SOFTWARE REQUIREMENTS SPECIFICATION

for

NURSERY MANAGEMENT SYSTEM

Version 1.0

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Contents

1 Introduction

1.1 Purpose

The main objective of this document is to illustrate the requirements of an online Nursery Management System.
This document gives the detailed description of both functional and non-functional requirements proposed by the client. The purpose of this project is to provide a friendly environment to maintain the sales records, products, accessories and carton labels of plants and customers.
The software handles most accountin systems also for employees

1.2 Intended Audience and Reading Suggestions

This project is a prototype for the Nursery Management System and it is restricted within the college premises. This has been implemented under the guidance of college professors. This project is useful for the Nursery management team and as well as to the customers.
Further the discussion will provide all the internal, external, functional and also non-functional informations about "NURSERY WEBSITE".

1.3 Project Scope

The purpose of the online Nursery Management System is to ease the work of keeping records of sales for the nursery owners, and to create a convenient and easy-to-use application for customers, trying to buy Plants and various accessories.
The system is based on a relational database with its Nursery management and reservation functions.
The project is specifically designed for the use of nursery owners and the managers.The product will work as a complete user interface for nursery management process.
Online Nursery Management System can be used by any existing or new nursery to manage their sales records, products, accessories and carton labels of plants and customers.It is especially useful for any plant nursery where modifications in the content can be done easily according to requirements.
This project can be easily implemented under various situations.We can add new features as and when we require, making reusability possible as there is flexibility in all the modules.

2 Overall Description

2.1 Product Perspective

"NURSERY WEBSITE" is the replacement of the manual hard copy result process. The data have been stored in the hard file or papers, this website will store all of those in the website. Main goal of this project is to minimize the work and maximize the result of this result processing system.

2.2 User Classes and Characteristics

"NURSERY WEBSITE" has basically 4 types of users.

- Managers
    - Warehouse manager
    - Products manager
- Customers
- Admin

Managers are of 2 types :
Warehouse manager defines the Product managers who will add the products to the shop. So that Customer can take advantages of the website.
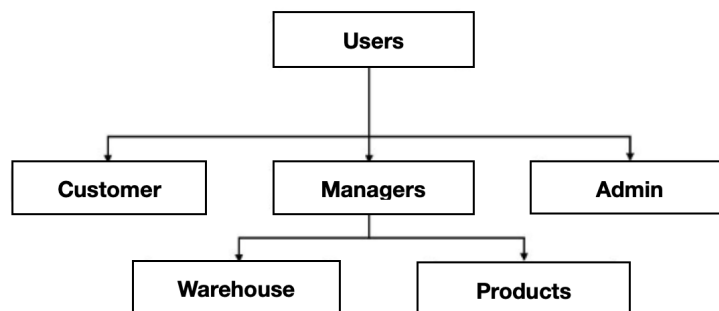
Figure 2.1: type of users

