Project Design Phase-II
Data Flow Diagram & User Stories

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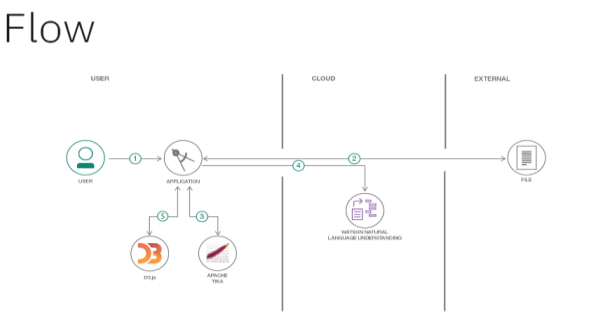
Project Name	**Project -** SmartFarmer - IoT Enabled Smart Farming Application
Maximum Marks	4 Marks

Data Flow Diagrams:

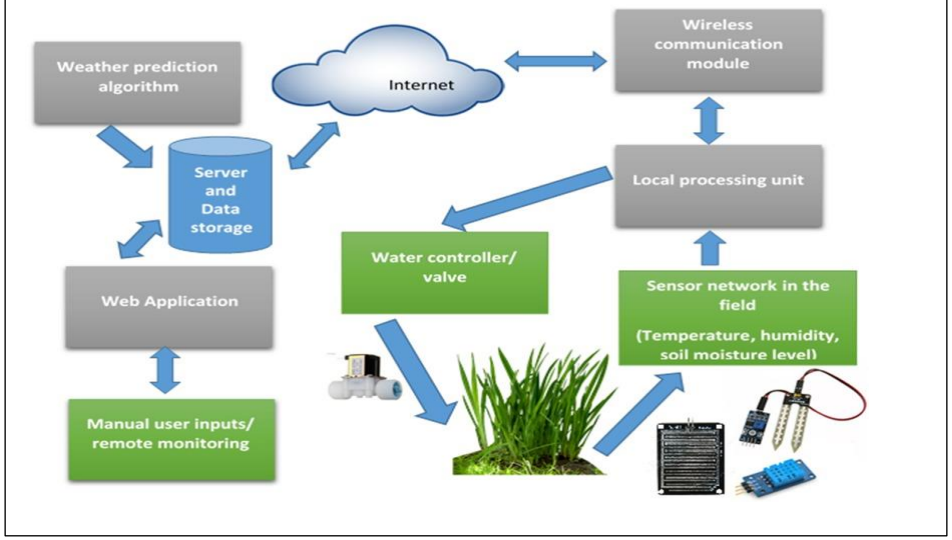
A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

