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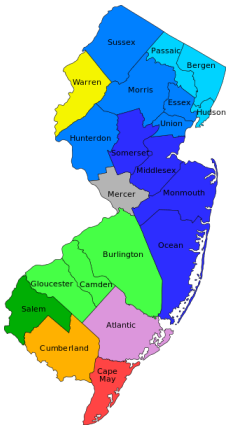
CSC 315-02

Part II Draft: SR Hub Addon Proposal

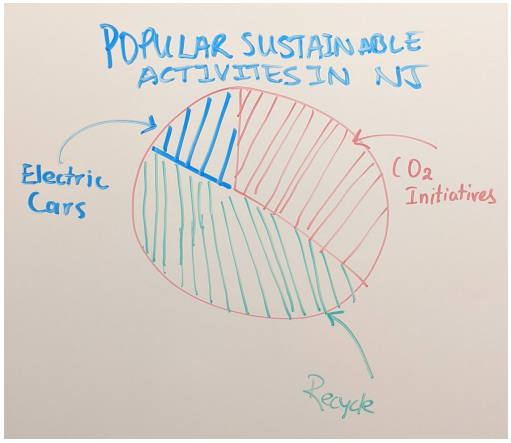
Problem Statement

SR Hub is associated with a lot of fellowships. This means a massive income of articles related to sustainable energy, and the upbringings of New Jersey. However, for prospective stakeholders interested in what's happening around New Jersey, the search isn't as accurate as it's supposed to be. SR Hub has an excellent mission and is working to make the Garden State a responsible state to the globe -- however, they're website presentation doesn't convey that to it's best ability.

The objective of the Module



To provide an advanced functioning search with a visual appeal to a stakeholder of the website. We observed how srhub.org -- an article rich website -- could benefit prospective stakeholders if they have a map of NJ (broken up by counties, see right). This map would allow users to click on a particular county and the results pulled from the planned designed database, would be articles from the variety of categories depicted on their website. This is beneficial as it would harness all their data from fellowships in one place and present it in a neat fashion.



This NJ Visual search will be part of a revised landing page that can help attract stakeholders. In addition to visual presentation conveying information. The team's second main objective would be to use a refined tagging system to build an interactive and real-time pie chart that shows sustainable activities happening in NJ.

Description of the Desired End Product

A fully operational visual search that filters results via county and displays them on an interactive map of New Jersey. Each county will have articles relative to what the user clicks. Another aspect of the final product will be an additional interactive pie chart that displays different percentages of the article representation. This would allow users to view the most important/relevant information from all of New Jersey. Accomplishing both of these features will require different aspects of databases, queries, and front end designing. In addition to the map features, we plan to totally revamp the front end to make it move visually appealing to many different demographics. Furthermore, we plan to revamp the front-end design of the website and refine the landing page of the site to add our features.

Description of the importance and need for the module, and how it addresses the problem

A virtual search would result in a more positive outlook to prospective stakeholders. This would not only reorganize the content of SR HUB but also possibly bring more fellowships to the blog. Not only that, but the interactive nature of the visuals would be more visually appealing to everyday AND new users. The current sorting/ displaying system is very bland and hard to get around if you don't already know where you want to go. This system would be much more user friendly and accessible to those just starting to learn about sustainability and what they can do locally.

Plan for how you will research the problem domain and obtain the data needed

We will be utilizing a lot of the data that is already on the SR Hub and possibly wrangling it a bit to get it to a more usable form. I think we may need to talk with Sustainable NJ and perhaps

other news places to see if they will provide current up to date stories on the different types/locations that we are trying to represent in the interactive maps.

Other similar systems/approaches that exist, and how your module is different or will add to the existing system

During the class pitch on Thursday, Professor DeGood suggested www.radmon.org for a geo-tag system. While we may not take this exact idea, this will be used to understand similar systems for geo-tags and how data transmission takes place between the database and presenting it front-end.

Other teams, when hearing their pitch, are just refining the search or creating forms for interaction with articles. The Unique Selling Point of this module is working towards solidifying the main step to attraction, a great landing page to present facts in its best way. This means that SR Hub will continue to publish and advocate for great content but have an added feature of finer portrayal.

Possible other applications of the system

Organization and revamping of the current search system to make it a much more advanced, efficient system to use. We could also use it for web APIs for tags.

Performance - specify how and to what extent you will address this

Performance can be improved with improved queries and well-designed tables. Concurrency can be dealt with PostgreSQL functionalities such as transaction isolation.