2.3 Product Functions

Online "Nursery Management System" provides online real time information about the plants , sales records , accessories , available in the nursery. Also estimates the best sales and also handles most accounting systems for employees.
The customers details can be fetched by the nursery admin/managers from the database as and when required.
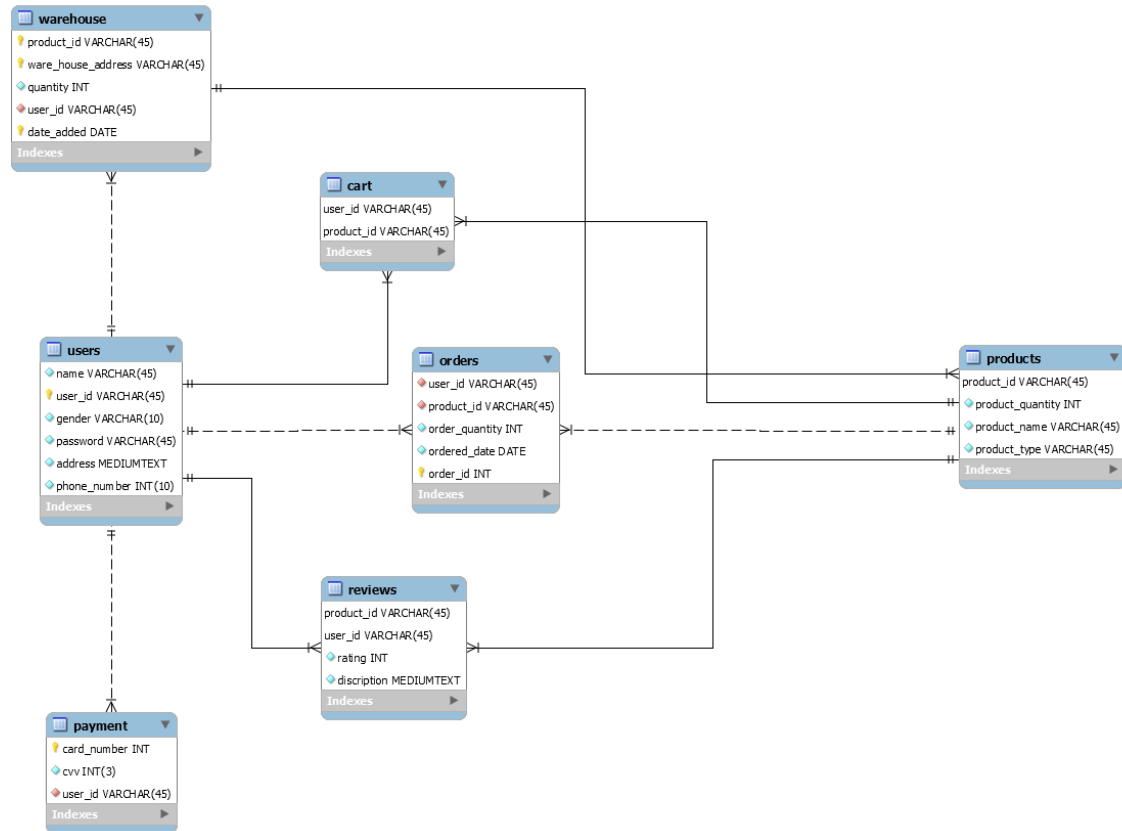

Figure 2.2: ER model

Starting the product functions..
Before using the main function of the software result process, users have to be registered, which would be their userd_id and password for logging in.
ALL USERS HAVE -
user_name , user_id (primary key) , gender , password , address and phone_number of the user. Managers, admin and the customers are all considered as the users but differentiated according to their login credentials.
ALL PRODUCTS HAVE -
product_name , product_type (determines the type of the product. Ex: seeds, accessories, plants) , product_id (primary key) , product_quantity (show the no. of items of

same product).
ALL ORDERS HAVE -
order_id (primary key) , ordered_date (shows the date on which the product has been ordered) , order_quantity (describes no. of items ordered by customer) , user_id (foreign key) , product_id (foreign key).
Orders entity is nothing but the further process of the products ordered by customers.
CART -
Cart consists of user_id , product_id in which both are "primary keys".
Cart is basically a function in which the products can be added in which the customer is interested.
WAREHOUSE -
It consists of product_id (primary key) , warehouse_address (primary key) , date_added (primary key) (which references the date the products have been supplied into the warehouse) , quantity , user_id (foreign key) (which shows which manager added the product).
PAYMENT ENTITY -
Which asks about card_number (primary key) , cvv (to initiate the process further) , user_id (foreign key)
RATING AND REVIEWS -
The section where the customers submit their reviews and ratings about the products in the website.
Which consists of product_id (primary key) , user_id (primary key) , rating (its the rating given out of 5) , description (review of the customer in words).

2.4 Operating Environment

The website will be operate in any Operating Environment - Mac, Windows, Linux etc. The basic required input devices are keyboard, mouse and output devices as monitor.

