**CSCI 4390 Senior Project Initial Proposal**

Title: 2D Dungeon Boss Rush Video Game on Unity

Team Members: *2-4, (use UTRGV email addresses here to be unambiguous)*

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Adviser:

*(Send your proposal to faculty and ask about advising your project. They may accept, reject, want to meet, ask for changes or more details, etc. When an adviser has signed off on your proposal and agreed to advise it, send this form to Dr. Tomai to indicate that you are set.)*

**Project Description**

Background

*(One paragraph. Describe the circumstances that give rise to the problem or opportunity below. It’s probably about how people use technology in a certain domain.)*

*Video games media are a popular form of entertainment. Today there are more ways for indie developers to compete in the market. With environments such as Unreal Engine, Unity, and Game Maker and assets that are available, either free or paid for, it doesn’t cost much to make a game. The gaming industry has drastically increased over the years. Covid saw a rise in gaming due to the recommendation of staying at home and travel restrictions to combat the pandemic. Games are meant for individuals to have fun and relieve stress. It also helps with brain stimulation since games require constant thinking and input.*

Problem/Opportunity Statement

*(One sentence. What’s the specific thing you’re trying to solve or improve?)*

*Consumers or gamers are increasing and are always looking for new games for relaxation, brain stimulation, and to have fun.*

Proposed Solution

*(One paragraph. What are you developing to accomplish that? Focus on how you define successful completion of the project.)*

*To accomplish this goal, we propose to make a game using Unity and VS code in C# as our environments. Our team plans to develop and code a full functioning dungeon boss rush 2D game by the end of the semester. Our main focus is making AI capable bosses, procedurally generated maps/dungeons, and fun player interactions to challenge the player. We will give the player abilities or weapons to use after testing and see how the public responds. This should make searching around and possibly solving puzzles around the map more entertaining. We also plan to develop the GUI to look good and have some code functionality for it as well. Once everything is developed we will continue to improve upon the game after user feedback.*

Capstone Merit

*(One paragraph. The point of a capstone project is to demonstrate that you can take what you’ve learned and apply it to a new project. It should therefore have interesting challenges and things to learn. Technical depth and project management are part of every project. Others may include design, client management, running experiments, and so on.*

*Your project doesn’t have to be unique and totally original, but it shouldn’t be a simple matter of following existing tutorials either. What makes this a good demonstration of your skills and abilities as a Computer Scientist?)*

*Using our skills of learning new languages and environments, coding, and researching how to make games function on Unity will aid us for the challenges in developing a game. Constant user testing on whether elements are fun is also one of our goals for Game Developers. Players will have multiple interactions and abilities to do things within the dungeon. We plan to Implement AI to the main bosses which makes the boss feel more alive. The dungeon will be procedurally generated so every level and consumer would have a different experience making it replayable. Constantly updating and fixing the game after receiving feedback helps with documentation, communication, problem solving, collaboration similar to an Agile development approach. Challenges such as making sure the maps don't lead to a dead end, difficulty of bosses, and user interface are challenges that we would have to face and learn how to deal with. Github will be a useful tool in order for our collaboration to be possible and provides good documentation of our work.*