

University of British Columbia, Vancouver
Department of Computer Science

CPSC 304 Project Cover Page

Milestone #: 1
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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

2. A brief project description answering these questions:

a. What is the domain of the application? Describe it.

b. What aspects of the domain are modeled by the database?

This domain of this application is zoo management. This database application will ensure efficient operation of a zoo. The application will ensure that the zoo offers a variety of animals from different parts of the world and that the guests have a good experience. The database will model the animals, visitors, and their relationships. We will be able to track guest satisfaction by looking at tickets sold, exhibit popularities, and vendor ratings. This will also let us assess the performance of a zoo manager and the animals that they choose to feature.

7 main entities:

1. Zoo (Zoo ID, City, Name, Province)
2. Zoo Manager (Name, Employee ID, Start Date)
3. Order (Order Number, Date, Payment Method)
 - WEAK: Ticket (TicketID, Type, Price)
4. Animal (AnimalID, Name, Sex, Age, Health Status, Conservation Status) - disjoint & total
 - ISA: Feature Animal (origin location)
 - WEAK: Temporary Visit (start date, end date)
 - ISA: Resident Animal (months at Zoo, favorite food)
5. Exhibits (exhibit ID, exhibit title, visitor capacity, popularity rating)
6. Habitat (habitat ID, type, humidity, temperature, Vegetation)
7. Food Vendor (vendor ID, vendor name, rating, food type)

Aspects modeled by our database:

A zoo must have a zoo manager. A zoo manager must manage a zoo. The Zoo takes Orders for Tickets. One order can contain many tickets, but must contain at least one ticket. A ticket must be part of an order.

A zoo can showcase many exhibits, and each exhibit can be showcased by up to one zoo.

Exhibits include multiple habitats (ex. "The big cat exhibit has a lion habitat and a jaguar habitat"). A habitat has a unique habitatID, type, humidity, temperature, and vegetation (ex. "A lion habitat would have different vegetation than a jaguar habitat"). Many animals can live inside a habitat (ex. "Three different lions live inside the lion habitat"). An animal must have a habitat.

There are two (disjoint and total) types of animals - resident animals or feature animals. A resident animal is permanent and has months spent at the zoo and a favorite food known by the staff. However, a featured animal is only at the zoo temporarily so it is not well known. The featured animal has an origin location and makes a Temporary Visit with a start and end date. A feature animal can make multiple temporary visits to the zoo. A feature animal and its temporary visit is chosen by the zoo manager.

3. Database specifications: (3-5 sentences)

a. What functionality will the database provide?

The database will provide the ability to keep track of visitor interests with relation to animals. It will keep track of vendors and exhibit performance to see which features bring in the most revenue and high attendances. We can gain valuable insights of key performance indicators such as statistics related to animal visits, visitor demographics, revenue, attendance, guest satisfaction.

Some of the tasks which the application would be able to perform include :

- Search animal/exhibit

- Retrieve information about an exhibit based off of keywords

- Determine the most popular exhibit - by age? By number of visits?

- Determine revenue of tickets sold on a particular date

- Determine revenue from tickets sold to see the feature animal

- Update the information related to different animals in zoo

- Add or remove animals from habitat

- Add or remove habitats from exhibits

4. Description of the application platform: (2-3 sentences)

a. What platform will your project use (PHP/JDBC/etc.)?

PHP / SQL(Oracle)

b. What is your expected application technology stack (i.e., any other things that you're using other than whether you're using PHP or JDBC)? Note that for DBMSs, we will only provide support for using the department's installation of Oracle. You are on your own for anything else.

i. You can change/adjust your tech stack later as you learn more about how to get started for the project via latter tutorials.

PHP/SQL/Oracle/HTML/CSS/JavaScript

For our project we plan on using the PHP application platform. Our expected technology stack for the UI/front-end and back-end is HTML/CSS/JavaScript, and PHP/SQL, respectively. Our project will use the Oracle database. Finally, we plan on using GitHub as a private repository for our project.

5. An ER diagram for the database that your application will use. It is OK to hand-draw it but if it is illegible or messy or confusing, marks will be taken off. You can use software to draw your diagram (e.g., draw.io, GoogleDraw, Microsoft Visio, Powerpoint, Gliffy, etc.) The result should be a legible PDF or PNG document. Note that your ER diagram must use the conventions from the textbook and the lectures (Do not use crow's feet notation or notation from other textbooks).

DRAW.IO DOES NOT PROVIDE A DASHED UNDERLINE FOR PARTIAL KEYS. I HAVE USED DASHED CIRCLES TO IDENTIFY PARTIAL KEYS INSTEAD.

PLEASE FIND THE ERD ATTACHED ON THE LAST PAGE

6. Your E/R diagram should adhere to the expectations listed above.

The E/R diagram adheres to the expectations as we've got 7 entities excluding the entities in ISA and Weak Entities alongside that we've 7 relations among entities. Also, we've provided appropriate cardinality for the relations, thus fulfilling all the required constraints

Our main idea : Zoo Animal Management system differs from any of the blacklisted topics as instead of just managing a database with entities like an employee management system.

We're tracking the popularity of exhibits and animals in a zoo and how the decisions change based on that in a zoo.

7. Other comments, as appropriate, to explain your project.