2.5 Design

Customer activities have 5 steps -

- Application interface

- Product interface

- Purchase interface

- Checkout

- Order product

The customer first register into the webpage and then log in using the registered credentials.After logging in user search for the needed product and can add the product to the cart or buy the product.

Further into the process, the payment process is initialized and after finishing the payment order.The feedback can be given by the customer.
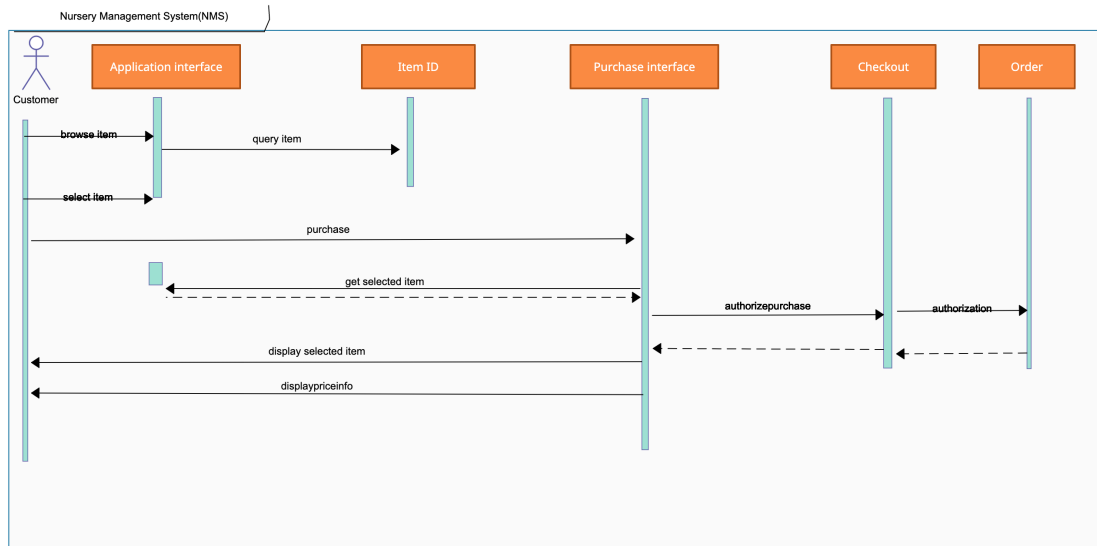Even the best sellers are visible to the customer in the shopping section.

Figure 2.3: Customer Activities

Manager activities have 2 steps -

- Warehouse management

- Product management

Manager will add the products to the warehouse entity which can be viewed by the admin known as the warehouse management.
Manager can update the products of the website from the warehouse entity.

