VR-Gaming to Broad Participation in CS 1.0
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Problem
Computer Science (CS) is a high demand major, but the interest from minorities or recently graduated high school graduates is not up to par. Many people steer away from CS due to its STEM major nature but not because of their ability to pursue the major.

Solution
We propose “Alchemy Escape”. A full Virtual Environment video game that allows the player to immerse in a escape room scenario. Each room holds a basic concept of CS while the game itself maintains the entertainment factor of any other video game.

Current System
Educational video games are developed to be instructional or tutorial based. Many of these systems seem to work when the player is interested into playing the game, but they do not invite those that are not interested in the subject.

Contribution
Tasks completed for Alchemist Escape:
✓ Logic – Book (object) verification
✓ Logic – Puzzle failure (User Notification)
✓ Logic – Puzzle Completion / Reset
✓ Logic – Achievements
✓ Function – Graber system for PC version
✓ Game Environment Architecture
✓ Testing and Debugging

Future Work
Planned future work for Alchemy Escape:
✓ Run Studies
✓ Add More Concepts of CS
✓ Implement full VR
✓ Port into Mobile
✓ Port into Mobile VR

Summary
The purpose behind creating Alchemy Escape is to spark interest on Computer Science. People are more open to play a game rather than attending a class. Moreover, by playing the game and then reinforcing the concepts of Computer Science, the user will be able to connect how everyday tasks can relate to concepts taught on Computer Science.

Figure 1: Class Diagram for “Alchemy Escape”
Figure 2: System Diagram for “Alchemy Escape”
Figure 3: Implementation for “Alchemy Escape”
Figure 4: Gameplay – Top View Array Room
Figure 5: Gameplay – Possible States and User Notification
Figure 6: Gameplay – Achievement for Solving Array Puzzle

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