Software Requirements Specification

Version 1.0

PlantNest Web Application

Theme: eGreen Nursery
Category: Web Application Development

Contents

1.1 Background and Necessity for a Web Application

Whether it is a homely apartment, a sprawling mansion, or an office filled with rows of cubicles - plants tend to brighten and liven up any room. For seasoned gardeners or even beginners, visiting multiple nurseries to find the right plant to suit their requirements can get tedious and consume a lot of time.

An online plant nursery Web application is a solution for this and allows people to shop for plants from the comfort and convenience of their homes. Some plants can survive even with minimal care, while others demand much more attention. The online plant nursery Web application can also provide information to users on proper care for plants. Through such an application, users can view available plants with details such as the plant's cost, level of maintenance required, watering schedule, and so on. Users can also purchase plants and related gardening supplies or tools through the Web application.

1.2 Proposed Solution

The proposed solution is a Web Application titled **PlantNest**. The application will allow individuals to view, search, and purchase plants and other gardening supplies/tools online. This application will make it easier for people who want to create their own gardens and enjoy benefits of growing their own plants at home. This online plant nursery will be particularly convenient for the people who have busy schedule and may not have time to visit a physical store.

The Web application will provide categories for different types of plants, allow users to search for specific plants, and offer sorting and filtering options. **PlantNest** will also provide users with valuable information about the plants they are interested in purchasing and help them learn about the growth habits, light, and water requirements.

You have been given a contract to design and build this e-commerce and informational Web Application.

1.3 Purpose of the Document

The purpose of this document is to present a detailed description of the Web Application titled **PlantNest**.

This document explains the purpose and features of the Web Application, its interfaces, what the Web Application will do, and the constraints under which it must operate. This document is intended for both stakeholders and developers of the Web Application.

1.4 Scope of the Project

This Web application will be dynamic, responsive, and visually appealing and will aid users in online shopping of plants and related gardening supplies/tools (henceforth, called as Accessories in this document).

Users can browse through various plant categories, see plant description, price, and so on. They can search for specific plants/accessories, add them to the cart, modify cart items if required, and check the total amount they are expected to pay. However, payment and delivery functionality is beyond the scope of this project.
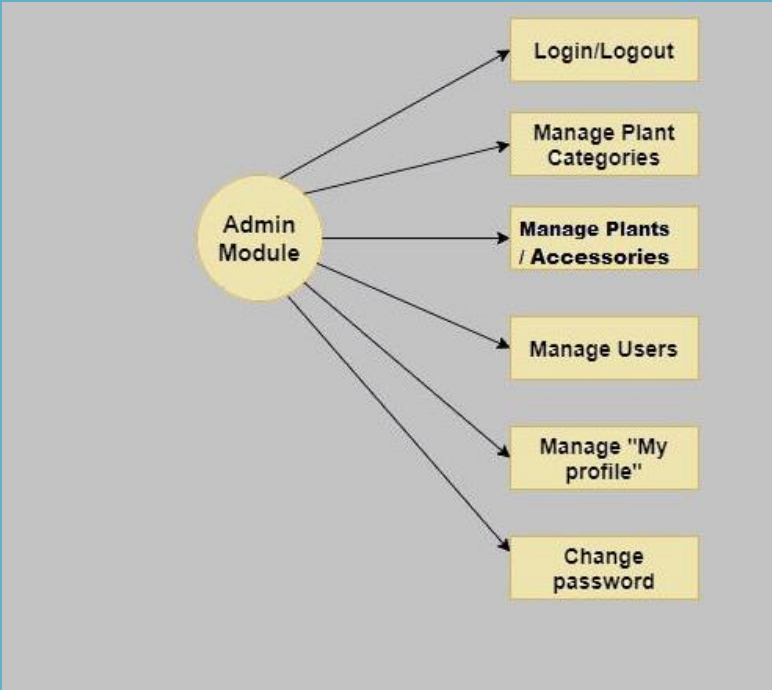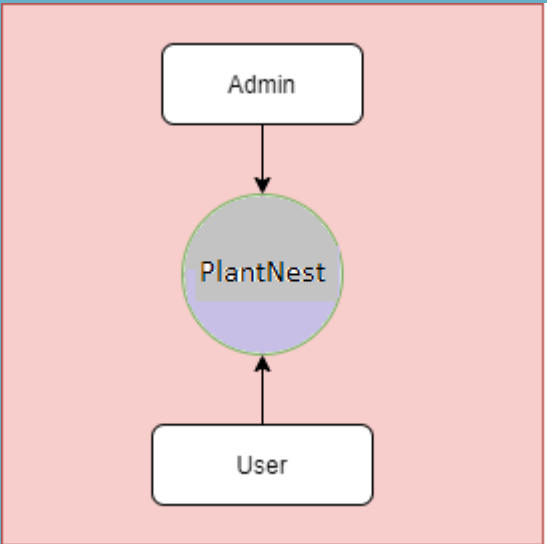
1.5 Constraints

