**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

| Date | 27 June 2025 |
| --- | --- |
| Team ID | LTVIP2025TMID60665 |
| Project Name | Revolutionizing Liver Care : Predicting Liver Cirrhosis using Advanced Machine Learning Techniques |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| --- | --- | --- |
| FR-1 | User Registration | Registration through Form Registration through Gmail Registration through LinkedIn |
| FR-2 | User Confirmation | Confirmation via Email Confirmation via OTP |
| FR-3 | Patient Data Input | Manual data entry of test results Upload CSV file with patient records |
| FR-4 | Disease Prediction | Real-time liver cirrhosis prediction using ML model Display prediction confidence level Show health advisory messages |
| FR-5 | Report Generation | Downloadable PDF report Email report to registered user |
| FR-6 | Admin Dashboard | View number of users, predictions done, and analytics Model retraining interface (optional) |
| FR-7 | Feedback & Support | User feedback form Contact support through chat/email |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

| **NFR No.** | **Non-Functional Requirement** | **Description** |
| --- | --- | --- |
| NFR-1 | Usability | The application should have a clean, intuitive interface accessible even to non-technical users like health workers. |
| NFR-2 | Security | Patient data must be encrypted, with secure login and authentication mechanisms like OAuth 2.0. |
| NFR-3 | Reliability | The ML model should maintain >90% prediction accuracy and work consistently across various inputs. |
| NFR-4 | Performance | Response time for prediction should be <2 seconds, even during concurrent usage. |
| NFR-5 | Availability | The system should maintain 99.9% uptime with cloud deployment (e.g., Render or Heroku). |
| NFR-6 | Scalability | The application should handle increasing users/data and be deployable across clinics, mobile devices, and healthcare networks. |