



**Parul<sup>®</sup>**  
**University**

## HACKATHON 2024

# PARUL UNIVERSITY

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## **Problem 1: Resolving Urban Gridlock - Innovations for City Mobility**

### **Problem Statement:**

How can we effectively address the challenges posed by urban traffic congestion and introduce inventive solutions to revolutionize city mobility?

### **Insight into the problem:**

Urban traffic congestion has become a critical impediment to efficient city mobility, resulting in increased travel times, environmental concerns, and a negative impact on overall quality of life. Traditional approaches have proven insufficient in tackling this complex issue, necessitating innovative solutions that go beyond conventional methods.

Explore predictive models, smart strategies, and creative ideas to transform the way people navigate through urban landscapes. Investigate the root causes of congestion, considering factors such as population growth, infrastructure limitations, and changing commuting patterns.

### **Why this is a critical problem to solve:**

Addressing urban gridlock is crucial for fostering sustainable urban development, reducing environmental pollution, enhancing public health, and improving overall urban livability. Finding innovative solutions will contribute to economic productivity by ensuring efficient transportation and promoting a better quality of life for urban residents.

## **Problem 2: Modernizing Legacy Systems - Enhancing Accessibility for Aging Apps/Websites**

### **Problem Statement:**

How can we make technology more inclusive by improving accessibility for legacy applications and websites, bridging the gap between aging interfaces and modern user expectations to ensure a seamless experience for all users?

### **Insight into the problem:**

The challenge lies in the accessibility limitations of legacy applications and websites, creating barriers for users with diverse needs. Aging interfaces often lack compatibility with modern user expectations, hindering inclusivity and user engagement. It is imperative to find solutions that address these limitations, fostering an environment where technology is accessible to everyone.

Explore innovative approaches to update aging interfaces, ensuring compatibility with evolving technologies and enhancing user experience for individuals with varying abilities and preferences.

### **Why this is a critical problem to solve:**

Modernizing legacy systems is crucial for promoting digital inclusivity, ensuring that individuals with diverse needs can fully participate in the digital landscape. It contributes to creating an equitable and accessible technological environment, aligning with the principles of diversity and inclusion.

### **Problem 3: Nourishing Well-Being - Personalized Food Recommendations from Health Metrics**

#### **Problem Statement:**

How can we develop a system that provides personalized food recommendations based on daily health data, including vitals and BMI, to assist individuals in making informed dietary choices tailored to their unique well-being needs?

#### **Insight into the problem:**

The challenge lies in creating a comprehensive system that seamlessly integrates health metrics to offer personalized food recommendations. This involves understanding and interpreting diverse health data, such as vitals and BMI, to curate dietary suggestions that align with individual well-being goals.

#### **Why this is a critical problem to solve:**

Addressing this challenge is crucial for promoting individual well-being by providing tailored dietary guidance. Personalized food recommendations based on health metrics can contribute to preventive healthcare, assist in managing chronic conditions, and foster healthier lifestyles, ultimately enhancing the overall quality of life for individuals.

## **Problem 4: Optimizing Data Highways - Automated Database Enhancements**

### **Problem Statement:**

How can we develop solutions that intelligently monitor queries, analyze performance bottlenecks, and dynamically optimize indexes for efficient database management? The goal is to streamline the optimization process, ensuring databases consistently operate at peak performance.

### **Insight into the problem:**

The challenge involves creating automated tools that can proactively monitor and optimize databases. This requires the intelligent analysis of queries, identification of performance bottlenecks, and dynamic adjustments to indexes for optimal database efficiency.

### **Why this is a critical problem to solve:**

Efficient database management is paramount for organizations dealing with large volumes of data. By automating the optimization process, businesses can enhance overall system performance, reduce downtime, and improve the scalability and responsiveness of their databases, leading to increased productivity and cost savings.

## **Problem 5: Social/Entertainment Innovation - Unleash Your Creativity**

### **Problem Statement:**

The challenge is to develop groundbreaking solutions that redefine social interaction or entertainment experiences. From immersive storytelling to novel social platforms, participants are encouraged to unleash their creativity and craft innovative solutions that push the boundaries of traditional social and entertainment norms.

### **Insight into the problem:**

The opportunity lies in exploring uncharted territories of social and entertainment experiences. Participants are tasked with thinking beyond conventional approaches, fostering creativity to create solutions that captivate audiences and offer unique and engaging interactions.

### **Why this is a critical problem to solve:**

In a rapidly evolving digital landscape, redefining social and entertainment experiences is vital for keeping pace with changing consumer preferences. Innovative solutions in this realm have the potential to not only captivate audiences but also shape the future of how people connect, share, and experience entertainment, contributing to the evolution of digital culture.

## **Problem 6: Blue Tech Revolution - Sustainable Solutions for Marine Debris**

### **Problem Statement:**

Participate in the mission to combat marine debris by creating solutions that streamline waste management, recycling, and repurposing processes in our oceans. The challenge is to contribute to a sustainable and eco-friendly future by innovating in the realm of marine conservation.

### **Insight into the problem:**

The challenge involves addressing the pervasive issue of marine debris through the development of efficient and sustainable solutions. This encompasses devising methods to streamline waste management, implement effective recycling practices, and find innovative ways to repurpose debris within marine ecosystems.

### **Why this is a critical problem to solve:**

Combatting marine debris is crucial for preserving ocean ecosystems, protecting marine life, and ensuring the sustainability of our planet. Innovative solutions in waste management, recycling, and repurposing processes contribute to the larger mission of creating a sustainable and eco-friendly future, where marine conservation plays a central role in environmental stewardship.



## **Problem 7: Visualizing the Game - Making Sports Inclusive and Engaging**

### **Problem Statement:**

The challenge is to break down barriers and bring sports to the masses by enhancing its visual appeal and engagement. Participants are tasked with developing solutions that make sports more accessible, captivating, and enjoyable for diverse audiences, fostering a broader appreciation for athletic endeavors.

### **Insight into the problem:**

The opportunity lies in reimagining how sports are experienced visually to cater to a wide range of audiences. Participants are encouraged to explore ways to enhance accessibility, captivate viewers, and create an engaging sports-watching experience that transcends traditional boundaries.

### **Why this is a critical problem to solve:**

Making sports inclusive and engaging is essential for expanding the audience base and promoting a broader appreciation for athletic achievements. Innovative solutions in this domain have the potential to not only increase viewership but also make sports more accessible to individuals with varying interests, backgrounds, and abilities, contributing to the overall growth and sustainability of the sports industry.