MapEditor 3D

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My original goal for this project was to create a simple to use 3D editor for "lego-like" (but not lego-shaped) "blocks" that is intuitive to use. The project would use the nuwii system as its primary input method and use that to allow the user to position blocks freely (Although the critical idea is for the user to be able to use their hands as an input mechanism, so that should be seen as an implementation choice). In addition, I will be providing a basic stereo rendering ability using colored 3d glasses. Finally, I will be showcasing the result at imagine@rit.

        For the basic "map editor" there will be the following controls:

                1. The ability to add and place blocks
                2. The ability to select and move existing blocks
                3. The ability to delete blocks
                4. Mechanism to redo/undo actions
                5. Controls for save/load/new document
                6. The ability to export the map to an XML format for easy use in other programs

        In addition, there might be the ability to manipulate the camera, although I've recently had some reservations about this due to the way in which it would interact with controlling the system.

        Since this is an individual project, I will be implementing all parts of my map editor myself, although I may be able to cannibalize some parts of earlier projects I have done, and I will be reusing the Nuwii project wholesale.

        Originally I was going to integrate this with my computer animation project but I've since changed that project so such integration now seems unlikely.

        What I have done so far is to create a very simple interface for editing a list of blocks, which receives input from the Nuwii system (running on a separate computer, and communicating over TCP/IP). This design choice was made to deal with certain troublesome aspects of Motej and Bluecove, upon which Nuwii runs, and also to ensure I keep coupling between the two projects to a minimum. I have also implemented some basic stereo rendering which can be toggled at runtime. I have included some screenshots made with the application at the end of this document.

        Overall, I think the project is more or less on track, although I ended up spending far longer than I would have liked just getting the system integrated with the Nuwii system, and there is less of an emphasis on a map editor than I had originally hoped. One thing that does concern me is that there are some non-intuitive interactions with the Nuwii system such as moving the targets out of range of the sensor which are currently non-obvious, and it has become painfully clear that I will need to provide a calibration step at runtime to ensure the

system is usable by a wide range of people.

