COMP3180

# Topic Introduction

Procedural generation or proc gen is the creation of data using an algorithm during runtime, as opposed to manually creating the data. This means, that when utilised for game development one can create lots of content with relative low effort, increase the game’s replay value, and reduce the need for repetitive gameplay. Therefore, within the video game industry proc gen is utilized to solve a variety of needs such as:

* Level, terrain and landscape generation.
* Character dialogue and animation.
* Object instantiation and loot systems.

Now its important to note, that procedural generation has been used in games for a long time, and while its hard to find out which game was the first to utilise proc gen, the most notable game is a game released during 80s called Rogue. Rogue is most notably known for being the first game to procedurally generate levels in a labyrinth type manner which changed every time the game was played. As a result, Rogue started a new genre of video games referred to as Rogue-Like, and thus as more games have been developed, the proc gen technology has drastically improved and is continuing to do so. Therefore, proc gen is considered an advanced game development topic.

Furthermore, there isn’t enough time for me to explore all the areas proc gen is useful for, so I will only be focusing on procedural level generation.

# Literature Review

As mentioned above procedural level generation was achieved almost 50 years ago, which means during these 50 years a bunch of ways to achieve a similar goal have been created and are now publicly available. Additionally, there have been many new games which procedurally generate content in creative ways

# Project Outline

## Learning Goals

## Project Deliverables