

Assignment

Embedded Mobile and Wireless Systems

Time to meet the challenge

Deadline: 13th February 2025

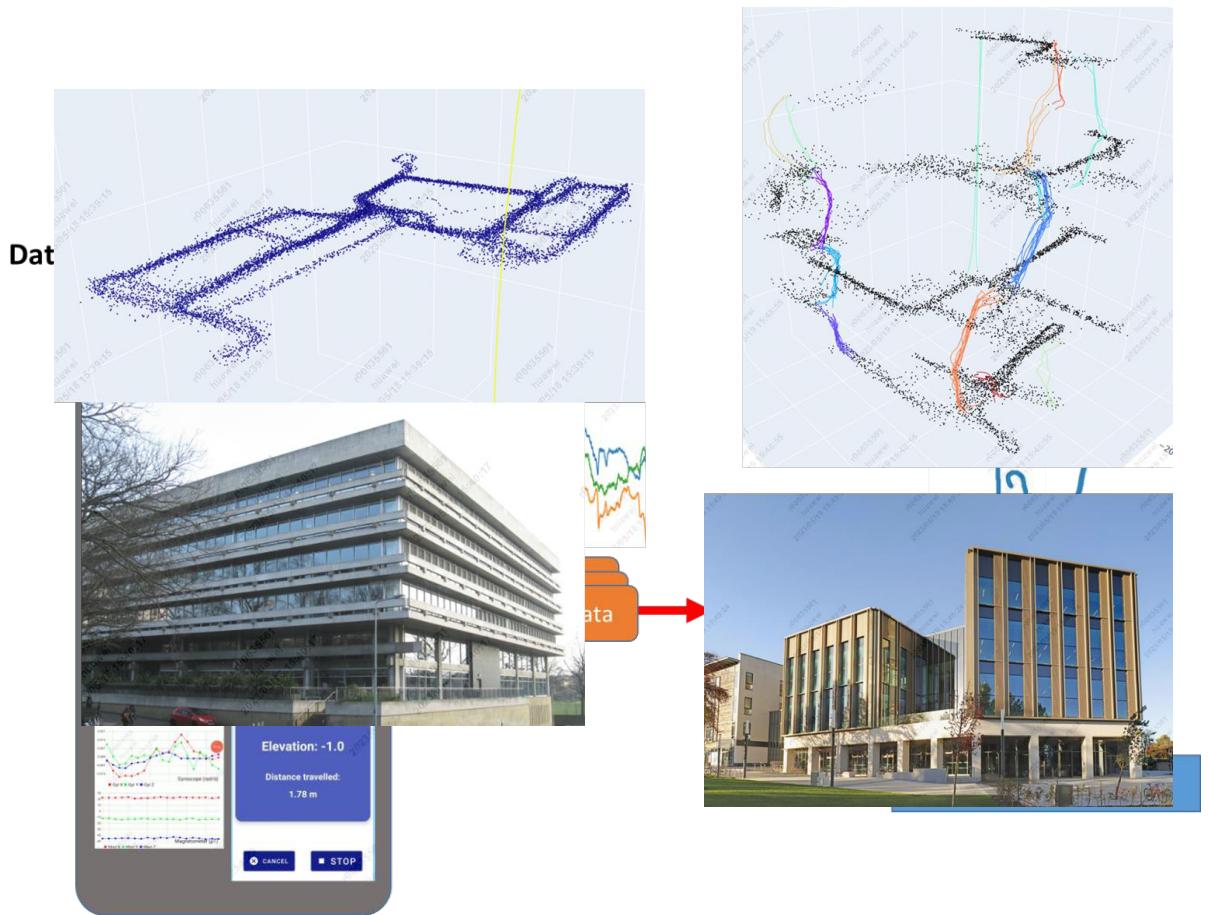
Huawei Edinburgh Research Centre

University of Edinburgh - Bayes Coffee House

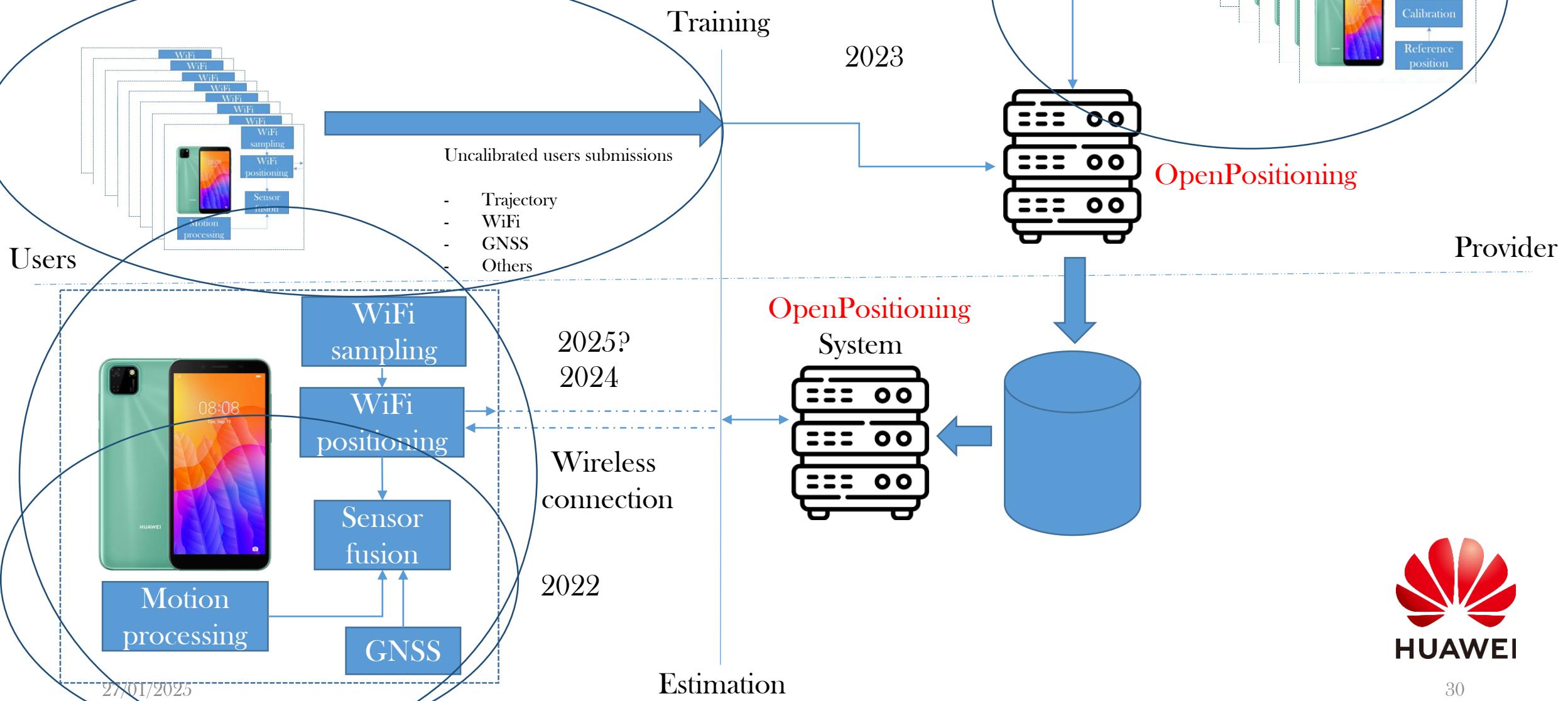


Assignment

- Industry experience
 - Android development
 - Version control
 - Open Source project
- Open positioning
 - Open data server
 - openpositioning.org
 - Data collection app
 - Developed in ewireless 2023
 - Improvements: assignments 2024
 - **Improvements: first assignment 2025**

