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CS443

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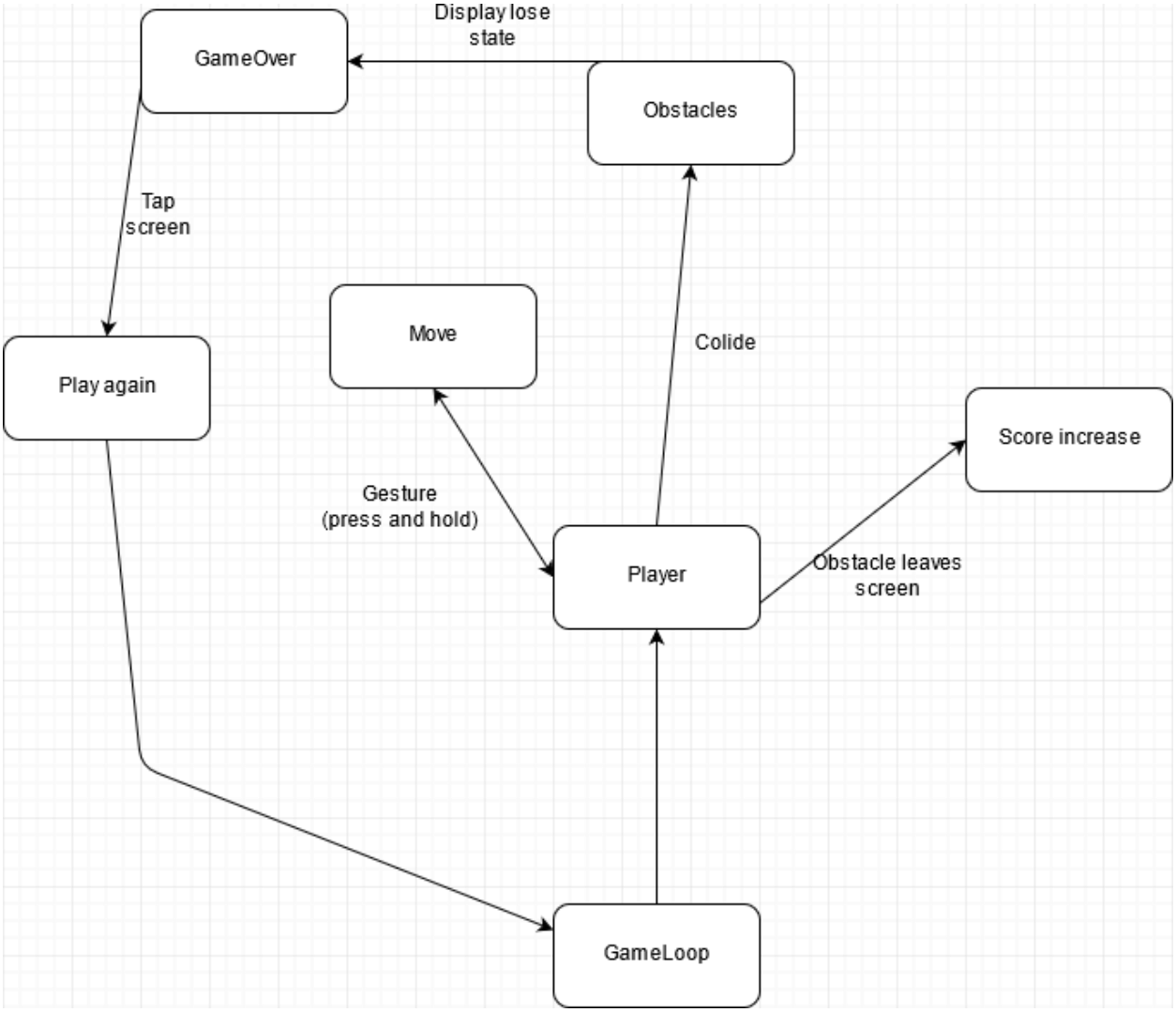
Project Description Document

Project Statement:

My project is a video game app intended for the user to play as a form of entertainment; that is the only purpose of the app. The reason for developing an app such as the one I made is because I have grown up playing video games, so it is not surprising that the app I decided to make is a game. Since I am not extremely experience with game development the app has fairly limited functions, it does however have a functioning gameplay loop where the player must dodge obstacles if they collide with said obstacle they will lose. A very simple concept, but this is a starting point for just learning to develop games on android. I probably won't dive extremely deep in game development as it is not something I plan to have a career in, but it is nice to have some understanding behind the games I play regardless. Due to the simplicity of my game app it is very similar to many game apps on the android market. The nice thing about the simplicity of my app is it doesn't require any special library. Despite the simplicity however I feel like if someone were to want to have something to do I would not mind installing my simple app as a way for a user to briefly be entertained, sadly due to its simplicity the user would more likely get bored or lose interest within a few hours.

Application Design:



Additional info:

This app should work for both smartphones and tablets, most of my testing done with the app however is tested on a smartphone, but the way I programmed the positions of the obstacles and player it should function pretty much the same as a smartphone if the app were to be run on a tablet. The most important Android component of my app is touchevents such as pressing down, holding down and releasing. Due to the simplicity of my app it does not have any external services used.

Application Implementation and Evaluation:

I seperated different game components, so it was easier to manage what does what. For example I created a obstacle class that would create the obstacles that gets displayed on screen. I also made an obstaclemanager class that would place the obstacles with a gap to allow the player to fit through it is in this class where it is checked if the player colides with the obstacles as well as keep track of the players score when an obstacle leaves the screen. The gamepanel class is the thing that manages the gameplay loop for the most part. The mainthread class controls the FPS of the app.

A common issue I ran into was putting the correct type values into specific methods from the default library; a few methods when working with them I had to type cast values to properly adjust for the method to correctly accept the values. One issue I remember while working on the app was there would be extra obstacles appearing after the first one leaves the screen. I did not realize I had forgot to remove the obstacle from the arraylist after it leaves the screen causing extra obstacles to randomly appear which would make the game impossible to proceed after getting a score of 1. Another issue that came up was I initially used the arraylist for the while loop in the populateObstacle method which would cause the app to not be able to run properly because initially the arraylist is 0 and I had subtracted 1 from the arraylist so it would get the index -1 which is not good. I later changed it to look at the current Y position of the obstacle instead of the arraylist.

Experiences and Thoughts:

I found it interesting that for a game app you do not have to mess with the xml file. Most of the things displayed on screen where made using Canvas rather than xml placements. If I had more time as well as an android phone I would have liked to change the movement controls from gestures to using the gyroscope to make it so you move from the orientation of your phone as I deep down feel with gesture the game is too easy. Unfortunately due to me not having an android phone I felt it would be awkward trying to code for the gyroscope on an emulator, so I used gestures instead. If I had more time however I would probably add a menu to switch between the two movement controls.

Lastly I'd like to say thank you for the semester I had a lot of fun learning about android development. I hope you have a great summer and onwards professor!