A plant nursery Web application involves managing various types of data, such as plant information, plant catalog, orders, and user profiles. You may encounter constraints related to data storage, data synchronization, and backup procedures.
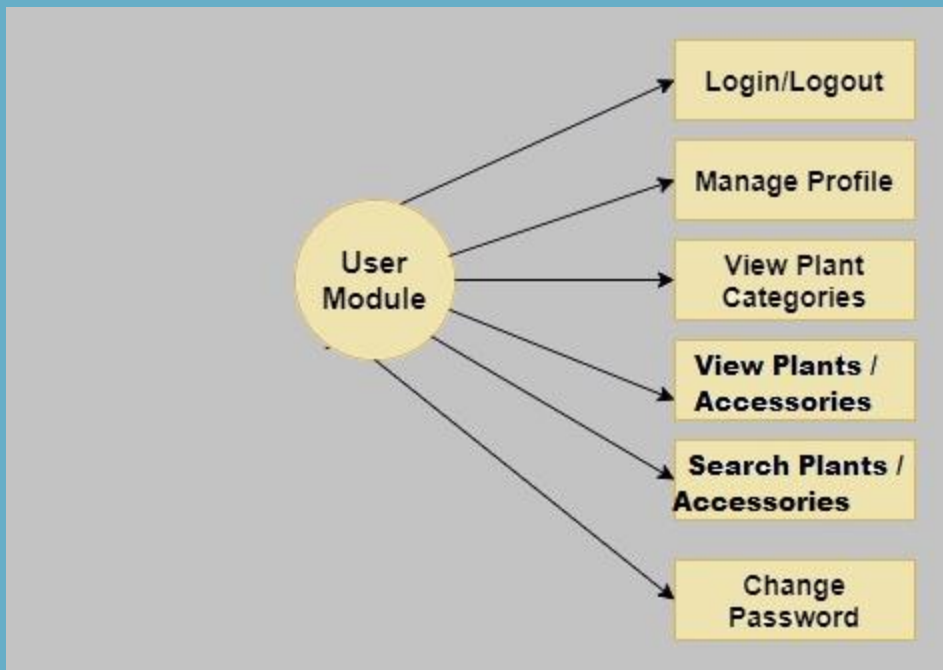
Architecture Diagram for PlantNest
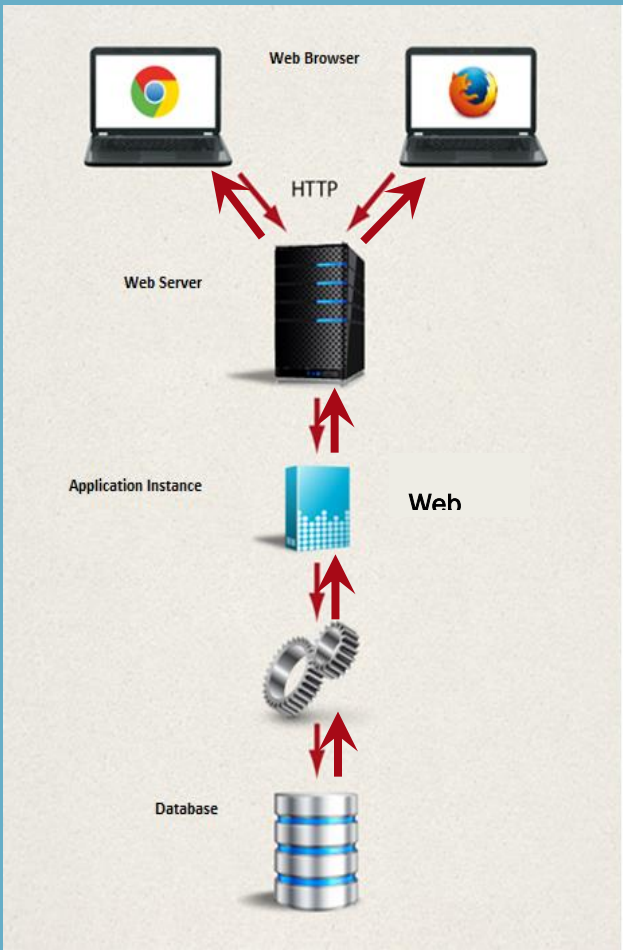
Flow Diagrams for PlantNest

