



اُنِيُوَرَسِيْتِي تِيكْنُولُوْجِي مَارَا  
UNIVERSITI  
TEKNOLOGI  
MARA

**FACULTY**

COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS

**PROGRAMME**

CDCS240 BACHELOR OF INFORMATION TECHNOLOGY (HONS.)

**COURSE**

CSC584 – JAVA ENTERPRISE

**GROUP**

NBCS2404B

**PROJECT ASSESSMENT**

WEB BASED APPLICATION (40%)

**PREPARED FOR**

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## **Group project: A web-based application development.**

### **A. Project Description:**

Assume that you have a company that need a web-based application that can manage online information or process happen in the company. For example, an information system for managing inventory or parcel delivery.

### **B. Project Requirements:**

You need to develop a web application that based on the company requirements. The web application should have at least four (4) modules as given below:

- a. Login/Logout : Allow user to login and logout from the web application using session management.
- b. Registration: Allow new user to register to the web system.
- c. Information management: Create / Read / Update / Delete  
Allow user to manage information from a database such as to create, read, update and delete information from the database.
- d. Dashboard : To provide user an overview of the process or information by different data representations.

### **C. System specification**

You are required to develop a web application using Java Web Technology and the Model-View-Controller (MVC) framework. The application must consist of the following components:

- Model (JavaBean): Handles business logic and data manipulation.
- View (JSP): Manages the user interface and displays data.
- Controller (Servlet): Controls request handling and application flow.

### **D. Project Deliverables**

- a. A storyboard  
You need to prepare HTML files to show the flow/ structure of the web application and database ERD that have at least four tables.
- b. A web application  
You need to submit a web application project using Java Web Technology
- c. User manual  
You need to prepare a user manual for the web application.

### **E. Project Assessment (40%)**

- a. Project storyboard (10%)
- b. Web application (25%)
- c. Presentation (5%)

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## 1. INTRODUCTION

Wildlife conservation is the practice of protecting animal species and their habitats to ensure biodiversity and ecological balance. As human activities such as deforestation, urbanization, and poaching continue to threaten various species, conservation efforts have become crucial in mitigating the loss of biodiversity. Organizations and governments worldwide have implemented policies, such as protected areas, wildlife corridors, and anti-poaching laws, to safeguard vulnerable species (WWF, 2023). Conservation also involves restoring degraded ecosystems, reintroducing species to their natural habitats, and promoting sustainable human-wildlife coexistence.

The significance of wildlife conservation extends beyond environmental concerns; it also has economic, cultural, and scientific implications. Many communities depend on wildlife for tourism, which generates revenue and provides employment opportunities (IUCN, 2022). Additionally, preserving genetic diversity in wildlife contributes to medical and agricultural advancements. Climate change further exacerbates conservation challenges, making habitat protection and species adaptability crucial aspects of conservation strategies. As a result, conservationists emphasize global cooperation, policy enforcement, and public awareness to ensure the long-term survival of diverse species (UNEP, 2021).

Our group project focuses on developing a comprehensive Wildlife Conservation System using HTML, Java, and databases to enhance wildlife monitoring and protection efforts. This system will provide a digital platform for tracking endangered species, managing conservation data, and facilitating communication between researchers, conservationists, and authorities. The front-end, built with HTML, ensures an intuitive user interface, while Java powers the backend logic, enabling efficient data processing. Additionally, a robust database will store crucial information such as species population, habitat conditions, and reported threats. By integrating these technologies, our project aims to support wildlife conservation initiatives through real-time data accessibility, improved decision-making, and streamlined reporting mechanisms.

## 2.0 MVC Framework Design

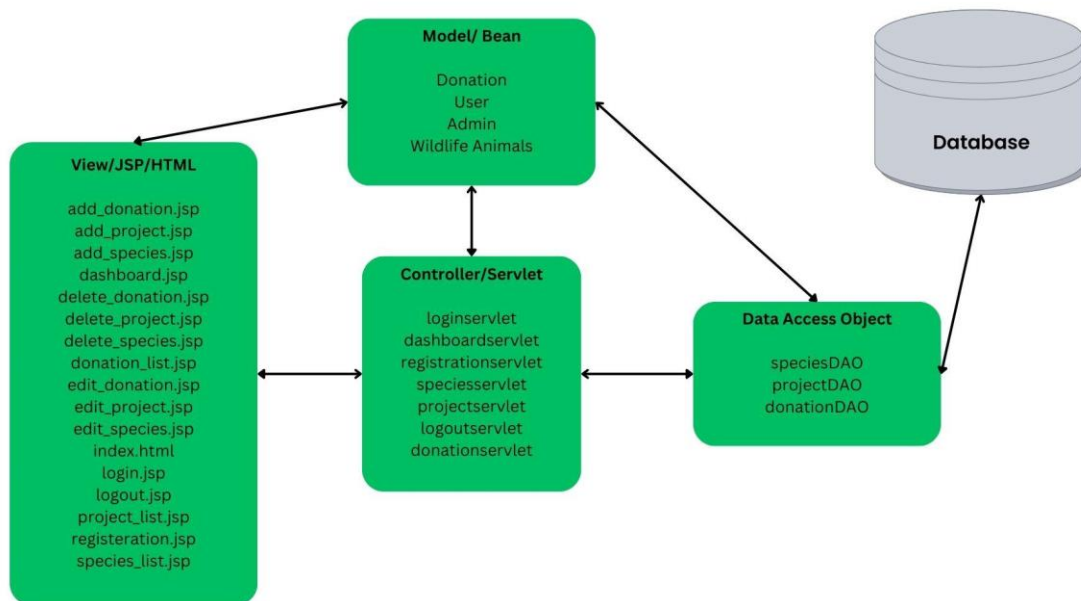
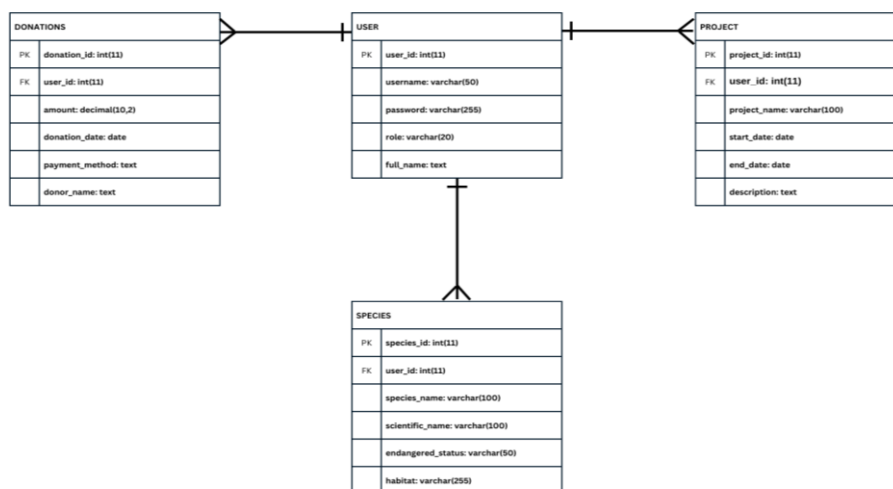


