PROJECT PROPOSAL: RESPONSIVE DATA VISUALIZATION APP

Purpose and scope:

This web application allows users to enter or import a set of data from Google Analytics related to devices that access a site and view a set of visualizations to better understand where to focus responsive web design efforts and to show reports to stakeholders to help them better understand the diversity of devices (or lack thereof, perhaps) used to access their site.

Use Cases:

- User creates a free account using their email address, name and a password.
- User adds a site profile including the site's name, base URL and a description.
- User adds an evaluation period with a start and end date under a site profile. Evaluation periods should not overlap.
- User adds a set of data inside an evaluation period. This can be entered manually or it can be imported from a CSV file based on a prescribed structure. Data entries contain the device size the URL it accessed, number of sessions it accessed that start page, average number of pages per session, and average duration of sessions.
- User defines device ranges in order to visualize the data better through icons representing different devices including smartphones, tablets, laptops and desktop/television.
- User defines report groups based on number o sessions for a device that help with presenting aggregations of usage groups.
- User views aggregation visualizations and shares them with others through a front-facing shareable URL or by saving a PDF of the page. Visualizations include a grid of to-scale icon representing devices and their range of use, "pie chart"-styled diagrams of device usage, line of benchmark devices and their usage statistics. See the accompanying infographic for an example of data that inspired this project, particularly the sections
- Visualizations can be filtered based on URL and evaluation period.
- The administrator can manage user accounts and run reports on the overall usage of the application including aggregate device size, page count and duration, while actual URLs are kept private to the user accounts.

Features:

- User account creation, editing and management
- Data entry and import (create, read, update and delete entries; batch import from CSV)
- Aggregation algorithms to aid in reporting
- Data visualization with the help of SVG graphics
- Filter and export of data visualizations

Feasibility:

I believe this application is realistic to accomplish in the timeframe of this course and presents some good challenges for me, specifically, importing data from a CSV file and using PHP logic along with SVG to render the visualizations.