Clever Closet

Team 7

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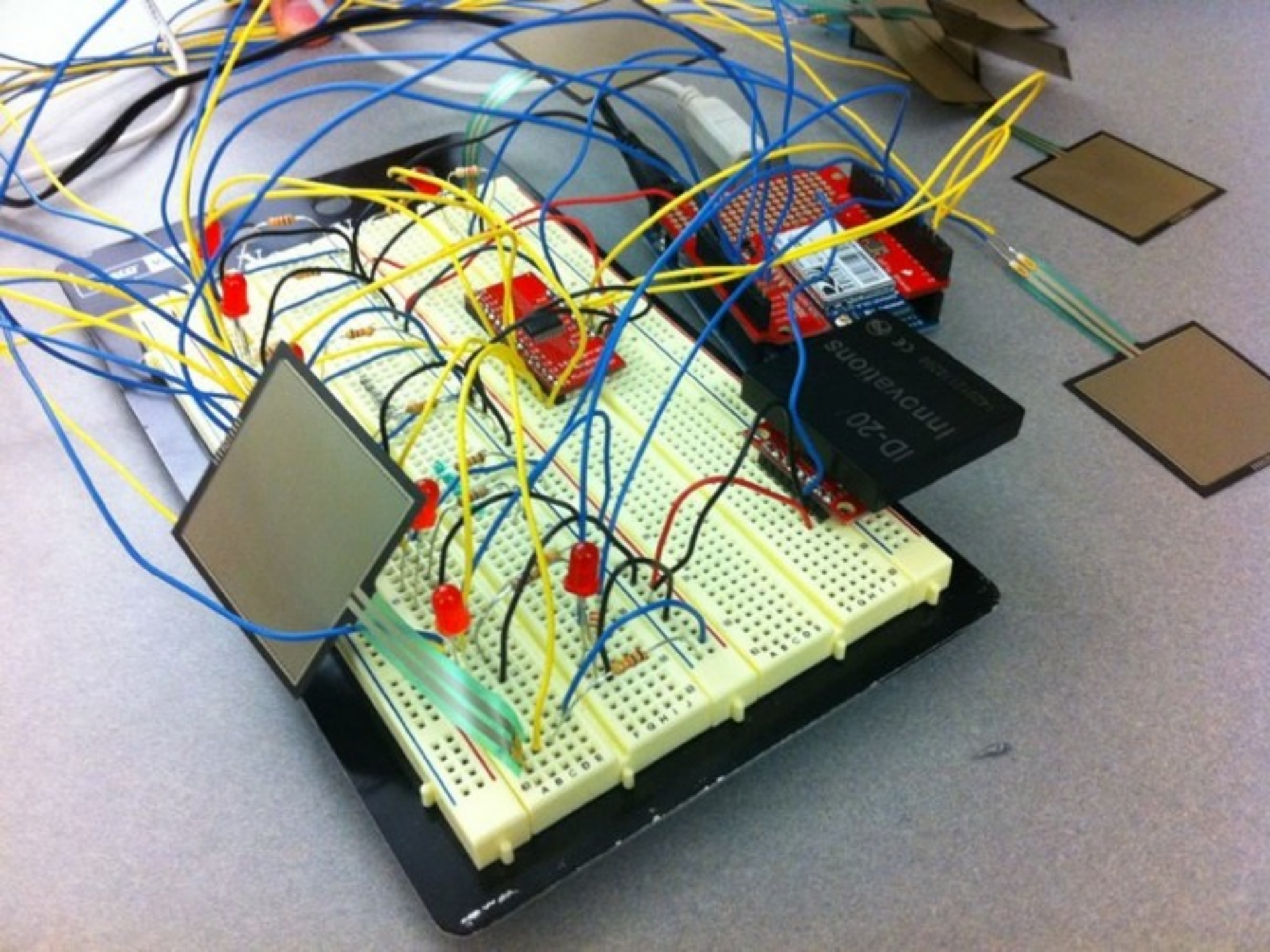
Concept Review

The Clever Closet eliminates the daily confusion of “what should I wear today?”. It manages the consumer’s wardrobe by integrating with the daily clothing needs of the consumer (based on calendar, weather, etc.) and suggesting clothes appropriate for the occasion.

