VIT
UNIVERSITY
(Estd. u/s 3 of UGC Act 1956)
Vellore - 632 014, Tamil Nadu, India

School of Computing Science and Engineering

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INDIAN WILDLIFE

A PROJECT REPORT

submitted by

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Contents

1. Introduction

1.1 Abstract

The Indian Wildlife site primarily focuses on the conservation of wildlife in India and the protection of endangered species. It monitors statistics related to endangered species, jeopardized habitats, unbalanced ecosystems, illegal hunting of animals, poaching, and unfavorable climate changes. Secure registration and profile management facilities with registered members, government and NGOs are there. There is an enchanting gallery of animals to help promote their cause. Vivid description about the animals is given. Members can form groups to organize local meetings, wildlife forums, periodicals and wildlife camps. Registered members post relevant photos, videos and other data and can also participate in the forum. Regular updates and news flashes about recent events are incorporated. Members can also give their feedback. Also, the site will provide ample job opportunities to wildlife enthusiasts. The main aim is to make the people aware about the importance of conservation of wildlife so that everyone realizes the importance of this issue and contributes a hand.

1.2 Purpose

The main purpose of the site is the conservation of Indian Wildlife. The website will be an all in one package that will focus on promoting conservation to monitoring stats to organizing events. Website will be highly customizable and flexible enough to easily deploy. It'll seek creative ideas from people to promote conservation of India's wildlife. The targeted user's community consists of wildlife enthusiasts, ecologists, zoologists, scientists, and various other government and non-government organizations.

The site will monitor statistics related to endangered species, jeopardized habitats, unbalanced ecosystems and unfavorable climate changes. Secure registration and profile management facilities with registered members, government and NGOs will also be incorporated. It will facilitate members to form groups to organize local meetings, wildlife forums, periodicals and wildlife camps. Registered members can post relevant photos, videos and other data. There will be regular updates and news flashes about recent events in the field. It also aspires to create interest in the minds of people about wildlife so that they can indulge in the process and work towards the conservation.

1.3 Literature Survey

1.3.1 Current System

Currently, there is no website that incorporates the features that this Indian Wildlife site does. Most of the sites catering to the needs of Indian Wildlife conservation are now dormant. They are either low on content or poor in management. Diluted interest and inefficient control system may also lead to the dormancy. Apart from WWF (World Wildlife Fund), there are hardly any sites that provide a complete insight into the conservation of wildlife species.

1.3.2 Proposed System

The proposed system incorporates the following features in addition to tackling the flaws left by the dormant websites in this field.

- To provide a space for registered users to past interesting photos, videos and presentation on Indian wildlife.
- Secure registration and profile management facilities for registered members, government and NGOs.
- To monitor statistics related to endangered species, habitats, ecosystem, and climate.
- To facilitate members to form group for meetings, wildlife camps, periodicals and forums.
- A regular newsletter should be sent to registered user to spread awareness.
- To provide various career opportunity in field of wildlife along with list of universities offering degree, fellowships and certification.
- It will provide recent wildlife stories (success) with an opportunity for user to participate in wildlife blogs, forum, internships, conference and other awareness programs.
- Basic facilities like add and update members, backup/recovery of data, generating reports etc.
- To setup reviewers' panel to have tab on data being posted for website, panel will be responsible for various quires of users.

1.4 Definitions, Acronyms & Abbreviations

Table 1: Acronyms

Definition, Acronyms and abbreviations	Description
PHP	Pre Hyper-Text Preprocessor
SRS	Software Requirements Specifications
HTTP	Hyper Text Transfer Protocol
SMTP	Simple Mail Transfer Protocol
MySQL	My Structured Query Language
UML	Unified Modeling Language
Admin	Administrator
AJAX	Asynchronous JavaScript and XML
WAMP	Windows Apache MySQL PHP
HTML	Hyper Text Markup Language
CSS	Cascading Style Sheets

2. Planning & Scheduling

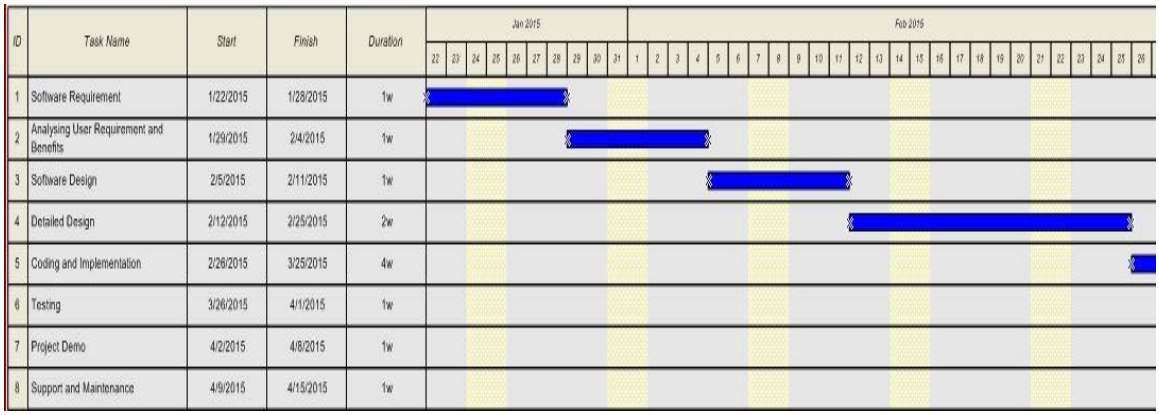
2.1 SDLC model

Waterfall Model has been used for Indian Wildlife Project. It is simple and easy to use. The phases are processed and completed one at a time and do not overlap. The waterfall model is a sequential design process, used in software development processes, in which progress is seen as flowing steadily downwards (like a waterfall) through the phases of conception, initiation, analysis, design, construction, testing, production/implementation and maintenance.

Justification for using waterfall model:

- Requirements are very well understood
- Project definition is stable
- Technology is understood
- No ambiguous requirements
- Expertise is available freely

2.2 Gantt Chart



ID	Task Name	Start	Finish	Duration
1	Software Requirement	1/22/2015	1/28/2015	1w
2	Analysing User Requirement and Benefits	1/29/2015	2/4/2015	1w
3	Software Design	2/5/2015	2/11/2015	1w
4	Detailed Design	2/12/2015	2/25/2015	2w
5	Coding and Implementation	2/26/2015	3/25/2015	4w
6	Testing	3/26/2015	4/1/2015	1w
7	Project Demo	4/2/2015	4/8/2015	1w
8	Support and Maintenance	4/9/2015	4/15/2015	1w

Figure 1: Gantt Chart

It allows the project team, as well as the stakeholders, to visualize the schedule and to determine the completion date. During the project, the project manager can determine whether the project is on schedule at any point during the execution. If changes occur, the project team can utilize the Gantt chart to determine how the changes will affect the

completion date.

2.3 PERT Chart

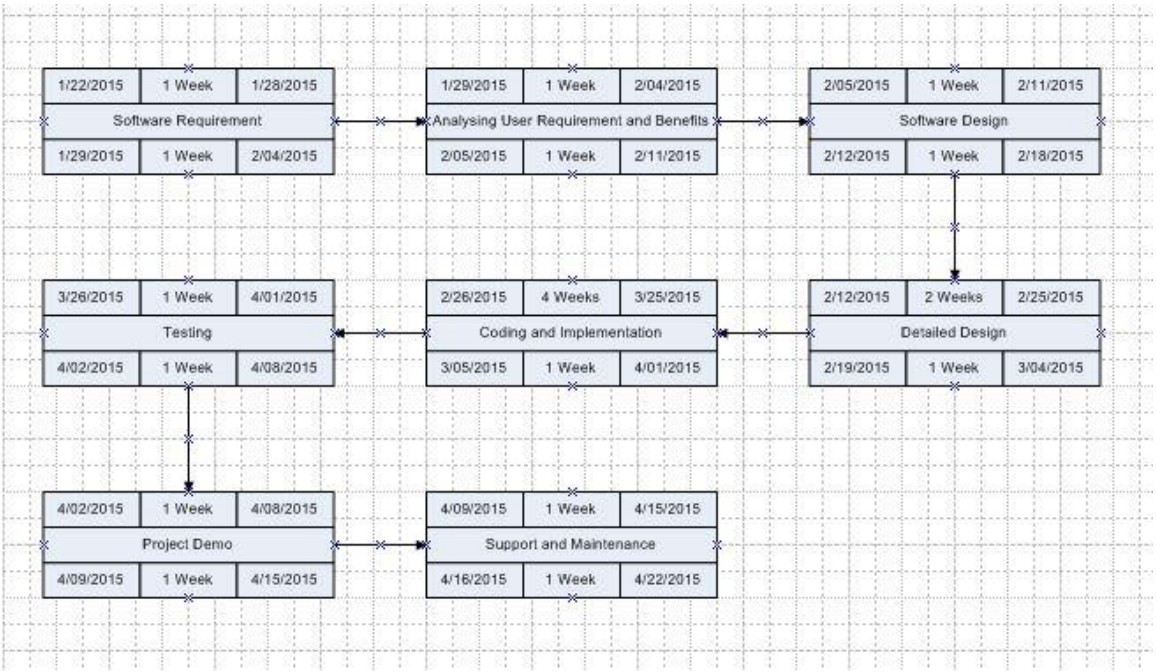


Figure 2: Pert Chart

Primarily, the PERT chart identifies the critical path for the project. The critical path is the sequence of tasks where there is no slack time. In other words, if any task on the critical path takes longer than expected, the end date of the project will be affected. This only applies if there are tasks that can be completed in parallel.

