

SOCIAL WELFARE PROJECTS

TEAM Fellow innovators

Team Skills & Roles

- **Team belongs to Shetty Institute of Technology, kalaburgi**
- Team members name and details :

Sanni kumar - Innovative Strategies

Vinay S Buddhi - Researcher

Somesh Hotkar - Design Thinking operator

Sumit - Coding & developer

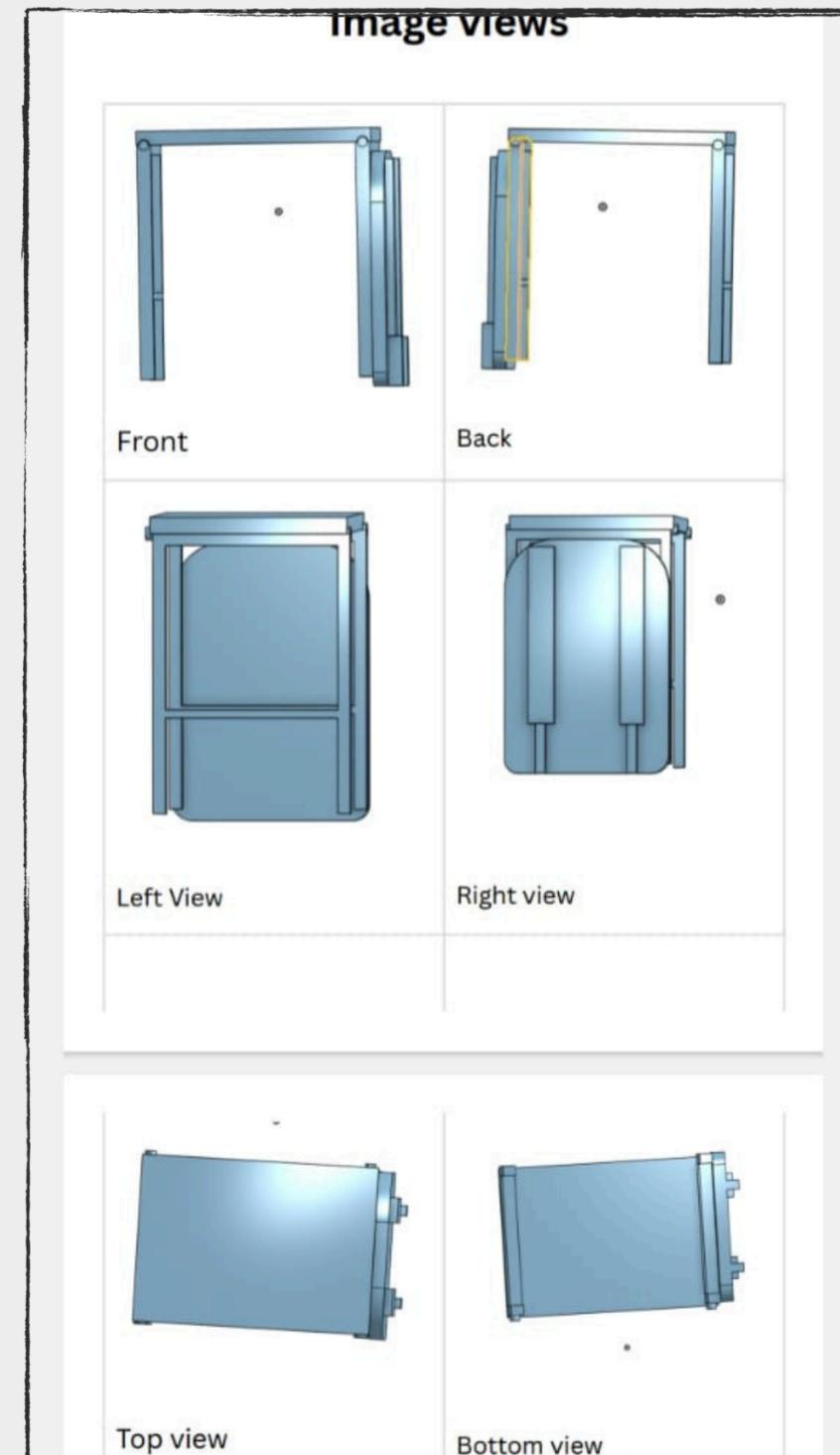
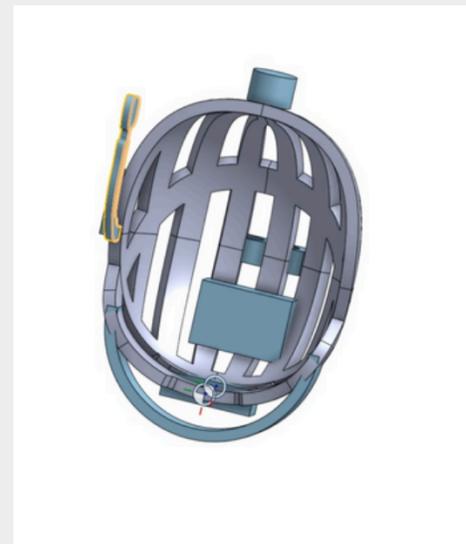
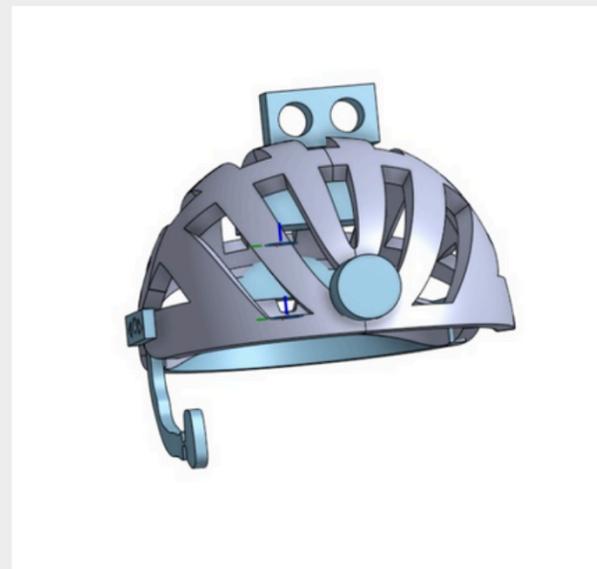
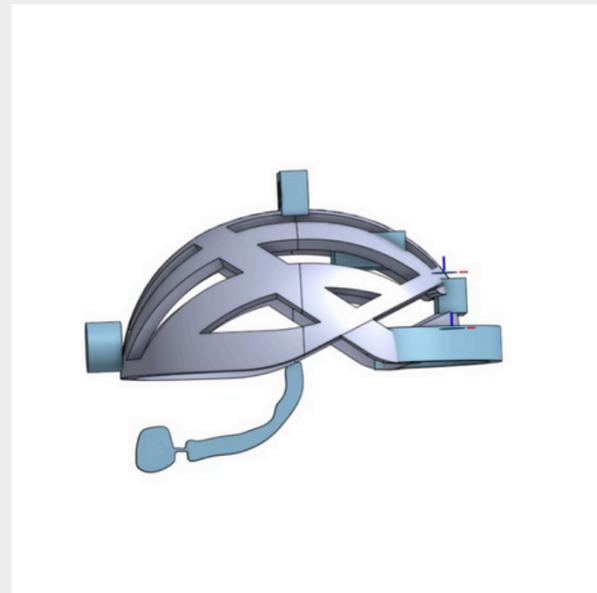
Problem Statement

