`VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi – 590018, Karnataka, India

A MINI PROJECT REPORT

ON

"DIGITAL ENCYCLOPEDIA"

A Mini Project Report Submitted in partial fulfillment of the requirement for the degree of

BACHELOR OF ENGINEERING

In

COMPUTER SCIENCE & ENGINEERING

Submitted by

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2019-2020

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

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CERTIFICATE

This is to certify that the Mini Project Report entitled **" DIGITAL ENCYCLOPEDIA"** is a bonafide work carried out by **Mr. Shashank J Naik (1RG17CS047) and Mr. Suhas K Shetty (1RG17CS050)** in partial fulfillment for the award of Bachelor of Engineering in Computer Science Engineering under Visvesvaraya Technological University, Belgavi, during the year 2019-2020. It is certified that all corrections/suggestions given for Internal Assessment have been incorporated in the report. This Mini Project report has been approved as it satisfies the academic requirements in respect of mini project.

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DECLARATION

We hereby declare that the mini project entitled "DIGITAL ENCYCLOPEDIA" **Visvesvaraya Technological University, Belagavi** during the academic year **2019-2020**, is record of an original work done by us under the guidance of **Mrs. Shivaranjini S.S, Assistant Professor, Department of Computer Science and Engineering, Rajiv Gandhi Institute of Technology, Bengaluru** and this mini project is submitted in the partial fulfillment of requirements for the award of the degree of **Bachelor of Engineering in Computer Science & Engineering**. The results embodied in this thesis have not been submitted to any other University or Institute for award of any degree or diploma.

SHASHANK J NAIK (1RG17CS047)

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ACKNOWLEDGEMENT

We take this opportunity to express our sincere gratitude and respect to the **Rajiv Gandhi Institute of Technology, Bengaluru** for providing us an opportunity to carry out our project work.

We express our sincere regards and thanks to **Dr. NAGRAJ A M, Principal, RGIT, Bengaluru** and **Mrs. Arudra A, Associate Professor and Head, Department of Computer Science & Engineering, RGIT, Bengaluru,** for her encouragement and support throughout the Project.

With profound sense of gratitude, we acknowledge the guidance and support extended by **Mrs. Shivaranjini S S, Dubey, Asst. Prof, Department of Computer Science & Engineering, RGIT, Bengaluru.** Her incessant encouragement and valuable technical support have been of immense help in realizing this project. Her guidance gave us the environment to enhance our knowledge, skills and to reach the pinnacle with sheer determination, dedication and hard work.

We also extend our thanks to the entire faculty of the Department of CSE, RGIT, Bengaluru, who have encouraged us throughout the course of Bachelor Degree.

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ABSTRACT

The main objective of this site/application is to provide a conscise encyclopedia of organisms on the web. physical encyclopedias are not accessible to everyone,the are space consuming,costly, and suceptible to physicaal damage. Our Digital Encyclopedia is free to use and an open source project. All the user has to do is type in the name of organism. Searching is a few clicks away ,Hence saving time. As the site is online it saves space and no physical damage can occur. Provides a vast library for the user. The user is proded a brief description about the organism,along with its photos,and the list of breeds. the site also provides a feed back system which enabels the user to interact with the devalopers to make the site better and the content provided on the site much interesting.

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INTRODUCTION

Chapter 1

INTRODUCTION

The detailed description of the proposed project and developed application is as follows:

1.1 Project Overview

This is a computer based Digital Encyclopedia, which helps the user to search and find information about the animal or organism searched. The website also provides the list of organisms in its database which acts as an index.

1.2 Project Description

The proposed system ensures that the user has a seamless and fast communication with the site to get the required information, the user just has to type in the organism's name to find its description. The main objective of this application is that it works on the concept of TCP client/server communication which provides an user friendly environment, a trustworthy system for the storage of data. TCP is incharge of setting up a reliable connection between two machines and HTTP uses this connection to transfer data between server and client. MY-SQL seeks to avoid redundant data entry using the framework of a modular design to cater the specific needs. The application aims at ensuring a user friendly design with the goal to facilitate system wide integration to increase efficiency and ensuring uniform services. The application for the storage of the data has been planned. Using the constructs of MY-SQL Server and all the user interfaces have been designed using the technologies. The database connectivity is planned using the "SQL Connection" methodology. The standards of security and data protective mechanism have been given a big choice for proper usage.

