DATABASES II

PROJECT CATCH-UP

Ruben David Montoya Arredondo, 20211020055
Hemerson Julian Ballen Triana, 20211020084
Andruew Steven Zabala Serrano 20211020071

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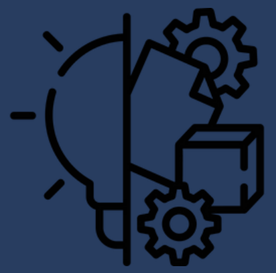
INTRODUCTION

This project seeks to develop a software solution in the context of e-commerce. The system supports multiple user roles: customers, vendors and administrators.



THE PROBLEM

• MAIN

Design an e-commerce platform architecture that can handle a high volume of requests.

• WE NEED TO

- Identify the core of an e-commerce business model.
- Identify the main requirements/needs to be met by users.
- Determine the tools to be used for development.

FIRST APROACH

01. Business model

A list of key items was generated to determine strategic relationships, activities, and sources.

03. User Stories

The main interactions that users may have with the Ecommerce platform were discussed, along with acceptance criteria.

02. Requirements

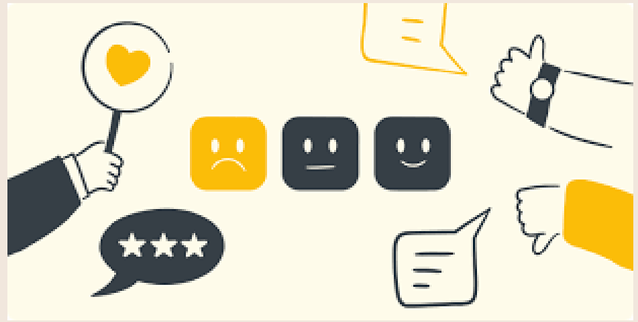
A large number of functional requirements necessary for the operation of an e-commerce site were considered, with various criteria in terms of performance, security, and availability.

04. Database Architecture

The use of a hybrid architecture was proposed, utilizing databases such as PostgreSQL and MongoDB, in order to ensure the adequate storage of critical information.

F E E D B A C K

- The report uses an incorrect format, lacks a clear business case and justification
- Includes vague and unrealistic requirements
- Poorly defined architecture and data flow



F E E D B A C K

- Low-quality visuals, and insufficient alignment between user stories and scope
- overall lacking coherence, clarity, and structured reasoning for a serious system design.

SECOND APROACH

IMPROVEMENTS

Based on the feedback received, the project was restructured to achieve greater focus and definition, integrating all components and approaching it as a complete, cohesive project.

QUERIES

Based on the defined requirements, a set of SQL queries was designed to support key operations and analytics, ensuring accurate data retrieval for products, sales, and vendor performance.

TECHNOLOGY SELECTION

Based on the revised architecture, we sought to identify the technologies that best fit our project's structure and requirements.