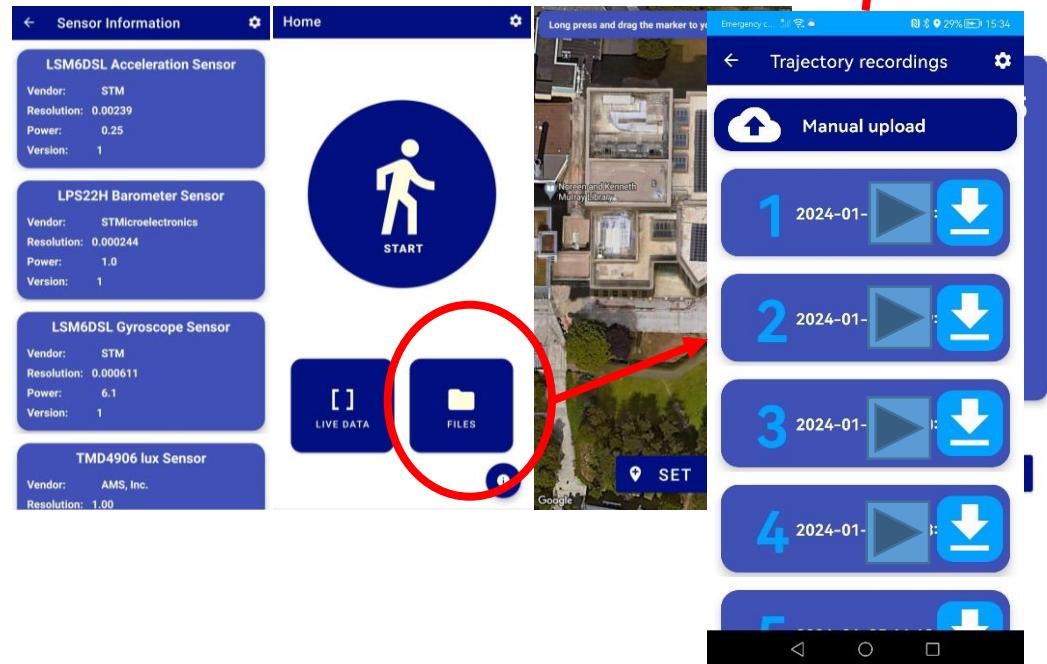
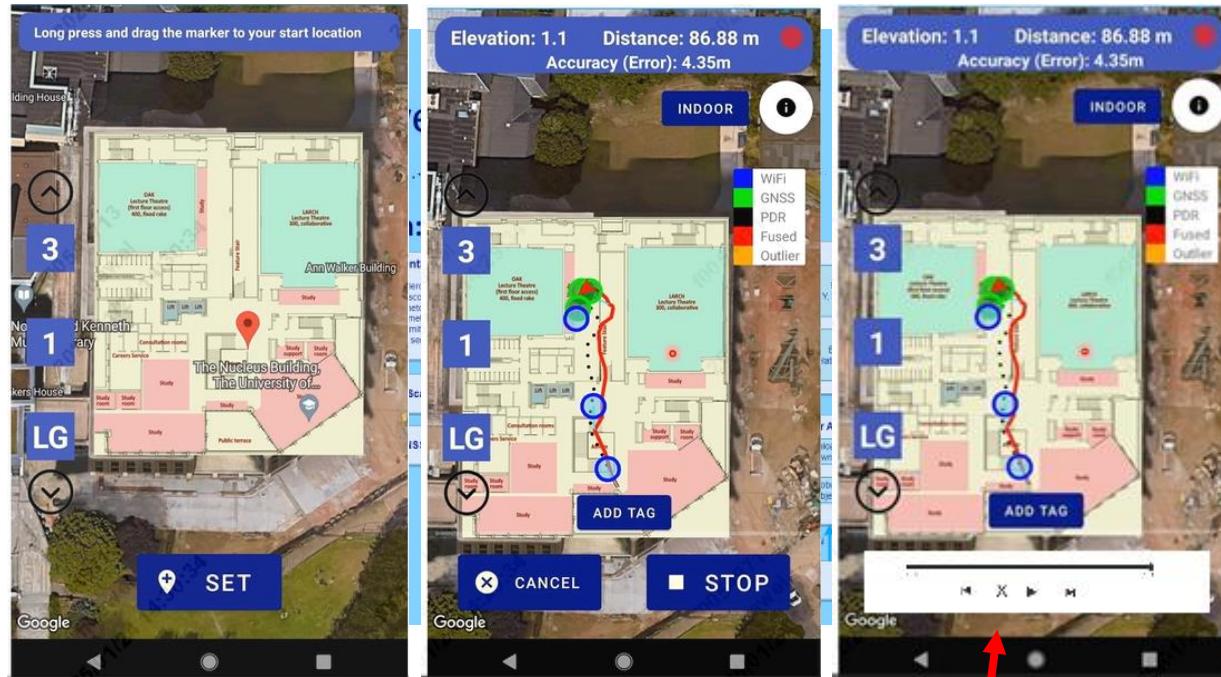


eWireless course and Huawei



Assignment

- Don't reinvent the wheel
- PositionMe app
 - Data collection
 - Server communication
 - Pedestrian Dead Reckoning
 - Indoor maps
 - WiFi Positioning
 - <https://github.com/openpositioning/PositionMe>
- New requirements: 1st Assignment
 - Old trajectory replay
 - Replay control



Assignment

- Previous trajectory view
 - Add replay action to the downloaded/stored files
 - UI improvements
- Replay view
 - Reproduce trajectory in the map/indoor view
 - Control trajectory reproduction
 - Play/Stop/Rewind/Complete
 - Progress bar
- Github gitflow
 - All work must be stored in github
 - Submission as a pull request to the repository



Assignment

- Setting up the project

- Clone repository

- ```
git clone https://github.com/openpositioning/PositionMe.git
```

- familiarise with checkout, commit, push, pull, merge, branch, rebase, etc.

