Proposal: Modernization Update to VTank

Team members:

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VTank is a computer game originally developed by Vermont Tech students 8 years ago as a part of the Summer of Coding event. The game is an online 3D battle simulation where each player controls a tank and drives around attempting to blow up enemy tanks. Due to this games age and the fact that it was developed for the now discontinued game engine Microsoft XNA it no longer runs on modern systems.

We are proposing to update this game to run on the more modern Unity game engine as well as update the net code framework to a more modern version of the same tool. This update will require a rewrite of existing code but in almost all cases not a redesign of the logic itself. Additionally all existing art and sound assets have been confirmed to be compatible with Unity allowing a smooth transition.

The Unity game engine was selected specifically for being a powerful and diverse engine that is mostly compatible with existing logic. Because all Unity code is also written in C# on the .NET framework, the task of rewriting every file will be lessened. The only changes which need to be made are to specific API calls involving XNA or Unity methods.

The multiplayer functionality is handled by a system called Glacier. We propose to also update this system from the older version which was used 8 years ago to the newest version Glacier2, to best make use of modern networks and increase performance. These systems are not innately compatible and will require some additional coding changes to make the final upgrade.

**Deliverables**

* Updated game code and build for VTank Windows PC client to connect to servers and play the game
* Updated server code to run VTank on a dedicated server and host lobbies to ensure low latency connections for players