The entire project has been developed keeping in view of the distributed client server computing technology, in mind. The specification has been normalized up to 3NF to eliminate all the anomalies that may arise due to the database transaction that are executed by the general users and the organizational administration. The user interfaces are browser specific to give distributed accessibility for the overall system and different device users.

The basic constructs of table spaces, clusters and indexes have been exploited to provide higher consistency and reliability for the data storage. The MY-SQL server was a choice as it provides the constructs of high-level reliability and security. The total front end was dominated using HTML & CSS to make the site more user appealing and PHP is used to make the site dynamic.

At all proper levels high care was taken to check that the system manages the data consistency with proper validations. The database connectivity was planned using the latest "SQL Connection" technology.

1.3 Scope of The Project

As for the scope, the project will be tested as the program is being developed. , a menu will be developed and tested, a client/server interface will be developed and tested, GUI's will be developed and tested, for the user's benefits. When the application is near completion, more testing will be done in order to make it less buggy and more user friendly. Since the application is written in PHP and HTML it is easier to debug,the final output is always displayed on the browser. It is very easy to deploy the project as it is a web based project.The data is stored in MY-SQL server and can be accessed through the website only(for users). The images and information about organisms are stored in a separate folder on the server using conventional file system database

1.4 Aim of The Project

The main aim of our project is that to provide a conscise encyclopedia for organisms on earth. Made for people who want to know more about the life around them. It gives brief information on the searched organism. With images of the specie. Has a vast library of species for you to navigate to your favorite organism. The website is very simple all the user has to do is enter the name of the desired organism he/she wants to search.

REQUIREMENT SPECIFICATION

Chapter 2

REQUIREMENT SPECIFICATION

2.1 Details of Software and Languages

2.1.1 Introduction to MySQL

MySQL is a fast, easy-to-use RDBMS being used for many small and big businesses. MySQL is developed, marketed and supported by MySQL AB, which is a Swedish company. MySQL basically has the following features:

- MySQL is released under an open-source license. So you have nothing to pay to use it.
- MySQL is a very powerful program in its own right. It handles a large subset of the functionality of the most expensive and powerful database packages.
- MySQL uses a standard form of the well-known SQL data language.
- MySQL works on many operating systems and with many languages including PHP, PERL, C, C++, JAVA, etc.
- MySQL works very quickly and works well even with large data sets.
- MySQL is very friendly to PHP, the most appreciated language for web development.
- MySQL supports large databases, up to 50 million rows or more in a table. The default file size limit for a table is 4GB, but you can increase this (if your operating system can handle it) to a theoretical limit of 8 million terabytes (TB).
- MySQL is customizable. The open-source GPL license allows programmers to modify the MySQL software to fit their own specific environments.

2.1.2 Introduction to SublimeText 3

Sublime Text Editor is a full featured Text editor for editing local files or a code base. It includes various features for editing code base which helps developers to keep track of changes. Various features that are supported by Sublime are as follows −

- Syntax Highlight
- Auto Indentation
- Plug-in and Packages

Sublime Text editor is used as an Integrated Development Editor (IDE) like Visual Studio code and NetBeans. The current version of Sublime Text editor is 3.0 and is compatible with various operating systems like Windows, Linux and MacOS.

2.1.3 Introduction to PHP

PHP is a server-side scripting language designed primarily for web development but also used as a general-purpose programming language. PHP originally stood for Personal Home Page, but it now stands for the recursive acronym PHP: Hypertext Preprocessor. It is integrated with a number of popular databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server. PHP is pleasingly zippy in its execution, especially when compiled as an Apache module on the UNIX side. The MySQL server, once started, executes even very complex queries with huge result sets in record-setting time.