My immediate goals at this point are to work on usability and implement some of the basic features of the map editor such as save/load/new document and export to xml, and begin working on a calibration mode. In addition, I need to think about how I want to do the user-testing.
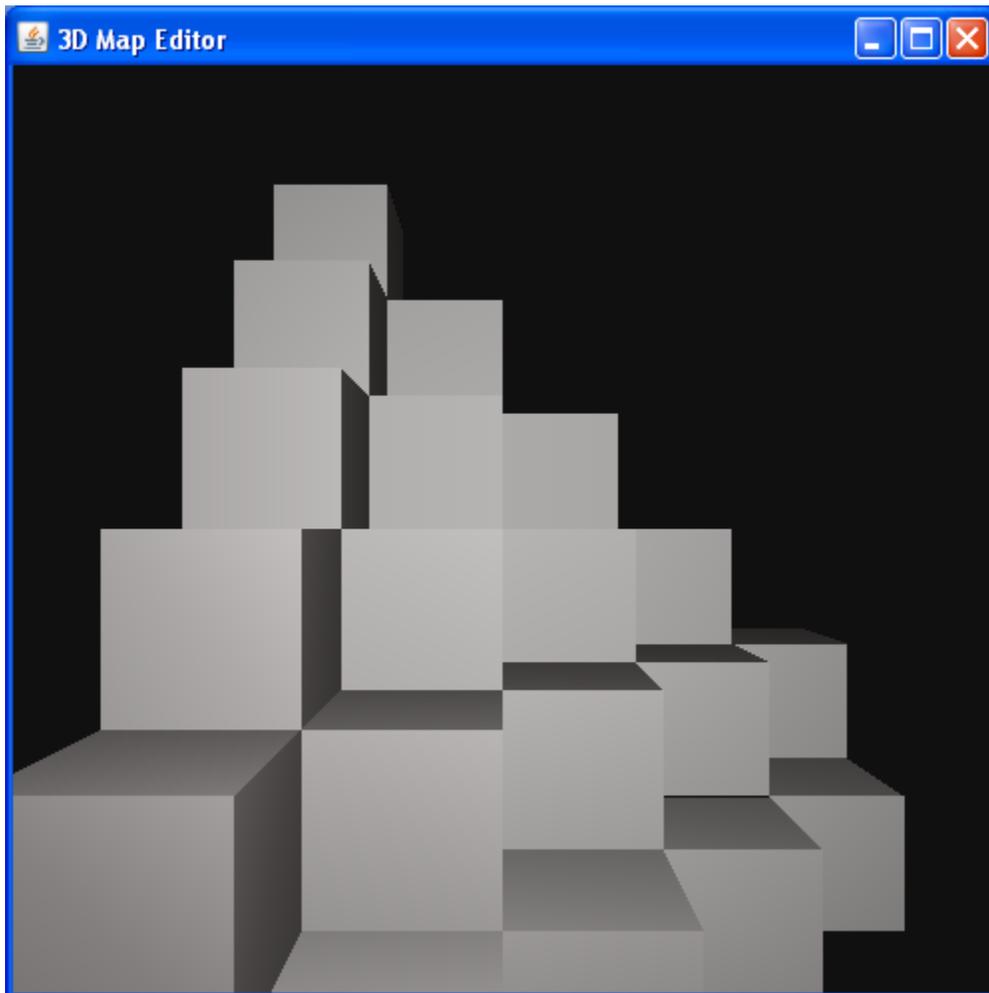
