: High

Estimate: <3 Hours>

User Story 5:

As a developer, I would like to create a lot of interactive features, so that more players can interact with their friends, play games, and increase their relationship with each other.

Priority: High

Estimate: <3 Hours>

User Story 6:

As a developer, I would like to have user feedback function, so that I can know where I should improve more and add more.

Priority: High

Estimate: <3 Hours>

**User:**

* Set their own username and change the color of their own light cycles
* When the user hits a random car, it will automatically come out with the length of the ride and the score.
* Controls the light cycle by moving it around the grid in vertical and horizontal straight-line paths with the keys in keyboard
* Send the state to the server before, during and after the game
* Can see their scores on the leader-board
* Rotates 90 degrees when turned clockwise or anticlockwise
* Can speed up and slow down

**System:**

* Server stores the players’ game state and user information throughout the game
* Client sends their own game state during the game
* Once the light cycle hits the wall, it immediately derezzes and the player is out of the game.
* Maintain the scores in the text file
* Server gets the winner’s score and name
* The score is calculated using the length of the jet wall in pixels
* In case there’s a head-on collision, the winner is decided using firstly, the length of the jet wall and secondly, the speed of the light cycle.
* Grid has a fixed size 1000px2
* 2D top-down view of the grid with light cycles and jet-walls
* Between 3-10 players
* Players can eat gold or food from the road to increase their health
* Use a single “server” program that handles requests from multiple client programs
* Client can request the server to add the user
* Show error message if the name chosen is taken
* Randomly assign the position on the grid
* Light cycle won’t stop once started

**The working document**：

* **Problem specification:** The problem is I should follow a lot of requirements to create the final application. I will use the android studio and java code to create the application.
* **Problem decomposition using UML class diagrams:** There are about 6 objects, and

**The Bike, Bus and car** are released in simulation. The Road divided into three part: Four ways, three way and straight. The traffic tools, road and simulation all released with traffic light.

* **Class design:**

1. What role(s) do objects of this class perform?
2. Traffic tools, different kind of road, a simulation scenario and the traffic light.
3. What member fields do objects of this class need? Should they be public or private?
4. The simulation contains car, there are both have public and private. The car includes Bus and Bike, and there are also both public and private.
5. The simulation and road both include traffic light.
6. What methods do objects of this class need? Should they be public or private?
7. The simulation has the aggregation relationship with road, car and traffic light.

**Method design:**

1. What should its method signature be?

-main (): initialize the main class

1. What task will it perform? What algorithm will it use?

+getTrafficLightStart():bool: This light can go through.

+getTrafficLightEnd():bool: This light can go through.

+getLength():int: The length of the road.