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OOMD LAB RECORD

with problem statements and SRS

Submitted By

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Under the Guidance of

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1] HOTEL MANAGEMENT SYSTEM

* Problem Statement

The present system is presently in an underdeveloped form and the manual process of the overall system can bee too clumsy and complicated. The clients in the real time consultancy system can be too thick and may need many resources to be used upn the system. If the proposed system is developed, we can have a distributed interface with a centralized database as a solution So that all tasks are streamlined, automated.

* SRS:

→ User requirements: 1) Customer:
- To be able to check for availability of rooms
- To be able to reserve rooms.
- To make payments ~~and~~
- To cancel bookings
- To request additional services.

2) Receptionist:
- To be able to allocate rooms
- To recieve orders and payments
- To extend bookings

3) Manager
- To oversee all operations
- To manage staff and customer queries

→ System requirements

1) Functional requirements
→ The system shall enable customers to check room availability
→ To provide price ranges for all rooms
→ To enable customers to check and review all details.
→ To have cancellation features
→ To display all available hotels.
→ To enable room booking with consistency.
→ To send email confirmation to customers.
→ To calculate bills.
→ To accept payments.
→ To verify customers.
→ To allow controlled access to managerial staff.
→ To allow staff to add and change information.
→ Allow admin control of all transactions and to edit files and folders.

2) Non functional requirements.
→ Reliability: The system must be reliable, with high level fault tolerance, error handling.

→ Scalability: The system must be horizontally & vertically scalable without performance dip.

→ Compatibility: The system must work with a wide range of systems with hardware & software configuration.

→ Performance: The system must be performant with fast responses, high throughput.

→ Availability: The system must have minimal downtime and rapid recovery time.

→ Usability: Must have clear instruction for usage for users of all ages and expertise.

3) Domain requirements

→ Compliance with local and national laws governing hospitality industry.
→ Compliance with food safety laws.
→ Compliance with industry standard for card processing and data security.
→ Compliance with ACID properties.

2] CREDIT CARD PROCESSING SYSTEM

★ Problem Statement

In this day and age, paying via cash is a huge hassle as the number of purchases are ever increasing and it is most times difficult to know how much money to carry whilst feeling safe from pick pockets.

Thus this system helps by providing secure card transactions. It includes the sequence of phases involved in the creation of a credit card, transaction and the usage details of the card owned by the customers.

★ SRS:

→ User requirements

1) Customer :
- The customer can select items they intend to purchase.
- They review the amount to be paid for the purchases.
- They swipe the card.
- They enter pin.
- They maybe required do provide signature.

2) Vendor
- The vendor can set the amount to be debited.
- They can generate the bill if payment successful.

→ System Requirements

1) Functional requirements

→ The system must be configurable as to deposit the money to the vendor's account.
→ It must accept the card swipe input.
→ It must accept amount to be debited.
→ It must accept PIN.
→ It must perform verification with bank databases.
→ It must ~~genera~~ capture exceptions.
→ It must generate reciepts for customer and vendor.
→ Ability to handle credentials with utmost security.

2) Non-functional requirements.

→ Reliability: The system must be reliable, with backup and recovery mechanisms with fault tolerance.

→ Security: The system must be secure, with strong authentication and encryption mechanisms.

→ Availability: The system must be highly available, with minimal downtime and rapid recovery from failures.

→ Maintainability: The system must be easy to maintain and upgrade update, with clear documentation, modular design and well structured code.

3) Domain requirements

→ It must be compliant with industry standard security regulations such as PCI-DSS.
→ It must be compliant with Online transaction laws.
→ It must practice highest level encryption and data security.
→ It must be properly configured for interfacing and authenticating with bank ~~database and~~ systems.

3] LIBRARY MANAGEMENT SYSTEM

* Problem Statement

We realise that managing a library and all its related operations without technology is a tedious job. Thus it requires a system that helps the librarian to perform all routines related to the library and for users to make full use of its services efficiently.

* SRS:

→ User requirements:

1) Librarian
→ The librarian can keep track of all available books in the library.
→ They can view different categories and search books at will.
→ They can issue books to users and take returns.
→ They can view details of users.

2) Students/Members
→ They can view all categories of books available
→ They can own an account.
→ They can view books issued to them and see dates for return.
→ They can request new book and see their history

→ System requirements

1) Functional Requirements

→ The system must allow creation of new accounts for users with login
→ It must be able to list all books in diff sorting orders and by categories.
→ It must provide book issue request and book issue approve operations
→ It must provide timely reminders for returns and fine for late returns
→ Ability to add/remove books

2) Non functional requirements:

→ Scalability - The system must be horizontally & vertically easy to scale.

→ Performance - The system must provide high speed throughput and fast responses.

→ Usability - The system must be easy to use for users of all ages with good UI.

3) Domain requirements.

→ Compliance with latest data security and network security trends.
→ It must Provide encryption/decryption.
→ Compliant with online transaction laws.

1] Stock Maintenance System

★ Problem Statement

With stores getting bigger and bigger with the number of products they bring in to sell, it becomes imperitive to have a system which makes this task easier. A system which maintains details of all product stocks in their database and takes actions accordingly. It is basically inventory control where products are purchased from supplier and stored in warehouse and again the products are sold to the customer by making bill.