Status Update

Prototype implemented!


ID-20
innovations

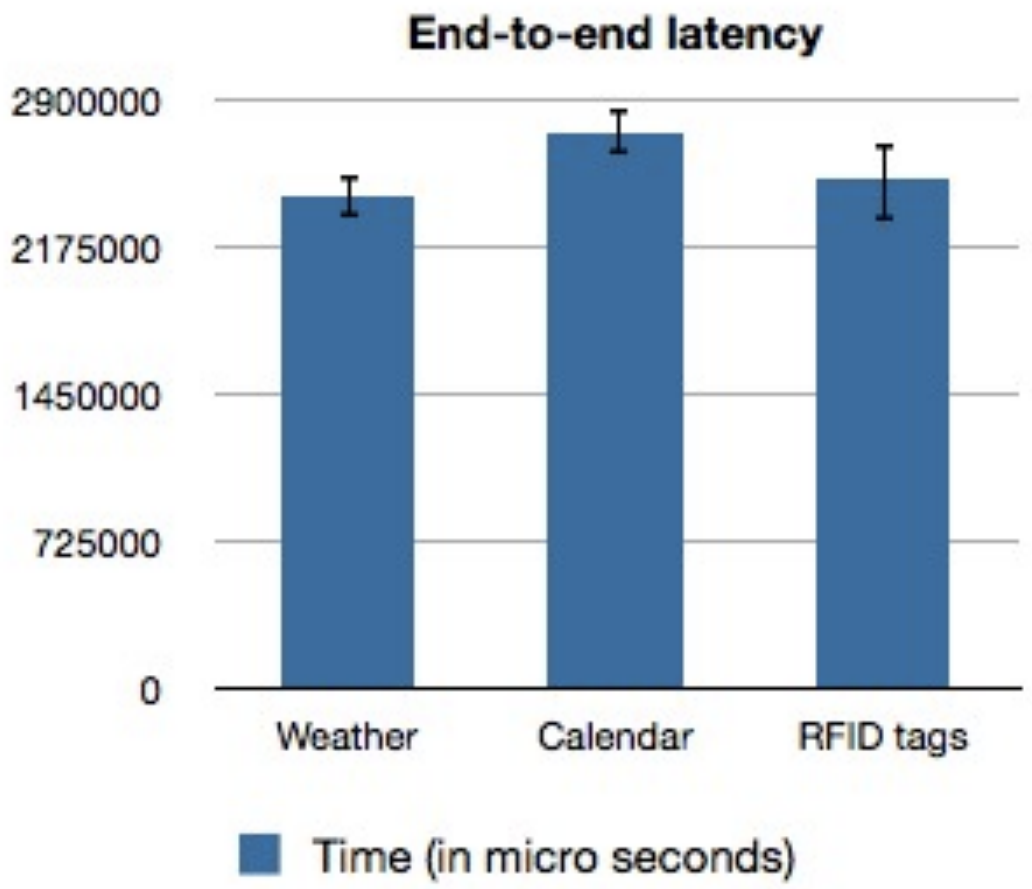
Metrics

- End-to-end latency
  - The time from when the user makes a change on the UI to when that change is reflected in the suggestions
- Scaling
  - How does the size of the closet affect the above metric

