Project Design Phase-II

Solution Requirement(Functional & Non-functional)

Date	13-05-2023
Team ID	NM2023TMIDO1947
Project Name	Intelligent garbage classification using deep learning
Maximum mark	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement(Epic)	Sub Requirements
FR-1	Image Recognization	➢ The system should be capable of recognizing and classifying different types of garbage from images. It should be able to identify items such as plasticbottles,cardboard,metals, glass etc.
FR-2	Time Management	➢ It should reduces the human time and power.

FR-3	Real-time Processing	➢ The system should be capable of processing images streams in real-time, allowing for efficient garbage classification at high speeds.
FR-4	User-friendly interface	➢ The system should have a user-friendly interface that allows operators to interact with and monitor the classification process.

Non Functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	➢ The intelligent garbage classification system can be designed to be user-friendly, efficient, and accessible to a wide range of users, ultimately improving the overall user experience and adoption of the system.
NFR-2	Security	➢ The present way of separating waste/garbage is the hand-picking method,whereby someone is employed to separate out the

		different materials. ➢ The person who separates waste,is prone to diseases due to harmful substances in the garbage. ➢ It motivated us to develop an automated system which is able to sort the waste.
NFR-3	Reliability	➢ The garbage classification is mainly concentrated in fixed places in the public environment. ➢ There are problems such as high labor intensity,low sorting efficiency,and poor working environment . ➢ In fact,the garbage classification in the home environment can really solve the problem from the source.
NFR-4	Performance	➢ The mechanical structure of the system can operate normally and correctly. ➢ The system has good performance and can complete the garbage classification.
NFR-5	Availability	➢ The garbage classification should be available,with the ability to handle an huge amount of wastes .
NFR-6	Scalability	➢ The system should be scalable to handle the waste materials.