Faculty of Electrical Engineering & Computer Science
Master Degree Course Electronics Engineering, MSc EE

HSB
Hochschule Bremen
City University of Applied Sciences

Master 2020

Oliver Schrey

Entwicklung eines “Augmented Reality” Visualisierungskonzeptes für Raumfahrt Payload Telemetriedaten mit Apple ARKit-Framework.

ABSTRACT - Masterthesis

In aerospace, payload telemetry data are displayed in second dimension using data monitors. This master thesis is intended to visualize the payload telemetry data from the European area of the international space station, the COLUMBUS module, using new technology. With the new technology, the data needs to be visualized in a third dimension. For that, the modern techniques Virtual Reality, Augmented Reality, or Mixed Reality can be used. These techniques are briefly explained for the purpose of the master thesis. The new data visualization needs to be developed using the ‘ARKit’ framework as Apples iOS app. As main part of the master thesis, a new visualization concept for user interactions must be designed in the third dimension. In order to prove the new developed iOS visualization app, various assessments (such as evaluative or action-oriented task evaluation) are designed and carried out.