Project Design phase-II

Technology Architecture

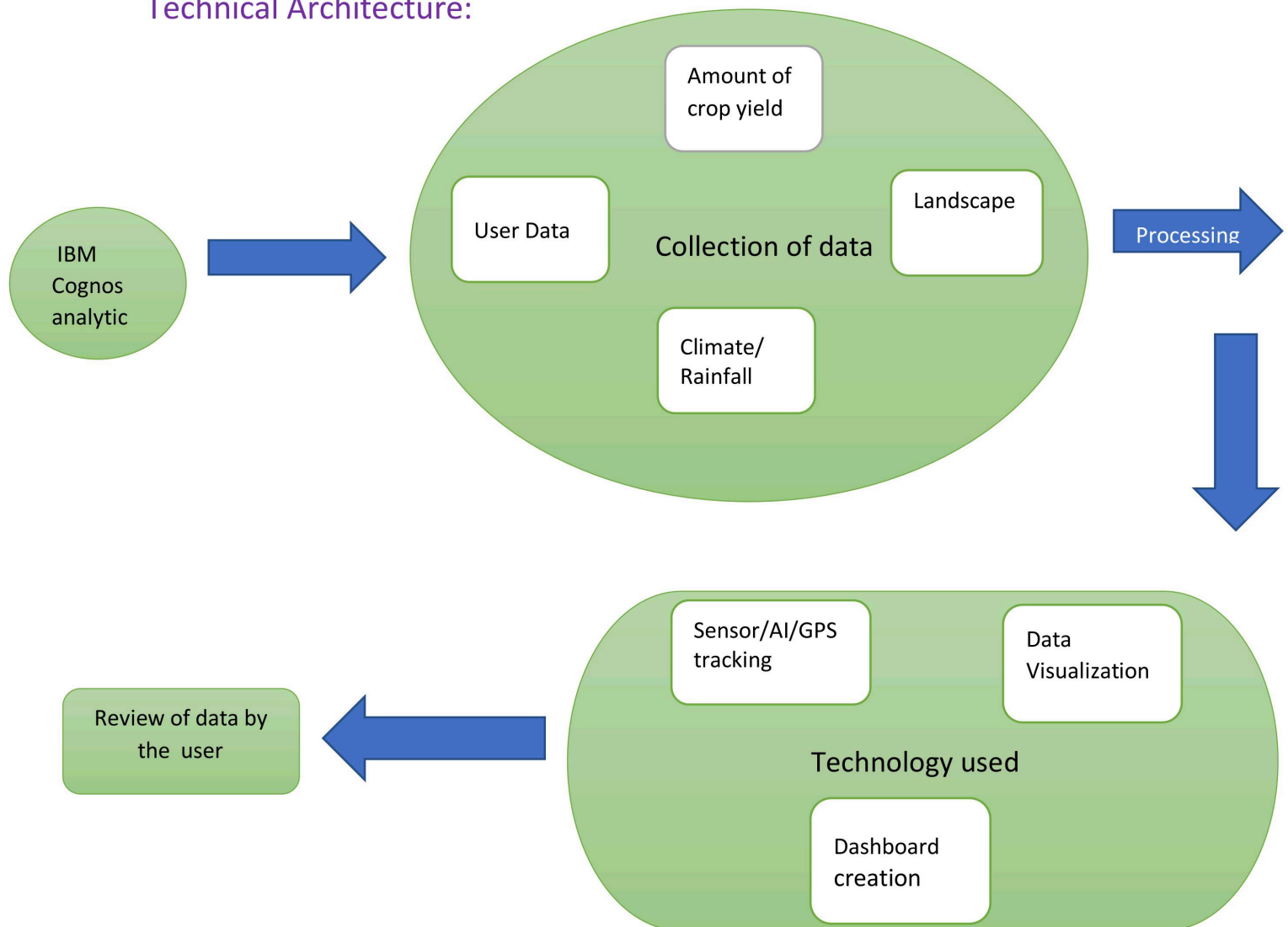| Date	15 October 2022
Team ID	PNT2022TMID05237
Project Name	Estimation of crop yield using data Analytics
Maximum Mark	4 Marks

Technical Architecture:

TABLE 1: Components & Technologies

S. No	Component	Description	Technology
1	**User Interface**	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular JS / React JS etc.
2	**Predicting climate resilient**	Climate resilience is the ability to anticipate, prepare for, and respond to hazardous events, trends, or disturbances related to climate.	AI, IoT and blockchain are enabling the future are Climate changes.
3	**Pest management**	Pest management system in the context of associated environment and population dynamics of the pest species utilizing all suitable technique	Conventional insecticides such as carbonates, Pyrethroids
4	**Farm management**	Farm management, making and implementing of the decisions involved in organizing and operating a farm for maximum production and profit	Farm automation
5	**Database**	A database is **an organized collection of structured information, or data, typically stored electronically in a computer system**	MySQL, Amazon Redshift, Big Query and PostgreSQL.
6	**Cloud Database**	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7	**File Storage**	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8	**Data API**	Data APIs within the IBM Environmental Intelligence Suite tap into the breadth and depth of climate, environment and weather data to provide current and forecasted conditions, seasonal and sub-seasonal forecasts, lifestyle indices, severe weather and historical weather data for analysis.	IBM Weather API, etc.

9	**POWER API**	it allows external applications to connect and interact with POWER Data, which is solar and meteorological data from satellite observations. Data includes long-term climatologically averaged estimates of meteorological quantities and surface solar energy fluxes. Developers can also get time-series of daily meteorological and solar data with this API. The POWER Project is supported by NASA Earth Science's Applied Sciences Program and provides data sets to support renewable energy, energy efficiency and agriculture.	NASA APIS
10	**Infrastructure (Server / Cloud)**	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration:	Local, Cloud Foundry, Kubernetes etc.

TABLE 2: Application Characteristics

Characteristics	Description	Technology
Usability	To empower farmers and to increase the productivity there is need to provide the best dissemination tool for their farming activities	Cognos analytics
Rivalry	competition for the same objective or for superiority in the same field	Autonomous farm machinery
performance	Multiple technologies and services that will improve the usability in agricultural activities	Robots, IoT Agriculture sensors
connectivity	connectivity refers **to the extensive process of connecting various parts of a network to one another.**	GPS technology.
Scalability	i)Increased productivity from warm temperature ii)Decreased moisture stress	Harvest automation, autonomous