BluLoc

Indoor Localization Using BLE Beacon Landmarks
HYPOTHESIS

• Expanding on the idea of UnLoc, BluLoc uses dead reckoning to track movement and BLE beacons to periodically recalibrate location.

• The idea is to develop a highly accurate indoor localization technique using some minimal number of BLE beacons.
APPLICATIONS

• BLE beacons are primarily used in retail applications to indicate special offers and additional information.

• BluLoc leverages existing beacons to track user location in the store to learn shopping habits and provide a better shopping experience.

• Store layout could then be designed around best utilizing a minimal number of beacons.
EVALUATION PLATFORM

- Device: iPhone 6 plus, iOS 10
- BLE Beacons: TBD
- Test Environment: ECEB Second Floor
• Measurement error due to the IMU would accumulate over time until reset by a beacon landmark.

• With more beacons, location accuracy would initially increase rapidly before passing through some optimal point and then leveling off to marginal improvements with each added beacon.

• Optimal point is the minimum number of beacons required to adequately track a user.