**Project Design Phase-II**
**Data Flow Diagram & User Stories**

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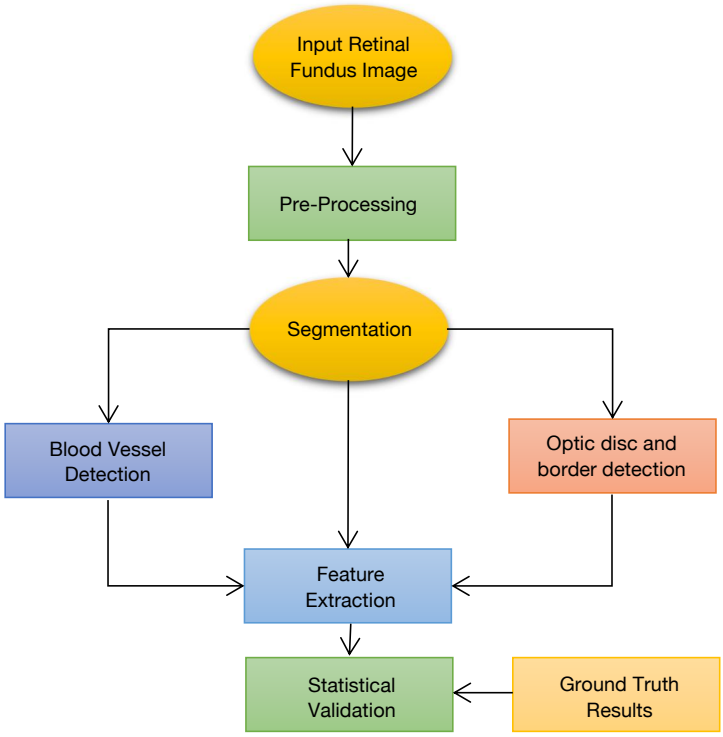
| Date | 03 October 2022 |
| Team ID | PNT2022TMID52888 |
| Project Name | Project - Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy |
| Maximum Marks | 4 Marks |

**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.




- Detection and analysis of diabetic retinopathy disease in clinics requires retinal fundus images
- Pre-processing of raw retinal fundus Images are performed using extraction, histogram equalization, image enhancement and resizing techniques.
- The segmentation of retinal vasculature from eye fundus images should be performed
- The computer aided automatic detection and segmentation of blood vessels through the elimination of optic disc (OD) region in retina.
- The retinal blood vessels are detected using binary morphological operations.

- Feature extraction from the fundus images refers to an advanced eye screening technology which can help in early detection of diabetic retinopathy.

**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 |
|---|---|---|---|---|---|---|
| Patient (Web user) | Registration | USN-1 | As a user, I can register through website via email id or phone number with password. | I can create an account in the web page | High | Sprint-3 |
| | Login into the web-page | USN-2 | As a user, I can login to the site by the given Login credentials. | I can login | High | Sprint-3 |
| | Upload Images | USN-3 | As a user, I can upload my data in the form of pdf, doc, jpg etc. | I can upload my data | Medium | Sprint-3 |
| Administration (Web developer) | Admin login | USN-4 | As an Admin I can login to the site and analyse the user data. | I can login and analyse the user data | High | Sprint-3 |
| | Data collection | USN-5 | As an admin, I can collect the data related to the DR from source. | I can collect the data. | Low | Sprint-1 |
| | Create model | USN-6 | As an admin, I can create the model and train the model from the data for prediction. | I can create and train the model. | High | Sprint-1 |
| | Test the model | USN-7 | As an admin, I can test and validate the model for prediction. | I can test the model. | High | Sprint-2 |
| Patient (Web user) | Diagnosis | USN-8 | As a user I can get the diagnosis result on the application and web page | I can get the results and proceed with the treatment. | High | Sprint-2 |