Project Proposal

Problem intended to solve:

For the term project, I decided to make a gun game with the availability of multiplayers. Unlike the famous gun game Counter-Strike, the modes of the game I would like to design is much different. Though it can be regarded as a much simpler version of a traditional large-scale gun games, it does not lose its playability.

The main difference between the traditional gun game and the shooting game I would like to design is that the players do not have their own blood bars during a fighting. The main rule of this game is through utilizing the recoil force of the gun to shoot other players off the maps. And that leads to the major problems I need to address for the game.

The first one, not surprisingly, is the shooting problem. Of course I need to consider different guns’ damage power, rates of fire, ammo capacity as well as the weight of them. For this game specifically, the main thing I need to consider is the recoil force causing by different types of guns, which can be the key for winning the game.

Next, talking from guns to the players, I need to consider the scroller effects of the game. I want this game to be carefully designed with dynamic pictures. That is, the background is moving in along with the main players up and down, left and right or even top-left, bottom-right, so on and so forth. Only in this case it can be fairer for the players to take in control of the situation.

There are also some more advanced features that I need to deal with. One is the AI player part of the game. While in this game the AI players are ranging from easy to tough, the trickiest ones are always the hardest for coding. In this case, the AI player can well predict the moves of the human player in the next second while making actions at almost the same time. If doing well, this can be the nightmare of the players!

And finally here comes the most free and open part of the game, that Is user customized game. It is not necessary user customized, but users can easily modify the mode of the game partly by themselves. This can also be an challenge for me because I need to consider how to set the limits for the customized game to avoid abusing its freedoms while in the same time makes this game more fun and exciting!

How I intend to solve these problems:

I mainly use tkinter built in python to make this game. Before starting the game I should set up at least five different modes of the game: campaign mode, customized game mode, credit mode, splash screen mode and help mode. And by click on different buttons(keys in the early stage), I can be able to shift to the other mode.(buttondemo, dialog demo)

In order for the main part of this game to function properly, I need to first to use canvas to draw a simple map of the game. At the first stage I just need to draw the simple rectangular shape of the roads of the map for testing use. Later I may replace the shape with pictures to improve user experience. These are the same for the players, just using the circle in the early stage is enough.(for loading the image, see imagesdemo)

Then comes the players action, the player is capable of moving left, right, down, left down, right down, jump, right jump, left jump, etc, using different keys. I also need to keep track of the time and height for jumping and dropping through changing speed or other ways to make it more natural. And I need to check for each move whether the players is off the map so that they will drop to the bottom and reappear from the top.(key event demo)

Next comes the shooting part of the game, I need to design one type of guns first, draw the rectangular shapes of the bullet and let it move much faster than players. I also need to check if the bullets meet the players, and changes the players’ coordinates immediately.

After that comes the scroller effects. As I have explained it above, I need to keep track of the coordinates of the players to ensure that the pictures are moving around the players and use and modify respected code demos.(combine with resizable window demo)

If too much graphic involves, I may have a look at more efficient graphic mode.(delta graphic demo)

Until now the basic mode of this game can be implemented, though I also needs to keep track of the scores, lives, crates, pickups and so on. The more advanced implementation for this game is the AI part. AI needs to in some way predict the user’s action several miliseconds in advance. They are capable of all the actions that the players can perform and shoot strategically. I can also add more algorithm complexity inside this part.

And finally I can add more additional features to the game like customized games and so on to make the game more interesting and fun.