University of British Columbia, Vancouver

Department of Computer Science

CPSC 304 Project Cover Page

Milestone #: 3
Date: June 14, 2023
Group Number: 2

Name	Student Number	CS Alias	Preferred Email Address
Beth Koschel	28150423	g9n3c@ugrad.cs.ubc.ca	bethanylkoschel@gmail.com
Harbir Bajwa	20972261	p8i2e@ugrad.cs.ubc.ca	harbirbajwa@hotmail.com
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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

Summary

A brief summary of the project has been provided.

The project involves developing a Zoo Animal Management System that focuses on the relationships between various entities. The system will capture and model the interactions between zoos, zoo managers, orders, animals, exhibits, habitats, and food vendors. It will provide functionality to manage exhibits, track animal visits, analyze visitor demographics, monitor revenue from ticket sales. The database will enable efficient zoo operations and aid decision-making processes related to exhibit popularity, animal selection, and vendor management.

1. Timeline and task breakdown/assignment: The breakdown should be at a level of detail that demonstrates that the group has spent time meaningfully considering what there is left to do. Note that we are not asking you to predict every single possible task that you will need to do. We want to see that the group understands the scope of what is left to do and is prepared to accomplish the remaining tasks in a reasonable manner. Each task should be assigned to a particular group member. Unless otherwise stated, it is assumed that all group members will work equally on the project. If this is not the case, state the work percentage breakdown for each member. This will serve as a written acknowledgement between all group members that there will be an uneven distribution of work. The member who does not do their fair share of work will have a penalty applied to their final project grade. While each member is not expected to know about every single line of code in the project, it is expected that all members can talk about the overall architecture of the code.

Task 1: Create wireframes/low fidelity UI prototype

- Completed **06/14/2023** by Beth
- Conducted research on visual design standards for databases
    - Determined areas of improvement from general animal database websites such as accessibility and ease of use.
- Used UI design principles to create a basic outline of a database web app.
    - Consistency across different pages/sections of the web app reduces cognitive load on users.
    - Provides the user with shortcuts/many options to navigate the web app.
    - Provides useful feedback to the user.
        - Highlights selected animals.
        - Clearly prompts users to enter information.
        - Signals to users if information is incorrect or missing
        - Change mouse shape to prompt users to click an item.
    - Usability testing will help us determine any errors in the design.
    - Uses conventional page layout for ease of user.
- Designed a layout the was simple but effective

Task 2: Create high fidelity UI prototype

- Completed **06/15/2023** by Beth
- Refined low fidelity prototype
    - Picked a colour palette that represents zoos/wildlife/nature
    - Artistic design features were kept to a minimum to remove any obstacles encountered during the coding phase of the project.
    - Added animal graphics to increase visual appeal.

Task 3: Code Frontend and Test/Debug frontend

- Complete by **06/17/2023** by Beth
- Implement UI using HTML/CSS/JavaScript (maybe using the React framework)
- Create intuitive web page based on prototype
- Add interactive elements for data input
- Debug any odd looking features
- Area of concern: pop up modal
    - Back up plan: if we can't get the pop up to work we will code a collapsable text box above or below the tables
- Bonus: make it mobile compatible.

Task 4: Code Backend and Test/Debug backend

- Complete by **06/19/2023** by **Harbir**/Apram/Beth
- Setup MySQL server (remote.ubc?)
- Setup PHP environment and gain familiarity (tutorial 7)
- Configure database connection settings within PHP
- Create PHP pages to display and manage Database entries (create, read, update, delete)
- Write relevant PHP functions to handle required DB operations
- Develop PHP scripts to generate reports for popularity, revenue, etc.
- Unit tests for individual components of back-end
- Integration tests to ensure interaction between the back-end components
- Debug any issues related to PHP/MySQL
- Area of concern: login functionality
    - We don't know how to set it up or code it :(

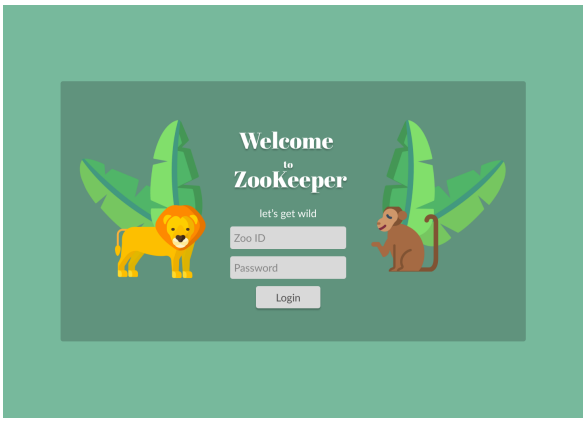
Task 5: Merge Frontend and Backend code

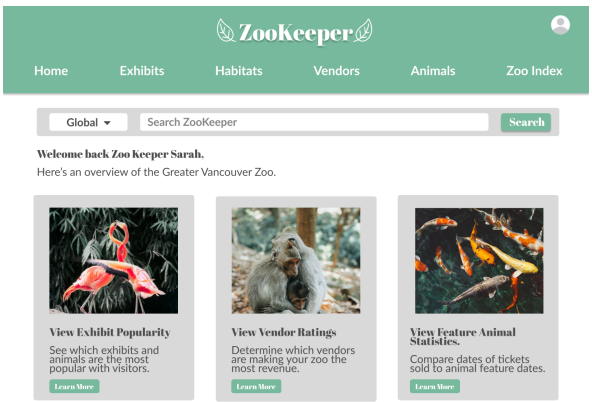
- Complete by **06/19/2023** by **Apram**/Harbir/Beth
- Write an API in PHP which will pass SQL data to javascript via REST endpoints.
- Then, as in task 3 we can build our front-end on HTML/CSS/JS (or a react framework) to access this data.

