Project Design Phase-I
Proposed Solution

Date	21 October 2023
Team ID	Team-592995
Project Name	ConstructGuard_YOLO-Based Safety Gear Surveillance
Maximum Marks	2 Marks

Proposed Solution:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	In construction sites safety of the workers is of utmost importance. While a lot of precautions and measures are taken in order to ensure the safety of the workers unfortunately accidents still do take place. The casualties inflicted on the workers during such accident can be minimized by the appropriate use of safety gear. Currently in most construction sites the manager manually ensures that the workers are using the safety gear properly which can be very time consuming and inefficient.
2.	Idea / Solution description	The aim is to develop a YOLO based machine learning model that analyses live surveillance footage of construction sites in order to ensure that the workers are appropriately equipped with safety gear.
3.	Novelty / Uniqueness	This advanced system utilizes YOLO a state-of-the-art object detection algorithm, to accurately identify and verify the presence of essential safety gear worn by construction workers. It operates seamlessly, even in challenging environmental conditions, ensuring that every worker is properly equipped for the job.

4.	Social Impact / Customer Satisfaction	By automating the process of ensuring appropriate use of safety gear our model is promoting a sense of safety and responsibility within a field that has a high chance of casualties by accidents. The model also optimizes a time consuming and inefficient task that is being handled manually by a single individual. As an added bonus the model enforces construction companies to follow safety guidelines required by the law.
5.	Business Model (Revenue Model)	The revenue of the business can be generated through a subscription-based model that charges construction companies based on both duration of utilization as well as the average number of active construction workers during that duration.
6.	Scalability of the Solution	In the near future the model can be scaled to accommodate safety guidelines in other fields (such as wearing mask in hospital or wearing helmets on road)