2.1.4 Introduction to XAMPP

XAMPP is an Open Source web server with all the tools and language support built-in to it. It's ready to use and makes it easier for developers to take their code and host it locally and test the same. XAMPP stands for Cross-Platform (X), Apache (A), MariaDB (M), PHP (P) and Perl (P). It is a simple, lightweight Apache distribution that makes it extremely easy for developers to create a local web server for testing purposes

Everything needed to set up a web server application (Apache), database (MariaDB), and scripting language (PHP) – is included in an extractable file. XAMPP is also cross-platform, which means it works equally well on Linux, Mac and Windows. In XAMPP – Apache is a Server application, MySQL is Database, and PHP is Server Side Scripting Language and all these are included as an extractable/executable file.

2.2 System Requirements

2.2.1 User Requirements

- Easy to understand and should be simple.
- The built in functions should be utilized to the maximum extent.
- Database applications should be used.

2.2.2 Software Requirements:

- OS : Windows10 OS
- Frontend : Core PHP,HTML,CSS(styling)
- Data Base Server : MySQL
- IDE : SublimeText 3.0

2.2.3 Hardware Requirements:

- A visual display such as a monitor
- Input devices such as Keyboard and Mouse
- APUs or Intel Core Processor having a clock speed of at least 2.0 GHz
- At least 100 MB of additional free memory or RAM
- At least 80 GB Hard Disk Drive

SYSTEM DESIGN

CHAPTER 3

SYSTEM DESIGN

3.1 Schema Diagram

A database schema is the skeleton that represents the logical view of the entire database. It defines how the data is organized and how the relation among them are associated. It formulates all the constraints that are to be applied on the data. A database schema defines its entities and relationship among them. It contains a descriptive detail of the database, which can be depicted by means of schema diagrams. It's the database designer who design the schema to help the programmer understand the database and make it useful.

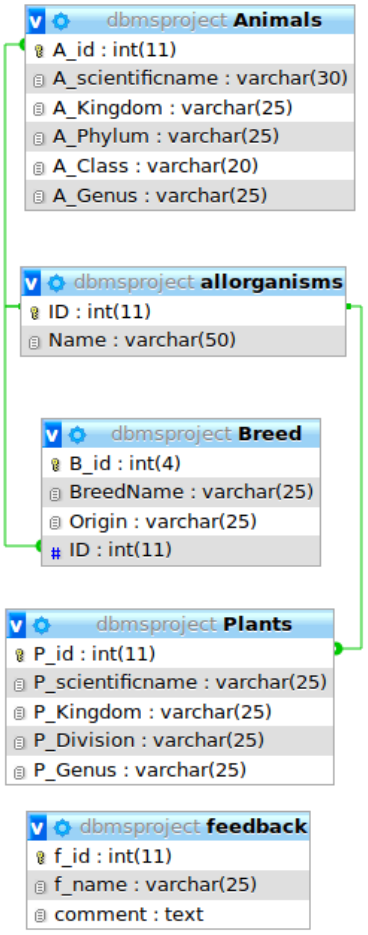

Figure 3.1 : Schema diagram of Digital Encyclopedia

3.2 Tables

3.2.1 : Allorganisms Table

Name	Null?	Type
ID	NOT NULL AUTO_INCREMENT	Int(11)
Name		Varchar(50)

3.2.2 : Animal Table

Name	Null?	Type
A_id	NOT NULL	Int(11)
A_scientificname		Varchar(30)
A_Kingdom		Varchar(25)
A_Phylum		Varchar(25)
A_Class		Varchar(20)
A_Genus		Varchar(25)

3.2.3 : Breed Table

Name	Null?	Type
B_id	NOT NULL AUTO_INCREMENT	Int(4)
BreedName		Varchar(25)
Origin		Varchar(25)
ID		Int(11)

3.2.4 : Plants Table

Name	Null?	Type
A_id	NOT NULL	Int(11)
A_scientificname		Varchar(30)
A_Kingdom		Varchar(25)
A_Division		Varchar(25)
A_Class		Varchar(20)
A_Genus		Varchar(25)

3.2.5 : Plants Table

Name	Null?	Type
f_if	NOT NULL AUTO_INCREMENT	Int(11)
f_name		Varchar(25)
comment		Text

3.3 ER Diagram

ER diagram shows the diagrammatic representation of entities and attributes with primary key and shows the association and the participation to their entity.

