BEACON TRACKER

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INDOOR NAVIGATION TRACKER USING INTEL EDISON

PLAN

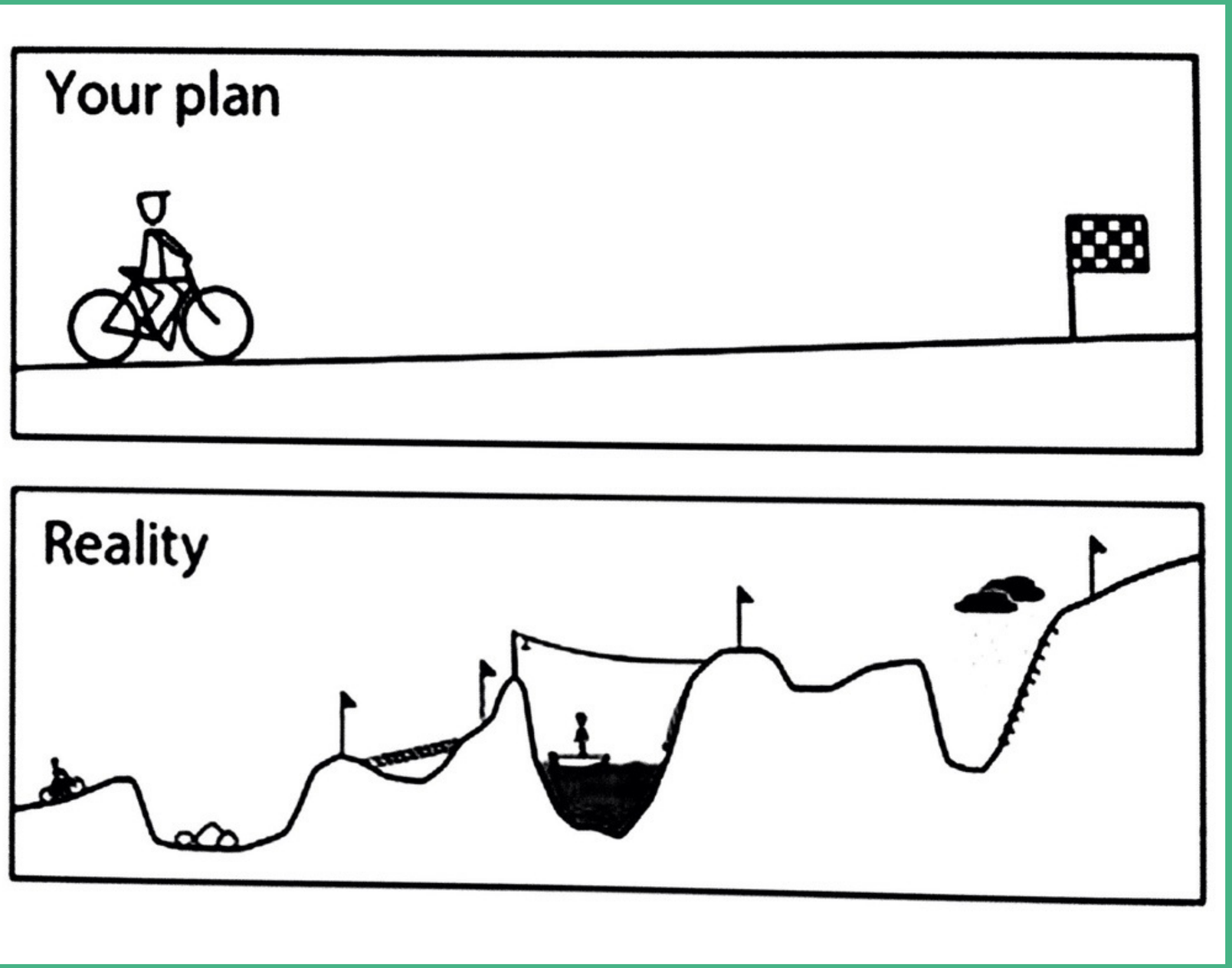
Intel Edison as wearable device to:

* discover iBeacons
* calculate position using Kalman filtering
* send data over WiFi to a server

PLAN

Accelerometr, Compass and Gyro connected to Edison to make position calculation more accurate.

Web server for displaying user's track.


Your plan
Reality

PROBLEMS

» Lack of documentation for Edison

» Lack of documentation for BlueZ

» Can't work with Bluetooth from Arduino IDE
(Eclipse is your friend)

» Missing GDB

PROBLEMS

» Compilation from Eclipse or Arduino is not very reliable (process termination, connectivity problems and so on).

» Edison gets out of storage (rm -rf /var/log/journal/ is your friend)

» Bluetooth is disabled after each Edison restart (rfkill unblock bluetooth is your friend)

» We don't know a lot! :)

» …

RESULTS

Saturday, 21:00 - we compiled from Eclipse and accessed some BlueZ API to scan for devices and to get uuids.

Sunday, 11:00 - decided to switch to Noble in order to get data at least from BLE.

Sunday, 15:00 - can scan for devices and calculate distance to nearest beacons using rssi.

» Sources: github.com/yas375/beacon-tracker

THANKS