**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 12-11-2022 |
| Team ID | PNT2022TMID24269 |
| Project Name | Estimation of crop yield using data analytics. |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Requirement | Knowledge of seeds ,crops ,mechanism ,soil ,climate & agriculture science. Right use of resources like soil and water. Time management .Market demand drive production. |
| FR-2 | User Business rules | Three laws - the farmers produce trade and commerce, the farmers agreement of price assurance and farm services act and the essential commodities act |
| FR-3 | User Factors | Crop prediction is highly sensitive to climate. It is affected by long-term trend in average rainfall and temperature, interannual climate variability, shocks during specific phonological stages and extreme weather events. |
| FR-4 | Registration | Registering a new user through registration Crop yield estimates constitute a particular important productivity metric, both an aggregate level as well as in plot-level productivity analysis and impact evaluations of new technologies and policy interventions. |
| FR-5 | User Objectives | Formulation and implementation of policies and programmes aimed at achieving rapid agricultural growth through optimum utilization of land, water, soil and plant resources of the state. |
| FR-6 | User Improvement | It becomes necessary to increase the crop variety to produce disease-resistance off springs of the crops. It also helps in providing better and superior varieties based on the quality and quantity of the yield. |
| FR-7 | Estimation and Analysis | Prediction of crop yield is made in estimation and the data is analysed to gain useful insights |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | To empower farmers and to increase the productivity there is need to provide the best dissemination tool for their farming activities. |
| NFR-2 | **Security** | The developed ICT agriculture tools focus on very important agricultural services such as crop detection ,crop predictor will help farmers to make decision in future. |
| NFR-3 | **Reliability** | This will remove multilingual issues and bridge the gap between farmers and  technology.Effective tool that all farmers can use for management of all kind of crops |
| NFR-4 | **Performance** | Multiple technologies and services that will improve the usability in agricultural activities. |
| NFR-5 | **Availability** | Both website and mobile application interface and developed in local language and the content is available in localized language |
| NFR-6 | **Scalability** | i)Increassed productivity from warm temperature ii)Decreased moisture stress  iii)Possibility of growing new crops iv)Productivity of soil and water |