**Introduction**

**Need for Application**

The Flora and Fauna application will allow wildlife experts, nature enthusiasts, and general users to search for species within their location. For example, if the user sees a bird that they are not familiar with, they can use the application to search for birds in their location. The application will then provide relevant species that match the user’s search. The user can then view additional information about the species such as habitat, scientific name, and range as well as recorded observations of the species provided by the BISON database.

The application will provide an intuitive interface that will allow users to search for species’ information and observations using one application.

**Application Description**

The application will allow the user to search for species using a search bar. The user can type in the common name, scientific name, or a category of organisms to view relevant results. The application will perform a query to EOL, GBIF, and BISON databases using the user’s search terms to find species that match the user’s search. Each species that matches the user’s search will be displayed in its own result box. Each result box will display an image of the organism, its common name, its scientific name, and a short description of the organism. The user will be given the option to view additional information about each organism. This feature will link the user to the Wikipedia article of the organism or the organism’s entry in the EOL database.

When the user searches for a category of organisms, the user can filter results by location, taxonomic information, habitat, and date to narrow down the search so that they can find the organisms that they are looking for quickly. Each time the user applies a filter it will run a new query to all the databases with the additional filter.

The application will also allow the user to see recorded observations of a selected organism. The BISON database records observations of organisms, so this database will be queried if the user wants to view the observations of a selected organism. The user can filter observations by state, county, and their GPS location. The application will also include a “What Is Around Me” button that will display the observations of all organisms within a certain radius of the user’s GPS location.

A far reaching goal of the application is to allow the user to record their own observations of organism to the application. These observations will be recorded in our own application database. These user-recorded observations would then be visible to other users. Users could also upload their own images or audio recordings of organisms to our application database to go along with the recorded observation.

Another far reaching goal is to add image recognition to the application. The user can upload an image to the application and the application would use Google’s Reverse Image API to identify the organism in the image.

**Application Clients**

The Flora and Fauna application is a general product that can be used by any nature enthusiasts; however, we have selected two clients to assist with requirements elicitation.

One of our clients is Dr. Box who is a nature photographer. Dr. Box wants the application to display observations of organisms so that he knows where to travel to photograph these organisms. He also wanted the ability to record his own observations to the application to notify other users of the application.

Our other client is Todd Buffington who works for the Louisiana Department of Wildlife and Fisheries. Todd wanted the ability to search for organisms in his location and filter them by habitat.

We have included functional requirements that will satisfy the needs of our clients so that they may benefit from the final product.

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