2.4 Timeline Chart

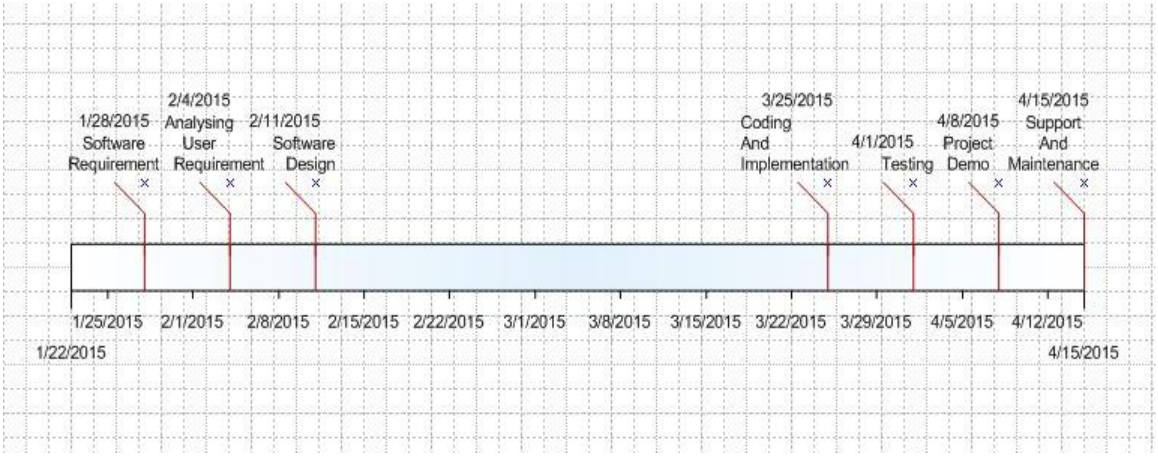


Figure 3: Timeline Chart

A timeline is a chart that depicts how a set of resources are used over time. If you're managing a software project and want to illustrate who is doing what and when, or if you're organizing a conference and need to schedule meeting rooms, a timeline is often a reasonable visualization choice.

3. Software Requirements Specification

3.1 Functional Requirements

It consists of the statement of services that the system should provide. How system should react to particular input or behave in particular situation.

- Post Data - To provide a space for registered users to post interesting photos, videos and presentation on Indian wildlife.
- Registration - Secure registration and profile management facilities for registered members, government and NGOs.
- Statistical Analysis - To monitor statistics related to endangered species, habitats, ecosystem, and climate.
- Social (Forum) - To facilitate members to form group for meetings, wildlife camps, periodicals and forums.
- Newsletter - A regular newsletter should be sent to registered user to spread awareness.
- Employment Opportunities - To provide various career opportunities in field of wildlife along with list of universities offering degree, fellowships and certification.
- News Updates - It will provide recent wildlife stories (success) with an opportunity for user to participate in wildlife blogs, forum, internships, conference and other awareness programs.
- Member Management - Basic facilities like add and update members, backup/recovery of data, generating reports etc.
- Feedback - To setup reviewers' panel to have tab on data being posted for website, panel will be responsible for various queries of users.

3.1.1 Stakeholders

Primary Stakeholders

- Ecologists
- Wildlife Departments
- Registered Users
- Sponsors
- Website admin

Secondary Stakeholders

- Social Workers
- Tourism
- Counselors
- Local Authorities (Municipal Council, Water Department)

Key Stakeholders

- NGOs
- Government
- Media

3.1.2 Modules

- Data (Article/Photos/Videos)
  To provide a space for registered users to post interesting photos, videos and presentation on Indian wildlife.
- Login and Registration
  Secure registration and profile management facilities for registered members, government and NGOs.
- Statistics
  To monitor statistics related to endangered species, habitats, ecosystem, and climate.
- Forum
  To facilitate members to form group for meetings, wildlife camps, periodicals and forums.
- Animals
  To provide data about various animals and endangered species.
- Projects
  Provides info about various movements and projects going on to promote Indian Wildlife conservation.

- Newsletter
  A regular newsletter should be sent to registered user to spread awareness.
- Employment Opportunities
  To provide various career opportunities in the field of wildlife.
- Member Management
  Basic facilities like add and update members, backup/recovery of data, generating reports etc.
- Feedback
  To setup reviewers' panel to have tab on data being posted for website, panel will be responsible for various queries of users.

3.1.3 User stories/requirements

- Users should be able to access the Indian Wildlife site from any Web browser supporting HTML 3.2 (or later) and cookies.
- Visitors new to the site should be able to register by themselves. Users will be differentiated by unique user identifiers.
- Confirmation should be provided after registration and login.
- Site visitors should be able to give feedback and participate in discussions.
- Users should be able to view the photos, videos and articles posted on the site.
- Site visitors should be able to search the database using relevant keywords to identify items of interest.
- Users should be able to view the confirmation of the things they've posted.
- Large numbers of users should be able to use the website simultaneously.
- The performance of the website should not degrade with an increase in the number of users or services offered.

3.1.4 Requirement Analysis

3.1.4.1 Use Case Diagram

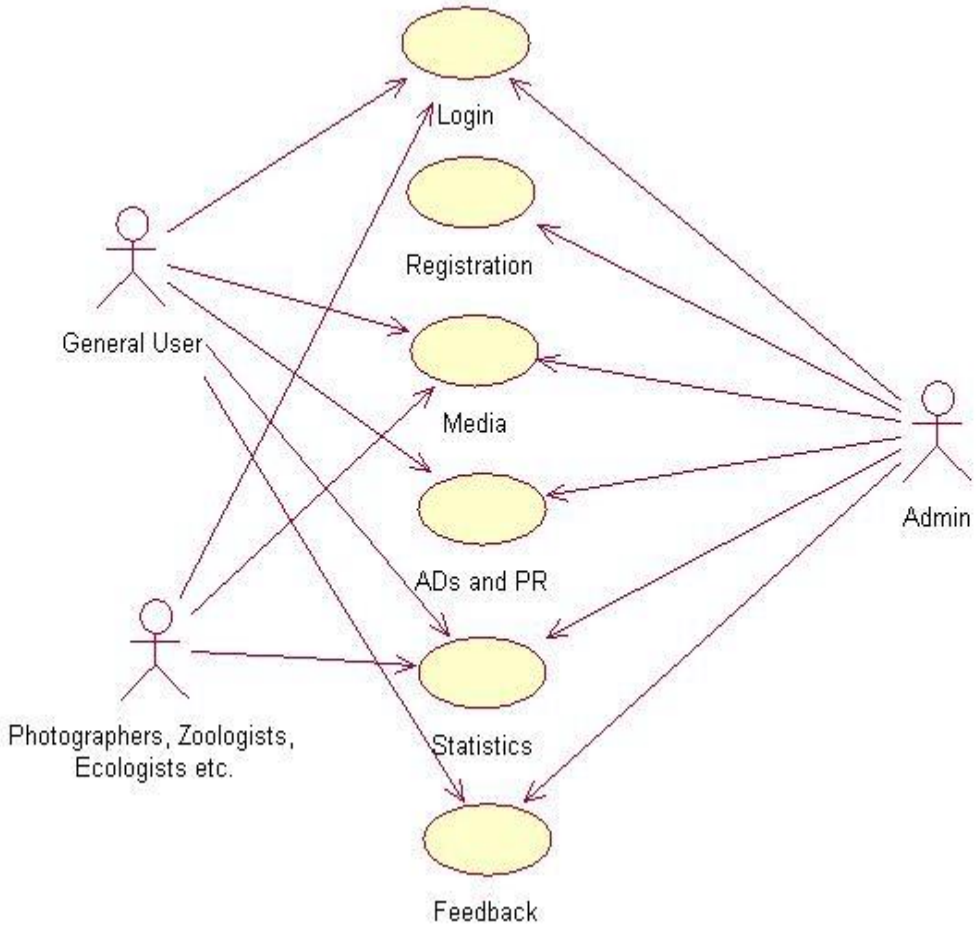


Figure 4: Use Case Diagram

A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. It is simplest is a representation of a user's interaction with the system and depicting the specifications of a use case. A use case diagram also portray the different types of users of a system .It contains actors, use cases and the relationships between the use cases.

