Research Project Thesis – First Person Platformer

Abstract/Summary

Recreate the movement system of the video game Titanfall 2 as a time trial first-person platformer video game. The player with be able to walk, run, jump, slide and wallrun. This project will also entail a level creator and editor and a leaderboard for best times for both pre-built (developer made) and user created levels. This game will utilize the control schemes of keyboard and mouse, as well as controller (360/XBO controllers). This project will also use a server hosting a database for levels and best times that the game will communicate with to download necessary leaderboards and upload new best times done by the user.

Tools and Software

* Environment
  + Desktop
    - Windows 10
    - AMD FX 6300 Processor
    - 16 GB Ram
    - NVidia GeForce 7400 GPU
  + Laptop
    - Windows 10
    - Intel Core i7 7th Gen Processor
    - 12 GB Ram
    - NVidia GeForce 940MX
  + Server
    - To be decided through further discussion/research
    - Windows Server or Linux Server
    - Physical or Google Cloud Server
    - Utilizes a MySQL Database
* Software
  + MySQL
    - Database used for Leaderboards and program queries
    - Will need to research how to have the program connect and query the database
    - Database list will contain Level tables that will describe Player times in order of fastest and will only contain 5 listings.
      * Time
      * Player Name
      * Date
      * Level Name
    - Level Tables will be an updated table listing received level creations by users and developers.
      * Level Name
      * Created by
      * Date Created
      * Date Modified
      * Linked to best times table(described above)
  + Unity3D
    - One of two video game engines to choose from for this project
    - Most knowledgeable in
    - C# will be the programming language used
  + Unreal Engine 4
    - One of two video game engines to choose from for this project
    - Research will be necessary for use and coding
    - Least knowledgeable in
  + Blender
    - 3D modeling program to be used for creating 3D assets to export to chosen 3D game engine
  + GarageBand
    - iOS mobile app for creating and editing music
  + GIMP
    - Image creation and editing program for creating 2D art assets
  + GitHub
    - Version control program to be used when creating the game and server