Admin has two activities -

- Updation of details

- Supervision

Admin (owner of the nursery) has the authority to update or delete products, can even add the admins.
Admin even has permission to overview the management of the nursery website.
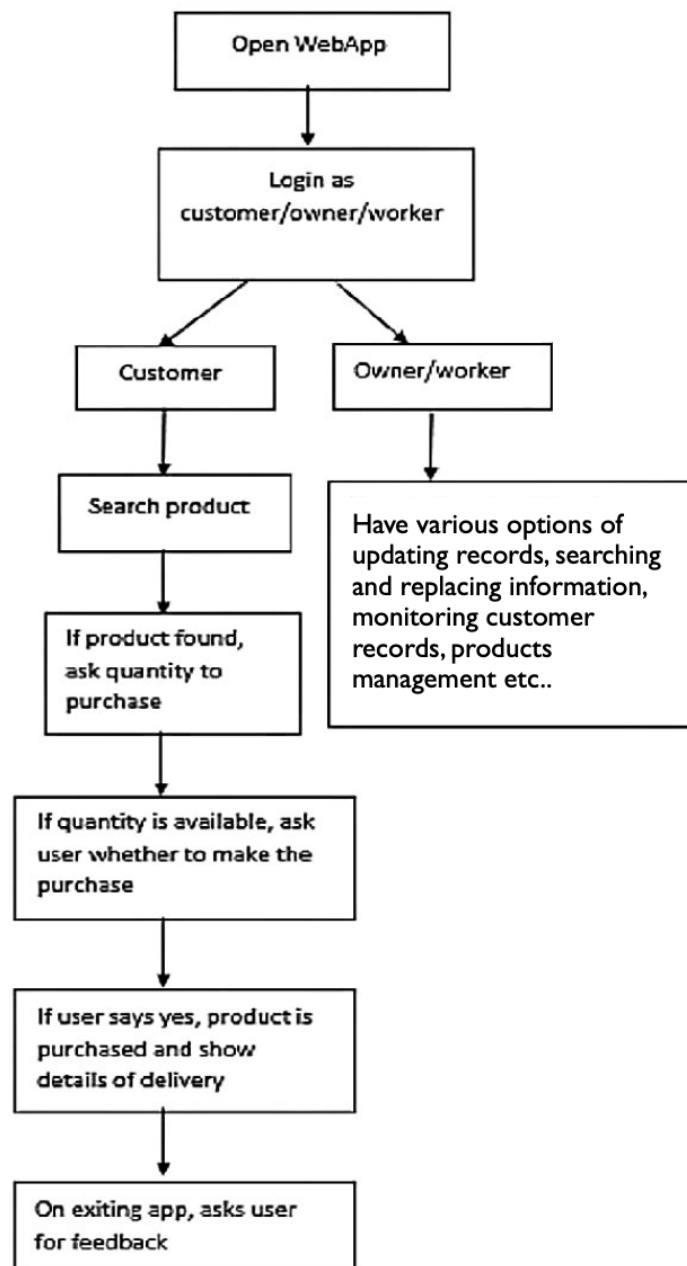
Figure 2.4: Flow chart design

3 System Features

The inputs consist of the query to the database and the output consists of the solutions for the query.

Keeping an accurate database of all customers, the plants, other accesories and all items that are necessary asit would improve the overall of productivity of the library.

3.1 Description and Priority

"NURSERY WEBSITE" has features that are main and also some are sub. But all the feature is necessary for this software.

The nursery admins/managers should be provided the surety that their data is secure. This is possible by providing -

1. Authentication: Nursery owners/managers authenticiation and validation using their unique member ID.

2. Updation of data: Proper monitoring by the nursery owners/managers which includes updating data.

3. Access to database: Proper accountability which includes only the nursery owners/managers to access the online database.

4. Managers : Managers manages the updation and deletion in the warehouse and the product management.

5. Customer : Customer can order the required product from website as per the requirements.

6. Admin : As the owner of the nursery he has the access to the database and can overview every activity.

3.2 Functional Requirements

Functional requirements are the following :

1. The NMS should store all information about the plants, customers, accessories, sales and availability.

2. The NMS allow searching plants/accessories by their name/breed.

3. The NMS should allow nursery owners/managers to add, delete and modify items in database, and check availability of the items.

4. The NMS should allow nursery owners/managers to view customer information.

5. The NMS should generate request's reports everyday, on base of which nurseryowners/managers could make decisions about acquiring or retirement the item (Stock check).

3.3 ER Diagram

The E-R Diagram constitutes a technique for representing the logical structure of a database in a pictorial manner.
This analysis is then used to organize data as a relation, normalizing relation and finally obtaining a relation database.

- Entities: Which specify distinct real-world items in an application.

- attributes : Which specify properties of an entity and relationships.