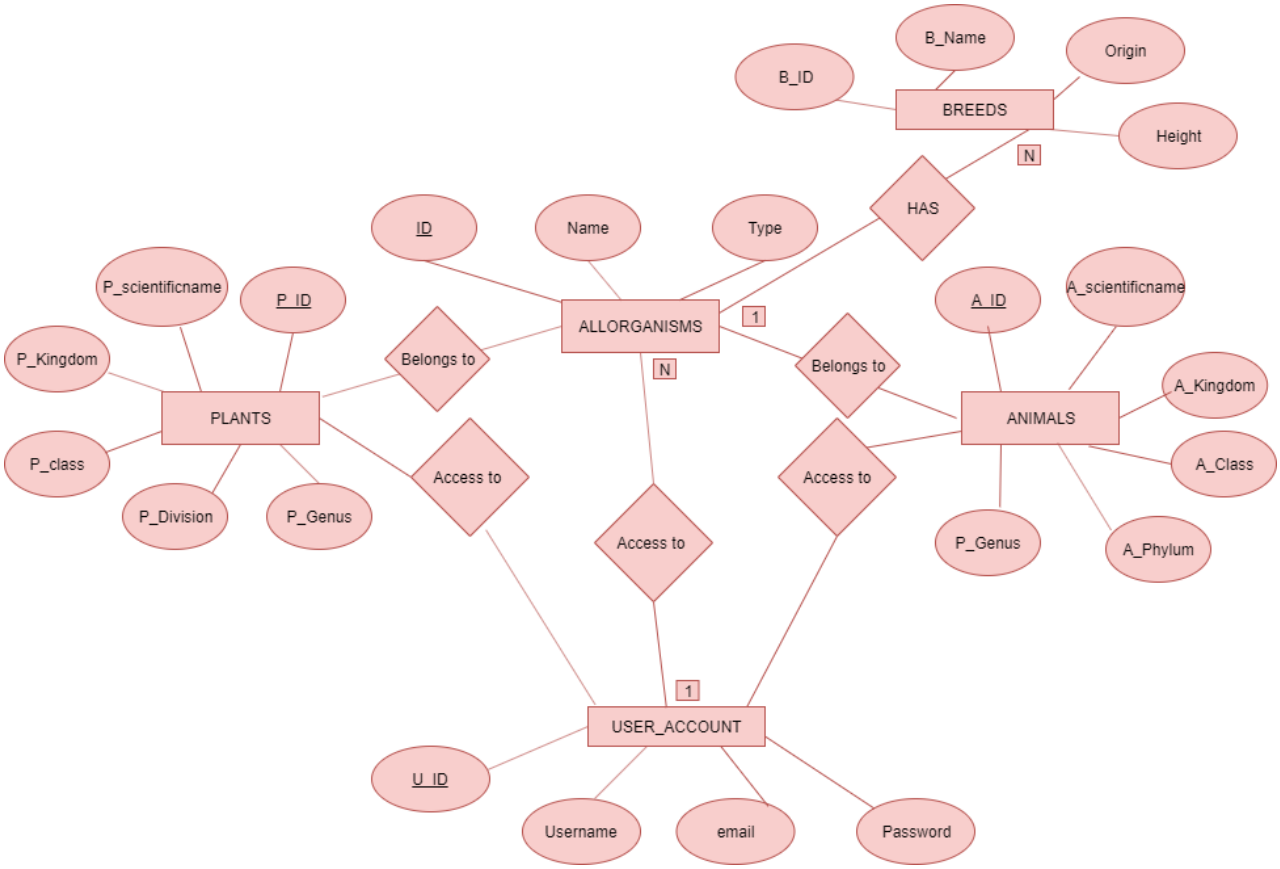

Figure 3.2: Entity Relationship diagram of Digital Encyclopedia

SYSTEM IMPLEMENTATION

CHAPTER 4

SYSTEM IMPLEMENTATION

4.1 Encyclopedia's search page

```
btnSignin.addMouseListener(new MouseAdapter() {
<?php
                session_start();
                require("DbConnect.php");
                $db = new DbConnect;
                $conn = $db->connect();
                if (isset($_POST["submit"])) {
                        $str=$_POST["search"];
                        $_SESSION['BreedName'] = $str;
                }
                $sql = "SELECT
                                        a.Name ,
                                        b.A_scientificname,
                                        b.A_Kingdom,
                                        b.A_Phylum,
                                        b.A_Class,
                                        b.A_Genus
                                FROM `allorganisms` as a
                                INNER JOIN Animals AS b ON(a.ID = b.A_id)
                                WHERE Name='$str'";
                $stmt = $conn->prepare($sql);
                $stmt->execute();
                $allorganisms = $stmt->fetchAll(PDO::FETCH_ASSOC);
                //print_r($allorganisms);

        ?>
```

4.1 Code to display searched item

```
<tbody>
<?php
        foreach ($allorganisms as $organisms) {
                echo "<tr>
                        <td>".$organisms['Name']."</td>
                        <td>".$organisms['A_scientificname']."</td>
                        <td>".$organisms['A_Kingdom']."</td>
                        <td>".$organisms['A_Phylum']."</td>
                        <td>".$organisms['A_Class']."</td>
                        <td>".$organisms['A_Genus']."</td>
                        </tr>";
                        }
        ?>
</tbody>
```

4.2 Code to display information and image of searched item

```
<?php
    $filename = "Description/$str.txt";
    $file = fopen($filename, "r");
    if ($file == false) {
    echo "error in opening file";
    exit();
    }
    $size = filesize($filename);
    $text = fread($file, $size);
    ?>
    <div class="row">
        <div class="col-md-12">
            <div class="jumbotron">

