Team 14
The Sense-Able Gym

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Problem

Figure 1: A Crowded Gym
Analysis & Design

Diagram:
- Actor
  - Receives information via HTTP connection
  - Requests historical or current information on machine status

- Displays
  - View machine reservation status
  - Creates local reservations
  - Send current reservation schedule
  - Send new local reservations

- Sensors
  - Using a machine triggers a sensor
  - Send machine usage information

- Server
  - Creates remote reservation
  - Send local reservation information
  - Send machine usage information
  - Send remote reservation information

- Hub
  - Send new local reservations
  - Send machine usage information

Flow:
- Actor requests information from Displays, Sensors, and Server.
- Displays and Sensors send information to Server.
- Server sends information to Hub, which sends updated information back.

Process:
1. Actor requests information.
3. Hub updates and sends information.
Detailed Analysis & Design

Problem

Design

Feasibility

Obstacles

Future
Evidence of Feasibility

- Recent Survey
- Begun development of basic UI features
- Ordered and received a large portion of the hardware required for prototype
How useful would it be to view the availability of gym machines on a mobile application or the web?

(62 responses)

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Basic UI Progress

Ø (trusty)tj_chromebook@localhost ~/Git/py_sensor_display/py_sensor_display (master %) $ ./example_test.py

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  1
  12
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  17
```

Problem  Design  Feasibility  Obstacles  Future
Sensors

Figure 2: TI Sensor Tag
Obstacle: Debug Bridge
Obstacle: Lots of Code
Future Work

- Develop user-friendly UI
- Develop communication systems between different parts
- Develop a control system to analyze the sensor data to determine occupancy
- Determine if we will receive the debug bridge we ordered on time
  - If not, consider one large display at the entrance of the gym, rather than individual displays
Any Questions?
References

- **Figure 1**: https://fitnesswayne.files.wordpress.com
- **Figure 2**: http://www.ti.com/ww/en/wireless_connectivity/sensortag2015/images/sensortag-img-bluetooth.png