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

Team Leader	Arun Vignesh S
Project Name	Emerging methods for early detection of forest fires
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	Dataset	Splitting the dataset into training set and testing set .So that it can be used for detecting the occurrence of fire if any.
FR-2	Continuous monitoring system	It is useful for monitoring. Whether there is occurrence of fire or not. Continuous monitoring system helps in this way. This protects the people and other animals in the forest and near the forest from getting damage.
FR-3	IBM cloud	Then the Convolution Neural Network (CNN) model is deployed on the IBM. By using the convolution neural network the images taken by the monitoring system will be able to detect the fire occurrence.
FR-4	Twilio service	Installing the twilio service. Whenever the fire is detected in the forest with the help of the cnn model, it will help to send messages to alert the clients about the fire in the forest.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	It is very easily usable for the customer. They get a message whenever the forest fire is detected. It makes them easier to monitor the activities in the forest areas as well as also in the areas of high fire risking. Use of convolution neural network makes it

		even easier by giving appropriate detections.
NFR-2	**Security**	Security is very much concerned regarding the datas collected and customer details . These securities are mainly related to the cloud services, they have strict security across the network. And the twilio service also maintains standards to ensure data is appropriately stored, as security is the most important matter in all the fields of technology now a days.
NFR-3	**Reliability**	This method of using the artificial intelligence gives appropriate results. And the security makes sure that the details and data collected are safe. The relaiability is more for the customers.
NFR-4	**Performance**	After repeated training and testing ,the forest fire prediction results based on the convolution neural network would be found to be appropriate in most of the times. When the fire in the forest is detected the alerting message will be sent to the customers(clients). So that they can prevent the major damages caused by the fire.
NFR-5	**Availability**	As the mentioned functional requirements are mostly open sources, they are highly available to all. Anyone can make use of it.
NFR-6	**Scalability**	Many fire risk models make use of forest fire databases to construct and assess the probabilistic model. It is an effective way to minimize the damages caused by forest fire in the early detection of forest fire.