Actors

1. General User
2. Admin
3. Photographers, Zoologists and Ecologists

Use Cases

1. Login
2. Registration
3. Media
4. Advertisements and PR
5. Statistics
6. Feedback and Forum

3.1.4.2 Sequence Diagram

3.1.4.2.1 Based on guest member/user

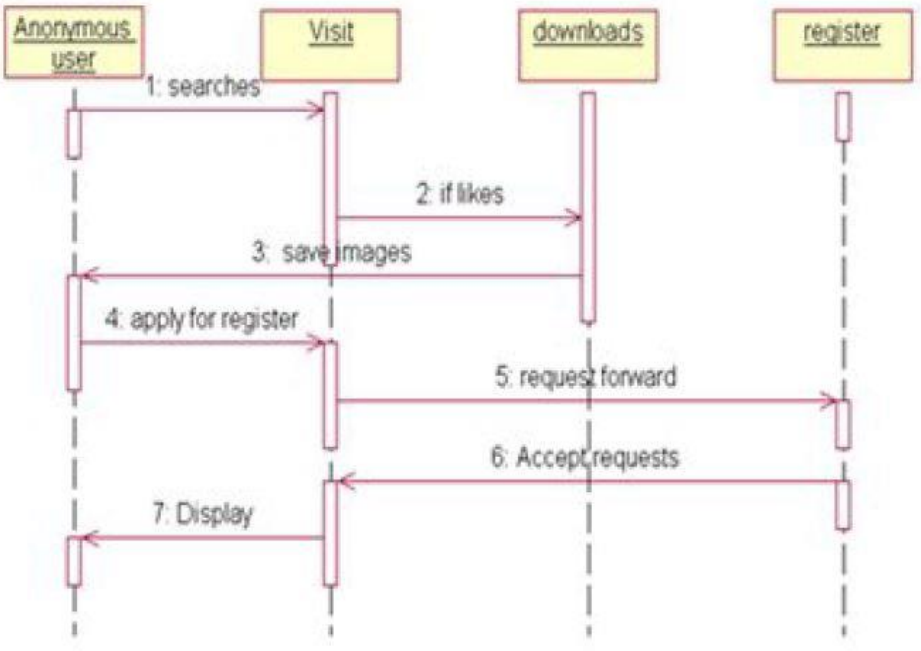


Figure 5: Sequence Diagram for guest member/user

Sequence diagram is an interaction *diagram* that shows how processes operate with one another and what is their order. The sequence diagram for the guest user represents the course of action that the guest user has to follow in order to register him to the site.

3.1.4.2.2 Based on registration

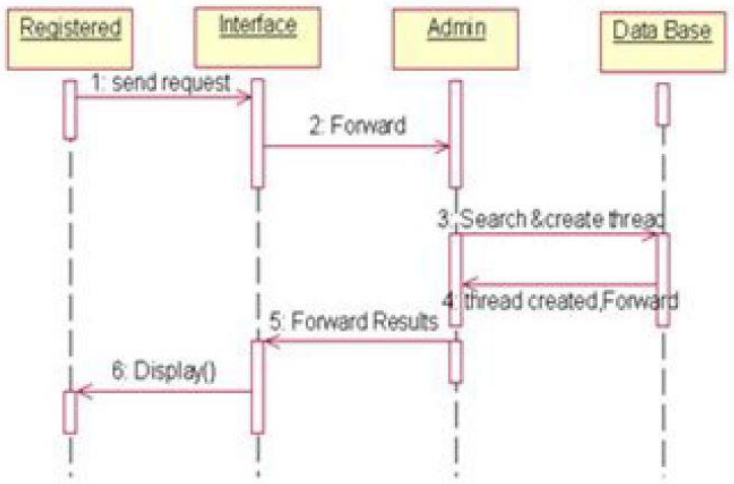


Figure 6: Sequence Diagram based on registration

This sequence diagram represents the processes involved in the registration of the user.

3.1.4.2.3 Based on posting

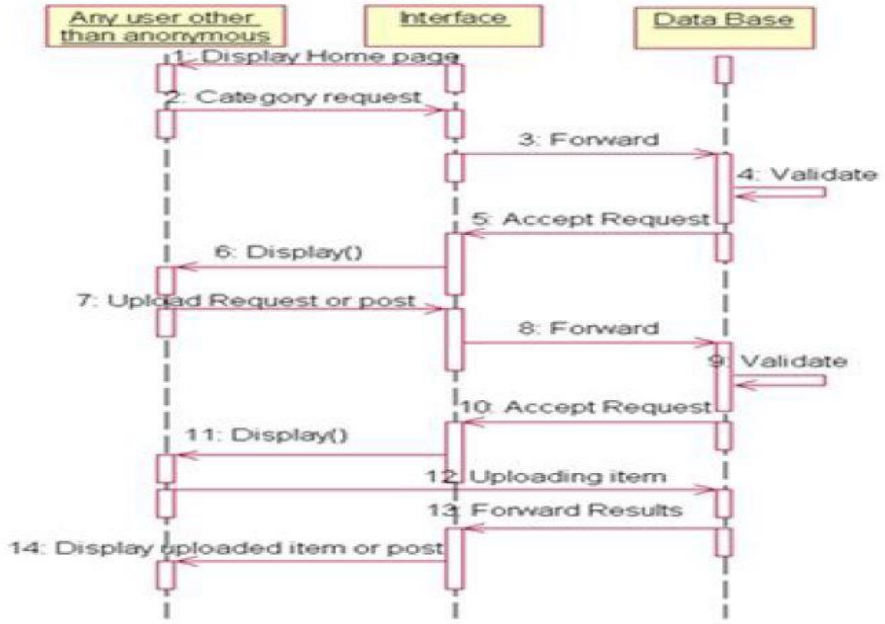


Figure 7: Sequence Diagram based on posting

The sequence diagram represents the processes involved in posting an article, photo or video on the website.

3.1.4.3 Use Case Description

Table 2: Admin

Use cases	Description
Login	The admin can login through a unique id and password which gives him complete control over all the functionalities of the site.
Registration	Approves and validates all new users of every type.
Media	Manages and monitors all photos and videos uploaded by all users on the site .
Advertisements and PR	Posting advertisements on behalf of users and NGOs for workshops, drives and other awareness programmes.
Statistics	Collecting data from the statisticians and uploading it at the correct locations.
Feedback and Forums	Acts as the forum moderator who ensures healthy discussions.

Table 3: General Users

Login	The user can login through a unique id and password which gives him access to all functionalities meant for him.
Registration	Register for an account on the website to start working.
Media	Upload photos and videos.
Advertisements and PR	Request advertisements to be published on the website for workshops, drives and other awareness programmes.
Statistics	Access statistical data of the site for their use.
Feedback and Forums	Register and participate in debates and discussions.

Table 4: Photographers, Zoologists and Ecologists

Login	Login through a unique id and password which gives them access to all functionalities meant for them.
Media	Upload photos and videos.
Statistics	Access statistical data of the site for their use and offer new and updated data as well .
Feedback and Forums	Register and participate in debates and discussions to offer their expert opinion and findings.

3.2 System Requirements

Hardware and software requirements

Hardware:

Table 5: Hardware Requirements

Component	Minimum	Recommended
Processor	2.5 gigahertz (GHz)	Dual processors that are each 3 GHz or faster
RAM	1 gigabyte (GB)	2 GB
Disk	NTFS file system–formatted partition with a minimum of 3 GB of free space	NTFS file system–formatted partition with 3 GB of free space plus adequate free space for your Web sites
Drive	DVD drive	DVD drive or the source copied to a local or network-accessible drive
Display	1024 × 768	1024 × 768 or higher resolution monitor
Network	56 kilobits per second (Kbps) connection between client computers and server	56 Kbps or faster connection between client computers and server

Software:

- Client on Internet and Intranet
  Web Brower - Internet Explorer, Chrome, Mozilla Firefox, Safari, Opera
  Operating System – Windows, Linux, UNIX, IOS
- Data Base Server : WAMP (Windows Apache mysql php)
- Database Software : mySQL
- Rational Rose Software
- Microsoft VISIO
- phpDesigner 8

3.3 Non-Functional Requirements

- Usability - The system shall allow the users to access the system from the internet using HTML/XML/CSS. The system uses web browsers as an interface. Online help will also be available and keyboard shortcuts will be made available.
- Security - After registration, the user can login to the system. Passwords must at least 8 characters and shouldn't be only alphabetic. System will have automatic logout after 5 minutes of inactivity.
- Performance - Response time will be less than seconds for 96% of the requests made to the system.
- Hdd - 500 GB
- Transactions logs - 50 GB
- Availability - It will be available 24x7 on all the days of the year.
- Portability - It can be accessed on any version of operating system like windows, linux, mac etc.
- Privacy - User will login using his unique email id and password which is hidden. Similarly, NGO public details will be shown but private details will be hidden.

