**Project Initialization and Planning Phase**

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| Date | 13 July 2024 |
| Team ID | 740045 |
| Project Title | Exploratory Analysis of Rain Fall Data in India for Agriculture |
| Maximum Marks | 3 Marks |

**Project Proposal (Proposed Solution) report**

The project proposal report serves as a comprehensive document to outline the rationale, methodology, and expected outcomes of conducting an exploratory analysis of rainfall data in India for agriculture. It aims to secure support, funding, and collaboration from stakeholders interested in improving agricultural practices and resilience against climate variability

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| **Project Overview** |  |
| Objective | The primary objective of this project is to conduct an exploratory analysis of rainfall data in India to gain insights that can aid agricultural planning and decision-making. |
| Scope | The project aims to provide a comprehensive understanding of rainfall patterns in India, support the development of robust predictive models, and enhance agricultural outcomes and resilience against climatic variability. |
| **Problem Statement** |  |
| Description | This project focuses on conducting an exploratory analysis of historical rainfall data in India. The analysis aims to uncover temporal and spatial patterns, identify trends and anomalies, and understand the impact of rainfall on agricultural productivity. By integrating rainfall data with other relevant datasets, the project seeks to provide insights that can aid in better agricultural planning and decision-making. |
| Impact | An exploratory analysis of rainfall data in India, this project aims to provide valuable insights that will have a significant positive impact on agricultural productivity, risk mitigation, informed decision-making, policy support, predictive modeling, and economic stability for farmers. |
| **Proposed Solution** |  |
| Approach | The project aims to provide valuable insights into rainfall patterns in India, support the development of robust predictive models, and enhance agricultural planning and decision-making, ultimately improving agricultural productivity and resilience. |
| Key Features | The proposed solution aims to provide a comprehensive and actionable analysis of rainfall data in India, supporting the development of robust predictive models, enhancing agricultural planning and decision-making, and ultimately improving agricultural productivity and resilience. |



**Resource Requirements**

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| **Resource Type** | **Description** | **Specification/Allocation** |
| **Hardware** | | |
| Computing Resources | CPU/GPU specifications, number of cores | T4 GPU |
| Memory | RAM specifications | 8 GB |
| Storage | Disk space for data, models, and logs | 1 TB SSD |
| **Software** | | |
| Frameworks | Python frameworks | Flask |
| Libraries | Additional libraries | scikit-learn, pandas, numpy, matplotlib, seaborn |
| Development Environment | IDE | Jupyter Notebook, pycharm |
| **Data** | | |
| Data | Source, size, format | Kaggle dataset, 614, csv UCI dataset, 690, csv |