Feasibility Study

A feasibility study assesses a project's viability by analyzing technical, economic, operational, behavioral, and scheduling aspects. This process identifies potential challenges, evaluates costs and benefits, and ensures alignment with objectives for informed decision-making. The Enchanted Eden plant nursery web application integrates e-commerce, expert guidance, and advanced technologies, offering a comprehensive gardening platform for guest users, registered users, administrative staff, experts, and delivery personnel.

Economic Feasibility

The economic feasibility evaluates the financial implications of developing, deploying, and maintaining the Enchanted Eden platform:

- **Development Costs:** The project uses cost-effective open-source technologies like Django for backend development, PostgreSQL for database management, and HTML, CSS, and Bootstrap for frontend design. JavaScript, AJAX, and JSON enhance interactivity, while modern tools such as AI for plant health diagnosis, GPS tracking, QR code scanning, and AR integration deliver innovative features without high licensing costs.
- **Hosting Costs:** As an academic project, it relies on affordable web hosting solutions that align with budget constraints.
- **Operational Costs:** Maintenance is manageable due to the use of widely supported and efficient technologies, ensuring minimal ongoing expenses.

By incorporating modern, cost-efficient tools and technologies, the project ensures economic viability with low development and operational expenses while delivering a feature-rich experience.

Technical Feasibility

Technical feasibility examines the project's ability to operate within the existing technical environment and integrate with other systems:

- **Frontend Technologies:**The platform uses HTML, CSS, Bootstrap, and JavaScript to deliver a responsive and user-friendly interface. AJAX and JSON enhance interactivity, while AR integration helps users visualize plant placement.
- **Backend Technologies:**Django provides a secure and scalable backend framework.
- **Database:**PostgreSQL ensures reliable data management and smooth integration with advanced functionalities.
- **Advanced Technologies:**
  - **AI Tools:** Diagnose plant health issues, pests, and diseases.
  - **GPS Integration:** Enables real-time order tracking and route management.
  - **QR Code Scanning:** Ensures secure delivery confirmations.
  - **AR Visualization:** Allows users to plan plant placement in real-world settings.
  - **AI Chatbot:** Provides instant query resolution.

The selected technologies ensure that Enchanted Eden will operate smoothly and can scale as needed, while also providing an engaging user experience through a combination of responsive design and dynamic interactions.

Behavioral Feasibility

Behavioral feasibility assesses the alignment of Enchanted Eden with user needs, habits, and the overall environment of the plant nursery system:

- **User Acceptance:**Guest users can browse and filter products easily, while registered users enjoy personalized recommendations, AR tools, and AI-based plant health diagnostics.
- **Personalization:**Features like tailored plant care advice, expert consultations, and GPS tracking enhance user engagement and satisfaction.
- **Community Interaction:**Live expert sessions, user reviews, and feedback foster a sense of community.
- **Administrative Oversight:**Tools for inventory management, expert scheduling, and reporting streamline workflows for administrative staff.
- **Support and Training:**Training resources and an AI chatbot help users navigate the platform effectively.

- **Cultural Fit:** The focus on sustainability and eco-friendly practices aligns with user values and modern trends.

Overall, the behavioral feasibility of Enchanted Eden is strong, as the system's functionalities are tailored to meet the diverse needs of its users, fostering acceptance and encouraging active participation.