★ SRS

→ User requirements

1) Supplier
   → The supplier can create account.
   → They can list all the products they have with their name, code cost, etc.
   → They can accept purchase orders from companies

2) Company user/rep
   → The company can view the stock & supplier
   → They can place a purchase order if needed.

→ They can store data of their goods
→ They can store data of their warehouse
→ They can view reports

3) Customer
→ They can also create an account
→ They can view the products listed by the company.
→ They can place sales orders for the product with necessary details.

→ System Requirements

1) Functional Requirements
→ The system must provide 3 types of account creation & login.
→ The System must allow supplier and customer to show available product
→ The ability to generate purchase orders and sales order.
→ The ability to maintain product data and warehouse data in databases.
→ Ability to generate reports/bills.

2) Non functional requirements
→ Performance - The system must provide high throughput and fast responses.
→ Reliability - The system must be reliable with high level fault tolerance and error handling.
→ Scalability - The system must allow easy horizontal & vertical scalability with increasing product data & warehouses

3) Domain requirements.

→ ~~Compliance with~~
→ The system must have robust security features to protect invendors data and prevent unauthorized access.
→ It must have a user friendly interface.
→ It must allow mobile access so users can manage inventory remotely.

5] Passport Automation System

★ Problem Statement -

There are many issues with the manual process of passport issue & dispatching. It requires many trained individuals in the various fields of passport issuing thus chance of error and workload is high. It also takes alot of time and thus a system which automates these operations is of great value

★ SRS

→ User requirements

1) Users

→ The customer can create account & login

→ They can choose the field they need an operation in.

→ They can fill in forms & upload docs.

→ They can perform payments & check application status & select appointment dates.

2) Authority
→ They can view all customer requests & service them.
→ They can see history of issues applicable & which one are in dispute
→ They can view customer form & perform validation
→ They can accept payment & generate reports

→ System requirements
1) Functional requirements
→ They System must allow account creation & login.
→ It must allow ability to create forms by authority & take input from customer.
→ It must display all fields of passport operation available
→ They ability to track the status of application
→ The system must be able to accept payments
→ It can generate reports

2) Non functional requirements.
→ Security - System must be secure with strong authentication & encryption mechanisms.
→ Maintainability - The system must be easy to maintain and update with modular design and well structured code.
→ ~~Reliabilit~~ Reliability - The system must be highly reliable with fault tolerance & error handling.

3) Domain requirements.

→ Maintaining highest level of data security.
→ It must be apble to process documets uploaded duriy verificatio
→ It must allow secure paymet procesis.
→ It must also handle issuance and delivery of passports to applicants

6] RAILWAY MANAGEMENT SYSTEM

★ Problem Statement

India, with our ever growing population there is always large demand for long distance transportation. The railway system services a large number of traffic. Thus the manual process of going there and getting tickets booked with all the luggage with no certainties of ticket availability / train availability or departure timings is unthinkable. Thus, the motivation to build this system.

★ SRS

→ ⇒ User Requirements:

1) Users

→ They can view the schedule for time details about all trains.

→ They can select trains with the desired compartment & to reserve seats
→ They can then pay for the tickets.
→ They can track the tickets or if possible cancel them before a certain time limit

2) Administrator
→ They provide list of all trains.
→ They set train schedules
→ They accept reservations & payment

→ System Requirements

1) Functional requirements.
→ The system must allow the user to create account & login.
→ The system must allow admin to provide train list & display to
→ It must allow real time reservations.
→ It must display time schedules
→ It must accept & process payments.
→ It must generate bill & tickets.

2) Non functional requirements
→ Security - The System must include industry standard data security mechanisms.
→ Availability - The system must always be up & running. In case of failure, the recovery time must be good.
→ Reliability - The data shown must

be assisted and reliable.

3) Domain requirements
→ Compliant to secure online transaction rules like using SSL for security.
→ It must process all the payments securely.
→ It must be able to generate reports & perform analytics on various railway operations

7] ONLINE SHOPPING SYSTEM

* Problem statement
The number of people who go out and physically buy the products is reducing. This is due to the fact that going to each individual store and browsing through all the items and buying is very draining. Thus a system which allows you to remotely buy almost anything with wide variety options and discounts sounds very inducing.

* SRS

→ 1) User Requirements
→ The ~~user~~ customer can browse through all available products.
→ The customer can compare and wishlist items.

→ They can select items to buy and finalize payment.
→ They can track orders and give ratings
→ They can also perform returns & exchanges if applicable

→ System requirements
1) Functional requirements
→ The system must display list of all available products.
→ It must display different categories.
→ It must show individual products elaborated descriptions & images.
→ It must accept orders from users.
→ It must process return/exchange requests
→ It must process payment & provide order tracking.

2) Non functional requirements
→ Performance - The system should load quickly and give fast responses.
→ Availability - The system must be available 24/7 and ensure minimal downtime & data loss
→ Scalability - The system must be easily scalable with increasing products.
→ Accessibility/ - It must be Usability

easy to use for customers of all age groups with user friendly UI.

3) Domain requirement.
→ Compliant with handling payment & also COD.
→ It should manage shipping & by calculating rates and tracking.
→ It must provide a help center for ~~help~~ support with issues.
→ It must ensure high level customer privacy & data security.