PRACTICE 1: Pollos asados

Date: *05/30/2025*

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INTRODUCTION

In this project, we developed a mobile web application focused on customer interaction and service management. The app includes functionalities such as user registration, service request, and order management. This system is intended to improve user experience and backend efficiency by providing a secure, flexible, and interactive platform.

REQUERIMENTS

1.- Register session: Handles new user registration securely

2.- Request Order: Allows users to submit custom service/product requests.

3.- Place Order: Manages standard product ordering and payment.

DEVELOPMENT

ADR 1: Selection of Requirements and Technology for Mobile App.

- Total budget: $50,000 MXN (includes development, team meals, and operational expenses)
- Key requirements:
    - Project name: Pikpollo
    - Registration for up to 500 users
    - Order system: request and place orders
    - Menu with 3 products

Platform
Mobile application for Android

Frontend (Mobile App)

- React Native, chosen due to previous experience and compatibility with Python for backend

Infrastructure

- Hosting:
    - Backend: Render.com or AWS Free Tier (supports Python and PostgreSQL)
    - Database: PostgreSQL on ElephantSQL (free plan up to 20 MB)
- Storage: Firebase Storage for menu images (free up to 1 GB)

Estimated Budget

- Team meals (5 people): $1,000 MXN/week x 4 weeks = $4,000 MXN
- Domain and hosting: $1,500 MXN (e.g., quickbite.com.mx)
- Development: $0 (free tools and internal work)
- Marketing: $5,000 MXN (social media and promotions)
- Contingency: $7,500 MXN
- Remaining funds can be used for scaling or unexpected costs

Menu (3 Products)

1. Grilled chicken (half or whole) - $80 MXN / $160 MXN
2. Chicken salad - $70 MXN
3. Mashed potatoes - $60 MXN

App Flow

1. Registration: Email and password (authentication with JWT in Python)
2. Orders:
    - User selects products
    - Confirms address (stored in PostgreSQL)
    - Simulated payment ("cash on delivery")
3. Admin: View for managing orders from the database

RESULTS

Technology stack defined:

- Frontend: React Native (prior experience, cross-platform)
- Backend: Python (with JWT for authentication)
- Database: PostgreSQL on ElephantSQL (free plan)
- Image Storage: Firebase Storage (1 GB free)
- Hosting: Render.com or AWS Free Tier

Efficient budget allocation:

- Team meals: $4,000 MXN
- Domain + Hosting: $1,500 MXN
- Marketing: $5,000 MXN
- Contingency: $7,500 MXN
- Development: $0 (free tools and internal work)
- Total committed: $18,000 MXN
- Remaining funds: $32,000 MXN for scaling or unforeseen costs

Clearly defined requirements:

- Registration for up to 500 users
- Order system with a fixed menu (3 products)
- Order flow up to delivery simulation (cash on delivery)
- Admin view for managing orders

Menu and pricing defined

ISSUES

Free plan limitations:

- ElephantSQL has a 20 MB limit. May not be enough if data volume increases.
- Firebase Storage and free hosting plans may have performance limitations.

No real payment integration:

- Only simulating cash on delivery. No digital payments planned, which limits scalability and user convenience.

Security and scalability concerns:

- JWT and personal data (like address) must be handled securely.
- Free-tier hosting may have downtime or slow response times.

Admin interface not clearly defined:

- It's unclear whether admin access will be via mobile app, web dashboard, or direct database access.

App distribution not addressed:

- Costs and process for publishing on App Store and Google Play are not included (e.g., $25 USD for Google, $99 USD/year for Apple)

CONCLUSIONS

- Feasibility: The Pikpollo project is definitely doable within the set budget and the tech stack we've chosen, especially since we have access to free tools and can rely on our internal development team.Limited initial scalability: While it works well for a pilot or MVP, we need to tackle some technical limitations (like free plans and the absence of a payment gateway) as the app grows.Smart budget planning: We've set aside a good chunk of the budget for contingencies and future growth, which gives us some much-needed flexibility.

- Be prepared to upgrade plans if we hit storage or user limits.

- Think about adding digital payment options (like Stripe or MercadoPago) in future updates.

- Let's make sure to clarify and design the admin interface.

- And of course, we need to prioritize secure handling of authentication and personal data.

GITHUB REPOSITORY

https://github.com/elvis-v7/ISOFT5_SA.git