Computerised Pet Health Management System For Pet Health Monitoring And Mortality Rate Control Among The Pets

May - Aug 2021 BOBIT/NRB/8784/18

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1 Introduction

1.1 Background

Animal health, animal welfare and food safety have been recognized worldwide as a major issues that helps to protect the health of consumers but that also may create international trade barriers for live animals, products of animal origin, animal genetic material and biological products. Prominent examples of animal health and food safety issues that have emerged over the last decade include epizooties of Foot and Mouth disease, Classical Swine Fever, Blue-tongue Highly Pathogenic Avian Influenza Bovine spongiform encephalopathy,genetically modified foods, dioxins and acrylamide [1]. Human beings are feeling inadequate and are constantly set apart by a rapidly changing world. This is evidenced by their preoccupation with ani- mals, their importance's and as well as the preferences for certain species [2]. Due to this impending and unavoidable growth and relationship between the pet population and their involvement in today's daily family life, it is necessary to have an integrated, easy to use, user friendly system that will have pet information before domestication and as well their schedule ser- vices. Through such system, we can gain a lot of insight so as to effectively understand the life cycle, History, character and even the role played by pets in a modern society. In the face of this complexity of the pet health management, the application of up-to-date information technologies (IT) and information systems (IS) are becoming more and more crucial.The application of hazard-focused early warning IS with comprehensive databases, identification and reporting of diseases, use of predictive modelling software, laboratory information systems, risk assessment and decision trees, application of quantitative epidemiology, geographic information system (GIS), largely facilitates animal health and veterinary public health control and management of the risk caused by the appearance of diseases, infection or contamination In the past years, IT has revolutionised the conduct of surveillance for animal diseases in order to detect and identify specific hazards. This has ranged from widespread use of free software for collection of epidemiological data, to web-based systems for surveillance of infections and outbreaks constructed by countries, international organizations or states unions [3].

1.2 Problem Statement

Pet Management firms are continuously facing great challenges arising from using the manual system. Most of the challenges include inconsistency in data entry and keying of information, Reduction in sharing information and customer services and time consuming for both inputting and retrieving information. This firms are continuously searching for better and new deployments to their information technology architecture and therefore, there is need for a robust, responsive and client-oriented system architecture in their information technology architecture. The project should be able record pet information, sellerbuyer information, key organization business processes and the metadata generated, as well store information on employees' inventory. This will solve the current challenge of lack of a robust system for storage of data, as well as templates for data entry, and reporting services that will produce properly formatted data that serves both clients and employees alike. Many pet firms and shops have previously tried to use management sys- tem and software's but the disadvantages often outweigh the advantages, this has slowed the process of pet acquisition, sell and even general inventory [3].Therefore, there is a need for an easy-to-use, low-cost/free, open-source database system for operational data storage, as well as a reliable website- hosting system. There is also need for a well-designed, modern responsive website that allows for easier client interaction, staff log in/signup, as well as a portal for staff to quickly execute queries on pet's availability and client records.

1.2.1 Specific Objectives

The project underwent a step by step phase into achieving the above mentioned objectives.This steps includes:

1. Data collection that was used for the pet management system implementation.

2. Then second step focussed on development of the project

3. Then the project testing was carried out

1.3 Justification

This project is aimed at eradicating the manual system for most pet firms. This enabled better analysis for the reports generated and hence decision making by the management. The web interface both for Desktop and mobile will allow customers query and get informed on the status and profile of available pets, previous history, schedule vaccination and any information regarding their pet. Automated management systems give room for data storage for a long period and thus easy follow up and references [4] The system is developed with the aim to help pet entrepreneurs and pet enthusiast to easily access information concerning individual pet.

1.4 Scope

This study will major in the development of pet management system for general pet firms in the Country and beyond. The main goal is to automate the manual system and processes in order to ensure that there is an application prototype for users and a customer queries and search .The application will enable users at these firms to do routine data entry and report analysis to the management for example; Pet records and booking admissions into the pet shop as well give an opportunity to the customer to search for their pet's status and profile on their mobile phones.

1.5 Limitations

The major limitations in the development and deployment of the pet management system project will include;

1. Kenyans adjusting to an automated pet management system
2. Challenges in user training

2 LITERATURE REVIEW

2.1 Theoretical Review

Arising from the inherent problems that Kenyans are experiencing in their day to day operations, there is a high need to develop a pet management system for them which can also be used by other veterinary organizations undertaking similar operations[5].According to [9], pet refers to an animal which is kept at home for pleasure and companionship rather than for food or working purpose. Pets could be adopted from animal protection organizations or could be sold at pet shops, breeders as well as farms. The popular species of pets are dogs, cats, fishes that are kept indoor aquaria, birds, rabbits, hamsters and guinea pigs.Those are common domestic pets that households keeping globally. Besides, some people would choose exotic pets, such as snakes, reptiles, Invertebrates, etc. In details, there is a list of usual pets which covers both common and exotic pets. For pet service, veterinary service is the core pet service among years; while pet grooming and training are wanted by the pet owners who are willing to spend more money on their pets in recent years. Veterinary plays an important role in pet healthcare. Pets are brought to veterinary clinics for medical checking or treatment, get pets vaccinated and microchipped, surgery, etc. Pet rearing is an integral part of socio-economic framework of Kenya since time immemorial. Livestock sub-sector being a vital component of agricul- ture sector, plays a multidimensional role and acts as a tool in achieving nu- tritional security, employment generation and socio-economic development of rural sector, particularly among the landless, small, marginal farmers and women. Kenya possesses huge livestock population of varying production potentials, distributed across different ago-ecological zones under different operational and livestock holding size. Hence, it requires different package of practices for their management. Further, factors like drivers of development change and climate change pose many challenges to this sector. Farm animal management encompasses integrated and precise application of basic scientific principles of breeding, feeding, heeding and weeding in general as well as in times of specific need.Although pet population management programs have been established worldwide, few reports on program evaluation have been carried out to date, over the years, researchers have attempted to enhance pet management by coming up with pet management systems that can help pet owners to overcome challenges like;drooling, pet damage on furniture, pet theft. Klinik Veterinar [7] came up with a pet management system is able to manage the pet information such to produce the pet birth certificate and the pet vaccine schedule.

2.2 Similar Project

The following projects have been proposed and developed by various persons over the years in regards enhanced pet management ways.