Figure 0: shows the Model View Controller (MVC) Framework Design for the Wildlife Conservation System

## 2.1 ENTITY RELATIONSHIP DIAGRAM



## 2.2 DATABASE TABLE

### USER TABLE

Server: 127.0.0.1 > Database: wildlife_conservation > Table: users										
Browse Structure SQL Search Insert Export Import Privileges Operations Triggers										
Table structure Relation view										
	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	user_id	int(11)			No	None			Change  Drop  More
<input type="checkbox"/>	2	username	varchar(50)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	3	password	varchar(255)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	4	role	varchar(20)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	5	full_name	text	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
↑ <input type="checkbox"/> Check all With selected: Browse Change Drop Primary Unique Index Spatial Fulltext										

### PROJECT TABLE

Server: 127.0.0.1 > Database: wildlife_conservation > Table: projects										
Browse Structure SQL Search Insert Export Import Privileges Operations Triggers										
Table structure Relation view										
	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	project_id	int(11)			No	None		AUTO_INCREMENT	Change  Drop  More
<input type="checkbox"/>	2	project_name	varchar(100)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
<input type="checkbox"/>	3	start_date	date			Yes	NULL			Change  Drop  More
<input type="checkbox"/>	4	end_date	date			Yes	NULL			Change  Drop  More
<input type="checkbox"/>	5	description	text	utf8mb4_general_ci		Yes	NULL			Change  Drop  More

## DONATION TABLE

Server: 127.0.0.1 » Database: wildlife\_conservation » Table: donations

[Browse](#)
[Structure](#)
[SQL](#)
[Search](#)
[Insert](#)
[Export](#)
[Import](#)
[Privileges](#)
[Operations](#)
[Triggers](#)

[Table structure](#)
[Relation view](#)

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/> 1	donation_id	int(11)			No	None		AUTO_INCREMENT	Change  Drop  More
<input type="checkbox"/> 2	amount	decimal(10,2)			Yes	NULL			Change  Drop  More
<input type="checkbox"/> 3	donation_date	date			Yes	NULL			Change  Drop  More
<input type="checkbox"/> 4	payment_method	text	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
<input type="checkbox"/> 5	donor_name	text	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
<input type="checkbox"/> 6	user_id	int(11)			No	None			Change  Drop  More

## SPECIES TABLE

Server: 127.0.0.1 » Database: wildlife\_conservation » Table: species

[Browse](#)
[Structure](#)
[SQL](#)
[Search](#)
[Insert](#)
[Export](#)
[Import](#)
[Privileges](#)
[Operations](#)
[Triggers](#)

[Table structure](#)
[Relation view](#)

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/> 1	species_id	int(11)			No	None		AUTO_INCREMENT	Change  Drop  More
<input type="checkbox"/> 2	species_name	varchar(100)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
<input type="checkbox"/> 3	scientific_name	varchar(100)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
<input type="checkbox"/> 4	endangered_status	varchar(50)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More
<input type="checkbox"/> 5	habitat	varchar(255)	utf8mb4_general_ci		Yes	NULL			Change  Drop  More

3. USER MANUAL

System complimentary of INSERT, UPDATE and DELETE.

