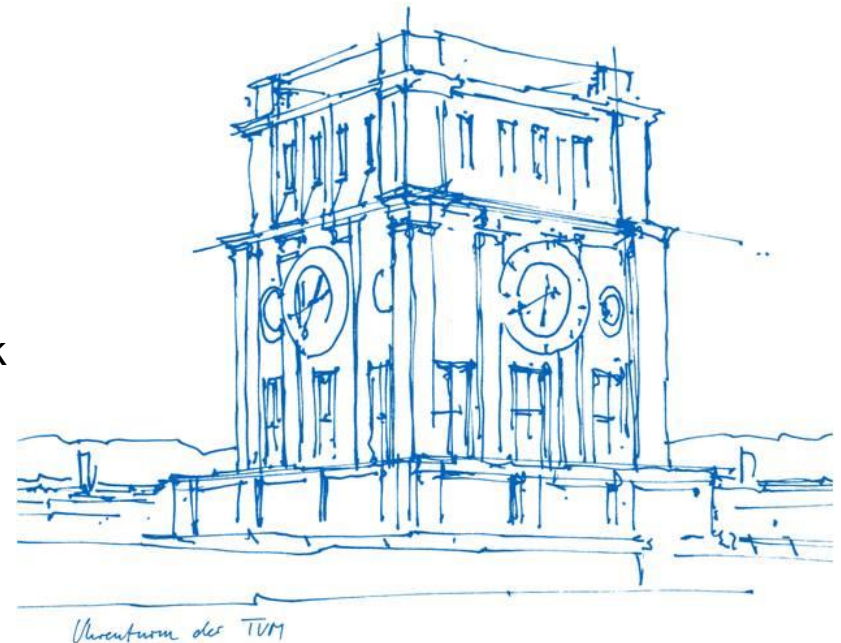# Body Sensor Networks Lab (WS 17/18)

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Lehrstuhl für Realzeit-Computersysteme

26.10.2017

Uhrenturm der TUM

Agenda

- Internship and assignments
- Organizational
- Brief introduction of the work environment and tools

Internship

Internship Body Sensor Networks

- Method
  - Project Internship
  - Group work – 2 people per group

- Tasks
  - Android App development for detecting physical movements/activities

- What do you learn from this course?
  - Android App development with Android Studio
  - Project planning
  - Android development toolchain

Set up

- Nexus 4 Smartphone
- Accelerometer Sensor
- Data transport via Bluetooth

Tasks

Aim

- Develop an Android app for detecting movements/activities
- Detection of movements
    - Standing/Sitting, Walking, Running, Jumping
    - Optional: Step recognition/counting

- Tasks
    - Acceleration data from 3-axis accelerometer sensor
    - Sensor connection and data reception via bluetooth
    - Data processing algorithm
    - App and GUI development

Organizational

Time

- Lab timings: Every Thursdays from 13:15 to 17:15
- Computer usage: Thursdays full-time

Room

- 4959 (Computer gallery in 4th floor)
- Access to the room by student card

Supervisor

- Swami
- Room: 3993
- Email: swaminathan.narayanaswamy@tum.de

Organizational

Date	Time	Comment
26.10.2017	13:15 - 14:30	Introduction lecture
16.11.2017	13:15 - 14:15	Introduction to BSN
23.11.2017	13:15 - 14:15	Design Aspects of BSN
30.11.2017	13:15 - 17:15	Short presentation on project planning
07.12.2017	13:15 - 17:15	Voluntary time and question session
14.12.2017	13:15 - 17:15	Voluntary time and question session
21.12.2017	13:15 - 17:15	Voluntary time and question session
11.01.2018	13:15 - 17:15	Voluntary time and question session
18.01.2018	13:15 - 17:15	Voluntary time and question session
25.01.2018	13:15 - 17:15	Voluntary time and question session
01.02.2018	13:15 - 17:15	Voluntary time and question session
08.02.2018	13:15 - 17:15	Voluntary time and question session
15.02.2018	13:15 - 17:15	Voluntary time and question session
22.02.2018	full time	Exam

Organizational

Exam

- Exam time
  - 22.02.2018
  - 09:00 to 17:00

- Examination method
  - Presentation + Demo (25 min + 5 min Q/A)
  - Oral Exam (10 – 15 min)

Tools and Environment

Hardware

- Nexus-4 smartphone
- Accelerometer sensor

Development environment (self installation)

- Android Studio (App and algorithm development)
  - https://developer.android.com/studio/index.html
- Gantt Project (Project planning)
  - http://www.ganttproject.biz/
- SVN (Project repository)
  - https://tortoisesvn.net/

Documentation

- Wiki: https://projects.rcs.ei.tum.de/wiki/BSNLab

Next Appointment (16.11.2017)

- Introduction to Body Sensor Networks, SVN and Gantt Chart
- Hardware distribution
- Account distribution and access to SVN and Wiki