G54GAM – Lab Session 6

Progression and difficulty

This lab session is based on extending any of the games that we have made previously in lab sessions. If you didn't complete the exercises last week then feel free to carry on from where you left off.

The aim of this week's session is to consider how one of the previously made games can be extended in a structured way to achieve **flow**, in order to keep the player playing for as long as possible, but avoiding frustration and boredom.

Difficulty

Start with one of the previous games, i.e. the platform game, the scrolling shooter, or the tank game.

Identify particular elements of the game that determine the difficulty for the player. Is it the number of enemies that the player faces, how limited their resources are at any particular time, the complexity of the level that they have to explore, or something else?

- Vary this element or elements to create three **levels** for the player. Recalling last week's lecture
    - An easy level that gently introduces the game to the player
    - A medium level that is suitably challenging for the player
    - A difficult level that is hard to master

Consider the **difficulty curve** and expected **increasing ability curve** for your player and for the game.

- Develop the medium difficulty level to try and introduce appropriately increasing difficulty
    - How is difficulty quantified in your game? Can you easily vary the difficulty, or should you adapt your code to more easily do so? (Hint) Should difficulty be parameterized as easily changeable values or collections of levels?
- How might you measure the difficulty of the game for the player as they play, and dynamically react to it?
    - The player is doing too well, slow them down a bit
    - The player is doing badly, help them out a bit