MARRI LAXMAN REDDY GROUP OF INSTITUTIONS

MLR INSTITUTE OF TECHNOLOGY

(UGC AUTONOMOUS)

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

III CSE MINI PROJECT

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Batch Number: MinP_TE8

Domain / Areas	Application Development
Title of the Project	Design and Implementation of a GPS-Enabled Bike Pooling System with Integrated Safety Compliance
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ABSTRACT:

In Indian cities, especially Tier-1 regions, students and working professionals depend heavily on two-wheelers for their daily commute because they are affordable and convenient. However, growing traffic congestion, increasing fuel prices, and overcrowded public transport make daily travel time-consuming and expensive. Although ride-sharing platforms exist, they mainly cater to four-wheelers and do not adequately support short-distance two-wheeler commuting. Safety concerns, such as irregular helmet usage and lack of ride monitoring, further limit the adoption of bike pooling.

This project proposes a GPS-enabled bike pooling system designed for students and corporate commuters. The system allows users to share rides based on nearby locations and similar travel timings. To improve safety, helmet usage is verified before starting a ride, and additional features such as live ride sharing and SOS alerts are provided. A mobile-first design with a centralized backend supports real-time GPS tracking while respecting user privacy by limiting tracking to active rides. The proposed solution aims to reduce commuting costs, ease traffic congestion, and encourage safer and more sustainable urban transportation.

System Requirements	**Hardware:** **RAM**: At least 4 GB, preferably 6 GB or more **Storage**: Device Storage with at least 300MB
	Software: Operating System GPS Permissions Python libraries

Signature of the Guide **Project Coordinator**