

Virtual World Development

EXPANDIBLE VIRTUAL CUBE WORLD DESIGN/DEVELOPMENT/SPECIFICATION ASSIGNMENT

Using the VR specification language, do as many of the following tasks as you can. Those working in groups should attempt more.

1. Specify the geometry of a cube.
2. Specify some properties of a cube. Choose properties that permit some specific cube functionality.
3. Specify some transformations on a cube.
4. Specify an environmental cube and a contained object cube.
5. Specify some form of interaction with a cube, using a defined device such as the glove, the wand, or the spaceball.
6. Add some more cubes and specify some ways in which they relate.
7. Specify some multisensory viewpoints on a cube.
8. Specify a disposition of a cube. Choose behaviors that permit some specific cube goals.

Combine the above specifications to build a world:

9. Block and Wand: A wand (or a spaceball, or ...) is used to manipulate a block.
10. Blocks World: pick up blocks and build structures with them.
11. Logic blocks: block structures map onto propositional calculus and prove theorems.
12. Block structure builder: name a particular configuration of blocks, the existing configuration will rearrange itself to form the target configuration.
13. Block structure builder + restructuring baby: Blocks will take steps to rearrange into a particular configuration while a baby dynamically changes the existing configuration.

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14. Block obstacles: Move a virtual body through a maze of blocks.
15. Topple blocks: Remove blocks from a block structure until it falls down.
16. Architectural blocks: Configurations of blocks represent architectural spaces. Write design constraints for a building or a community.
17. Creative blocks: make up your own block world interactions.