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**Project Abstract**

Mobile access to the Internet and open data feeds provide exciting opportunities to GIS practitioners. This project will incorporate Postgres, PostGIS, python, and leaflet.js to retrieve, analyze, and display data on a mobile website based on the coordinates of the user.

The basis for this project is the need to tabulate and display information from a variety of different sources on the block level for New York City. When the user lands on the website, they will be invited to share their location to be shown information about the block they are on. A Javascript function, “getLocation()” is used to ask for and retrieve lat/lon coordinates for the user’s location. The lat/lon data is then passed to an API call to the US Census, which asks for the unique identifier associated with that block, and a subsequent request returns the total population and number of housing units for that block.

The user’s coordinates are also passed to a Postgres database containing block geometries for all of New York City, as well as a modified copy of MapPLUTO, the city’s tax lot information database, joined to building footprints and customized with detailed land-use attributes. A block is selected, and a python script will be used to tabulate areas of all buildings on the block, separated by land use type. This data, along with the Census data, will be passed back to the user in tabular form, giving a brief yet detailed description of the block and its attributes.

Leaflet.js will be used to show a cloropleth map of population density per block (Census population / total residential area derived from python script), as well as building type, using GeoJSON retrieved from the Postgres database. The user has the opportunity to see block-level characteristics in tabular form, and citywide data in map form. Users will be able to click on a block from the map view and generate tables from that block.

The front end of this project requires an HTML landing page, which calls various Javascript functions, including the DataTables plugin to display data in a tabular form. The back end requires Javascript to request data from APIs and the Postgres database.

This project will serve as a proof of concept for further development of a mobile application to display data from an API that is being written by developers at the Wildlife Conservation Society for welikia.org/m-map.php.