**Project Initialization and Planning Phase**

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| Date | 12 July 2024 |
| Team ID | SWTID1720157891 |
| Project Title | Rice type classification using CNN |
| 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 | Develop an automated system for rice grain classification using deep learning techniques. |
| Scope | Focus on developing a CNN model for accurate and efficient classification of various rice grain types. |
| **Problem Statement** | |
| Description | Manual rice grain classification is labor-intensive and error-prone, necessitating an automated solution. |
| Impact | Automating classification improves efficiency, accuracy, and consistency in agricultural processes. |
| **Proposed Solution** | |
| Approach | Utilize convolutional neural networks (CNNs) with transfer learning for image classification. |
| Key Features | Includes data augmentation, model optimization, and integration potential into existing agricultural systems. |

**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, Git |
| **Data** | | |
| Data | Source, size, format | e.g., Kaggle dataset, 10,000 images |