Room Scanner

3D programming with OpenGL

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1 Introduction

The Project

- The vision of a human being will be expanded by information about the environment

- The information that will displayed is, if a classrooms status is occupied or free.

- Uses QR-codes, which are sticked to the classrooms entrance.

- Scanning this code using the Vuzix M100.

- An image will be projected on the plate and indicates whether the classroom is occupied in the next lesson or free.

Projections

1.1 Technologies

Technologies

- Vuzix Smart Glasses M100 with Flash Image v2.4.3

- Android is the OS.

- Built-in *Scanner* App for QR-Code scanning.

- OpenGL ES to project the two images.

1.2 Architecture

Architecture

- MainActivity, which starts the internal *Scanner* App

- Using a built-in *Scanner* App to scan the QR-Code.

- RenderActivity, which renders the OpenGL Elements

- OpenGL Elements, which indicate if a room is free or not.

- TableReader, which loads the room informations.

2 Discussion

Google Card Board

- Not applicable for Augmented Reality

- Both eyes are needed

- Complex topic — additional things like iBeacon, etc. are needed

- Not comfortable

Vuzix M100

- Is applicable for Augmented Reality

- Almost no information / no community support (limited access) according to the room information

- Vuzix decided to restructure the website and misplaced information

3   Conclusion

3.1   Pro's and Con's

Pro's

- Vuzix use Android as OS and nothing new.

- Software is running on Microsoft Windows 10

- Uses Eclipse as IDE

Con's

- Flashing and working with Vuzix needs Microsoft Windows

- Vuzix webpage is mostly unreachable and shows only 404-Pages

- Only less informations in the internet

3.2   Problems Occurred

Problems Occurred

- Connect the Vuzix M100 — only Microsoft Windows

- Flashing Vuzix M100 — needs a lot of time

- QR-Code scanner — needs Flash Image higher than 2.x

- Too few available working hours

- Fontys classroom planning — not available

3.3   Questions

Do you have any Questions?