Latency: Measurements

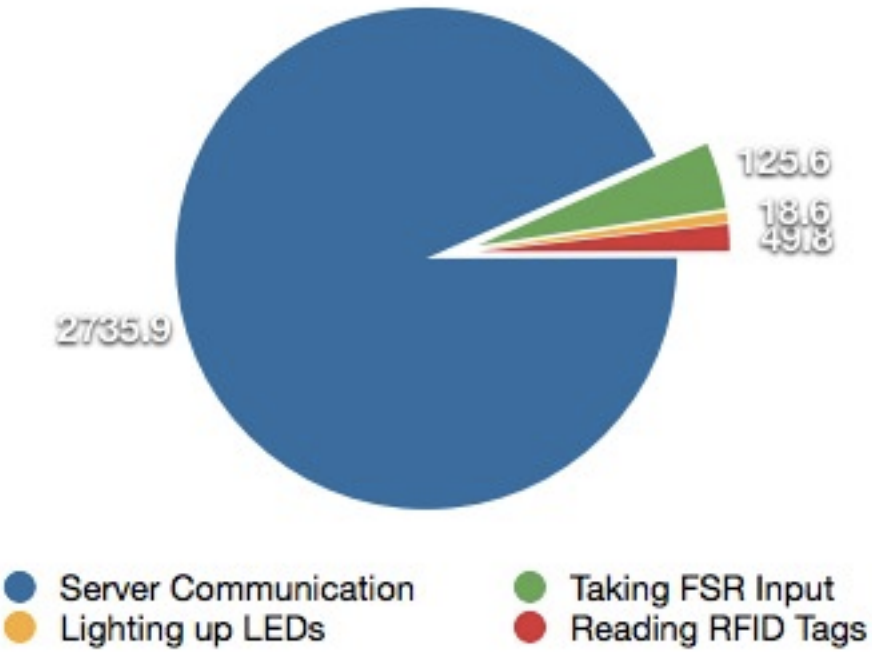
- Measured for three inputs:
  - Change in weather
  - Change in calendar entries
  - Updated RFID tag information
- Took 10 readings for each