- Obtain an API key for Google Maps

- <https://developers.google.com/maps/documentation/javascript/get-api-key>

- Signup to open positioning and obtain an api\_key

- <https://openpositioning.org/docs>

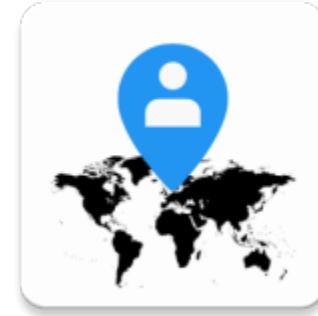
- Modify the secrets.properties file to replace the values of:

- MAPS\_API\_KEY: google maps API key

- OPENPOSITIONING\_API\_KEY: user's API key from openpositioning.org

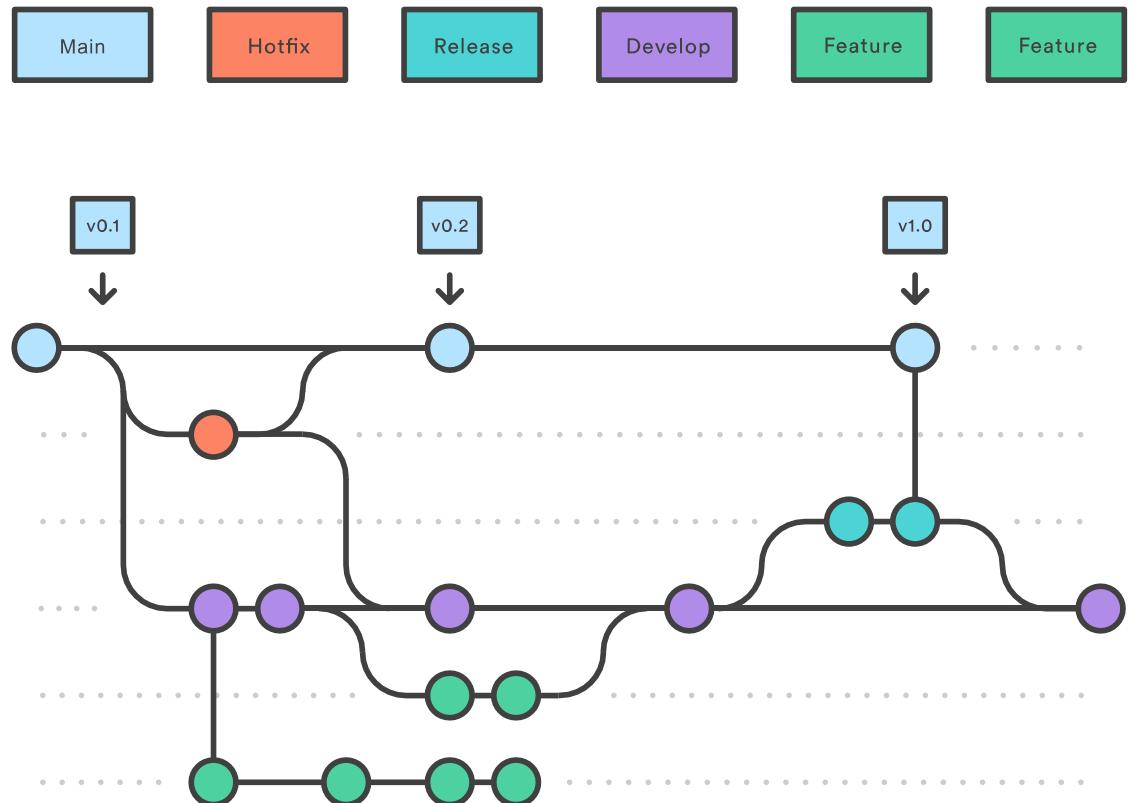
- OPENPOSITIONING\_MASTER\_KEY: Master API key (ewireless)

- Build your project



# Assignment

- Version control
  - GIT
  - Gitflow workflow
    - Main branch
    - Develop branch
    - Feature branch
      - Merge/pull request



# Assignment

- Evaluation
  - Demonstration of App Features (35 %)
  - Code Quality (30 %)
  - Documentation (35 %, 2 A4 pages each)
    - User's Guide
    - Programmer Guide
- Open Positioning github
  - Submit your solution as a pull requests (obligatory)
  - Discussion boards (Q&A, ideas, general, announcements, etc.)
  - Wiki



# Assignment

- Github time
- <https://github.com/openpositioning>
  - PositionMe app
  - Previous Data collection apps
  - openpositioning API test scripts



# Assignment

## Embedded Mobile and Wireless Systems

Time to meet the challenge

Deadline: 13<sup>th</sup> February 2025

Huawei Edinburgh Research Centre

University of Edinburgh - Bayes Coffee House



# Thank you for your attention!

- Questions?
- Feel free to email [francisco.zampella@huawei.com](mailto:francisco.zampella@huawei.com)
  - Indoor positioning
  - Internships
  - Job opportunities

