Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	31 January 3035
Team ID	PNT2025TMID01160
Project Name	Predicting Plant Growth Stages with Environmental and Management Data Using Power BI
Maximum Marks	4 Marks

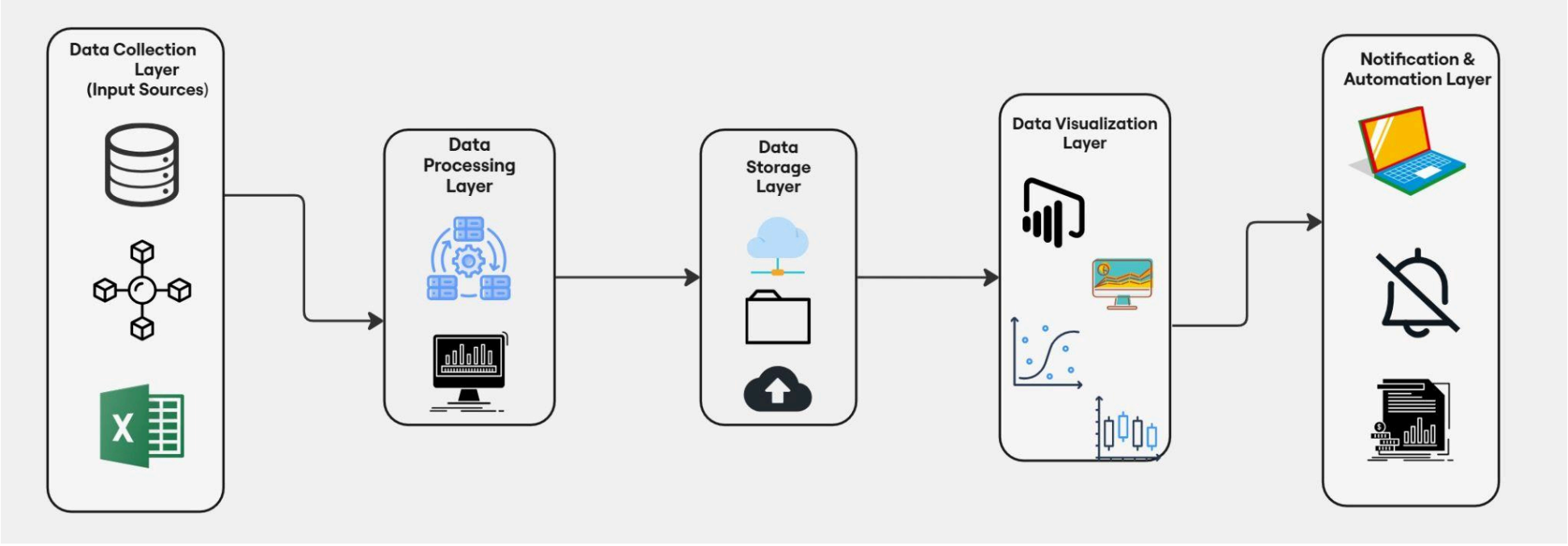

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Data collections Layer	Gathers real time and historical data for plant growth predictions	Power BI Dataflows,IOT sensors(soil,temp,humidity),Open weather API,Manual data input(csv/excel)
2.	Data processing Layer	Cleans,transforms and prepare data for analysis	PowerQuery(ETL),PowerBi Transformations
3.	Data storage Layer	Stores structured and unstructured data for analysis	Power BI Dataflows
4.	Data visualization Layer	Displace processed data insights through dashboards	Power BI Desktop,Power BI Service
5.	Notifications & Automation Layer	Automates alerts,notifications and report distribution	Power BI data alerts

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Data Frameworks	Defines how data is collected ,processed and managed	Power BI Dataflows,Power Query,DAX
2.	Security Implementations	Ensures secure data storage and transmission	Power BI permissions
3.	Scalable Architecture	Support increasing data volume and user load	Distributed data processing
4.	Availability	Ensure system uptime and accessibility	Power BI Service(cloud-based)
5.	Performance	Ensures fats data processing and dashboard loading	Power BI ,DAX