2.2.1 Pet Management and Tracking system

This project by Webline-Global, its whole purpose of the application was to provide the information about the pets to the user. The application provides the details of the user's pets, pet's reminder, and also about the Allergy, medication detail, health care information, vet information. It also provides the details about the pet care products of the Pet Management and Tracking store and with nearby searching feature with use of pet's collar electronics unit. It offers features like;End user management, Pets management – Pet's – Vet, Allergies, Medications, Reminders management , pet search – List pets with collar, search history, Pet care products management, Nearby – Pet store, Dog Park, Pet Hospital, Hotel Display weather detail and Use of MVC Architecture, offline mode support and 2 way data synchronization, Rest web service API integration[6].

Figure 1: Pet Management And Tracking system by Webline-Global.

2.3 Pet Shop Management System for Klinik Veterinar and Surgeri Jawhari

Pet Shop Management System (PSMS) for Klinik Veterinar and Surgeri Jawhari is a pet management system able to manage the pet information such to pro- duce the pet birth certificate and the pet vaccine schedule. In addition, that this system provides automatically calculation service payment and gener ates the payment receipt. By developing this system, the management of pet shop performs in systematic through its function requirements. The users of PSMS are the manager and the staff of the Klinik Veterinar and Surgeri Jawhari. This system was developed using Visual

Basic language (VB) lan- guage and Microsoft Access as the database platform[7].

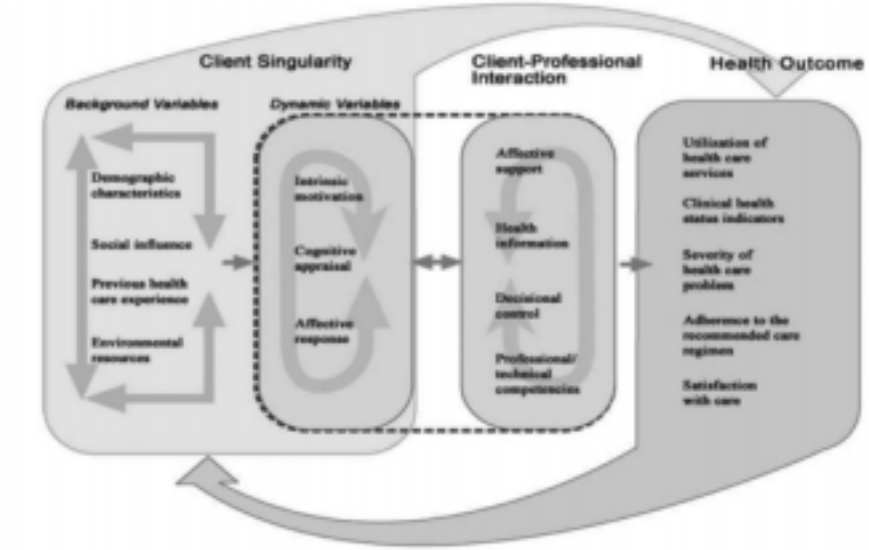

Figure 2: Pet shop Management System for Klinik Veterinar.

2.4 pet Ichip management system

The pet Ichip management system, showcases a minimali-stic, lean but a very engaging design and features specifics to a client requirements. The online system showcases an efficient registration of clients for its pet and animal identification system. It also features a basic to advanced search, management and retrieval of information both for user clients and system administrators and maintainers.PET iCHIP is a small electronic identification system designed to permanently identify or "tag" your pets. The microchip utilizes the RFID (radio frequency identification device) technology that reads the ID number through radio frequency[8].

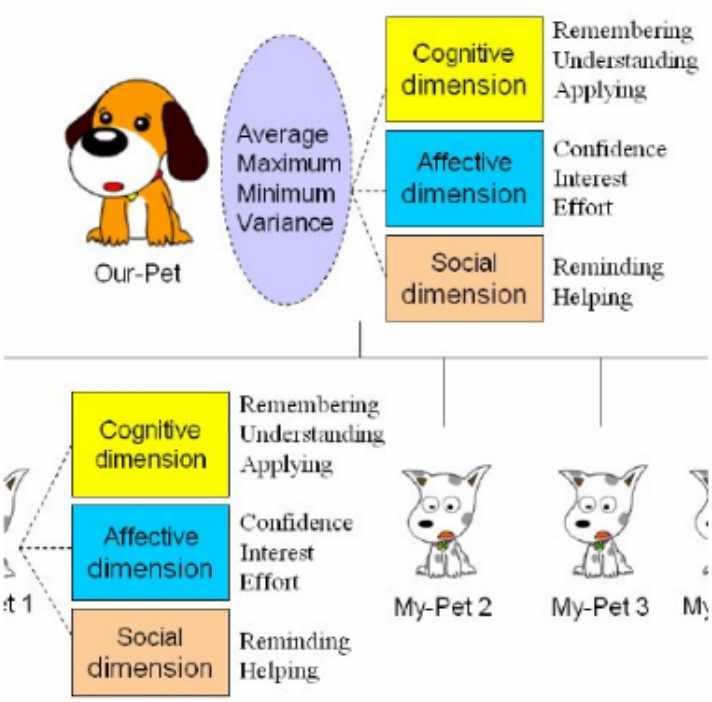

Figure 3: Pet iChip Animal ID Management System with BIO-THERMO microchip.

2.5 Conceptual Framework

The attached diagram below will be the main guide in the implementation of the pet management system.The project will do a data collection, analyze It and implement a pet management system that will bring in better pet management in terms of monitoring it, having updated pet health records and also a system able to give alerts of the next veterinary checks. The project will be able to also send notifications on the pet locations which will help on pet safety and controlling on possible damages caused by pets.

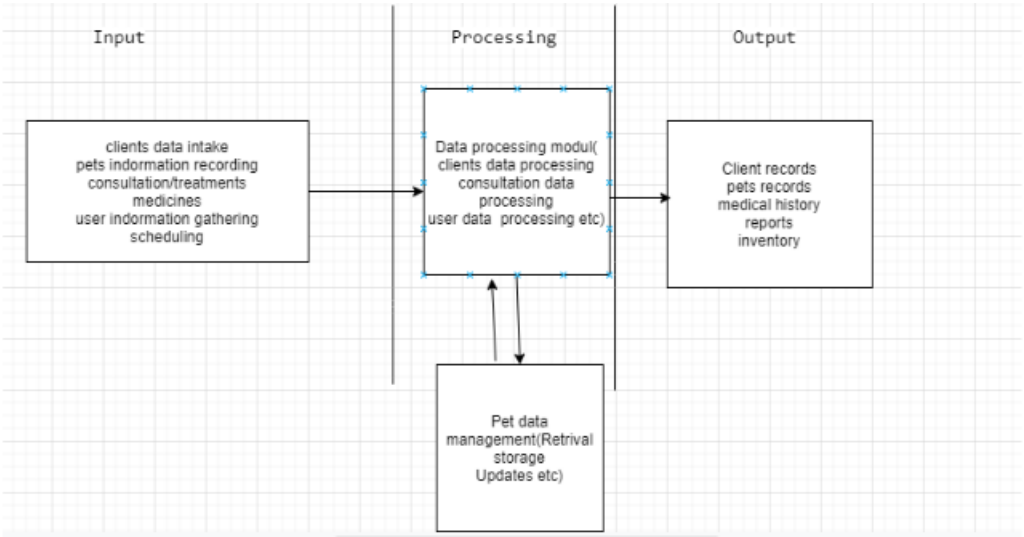

Figure 4: Conceptual Framework

3 METHODOLOGY

3.1 Data Source

The project will use data from different data sources. This will entail data from primary and secondary sources.The secondary sources of data will include journals on pet health management systems, pet health management related conferences and online books. The primary sources of data will include interviews and observations on how Kenyans manage their pets health.

