

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

Date	12 May 2023
Team ID	NM2023TMID08013
Project Name	Intelligent Garbage Classification using 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	Garbage Classification	<ul style="list-style-type: none">Classified by UserClassified by Deep learningClassified by Sensor
FR-2	Garbage Confirmation	<ul style="list-style-type: none">Confirmation through SensorConfirmation through CNN
FR-3	Garbage Details	Users are required to register the garbage details like name of the waste, type, shape etc.
FR-4	Requirements	The user which is able to sort the waste with the system can take a short time to sort the waste, and it will be more accurate in sorting than the manual way. With the system in place, the beneficial separated waste can still be recycled and converted to energy and fuel for the growth of the economy. The system that is developed for the separation of the accumulated waste is based on the combination of Convolutional Neural Network.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	More efficient for the frequent users. Users can easily understand what the application does and feel satisfied with the system.
NFR-2	Security	<ul style="list-style-type: none">AI powered garbage classification assessment and contain more security in which our data which entered or maintained should be more securityWith the help of username and password it provides more security in which it can access more securable and the data are private.

NFR-3	Reliability	This application must perform without failure in 90 percent of use cases during a month.it is more reliable.
NFR-4	Performance	This application supporting 1,050 users per hour must provide 5 seconds or less response time in a desktop browser, including the rendering of text and images, over an LTE connection. The performance of application is effective and efficient.
NFR-5	Availability	The web dashboard must be available to user's 99.9 percent of the time every month during business hours EST. Users can access anytime and anywhere.
NFR-6	Scalability	The application must be scalable enough to support 10,000 visits at the same time while maintain optimal performance and efficient to retrieve image in large scale thus improving scalability.