The problem statement we have chosen is to provide a police and general public a comfortable and sturdy seating solution which is portable and can help in easing the pain caused by long standing.

The Problem statement is that faced by police officer and bike riders during there working hours like due to Air pollution, Noise pollution, Suffocation and Sweaty.

Solution Overview

Smart Helmet



Portable Chair

Technology Overview

Here in the product development we have used the technologies like **Engineering designing and Mechanical designing.**

Mechanical design is the process of designing parts, products, and systems that are inherently mechanical in nature. Any type of machinery or any product that has complex parts requires some form of mechanical design.

Also employing the computer aided design (CAD) technology these tools speed up and streamline the product development process and encourage creativity and innovation to sketch ideas, make changes, develop models.

Using CAD for the visualization of the working of the product in the real life by designing all the parts separately and assembling them for full working model. It also provides the simulation of the working model of the prototype.

Target Audience

Portable Chair

- **Police officer's**
- **General public**
- **Campers**
- **Hiker**
- **Traveller's**

Smart Helmet

- **Traffic Police officer's**
- **Bike Rider's**
- **Umpires**
- **Industrial purpose**
- **Construction**

Market Research

We have made a survey of the market by visiting the intended customers like police department and general public where we talked to them and they discussed about the problem they faced during there work and the existing solutions lack to solve those problems.