Security

Only certain people have login credentials to see the database, but only the DBA (Database Administrator) will be able to edit it. Other than that, there will be views and stored procedures with rollbacks to prevent improper entries or manipulation.

Backup and Recovery

Built-in functionalities of PostgreSQL for backups, such as SQL dump, file system level backup, and continuous archiving.

Technologies and Database concepts the team will need to learn, and a plan for learning these

Table management

Views and Indexes

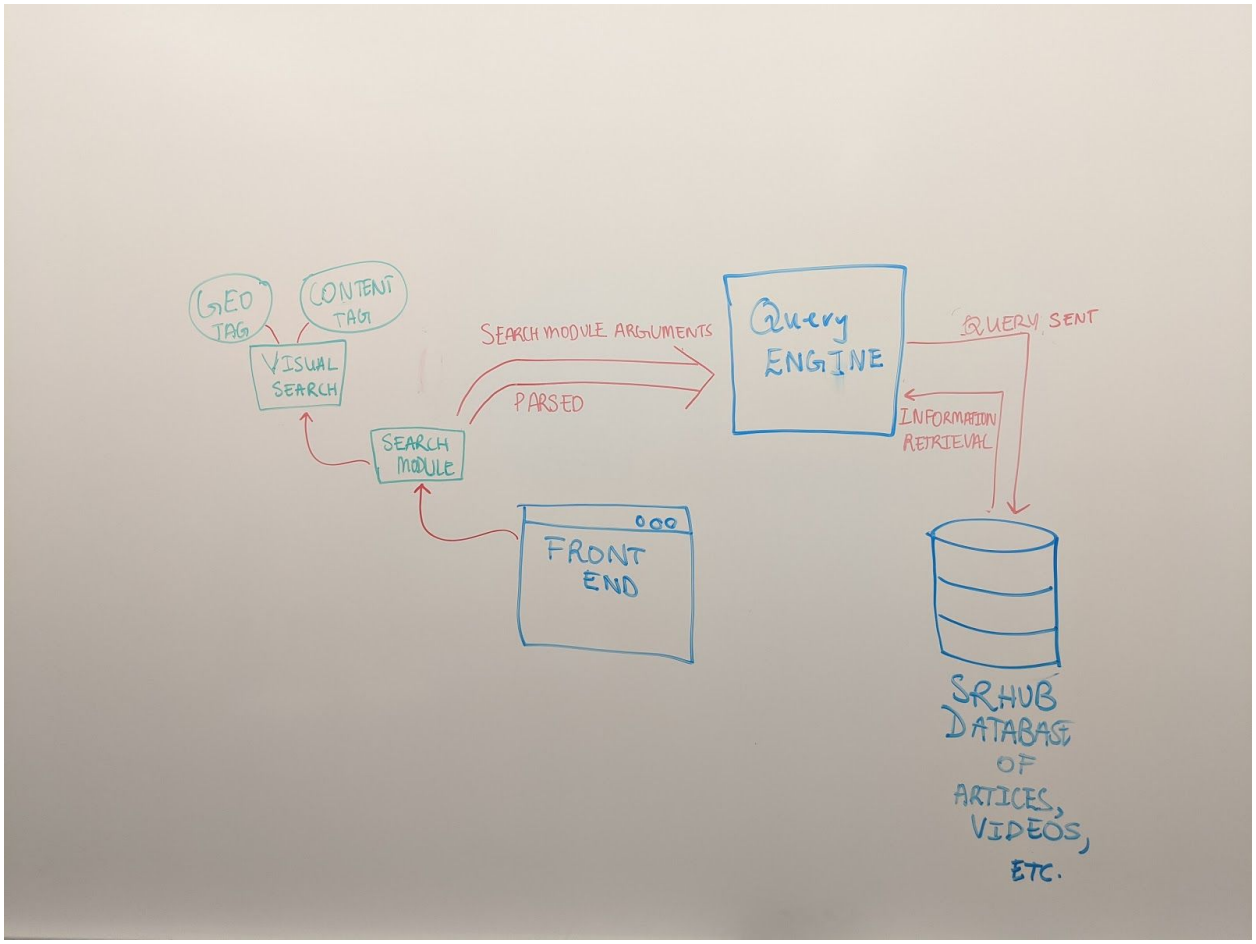
Inputting Data into DB

Functions, Stored Procedures and Transactions

Backup & Restore methods

PHP and DBConnect functionality packages for working Query Engine from the front-end

A Diagrammatic representation of the system boundary that specifies what data you will model and which queries you will implement.



Github Repository link

https://github.com/abhivemp/databasesdteam