3.2 Collection Tools

The project gathered data through the use of various collection tools that included;

3.2.1 Interviews

The project collected primary through the use interviews with a major target on pet owners mostly the youth between eighteen to thirty five years of age due to their love for pets.The following questions were some of the questions asked;

1. Type of pet
2. Age,
3. LocationCounty
4. How do you managemonitor your pet health.
5. Do you have a smart device?

3.2.2 Questionnaires

The project will also use questionnaires to gather information. The questionnaires will be sent out to pet owners online and also given to pet owners seen walking their pet around the estates.The type of data that will be collected from the stakeholders like the type of the pet, age, if one has a smart device, how they have managed their pet health over the years and also indicate the pets gender.

3.3 Architectural Framework

The database management system will be responsible for data storage,data retrieval, update and visualisation of all types of information required.The database system of will comprise of all the soft-wares required to create, access and update the data base,the database is going to have the following data:pet health details,pet age, genre, locations and any other pet details. The user interface system will give the system users a dashboard where they get to interact with the pet management system. The users will be able to key in pet related details and get feedback from the output system dashboard. This system will require a smart device screen for it to be fully functional. The output system, will give feedback to the users on a smart device screen. This feedback will be as a result of data key-ed in from the user interface system, queried in the database and the result displayed at the output system dashboard.

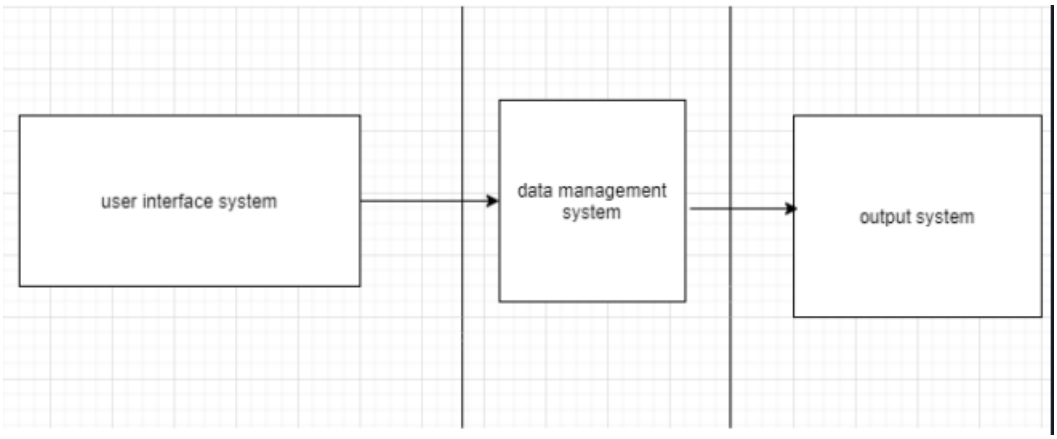

Figure 5: System design

3.4 Relationship Between System Design and Concep- tual Framework

The relationship between the System design and the conceptual framework is that, the end-users will interact with system smart screen or a smart device where they will key in pet health related details.The data processing will be carried out in the database and the feedback will be displayed on a smart screen on the output dashboard.Pet health management alerts will be displayed on the output dashboard.

3.5 Project Implementation

In the implementation of the project design the project will use various languages and tools which are as follows;

3.5.1 User Interface

In implementation of user interface system, the project will various languages to successfully implement the project. It will apply HTML + CSS and javascript on a JavaScript editor like scite or notepadd++.

3.5.2 Data Management

The data management system will be implemented using PHP programming language and XAMPP software package.Xampp is a free and open-source cross-platform web server solution stack package developed by Apache Friends,[3] consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages while PHP is a general-purpose scripting language especially suited to web development.

3.5.3 System Database

The system database will be implemented using Structured Query Language which is a relational database management system that will help in storing,retrieving and updating data in the project.

3.6 Testing

3.6.1 User Interface Testing

The embedded table below shows the sample data in the user interface.The user will be required to enter their details such as the nameemail and a password, then they can enter their pet details like; name, age, gender and any other pet related details.The system will take in names as strings and a password as a string as well. In case the user enters different type of data, they will encounter a fail.

Table 1: user interface test

test	action	input	actual result	status
User login	pass string name, password	string name ,password	access granted	pass
user login	pass string name ,password	int name,password	access denied	fail

Figure 6: User Interface Test

3.6.2 Data Management Test

The Data management system will be linked to the system for better data collection, storage, retrieval, update and for data integrity purposes.For data collection and storage in the system for instance the pet details like name, age and gender, the age will be a string, age will be int while the gender will be Boolean.In case a user keys in a different data type, he/she will get a fail error.

Table 2: data management test

test	action	input	actual result	status
name	pass string name	string name	access granted	pass
name	pass string name	int name	access denied	fail

Figure 7: Data management test

3.6.3 System Database Test

The system database will involve creation of various tables in the project for instance, when creating user table the attribute age should be a char(2) which we be passed to the user table which will be created successfully but if a string age is passed the table will not be created as shown in the table below;

Table 3: system database test

test	action	input	actual result	status
create table	pass char(2) age	char(2) age	table created	pass
create table	pass char(2) age	string age	table failed	fail

Figure 8: System database

4 CODE LISTING

4.1 Introduction

This chapter deals with listing of code that is implementing each and every functionality in the system.

