Animal Go Final Summary

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Project Overview

Animal Go is a mobile augmented reality (AR) game designed to enhance wildlife education, encourage outdoor exploration, and foster social interaction through competitive gameplay and global animal trading. Players leverage AI-powered AR technology to digitally scan, identify, and collect real-world animals, each accompanied by detailed educational content. Gameplay includes engaging minigames where animals provide unique advantages, global animal trading to exchange rare animals, and immersive rescue missions aimed at promoting conservation awareness.

Purpose of Product, Work, and Business

Animal Go aims to motivate users to actively explore their environment, engage with wildlife, and participate socially through interactive and educational experiences. The product's success will be evaluated through metrics such as increased outdoor activity, user engagement, knowledge enhancement, and positive feedback. Major stakeholders include Niantic Labs, recognized for AR gaming innovation, and the World Wildlife Fund (WWF), dedicated to conservation and educational initiatives. Target users include general mobile gamers aged 13+, educational institutions, wildlife enthusiasts, tourists, and students.

Functional & Data Requirements

Animal Go requires:

- **AR and Geolocation:** Integration with ARCore (Android) and ARKit (iOS) to support accurate animal scanning and location-based gameplay. This ensures precise interaction with real-world animal locations, enhancing user immersion and game realism. Reliable GPS integration further enhances game accuracy, allowing location-triggered gameplay events.
- **Data Management:** Cloud-based backend (AWS) to securely manage user data, support real-time multiplayer interactions, and handle extensive animal databases efficiently. Robust data management ensures rapid retrieval and synchronization across multiple devices, enhancing user experience. Effective database structuring facilitates seamless updates and detailed analytics for continuous gameplay improvements.

Maintenance & Security

Maintenance emphasizes continuous functionality with 99.9% server uptime, rapid recovery from crashes, minimal disruptions, and an offline AR mode capable of syncing data after up to two hours of disconnection. Scheduled maintenance periods are communicated clearly to users to minimize inconvenience. Security includes role-based access control, secure transaction handling, compliance with privacy laws (GDPR/COPPA), geofencing for safety, and ethical data practices. Regular security audits and updates ensure protection against evolving cybersecurity threats.

Environment and Performance

Performance criteria include rapid animal detection, efficient multiplayer confirmations, and swift minigame loading times. The system must support high scalability to handle significant concurrent user activity, extensive animal sightings, and image storage, all while maintaining accuracy in animal recognition and GPS tracking. Usability considerations encompass multilingual support, intuitive controls, culturally inclusive content, and a user-friendly onboarding experience. The app also adapts dynamically to varying outdoor conditions, ensuring optimal performance and visibility in diverse environments.

Design Goals

The final design of Animal Go prioritizes modularity for easier updates and maintenance, cross-platform compatibility, and scalability to support millions of users. The system architecture utilizes the client-server type and is divided into clear subsystems such as user interface, AR interaction, data management, multiplayer networking, and security modules, ensuring cohesive and manageable development processes. Object design emphasizes clarity, reusability, and flexibility, incorporating the observer pattern for efficient resource management. Adherence to company ethical guidelines ensures data is used responsibly to enhance gameplay.

Final System Design Diagram