1.6 Functional Requirements

In this Web application, there are two categories of users: Admin and User. The admin can view, add, delete, and update plants as well as accessories related information. Admin also has the privilege of viewing users, order details, and user reviews. Users can view plants, accessories, and add items to their cart, or keep items in their wishlist. Users can view their cart and perform checkout. They can perform search, sort, and filter operations.

Following list explains major features expected from **PlantNest**:

For Users:

- **Home Page:**
  The home page should typically showcase a selection of plants, featured categories, and so on. It should also provide an introduction to the online plant nursery.

- **Account Registration:**
  The registration option shall allow new users (henceforth, called as users) to create secure accounts. It will enable users to register themselves with **PlantNest**. At the time of registration, users must provide Name, Email ID, Contact Number, and Username, and then, configure their Password.

  Appropriate error-checking must be done on the fields of the form to ensure correct data. For example, email id can be checked to see if it is of appropriate format. (Hint: Use client-side validation).

- **Login**:
  This option will allow successfully registered users to login to the **PlantNest** application and access various features of the application through menus or sidebars.

- **Settings**:
  Users will be able to manage their accounts by using sub-options such as Create, Update, and Delete Profile.

- **Plants Catalog**:
  This option will showcase all varieties of plants one can order online via **PlantNest**. Catalog will have various categories of plants as follows:
  1. Flowering
  2. Non-flowering
  3. Indoor
  4. Outdoor
  5. Succulents
  6. Medicinal and so on

  Plant catalog should be displayed using an image gallery and can have information such as plant name, species, price, discount (if any), description, and so on. Each plant or tool should have Add to Cart and Add to Wishlist feature.

- **Accessories:**
  This option should include various accessories necessary for taking care of plants. Details of each accessory such as name, purpose, price, and image, and so on should be included. Accessories can include gardening supplies/tools such as soil, fertilizers, spades, and pesticides too.

- **Checkout**:
  This should show the shopping cart contents and total bill based on plant/accessories price and quantity purchased. You do not have to implement payment functionality, just list the cart contents, and compute the bill.

- **Cancel Order:**
  Users can cancel an already placed order through this option.

- **My Cart:**
  Users can view their cart.

- **Submit Reviews:**
  Users can give reviews about plants and accessories they purchased.

- **Contact Us:**
  This option should display Email id, address, and contact number of the organization who is developing the application.

- **Submit Feedback:**
  Users can submit their feedback regarding the application using a feedback form.

Following are options available for Admin:
- **Login**:
  It will allow admin to login to the Web application and add plants, accessories, view orders, and so on.

- **Dashboard:**
  In this option, the admin can view the total registered users, total products (plants/accessories), status of orders, and stock.

- **Availability**:
  In this option, admin can check whether the particular plant from a specific category is available in stock or not.

- **Sold Quantity:**
  This option will allow the admin to keep records of the number of Plants that have been sold. This can be tracked from the cart checkouts.

- **View Reviews:**
  This option will allow admin to view reviews submitted by users.

- **View Feedback:**
  Admin can view feedback submitted by users regarding the application.

Following are options common to both types of users (Admin and Users):
- **Search and Filter:**
  Users/Admin can search for/filter specific plant/accessories based on some criteria.
- **Sort:**
  Users/Admin can sort data based on specific criteria.

Sitemap: To understand the flow of **PlantNest** Web application, you will have to create a Sitemap and add it to the home page of your application.