4.2 Login Pages

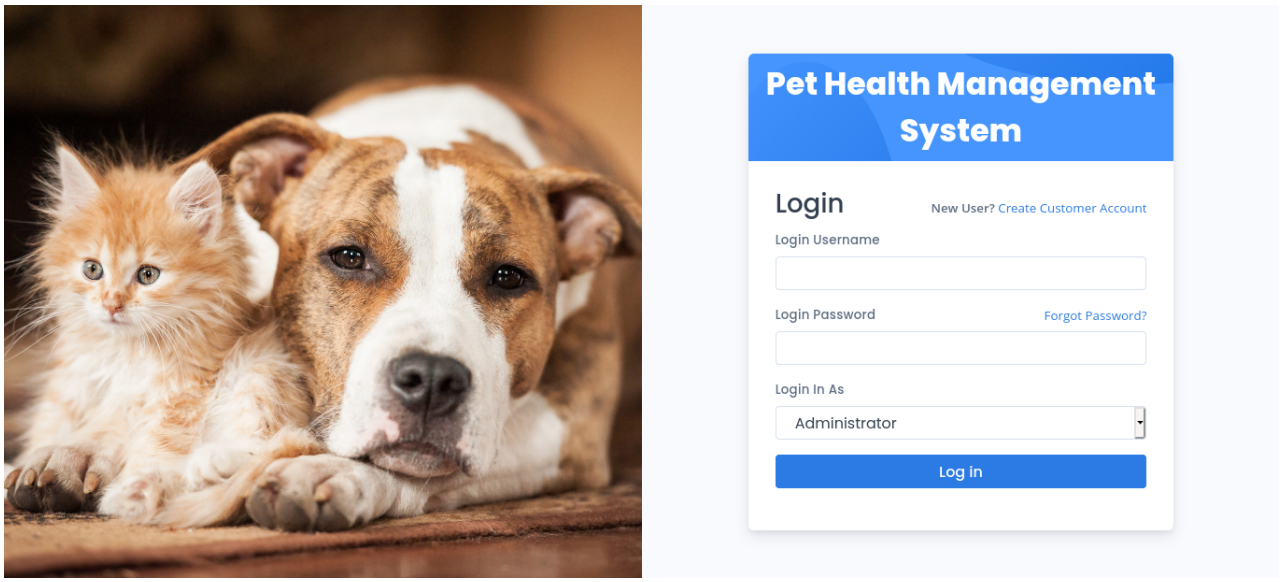

Figure 9: Login Page Screenshot

4.2.1 Login Page Source Code

```
session_start();
require_once('../config/config.php');
/* Login */
if (isset($_POST['login'])) {
    $login_username = trim($_POST['login_username']);
    $login_password = sha1(md5($_POST['login_password']));
    $login_rank  = $_POST['login_rank'];
    $stmt = $mysqli->prepare("SELECT login_username, login_password, login_
    FROM login WHERE login_username =? AND login_password =? AND login_ra
    $stmt->bind_param('sss', $login_username, $login_password, $login_rank
    $stmt->execute();
    $stmt->bind_result($login_username, $login_password, $login_rank, $logi
    $rs = $stmt->fetch();

    //Persist User Sessions
```

```
        $_SESSION['login_admin_id'] = $login_admin_id;
        $_SESSION['login_customer_id'] = $login_customer_id;
        $_SESSION['login_specialist_id'] = $login_specialist_id;
        $_SESSION['login_rank'] = $login_rank;

        if ($rs && $login_rank == 'Administrator') {
            header("location:admin_dashboard");
        } else if ($rs && $login_rank == 'Specialist') {
            header("location:specialist_dashboard");
        } else if ($rs && $login_rank == 'Customer') {
            header("location:customer_dashboard");
        } else {
            $err = "Incorrect Login Username, Login Rank Or Password";
        }
}
```

