

# Virtual Reality for Sensor Data Analysis

SW-Projekt SS 2017 Gruppe 5.1

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# Inhalt

## Use Case

## App & WebVR

### Android App

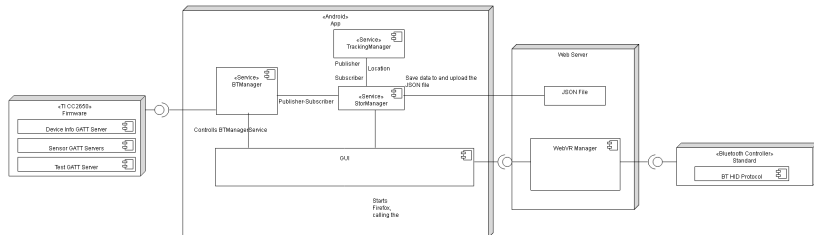
#### Overview

#### Tracking

### WebVR

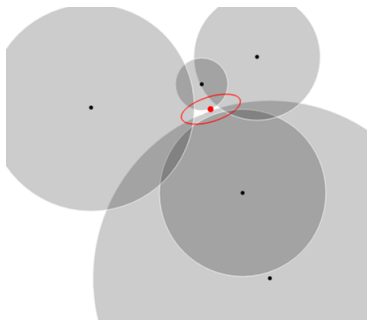
## live demonstration

# Overview



# Tracking

- ▶ Coarse tracking by GPS / Network Provider
- ▶ Finer position tracking by RSSI trilateration using wifi access points:



# WebVR

- ▶ WebVR a javascript API to get VR into the browser

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- ▶ Basic 3D model of a gym

# WebVR

- ▶ WebVR a javascript API to get VR into the browser
- ▶ Basic 3D model of a gym
- ▶ 2 different visualization possibilities
  - ▶ datapoints
  - ▶ plane

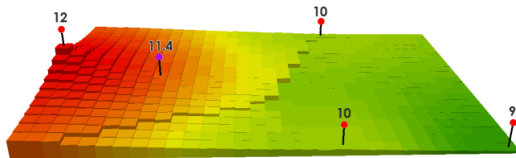
# WebVR

- Interpolation of the Data



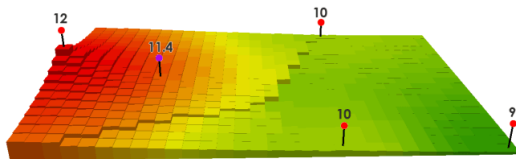
# WebVR

- ▶ Interpolation of the Data
- ▶ Using Inverse distance weighted (IDW) interpolation:



# WebVR

- ▶ Interpolation of the Data
- ▶ Using Inverse distance weighted (IDW) interpolation:



- ▶ Formula:

$$u(x) = \frac{\sum_{i=1}^n w_i(x) u_i}{\sum_{i=1}^n w_i(x)}$$

# live demonstration using miracast or equal