Note: Boilerplate or readymade HTML template can be used, provided it is only for design aspect and not for implementing application functionality.

1.7 Non-Functional Requirements

There are several non-functional requirements that should be fulfilled by the application.

The application should be:

- **Safe to use**: The application should not result in any malicious downloads or unnecessary file downloads.

- **Accessible**: The application should have clear and legible fonts, user-interface elements, and navigation elements.

- **User-friendly**: The application should be easy to navigate with clear menus and other elements and easy to understand.

- **Operability**: The application should operate in a reliably efficient manner.

- **Performance**: The application should demonstrate high value of performance through speed and throughput. In simple terms, the application should be fast to load and page redirection should be smooth.

- **Security**: The application should implement adequate security measures such as authentication. For example, only registered users can access certain features.

- **Scalability**: The application architecture and infrastructure should be designed to handle increasing user traffic, data storage, and feature expansions.

- **Capacity**: The application should support large number of users.

- **Availability**: The application should be available 24/7 with minimum downtime.

- **Compatibility**: The application should be compatible with latest browsers.

These are the bare minimum expectations from the project. It is a must to implement the functional and non-functional requirements given in this SRS. Once they are complete, you can use your own creativity and imagination to add more features if required.

1.8 Interface Requirements

1.8.1 Hardware
Intel Core i5 Processor or higher
8 GB RAM or higher
Color SVGA
500 GB Hard Disk space
Mouse
Keyboard

1.8.2 Software

Technologies to be used:
- Frontend:

  HTML5, CSS3, Bootstrap (optional), JavaScript, Figma Toolkit, jQuery, AngularJS/Angular 9/ReactJS, and XML

- Client and Server:

  Java 9 or higher, Java EE 7 or higher/Jakarta EE 9 or higher, with Apache NetBeans IDE/Eclipse latest version, Apache Tomcat 10.0 or higher, GlassFish 6.0 or higher, and related libraries

  OR C# 7.0 with Visual Studio IDE 2019 or higher, ASP.NET MVC and Core, and related libraries

  OR PHP 7.0 or higher version with Laravel Framework Homestead (optional)

  OR Python 3.0 or higher version with PyCharm IDE, Django 4.0.2 or higher/Flask framework

  For hosting (optional):
  XAMPP latest version

- Data Store:

  MySQL 5.7 or higher/SQL Server 2016 or higher

Database Design

Data Dictionary: Users, Plants, Categories, Orders, and so on

Based on the given specifications, you will define suitable entities, attributes for these entities, and identify relationships between the entities.

For example, some entities along with their attributes can be identified as follows:

Users
User_Id (Primary Key)
Username
FullName
Email
Password
Role (Admin/User)

Plants
Plant_Id (Primary Key)
Name
Description
Price
Image_Url
Category_Id (Foreign Key)

Categories
Category_Id (Primary Key)
Name

Orders
Order_Id (Primary Key)
User_Id (Foreign Key Referencing Users.User_Id)
Plant_Id (Foreign Key Referencing Plants.Plant_Id)
Quantity
Order_Date
Total_Amount

Similarly, you can define other entities and also relationships between entities and methods representing activities on the entities.

Note: These are just examples, you do not have to adhere to these structures and can design your own table structure with more or less columns.

Sample Screenshots

User Signup

@Aptech Limited 2023

Admin Dashboard

Admin Dashboard

1.9 Project Deliverables

You will design and build the project and submit it along with a complete project report that includes:

- Problem Definition
- Design specifications
- Diagrams such as flowcharts for various activities, Data Flow Diagrams, and so on
- Database Design (database scripts to be provided)
- Source Code
- Installation guide
- User Manual along with test data and login credentials

Documentation is considered as a very important part of the project. Ensure that documentation is complete and comprehensive. The consolidated project will be submitted as a zip file with a ReadMe.doc file listing assumptions (if any) made at your end and SQL scripts files (.sql) containing database and table definitions. If local servers such as XAMPP are used to test the project, include screenshots of working pages. Include port settings and other details in ReadMe file.

In addition, you must submit a video clip showing the actual working of the Web application.

Over and above the given specifications, you can apply your creativity and logic to improve the application.

~~~ End of Document ~~~