4.3 Dashboard

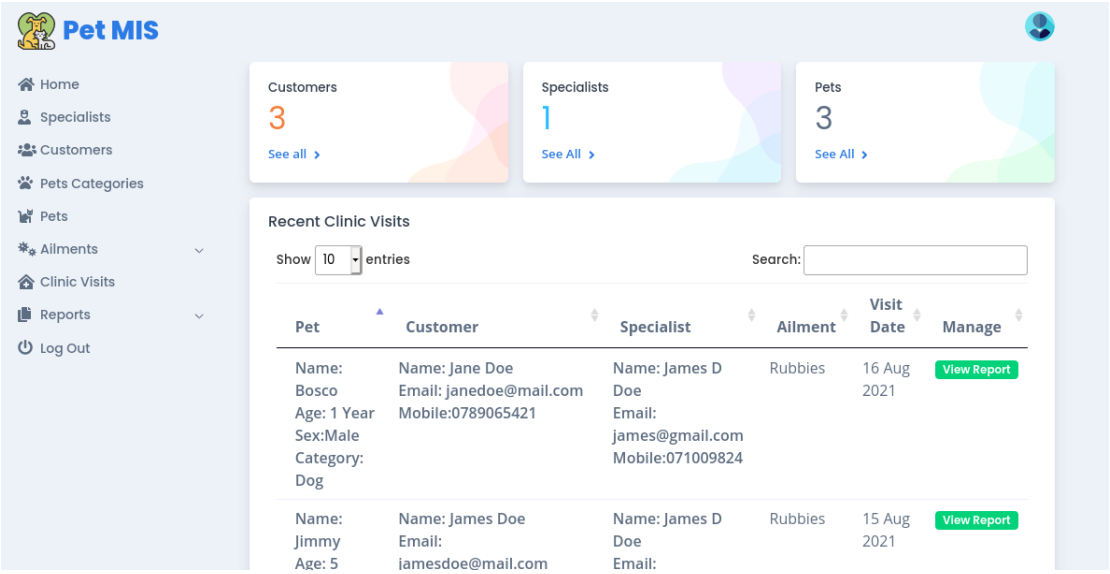

Figure 10: Dashboard

4.3.1 Dashboard Page Source Code

```
<?php

session_start();
require_once('../config/checklogin.php');
require_once('../config/config.php');
require_once('../partials/admin_analytics.php');
admin();
```

```
require_once('../partials/head.php');
?>

<body>
    <!-- ============================================================== -->
    <!--     Main Content -->
    <!-- ============================================================== -->
    <main class="main" id="top">

        <div class="container" data-layout="container">
            <!-- Top Bar -->
            <?php require_once('../partials/topbar.php'); ?>

            <!-- Sidebar -->
            <?php require_once('../partials/sidebar.php'); ?>

            <div class="content">
                <!-- Navigation -->
                <?php require_once('../partials/top_nav.php'); ?>


                <div class="card-deck">
                    <div class="card mb-3 overflow-hidden" style="min-widt
                        <div class="bg-holder bg-card" style="background-i
                        <!--/.bg-holder-->
                        <div class="card-body position-relative">
                            <h6>Customers</h6>
                            <div class="display-4 fs-4 mb-2 font-weight-no
                                <?php echo $customers; ?>
                            </div>
                            <a class="font-weight-semi-bold fs--1 text-now
                                <span class="fas fa-angle-right ml-1" data-
                            </a>
                        </div>
                    </div>
                    <div class="card mb-3 overflow-hidden" style="min-widt
                        <div class="bg-holder bg-card" style="background-i
                        <!--/.bg-holder-->
                        <div class="card-body position-relative">
                            <h6>Specialists</h6>
                            <div class="display-4 fs-4 mb-2 font-weight-no
                                <?php echo $specialists; ?>
                            </div>
                            <a class="font-weight-semi-bold fs--1 text-now
                                <span class="fas fa-angle-right ml-1" data-
                        </div>
```

```
                    </div>
                    <div class="card mb-3 overflow-hidden" style="min-widt
                        <div class="bg-holder bg-card" style="background-i
                        <!--/.bg-holder-->
                        <div class="card-body position-relative">
                            <h6>Pets</h6>
                            <div class="display-4 fs-4 mb-2 font-weight-no
                                <?php echo $pets; ?>
                            </div>
                            <a class="font-weight-semi-bold fs--1 text-now
                                <span class="fas fa-angle-right ml-1" data-
                            </a>
                        </div>
                    </div>
                </div>
                <div class="card mb-6">
                    <div class="card-header">
                        <div class="row align-items-center justify-content-
                            <div class="col-6 col-sm-auto d-flex align-iten
                                <h5 class="fs-0 mb-0 text-nowrap py-2 py-x
                            </div>
                        </div>
                    </div>
                    <div class="card-body px-4 pt-0">
                        <table class="table">
                            <thead>
                                <tr>
                                    <th>Pet </th>
                                    <th>Customer </th>
                                    <th>Specialist </th>
                                    <th>Ailment</th>
                                    <th>Visit Date</th>
                                    <th>Manage</th>
                                </tr>
                            </thead>
                            <tbody>
                                <?php
                                $ret = "SELECT * FROM clinic_visit cv
____________________________________INNER JOIN customer_pets cp ON cp.custo
____________________________________INNER JOIN pets p ON p.pet_id = cp.cus
____________________________________INNER JOIN customer c ON c.customer_id
____________________________________INNER JOIN pets_categories pc ON pc.ca
____________________________________INNER JOIN specialist s ON s.specialis
                                $stmt = $mysqli->prepare($ret);
                                $stmt->execute(); //ok
                                $res = $stmt->get_result();
```

```
while ($visit = $res->fetch_object()) {
?>
    <tr>
        <th>
            Name: <?php echo $visit->pet_na
            Age: <?php echo $visit->pet_age
            Sex:<?php echo $visit->pet_sex
            Category: <?php echo $visit->ca
        </th>
        <th>
            Name: <?php echo $visit->custon
            Email: <?php echo $visit->custo
            Mobile:<?php echo $visit->custo
        </th>
        <th>
            Name: <?php echo $visit->specia
            Email: <?php echo $visit->spec
            Mobile:<?php echo $visit->spec
        </th>
        <td><?php echo $visit->visit_ailmen
        <td><?php echo date('d M Y', strtot
        <td>
            <a class="badge badge-success"
            <!-- Update Modal -->
            <div class="modal fade" id="u-
                <div class="modal-dialog
                    <div class="modal-conte
                        <div class="modal-
                            <h4 class="mod
                            <button type="
                                <span aria-
                            </button>
                        </div>
                        <div class="modal-
                            <p>
                                <?php echo
                            </p>
                        </div>
                    </div>
                </div>
            </div>
        </td>
    </tr>
<?php
}
?>
```

```
                                    </tbody>
                                </table>


                            </div>
                        </div>

                        <?php require_once('../partials/footer.php'); ?>
                    </div>

                </div>
            </main><!-- ========================================================== -->
            <!--     End of Main Content -->
            <!-- ========================================================== -->

            <?php require_once('../partials/scripts.php'); ?>
        </body>
```

