

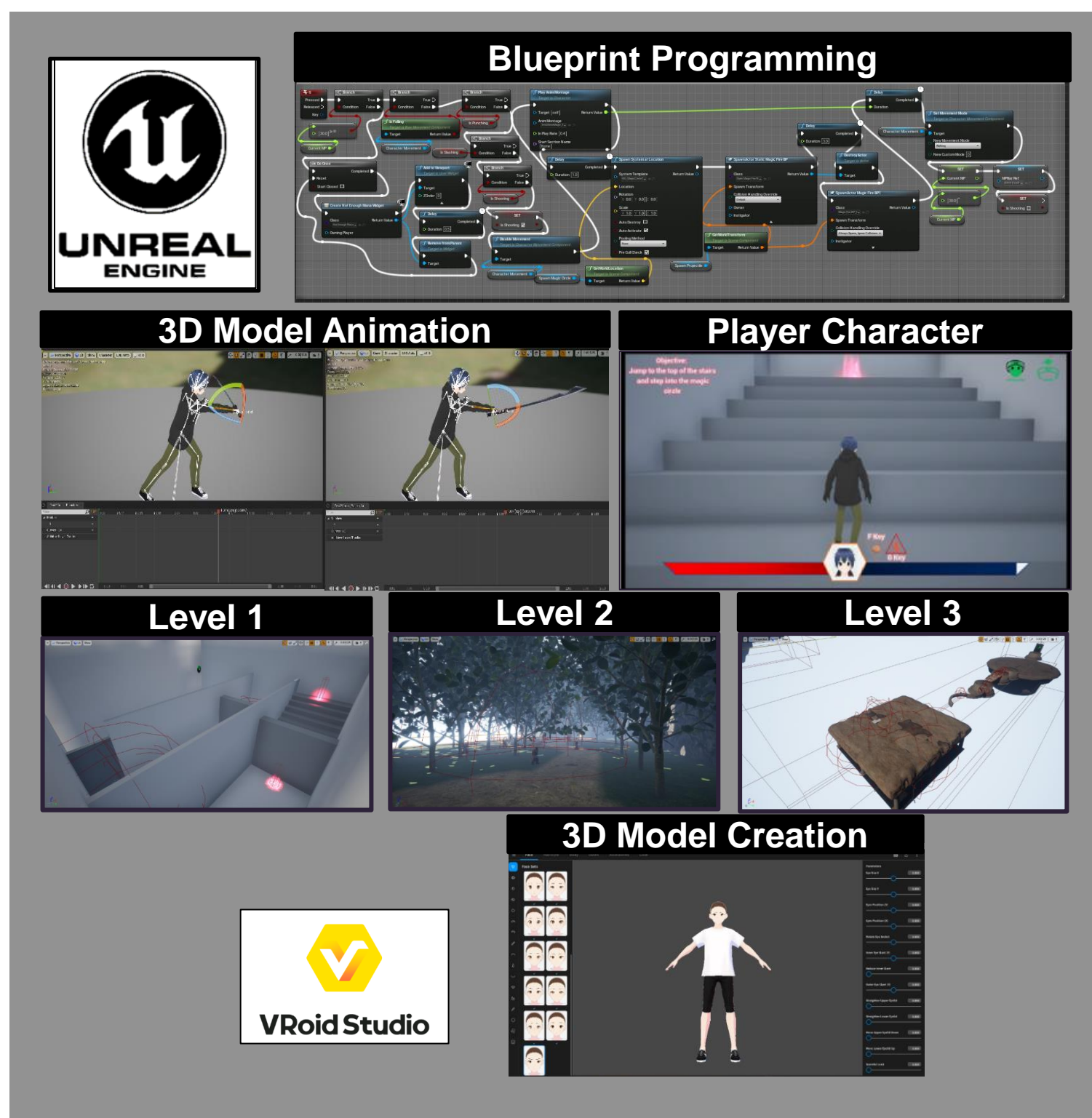
AI Based Game Design and Control Using Brain Signals

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Project Objectives

The aim of this project is to incorporate the use of Electroencephalography (EEG) in popular themed game such as a 3D role-playing game as an improvement to Brain Computer Interface games in the market. This project will include the development of the 3D role-playing game and the integration of both Artificial Intelligence and EEG into the created game.



Game Creation

The 3D game was created using Unreal Engine 4.27, utilizing on the blueprint programming and frame animation feature VroidStudio was also used to create the character that users will control when playing the game.

Game Concept

The game consist of 3 levels that are unique and infested with different monster. The player's goal is to finish all 3 levels by exploring and killing the monsters and bosses in each level.

EEG

The EEG is used as a secondary input device for the game. The EEG raw data are read using Petal Metric and processed using Fast Fourier Transform in Python. The processed data are then mapped to different actions in the game.