Above: a basic scene created using input from the Nuwii system.
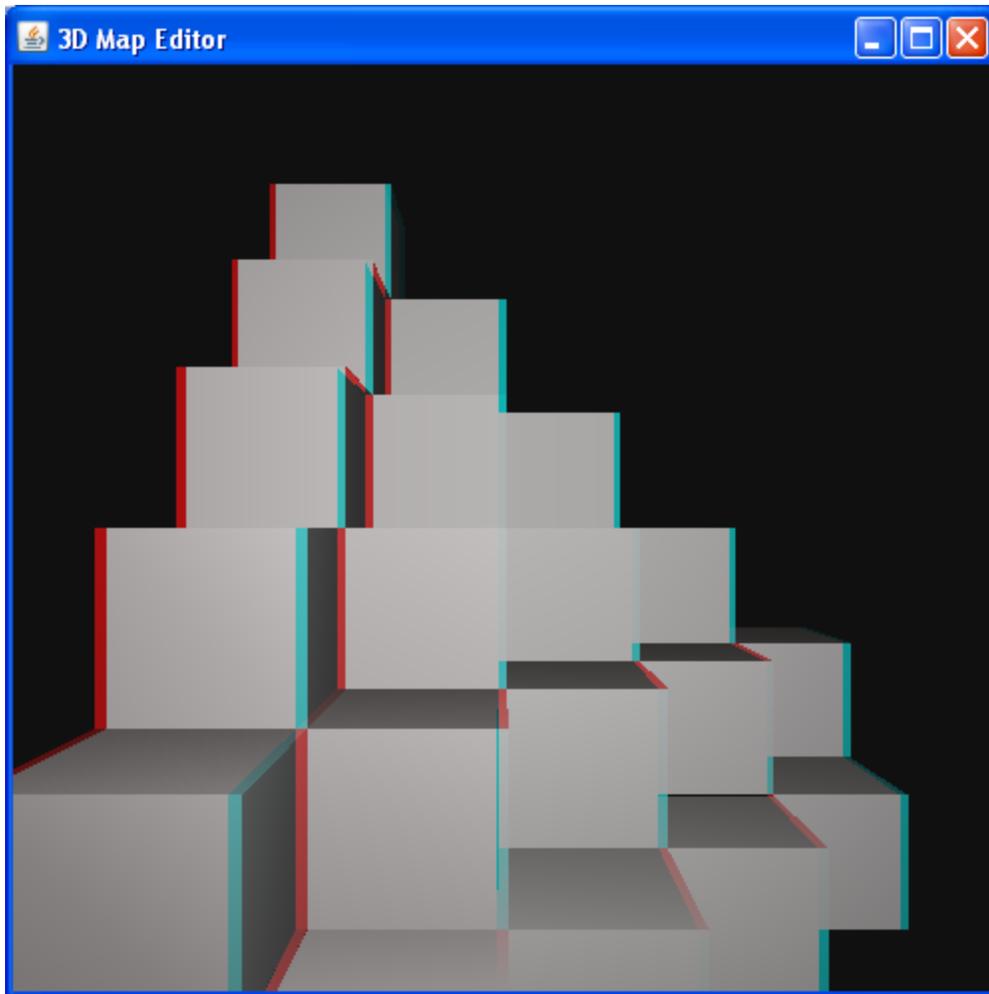
Above: a 3D view of the above scene using the current default settings
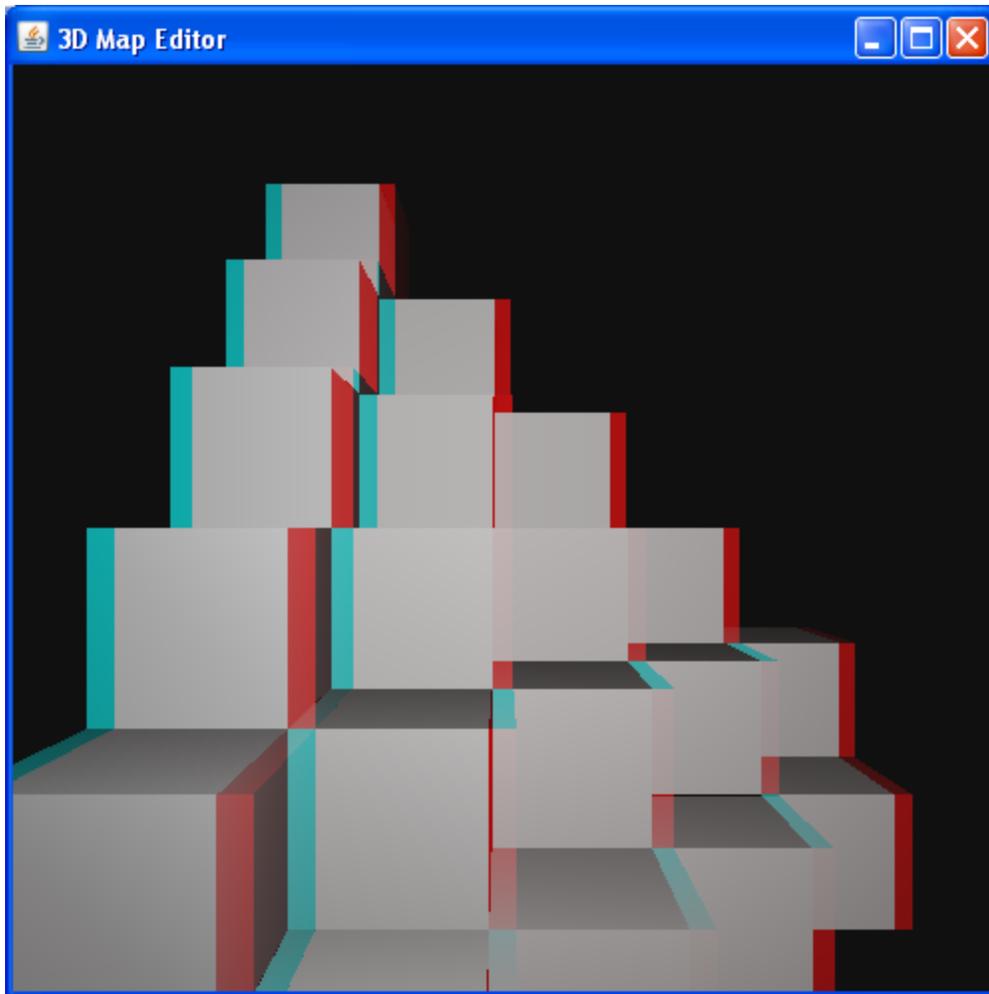
Above: another rendering of the same scene using different stereo 3D settings, which seem to be preferable to the current default settings.