- Relationships : Which connect entities and represent meaningful dependencies between them.
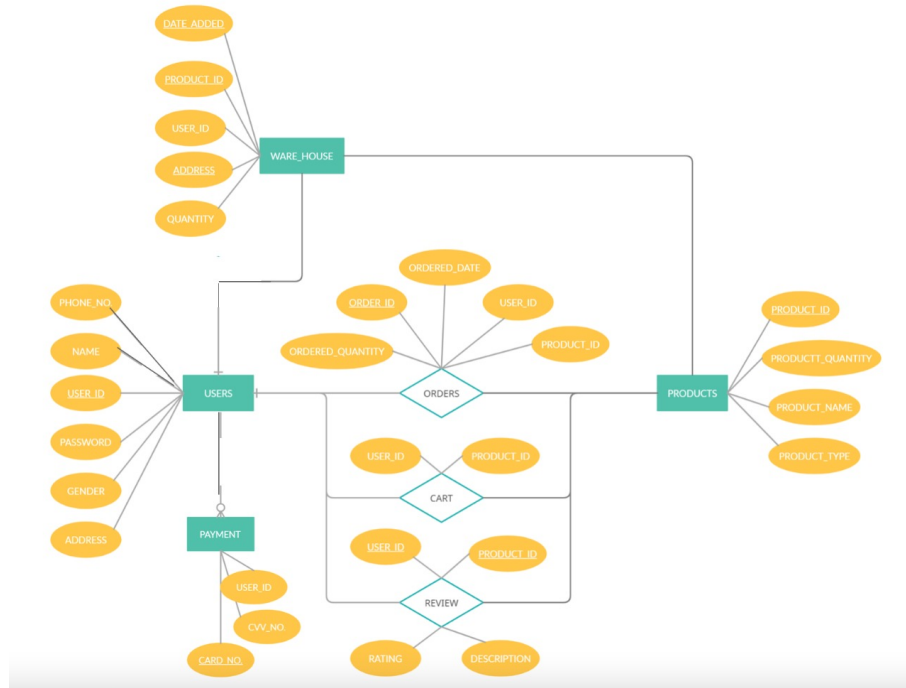

Figure 3.1: ER Diagram

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4 Other Nonfunctional Requirements

4.1 Performance Requirements

The developed proposed system "NURSERY WEBSITE" will be used as the chief performance system by nurseries at different locations which interacts with the nursery owners/managers.
Therefore, it is expected that the database wouls perform functionally all the requirements that are specified by the nursery.

- The performance of the system should be fast and accurate.

- Nursery management system shall handle expected and non-expected errors in ways that prevent loss in information and long downtime period. Thus it should have inbuilt error testing to identify invalid username/password.

- The response should be fast enough to avoid users response collisions.

4.2 Security Requirements

No one without registered users can inter to the website. One particular user of a section only can perform his/her particular actions.

- System will use secured database.

- Normal users can just read information but they cannot edit or modify anything except their personal and some other information.

- System will have different types of users and every user has access constraints.

- Proper user authentication should be provided.

4.3 Software Quality Attributes

The purpose of this section is to identify and document interfaces and interaction of the software withe xternal entities in detail.
The software provides good graphical interface for the admins/managers who can operate on the system, performing the required task The software should be able to interact with every module.
Therefore, the quality of the software is been maintained and all the requirements are been fulfilled.

- Availability:
  The products should be available on without fail, due to urgency in customers requirements

- Correctness:
  The product should be a genuine product as per users expectations.

- Maintainability:
  The admins and managers in charge should maintain the consistency in availability and correctness.

- Usability:
  The products should satisfy a maximum number of customers needs.

4.4 Business Rules

The "NURSERY WEBSITE" is for selling the nursery products as per customer requirements.and even helping managers with databases to store the information.
Basically save working time and pressure.

5 Other Requirements

The "NURSERY WEBSITE" needs maintenance as it is a long process software.
It will need re-factoring and further the requirements can be changed as per the requirements of the user as the field is changing frequently.

5.1 Tech stack

1. Frontend : HTML-5 , CSS-3 , Bootstrap.

2. Backend : Flask framework , MYSQL Database , Jinja templating.

We used python for the project.