

Semester Thesis

# Design and Evaluation of an App-Based User Interface for a Stair Climbing Wheelchair

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# Abstract

The stair climbing wheelchair Scewo did not have any built-in graphical user interface. To be able to command the vehicle, a second person was needed to carry a debug laptop computer in order to give commands. The goal of this thesis is to provide the wheelchair with an app-based graphical user interface in order to get rid of the use of a debug laptop computer. In this thesis an application for Android smart phones was developed. Early paper prototypes and feedback from paraplegic test drivers should improve the usability of the app. A collaboration with students in industrial design helped to enhance the visual impression of the GUI in order to get a intuitive and nice-looking design. With the help of the app proposed in this thesis a user is able to control the wheelchair independently and without the need of a second person or a debug computer.