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This thesis was commissioned by pLab. pLab is a virtual environment programming laboratory situated in the School of Technology in Rovaniemi University of Applied Sciences. pLab specializes in the development of virtual reality applications using virtual environment technology such as the motion platform discussed in this work.

The goal of this work was to develop a driving simulator where the motion platform would react to the events in a computer car racing game. Software connecting the motion platform and the game were developed. The motion platform was set to relay events of the game in such a way that the motion experienced on the platform would contribute to a realistic driving experience.

First the operation of the motion platform and its server software were examined. Research on the motion simulation was studied to map problems in the driving simulator development. Available equipment suitable for the simulator was searched.

The driving simulator was designed and Microsoft Visual C# was chosen as the development environment for the software implementation. Live for Speed was chosen as the car racing game to be used in the simulator. A programming library developed for Live for Speed was used to connect the game and the software using a UDP connection. In developing the software the focus was set to create a physical model which would make a realistic driving experience possible. The final form of the implementation took shape during development due to unforeseen problems.

The end result is unfinished software which relays motion data to the motion platform. The physical modeling was not completed due to the time limit. Valuable information on problems in the development of motion simulation was gathered during the work.

Key words

Motion platform, simulator, virtual reality, programming