3.4 Assumptions & Constraints

- GUI is only in English.
- Login and password is used for the identification of users.
- Only zoologists and wildlife experts will be able to fully utilize our online platform.
- Limited to HTTP/HTTPS.
- This system is working for single server.

4. Software Design Specification

4.1 Architecture Design

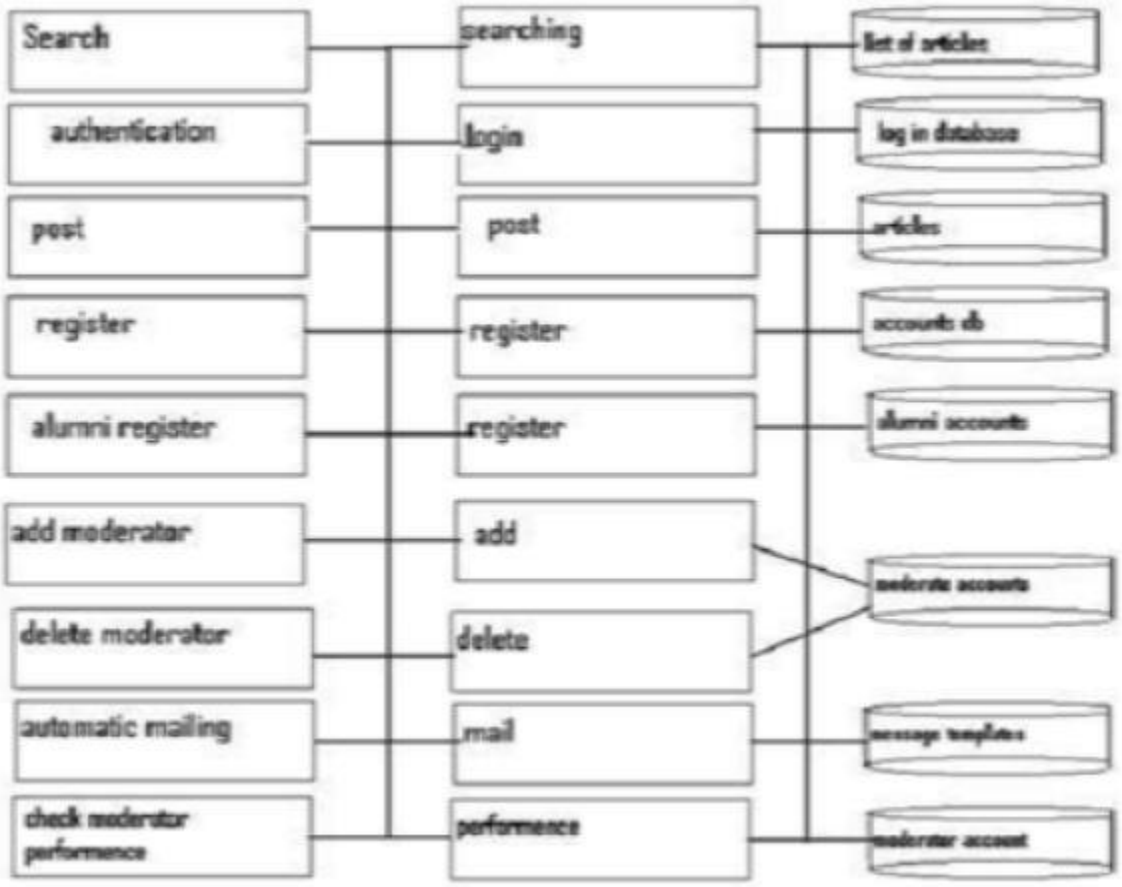


Figure 8: Architectural Diagram

Architectural Diagram is used to depict the architecture of the system. The above depicts how the functionalities can be associated with their respective databases.

4.2 System Models

4.2.1 Context Model

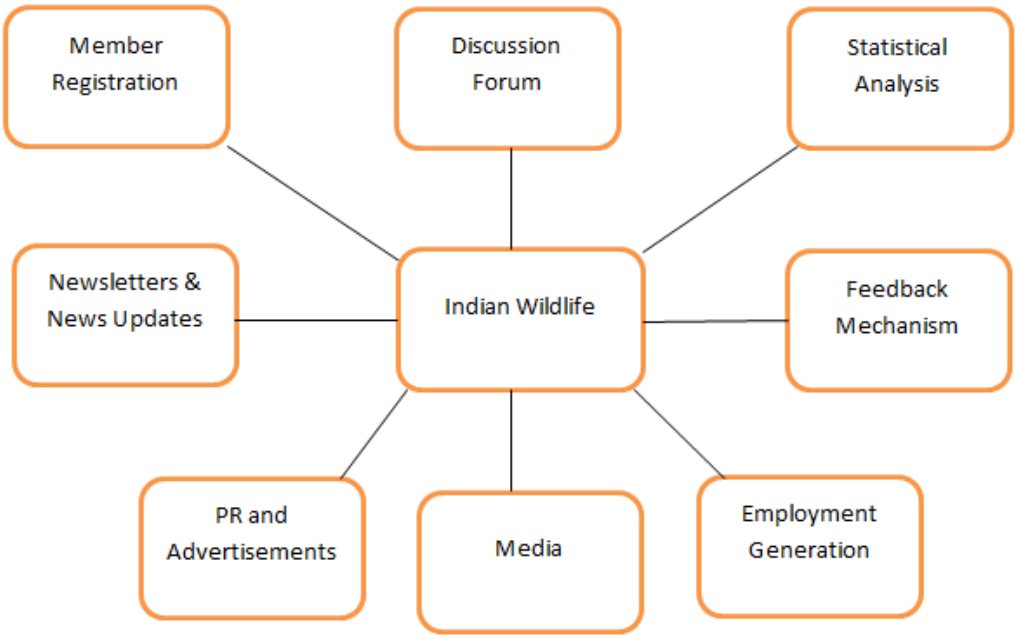


Figure 9: Context Diagram

Context Diagram is used to define the boundary between the system, or a part of the system and its environment showing the entities that interact with it. For instance, Indian Wildlife is connected to the various portals of member registration, discussion forum.

4.2.2 Behavioral/Process Model

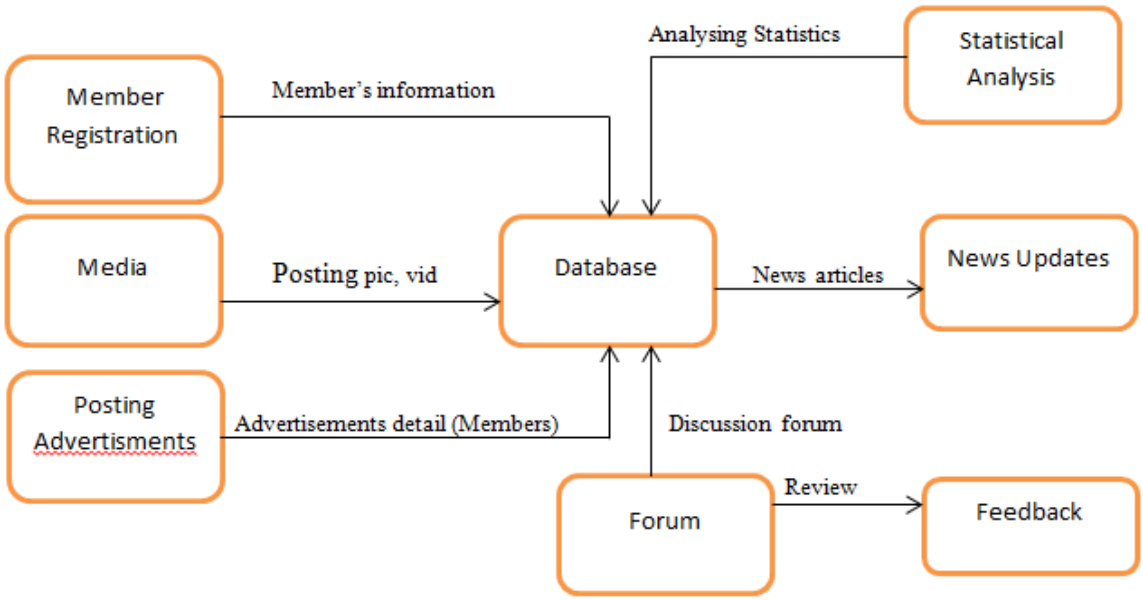


Figure 10: Behavioral Diagram

Behavioral diagrams are used to show the functionalities of the system. For example, in the above diagram, when a member registers, his information gets stored in the system database. And similarly, the other functionalities are carried out.