4.4 Specialists

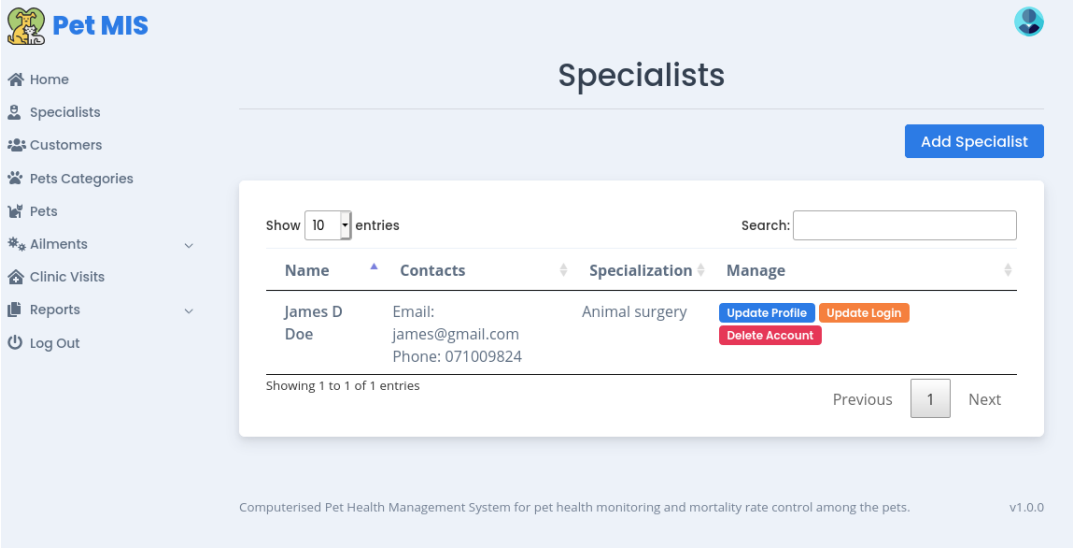

Figure 11: Specialists

4.4.1 Specialists Page Source Code

```
<?php

session_start();
require_once('../config/checklogin.php');
require_once('../config/codeGen.php');
require_once('../config/config.php');
admin();
/* Add Specialist */
if (isset($_POST['add_specialist'])) {
    /* Specialist Attributes */
    $specialist_id = $sys_gen_id;
    $specialist_name = $_POST['specialist_name'];
    $specialist_email = $_POST['specialist_email'];
    $specialist_mobile = $_POST['specialist_mobile'];
    $specialist_major = $_POST['specialist_major'];

    /* Login Attributes */
    $login_id = $sys_gen_id_alt_1;
    $login_username = $_POST['login_username'];
    $login_password = sha1(md5($_POST['login_password']));
    $login_rank = 'Specialist';
```

```
    /* Prevent Double Entries */
    $sql = "SELECT * FROM  specialist WHERE  specialist_email='$specialist_
    $res = mysqli_query($mysqli, $sql);
    if (mysqli_num_rows($res) > 0) {
        $row = mysqli_fetch_assoc($res);
        if ($specialist_email == $row['specialist_email'] || $specialist_m
            $err = "User With This Email Or Phone Number Exists";
        }
    } else {
        /* Persist Customer Details */
        $query = "INSERT INTO specialist (specialist_id, specialist_name,
        $login = "INSERT INTO login (login_id, login_username, login_passwo

        $stmt = $mysqli->prepare($query);
        $loginstmt = $mysqli->prepare($login);

        $rc = $stmt->bind_param('sssss', $specialist_id, $specialist_name,
        $rc = $loginstmt->bind_param('sssss', $login_id, $login_username,

        $stmt->execute();
        $loginstmt->execute();

        if ($stmt && $loginstmt) {
            $success = "$specialist_name Account Created";
        } else {
            $info = "Please Try Again Or Try Later";
        }
    }
}
/* Update Specialist Profile */
if (isset($_POST['update_specialist'])) {
    /* Specialist Attributes */
    $specialist_id = $_POST['specialist_id'];
    $specialist_name = $_POST['specialist_name'];
    $specialist_email  = $_POST['specialist_email'];
    $specialist_mobile  = $_POST['specialist_mobile'];
    $specialist_major  = $_POST['specialist_major'];

    $query = "UPDATE specialist SET specialist_name =?, specialist_email =

    $stmt = $mysqli->prepare($query);
    $rc = $stmt->bind_param('sssss', $specialist_name, $specialist_email,
    $stmt->execute();

    if ($stmt) {
        $success = "$specialist_name Account Updated";
```

```
    } else {
        $info = "Please Try Again Or Try Later";
    }
}

/* Update Login Details */
if (isset($_POST['update_login'])) {
    /*  Login Attributes */
    $login_specialist_id = $_POST['login_specialist_id'];
    $login_username = $_POST['login_username'];
    $login_password = sha1(md5($_POST['login_password']));

    $login = "UPDATE login SET login_username =?, login_password =? WHERE

    $loginstmt = $mysqli->prepare($login);

    $rc = $loginstmt->bind_param('sss', $login_username, $login_password,

    $loginstmt->execute();

    if ($loginstmt) {
        $success = "Specialist Account Login Credentials Updated";
    } else {
        $info = "Please Try Again Or Try Later";
    }
}

/* Delete Specialist */
if (isset($_GET['delete'])) {
    $delete = $_GET['delete'];
    $adn = "DELETE FROM  specialist WHERE specialist_id = ? ";
    $stmt = $mysqli->prepare($adn);
    $stmt->bind_param('s', $delete);
    $stmt->execute();
    $stmt->close();
    if ($stmt) {
        $success = "Deleted" && header("refresh:1; url=admin_specialists")
    } else {
        $info = "Please Try Again Or Try Later";
    }
}
require_once('../partials/head.php');
```

