

Paw Portal Development Report Summary

(Team 29 : Rei Dambaev, Prativa Khatiwada, Daisy Cortez)

Project Overview:

Paw Portal is an integrated digital platform with the goal of revolutionizing zoo management systems by centralizing and streamlining various management activities. It provides a comprehensive range of tools for maintaining animal care records, creating staff schedules, and managing resources such as enclosures, events coordination, and visitor services.

Goals and Performance Measurements:

The main objectives of PawPortal include enhancing animal care, improving staff coordination, and encouraging data-based decision making. Animal care is enhanced by tracking health records and behavioral patterns. Staff coordination is improved by using role-based access and real-time notifications to better coordinate communication during emergencies or schedule changes. Data-based decision making is encouraged by providing analytical reports that highlight performance indicators of success.

Stakeholders and User Participation:

PawPortal's success relies on the active involvement of several stakeholder groups. High-level management and financial controllers (the client) guide the system's development, while zoos, wildlife parks, and sanctuaries (the customer) deploy it to improve transparency and welfare. The hands-on users (veterinarians, animal handlers, event coordinators, and facility managers) interact with the system daily. Users are kept involved through focus groups and regular workshops to improve workflow and design choices.

Product Use Case Scenarios:

- **Animal Management:** Veterinarians perform heal-related tasks like updating records and scheduling treatments, while Facility Managers handle admin tasks such as creating animal profiles and assigning enclosures.
- **Event Management:** Event Coordinators create events, assign animals and staff to events, while Animal Handlers and Facility Managers can view event calendars and handle event cancellations or rescheduling as needed.
- **Facility Management :** Animal Handlers and Facility Managers collaborate to monitor enclosure conditions, schedule and record maintenance, generate reports, track resource usage, and update enclosure information.

Design Goals:

The design of Paw Portal overall goal is to create a simple, reliable, and powerful tool for animal management. The system should be intuitive and easy to use, only requiring minimal training, allowing zoo staff to quickly adopt the platform regardless of their technical expertise. The

system should provide real-time updates and alerts without noticeable delay, particularly for critical animal care notifications. The system should, given the critical nature of animal care, maximize uptime and data integrity. The system should accommodate the diverse requirements of different zoos, wildlife sanctuaries, and aquariums without requiring extensive customization. The design should adapt to facilities managing different species, sizes, and organizational structures.

Functional Requirements:

1. It features secure user authentication with controlled account creation and password recovery.
2. The app allows for comprehensive animal inventory management tracking species, health, and dietary needs.
3. Staff can plan and schedule zoo events.
4. Animal handlers can track food inventories and feeding schedules.
5. Integration with veterinary software to manage health records and schedule treatments.

Main Databases:

The Paw Portal application has four main databases. The Animal Database stores comprehensive information about all zoo animals including identification, species, and health status. The Event Management Database tracks scheduled shows and demonstrations, managing staff assignments and preventing conflicts. The Enclosure Database monitors habitat conditions, maintenance status, and any animal occupants. The Feeding Schedule Database documents animal feeding details including food types, quantities, and completion status.

Proposed System Architecture :

For Paw Portal implementing both MVC and Client-Server architectures would be optimal. MVC (Model-View-Controller) is ideal because it separates the system's concerns into three components: Models (Animal, Enclosure, Feeding) handle data logic, Views (Profile Pages, Schedule Pages) present information to users, and Controllers manage user input and workflow. Client-Server architecture complements MVC by providing centralized data storage and processing. The server would maintain the database containing critical animal records, schedules, and enclosure data, while multiple clients (veterinarians, handlers, managers) can access the information simultaneously from different locations. This ensures data consistency, allows for role-based access control, and supports real-time updates across all connected clients.

Costs:

The estimated development and deployment effort for Paw Portal are based on the system's overall complexity. This estimate considers the number of features, user interactions, system events, and technical requirements. With many use cases, input/output flows, and both functional and nonfunctional requirements, Paw Portal is a moderately complex project requiring careful planning, collaboration, and ongoing support.