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

Date	11 May 2023
Team ID	NM2023TMID05747
Project Name	Automated Weather Classification Using Transfer Learning

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Interface	• user-friendly interface for input and output. • Easy to use, understand, and navigate. • Provide graphical visualization of the classification results.
FR-2	Accuracy and Performance	• Achieve high accuracy in weather classification. • Low false positive and false negative rate. • Efficient and provide results quickly.
FR-3	Weather Classification	• Use transfer learning to classify weather data. • Train on pre-existing models and improve accuracy over time. • Classify weather into categories such as sunny, cloudy, rainy, snowy, etc.
FR-4	Weather Data Preprocessing	• Preprocess raw weather data to prepare it for analysis. • Handle different data formats such as images, videos, and audio. • Normalize, scale, and filter the data.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The system should have a user-friendly interface, easy to use, and navigate. It should be able to display the classification results in a graphical visualization
NFR-2	**Security**	The system should be secure and protect user data. It should follow best practices in data protection, including encryption, access control, and data anonymization. It should comply with data privacy laws and regulations.
NFR-3	**Reliability**	The system should be reliable and should produce consistent results under different conditions. It should have mechanisms in place to handle errors and exceptions.
NFR-4	**Performance**	The system should have good performance and provide results quickly. It should be able to handle a large amount of data and process it efficiently.

NFR-5	**Availability**	The system should be available to users when they require it, without downtime or delays.
NFR-6	**Scalability**	The system should be scalable and able to handle large volumes of data. It should be able to accommodate new data sources, new weather conditions, and additional features as required.