Project Design Phase-II
Data Flow Diagram & User Stories

Date	08 November 2023
Team ID	591645
Project Name	Diabetes Prediction Using Machine Learning
Maximum Marks	4 Marks

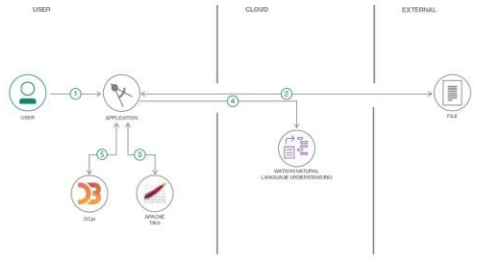
Data Flow Diagrams:

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.

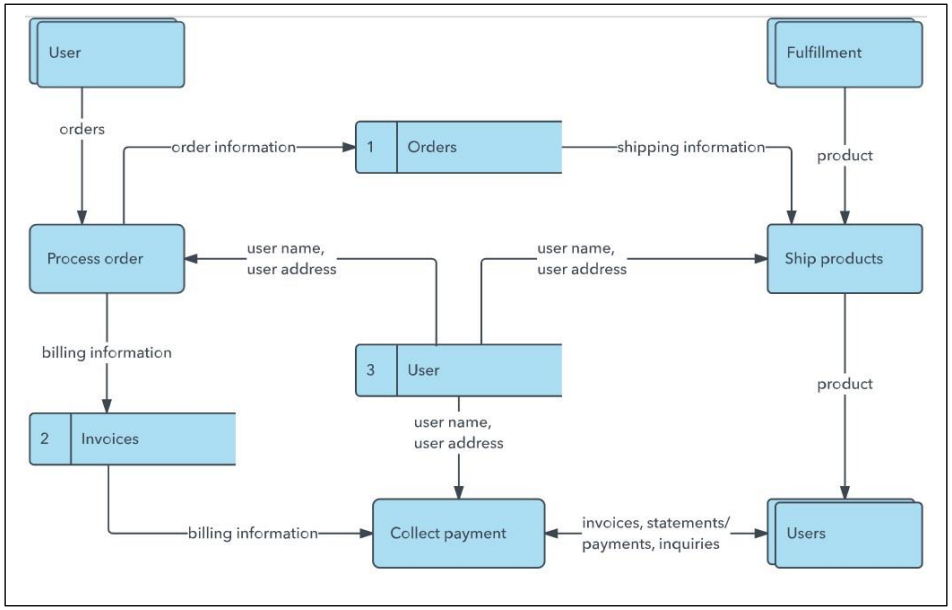
Example: DFD Level 0 (Industry Standard)

Example: (Simplified)

Flow



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.



User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Healthcare Provider	Data Input and Risk Assessment	USN-1	As a user, I can take Input from Patient Data for Diabetes Risk Assessment	~The system should provide a user-friendly interface for healthcare providers to input patient data, including age, gender, family history, BMI, blood pressure, glucose levels, and cholesterol. ~Upon data input, the system should accurately calculate and display the patient's risk of developing diabetes within a specified time frame. ~The system should make treatment recommendations based on the risk assessment.	High	Sprint-1
Patient	Self-Monitoring and Risk Assessment	USN-2	As a user, I will have Self-Monitoring and take Diabetes Risk Assessment	~Patients should be able to input their medical history and current health data into the system. ~The system should provide a diabetes risk assessment score based on the patient's input. ~Patients should receive personalized recommendations for lifestyle changes, diet, and exercise to reduce their diabetes risk.	Medium	Sprint-1
Data Scientist	Data Access and Model Training	USN-3	As a user, I can Access and Use Historical Data for Model Training	~Data scientists should have access to a diverse dataset with patient profiles and historical diabetes diagnosis records. ~The system should allow data scientists to extract, preprocess, and use this data for training and validating machine learning models. ~The system should provide APIs or tools for data scientists to interact with the dataset and model training.	High	Sprint-1

Researcher	Result Analysis and Research	USN-4	As a user, I can Access and Analyze Prediction Results	~Researchers should have access to prediction results for further study and analysis. ~The system should provide relevant statistical information and visualization tools to help researchers understand factors influencing diabetes risk. ~The system should allow researchers to download prediction data for their studies.	High	Sprint-1
All Users (General)	Login	USN-5	As a user, I can log into the application by entering email & password	~Users who forget their passwords should be able to reset them securely through a password recovery process. ~The system should track login attempts and provide security measures against brute-force attacks.	Medium	Sprint-1
All Users (General)	Dashboard	USN-6	Create User Dashboards	~After successful login, each user should have access to a personalized dashboard. ~The dashboard should display relevant information based on the user's role and access rights, providing an overview of key features and data. Healthcare providers should see patient-related information and risk assessment tools. ~Data scientists should have access to data extraction and model training tools.	High	Sprint-1
Customer (Web user)	User Registration and Profile	USN-7	Register and Create User Profile	~Customers should be able to register on the platform by providing necessary information, including name, email, and password. ~After registration, customers should have the ability to create and edit their user profiles, which may include personal information, medical history, and preferences.	High	Sprint-1

				~Customers should receive a verification email to confirm their registration.		
Customer Care Executive	Customer Managemen	USN-8	Manage Customer Profiles	~Customer care executives should be able to search for and view customer profiles. ~Executives should have the ability to update customer information and medical data as provided by the customers. ~Customer care executives should be able to assist customers in using the system, including registration, risk assessment, and profile management.	High	Sprint-1
Administrator	Security and Compliance	USN-9	As a user, I can Ensure Data Security and Compliance	The system should implement robust security measures to protect patient data, including encryption, access controls, and regular security audits. The system should comply with data privacy regulations such as GDPR, ensuring that patient data is handled in a legally compliant manner.	High	Sprint-1