

Vanier College
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Application Development (Desktop)
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Deliverable 1
Optical Store Management System (OCMS)
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Project Description

Project Title

Optical Store Management System (OCMS)

The Optical Store Management System is a comprehensive software tailored to streamline the operations of optical store chains, ensuring improved service efficiency and customer satisfaction. Staff can schedule eye exams for customers based on available appointment slots. From sales staff to optometrists, employees can seamlessly check eye exam schedules and inventory. Furthermore, store managers gain tools to oversee operations, monitor stock levels, and handle complex payment scenarios. The system can be customized to address the unique requirements of individual store chains and is accessible via desktop. The commitment of OCMS lies in optimizing the optical business, making it responsive to modern needs and challenges.

Project Scope

i. Features:

- Customer Management: Store customer data securely, track their purchase history, and tailor promotions based on buying trends.
- Employee Management: Profiles for employees with personal information, qualifications, and hierarchy designation.
- Appointment Scheduling: Enables staff to book eye exams or consultations for customers.
- Inventory and Order Management: Provides tracking for frames, lenses, and potentially other optical products. It also facilitates the management of customer orders.
- Inventory Alert System: Notifies managers or staff when stock is low or there's a discrepancy.
- Multi-Store Management: Allows for seamless operations across multiple store locations.
- Payment Management: Facilitates diverse payment scenarios, supporting split payments, consolidation of orders into a single payment, and tracking of transaction histories.
- Payment Confirmation System: Sends real-time confirmations of payment to both the store and the customer.

ii. End users:

- Staff: Including sales associates and optometrists.
- Managers: Overseeing store operations and employee performance.

iii. Integration of the End users with the project (user stories):

- As a receptionist, I want to book an eye exam appointment for a customer to ensure that customer's prescription is up to date.
- As an optometrist, I need to view today's appointments to prepare for each consultation.
- As a salesperson, I need to process the customer's order.
- As a manager, I want to track the stock levels to reorder products before they run out.
- As a manager, I want to monitor sales data across all stores to optimize staffing and inventory.

iv. Areas covered with this project:

- Personnel: Detailed management of all personnel data, including roles and hierarchies.
- Inventory: Efficient management of store products, including automatic calculations based on prices and quantities.
- Store management: Effective management across multiple stores, accommodating flexible staff assignments.
- Payments: Handling various payment methods and scenarios ensures a seamless customer experience.

Project Users, Actors, Vendors, Actuators

i. Users:

- Employees: Including optometrists, sales staff and receptionists.
- Managers: Overseeing store operations.

ii. Actors:

- Receptionists: book appointments for customers through the app.
- Sales: order and bill processing for customers on the app.
- Customers: purchase inventory from the store.
- Administrators: individuals who are responsible for managing this system.
- Marketing Department: will use data generated by the app to build a marketing strategy.
- Managers: integrate new software management system and teach how to use the app.

iii. Vendors:

- Optical Product Manufacturers: Companies that produce frames, lenses, and other products.
- Supply Chain Vendors: Optical goods suppliers, from lenses to frames and accessories.
- Third-party Software Providers: Companies provide additional integrations or plugins to enhance the functionality of the management system.

iv. Actuators:

- Software development companies: Software development companies can provide expertise and support for developing the project, as well as providing software tools, frameworks, and libraries.

Project Properties

Functionality: OCMS offers robust features tailored to manage diverse aspects of the optical business. This encompasses customer management, appointment scheduling, employee roles and hierarchies, inventory tracking, multi-store operations, and intricate payment scenarios.

Usability: With an intuitive design, the system is user-centric, ensuring ease of navigation and operation for store managers, employees, and customers.

Security: Paramount to OCMS is its commitment to safeguarding sensitive data. This includes customer profiles, financial records, and stock data backed by advanced encryption and stringent access controls.

Performance: The system promises quick response times and optimal operation speeds, ensuring tasks, whether appointment bookings or stock checks, are executed efficiently.

Maintenance: Keeping OCMS up to date is a breeze. Regular backups ensure data integrity, while periodic updates bring enhancements and security patches, ensuring the system remains in prime condition.

Key Technologies

Front-end Framework: WPF

Back-end Framework: C#

Database Management System: PostgreSQL

.NET Framework 4.7.2

Project Plan

Week 1(September 10-16): (50% Chelsea, 50% Ana)

Develop project proposal.

Define project scope and requirements.

Identify project users, actors, vendors, and actuators.

Select programming language, database, framework, and source control.

Weeks 2-3 (September 17 - 30): (50% Chelsea, 50% Ana)

Designing the database schema and creating the required tables and relationships.

Develop the front-end user interface using the chosen framework (WPF).

Implement all the features, including appointment booking, inventory management, employee scheduling, customer management, payment process, etc.

Weeks 4-6 (October 1 - 14): (50% Chelsea, 50% Ana)

Develop back-end (C#)

Integrate with the front-end interface.

Implement user authentication and authorization functionality.

Implement necessary data storage and retrieval methods.

Weeks 7-8 (October 15 - 28): (50% Chelsea, 50% Ana)

Final testing and debugging.

Prepare for final presentation and submission.

Conclusion

In summary, the Optical Store Management System (OCMS) is a carefully planned solution designed to streamline the operations of optical stores. OCMS makes tasks like managing customer data, scheduling appointments, and tracking inventory easier for store employees and managers. Using modern technology like Windows Presentation Foundation (WPF) and C#, OCMS aims to create a user-friendly and secure system that helps optical businesses adapt to today's challenges and better serve customers. The goal is to provide a reliable tool that improves service and efficiency in optical stores.