

## Design Optimization/Simplification

Describes improvements & progress from 405W. Incorporates feedback from Design Review meeting.

### Improvements:

- Implemented ToF with DWM1000 UWB modules
- +/- 30cm of accuracy in near real time tracking
  - Further optimization and calibration is needed to improve accuracy
- Core system features development
  - WiFi functionalities\*
  - Muti-tag ranging\*
  - Beacon failure recovery/remediations
- Software improvements and development
  - CRUD for beacons, users, maps
  - Database design
  - UI

## Technical Scope

Clearly describe design challenges overcome and logical alternative solutions considered.

### Challenges (Current)

- **Accuracy\***
- **Beacon Failure Solutions\***
- ID Tag design and size constraints
- Power manager battery limitations

### Alternative solutions

- **Antenna calibration\***
- **Beacon recovery/reordering logics\***

## Risk Analysis/Human Factors

Potential risks/hazards of product and how to mitigated by design. Human factors incorporated in design.

### Risk Analysis

- System, Beacon, and Tag failures
- Accuracy uncertainty
- Privacy issues

### Human Factors

- Usability factors