MSME IDEA HACKATHON 4.0

PROPOSAL TEMPLATE

(Name and contact details should not appear in the file)

"Remove the highlighted"

1. Title of proposed idea/innovation:

SMART HEAD LAMP

2. Briefly explain newness/uniqueness of the innovation

Unmet Need:

Traditional headlights usually come with a set brightness level or only basic manual adjustments available, to users which might not be very convenient in all situations like hiking or cycling, in the dark where visibility's crucial and having real time adjustment features would make things more user friendly and efficient.

Uniqueness:

The intelligent headlight could include features such, as self adjusting brightness levels, tracking movement without input operating hands free or connecting seamlessly with gadgets to distinguish itself from standard headlights. Certain editions might even offer capabilities such, as recognizing faces or detecting temperatures.

Novelty :

The innovation here is how sensors and AI technology work together with the Internet of Things (IoT) to make the device adjust to the users environment effortlessly—a level of customization and automation that's quite fresh, in the headlamp industry.

Product Developed :

A developed smart headlamp could include features like adaptive brightness control, rechargeable batteries with extended life, weather-resistant materials, and smart integrations such as mobile app control or voice activation.

3. Concept & Objective

Concept :

- The high tech headlight comes with functions such, as detecting motion adjusting brightness automatically and allowing hands operation.
- Utilizing sensors and artificial intelligence the system adapts the lighting in response, to changes, in the surroundings or user activity.
- It has the capability to synchronize with devices or applications, for improved management and customization.
- Here is the paraphrased text; Focused on offering lighting options that can be tailored to needs while also conserving energy.

Objectives :

- Automatically enhance (low- and bright light conditions) visibility
- Eliminate the need for manual optimization to facilitate user experience
- Provides safety while walking, running, hiking, cycling and at work or any activities in which visibility is important
- Save energy, extend battery life and improve performance.
- Offering sophisticated functionality such as facial recognition or temperature detection for targeted applications.

4. Specify the potential areas of application in industry/market in brief.

User Survey:

- Usage scenarios (e.g., outdoor activities, work environments).
- Desired features (automatic brightness adjustment, battery life, durability).
- Pain points with traditional headlamps (manual adjustment, short battery life, discomfort).
- Willingness to pay for advanced features (smart control, connectivity, sensors).

Opportunity :

- Area of Focus: Traditional headlamps In Brazil (This type of lamp doesn't provide a much manual control and most times not a adjustable system, what can be put Smart and automatic.
- Who would want this: Outdoor enthusiasts such as hikers, bikers and campers; professionals working in low-light conditions (mining and construction workers); most techie consumers who like cool gadgets that makes their life easier.
- Growth Opportunities: Rising need for safety, convenience and energy efficient lighting solutions specifically in outdoor and professional applications.

Value Proportion :

- Hands-free control and adaptive brightness for your convenience.
- Safety: In on-dimming scenario, adjusting the brightness in real-time boosts visibility and reduces mishaps.
- Longevity & Efficiency: Go-to testing results in direct power distribution, preventing constant charging and thereby providing battery longevity.
- Settings Sync: the headlamp is customized to ones personal needs acting accordingly with different devices owned by one person.
- Technology: Several other features such as motion tracking, temperature sensing and connectivity make the smart headlamp different from traditional products.

5. **Briefly provide the market potential of idea/innovation.**

- Over 36 million were blind in the world and they are the target audience of this smart stick
- Smart stick market is expected to reach 6 billion by 2026 as the population of blind increases gradually
- The sales of traditional blind sticks per year is Thousand and hundred and eight(1108).
- The usage of blind sticks by the blind people increases year by year.

6. **Block diagram / Flow chart**