1. HOMEPAGE

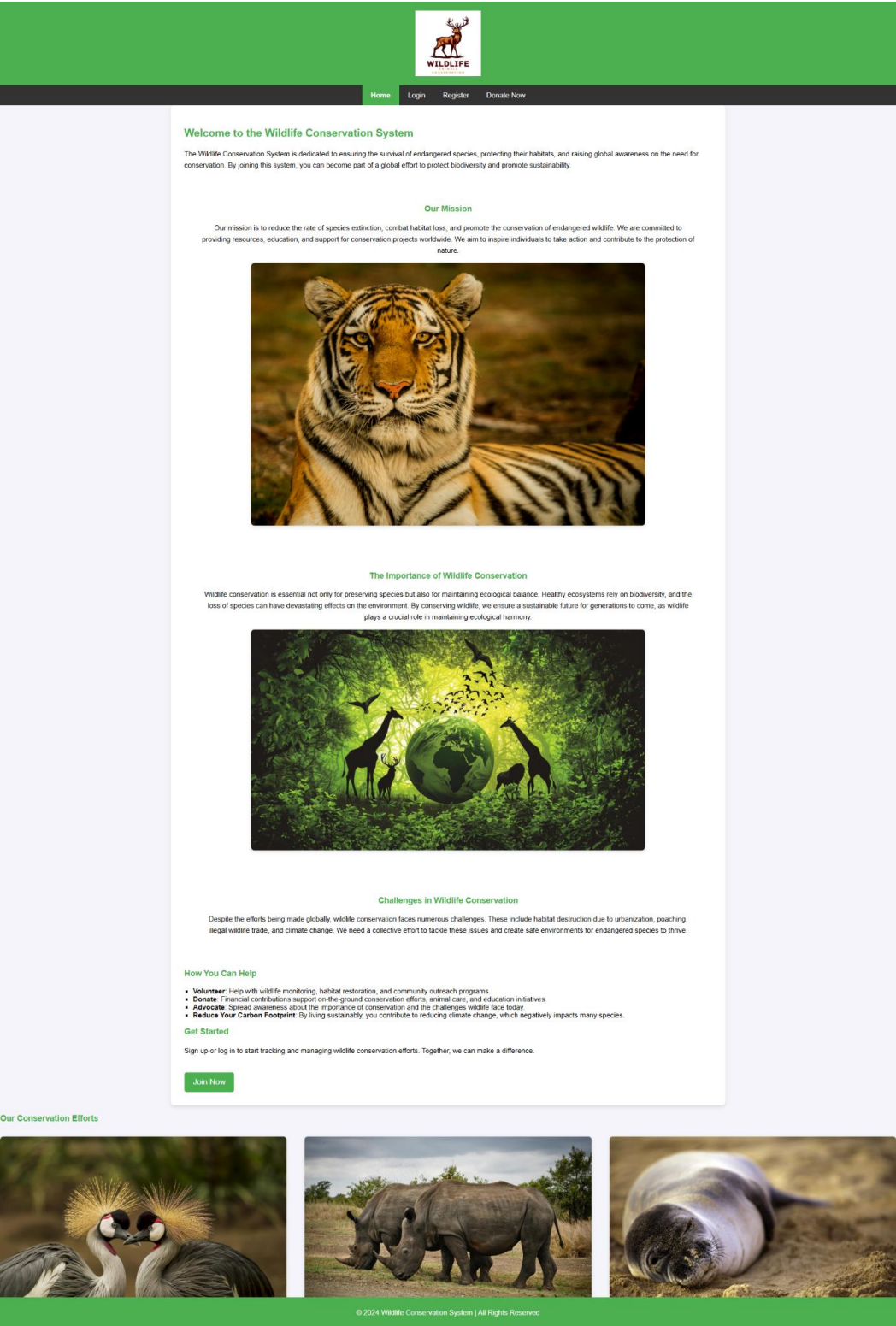
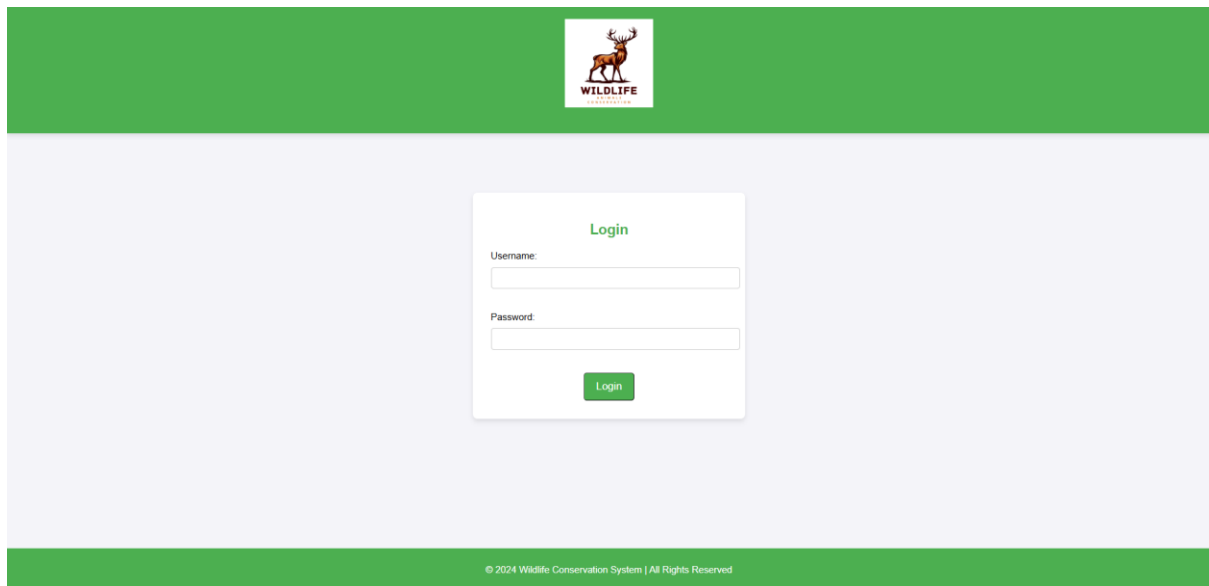


Diagram 1: Welcome page for the newcomer to get information about wildlife conservation.



