University of British Columbia, Vancouver
Department of Computer Science

CPSC 304 Project Cover Page

Milestone #: 1R

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Group Number: 19

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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

What is the domain of the application?

Our project is an Ecosystem Management program used by national park managers/rangers to keep track of the flora/fauna in their park.

What aspects of the domain are modeled by the database?

Rangers can log specific animals into the database, model their familial relationships, identify them + their traits, track their health, and more. Rangers can also log plants, which may be natural or planted by other rangers. Animals and Plants exist within Habitats, so rangers can easily keep track of how each of their Habitats is doing. The database also tracks park equipment, including which facility they are stored in. Rangers can use this database to track animal/plant/habitat health, and come up with strategies to improve their health. For example, a ranger could notice that many of the animals are in poor health, and correlate that with poor water quality in their habitats. Then, a ranger could find appropriate equipment within a facility to fix the water quality issue. Lastly, rangers can keep track of the visits to the park on a particular day.

Database Specifications

What functionality will the database provide?

Rangers can search for equipment and see what facility they are stored in.
Similarly, Rangers can look up animals and plants within the whole park or within specific habitats to update their attributes. For animals, rangers can also log familial relationships between animals, and get the animal's age by their birthdate.

Rangers can also see a list of habitats and make edits to specific attributes of the habitat like its waterQuality or soilQuality.

Rangers can create/check daypasses for a visit.

Lastly, a Ranger themselves can add additional plants to the database by planting them, and can be assigned to monitor certain habitats or manage facilities.

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Application Platform

a. What database will your project use?

We would be using an Oracle SQL Database

b. What is your expected application technology stack

The final project would include a front-end web interface built on React + JS, and a Node.js backend. We would be using a tech stack with Oracle SQL, Express, React and Node.js.

ER Diagram