Feasibility Study

Feasibility is defined as the practical extent to which a project can be performed successfully. To evaluate feasibility, a feasibility study is performed, which determines whether the solution considered to accomplish the requirements is practical and workable in the software. Information such as resource availability, cost estimation for software development, benefits of the software to the organization after it is developed and cost to be incurred on its maintenance are considered during the feasibility study. The results of the feasibility study should be a report that recommends whether or not it is worth carrying on with the requirements engineering and system development process.

Green Grocery is an online platform designed to facilitate the sale and distribution of fresh fruits and vegetables directly from local farmers to customers. The platform includes features for inventory management, customer orders, delivery scheduling, nutritional information, and product quality assurance through image recognition. Additionally, a chatbot feature is integrated to assist users with their queries.

The study aims to:

- See if the software meets the needs of the organization.
- Check if the software can be built with current technology within budget and on time.
- Determine if the software can work well with existing systems.

This platform will automate many processes, improve communication, provide real-time updates, and streamline inventory and sales.

Green Grocery will help the business by improving efficiency, enhancing customer experience, increasing revenue, and offering valuable data insights. It can work with existing systems but may require new technologies like cloud computing, which will need training and support. The platform will handle essential functions like order processing, delivery tracking, inventory management, secure payments, and communication, while ignoring non-essential items and outdated systems.

Overall, Green Grocery offers significant benefits and is a feasible and valuable investment.

Types of Feasibility

1. Technical Feasibility

- Technical feasibility assesses whether the available technology and resources can support the development of the platform.

Key Considerations:

- **Resources and Technology:**

  - Utilize stable technologies such as cloud computing for storage and scalability.

  - Employ frameworks and tools for web development (e.g., Django/React) and image recognition (e.g., TensorFlow, OpenCV).

  - Integrate secure and reliable payment gateways.

- **Team Skills:**

  - Ensure the development team has expertise in:

    - **Web and mobile application development** for user interfaces.

    - **Image recognition and AI technologies** to identify plant diseases.

    - **Database management** for inventory, orders, and user data.

- **Interoperability:**

  - The platform must integrate seamlessly with existing systems such as ERP tools and payment services.

- **Technology Stability:**

  - Choose widely used and well-supported technologies to ensure long-term maintainability.

Conclusion:

- Technical feasibility is achievable, as the technologies required for the project are well-established, and skilled developers can implement the necessary features.

2. Operational Feasibility

- Operational feasibility determines whether the platform can perform the required tasks to meet user needs and solve business problems.

Key Considerations:

- **User Requirements:**

  o Farmers need access to educational resources, pest control guides, and crop demand updates.

  o Customers require seamless product browsing, reviews, and online ordering.

  o Delivery workers need tools for delivery task management and tracking.

- **User Adaptation:**

  o Conduct user testing and feedback sessions to ensure the platform is intuitive for farmers, customers, and delivery workers.

  o Offer training for farmers to use features like the image recognition tool.

- **Solution Acceptability:**

  o Provide measurable benefits such as enhanced efficiency, better user experience, and streamlined workflows.

- **Alternative Solutions:**

  o Compare the platform with existing agricultural e-commerce solutions to ensure it offers unique value, such as educational resources and AI-driven insights.

Conclusion:

- Operational feasibility is high, as the platform addresses the specific needs of all stakeholders, with a design focused on usability and adaptability.

3. Economic Feasibility

- Economic feasibility evaluates the financial viability of the project, balancing development costs with anticipated benefits.

Key Considerations:

- **Development Costs:**

  o Estimate costs for:

    ▪ Platform design and development.

    ▪ AI integration for image recognition.

- Cloud storage and hosting services.

- Ongoing maintenance and updates.

- **Financial Gains:**

  o Increased revenue from efficient order processing, delivery management, and enhanced customer experience.

  o Potential savings from automating manual processes like inventory tracking and order management.

- **Budget Alignment:**

  o Keep development within budget by prioritizing core features (e.g., educational resources, review system, and order processing) and phasing in advanced features later.

Conclusion:

- Economic feasibility is promising, as the platform has the potential to generate significant long-term financial benefits through increased efficiency and revenue, with a manageable initial investment.

Conclusion

The Green Grocery platform is feasible and practical to develop. It meets technical, operational, and economic requirements, offering valuable features like educational resources, order management, delivery tracking, and plant disease detection. The platform promises to improve efficiency, enhance user experience, and provide long-term financial benefits. It is recommended to proceed with development.