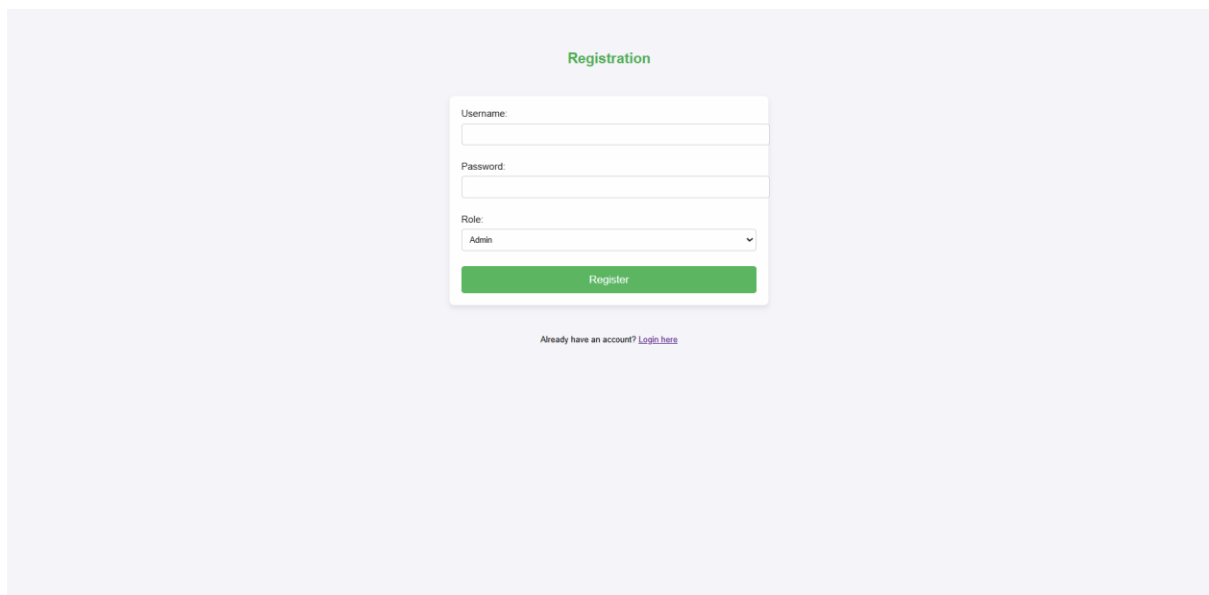
## 2. LOGIN PAGE



The login page features a green header with a logo of a deer and the text "WILDLIFE CONSERVATION SYSTEM". The main content area is light gray and contains a white login form. The form has a title "Login" in green, followed by "Username:" and a text input field, "Password:" and another text input field, and a green "Login" button. The footer is green and contains the text "© 2024 Wildlife Conservation System | All Rights Reserved".

Diagram 2: Login page for the user and admin.

## 3. REGISTER PAGE



The registration page features a light gray background with a white registration form. The form has a title "Registration" in green, followed by "Username:" and a text input field, "Password:" and another text input field, and a "Role:" dropdown menu with "Admin" selected. A green "Register" button is at the bottom of the form. Below the form, there is a link: "Already have an account? [Login here](#)".

Diagram 3: Register page for the user and admin.

#### 4. DONATION PAGE (ACCESS GUEST)

The screenshot shows a web form titled "Add New Donation" in green text. The form is centered on a light gray background. It contains the following fields: "Donation Amount:" with a text input field; "Donation Date:" with a date picker showing "mm / dd / yyyy"; and "Payment Method:" with a dropdown menu labeled "Select Payment Method". Below these fields are two green buttons: "Add Donation" and "Back to Homepage". At the bottom of the page, there is a green footer bar with the text "© 2024 Wildlife Conservation System | All Rights Reserved".

Diagram 4: Donation page for the guest.

#### 5. DONATION PAGE (ACCESS ADMIN)

The screenshot shows a web form titled "Add New Donation" in green text. The form is centered on a light gray background. It contains the following fields: "Donor Name:" with a text input field containing the value "Harith"; "Donation Amount:" with a text input field and a small downward arrow icon; "Donation Date:" with a date picker showing "mm / dd / yyyy"; and "Payment Method:" with a dropdown menu labeled "Select Payment Method". Below these fields are two green buttons: "Add Donation" and "Back to Dashboard".

Diagram 5: Donation page for the admin.

6. ADMIN PAGE (SPECIES LIST)

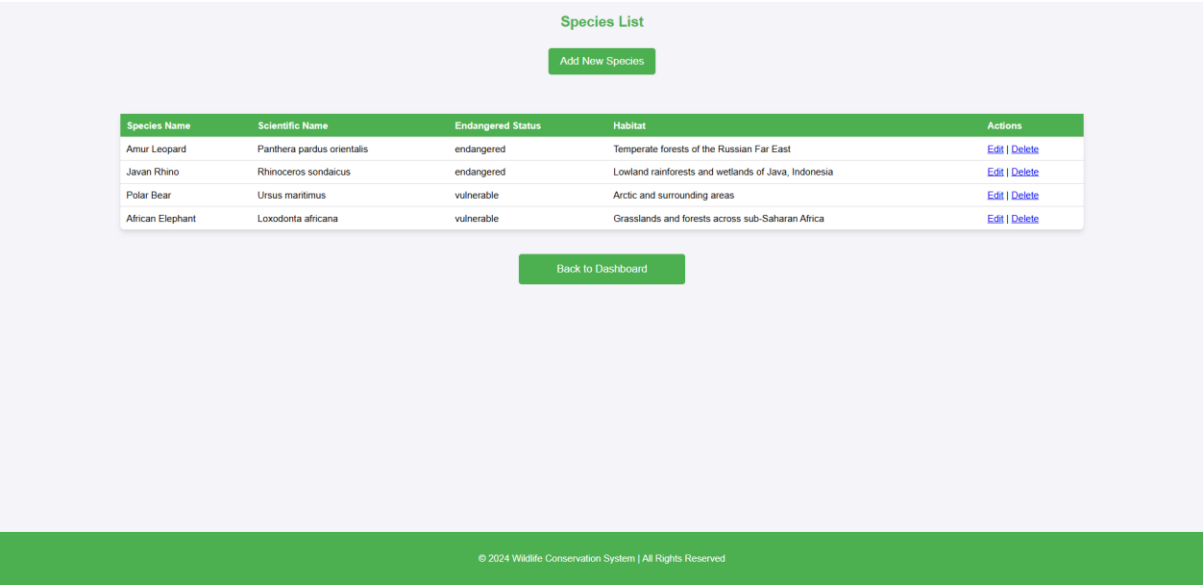


Diagram 6: Species listing page for the admin track the wildlife animals' status.

