My Activities +

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MOTIVATION

- To combine several techniques learned through the semester into a single project

- Accurately determine a person's activities

- Gain insight on a person's activity cycle throughout the day

SENSOR USED

- Microsoft Band

    - Accelerometer

    - Heart Rate

- Android

    - GPS

METHODOLOGY

- Data collection

- Train models with Decision Tree

- Classify data

- Features used:

  - variance, min & max

  - mean crossing & FFT

  - mean magnitude & entropy

  - **heart rate & location distance**

APP

- Detect four activities: sitting, walking, driving, running

- Calculate duration for each activity in real time

- Provide a health score as a overall feedback

  - Increasing one point with one minute walking

  - Increasing two points with one minute running

  - Decreasing some points with long duration of non-active movements.
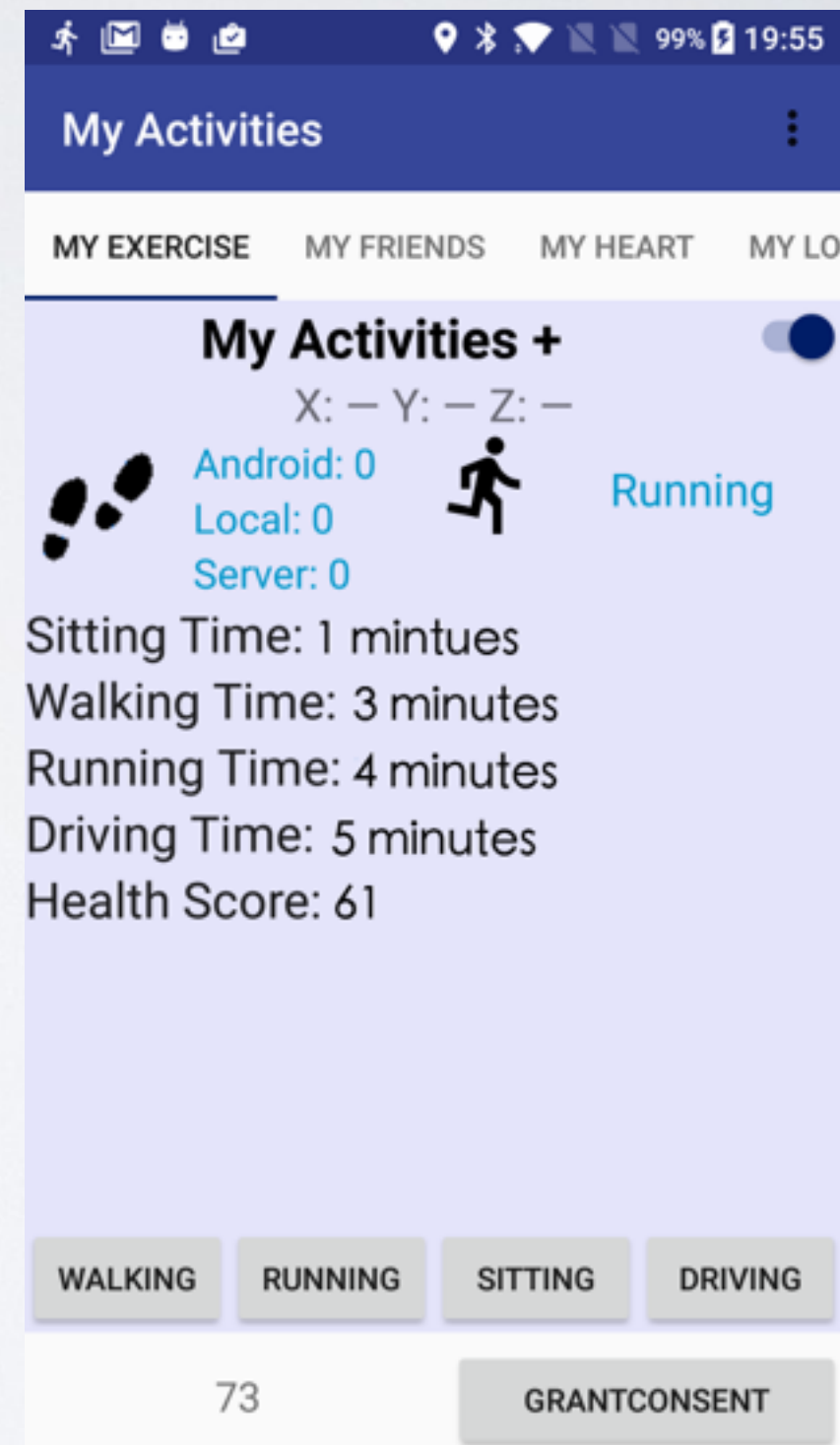
PROBLEMS & FUTURE IMPROVEMENTS

- GPS Signal & Feature Selection

- Elegant UI

- Data visualization (charts, graph)

- Variety of activity recognition (e.g. sleeping)

- User feedback based & Notification of score

- Suggestions to improve activity level

"Thank you."

–CS390MB TEAM 6