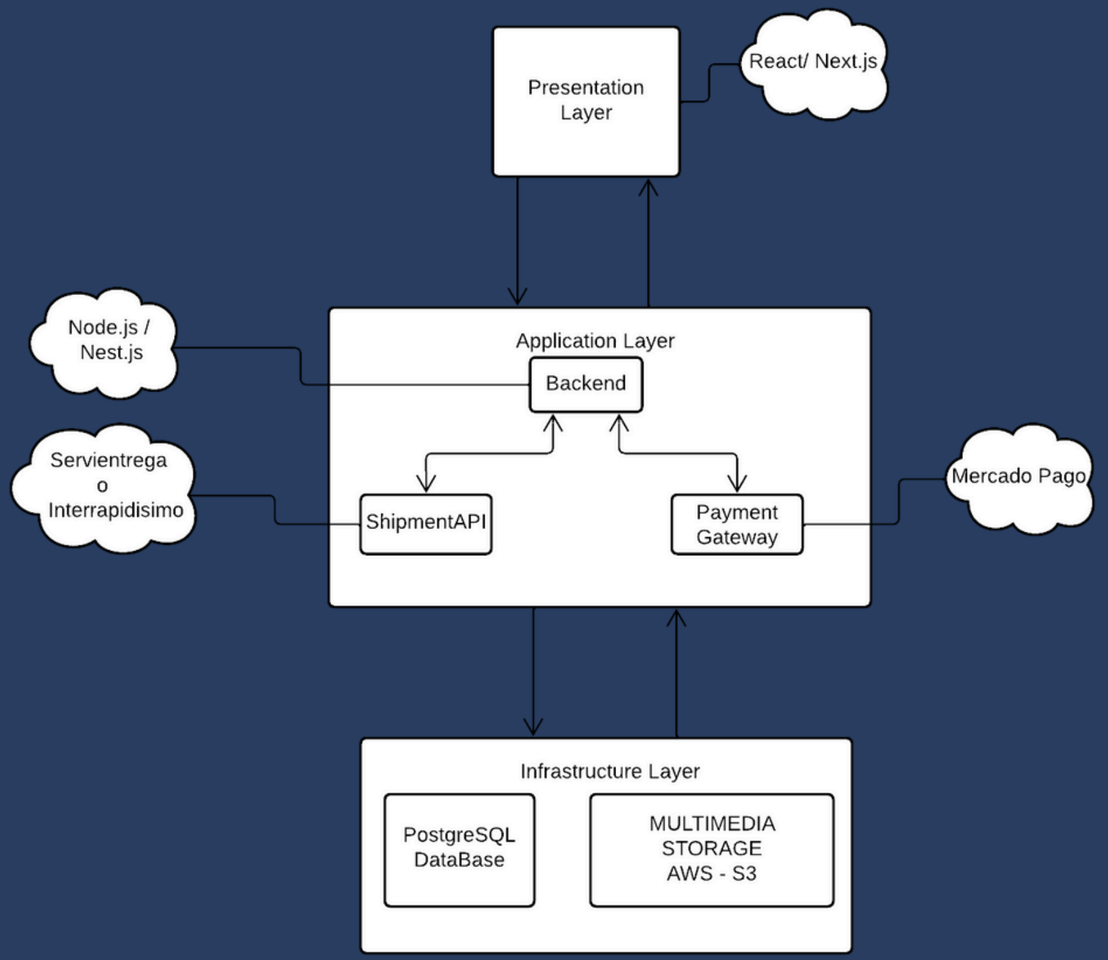
DATA FLOW

Based on the three-layer architecture, the system ensures secure and efficient data flow between the user interface, backend services, and data storage components.

INFORMATION REQUIREMENTS

Based on user interactions, the system provides essential data including product listings, sales reports, product status, and vendor ratings to ensure accurate and timely information.

