

Advertisement

Berlin, 11.02.2019

Master Thesis

Improving User Experience for Data Visualization in VR

The majority of systems and services that are provided by computer science, electrical engineering and information technology finally are oriented on the needs of their human users. To successfully build such systems and services, it is essential to investigate and understand users and their behavior when interacting with technology. The Quality and Usability Lab is part of TU Berlin's Faculty IV and deals with the design and evaluation of human-machine interaction. Here, the main subjects of our research are human perception, aspects of technical system that are related to the interaction as well as interaction design.

The way data is presented has evolved from simple pie charts and bar graphs to sophisticated interactive visualizations drawing on real-time data sets. For a lot of things, 2D representations on screens is still the best solution. But VR offers a lot of advantages over existing data visualization solutions, especially when dealing with really high dimensional data. In VR more intuitive ways could be used to process information, that a 2D screen can't offer. The aim of the thesis would be to investigate how to transfer traditional 2D representations of data into the richer 3D virtual reality. Specifically, with a focus on how data can be presented in a virtual environment in an intuitive way to maximize User Experience and Usability. For that purpose a study should be designed as an experiment focusing on human influencing factors (e.g. VR-related concepts of Presence and Immersion) through testing of participants at QU Lab.

Requirements:

- Study subject: Computer Science, Human-Computer Interaction, Psychology, Human Factors or similar
- Undergraduate degree in Electrical Engineering, Computer Science, Psychology, Human Computer Interaction or an equivalent background
- Very good English language skills, fluent German language skills are a plus
- Joy of working in an interdisciplinary and international environment
- Interest in Human-Computer Interaction, User Experience, Virtual Environments
- Knowledge of the modules Usability Engineering desirable
- Fair programming skills (e.g. Unity) and/or designing skills (e.g. Blender) desirable
- Basic knowledge of statistics and planning of empirical studies

Contact:

Please send a CV and certificates as one PDF-file to Tanja Kojic (tanja.kojic@qu.tu-berlin.de) and Jan-Niklas Voigt- Antons (jan-niklas.voigt-antons@tu-berlin.de).