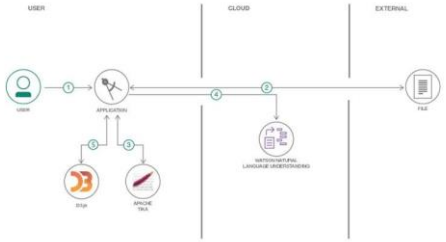
Project Design Phase-II
Data Flow Diagram & User Stories

Date	20 October 2022
Team ID	PNT2022TMID03497
Project Name	Project-A Gesture-based Tool for Sterile Browsing of Radiology Images
Maximum Marks	4 Marks

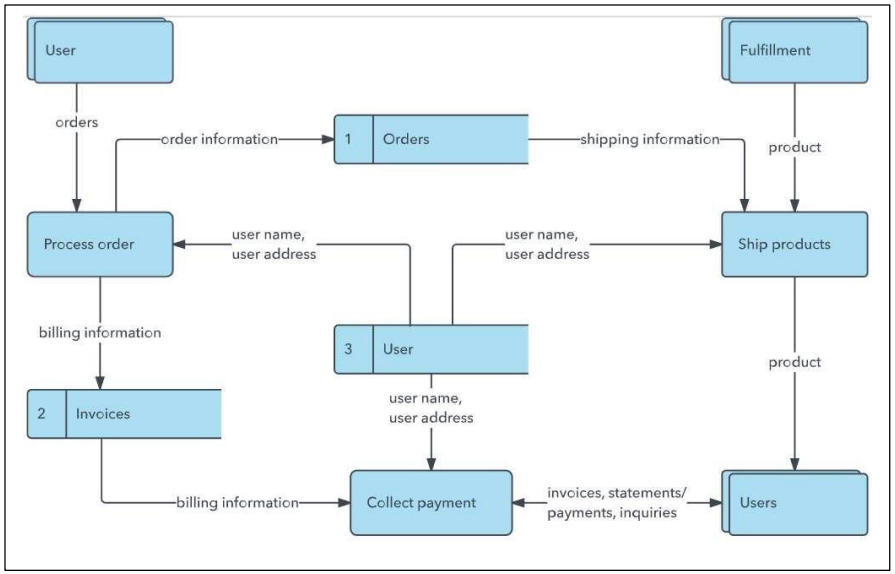
Data Flow Diagrams:

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.

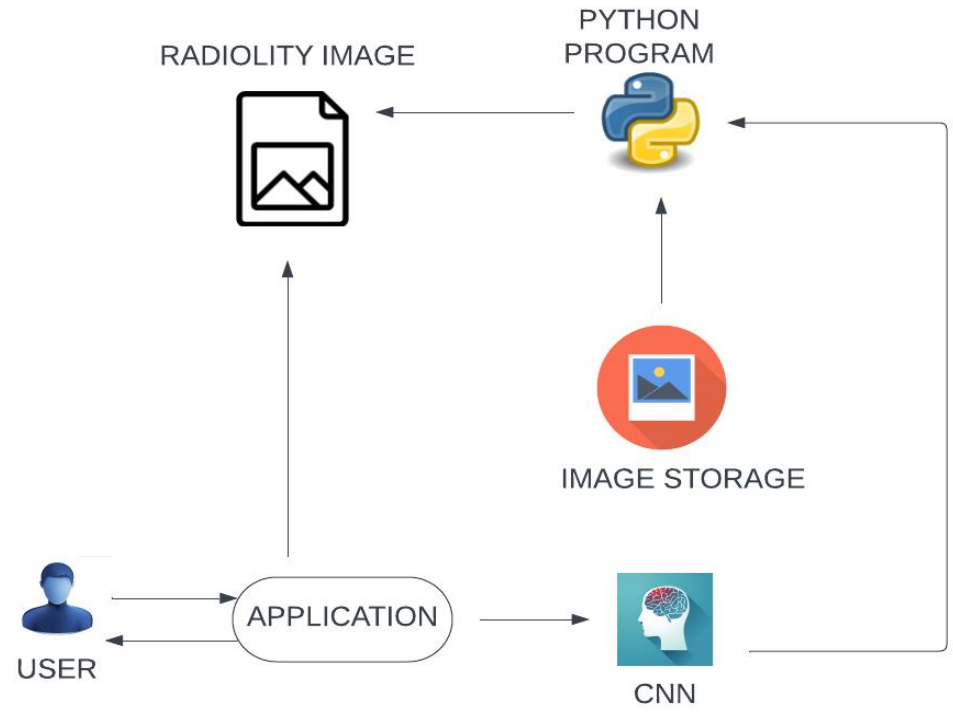
Flow

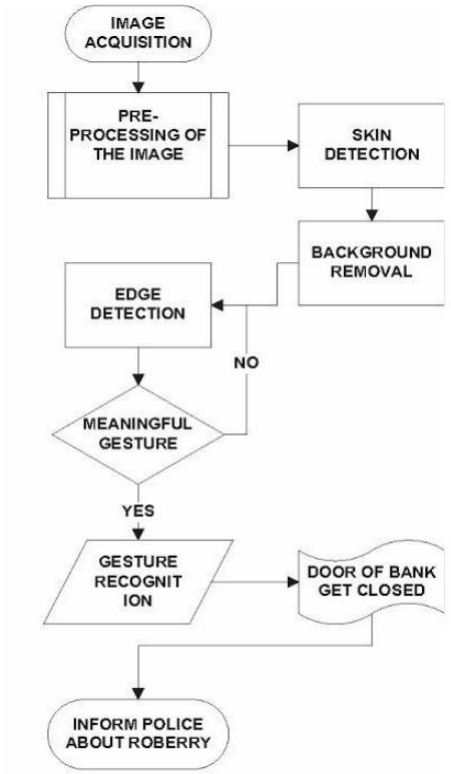


1. User configures credentials for the Watson Natural Language Understanding service and starts the app.
2. User selects data file to process and load.
3. Apache Tika extracts text from the data file.
4. Extracted text is passed to Watson NLU for enrichment.
5. Enriched data is visualized in the UI using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



Data Flow Diagram (Simplified)





1. Flowchart for configuring hand gesture recognition system

1.Uploading radiology images.

2.Storing radiology images.

3.Giving hand gesture input.

4.The background is removed and converted into binary image and given to the CNN model. 5.CNN model predicts the hand gesture and gives to the python program.

6.Radiology image is given to the python program.

7.The action is performed on the radiology image according to the prediction from the model by the python program.

8.The resultant radiology image can be viewed through the application web UI.

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 (Surgeon)	Uploading radiology images	USN-1	As a user, I can upload the radiology images of patient.	Uploading multiple radiology images(.jpg, .png, etc.,)	High	Sprint-2
	Capturing gesture	USN-2	Real time hand gesture Image frames are extracted from video that captured via webcam.	Different hand gesture input to perform specific action on radiology images.	High	Sprint-1
	Image processing	USN-3	The background is eliminated from captured image and converted into binary image according to the skin or glove colour.	Calibration of the app for any skin colour or glove colour.	High	Sprint-1
	Prediction	USN-4	The binary image is predicted as one finger, two finger, three finger, etc., by using CNN model.	Accurate prediction is done only on the binary image.	Medium	Sprint-2
	Perform action	USN-5	Performing an action on radiology image associated with the gesture.	Crop, rotate, zoom actions are performed.	High	Sprint-3
	Viewing result	USN-6	Viewing the resultant radiology image.	The resultant image is displayed in the web UI.	High	Sprint-4