THE NEW ARCHITECTURE



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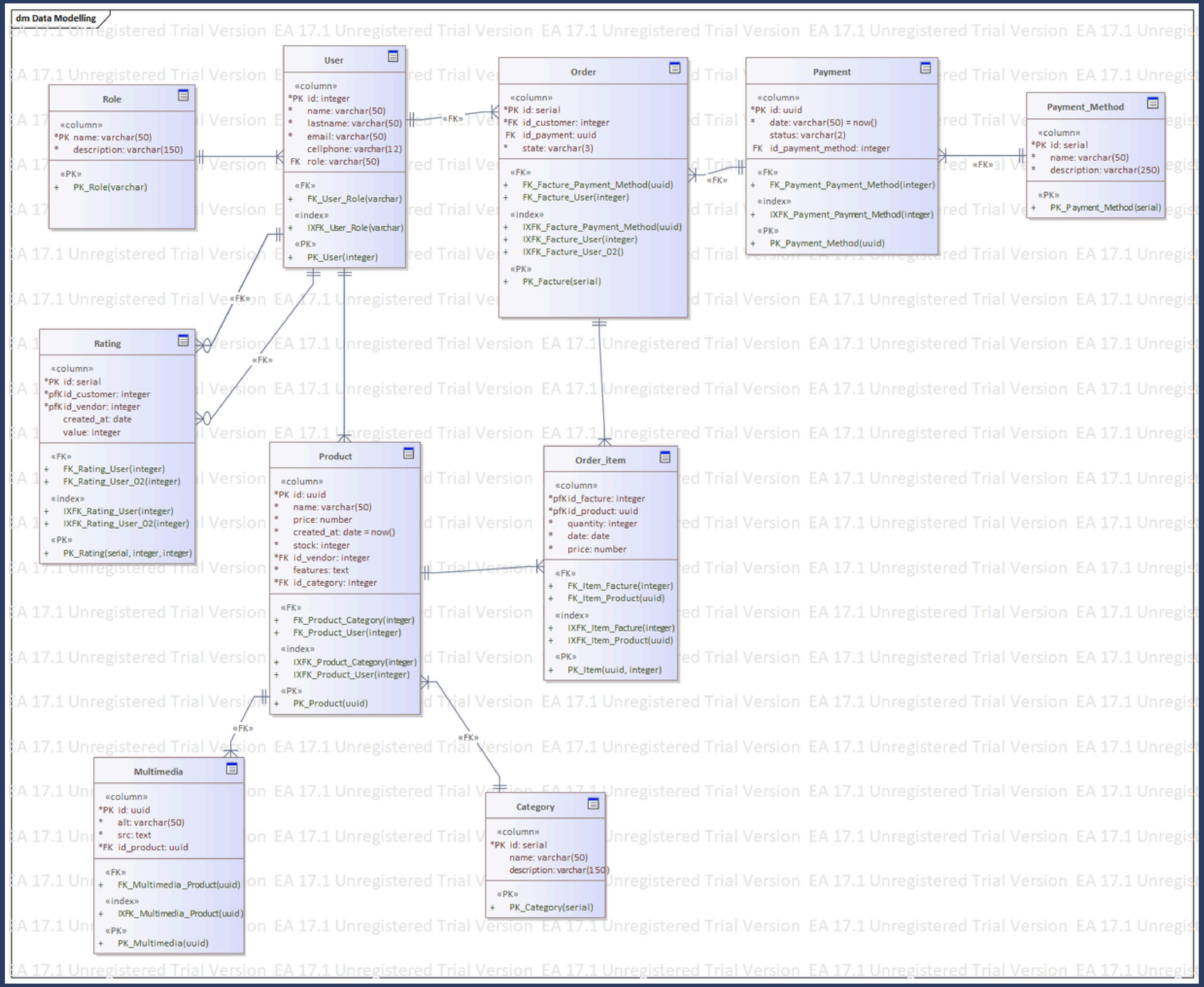


TECHNOLOGIES

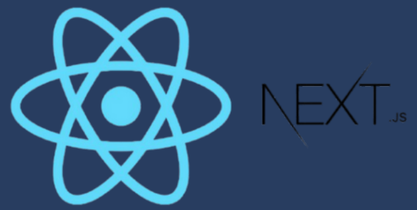
The tecnlogies that we are using are:

01 **AWS: Hosting and Object Storage**

02 **POSTGRESQL: Relational Database**

03 **Next.js: Fast and continous development**

04 **Nest.js: For its flexibility and all de node packages**



G O A L S

Security

Efinciency

Scalable

CONCLUSSIONS

The development of the BogoGo e-commerce platform is expected to demonstrate the feasibility of implementing a scalable, modular, and cloud-based solution tailored to Bogotá's growing digital commerce ecosystem.

Through the proposed three-layer architecture comprising presentation, application, and infrastructure layers the system will likely provide a clear separation of responsibilities, ensuring efficient maintenance, scalability, and adaptability for future extensions.