To Online Shop, Or to Not Online Shop

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Overall Scope

- **Purpose**: Utilize online shopping and at-home experiences to enhance the shopping capabilities of customers.
- What is it?: An IOT based solution that combines mobile app development, communication with hardware sensors, and data management.
- **Expected Outcome**: A proof of concept for a single location (ex: cabinet or cupboard) with hopes of expanding to other places in the home.

Two Halves

HOME IOT HARDWARE

- A signal generator communicates with an IOT device of items that need replenished.
- IOT device sends data to application for analysis.

APPLICATION

- Retrieves items that need to be bought from home device.
- Determines if it is cheaper to buy item online or in-store.
- Uses geolocation in consideration of finding best deal for a product.

Functional Requirements

- Generation of data the state of items in a cupboard
- Signal generator trigger to update in data
- Geolocation showing stores nearby & deals
- Mobile application receives notifications
- Signal from interface an item has been purchased

Constraints and Additional Features

Constraints

- Budget of \$200
- Tolerance threshold for price
 - Quantify cost/travel difference
- Only view a few stores within a 5-mile radius

Possible Additional Features

- Data Security
- Application Security
- Triggering signal when an item amount is getting low (ex. Weight, Image Sensor)
- Choosing between brands of items
- Expanding to other items (ex. Closet, Fridge)

Cost and Environmental Requirements

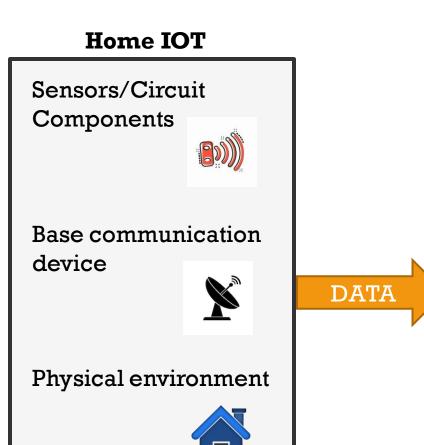
Cost

- \$200
 - Signal generator
 - Transmitter
 - Microcontroller

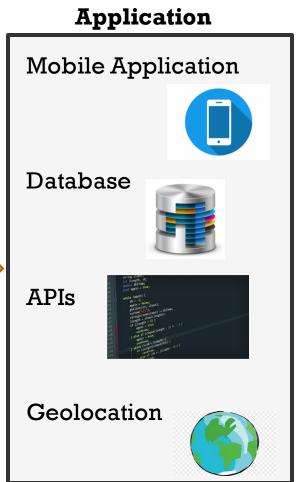
Environmental Requirements:

- No intrusive behavior (No personal data saved)
- Should be simulated in a test environment





Team Members: Amiah & Smruthi



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