

## Sprint 3 Goals Summary

Spreadsheet: [https://docs.google.com/spreadsheets/d/10RIqShLoQr9\\_cRS7c\\_OXLjvTYioKAchOb7mJx6m2pYY/edit?gid=0#gid=0](https://docs.google.com/spreadsheets/d/10RIqShLoQr9_cRS7c_OXLjvTYioKAchOb7mJx6m2pYY/edit?gid=0#gid=0)

### Story 1: Web app with live location data

A web application visualising search teams on a map using GPS coordinates.

- Location data is current and up to date (up to 1 minute old).
- Timestamps of each GPS ping to allow for analysis of search pace.

### Story 2: Appealing and usable UI design

- **GOAL-8:** App interface which is intuitive and usable, by someone with minimal technological expertise and little to no training.
- An app interface that does not allow the user to permanently remove any data accidentally.

### Story 3: Support for multiple concurrent searches

- **GOAL-1:** Continuous and reliable functionality of system with multiple concurrent searches.
- Support multiple independent searches in a visually appealing and logical way.

### Story 4: Availability of historical search data

- **GOAL-2:** Historical data uploaded to secure cloud hosted database, accessible by authenticated users through the web app.
- **GOAL-3:** Logical and clean user interface for accessing this data, same format as current data.

### Story 5: Ability of system to handle connection drops

- **GOAL-4:** Continuous and reliable functionality of the rest of the system in the event of connection loss of one or a few devices (but not all).
- Alert the user, informing them of the last known location or communication from a device, provided considerable time has passed since it's last update.

### Story 6: Search team trackers ease-of-use and reliability

- **GOAL-5:** Tracker/base station pair can be pre configured by technical staff to maximise ease-of-use for the search team.
- Tracker data is constantly sent to the base station over LoRa, and co-nstantly uploaded by the base station to a cloud server completely automatically, with no intervention required from the search team.
- This ties into the **starting a search** stretch goal.

### Story 7: Setup and Configuration Documentation for Technical Teams

- Written documentation is available for all key components: **GOAL-6:** Web app setup, **GOAL-7:** base station code, Raspberry Pi configuration, and LoRa device setup.

- Clear instructions are provided for integrating Azure Functions and the Azure database for future use or further development.
- **Troubleshooting** steps are included for common setup issues.

## STRETCH GOALS

- **GOAL-8: Various UI improvements to web app**
- **Starting a search:**
  - Jim suggested an interaction between the web app and base station
  - We thought we could implement it by - having the search team tell the operator when they are starting a search, put a field in the web app to filter GPS pings from a base station to be from after a specific time (the start time of the search) - so we don't see GPS pings of them driving down to the search area
- **Various UI improvements to web app**
- Calculating the **percentage of a search area covered** (Folium GeoJson polygons/multipolygons?).
- Jim suggested **buttons and LEDs on the base station** to restart the device, check comms to tracker, etc (we concluded we likely would not be implementing this).