**Project Initialization and Planning Phase**

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| Date | 01 December 2024 |
| Team ID | 739791 |
| Project Title | Rice Crop Monitoring-Time Series Analysis |
| Maximum Marks | 3 Marks |

**Project Proposal (Proposed Solution) template**

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

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| **Project Overview** | |
| Objective | To develop a cost-effective and user-friendly system for real-time monitoring of rice crop health, enabling timely interventions and improved yield outcomes. |
| Scope | The project aims to provide small- and medium-scale rice farmers with a comprehensive monitoring solution. It will include hardware for field data collection, software for data analysis, and a user interface for actionable insights. |
| **Problem Statement** | |
| Description | Rice farmers face challenges in monitoring the health and growth of crops due to limited access to advanced technologies. Traditional methods of crop health monitoring are labor-intensive, time-consuming, and prone to inaccuracies. |
| Impact | By solving this problem, farmers can make data-driven decisions to optimize irrigation, pest control, and fertilizer application. This will result in higher yields, reduced resource wastage, and better economic outcomes for farmers, contributing to food security and sustainable agriculture. |
| **Proposed Solution** | |
| Approach | The solution will leverage IoT sensors, satellite imagery, and AI-based analytics to monitor crop health indicators such as soil moisture, temperature, pest infestation, and nutrient levels. The system will provide real-time alerts and recommendations via a mobile application. |
| Key Features | **IoT-Enabled Sensors, AI-Powered Analysis, Satellite Integration, User-Friendly Interface,** **Scalability.** |

**Resource Requirements**

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| **Resource Type** | **Description** | **Specification/Allocation** |
| **Hardware** | | |
| Computing Resources | CPU/GPU specifications, number of cores | e.g., 2 x NVIDIA V100 GPUs |
| Memory | RAM specifications | e.g., 8 GB |
| Storage | Disk space for data, models, and logs | e.g., 1 TB SSD |
| **Software** | | |
| Frameworks | Python frameworks | e.g., Flask |
| Libraries | Additional libraries | e.g., tensorflow |
| Development Environment | IDE, version control | e.g., Jupyter Notebook, VScode |
| **Data** | | |
| Data | Source, size, format | e.g., Kaggle dataset. |