4.2.3 Data Model

4.2.3.1 Database Description

- Registration and Posting Data - The users will be first asked to register. Only then they can post data using their respective username. The user can then repost or delete his/her posts as per his/her wish. The data will be stored in the database.

- Employment Opportunities and Forum - The admin and the registered users like the zoologists and ecologists can post respective employment opportunities on their forum.

- Registration and News Updates - The registered users can select an option whether to receive news updates or not. The admin then facilitates the delivery process of news updates to the registered users.

- Feedback and Forum - The registered users can use the forum to discuss and post the feedback. The admin can then analyze and improve upon the same.

- Registration and Statistical Analysis - Statisticians can register using the Registration portal and then using their account, post and analyze relevant statistical data on the site.

4.2.3.2 ER Diagram

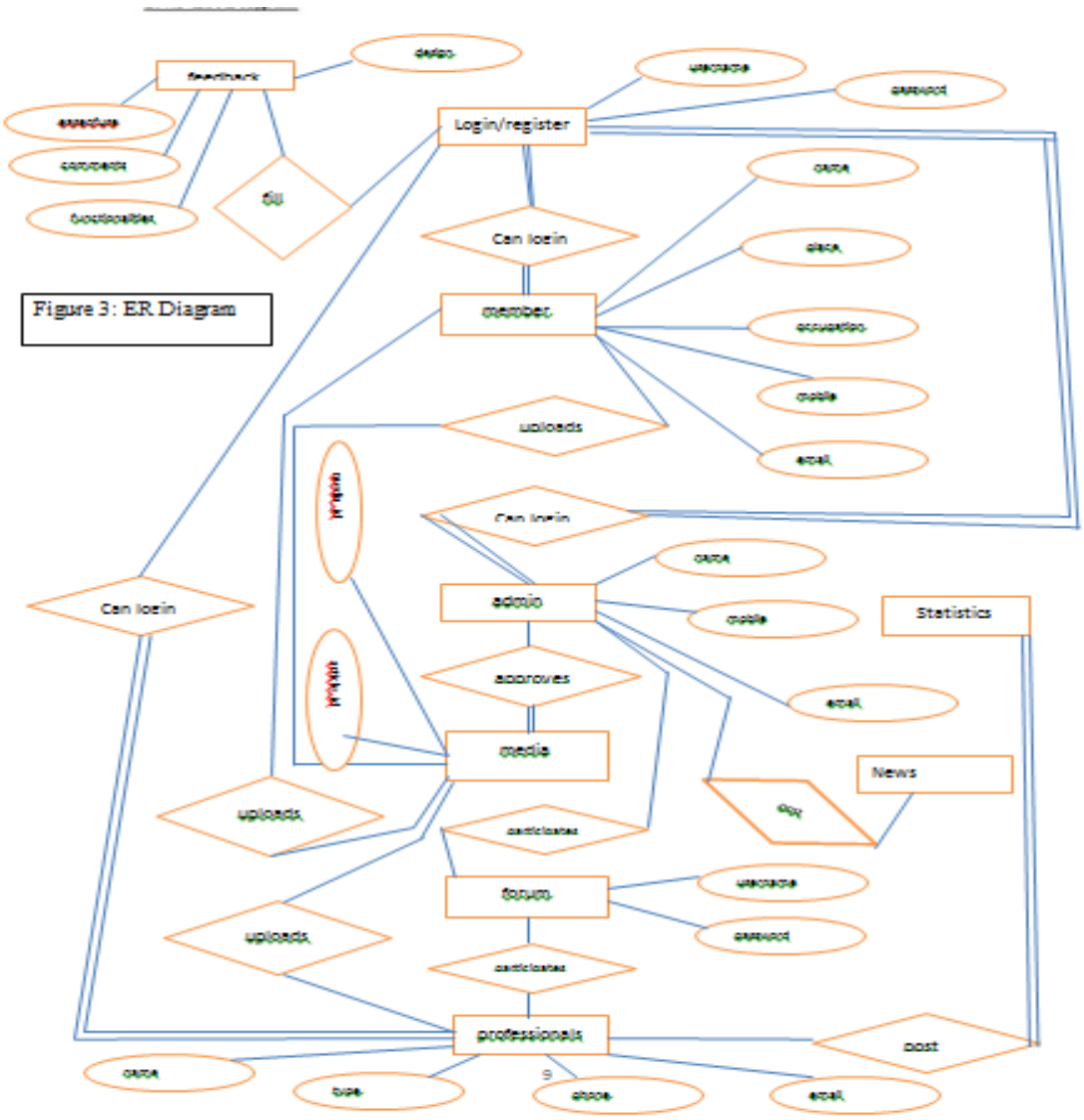


Figure 3: ER Diagram

Figure 11: ER Diagram

ER Diagram is used to show the relationship between the entities and their attributes. For example, feedback has four attributes, namely easeofuse, comments, functionalities, design, and all the people who'll log in, can fill the feedback. Similarly, we've for other entities.

4.2.4 Object Model

4.2.4.1 Class Diagram

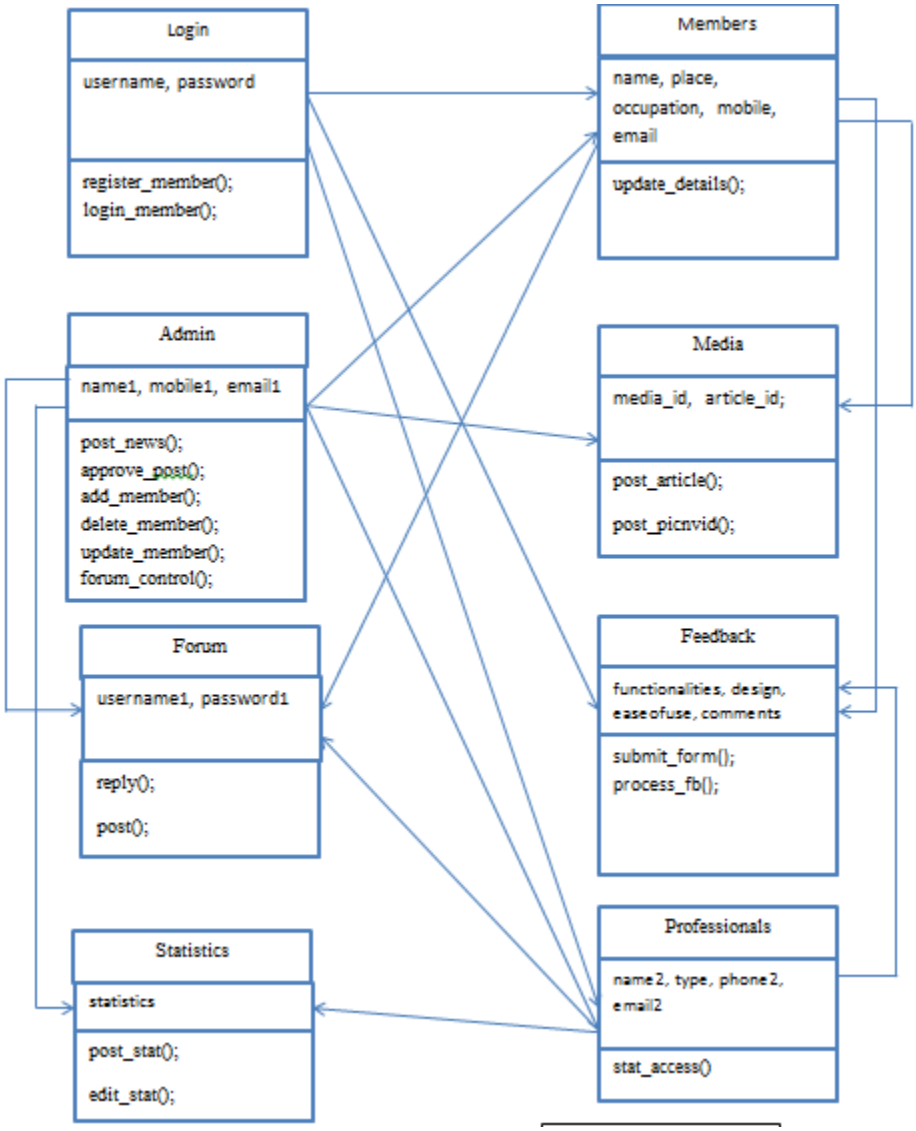


Figure 12: Class Diagram

- Login Class: This class helps the user, whether general or administrator, to login into the site and begin working. It also offers the facility to new users to register them if they are interested in being part of our venture.

