**Distributed Physics in Unity using SpatialOS**

**User Manual**

**COP 4331 Fall 2017**

Team Name: Group 13

Team Members:

* Kyle Turner
* Michael Thompson
* William Terry
* Kristin Knotts

Modification history:

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| --- | --- | --- | --- |
| Version | Date | Who | Comment |
| v0.0 | 11/13/17 | Michael Thompson | Basic building structure in Unity |
| V0.1 | 11/21/17 | Kyle Turner | Adding SpatialOS backend |
| V0.2 | 11/23/17 | Michael Thompson  Kyle Turner | Worked more on SpatialOS backend  Added basic movement mechanics |
| V1.0 | 11/26/17 | Michael Thompson  Kyle Turner  Kristin Knotts  William Terry | Finished SpatialOS backend  Finished building structure  Added office building objects from clara.io |

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**System Description**

The software that has been created is a simulation of an office building environment that can be used in part of a larger program to emulate combat simulation. Our system takes advantage SpatialOS to distribute physics across multiple servers to enhance the capabilities of our system. All objects used in the software are intractable and can be destructible and accounted for by SpatialOS.

**System States**

The SpatialOS backend will keep track of the user in the software. The navigation and physics will be tracked in the backend and updated in the interface provided by SpatialOS.

When running the client side software, the user will be able to navigate and look around in the world provided. The user will also be able to destroy the building by a triggered event.

**System Functions**

Movement of the system is mapped to the ‘W,’ ‘S,’ ‘A,’ and ‘D’ keys on the keyboard. Player movement for forward and backward motions are on the ‘W’ and ‘S’ keys. ‘A’ and ‘D’ keys are for player movements to the left and right respectively.

For destruction of the building structure, the player will press the shift key on the keyboard and look at the building. The building will begin to destruct itself.

**Appendix – Acronyms and Abbreviations**

N/A