7. ADMIN PAGE (ADD SPECIES)

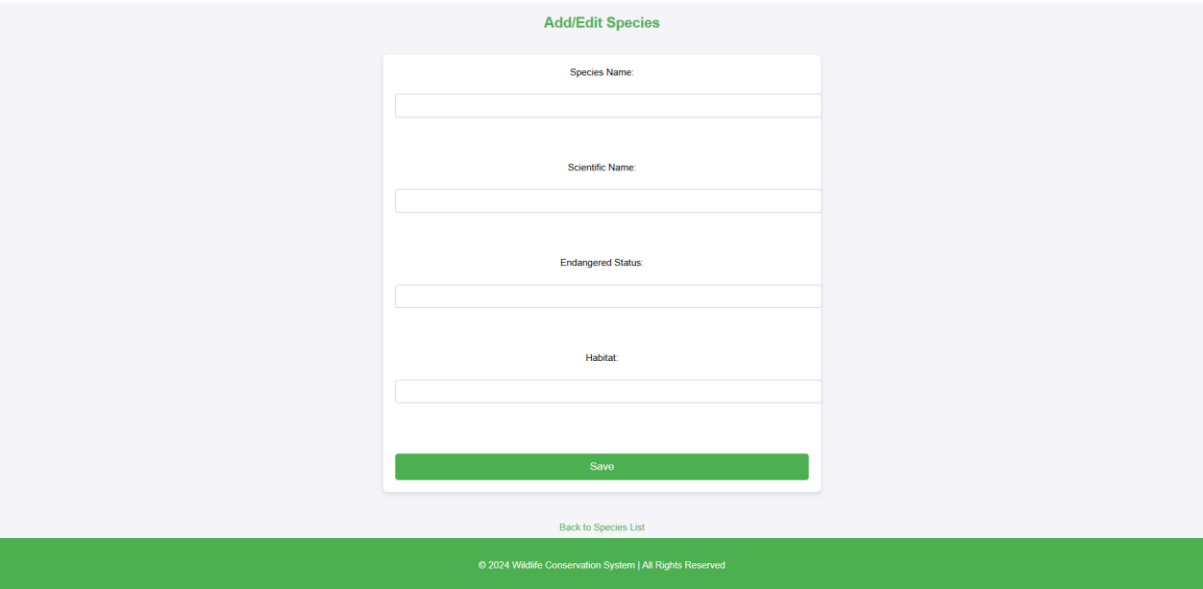


Diagram 7: Add new animal listing features that only admins are accessible. Admin can insert the data about the animals' species name, scientific name, endangered status, and habitat.

## 8. ADMIN PAGE (EDIT SPECIES)

Edit Species

Species Name: Amur Leopard

Scientific Name: Panthera pardus orientalis

Endangered Status: endangered

Habitat: Temperate forests of the Russian Far East

Save Changes

[Back to Species List](#)

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Diagram 8: Edit animal listing feature that only admins are accessible. Admin can edit the data about the animals' species name, scientific name, endangered status, and habitat.

## 9. ADMIN PAGE (DELETE SPECIES)

Are you sure you want to delete this species?

Species Name: Amur Leopard

Scientific Name: Panthera pardus orientalis

Endangered Status: endangered

Habitat: Temperate forests of the Russian Far East

Delete Species

Cancel

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Diagram 9: Delete animal listing feature that only admins are accessible. Admin can delete the wildlife animals' status if required.

10. ADMIN PAGE (ADD PROJECT)

Add Project

Project Name:

Start Date:

mm / dd / yyyy

End Date:

mm / dd / yyyy

Description:

Add Project

Back to Project List

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Diagram 10: Add new project features that only admins are accessible. Admin can add new articles or news regarding the project related to wildlife conservation.

11. ADMIN PAGE (EDIT PROJECT PAGE)

Add Project

Project Name:

Start Date:

mm / dd / yyyy

End Date:

mm / dd / yyyy

Description:

Add Project

Back to Project List

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Diagram 11: Edit project feature that only admins are accessible. Admin can edit the data about the existing project in case there is an update about the current progress.

## 12. ADMIN PAGE (DELETE PROJECT)

Are you sure you want to delete this project?

Project Name: Wildlife Habitat Restoration

Start Date: 2023-01-01

End Date: 2023-12-31

Description: Restoring critical habitats for endangered species in Africa.

Delete Project

Cancel

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Diagram 12: Delete project feature that only admins are accessible. Admin can delete the project once it's not relevant anymore to be shown.

