Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	11 May 2023
Team ID	NM2023TMID19325
Project Name	Cancer Vision: Advanced Breast Cancer Prediction with Deep Learning

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	**Data Collection and Management**	Data Acquisition Data Pre-processing Data Privacy and Security
FR-2	**Image Processing and Feature Extraction**	Image Segmentation Feature Selection & Extraction Quality Control
FR-3	**Model Training and Validation**	Model Selection Hyperparameter Tuning Transfer Learning
FR-4	**Predictive Analysis**	Image Pre-processing Model Optimization Error Analysis
FR-5	**Integration with Clinical Workflow**	Automated Alerts Decision Support System Quality Assurance
FR-6	**User Interface and Experience**	Intuitive Design Interactive Visualization Contextual Help and Support

Non-functional Requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The system should be easy to use and navigate for healthcare professionals and patients. The system should provide clear and concise explanations of the predictions and underlying data to help users understand the basis for the prediction
NFR-2	**Security**	The system should ensure the privacy and confidentiality of patient data and comply with relevant data protection laws and regulations. The system should implement appropriate security measures to prevent unauthorized access and protect against Cyber - attacks.

NFR-3	**Reliability**	The system should be reliable and accurate in predicting advanced breast cancer. The system should be able to handle various input data types and formats without compromising the accuracy of the predictions.
NFR-4	**Performance**	The system should perform predictively, i.e., provide predictions in a timely manner without compromising accuracy. The system should be designed to handle large volumes of data without affecting its performance or stability.
NFR-5	**Maintainability**	The system should be maintainable and easy to modify as needed. The system should be designed to minimize downtime during maintenance or upgrades
NFR-6	**Scalability**	The system should be scalable to handle increasing amounts of data and user traffic. The system should be designed to support multiple users simultaneously without affecting performance or stability.
NFR-7	**Compatibility**	The system should be compatible with various devices and platforms, including desktops, laptops, tablets, and smartphones. The system should be able to handle multiple operating systems and web browsers.