                <img src="Images/<?php echo $str ?>.jpeg"> <!-- for image display within jumbotron -->

                <h1 class="display-4"> DESCRIPTION</h1>
                <hr class="my-4">
                <?
                echo "<pre>$text</pre>"
                ?>
            </div>
        </div>
    </div>
```

4.3 Code for SQL-database connection

```
<?php
class DbConnect {
    private $host = 'localhost';
    private $dbName = 'dbmsproject';
    private $user = 'root';
    private $pass = '';
    public function connect() {
            try{
                    $conn= new PDO('mysql:host='. $this->host .'; dbname=' . $this-
>dbName,$this->user,$this->pass);
                    $conn->setAttribute(PDO::ATTR_ERRMODE,
PDO::ERRMODE_EXCEPTION);
                    return $conn;
            }catch( PDOException $e){
                    echo 'Database Error:' . $e->getMessage();
            }
    }
}
 ?>";
```

4.4 Breeds page

```
<?php
session_start();
                require("DbConnect.php");
                $db = new DbConnect;
                $conn = $db->connect();
$b_name=$_SESSION['BreedName'];
echo "$b_name";
$sql = "SELECT
                                *
                                FROM `allorganisms` as a
                                INNER JOIN Breed AS b ON(a.ID = b.ID)
                                WHERE Name = '$b_name' ";
$stmt = $conn->prepare($sql);
$stmt->execute();
$allorganisms = $stmt->fetchAll(PDO::FETCH_ASSOC);
 ?>

<table>
    <thead>
    <tr>
                <th>BREED</th>
                <th>ORIGIN</th>
    </tr>
    </thead>
    <tbody>
```

```
<?php
        foreach ($allorganisms as $breeds) {
            echo "<tr>
                <td>".$breeds['BreedName']."</td>
                <td>".$breeds['Origin']."</td>
                </tr>";
        }
    ?>
    </tbody>
</table>
```

4.5 feedback on site

```
<?php
    $name = $_POST['name'];
    $comment = $_POST['comment'];
    $submit = $_POST['submit'];

    require("DbConnect.php");
    $db = new DbConnect;
    $conn = $db->connect();

    if ($submit) {
        if ($name&&$comment) {
            $sql = "INSERT INTO `feedback` (f_name,comment) VALUES
('$name','$comment')";

        }
        else{
            echo "please fill the fields";
        }
    }
    $stmt = $conn->prepare($sql);
    $stmt->execute();
?>
```