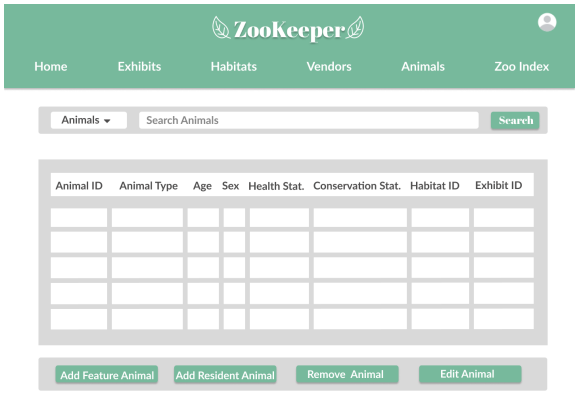
Task 6: Run final tests

- Complete by **06/20/2023** by All
- Test each query outlined in milestone 4:
    - INSERT
    - DELETE
    - UPDATE
    - Selection
    - Projection
    - Aggregation with Group By
    - Aggregation with Having
    - Nested Aggregation with Group By
    - Division
- Create project report
    - Write project description (PDF format)
        - Note what the project accomplished
        - Note any differences in the final schema from the original one
        - If there are any differences explain why they occurred.
    - Include SQL script that was used to create all the tables and data in the database
    - Attach copy of schema and screenshots that show what data is present in each relation after SQL initialization script is run
- Include any extra information into a README file
- Include milestone 1 and 2 deliverables in the repo.

2. Images that demonstrate what the front end of your project (i.e., what the user will see/interact with) will look like. These images can be hand drawn or created using a drawing application. The images should be saved in a file format that does not require extra software to open (e.g., png, jpg, svg, pdf).






ZooKeeper
Home
Exhibits
Habitats
Vendors
Animals
Zoo Index
Animals
Search Animals
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Animal Type
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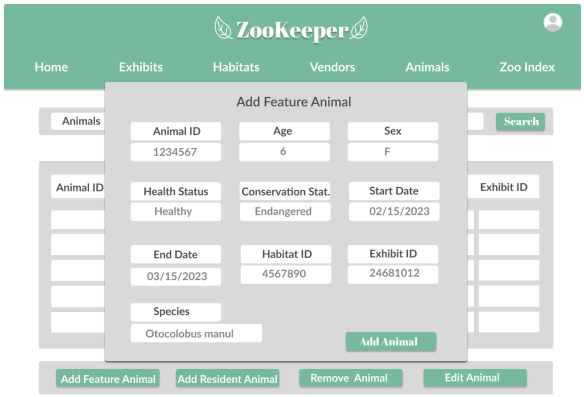
Health Stat.
Conservation Stat.
Habitat ID
Exhibit ID
Add Feature Animal
Add Resident Animal
Remove Animal
Edit Animal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Conservation Stat.
Endangered
Start Date
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End Date
03/15/2023
Habitat ID
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Exhibit ID
24681012
Species
Otocolobus manul
Add Animal
Add Feature Animal
Add Resident Animal
Remove Animal
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Zoo ID
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ZooKeeper
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Zoo Index
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Visitor Capacity
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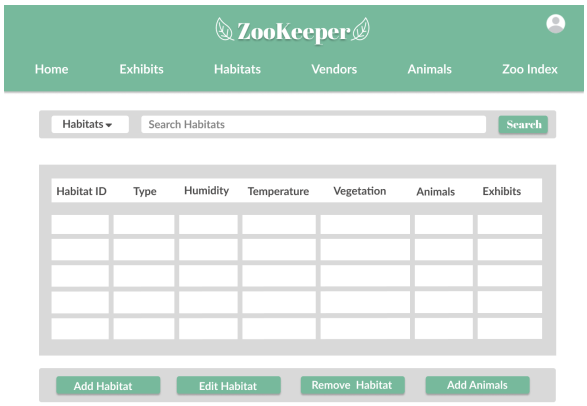
Add Exhibit
Remove Exhibit
Edit Exhibit
Add Habitat
Add Animal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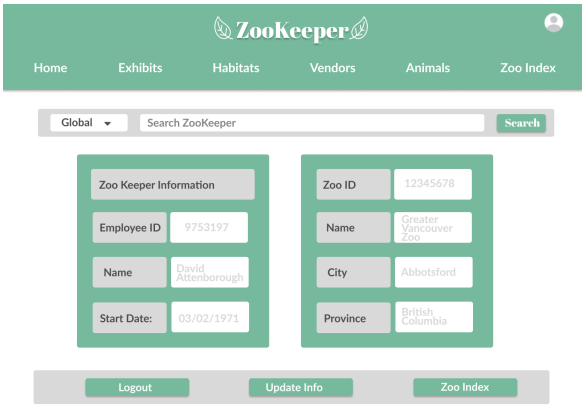
Edit Habitat
Remove Habitat
Add Animals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Start Date:
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Zoo ID
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Name
Greater Vancouver Zoo
City
Abbotsford
Province
British Columbia
Logout
Update Info
Zoo Index