PROJECT DESIGN PHASE - II

TECHNOLOGY STACK

Date	14 October 2022
Team ID	PNT2022TMID54027
Project Name	Estimate the crop yield using data analytics
Maximum Marks	4 Marks

TECHNICAL ARCHITECTURE GUIDELINES:

1. To use the application the user must register/login.

2. After successful register/login, the user can use the page.

3. Indicate interface to machine learning models

4. Indicate Data Storage components/ services

5. Indicate external interfaces (third party API's etc.)
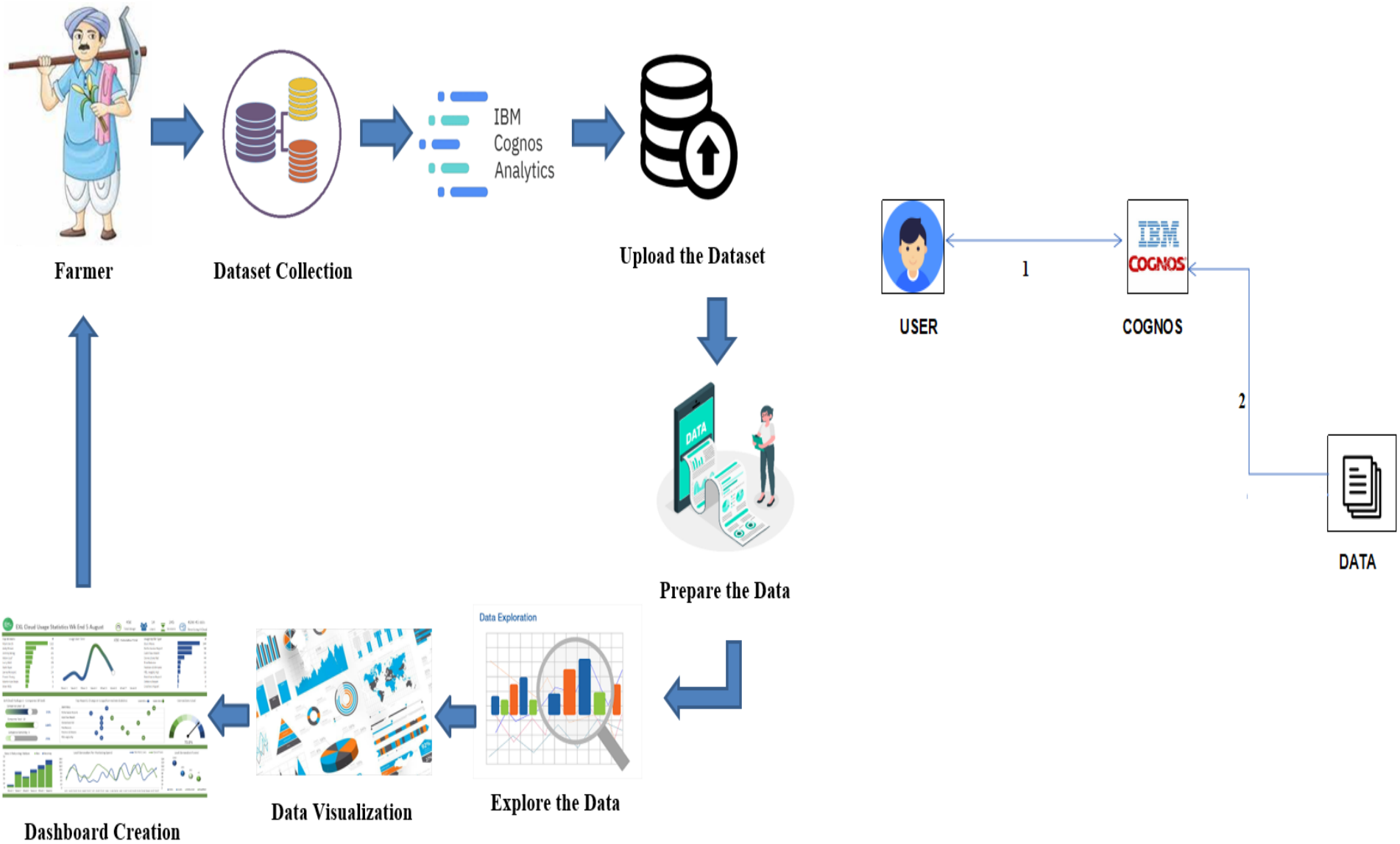
TECHNOLOGY STACK (ARCHITECTURE & STACK)

Farmer

Dataset Collection

IBM Cognos Analytics

Upload the Dataset

USER

1

COGNOS

2

DATA

Prepare the Data

Explore the Data

Data Visualization

Dashboard Creation

TABLE 1 - COMPONENTS & TECHNOLOGIES:

S. No	Component	Description	Technology
1.	User Interface	The user interacts with application through Web UI.	HTML, CSS, JavaScript.
2.	Application logic 1	Login as a user in the application	Java / Python
3.	Application logic 2	Login for a process in the application	IBM Watson STT service
4.	Application logic 3	Login for a process in the application	IBM Cognos Watson
5.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
6.	File Storage	File storage requirements	IBM Block Storage or Other StorageService or Local Filesystem

TABLE 2 – APPLICATION CHARACTERISTICS:

S.NO.	CHARACTERISTICS	DESCRIPTION	TECHNOLOGY
1.	Open-Source Frameworks	A software where the original source code is made freely available and may be redistributed and modified according to the user requirement.	Apache Spark and Hadoop
2.	Security Implementations	User must be logged in with their credentials inorder to view information about any concepts.	SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	A 3-tier architecture where the application gets data from various sources, manipulates it, stores them in the IBM Cloud and visualize them through IBM Cognos.	IBM Cloud, IBM Cognos
4.	Availability	The application is developed to make it available to all the farmers and the other users.	Cognos Analytics
5.	Performance	Multiple technologies and services that will improve the performance in agricultural activities.	Robots, IoT Agriculture sensors.