CSCI 3308 Project Milestone 2
Team We Can Come Back To That

(Recitation 105, group 3)
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Project Features

- Data Submission:
    - Allows for user submitted data
    - Has a form submission that collects a photo, location found, type of meteorite, size, date found,
- Visualization Tools
    - Has data visualization tools to organize and view user submissions by different data fields (i.e. number of meteorites of X type found out of all meteorites)
- Image Galleries
    - Has galleries of uploaded images that can be filtered by the characteristics listed above
- Mapping & Location Visualization:
    - Has mapping/location visualization functionality
    - Has a map that can be filtered by different data items (meteorite type, size?, date found, “heat map” of found locations)
- Community Voting:
    - Allows community verification/up & down voting on submissions to improve quality of database
- User Login
    - Has a user login system.
    - Public API allowing safe authentication through third party
- Image Uploading
    - Allows users to upload images of various micrometeorites and tag the locations of those images
- Search Bar:
    - Intelligent search function that filters micrometeorites by search terms/tags
- Social media integration:
    - Allows users to share a picture/submission on their social media page.

Requirements:

Data Submission

Functional requirements:

The user is presented with a form that they can fill out and submit that collects the data for each micrometeorite. The form requires that all sections be filled out for submission. The form is only one page (does not require clicking through multiple pages to submit one piece of data). It has fields for a photo upload, a date collected, a location found, a size scale, and a suspected type of micrometeorite.

The user must be logged in to the website in order to have access to data submission features.

Non-functional requirements:

Client-side form validation. If the form is empty, or incorrectly entered, the user should not be allowed to submit their information.

A message should also be displayed stating if the information was entered correctly or not.

Server-side form validation: Checks that the input is in proper format in order to prevent access to the database.

Image size and resolution requirements:

Upload requirement of at least 500x500 pixels, and a maximum size of 2 Mb

Search Filtering system

Functional requirements:

The search filtering functionality connects to the database and returns relevant info based on user selection.

It must return some kind of response to the user whether it be something related from the database, or simply “No Results”

User input is checked for validity (input is the right data type and won’t cause overflow)

All user visible parameters can be queried.

Non-functional requirements:

Must be able to deliver search results in 1 second or under

The filter should be simple and easily understood.

The dropdown bar should allow the user to decide what category they want to search by (for example if they want to search for meteorites in a certain location or for meteorites of a certain type/size)

Visualization Tools

Functional requirements:

The user will have several types of data visualization tools available: charts organizing the data by different parameters (meteorites found during a certain time period, charts of most common locations, fractions of different types). Tools can be selected user-side after a search.

Nonfunctional requirements:

The system must be able to generate data quickly and intuitively. The visualizations generated should be visually appealing and easy to understand. Data visualizations can be saved (have easily downloadable formats and open in new tab) so new visualizations can be generated without loss of previous.

Image Galleries

Functional requirements:

Displays a collection of all micrometeorite images in an easy-to-browse gallery. Does not focus on the data associated with each micrometeorite, just shows images. Should make the images easily accessible to the layman/the person who is not interested in the hard science behind it.

Non-functional requirements:

Should minimize loading times as much as possible while still displaying large numbers of images. Should have intuitive browsing options (scrolling through the entire database as well as clicking through image by image).

Community Voting

Functional requirements:

One vote allowed per registered, logged-in user on a pending unconfirmed meteorite submission

Voting results are decided based on majority

Non-functional requirements:

Voting period for a new submission will last 1 week before the new meteorite submission is either confirmed or denied based on the criteria above

Bar graph below meteorite solution to show current voting results

User Login

Functional:

Authenticates users.

Permits access to a customized user layer

Authentication Failure results in new request

Non-Functional:

Any Information that user has access to is populated in website for user interaction

Login via google. This will be done using Google's authentication API.

Project Plan:

See -Gantt Chart