4.10 Trigger Code

```
DELIMETER $$
CREATE TRIGGER my_trigger BEFORE INSERT
        ON  `feedback`
        FOR EACH ROW BEGIN
        INSERT INTO `trigger_test` VALUES("Added a new feedback");
        END$$
DELIMITER ;
```

4.11 Stored Procedure

SCREENSHOTS

CHAPTER 5

SCREENSHOTS

5.1 Encyclopedia Search Page

User searches for the organism through the search bar, the search takes the text and processes in the query, if the animal is present in database it's details are printed on the screen along with a picture of it, and a link to breeds.

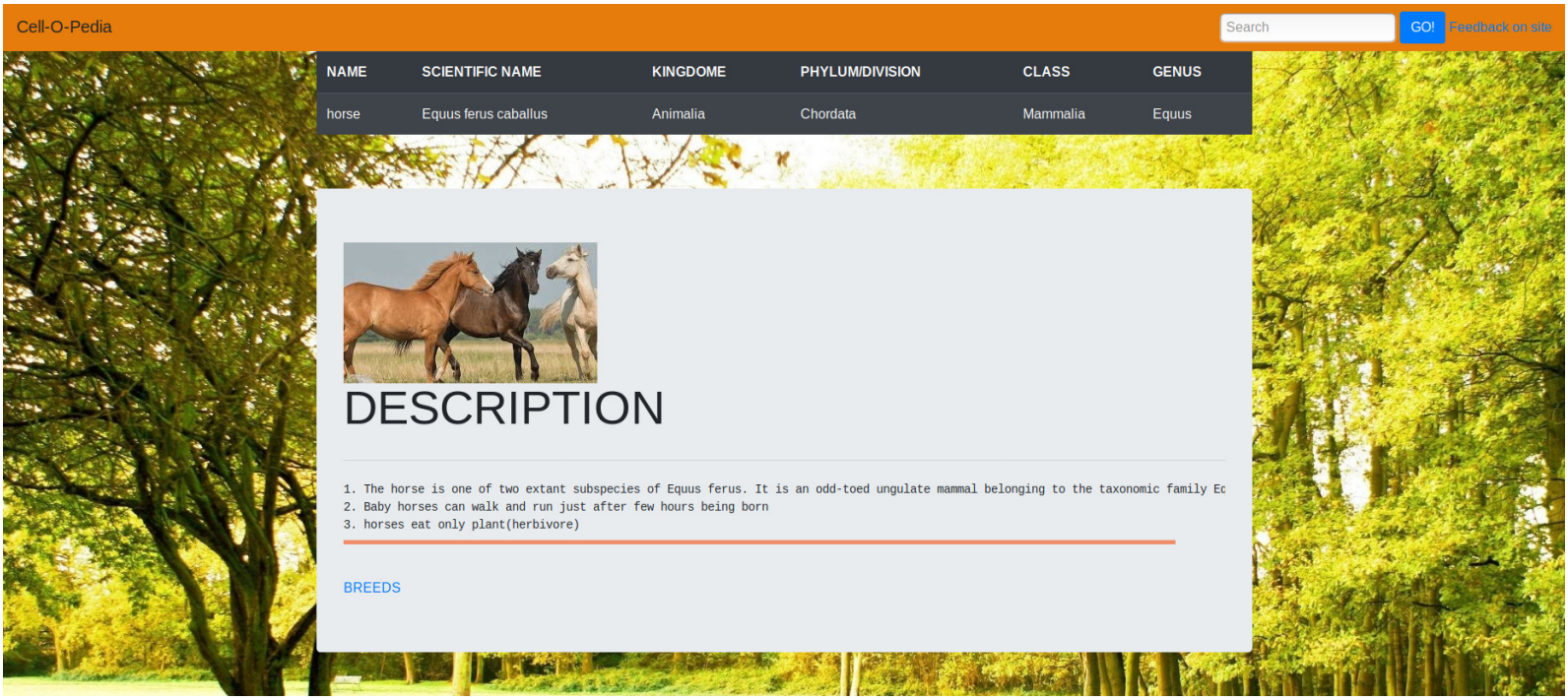

Figure 5.1 : Screenshot of the Search Page

5.2 Breeds Page

On clicking of the breeds link under the description ,the breeds of animals are diaplayed on aa separate tab/page..The breed page provides name of breed and its origin.

