CS351: Red Run Proposal

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Abstract and Implementation

The objective of this project is to create a simplified version of the game Death Run (a 3D game), which is a derivative of Gary's Mod. In this game, there will be two teams, the Doom Bringers and the Victims. The Victims role will be to navigate an obstacle course in which there are many traps that can be triggered by the Doom Bringers. The Doom Bringers role will be to kill off The Victims using the traps at their disposal. It is important to note that once a trap has been triggered by the Doom Bringers, there will be a cooldown before the trap can be triggered again.

There will be a server and client for the game. The server will have a database on it which will store data concerning the map, such as trap locations, victim locations, and Doom Bringer locations. Additionally, the database will store information about the Victim's attributes such as health and the player model, as well as Doom Bringer attributes, which will be similar to the Victim's attributes with the exception of health. The client will be reponsible for rendering the OpenGL component of the game. It will also provide users with the capability of input such as controlling the character, and in the case of the Doom Bringers, springing traps.

Lastly, there will be a proprietary network protocol created to facilitate the transmission of data between the client and server. It will be as close to realtime as possible, so that there will be minimal latency between the client and server.

Roles and Responsibilities

There are five members on our development team. Each member and the respective responsibilties are as follows:

Jeffrey

- Graphics -
- Project Manager - Help keep track of roles for each team member on the project, serves as a communications medium for technical implementation concerns

Jayson

- Systems Engineer/Administrator - Setting up test machines, building and maintaining the server, troubleshooting
- Network Design - Creating a network protocol to facilitiate communication between the client and server
- Network Engineer - Configuring a Virtual Private Network (VPN) for testing and communicating with the server, troubleshooting
- Database Engineer - Determining the design for the database and implementing an ORM for usage by the rest of the team
- Model Design - Utilizing the Object Relational Model (ORM) and the network protocol to facilitate a communications framework for the other application layers in our application model

Troy

- Graphics Lead
- Map Design

Adam

- Systems Administration - Assisting team with the windows test systems for various functions
- Map Design

Jordan

- Graphics
- Map Design

UML and ERD

To keep track of the various aspects of our project, there will be a UML document available in the cloud that serves as a contract between all developers on this team. This contract will help to determine how each individual member will tie their code into other members existing infrastructure.

The ERD will act as the database design document. Through this document, the team will be able to understand the implementation details that exist within the database.