Project Initialization and Planning Phase

Date	7th July 2025
Team ID	SWTID1750822736
Project Name	Fault detection using transfer learning
Maximum Marks	3 Marks

Define Problem Statements (Customer Problem Statement Template):

The methods used for product quality inspection in manufacturing settings today are frequently labor-intensive, manual, and prone to human error. Accurately and reliably identifying product flaws is extremely difficult, particularly in high-speed production lines. As a result, customers receive faulty products, which raises returns and erodes consumer confidence in the brand. Conventional inspection methods are insufficient to guarantee product integrity in sectors where accuracy and dependability are critical. We suggest a solution based on deep learning and transfer learning models to improve product quality assurance and reduce reliance on humans. Our goal is to automate the high-accuracy classification of product defects by utilizing pre-trained CNN architectures for fault detection.

Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	A quality control manager in a manufacturing plant	Ensure only defect-free products are shipped	Manual inspection is slow and prone to errors	Defects are often subtle and missed during visual checks	Concernd about product recalls and customer dissatisfaction