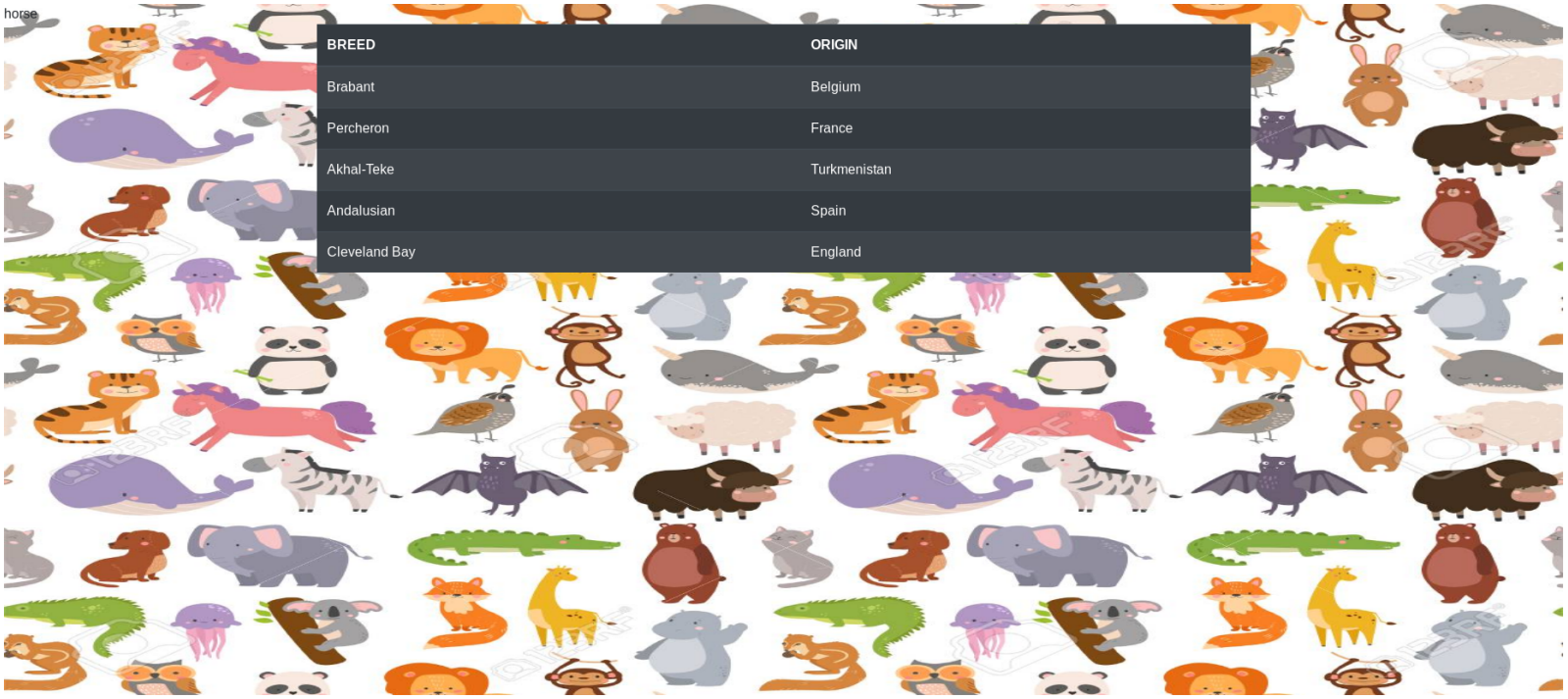

Figure 5.2 : Screenshot of Breeds Page

5.3 Feedback Page

The link to the feedback page is at the top right corner of the main search page. The feedback system allows the users to write about their opinion on the site and the content presented on it. Feedback from users help the developer to make changes to thesite ,to find bugs and etc.,

Figure 5.3: Screenshots of Feedback Page

5.4 View of Database on phpMyAdmin

The phpMyAdmin provides a graphical interface with sql console to create the Database required. the sql server runs on phpMyAdmin, which can be accessed thorugh typing “localhost/” in any browser.