Latency: Results



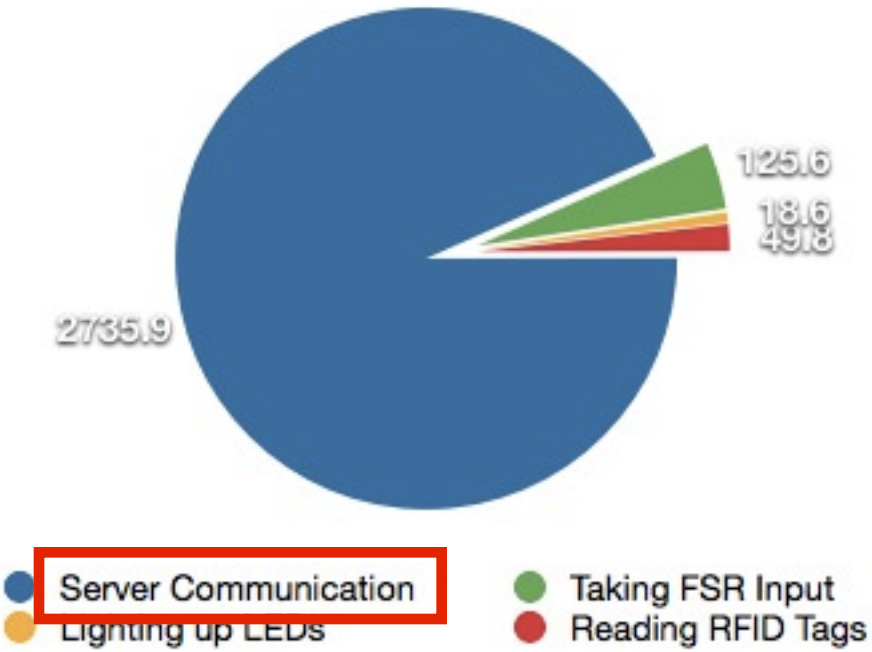
Latency: Analysis

Time Distribution



Latency: Analysis

Time Distribution



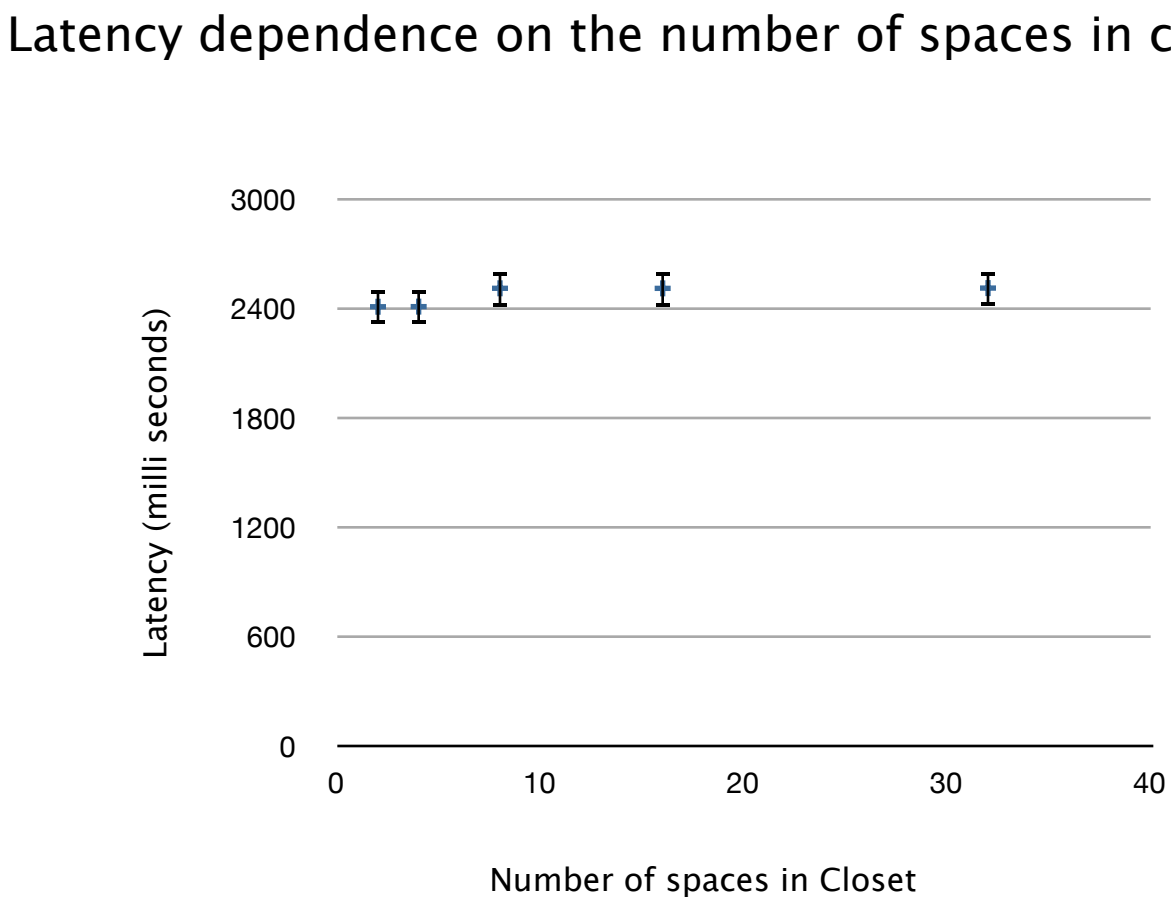
Latency: Analysis

- Sources of Jitter: Since most of the variable performance was associated with communicating with the server
  - Internet connection speeds
  - Server response time

