Foot Traffic Web Server

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The web server I designed uses the Jetty server framework. By default, it runs on port number 7634 to reduce traffic on more commonly used ports. There are three servlets used during operation of the webserver. These three are the Main servlet, the GetData servlet, and the PostData servlet. Each of these are designed to handle a specific type of request that the webserver may receive.

The PostData servlet corresponds to a URI of /postdata and must be accessed as such. This servlet is used to accept data from incoming connections, such as an android application. A GET request send to this servlet will simply return the string “Please use a POST request to access this URI” as a response. A POST request requires 6 parameters (shown below), each corresponding to information that the requester wishes to send to the web server.

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| --- | --- | --- |
| **Description** | **Parameter** | **Acceptable Values** |
| Latitude (Fine GPS) | “lat” | Floating Point number |
| Longitude (Fine GPS) | “lon” | Floating Point number |
| Temperature (Celsius) | “temp” | Floating Point number |
| Light Reading (Lumens) | “light” | Floating Point number |
| Time (Integer Hour of Update) | “time” | Integer |
| Status (type of data) | “status” | String: “stay”, “leave”, “pass” |

If there is an error in the parameters, then the server will send a response string that describes the first missing value. For a successful query, the webserver will return a 200 OK code with no response body. Receiving this reply notes that the request was received and processed successfully.

The GetData servlet corresponds to a URI of /getdata and is used to pull data from the web server. A get request results in the same as the PostData servlet. This servlet requires 4 parameters as shown below.

|  |  |  |
| --- | --- | --- |
| **Description** | **Parameter** | **Acceptable Values** |
| Name of wanted area | “description” | Word or Words |
| Latitude of wanted area | “lon” | Floating Point number |
| Longitude of wanted area | “lat” | Floating Point number |
| Integer hour of wanted area | “hour” | Integer |

There are two types of possible POST requests for this servlet. The first requires the usage of the “description” parameter. The latitude and longitude parameters are not used. The other type of request is the opposite; the latitude and longitude parameters are used instead of description. The hour parameter is required for both types of requests. The response from the webserver for any request is data in JSON format. If there is an error, the webserver will write a null JSON object in the response. For successful requests, the JSON object will contain the requested information (the data for the specified time and location) with a content type of “application/json.”

The Main servlet services any other request that does not access the /postdata and /getdata URIs. Any Get or POST request to this servlet will result in the string “Please access /getdata or /postdata” being returned to the requester. The content type of this request is “text/html.”