- Members Class: This class allows the system to maintain the details of all its members. It contains fields such as name, place, occupation, mobile and email. This information is helpful to the administrator to view the user base of the website and for a variety of other different purposes.

- Admin Class: Contains the details of all administrators and their privileges. It defines the various domains over which the admin possesses control and the ways in which he can monitor the working of the portal.

- Media Class: This class is used to keep the information regarding all uploaded media and articles. Fields such as media_id and article_id are contained in this class. This information is useful for uniquely identifying and cataloguing all uploaded content on the site.

- Forum Class: This class contains all the necessary data, functions and modules to implement the discussion forum for the website.

- Feedback Class: This class contains all the form elements of a general feedback form asking the user for his views on the website's design, functionalities, ease of use and other comments. The details are stored in a database and then processed collectively for user response and identify areas for improvement.

- Statistics: This module contains all the functions and modules for performing various kinds of analysis operations for the data present for all the wildlife species covered by our program. It will help the conservationists to identify useful patterns in human-animal relationships and hence develop appropriate plans to solve the problems faced by these endangered species.

- Professionals: These include the zoologists, wildlife conservationists, statisticians and photographers that will form the major task force of this conservation program, providing their respective services to help this noble cause.

4.3 User Interface Design

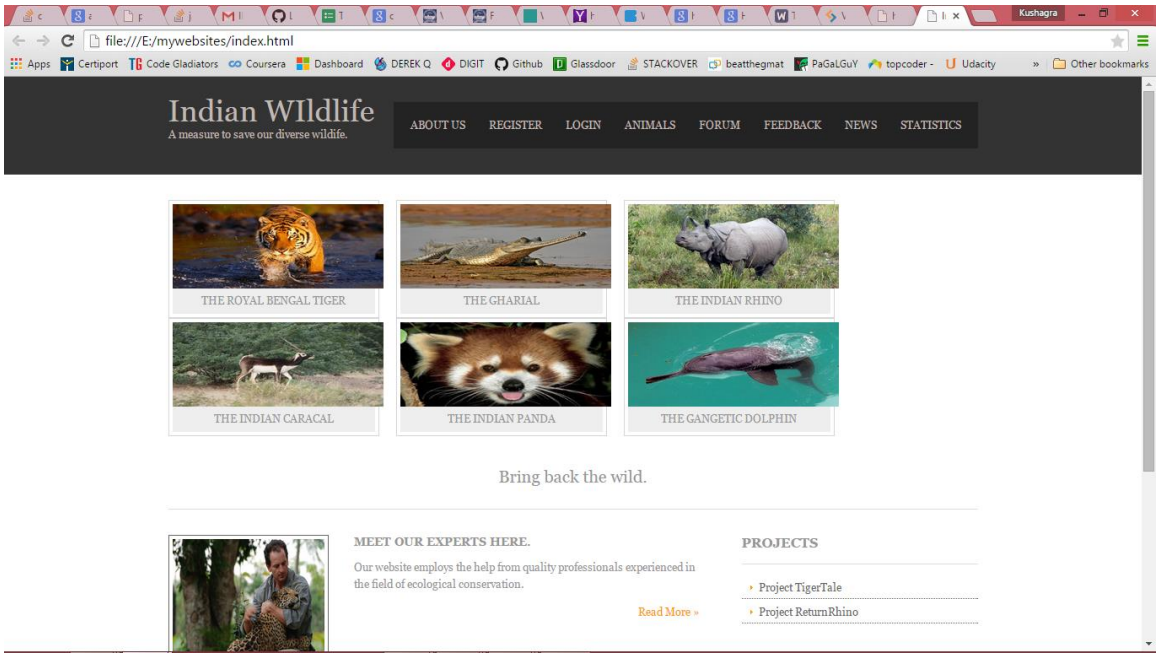


Figure 13: Homepage

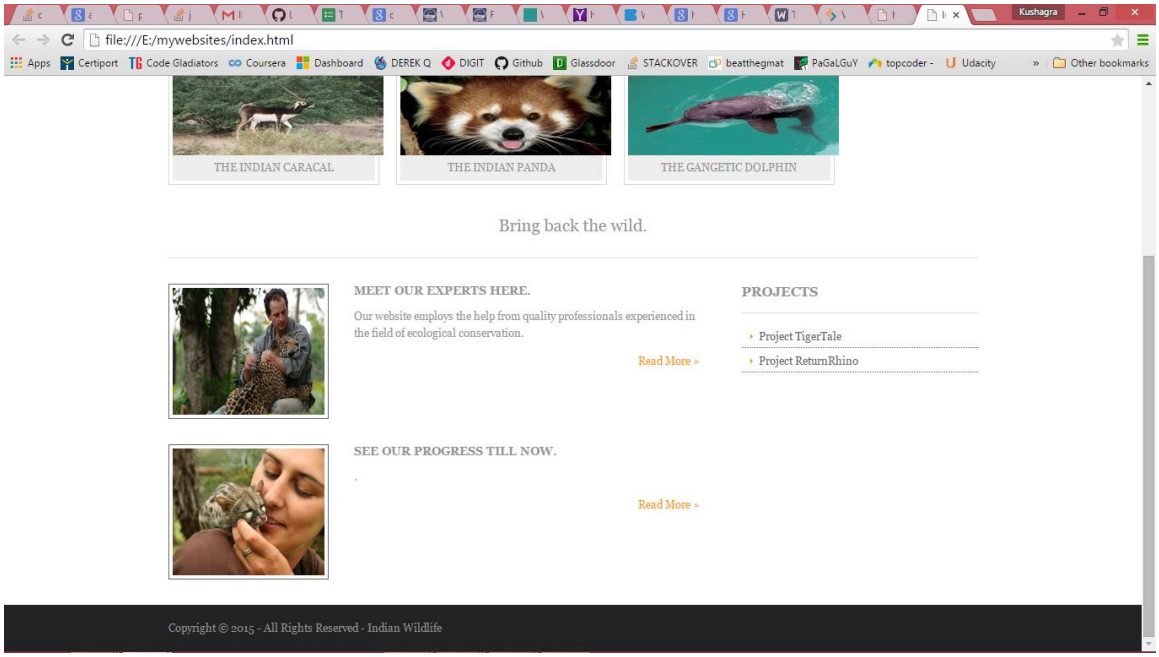


Figure 14: Homepage

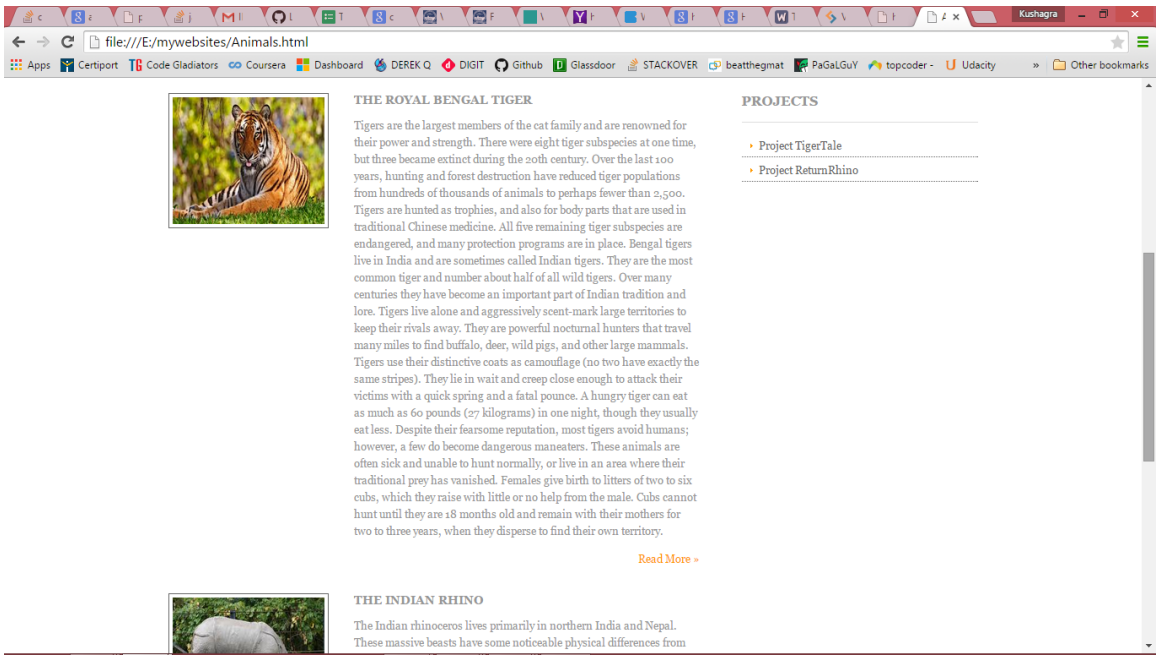


Figure 15: Animals

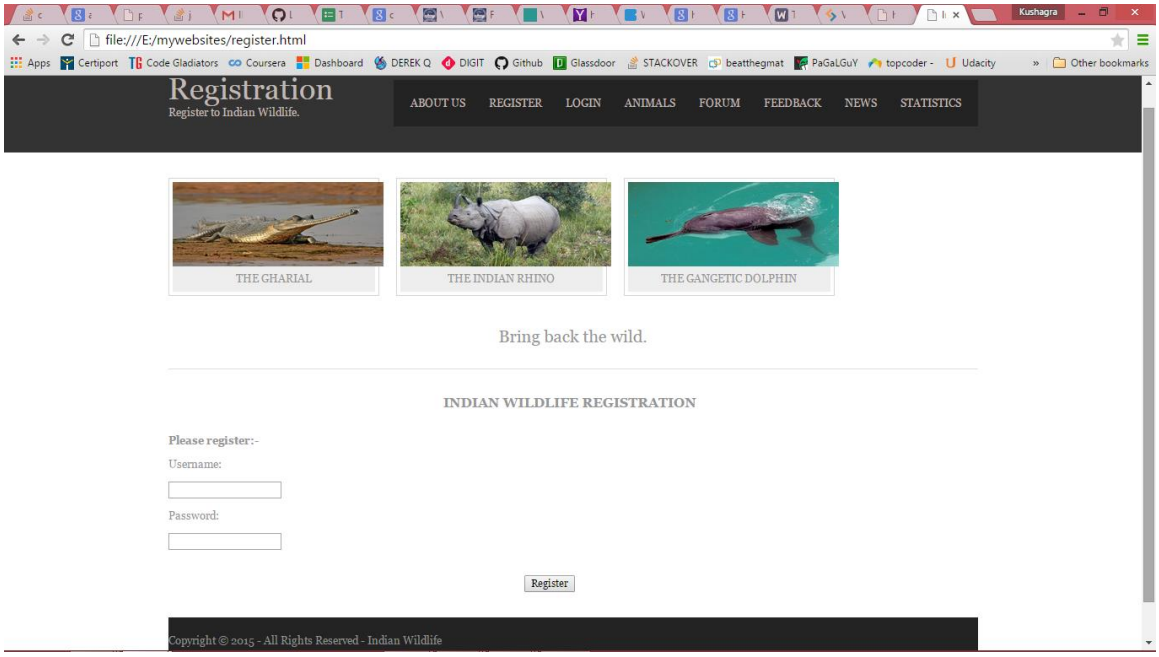


Figure 16: Registration

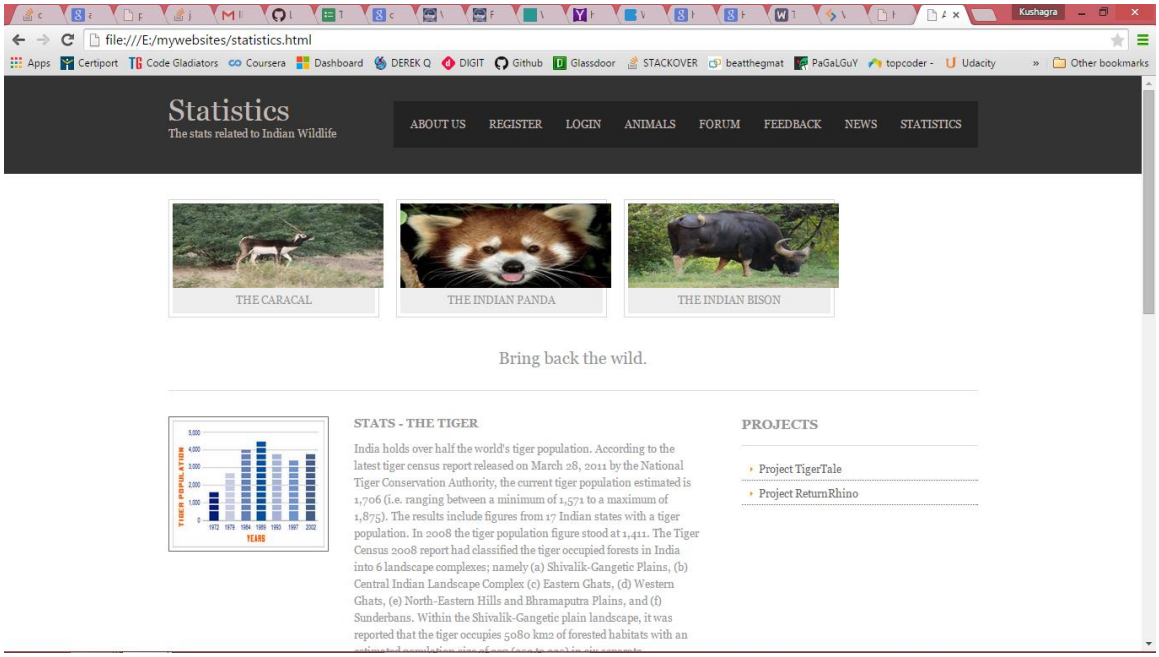


Figure 17: Statistics

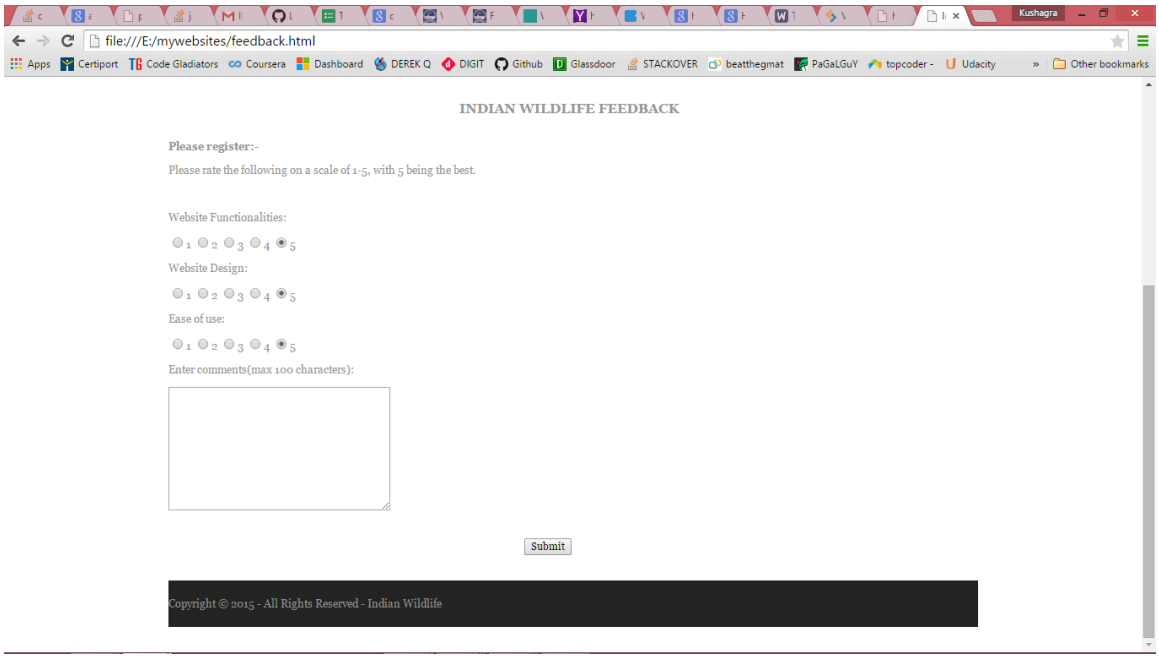


Figure 18: Feedback

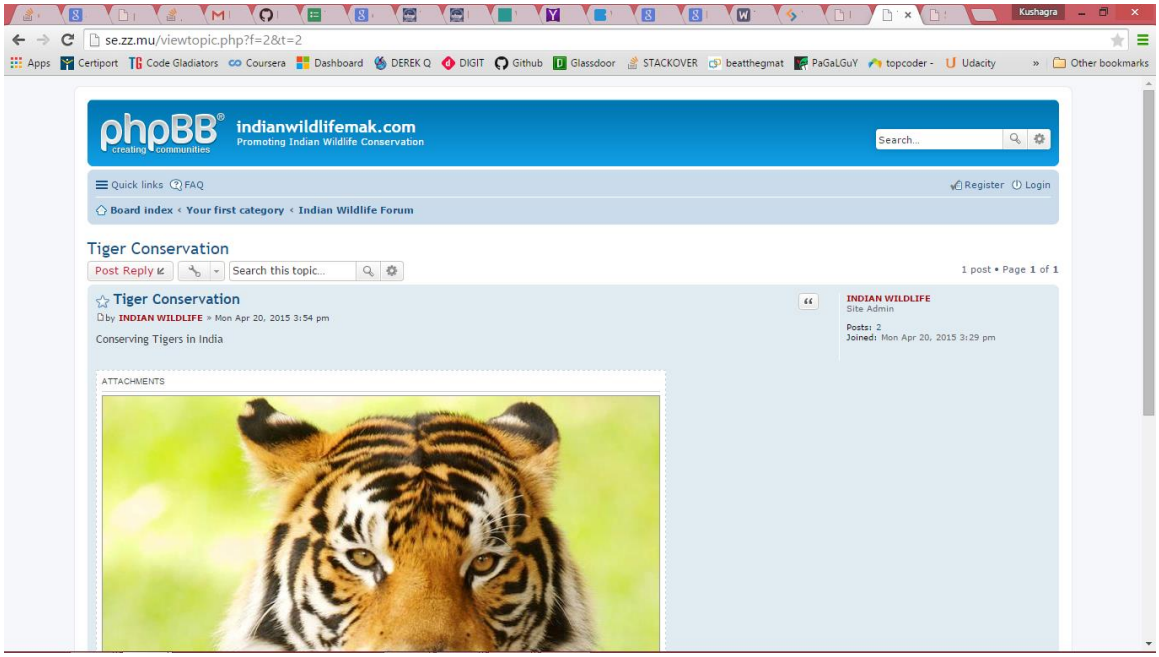


Figure 19: Forum

4.4 Alternate Designs

Indian Wildlife could also have been implemented as an Android or iOS application. But the reason for choosing a website over it is that a website has more reachability and is easier to maintain and update.

5. Coding

```php
<?php
require 'dbconnect(require).php';

$a=$_POST["uname"];
$b=$_POST["pswd"];

$sql = "SELECT username, password FROM iwregister WHERE username='".$a."' AND password='".$b."'";
$result = $conn->query($sql);
$row = $result->fetch_assoc();

if($row["username"]==$a && $row["password"]==$b)
    echo "User logged in successfully";
else
    echo "No such user exists";

//Check why error in else statement is always showing
/*if ($conn->query($sql) === TRUE) {
    echo "User logged in successfully";
} else {
    echo "Error: " . $sql . "<br>" . $conn->error;
}
*/
$conn->close();

?>
```

Figure 20: Login Code

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
<head>
 <title>Indian Wildlife</title>
 <meta charset="iso-8859-1">
 <link rel="stylesheet" href="styles/layout.css" type="text/css">
</head>
<body>
<div class="wrapper row1">
  <header id="header" class="clear">
    <div id="hgroup">
      <h1><a href="index.html">Indian WIldlife</a></h1>
      <h2>A measure to save our diverse wildife.</h2>
    </div>
    <nav>
