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FOSDEM 2020
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1. What is fieldtracks?

**Purpose**
- Tracking system for drills (relief organizations)
- Indoor and Outdoor
- Real-time and later
- Bluetooth Low Energy (BLE) based, wlan for results
- ESP32 + Smartphones

**Timeline**
- 34C3: Initial hacking (December 2017)
- 2018: Evaluation of existing approaches ... :-(
- 2018: Development started
  - JellingStone: ESP32 firmware (C, esp-idf)
  - Fieldmon: UI / workbench (TypeScript, Angular)
  - StoneAggregator: data fusion / middleware (Python, paho mqtt)
- 2019: First deployment

Beacon
BLE / Android

Access / Install
HTTPS / PWA

JellingStone
Beacon & Sensor / ESP32

Fieldmon
Client / Angular

MQTT

Publish
Subcribe

Flashtool
ESP32 Provisioning
Python

StoneAggregator
Data-Transformation
Python

Storage
WebDAV / nginx
3. Status & Challenges

- System works
  - ... basically ... proof-of-concept... 😊

- **Challenge no. 1: User-Experience (UX)**
  - Non-IT personal
  - Rapid deployment
  - Interactive visualization / User-Interface (UI)
  - Not suitable: c3nav, tracar, ...

- Techniques
  - Web- and mobile development
  - Bluetooth beacons & positioning
  - Embedded systems
  - Heterogeneous mesh & overlay networks
    - WLAN (IEEE 802.11)
    - DSL (ITU G992.5)
4. Summarizing

- **Contributors welcome!**
  - It's fun and challenging 😊
  - It's a real world thing

- Homepage
  https://fieldtracks.org

- GitHub
  https://github.com/fieldtracks

- Matrix
  #ft-public:matrix.org

- **Questions?** – fosdem@yanosz.net

*Disclaimer: Military usage is excluded using COSLi, an OpenSSL based license - https://cosli.eu*

Insight Fieldtracks - yanosz - fosdem@yanosz.net - https://fieldtracks.org