Team Ozymandias

Brown2Green

Adam Cumiskey, Pete Swetits, Leah Lewy, Ian Jones, Dave Hand, Justin Wagner

Stage 1: Project Proposal

Problem Statement

Some important factors for Habitat For Humanity when deciding where to build homes are the zoning laws and building rules for the land on which they want to build. Because these can vary from municipality to municipality, it would be extremely beneficial to be able to query a location and find out about the specific laws in that area. This information is currently not easily accessible because it is fragmented across different websites.

Objective

The objective for our module is to extend the SOAP database by adding additional tables which would include information about municipalities and their building codes and zoning regulations. The additional tables will be integrated into the current SOAP database and related with the current Location relation.
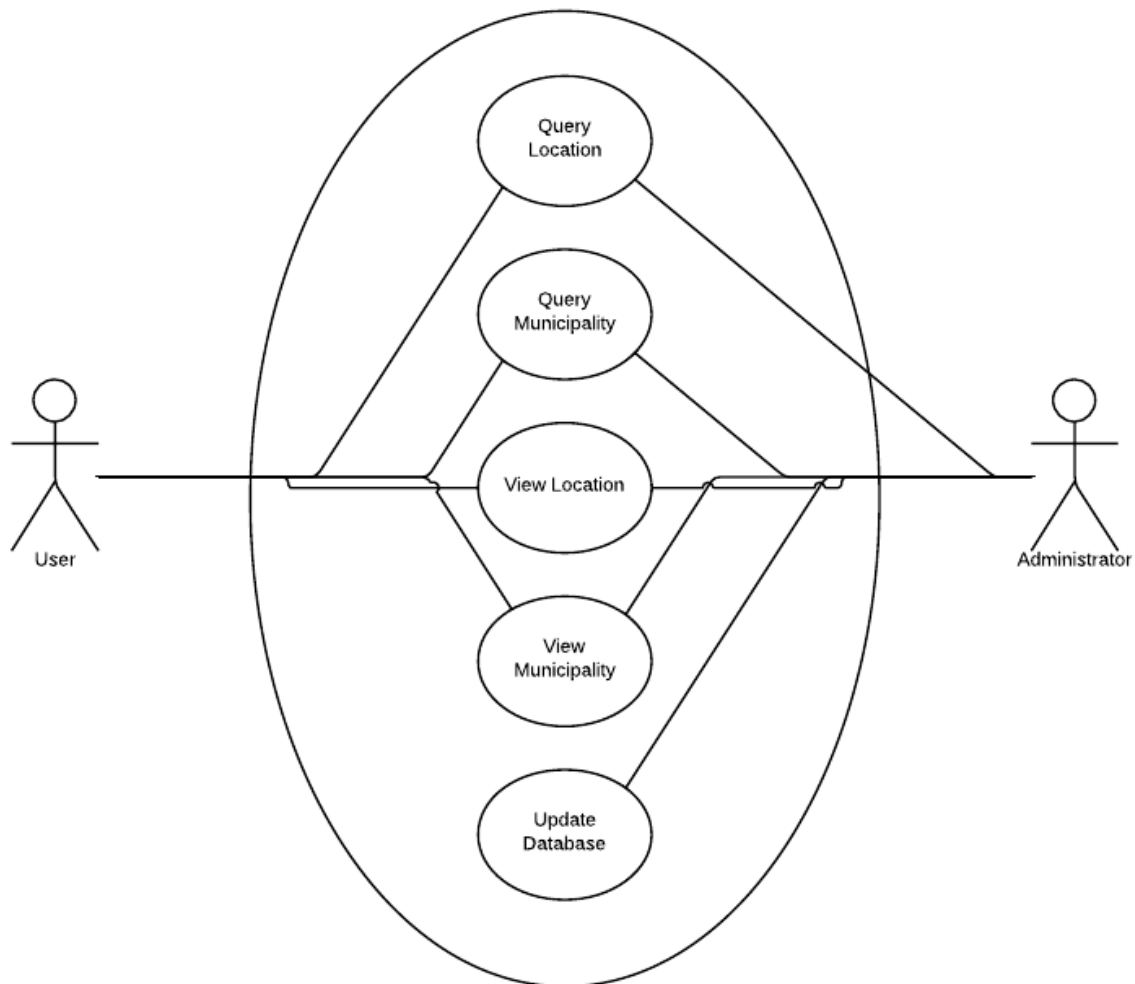
Desired End Product

For our end product, we would like the ability to enter in a location and return the building rules and zoning regulations for the area that it is contained in. A reach goal would be the ability to place the different municipalities onto the map on the SOAP page so that when a location is added, the user can easily visualize what municipality it belongs to.

Need

Habitat For Humanity needs to screen different properties before they decide to build on them. Being able to view information about building restrictions and guidelines for each property would help their decision making process.

Boundary Diagram

Initial Database Size

There are 565 municipalities in New Jersey. Each would correspond to a row in our Municipalities entity table. Each row in the municipalities would have a corresponding row in the Rules table.

Types and Avg # of Records

Each municipality will contain a municipality id as the primary key, as well as name and zip code. Municipalities will be related to rules, with each rule entity having one municipality as the primary key, a zoning rule column, and a building rule column.

Views

The main view for this module would be a page that would allow a user to query a municipality to return the building rules for that municipality. This could also be integrated into the main query page to allow a user to search for a property and have the return data include the building codes and regulations.

Performance

The main performance goal for our project is that the zoning laws and building rules are quickly and easily available when querying a location. If the laws cannot be found in a reasonable amount of time, it will offer no added convenience to the end user. The added information should not slow down the query time for the location. The end goal is to improve convenience through more information while keeping the same response time.

Security

Security for the project isn't of paramount concern due to the fact that the information we are adding is freely available on various web pages. Due to this, our only real security concerns are that we don't add vulnerabilities when adjusting queries and adding additional information to the database. If not yet implemented, different users of the system should have different views of the database.

Backup and Recovery

Since we will be implementing a large database for queries about brownfields in the Trenton area, we will need to make sure that all the stored information does not get lost if the system fails in any way. Hopefully the data that is stored in the database that we will be working on will be stored in another place that can be used as a replacement for our database if it crashes. Furthermore, to reduce downtime in case of a failure like this, we might set up another backup server that holds the same database.

Possible Applications

There are a wide variety of applications for the system that we have envisioned for the SOAP database. Obviously, the main goal of the system is to provide Habitat for Humanity with an easy way to learn information about specific brownfields in the Trenton area so they know whether it will be cost efficient to build affordable housing in those locations. Other than the main application, people of Trenton will be able to look up and learn information about brownfields in their area. Furthermore, they will be able to proactively get brownfields cleaned up by contacting the congressman that work in that brownfield's district because that information will be readily available while viewing each brownfield.