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# **CPSC 304 Project Cover Page**

Milestone #: 1

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Group Number: 93

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By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

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# **Project Description:**

Our goal for this project is to create a citizen science application, specifically focusing on tracking and documenting the distribution of marine flora and fauna species. Not only will the application assist in scientific research, such as ecological surveys and documentation of rare species, but it will also provide an outlet for hobbyists to explore, record and collaborate about the dynamic aquatic landscape.

(See list of key terms below)

## **What is the domain of the application?**

The domain of the project resides primarily in 3 distinct classifications. **Marine Science** is the large-scale domain, referenced by the fact that the application will be dealing with data, suitable for marine research. The second domain would be **collaborative data collection**. The database will be used by the public to map both macro and micro data through the submitted information by various individuals of varying degree of expertise. The application should therefore be able to collect and synthesize a large amount of information. Since the app deals primarily with species data, the final domain would be **species mapping**. It should be able to represent the imputed information in a way that it can be compared and contrasted both within and between different groups of organisms. All of these domains come together to create a dynamic application for a multitude of uses.

## **What aspects of the domain are modeled by the database?**

The scope of our project sets out to satisfy our domain in several ways. As a citizen science database, the information stored in the system will primarily be data about species, such as common name, morphology and notes, as well as a description of the location of the sighting. Once stored in the database, this species information can be accessed by researchers and other users so it can be compared to other data of the same or similar species. Using this, users will be able to map where species have been and will be for continued observation and data collection.

Since aquatic ecosystems are so dynamic, citizen science apps are extremely helpful for marine science. However, the largest issue with this process is the entry of redundant or incorrect information. By including the necessary fields in the process of data entry, we can ensure that the collected data is of a caliber necessary for research. Additionally, by having users submit their credentials when joining the app, we can grant certain permissions to users so that they may confirm or deny the authenticity of the data provided. This will ensure that the shared data will be of a grade necessary for biological work.

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## **Database specifications:**

### **What functionality will the database provide?**

As a Citizen science app, users will have the ability to submit and review marine species of flora and fauna. Marine ecosystems are extremely variable due to seasonal influence and the mobility of species so it is extremely important that both scientists and hobbyists are able access both past and current data when seeking out specific organisms or mapping ecological dynamics. With our database, users will be able to make reports about species they have seen including photos, location data, description of equipment used and additional notes or inquiries. Users should also be able to access the entries of others to try and find information such as the best tidepooling spot or observe large-scale trends in what species are located where. On a higher level, the database should allow researchers to use it as an additional tool, creating projects to gather specific submissions and host group chat conversations, as well as confirming or correcting the names and species of the citizen submitted data. All these factors ensure that the data submitted will be of the highest possible quality so that all parties involved can profit.

## **Key Terms:**

**Flora:** Plant species (including algae and fungi).

**Fauna:** Animal species.

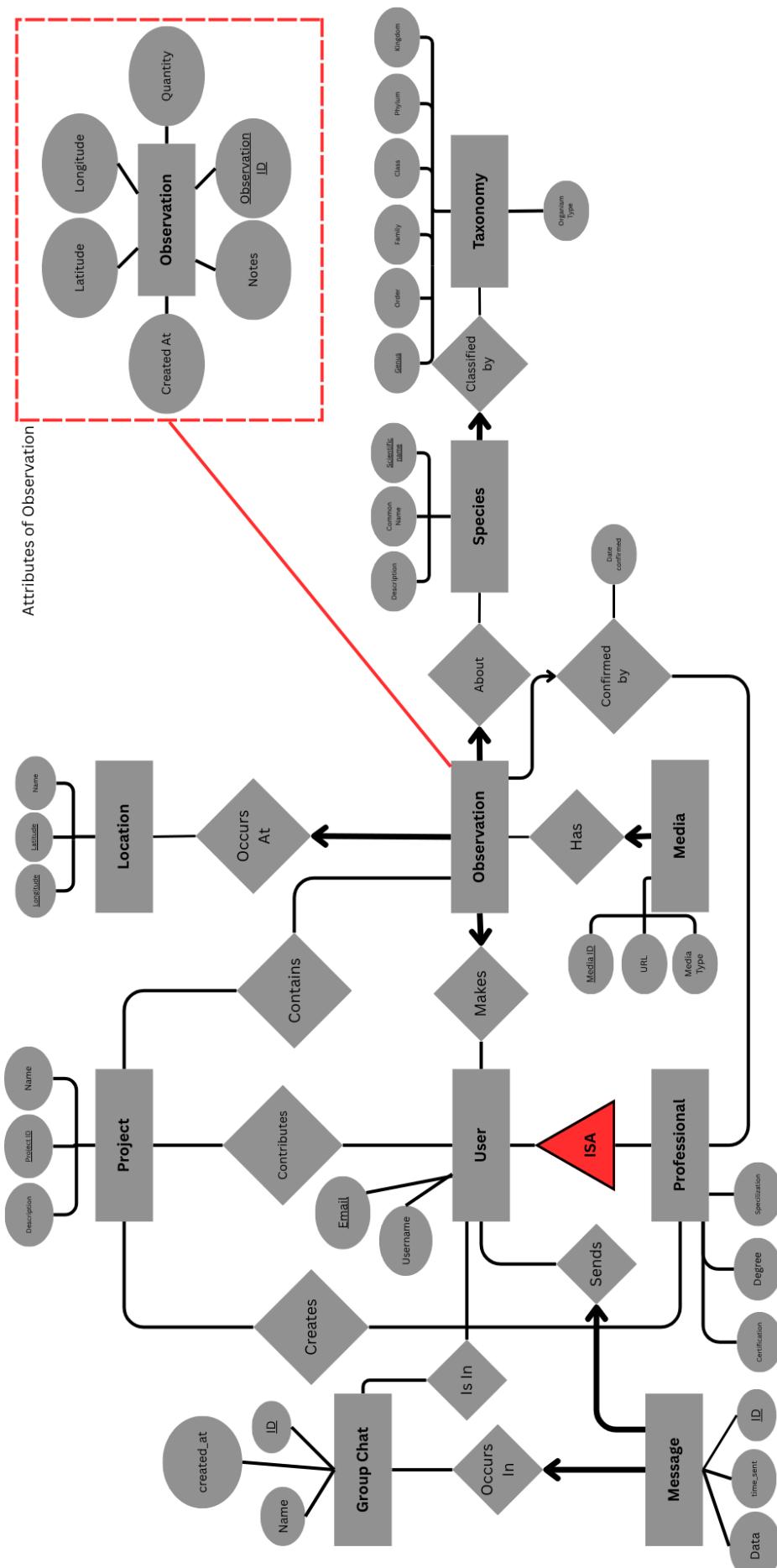
**Species:** A distinct organism determined by physical, geographical or genetic factors.

**Taxonomy:** The systematic classification of an organism into more narrowly defined groups.

**Ecology:** The study of large scale species interactions and biological systems.

**Ecosystem:** An area of interaction between species (scale varies).

**Morphology:** The physical characters of species, traditionally those used for identification.



## **AI Acknowledgments:**

There were **no AI tools used** for this milestone of the project. This declaration includes the process of brainstorming, researching, writing, diagramming and editing.