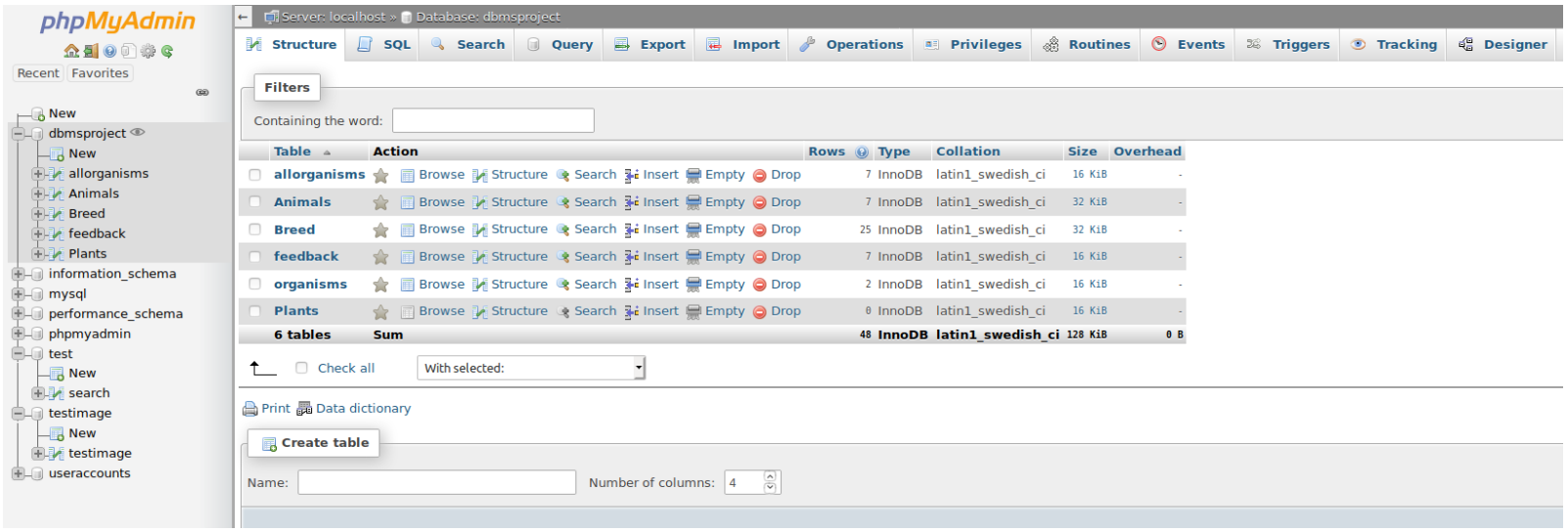

Figure 5.4 : Screenshot of Database on phpMyAdmin(sql)

CONCLUSION

CHAPTER 6

CONCLUSION

This website as a whole makes sure that the users have a flawless experiencec in searching and getting the data required. to minimise the user's trouble he/she has to enter the name of organism that's all.the site provides a clear view of content searched. the website also provides additional information,and about breeds,pictur of searched organism etc. the website does not sell ads or maintain cookies or any kind of user data.The data is stored in MYSQL.The SQL database is stored in a server likewise the sourcecode. The major focus is on how the data stored in the database is accessed and presented to the user in a friendly, brief descriptive way so that anyone and everyone can understand.

6.1 FUTURE ENHANCEMENT:

It can be extended as web application We can provides the user with a good and efficient UI. Increase the size of database meaning more content.Diversifying the database from organisms to other fields technology,history,etc.. also. to give access to users to add and modify data shown on webpage. Adding video play back system

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Hill, 2013.

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2. https://www.oracle.com
3. https://github.com
4. http://www.w3schools.com
5. youtube
6. Bootstrap Documentation

Full Source code at github(DarkSchokolade)

https://github.com/DarkSchokolade/DBMSproject.git