Background

TIPPERS (Testbed for IoT-based Privacy-Preserving PERvasive Spaces) is a smart space system that gathers sensor data from a variety of devices, including smartphones, through internet access points lead by Professor Sharad Mehrotra. It is designed to be possible to use with a wide variety of use cases, ranging from:

- thermostat management
- emergency services
- tracking movement of people during a pandemic,
- efficient garbage collection.

To the right, is a json object representing a policy in the server. End users would have a hard time defining such an object on their own, and often would also struggle to interpret what any of that means.

The goal of my project was to make it as intuitive as possible to interpret and then create one of these objects for the average end user.

Objective

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Methodology

The Policy UI is a webpage that reads information from html calls to Semiotic to populate itself with information that is pertinent to the user.

- Upon page load, global and commonly accessed information are loaded up in the background. This information is used to parse information for the user into a higher-level abstraction. The information queried on page load include:
  - Observation Data
  - Users
  - Groups
  - Locations
  - User’s Own Policies

- When creating a policy, the user is at first presented with a bare bones page. It is populated dynamically with appropriate selectors and input boxes upon selection/changes of the Observation Data to Share.

- With the exception of Time, which is limited to 2 per condition, all parameters for creating a policy that is coded as an array in the backend, can take an arbitrary number of options. It is possible for the user to set those options intuitively in the UI.

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