Criterion A: Planning

Defining the problem

My client is my cousin sister. Her younger brother is 8 years old and has a lot of time and spends most of it eating and drinking. However, this also leads to him eating lots of unhealthy and non-nutritional food items.

The client has been reminded and informed again and again about healthy dietary habits, however it is hard to definitively inform him and it is also difficult to make him remember as it is not of any interest to him. His parents and siblings have reiterated difficulties and therefore I proposed the idea of making an educative game.

Video games have recently exponentially risen in popularity, and the younger generations enthusiastically engage in video games. This inspired me to design a platformer game which encourages healthy eating habits. This is because platformer games are easy to understand and games will encourage enthusiasm to the message conveyed. The client also thought that would be a very effective way of engaging the client due to their interest in video games (See Appendix).

Rationale for the proposed solution

I will create a 2D platformer game which allows clients to play levels which shows them that healthy food is better and they should intake lesser unhealthy food.

The software works as follows:

1. The player has full control of a movable character
2. The player must then go to the end of the level
3. Along, the way health points can be lost by colliding into obstacles and consuming unhealthy food items
4. There will be opportunities to regain health points by consuming fruits and vegetables
5. The player must reach till the end without depleting their health points

I believe Unity provides the best way for me to develop this project. C# is also well-suited for this project due to its versatility and its integration with the Unity game engine. Furthermore, the Unity game designer offers great versatility with a great variety of tools and modules available as well as independence to create and import assets from external sources. Cross-platform ability of the engine is also useful to later make the game available to a broad audience.

Initially I thought about using Java in combination with an IDE to develop the game. However, Java is a more generalized tool and does not have the same depth of tools and modules as Unity in the area of game development. For example, the transform tool in Unity provides full control of a game object to the user, whereas defining properties of the game object in Java would be significantly harder and more time consuming. In conclusion, Unity is a more specialized software in this situation and therefore I have decided to use Unity instead of Java.

Success Criteria

Number	Success Criteria	Completed
1	Application opens with character, food items and level design assets rendered	Yes
2	User can move the playable character in the direction denoted by the keyboard controls, and ‘jump’ using the spacebar	Yes
3	Unhealthy items decrease ‘health points’	Yes
4	Healthy food items increase ‘health points’	Yes
5	Colliders work suitably to prevent the character from going past the level design into the rest of the game environment	Yes
6	Health bar GUI is updated to show health points gained or lost	Yes
7	Character respawns from the start of the level when all health points are lost	Yes
8	Going past the flag shows game complete screen	Yes
9	User can exit game upon completion of the level	Yes

Word Count: 449