## 13. ADMIN PAGE (DONATION LIST)

Wildlife Conservation System

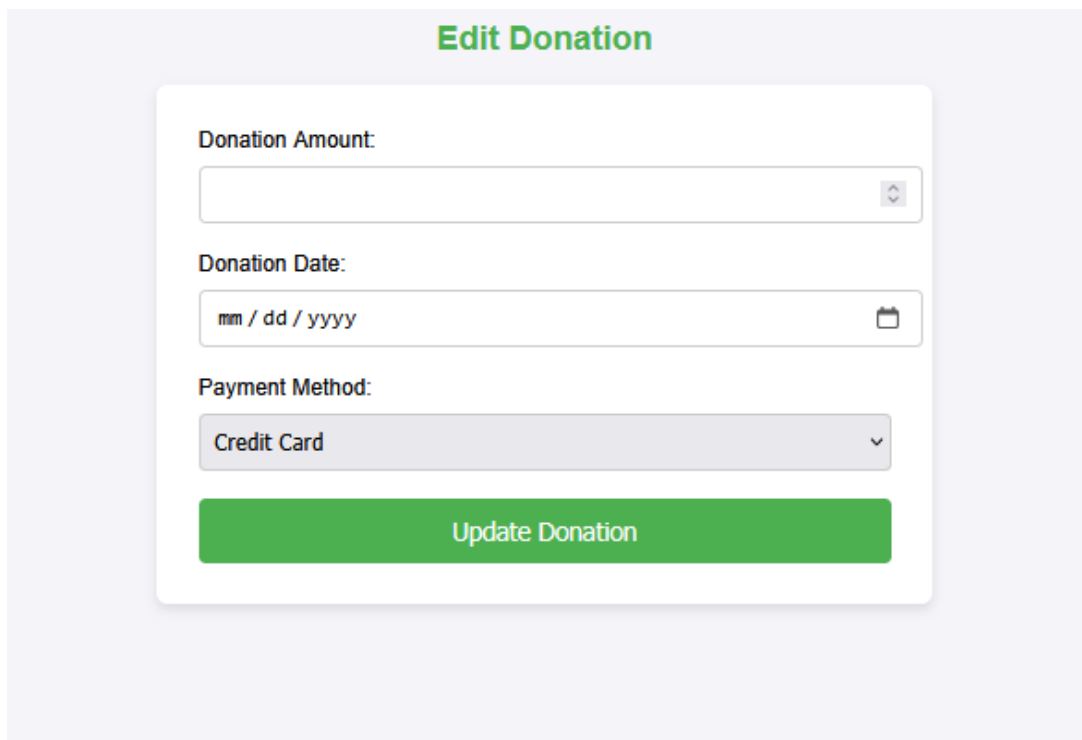
Donation List

Donation Date	Donor Name	Donation Amount	Payment Method	Actions
2025-02-06	guest	27.00	credit_card	Edit   Delete
2025-02-06	guest	10.00	shoppeepay	Edit   Delete
2025-02-03	guest	32.00	touch_n_go	Edit   Delete
2025-02-02	Harith	11.00	touch_n_go	Edit   Delete
2025-02-02	guest	15.00	dulthow	Edit   Delete
2025-01-19	guest	22.00	touch_n_go	Edit   Delete
2025-01-19	guest	20.00	touch_n_go	Edit   Delete
2025-01-01	guest	1.00	touch_n_go	Edit   Delete
2025-01-01	guest	1.00	touch_n_go	Edit   Delete
2024-12-30	guest	64.00	dulthow	Edit   Delete
2024-12-27	guest	20.00	dulthow	Edit   Delete
2024-12-27	guest	10.00	shoppeepay	Edit   Delete
2024-12-27	guest	10.00	touch_n_go	Edit   Delete
2024-12-19	guest	250.00	credit_card	Edit   Delete
2023-07-15	guest	250.00	Shoppeepay E-Wallet	Edit   Delete
2023-07-10	guest	100.00	Debit Card	Edit   Delete
2023-07-01	guest	150.00	Credit Card	Edit   Delete
2023-06-25	guest	500.00	Touch 'n Go E-Wallet	Edit   Delete

Back to Dashboard

Diagram 13: Donation lists are only accessible to admins. Admin can view all the donations whether it comes from the user or the guest.

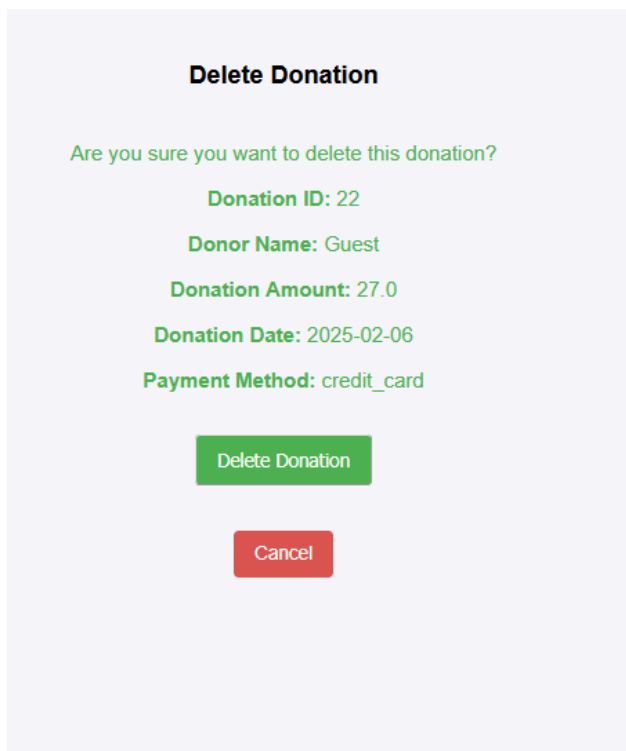
#### 14. ADMIN PAGE (EDIT DONATION)



The image shows a web form titled "Edit Donation" in green text. The form is contained within a white box with a subtle shadow. It includes three input fields: "Donation Amount" with a numeric input field and a small up/down arrow icon; "Donation Date" with a date input field showing "mm / dd / yyyy" and a calendar icon; and "Payment Method" with a dropdown menu currently showing "Credit Card" and a downward arrow. At the bottom of the form is a large green button labeled "Update Donation".

Diagram 14: Edit donation features are only accessible to admins. Admin can edit the data about the donation information.

#### 15. ADMIN PAGE (DELETE DONATION)



The image shows a confirmation dialog titled "Delete Donation" in bold black text. Below the title is a green question: "Are you sure you want to delete this donation?". This is followed by a list of donation details in green text: "Donation ID: 22", "Donor Name: Guest", "Donation Amount: 27.0", "Donation Date: 2025-02-06", and "Payment Method: credit\_card". At the bottom are two buttons: a green "Delete Donation" button and a red "Cancel" button.

Diagram 15: Delete donation features are only accessible to admins. Admin can delete the donation history if required.