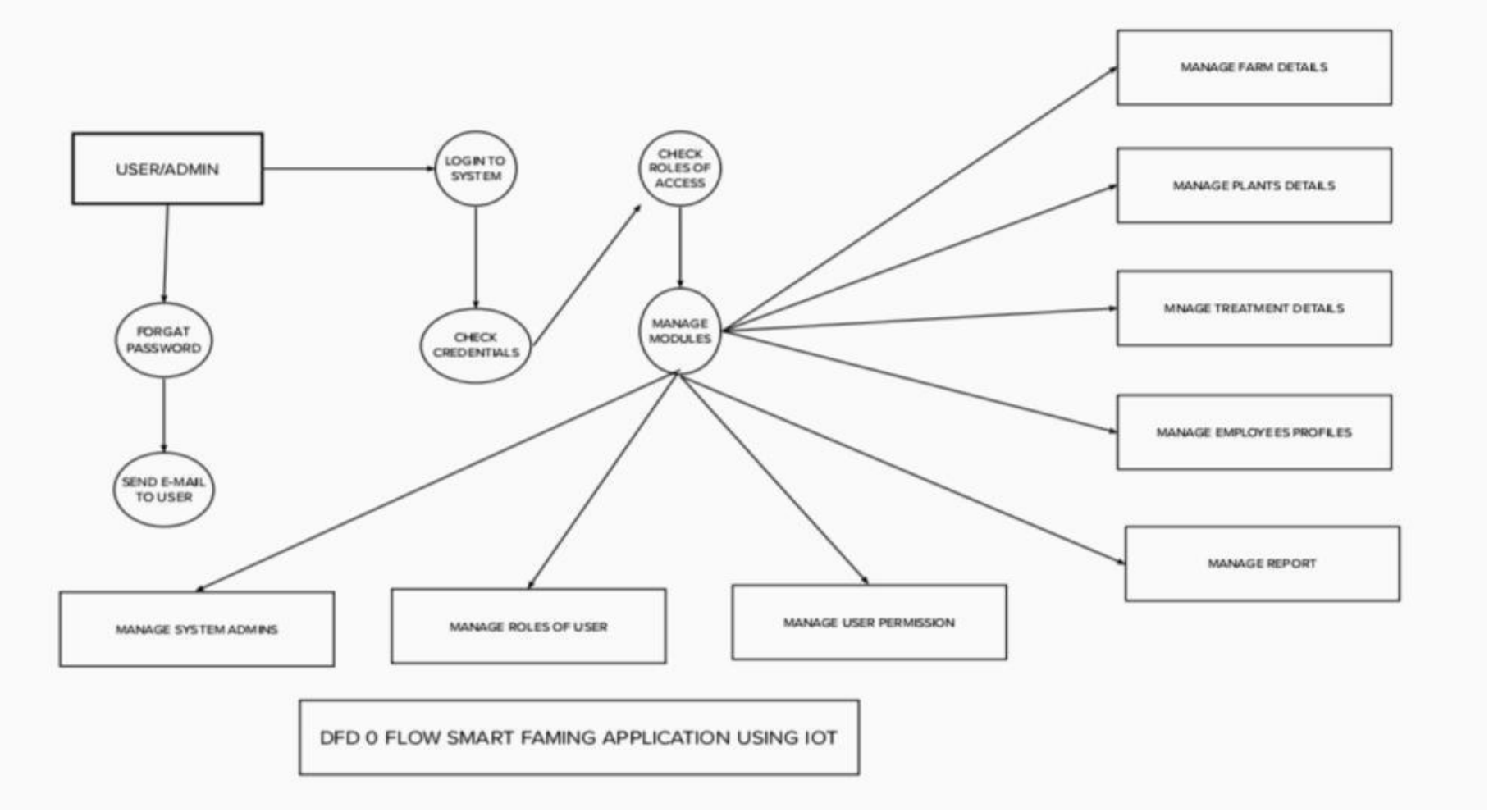
Example: (Simplified)



1. User configures credentials for the Watson Natural Language Understanding service and starts the app.
2. User selects data file to process and load.
3. Apache Tika extracts text from the data file.
4. Extracted text is passed to Watson NLU for enrichment.
5. Enriched data is visualized in the UI using the D3.js library.

Example: DFD Level 0 (Industry Standard)




USER/ADMIN
LOGIN TO SYSTEM
CHECK ROLES OF ACCESS
MANAGE FARM DETAILS
MANAGE PLANTS DETAILS
MNAGE TREATMENT DETAILS
MANAGE EMPLOYEES PROFILES
MANAGE REPORT
FORGAT PASSWORD
CHECK CREDENTIALS
MANAGE MODULES
SEND E-MAIL TO USER
MANAGE SYSTEM ADMINS
MANAGE ROLES OF USER
MANAGE USER PERMISSION
DFD 0 FLOW SMART FAMING APPLICATION USING IOT

User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer	IoT devices	USN-1	Sensors and wi-fi module		High	Sprint-1
Customer	Software	USN-2	IBM Watson IoT platform, Workflows for IoT scenarios using Node-red		High	Sprint-2
Customer	MIT app	USN-3	To develop an application using MIT		High	Sprint-3
Customer	Web UI	USN-4	To make the user to interact with the software.	User can access the app for the services.	High	Sprint-4

• The different soil parameters temperature, soil moistures and then humidity are sensed using different sensors and obtained value is stored in the ibm cloud.

• Aurdino UNO is used as a processing Unit that process the data obtained from the sensors and whether data from the weather API.

• NODE-RED is used as a programming tool to write the hardware, software and APIs. The MQTT protocol is followed for the communication.

• All the collected data are provided to the user through a mobile application that was developed using the MIT app inventor. The user could make a decision through an app, weather to water the crop or not depending upon the sensor values. By using the app they can remotely operate to the motor switch.