Software Project Design & Development
CSE 416

Project Report on
Bagani – Plant Buying, Selling, and Exchange Platform

Submitted To:

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1. Introduction

Bagani is a digital platform that enables plant enthusiasts to **buy**, **sell**, and **exchange** plants easily. With a user-friendly mobile application and an admin management web application, Bagani connects plant lovers to grow their collections and communities. The platform supports secure transactions, seamless plant exchanges, and offers additional features like plant care information, notifications, and user reviews.

The project consists of a Spring Boot backend with MySQL for data management, a Flutter mobile app for users, and a Flutter web app for admin functionalities.

2. Problem Statement

In today's digital world, plant enthusiasts often face the following challenges:

- **Limited Access**: Lack of a centralized platform to find, buy, or exchange plants conveniently.
- **Difficulty in Connecting**: Finding trusted sellers or buyers for plants is time-consuming and inefficient.
- **Plant Care Knowledge**: Limited access to plant care guidance, especially for beginners.
- **Scattered Market**: Existing platforms are not tailored for plant-related transactions and exchanges.

Bagani aims to solve these challenges by creating a specialized platform that caters to plant buyers, sellers, and exchangers in a seamless and organized way.

3. Objective

The key objectives of Bagani are:

- To provide a user-friendly platform where users can **buy, sell, or exchange plants**.
- To facilitate secure transactions and communication between users.
- To deliver additional value through features like **notifications**, **plant care tips**, and user **reviews**.
- To enable an admin interface for managing **users**, **listings**, and **transactions** efficiently.
- To create a scalable and maintainable system using **modern technology** (Spring Boot, Flutter, and MySQL).

4. Features

User Features

1. **Authentication & User Management**
    - Register, Login, OTP Verification, Forgot Password, Profile, Update Profile
2. **Plant Listing**
    - Add Plant, Edit Plant Listing, Delete Plant Listing, Browse Plants, Filter Plants
3. **Plant Exchange**
    - Set for Exchange, Set Exchange Terms, Messaging for Negotiation
4. **Transaction History & Payment Integration**
    - View Past Transactions, Track Transaction Status, Buy Plants, Payment Confirmation
5. **Notifications & Favorites**
    - New Plant Listings Notifications, Order Status Notifications, Messaging Notifications, Mark Plants as Favorites, View Favorite Plants
6. **Ratings, Reviews & Plant Care**
    - Rate Sellers/Buyers, Write Reviews, Read Reviews, View Plant Care Tips, Access Plant Care Details

Admin Features

1. Admin Login
2. Manage User Profiles

3. Approve/Reject/Edit/Delete Listings
4. Monitor Transactions
5. Generate Reports & Analytics
6. Notifications Management

5. Sprint Plan

Sprint 1: Authentication & User Management

- Register, Login, OTP Verification, Forgot Password, Profile, Update Profile

Sprint 2: Plant Listing

- Add Plant, Edit Plant Listing, Delete Plant Listing, Browse Plants, Filter Plants

Sprint 3: Plant Exchange & Messaging

- Set for Exchange, Set Exchange Terms, Messaging for Negotiation

Sprint 4: Transactions & Payment Integration

- View Past Transactions, Track Transaction Status, Buy Plants, Payment Confirmation & Status

Sprint 5: Notifications & Favorites

- New Plant Listings Notifications, Order Status Notifications, Messaging Notifications, Mark Plants as Favorites, View Favorite Plants

Sprint 6: Ratings, Reviews & Plant Care Information

- Rate Sellers/Buyers, Write Reviews, Read Reviews, View Plant Care Tips, Access Plant Care Details

6. Methodology

Development Process

- **Agile Methodology**: The project follows the Agile methodology, where features are delivered in **six iterative sprints**. Each sprint includes development, testing, and stakeholder review to ensure smooth progress.
- **Technology Stack**:
  - **Backend**: Spring Boot (Java) with MySQL
  - **Mobile App**: Flutter (Dart)
  - **Admin Web App**: Flutter Web
  - **Security**: JWT (JSON Web Token) for authentication

Tools Used

- **Version Control**: GitHub
- **Project Management**: Jira/Trello for sprint planning and tracking
- **Database Management**: MySQL
- **UI/UX Design**: Figma

Testing

- Unit testing, integration testing, and user acceptance testing (UAT) will be performed to ensure quality and reliability.

7. Conclusion

Bagani aims to revolutionize the way plant enthusiasts connect, buy, sell, and exchange plants. By offering an intuitive user experience, secure transactions, and valuable features like messaging, plant care tips, and user reviews, Bagani fills a critical gap in the market.

With a well-defined **sprint plan** and modern **technological approach**, the platform ensures scalability, maintainability, and user satisfaction.

Bagani is not just a platform—it is a growing community for plant lovers.