### 16. USER PAGE (SPECIES LIST – VIEW ONLY)

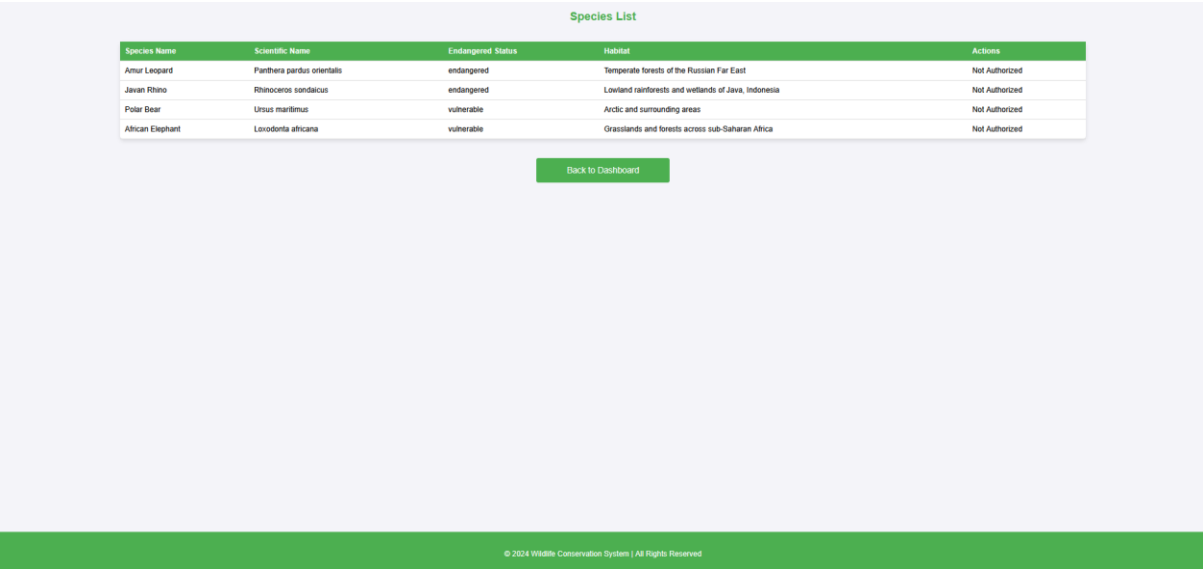


Diagram 16: The user can only view the species list. No additional features are granted.

### 17. USER PAGE (ADD DONATION – USER ONLY)

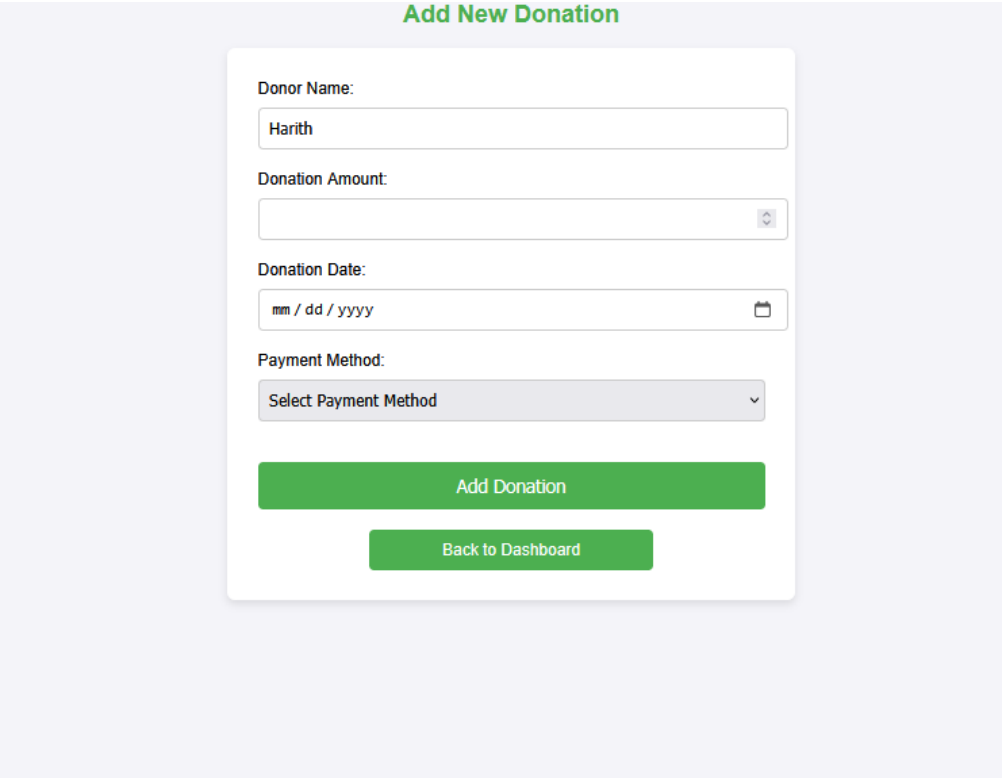


Diagram 17: The user can donate for the act of helping wildlife conservation. They have to enter their name, amount of donation, date, and also choose their preferred payment method.



