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# Executive Summary

# Overview

## Broader Impact

What we are creating is more than just a tool to build prototypes of videogame levels. It breaks down many of the barriers of entry to videogame development, softens the learning curve of game design in general, and makes game design accessible to a wider audience. One of the barriers to video game design is the time required to build a game. To build anything of reasonable complexity, a significant investment of time is required to both design the level and then implement it. Our tool aims to consolidate the design and implement stages into a single step. By doing so designs can be quickly evaluated, modified, and revaluated to arrive at the best course of action in as little time as possible. This significantly lowers the barriers of entry to small game studios and single person teams for creating high quality games. This tool will allow them to develop higher quality games without requiring the resources that large game studios have. Our tool also softens the learning curve for learning how to create videogames. The tool eliminates the need to learn any new skill to design levels. This allows individuals who are interested in learning about game design to complete initial projects faster and more quickly evaluate how they feel about the field of videogame design in general. Finally, our tool makes game design more accessible to those who would otherwise not be able to develop videogames via traditional means. By using blocks to design levels rather than writing code or using a two-dimensional drag and drop interface, people with underdeveloped computer skills can engage in videogame design. This means that young children, elderly, and those lacking finer motor skills would be able to play levels of their own creation.

## Personal Motivations

### Brandon Aulet

### Timothy Flowers

I first became interested in working on this project because of the interest I have had in videogames. Although I have never had a very strong desire to work in the video game industry, I have always enjoyed videogames as someone who plays them. When I began my course work as a Computer Science major, I also began to appreciate them on a technical level. When I saw the pitch for this project I thought it would be a great opportunity to exercise both my passions in videogames as well and technical programming.

Apart from my love for videogames, I’ve also been heavily interested in graphics. I think the field presents unique programming opportunities and paradigms that are not often encountered in other areas of computer science. These opportunities include the usage of highly parallelized graphics cards as well as the design of shaders which model the behavior of light when it reflects off different surfaces. I felt like this would be a good project to further explorer my interest in graphics since there would be opportunity to process three dimensional models as well as write an application that interacts with the Unity game engine.

Finally, I found the initial concept of the tool very exciting. When the implementation is complete, it will allow game designers to eliminate the need to spend so much time prototyping levels. Our tool should give them the ability to test an initial concept and then begin to build on top of it. I get a certain satisfaction at building tools for other people to use because I feel that in a certain way, I’m responsible for what people can create with it. To be able to design something that can help others complete a task much more quickly and efficiently than would otherwise be possible is what software engineers should always strive to do.

### Mark McCulloh

### Christopher Williams

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