Plasmatic Technologies Inc.

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Background

Plasmatic Technologies Inc. is an enabler of connected Smart Home services.

Reporting on Power Consumption

This project taps into the Green Button initiative which is an industry led effort to improve household consumer's awareness about their home energy usage.

http://www.greenbuttondata.org

The Plasmatic-BCIT project delivery ideally is an engine that accepts Green Button data from both static and API sources. Consumers can use this application to report on their data usage.

This project will have two components for data gathering: Download My Data and Connect My Data.

Download My Data requires a user to download their energy data as an XML file that can be uploaded to another service for processing and other services.

Connect My Data allows for automation of the data download directly to the aggregation service by the users authorizing the aggregation service to fetch the data on their behalf.

Platform

Data for this project could be stored and managed through a Node.js server or using AWS Lambdas to implement a serverless design. The data should be stored locally in a database such as mongoDB or using AWS DynamoDB for cloud hosted.

The platform should implement multi-user support so that different users could use it for fetching Green Button data but does not require any authentication to demonstrate this. The data model saved in the local database should be structured in such a way to allow for the data to be searchable for each user and within the time series for the user (eg, show energy use for a particular time frame).

To allow for future use of the project the data transformations of the Green Button data should be done in a library that can be used in other applications.

Front facing APIs

A user facing API should be designed to allow for a client app to create graphs or tables showing the energy data.

APIs should allow for fetching data by user and also current period, historical periods, and different ranges of dates. If the XML contains different time resolutions being able to present such detail would also be desirable.

Client Application

A simple client application should be developed to demonstrate the visualization of the data and use of the APIs.