18. Project list page (admin)

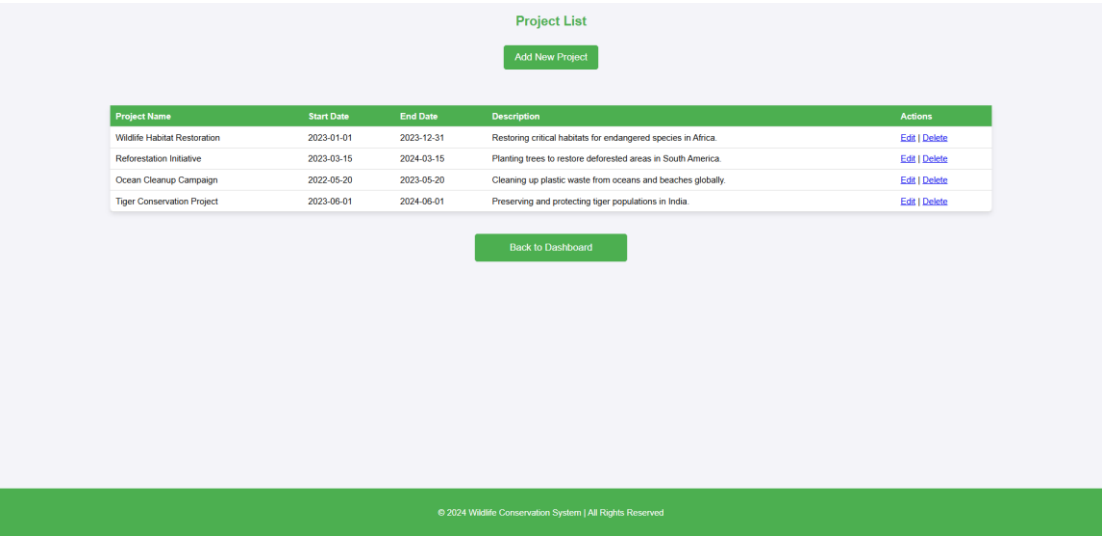
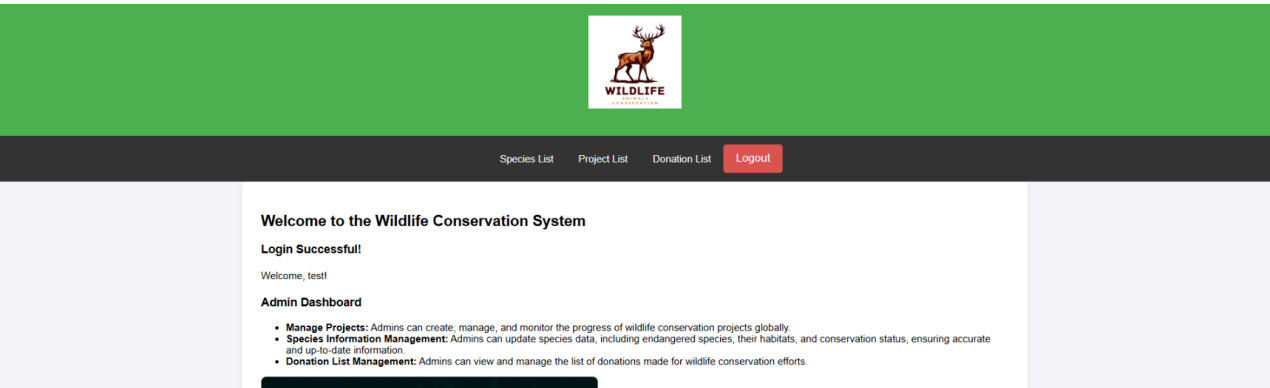
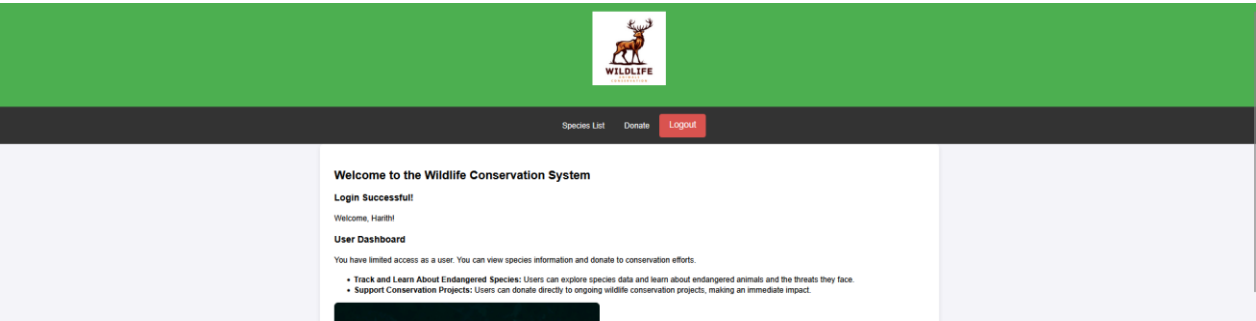


Figure 18

19. Dashboard (admin)



20. Dashboard (user)



IMPROVEMENT

-to add dashboard page that provide summary of data collected

#### 4. CONCLUSION

The integration of technology into wildlife conservation has become increasingly vital in addressing challenges such as habitat loss, poaching, and human-wildlife conflict. Innovations like camera traps, drones, and machine learning algorithms have enhanced the ability to monitor and protect endangered species. For instance, camera traps have emerged as powerful tools for conservation and ecological research, enabling non-invasive monitoring of wildlife populations and behaviors (World Wildlife Fund [WWF], n.d.). Similarly, drones equipped with thermal cameras and machine learning capabilities have been utilized to monitor endangered animals automatically, aiding in efficient data collection and analysis (Fauna & Flora International, 2023).

Collaborative efforts among conservation organizations, researchers, and local communities are essential to maximize the impact of these technological advancements. By embracing innovative tools and fostering partnerships, conservationists can develop more effective strategies to protect biodiversity. The Technology for Wildlife Foundation exemplifies this approach by acquiring, analyzing, and visualizing spatial data to inform conservation decisions (Technology for Wildlife Foundation, n.d.). As technology continues to evolve, its thoughtful application in wildlife conservation holds promise for preserving ecosystems and ensuring the survival of diverse species for future generations.

In conclusion, our Wildlife Conservation System, developed using HTML, Java, and databases, serves as a technological solution to enhance wildlife monitoring and protection. By integrating a user-friendly interface, efficient backend processing, and a well-structured database, our system enables real-time tracking of endangered species, habitat conditions, and reported threats. This project demonstrates how technology can be leveraged to support conservation efforts, providing researchers and authorities with accessible and reliable data for informed decision-making. As conservation challenges continue to evolve, our system lays the foundation for future advancements in wildlife protection, emphasizing the importance of digital solutions in preserving biodiversity and promoting sustainable conservation practices.

## 5. REFERENCES

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