Developers Diary

Mobile App Development 3:  Project

G00340138

Ivan McGann

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# Developer Diary

## 22/10/19

Created the Github repository for the Mobile App Development project. No final design is decided at this stage of the project, but I am considering a game that is an endless runner featuring platforming and shooting but that may be too much to do in this project. Also added a gitignore file that I will complete later when the project is near its full completion.

## 25/10/19

Downloaded and updated the recommended version of Unity 2019.2.4 along with the latest version of Visual Studio 2017 which I will use to write the code for the project. Unity recommended that I download Unity Hub to allow me to use the software sufficiently, particularly opening and creating of projects. I created a base project in Unity, the project requires that I create a 2D game. I created the base game and added the folder to my Github repository.

## 04/11/19

Added a basic developers diary to my Github repository. It was only partially completed as I still have not decided on the final design on the project. This project will be of my own design and want to create something where I will find helpful resources online if I get stuck in any part of development. Before I hand up the developer diary, I will have to convert the now word document into a PDF.

## 02/12/19

Updated the design document. The core outline was to discuss several genres of gaming. I chose to write about the shooter genre. I wrote an overview on my project and went into detail on gameplay and overall philosophy of videogame design. My aims and objectives aren’t final as I want to use this to describe why I chose the final design and my initial aims for that. I tried to go into detail about the evolution and commonality of shooters. I wanted to convey how despite moving from 2D to 3D the base mechanics are still intact of shooting enemies, maintaining ammunition and moving forward from level to level even if the environment changes. I haven’t written about the other genre’s yet like platformers, puzzle and traditional games.

## 03/12/19

I wrote about the genres I didn’t write about above. I looked at platformers closely as I wanted to design my game as a platformer that featured some light shooting elements. I did not write out the initial design as I wanted to try developing a working prototype that I could use as a starting point to begin the project before committing to the design fully. Part of writing about genres pushed me research them by reading articles and watching videos so I could discuss the genre, their evolution and a light history of some of the more popular games in. For the traditional games I had to research the rules of some card and board games as I don’t really play them regularly. I committed the design document to my repository before moving on to the next phase of my project.

## 05/12/19

I spent most of this day working on a basic prototype of a platform game. I wanted it to be an endless runner featuring mild form of shooting enemies and collecting pickups to contribute to a high score. I would later try to implement a parallax scrolling background, to give the illusion of depth in a two-dimensional field. I had already created a starter project, so I worked on creating platforms and the player. Both right now are basically square blocks of different sizes. The platforms will be of different lengths to add variety to jumping. I have yet to create menus or other screens as I figure I should implement and stage them at a later point in the project. I also created a developer diary to log the progress and issues with the project. I will also write out test cases based on the project requirements to see if the game meets the expected standard.

## 08/12/19

Have created a scene that is going to be adapted into a game. The character block starts on the left of the scene and I plan to implement auto generating platforms. The start of the game features a long platform so the player can move from right to left at the start of the game. I have implemented a jump to the player, this required gravity to be implemented to the player’s jump. I tweaked this so it is reactive but not overpowered to jump huge lengths. I did not implement any sprite work or character animations as the character is only a square right now. Have not committed as I want to get the platform generation and scrolling camera working. The platforms will be generating at different specified heights and the spaces in between each platform will be random but the gaps will never be too large.

## 09/12/19

In the last few days I am experiencing difficulties with the endless runner design as the platforms that the player will be jumping on at different heights are having issues when spawning. Some will spawn fine with a desired gap in between them but others spawn on top of each other which looks aesthetically unpleasant. There are also errors in spawning with huge gaps in between the platforms the longer the game is running for, these gaps are so large the player is not able to jump from one platform to the other without falling in between them. These platforms are of multiple lengths and generating randomly but even when I switch the spawning platforms to be of the same length, I still encounter errors. I have yet to introduce enemies, a weapon for the player or pickups to the game so I am going to give up on this initial design. I then attempted to refactor some of these to a just a basic platformer, but this led to old errors reappearing, so I abandoned this old code. I have now created a blank Unity project and will try to investigate into creating a new style of game for the project. This will require a few days of research. Committed this developer diary to my Github repository as I haven’t made a commit in nearly a week such are the issues outlined above.

## 12/12/19

The past few days I have been working on the game and have a basic working prototype now. The player character can shoot (albeit not in every direction right now), move with the camera following them and there is a single enemy character with knowledge to at least be aware of where the player is by following the player if they move far away from him. There is a bug that sometimes the player character disappears if they move around too much. Hoping that bug disappears, or the issue becomes clearer as I don’t understand why it happens. It’s at the stage in development where I am at the point of no return on the design and must move forward regardless of the issues or design limitations that might occur. I plan to tweak and adjust the controls, the overall speed of the game, and its complexity as I continue to create the game. The last few days weren’t as progressive as I was hoping but I am hoping the next few days will yield more progress. I updated the Design Document to reflect the current games design as being the final one. It’s late in development to add a final design but I was having issues with the project up to this point, my first design was an endless runner that ran in to some errors when I ran into trouble with the platforms generating on top of each other. I have sketched out what I plan to be the final designs but as always, those plans are subject to change if I come under pressure for time. I’m not sure how I will add the sketches to the document, but I will try my best to make them as ascetically pleasing as possible. Right now, I plan to add a high score, but that plan may change if I get stuck at some point. I also added some test cases to the test plan that I plan to run once the game is completed.

Test Plan:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test No. | Description | Input | Expected results | Actual Output | Notes |
| 1. | Start Game |  |  |  |  |
| 2. | Pause Game |  |  |  |  |
| 3. | Exit Game |  |  |  |  |
| 4. | Destroy Player |  |  |  |  |
| 5. | Destroy Enemy |  |  |  |  |
| 6. | Player can shoot |  |  |  |  |
| 7. | Player can take damage |  |  |  |  |
| 8. | Player can move |  |  |  |  |
| 9. | Score adds up |  |  |  |  |
| 10. | Final score added to high score chart |  |  |  |  |

Grid with test case.