4.5 Customer Pets Management

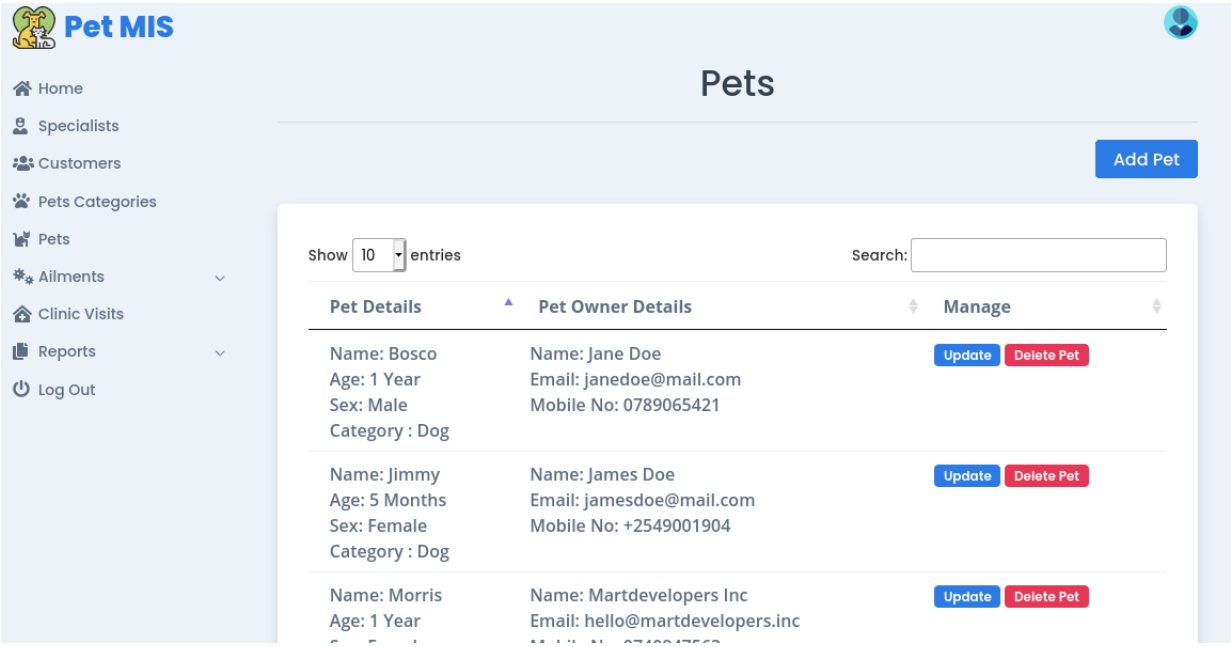

Figure 12: Customer Pets

4.5.1 Customer Pets Management Source Codes

```
<?php
session_start();
require_once('../config/checklogin.php');
require_once('../config/codeGen.php');
require_once('../config/config.php');
admin();

/* Add Pet */
if (isset($_POST['add_pet'])) {
    $pet_id = $sys_gen_id;
    $pet_name = $_POST['pet_name'];
    $pet_category_id = $_POST['pet_category_id'];
    $pet_age = $_POST['pet_age'];
    $pet_sex = $_POST['pet_sex'];

    /* Pet Customer Details */
    $customer_pet_id = $sys_gen_id_alt_1;
    $customer_pet_customer_id = $_POST['customer_pet_customer_id'];

    $query = "INSERT INTO pets (pet_id, pet_name, pet_category_id, pet_age
```

```
    $pet_owner = "INSERT INTO customer_pets (customer_pet_id, customer_pet

    $stmt = $mysqli->prepare($query);
    $pet_owner_stmt = $mysqli->prepare($pet_owner);

    $rc = $stmt->bind_param('sssss', $pet_id, $pet_name, $pet_category_id,
    $rc = $pet_owner_stmt->bind_param('sss', $customer_pet_id, $customer_p

    $stmt->execute();
    $pet_owner_stmt->execute();

    if ($stmt && $pet_owner_stmt) {
        $success = "$pet_name Added";
    } else {
        $info = "Please Try Again Or Try Later";
    }
}


/* Update Pet */
if (isset($_POST['update_pet'])) {
    $pet_id = $_POST['pet_id'];
    $pet_name = $_POST['pet_name'];
    $pet_age  = $_POST['pet_age'];
    $pet_sex  = $_POST['pet_sex'];


    $query = "UPDATE pets  SET pet_name =?, pet_age =?, pet_sex =? WHERE
    $stmt = $mysqli->prepare($query);
    $rc = $stmt->bind_param('ssss', $pet_name, $pet_age, $pet_sex, $pet_id
    $stmt->execute();

    if ($stmt) {
        $success = "Pet Updated";
    } else {
        $info = "Please Try Again Or Try Later";
    }
}


/* Delete  */
if (isset($_GET['delete'])) {
    $delete = $_GET['delete'];
    $adn = "DELETE FROM  pets WHERE pet_id = ? ";
    $stmt = $mysqli->prepare($adn);
    $stmt->bind_param('s', $delete);
```

```
        $stmt->execute();
        $stmt->close();
        if ($stmt) {
            $success = "Deleted" && header("refresh:1; url=admin_pets");
        } else {
            $info = "Please Try Again Or Try Later";
        }
}
require_once('../partials/head.php');
```

4.6 Customer Visits Reports

Figure 13: Customer visits

4.6.1 Customer Visits Reports Source Codes

```
<table id="export-data-table" class="">
                                    <thead>
                                        <tr>
                                            <th>Pet </th>
                                            <th>Customer </th>
                                            <th>Specialist </th>
                                            <th>Ailment</th>
                                            <th>Visit Date</th>
                                        </tr>
                                    </thead>
                                    <tbody>
                                        <?php
                                        $ret = "SELECT * FROM clinic_visit cv
                                        INNER JOIN customer_pets cp ON cp.custo
                                        INNER JOIN pets p ON p.pet_id = cp.cus
                                        INNER JOIN customer c ON c.customer_id
                                        INNER JOIN pets_categories pc ON pc.ca
                                        INNER JOIN specialist s ON s.specialis
                                        $stmt = $mysqli->prepare($ret);
                                        $stmt->execute(); //ok
```

```
                $res = $stmt->get_result();
                while ($visit = $res->fetch_object())
                ?>
                    <tr>
                        <th>
                            Name: <?php echo $visit->p
                            Age: <?php echo $visit->pe
                            Sex:<?php echo $visit->pet
                            Category: <?php echo $visit
                        </th>
                        <th>
                            Name: <?php echo $visit->cu
                            Email: <?php echo $visit->
                            Mobile:<?php echo $visit->
                        </th>
                        <th>
                            Name: <?php echo $visit->s
                            Email: <?php echo $visit->
                            Mobile:<?php echo $visit->
                        </th>
                        <td><?php echo $visit->visit_ai
                        <td><?php echo date('d M Y', st

                    </tr>
                <?php
                }
                ?>

            </tbody>
        </table>
```

5 User Manual

5.1 Installation Requirements

In order for this system to run, the following hardware and software requirements must be met.

5.1.1 Hardware Requirements

1 GHz processor 512 MB of RAM. Monitors with aspects ratios of 4:3, 16:9,21:9

5.1.2 Software Requirements

This system only requires only one zip, tar or 7z file to be downloaded andrun, and little or no configuration of the various components that make up thesystem Microsoft Visual C++ 2017 Redistributable. XAMPP for running thesystem (This one should be installed on the server) Web browser (Chrome,Mozilla Firefox, Safari etc)

5.2 Future Work

Further research on implementation of a more sophisticated Computerised Pet Health Management System For Pet Health Monitoring And Mortality Rate Control Among The Pets should be carried out.The sample size should be increased throughout Kenya and if possible, be-yond. This research ca incorporate large vet organizations aswell as retail pharmacies. This will enrich the research and provide supportfor implementation of the system

6 APPENDIX

6.1 Questionaire

1. How do you know if this exactly what your pet speccecialist prescribed?
   O I dont Know O I know less O I enquire for more explanation

2. What is the name and strength of my pet prescription?
   O I dont Know O I know less O I enquire for more explanation

3. What should I do if my pet miss a dose?
   O I dont Know O I know less O I enquire for more explanation

4. Does it matter what time of day my pet take this drug?
   O I dont Know O I know less O I enquire for more explanation

5. How effective the specialist prescription is?
   O I dont Know O I know less O I enquire for more explanation

   In your opinion, explain further how effective your prescriptions administered are

   .....
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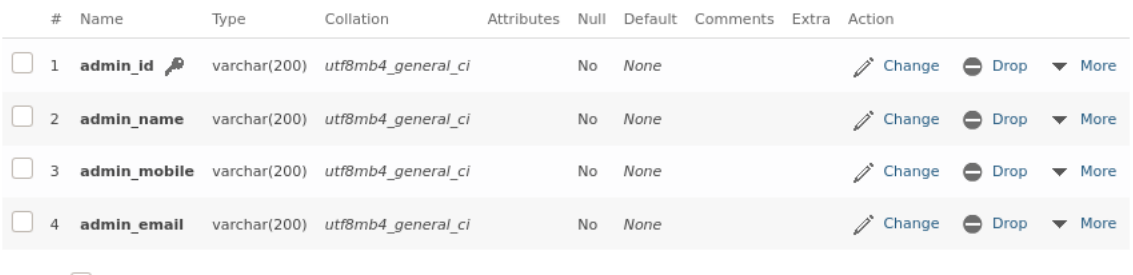
6.2 Database Designs

