**ZOOLOGICAL GARDEN**

**CSE2004 Database Management System**

**Project Report**

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**Project Details**

**Introduction**

The following project is a detailed and sophisticated demonstration of the kind of database one may find being used at zoos around the world. It has been designed to keep track of various information, such as the kinds of animals safeguarded at the zoo, details of all people employed at the zoo, the kind of funding on which the zoo operates, etc.  
The development of this project began on the 4th of January, with the creation of a relevant ER diagram, to help understand the information to be stored, and the relationships between all this information. As our understanding of databases deepened, the ER diagram was modified to better represent the structure of the required database, and improve on its data handling abilities.  
 Following this, we were able to formulate a Relational Model of the ER diagram, and systematically fill data in each table as necessary. It was done with the purpose of determining and finalizing the relationships between each table. It also made it possible to implement a logical structure upon the data, as required by these relationships. This further improved our understanding of the scale of the project.  
 Finally, upon introducing data into the tables, we were able to apply the rules of Normalization in order to reduce data redundancy and improve data integrity. This streamlined data retrieval processes, and has led to a significantly more professional database. Upon normalization, the database will take less time to retrieve data, will be lag friendly, and help us design a friendlier user-interface. The normalized database is free of all insertion, update and delete anomalies, which is an extremely desirable feature, especially for large-scale databases such as this. It also prevents all forms of data duplication, which saves valuable space on servers, permitting the storage of more data.  
 All information made available by the user is stored on a database making use of Oracle SQL, and is presented by making use of a front-end application developed on PHP, which is a general-purpose scripting language. PHP is often embedded in HTML for ease of use, such as in this project. The application is hosted on the computer’s local host, which is set up by means of the XAMPP software.

A navigation bar was created to allow the user smooth and easy access from one page to another. The view page under various categories of the navigation bar lets the user view values from the respective category table/tables of the database based on some or no criteria. Similarly the edit page lets the user insert records he wants into the database, update existing records and delete the records he no longer finds necessary.

**Visit**

In the drop down menu under Visit we have options Information and Visit Profile. Information gives the user details about the various tickets, amenities and attractions in the zoo.

Under Visit Profile there are two options View and Edit. When View is selected ‘vvisitors.php’ is opened. This page has three buttons- Display All Records in the Table, Select Records to be Displayed and Edit, and two input form fields Visit ID and Date.

When display All the Records in the Table is selected all records in the visit table under columns Visit ID, Date, In Time, Out Time, Members and Bill are displayed ordered by the Visit ID.

To display only selected tuples we have two criteria that can be used; based on a given Visit ID or based on a given date. To do so a Visit ID must be typed in the Visit ID box and the Select box must be clicked. The record having the inputted Visit ID is displayed. If search based an date should be done, the date should be selected in the Date box and the select button must be clicked. All visits on or after the selected day is displayed.

The Edit button at the bottom of the page redirects the user to the editing page –‘visitors.php’, where he can insert update and delete records.

In the editing page there are four buttons Insert, Update, Delete and View along with