

Project Design Phase-II Data Flow Diagram & User Stories

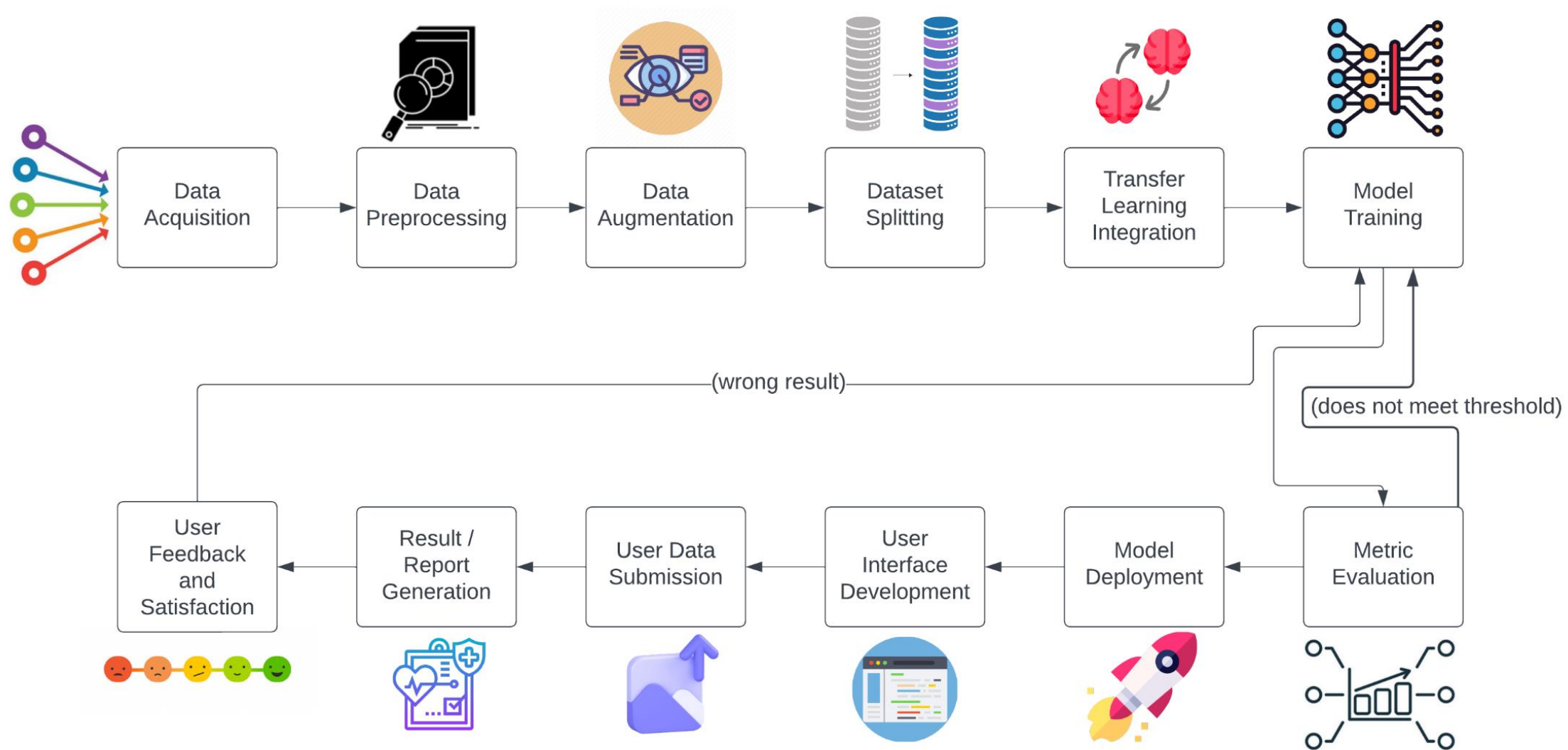
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| Date | 12 November 2023 |
| Team ID | Team-593124 |
| Project Name | Deep Learning Model for Eye Disease Prediction |
| Maximum Marks | 4 Marks |

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.

Data Flow Diagram for Eye Disease Prediction System:

- Data flows from user retina image uploads to the preprocessing and augmentation stages to prepare for model training.
- The processed dataset is then split for training and validation, and integrated with transfer learning models like Inception V3, VGG-16, and Xception.
- The models are trained, and their performance is evaluated; subpar results trigger further refinement.
- Once validated, the models are deployed to a Flask web server for operational use.
- The user interface, developed for easy interaction, allows users to submit retina images for disease prediction.
- Predictive results are generated and delivered back to the user, with an option for feedback on the diagnosis provided.
- User feedback is utilized for continuous model improvement, closing the loop of the data flow and system refinement.



User Stories:

| User Type | Functional Requirement (Epic) | User Story Number | User Story / Task | Acceptance criteria | Priority | Release |
|-----------|-------------------------------|-------------------|---|---|----------|----------|
| Patient | Dashboard | USN-1 | As a patient, I want to access a dashboard where I can view my eye health information and options to upload eye data. | The dashboard effectively presents options for uploading data and viewing past reports. | High | Sprint-1 |
| | Uploading Eye Data | USN-2 | As a patient, I need to upload my eye data so that I can get a diagnosis for my condition. | The system confirms successful uploads and ensures data privacy. | High | Sprint-1 |
| | Patient Report | USN-3 | As a patient, I want to view my diagnostic report to understand the health of my eyes. | The report details diagnostic results in an understandable format. | Medium | Sprint-2 |
| | Recommendation | USN-4 | As a patient, I want to receive recommendations based on my diagnosis to manage my eye health. | The system provides actionable health recommendations post-diagnosis. | Medium | Sprint-3 |
| | Queries & Feedback | USN-5 | As a patient, I want to be able to submit queries and feedback about the diagnosis and app usability. | The system allows easy submission of feedback and provides acknowledgment of receipt. | Low | Sprint-4 |
| Doctor | Dashboard | USN-6 | As a doctor, I want to access a dashboard to review patient eye data and provide my expert diagnosis. | The dashboard consolidates patient data and allows for efficient review and annotation. | High | Sprint-1 |
| | Reviewing Data | USN-7 | As a doctor, I need to review patient uploads to determine the health of their eyes and potential diseases. | The system allows me to easily navigate through patient data and images. | High | Sprint-2 |

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| | Generating Reports | USN-8 | As a doctor, I want to generate reports that give a clear diagnosis and recommendations for my patients. | The system enables the creation of comprehensive reports with diagnostic results and health recommendations. | High | Sprint-1 |
| | Patient Interaction | USN-9 | As a doctor, I need to interact with patients based on their diagnostic reports to provide further medical advice. | The system facilitates secure communication channels between me and the patients. | Medium | Sprint-2 |
| Developer | System Updates | USN-10 | As a developer, I want to implement system updates to enhance application performance and security. | The system supports automated updates without downtime and notifies developers of successful integration. | High | Sprint-1 |
| | Monitoring & Maintenance | USN-11 | As a developer, I need to monitor system performance and conduct regular maintenance for optimal operation. | The system includes tools for real-time performance tracking and alerts for maintenance requirements. | High | Sprint-2 |