Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID35935
Project Name	Intelligent Vehicle Damage Assessment & Cost Estimator for Insurance Companies
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Every asset has a value attached to it that is primarily economic in nature. There is always a risk of these assets being destroyed due to incidents beyond human control. They also may not work due to such events. Depending on the asset class, the type and weight of risk also vary. This is where insurance policies are useful. The problem that might arise is that the claimant may not know the amount of coverage that he/she has.
2.	Idea / Solution description	1. To develop an optimized and accurate deep learning architecture to detect the damage percentage and location of the damage with respect to the vehicle 2. Implementing classification algorithms to classify damaged regions and implementing the model in web based application 3. Create a user accessible portal and securely store the data provided by the user 4. Compare the obtained damage percentage with the statistical cost estimation value to predict the cost.
3.	Novelty / Uniqueness	1. The deep learning algorithm will analyze images in real time and identifies the presence of any damage. 2. Even in the presence of minute damages, artificial intelligence can detect the dents and marks on the car's body. 3. With a lot of training, Artificial intelligence will able to distinguish simple stain from a scratch and effectively estimate the respective damage cost
4.	Social Impact / Customer Satisfaction	1. All the features of this project will be made easily accessible to the customers. 2. The webapp is intuitive, easy to use, simple and that the customer can rely on the product. It is easy to start with the app and understand how to use it, high complexity is not valuable for the user. 3. All the uploaded images will be and the personal information of the customer will be secured in cloud data security.

		4. The cost estimation for damages that the webapp provides to the customer will be legitimate and exact to what a normal insurance company offers.
5.	Business Model (Revenue Model)	1. The business model will be a freemium model providing the prediction of damage intensity which will be useful for the vehicle owners to keep track of their vehicle damage and the credentials to access the webpage can be provided on the purchase of the vehicle insurance. 2. The add-on subscription model can be initiated for the user where the damage cost is evaluated and provided to the users. 3. The further revenue can be generated by tying up with the automobile parts manufacturers and distributors by promoting their products to the vehicle that has specified parts damaged.
6.	Scalability of the Solution	1. The damage detection can be provided to all the insured clients to reach the stable base and then extend the service of cost estimation to the insurers. 2. Make use of advanced machine learning techniques to analyze the damaged vehicle with high accuracy levels and keep on improving the learning ability of the model. 3. In addition to the webpage a mobile application can be created where the real time images and videos of the vehicle can be extracted and insurance cost can be estimated.