**Project Design Phase-II**

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

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| Date | 3 June 2025 |
| Team ID | LTVIP2025TMID38618 |
| 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.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | Data Input Interface | Allow user to input clinical values (e.g., Hemoglobin, Bilirubin, Platelet Count, etc.) Form validation and formatting |
| FR-2 | Model Prediction | Use trained ML model to predict liver cirrhosis status Return prediction output as “Positive” or “Negative” |
| FR-3 | Result Report Generation | Downloadable prediction report Include charts or risk level indicator |
| FR-4 | Prediction Output | Display predicted liver cirrhosis status in the console/output cell |
| FR-5 | Code Availability | Source code and sample dataset are hosted on GitHub for reproducibility |

**Non-functional Requirements:**

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

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | The interface should be simple, intuitive, and user-friendly for both doctors and non-technical users. |
| NFR-2 | **Security** | All data inputs and predictions must be securely processed; user credentials and health data should be encrypted |
| NFR-3 | **Reliability** | The model should consistently deliver correct results based on trained data without unexpected failures. |
| NFR-4 | **Performance** | Predictions must be generated within 2–3 seconds of data input. |
| NFR-5 | **Availability** | The system should be accessible 24/7 with minimal downtime. |
| NFR-6 | **Scalability** | Should support a growing number of users and accommodate additional disease prediction modules in future. |