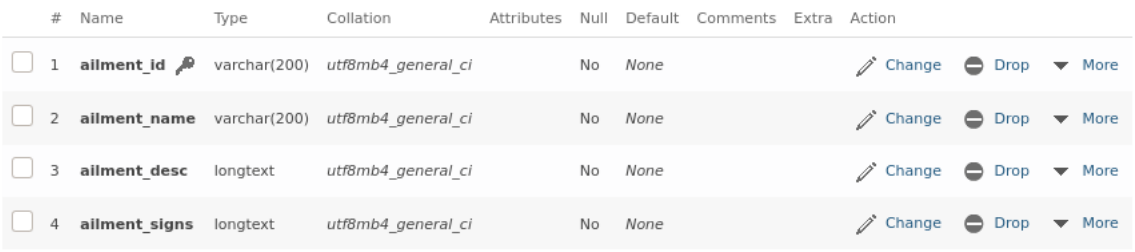
6.2.1 Admin Table



#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	**admin_id**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
2	**admin_name**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
3	**admin_mobile**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
4	**admin_email**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More

Figure 14: Admin Table Design

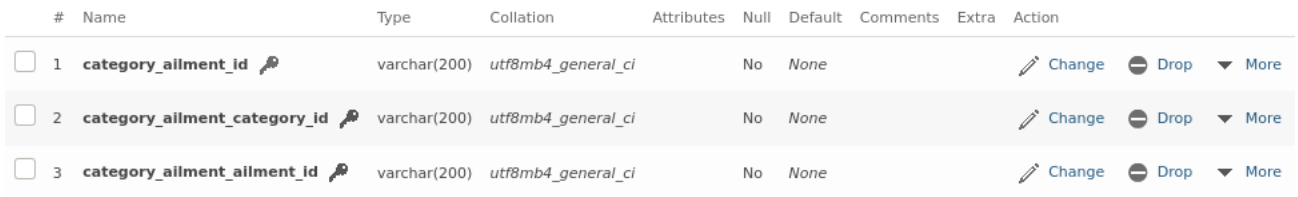
6.2.2 Ailment Table



#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	**ailment_id**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
2	**ailment_name**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
3	**ailment_desc**	longtext	*utf8mb4_general_ci*		No	*None*			Change Drop More
4	**ailment_signs**	longtext	*utf8mb4_general_ci*		No	*None*			Change Drop More

Figure 15: Ailment Table Design

6.2.3 Category Ailments Table



#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	**category_ailment_id**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
2	**category_ailment_category_id**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
3	**category_ailment_ailment_id**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More

Figure 16: Category Ailments Table Design

6.2.4 Clininc Visits Table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	**visit_id** 🔑	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
2	**visit_date**	varchar(200)	*utf8mb4_general_ci*		Yes	*NULL*			Change Drop More
3	**visit_customer_pet_id** 🔑	varchar(200)	*utf8mb4_general_ci*		Yes	*NULL*			Change Drop More
4	**visit_ailment**	varchar(200)	*utf8mb4_general_ci*		Yes	*NULL*			Change Drop More
5	**visit_specialist_id** 🔑	varchar(200)	*utf8mb4_general_ci*		Yes	*NULL*			Change Drop More
6	**visit_report**	longtext	*utf8mb4_general_ci*		Yes	*NULL*			Change Drop More

Figure 17: Clinic Visits Table Design

6.2.5 Customer Table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	**customer_id** 🔑	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
2	**customer_name**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
3	**customer_email**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
4	**customer_mobile**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
5	**customer_major**	longtext	*utf8mb4_general_ci*		No	*None*			Change Drop More

Figure 18: Customer Table Design

6.2.6 Customer Pets Table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	**customer_pet_id**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
2	**customer_pet_customer_id**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
3	**customer_pet_pet_id**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More

Figure 19: Customer Pets Table Design

6.2.7 Login Table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	**login_id**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
2	**login_username**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
3	**login_password**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
4	**login_rank**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
5	**login_customer_id**	varchar(200)	*utf8mb4_general_ci*		Yes	*NULL*			Change Drop More
6	**login_specialist_id**	varchar(200)	*utf8mb4_general_ci*		Yes	*NULL*			Change Drop More
7	**login_admin_id**	varchar(200)	*utf8mb4_general_ci*		Yes	*NULL*			Change Drop More

Figure 20: Login Table Design

6.2.8 Pets Table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	**pet_id** 🔑	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
2	**pet_name**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
3	**pet_category_id** 🔑	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
4	**pet_age**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
5	**pet_sex**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More

Figure 21: Pets Table Design

6.2.9 Pets Categories Table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	**category_id** 🔑	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
2	**category_name**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
3	**category_desc**	longtext	*utf8mb4_general_ci*		No	*None*			Change Drop More

Figure 22: Pets Categories Table Design

6.2.10 Specialist Table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	**specialist_id**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
2	**specialist_name**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
3	**specialist_email**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
4	**specialist_mobile**	varchar(200)	*utf8mb4_general_ci*		No	*None*			Change Drop More
5	**specialist_major**	longtext	*utf8mb4_general_ci*		No	*None*			Change Drop More

Figure 23: Specialist Table Design

References

[1] KB Chua, WJ Bellini, PA Rota, BH Harcourt, A Tamin, SK Lam, TG Ksiazek, PE Rollin, SR Zaki, W-J Shieh, et al. Nipah virus: a recently emergent deadly paramyxovirus. *Science*, 288(5470):1432–1435, 2000.

[2] DA Gunn-Moore and MV Thrusfield. Feline dystocia: prevalence, and association with cranial conformation and breed. *The Veterinary Record*, 136(14):350–353, 1995.

[3] HV Kumar, M Jayaram, and S Vikas. Web-based digital library management system. *initiatives*, 4(2), 2017.

[4] Chinho Lin and Chienwen Hong. Using customer knowledge in designing electronic catalog. *Expert systems with Applications*, 34(1):119–127, 2008.

[5] Attilio Marino, Satoshi Arai, Yanyan Hou, Andrea Degl'Innocenti, Valentina Cappello, Barbara Mazzolai, Young-Tae Chang, Virgilio Mattoli, Madoka Suzuki, and Gianni Ciofani. Gold nanoshell-mediated remote myotube activation. *ACS nano*, 11(3):2494–2508, 2017.

[6] Udita Mondal, Babloo Sharma, and PK Dhara. Monitoring of different agri+ horti monitoring of different agri+ horti system on yield, soil chemical properties and total return under new alluvial zone of eastern india.

[7] A Noraziah, Noor Naimah, and M Nasratun. Pet shop management system for klinik veterinar & surgeri jawhari. In *2008 International Symposium on Information Technology*, volume 1, pages 1–4. IEEE, 2008.

[8] Graham Pickren. "where can i build my student housing?" the politics of studentification in athens-clarke county, georgia. *Southeastern Geographer*, 52(2):113–130, 2012.

[9] Kathleen Szasz. *Petishism: pet cults of the Western world*. Hutchinson, 1968.

[10] Joanna Turnbull. *Oxford wordpower dictionary*. Oxford University Press, 2006.