Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	2 Feb 2026
Team ID	LTVIP2026TMIDS24926
Project Name	Visualization Tool For Electric Vehicle Charge And Range Analysis
Maximum Marks	4 Marks

Technical Architecture : **Visualization Tool For Electric Vehicle Charge And Range Analysis**

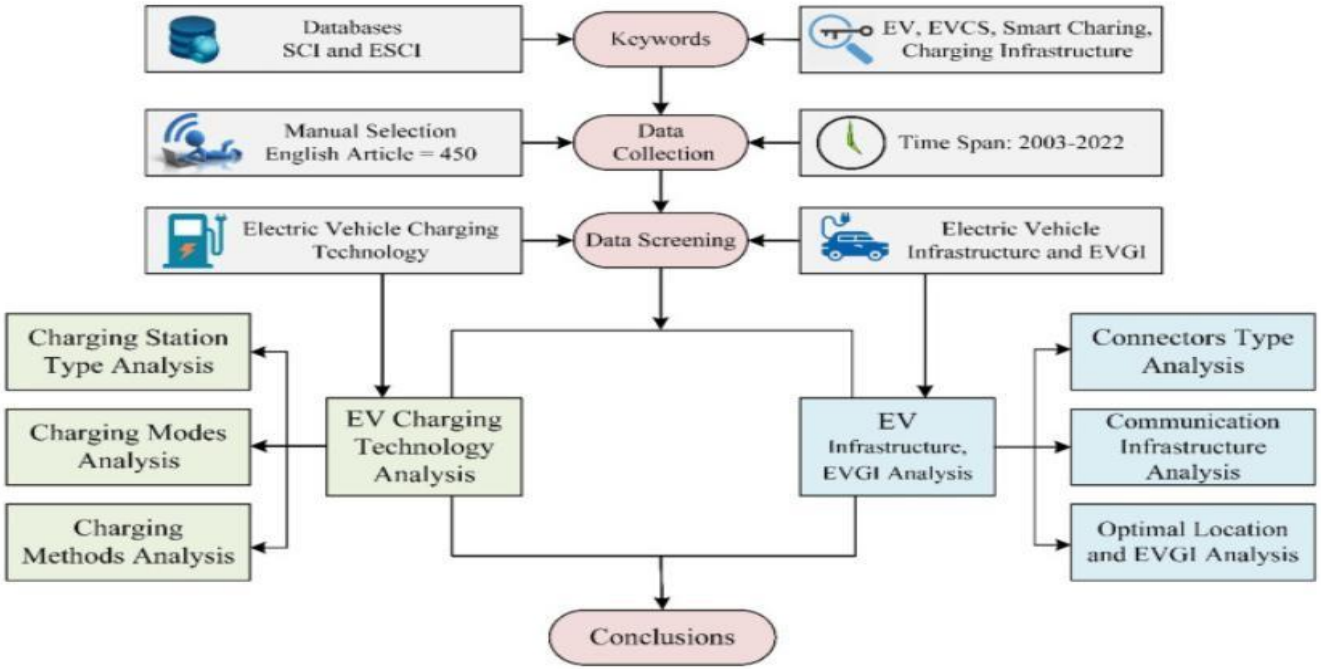

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Interface for researchers and public to interact	HTML, CSS, JavaScript
2.	Application Logic-1	Processes analysis requests and filters data	Python
3.	Application Logic-2	Speech to text processing for voice based input	IBM Watson STT service
4.	Application Logic-3	Conversational assistant for query support	IBM Watson Assistant
5.	Database	Stores electronic vehicle site data	MySQL
6.	Cloud Database	Cloud-based backup and scalability	IBM Cloudant.
7.	File Storage	Stores reports and visual assets	IBM Block Storage
8.	External API-1	Fetches current environmental info	IBM Weather API
9.	External API-2	Validates user identity	Aadhar API

Table-2: Application Characteristics:

S.No	Characteristics	Technology
1.	Open-Source Frameworks	React JS, Tensorflow
2.	Security Implementations	e.g. SHA-256, Encryptions, IAM Controls, OWASP Standards.
3.	Scalable Architecture	Microservices and Kubernetes-based deployment
4.	Availability	Load balancers, Multi-zone cloud deployment.
5.	Performance	Use of Redis cache, CDNs, optimized queries