      <ul>
        <li><a href="about us.html">About us</a></li>
        <li><a href="register.html">Register</a></li>
        <li><a href="login.html">Login</a></li>
        <li><a href="Animals.html">Animals</a></li>
        <li><a href="http://se.zz.mu">Forum</a></li>
        <li><a href="feedback.html">Feedback</a></li>
        <li><a href="news.html">News</a></li>
        <li class="last"><a href="statistics.html">Statistics</a></li>
      </ul>
    </nav>
  </header>
</div>
 <!-- content -->
<div class="wrapper row2">
  <div id="container" class="clear">
    <!-- content body -->
    <div id="homepage">
```

Figure 21: Homepage Code Excerpt

6. Testing

6.1 Test Cases

Table 6: Test Cases

Test id:	Test objective:	Preconditions:	Steps:	Test data:	Expected result:	Post conditions:	Test Case Status:
1.	Successful creation of the user account	The software should be connected to the database	1. In the login page, enter the username, password, sex and the date of birth. 2. Click the sign up button	1. A valid user name is to be entered "John" 2. The password length should be max 25 "abcd_123!!!" 3. All fields are compulsory.	The message as "you have registered successfully" should be displayed.	The user is now asked to go to the login page again from where he/she can login again.	Pass
2.	Successful user login	A valid User account to login to be available	1. In the login page, enter the userid, password, and the captcha. 2. Click the sign in button.	1. A valid user id is to be entered (randomly generated by the software) 2. The password length should be max 25 "abcd_123!!!" 3. The captcha should be entered correctly	The user is logged successfully and is redirected to the home page.	The user name is displayed on the homepage.	Pass

				4. All fields are compulsory			
3.	Error message on unsuccessful user login.	A valid User account to login to be available	1. In the login page, enter the userid, password, and the captcha. 2. Click the sign in button	1. An invalid user id or password or both have been entered. Userid:12345(not stored in the database for that user) Password:"abcd_1234!!" (not matching with the stored password.)	An Error message is displayed and the user is not logged in to the chat software. The message is displayed as "Invalid userid/password".	The user cannot get past the login page.	Fail
4.	Feedback given by the user.	Should have a registered user account.	1. Click on the feedback link. 2. Write your feedback in the feedback text area. 3. Click OK to submit.	Give your Feedback: "I think this site is very informative and helpful"	A message "Your feedback has been submitted successfully" is displayed.	After giving the feedback, the user is directed to the homepage.	Pass
5.	Participation in Forum.	The user is logged in successfully.	1. The user searches for a specific topic. 2. Then clicks on Reply to comments and participate on the discussion.		The list of searched topic is displayed if it already exists else the message is displayed "not found" .If it is found he can start the discussion.	The user can now participate in the discussion.	Pass
6.	Statistical analysis of data.	User should be successfully logged in	1. User clicks on statistics link on the site. 2. He/She can select the type of statistical graph on any topic.	The data represented by the graph. Eg: The year wise population of Tigers	Bar graph or pie chart etc is displayed.	The user can use the data for various purposes.	Pass

