**Account System:**

I built my account system into my API, from scratch. POSTs and PUTs to /user require the username and password included in the data, they are checked to make sure they are valid of a valid format, if not creating a new login they are checked to make sure ey match and then a datastore object is created. A timestamp attribute provides expiration to the object. Then the object key is used as the authorization token and handed to the user, this is probably not the best solution since google app engine is open enough that keys could probably be generated without too much trouble, but is sufficiently unique for this limited application. Without that token, calls to the API return 404 object not found. If another login request is received the previous token is invalidated. This means that only one client can be authorized on an account at anyone time.

**RESTful API :** currently deployed at http://map-app-496.appspot.com

There are four routes for working with my API, /user, /marker, /category, and /catlist.

**http://map-app-496.appspot.com/user** takes POST, DELETE and PUT, but does not allow GET as a matter of security. POST requests require a username and a password as part of the POST and if a new login should be created it also requires newlogin=True. A successful login or account creation returns a JSON object that includes urls for checking markers and an authorization token like this:

$ curl --data "username=Franklin45&password=password52&newlogin=True" http://map-app-496.appspot.com/user

Returns:

{

"category": "http://map-app-496.appspot.com/category/5578500555669504",

"marker": "http://map-app-496.appspot.com/marker/5578500555669504",

"token": 5578500555669504

}

DELETE requires the authorization token like this:

$ curl -X DELETE http://map-app-496.appspot.com/user/5238768374120448

PUT only allows password changes, and requires, username, the old password and the new password:

$ curl --data "username=Franklin45&password=password52&newpass=changed94" http://map-app-496.appspot.com/user

**http://map-app-496.appspot.com/category** Takes all four verbs and requires the inclusion of the token from /user. A GET request returns a JSON object with a list of the user’s categories like this:

$ curl http://map-app-496.appspot.com/category/6078271003295744

Returns:

{

"5128473613959168": {

"key": 5128473613959168,

"name": "Bookstores",

"url": "http://map-app-496.appspot.com/category/6078271003295744/5128473613959168",

"user": 6616546101166080

},

"5220566571155456": {

"key": 5220566571155456,

"name": "Restaurants ",

"url": "http://map-app-496.appspot.com/category/6078271003295744/5220566571155456",

"user": 6616546101166080

}

A GET with the URL returns just the category listed.

$ curl http://map-app-496.appspot.com/category/6078271003295744/5220566571155456

{

"key": 5220566571155456,

"name": "Restaurants ",

"url": "http://map-app-496.appspot.com/category/6078271003295744/5220566571155456",

"user": 6616546101166080

}

POSTs, DELETEs, and PUTs work the same, requiring the token

**http://map-app-496.appspot.com/marker** works pretty much the same as /category.

$ curl http://map-app-496.appspot.com/marker/5593317655969792

{

"4696614920781824": {

"category": 5128473613959168,

"key": 4696614920781824,

"lat": 47.658986958718415,

"lon": -122.11698361192248,

"popup": "Jimmy's Books",

"url": "http://map-app-496.appspot.com/marker/5593317655969792/4696614920781824",

"user": 6616546101166080

},

"5126973462413312": {

"category": 5220566571155456,

"key": 5126973462413312,

"lat": 47.671860943187959,

"lon": -122.10922966129148,

"popup": "Sakura's",

"url": "http://map-app-496.appspot.com/marker/5593317655969792/5126973462413312",

"user": 6616546101166080

},

"5963562090496000": {

"category": 5128473613959168,

"key": 5963562090496000,

"lat": 47.674129977088285,

"lon": -122.13321590737908,

"popup": "Placard's",

"url": "http://map-app-496.appspot.com/marker/5593317655969792/5963562090496000",

"user": 6616546101166080

}

}

And for individual Markers:

$ curl http://map-app-496.appspot.com/marker/5593317655969792/5963562090496000

{

"category": 5128473613959168,

"key": 5963562090496000,

"lat": 47.674129977088285,

"lon": -122.13321590737908,

"popup": "Placard's",

"url": "http://map-app-496.appspot.com/marker/5593317655969792/5963562090496000",

"user": 6616546101166080

}