Design and Implementation of a Factory Design Tool for Desktop and Tabletop Interaction

Keywords: Virtual Reality, Factory Design

Overview
The Build IT system is a 1998 ICVR project that allows multiple users to design a factory layout using a projection on a table and camera based tracking of input “bricks” that can be used to move virtual objects.

In this project a similar system will be designed using state of the art software and hardware. The goal is to have a design software running on a desktop or tabletop computer and additionally have an interface to the ReWaVE project to allow visiting the designed environments with real walking.

Goals
The goal of this thesis is design and implements the necessary software to design a factory floor plan on a desktop system using the Unity3D game engine. A part of this thesis is also to define the necessary features for such a system, such as saving/loading, user interfaces, collision checking and so on.

Tasks
- Specify the necessary functions of such a design software
- Design a desktop user interface
- Implement the software in Unity3D
- Conduct a usability study?

Skills
- Interest in game design or virtual reality
- Experience in programming
- Experience in game design and Unity is an advantage

Results
The results of this thesis have to be summarized in a written report and will be presented to the ICVR group in a 20 min talk.

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