

K J Somaiya College of Engineering
A Constituent College of Somaiya Vidyavihar University
Course: Introduction to Project Based Learning

Template for Problem Statement

Date : 16/10/2023

Batch : P-3-2
Group : 6

Need Statement:

Roll Number	Name of Student	Role played (Designer / Customer)
26	Charu Malpane	Customer
27	Chirayu Mutha	Customer
28	Devansh pant	Designer
29	Devanshi puthran	Designer
30	Dharmik chandel	Customer

Table 1: List of The sample Questionnaire to design the problem

Questions such as	This question helps the designer to
1. who is the client and target audience?	Identify client's objective
2. what design solution is the client thinking for?	
3. when will the design be needed and for how long?	
4. where will be the design be used?	
5. what is the use of smart helmet?	
6.	

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Are there are data privacy and security constraints that need to be addressed from smart helmet?	Identify constraints
2. constraints regarding power consumption.	
3. what are the user interface and control mechanism?	
1. Head protection	Establish functions
2. GPS and Navigation	
3. Rider to Rider Communication.	
4. Alcohol detector	

Table 2 The information obtained through basic research and Survey

Observation and from Lit.Survey	Requirements
1. other helmets are not durable as these	It should not be heavy. less than 1kg.
2. It has Fast connectivity and response. It has Smart Alerts and notifications.	Helmets should be used by all citizens.
3. Modular design for upgradability.	Regulatory compliance and standards.
4. Efficient user interface.	Environmental considerations.

1.1 Establish client's objectives

The helmet is made for all citizens of India, taking into account safety and well-being of all Indians. It is a step towards new smart BHARAT.

1.2 Identify constraints

constraints would be regarding power consumption, data privacy and control mechanism.

1.3 Establish functions

Head protection, Alcohol detector and various Gps and navigation requirements.

Revised Problem Statement:

- The need of hour is a helmet that takes the responsibility of safety & well being of all bharatiyas.
- Helmet should be light, durable, sturdy, comfortable & ergonomic.

Specifications:-

The helmet should be less than 1kg should have smart alcohol detection and collision provision. The cost of helmet is less than 5000/- only.

- Design a smart helmet powered by an app that is a fusion of technology and safety.