According to our research there are police officers who face problem like long standing, knee problem, carrying storage materials essentials in their work and for general public like campers and hikers who need a solution to problem like sitting and storage capacity solution in a single wearable design.

The exhaust fan helps regulate the officer's body temperature, preventing heat-related discomfort and exhaustion during hot weather. This is a level of comfort not available with a standard helmet.

The spy camera provides a real-time view of the surroundings, allowing officers to monitor traffic conditions and .without physically turning their heads. All-Weather Protection detect potential issues

The integrated Bluetooth speaker allows for clear and immediate communication with fellow officers, increasing efficiency ..and coordination in the field

Implementation Plan

Product Design and Development

- Developing the portable chair bag prototypes.
- Collaborate with designers and manufacturers to refine the product design.
- Ensuring the product meets quality and safety standards.

Supply Chain and Manufacturing

- Establishing partnerships with reliable suppliers for materials.
- Set up manufacturing facilities or contract with a manufacturing partner.
- Developing a supply chain management strategy to optimize production and distribution.

Marketing and Analysing

- Summarize the findings from market research, including market size, trends, and competitor analysis.
- Identifying targeted customers segments and their preferences.

Implementation Plan

For developing our projects it took mainly 4 months first we have started with research field and next with design thinking and managing the features and implementing in the helmet by adding all the key features it will cost till 2500.

Project Initiation Phase: project objectives defined, and initial planning completed.
for these stage development mainly it took us 1 -1.5 months

Research and Development Phase: All detailed design speacfication has been designed in the CAD design.
for developing these stage it took us 2 months to learn the onshape design and where the key features need to be placed so that the helmet infrastructure should not be changed and user should use Eco-friendly.

Prototype Development : developed the prototype according to the feedback and took for testing and validation.
for making and gathering all the products and implementing the featurres it took 1 month.

Safety : safety standards and regulatory requirements has been maintained and took for the feedback

Challenges & Risks

Design and Manufacturing Complexity:

- Challenge: Developing a functional and aesthetically pleasing chair bag can be technically challenging because of complex designing.
- Risk : Infirring of design and some flaws in the design that leads to bad quality product.

Supply Chain Disruptions:

- Challenge: Relying on a global supply chain can lead to disruptions due to factors like shipping delays, material shortages, or geopolitical issues.
- Risk : The supply chain can seriously get disrupted due to the effects of the economic slowdown. Economic uncertainty increases financial pressure on lower-tier industries and suppliers.

Environmental Concerns:

- Challenge: Increased focus on environmental sustainability means consumers may prefer eco-friendly products.
- Risk : Considering sustainable materials and production processes to meet consumer demand.

Budget & Resources

Portable Chair

MILESTONE 1:

1. R&D for Product Development: 1 lakh
2. Material Sourcing: 3lakh
 - Steel
 - Cushion foam
 - Rubber griper
 - Screws and Hinges
 - ACP Sheet and Fabric cloth
3. Manufacturing: 1.5 lakh

For the production of 500 units

Total Expenses : Rs 9 lakh

MILESTONE 2:

1. Marketing and Sales: 2 lakh

Total Expenses : Rs 11 lakh

Smart Helmet

MILESTONE 1:

1. R&D for Product Development: 80k
2. Material Sourcing: 10 lakh
 - Helmets
 - Spy camera
 - Bluetooth Speaker
 - Neckband fan
 - Rain cover
 - Secondary Battery 12v
3. Manufacturing: 3.5 lakh

For the production of 500 units

Total Expenses : Rs 14,30,000

MILESTONE 2:

1. Marketing and Sales: 4.5 lakh

Total Expenses : Rs 18,80,000

Achievements



Next Steps

The portable chair bag combines the practicality of a comfortable portable chair with the convenience of carrying things in a bag. Its unique design, durable construction, and portability make it a versatile and valuable addition to various activities and settings, ensuring that users have access to comfortable seating whenever and wherever it's needed.

We need the funding for the complete prototype development and proceed to solve the problem statement and also need the guidance and support in the patent filing process.

We need proper guidance and feedback and by growing technologies what all changes need to be done and how can we make the product different from others and we require funding to change the overview of the helmet, Currently in market many additional features are there then compare to features that we have implemented so for that we require funding and guidance and support.

Contact Information

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