7.	Check the upload of a file with size less than 10 MB	1. User should be successfully logged in 2. The size of the file should be less than 10 MB.	1. The user opens the site. 2. The user should use the attach button to attach the file. 3. Click the upload button.	The name, format and path of the file File: goo.txt	The file is successfully uploaded.	The shared media is updated.	Pass
8.	Check the upload of a file with size more than 10 MB	User should be successfully logged in	1. The user opens the site. 2. The user should use the attach button to attach the file. 3. Click the upload button.	The name, format and the path of the file. File: abc.mp3, jool.jpg	The file is not successfully uploaded as the size limit exceeds	The shared media is not updated and the file is deleted.	Fail

6.2 Traceability Matrix

Table 7: Traceability Matrix

Test case id: / Requirements:	Test case 1	Test case2	Test case 3	Test case 4	Test case 5	Test case 6	Test case 7	Test case 8
Registration of new users:	●							
Signing in of returning users		●	●					
Recording the feedback of the user				●				
Initiation of the discussion					●			
Analysis of data						●		
Uploading of file							●	●

6.3 Testing Tools

- Phpbb was used for forum management and account creation. It is an online client that is used for the creation of the forum and testing data related to login and registration. Updation and Administrator Control Panel area also managed using phpbb.

- Post Cast Server was used for sending the newsletters. The user can enter his/her email id in the post cast server which will be used to deliver the newsletter to the user.

7. Configuration Management

Checkpoints have been created in the work and allowing to go back to those checkpoints when required. This essentially means revisiting the work back in time. Once one is back to such a checkpoint, one can also deviate from the original path chosen. This is what version control systems do.

When using version control, the main code is present on one central repository or distributed over many repositories. Everyone working on the code has a local copy of what they are working on in their local or remote systems. This local copy may be a file, some files and directories or the whole repository, depending on the software. Version control system software helps in the management of this code. Besides that, non programmers can also use such software, for example, to manage documents. Git has been used for version control.

8. Conclusion

The Indian Wildlife Project has been completed successfully. It monitors statistics related to endangered species, jeopardized habitats, unbalanced ecosystems, illegal hunting of animals, poaching, and unfavorable climate changes. Secure registration and profile management facilities with registered members, government and NGOs are there. There is an enchanting gallery of animals to help promote their cause. Vivid description about the animals is given. Members can form groups to organize local meetings, wildlife forums, periodicals and wildlife camps. Registered members post relevant photos, videos and other data and can also participate in the forum. Regular updates and news flashes about recent events are incorporated. Members can also give their feedback. Also, the site will provide ample job opportunities to wildlife enthusiasts. The main aim is to make the people aware about the importance of conservation of wildlife so that everyone realizes the importance of this issue and contributes a hand. Hope the effort contributes to the conservation of Indian Wildlife.

9. Bibliography

www.wwf.org
www.wikipedia.com
www.w3schools.com
www.worldwildlife.org
www.phpbb.com
www.postcastserver.com
www.hostinger.in
www.smartftp.com