Abstract Submission Sample Format

1. Theme and Title of the Idea

- Theme : Pedestrian Safety
- Example: "Smart Crosswalk System for Pedestrian Safety"

2. Problem Statement

- Road accidents involving pedestrians, cyclists, and drivers have increased in [specific region/city]. Despite road signs and traffic signals, pedestrian crossings remain unsafe due to distracted driving, poor visibility, and lack of real-time alerts.
- **Who is affected?**: Pedestrians, especially children and the elderly, are at higher risk, along with cyclists and drivers, leading to potential fatalities and injuries.
- **Why it's important**: Reducing accidents and saving lives is crucial for safer cities and improved public health.

3. Proposed Solution

- Our solution is to implement a **Smart Crosswalk System** that uses motion sensors, LED signals, and connected alerts to enhance pedestrian safety.
- **How it works**: When a pedestrian approaches a crosswalk, motion sensors detect their presence, activating LED lights embedded in the road to alert drivers in real time. In addition, a connected system sends proximity alerts to vehicles within a certain radius.
- **Unique/Innovative aspects**: Unlike standard pedestrian crossings, this system offers real-time interaction between pedestrians and vehicles, significantly improving visibility and alert mechanisms.

4. Target Audience

- **Primary Audience**: Pedestrians, including vulnerable groups like children, the elderly, and individuals with disabilities.
- **Secondary Audience**: Drivers, cyclists, and city planners responsible for road safety.
- **Locations**: Busy urban areas, school zones, high-traffic pedestrian regions, and intersections prone to accidents.

5. Impact

- **Short-term impact**: Immediate reduction in pedestrian-related accidents at crosswalks and improved driver awareness.
- **Long-term impact**: Increased public trust in smart city infrastructure, improved traffic flow, and enhanced overall road safety culture.

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6. Feasibility

- **Technology**: The solution relies on existing sensor technology, LED systems, and connected vehicle alert mechanisms, all of which are commercially available and cost-effective.
- **Implementation**: Can be piloted in high-risk zones, with partnerships from local governments, traffic management authorities, and private tech firms.
- **Challenges**: Requires initial infrastructure investment and coordination with city traffic systems, but is scalable and sustainable in the long run.

7. Scalability

- Once proven effective in urban areas, the system can be scaled to suburban and rural zones with higher traffic speeds.
- Integration with future connected car systems and IoT-based smart city solutions would allow for broader use and efficiency.

8. Team Members (Optional)

- John – 3rd year, B Tech, Electrical Engineering, IIT Madras
- Ram – 1st year, M Tech, Engineering Design, IIT Madras

9. Supporting Documents (Optional)

- Conceptual diagram of the Smart Crosswalk System
- Research data on pedestrian accidents in target regions
- Budget estimate for pilot implementation

Mail your first abstract in not more than 300 words to rsideathon@rbg.iitm.ac.in by Oct 1, 2024.

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