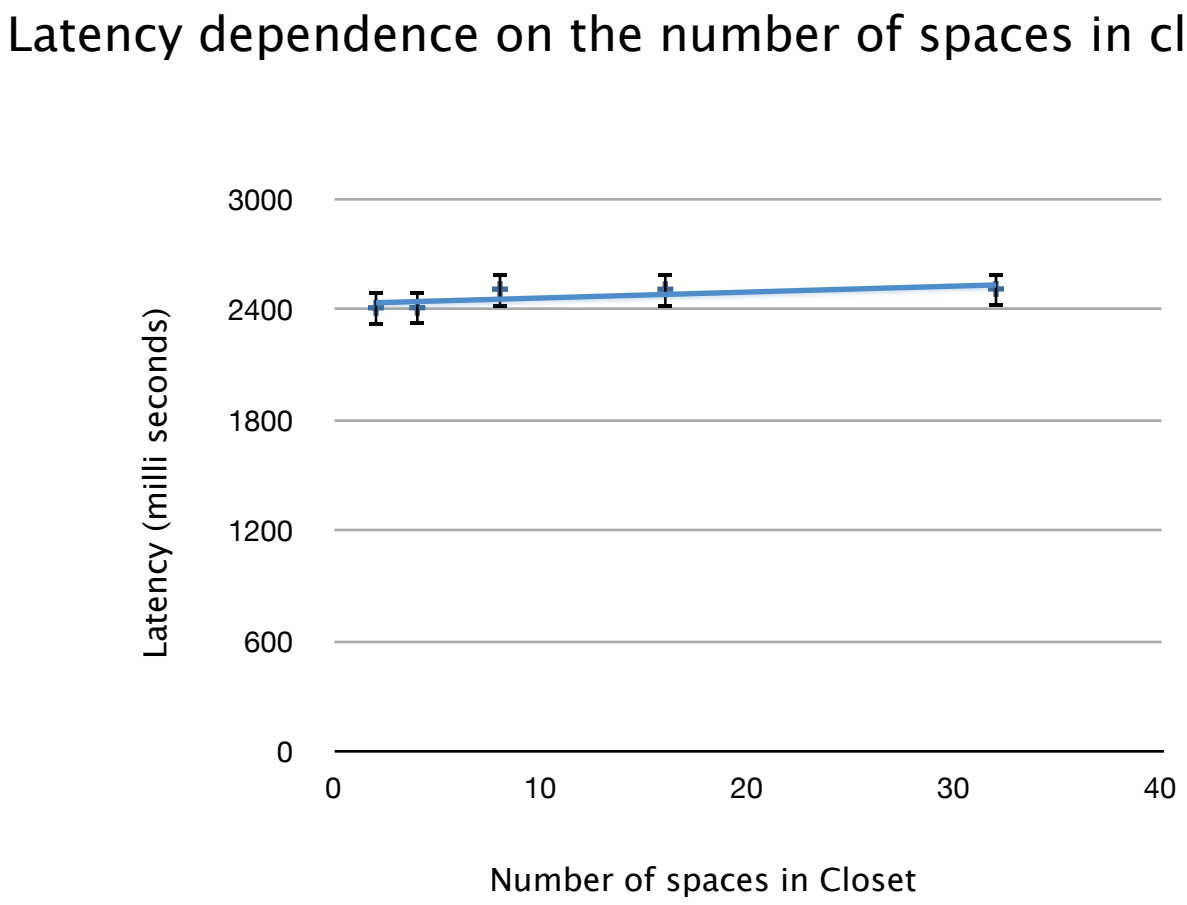
Scale : Measurement

- Measured the end-to-end latency with different closet sizes.
  - Measured for sizes 2,4,8
  - Simulated the software part for 16, 32.

Scale: Results



Scale: Results



Scale: Analysis

- The trend line is linear - barely!
- This is expected: since most of the latency comes from communication with the server - GET and POST requests - the number of requests stay the same, and the payload does not become too large.

Scale: Analysis

- What to expect?
- For an extremely large closet (>1000), the time breakup would start looking different. The server communication will not scale as much as the interaction with the hardware (lighting up LEDs, etc.).

Future Work

- Potentially integrating the RFID scanner with an XBee to make it mobile
- Packaging the product

Questions?