

CRC Modeling	
Class: E-VANET	
Description: Main class	
Responsibility:	Collaborator:
Facilitate the overall functioning and coordination of the E-VANET system.	EV owner, CS owner, DB manager, Blockchain Admin, Authentication Admin, Security Admin, Data Scientist
Ensure secure and reliable communication	
Oversee the integration of blockchain technology for data security and transparency.	

CRC Modeling	
Class: EV data	
Description: The EV data class manages data related to electric vehicles, such as battery status, location, and performance	
Responsibility:	Collaborator:
Collect and store data about electric vehicles.	Electric Vehicle (EV). Database manager
Provide real-time updates on EV status to the EV owner	EV sensor modelus
Analyze and process EV data for various purposes	Data Scientist, Web portal admin

CRC Modeling			
Class: EV Owner			
Description: The EV owner class represents the users who own electric vehicles (EVs).			
Responsibility:		Collaborator:	
Interacts with the system for authentication, data access, and communication.		Self (EV owner), Authetication admin	
Track and manage ownership of electric vehicles.		Electric Vehicle (EV).	
View available options and current EV data. Navigate to the CS scheduling and communication		Self (EV owner), Database manager	

CRC Modeling			
Class: Scheduling			
Description: The Scheduling class is responsible for optimizing routes and scheduling activities for electric vehicles.			
Responsibility:		Collaborator:	
Optimize EV routes based on various factors in collaboration with the EV data actor.		EV data, Data scientist	
Manage and adjust schedules for EV owner actors.			
Collaborate with Charging Stations for efficient charging scheduling.		Charging Station	

CRC Modeling			
Class: Blockchain			
Description: The Blockchain class represents the blockchain technology used for secure and transparent data storage			
Responsibility:		Collaborator:	
blockchain technology for secure and transparent data storage and transactions for all actors.		Blockchain network admin	
Record and verify transactions for all actors.		EV data, Blockchain admin	
Ensure data integrity and privacy for all interactions among actors.		Authentication Admin	

CRC Modeling			
Class: Charging Station			
Description: The Charging Station class represents charging infrastructure for electric vehicles.			
Responsibility:		Collaborator:	
Store information about charging station locations and availability.		Database	
Handle requests for charging services from the Electric		Electric Vehicle, CS Owner	
Report charging station status.		Electric Vehicle, DBA	

CRC Modeling			
Class: Communication			
Description: The Communication class manages real-time communication between system EV.			
Responsibility:		Collaborator:	
Facilitate real-time data exchange between system components including Electric Vehicles		Electric vehicles	
Handle notifications, alerts, and messages for all actors.		EV owner	
Ensure reliable data transmission for all interactions.		AdHoc Network Configuration	

CRC Modeling			
Class: Login			
Description: The Log in class handles user authentication and session management.			
Responsibility:		Collaborator:	
authenticity of user-provided login credentials (e.g., username and password) to grant or deny access to the system.		User Actor/DBA	
Establish and maintain user sessions to track user		User/DBA	
rovide the functionality for users to log out of their active sessions, ensuring secure termination of their		User/DBA	

CRC Modeling			
Class: Payment			
Description: The Payment class handles financial transactions related to charging services and system usage.			
Responsibility:		Collaborator:	
Process payments for charging services initiated by the Electric Vehicle (EV) actor.		EV Actor	
Manage user payment methods in collaboration with		EV Owner, CS owner	
Generate invoices or receipts for the EV owner actor.		EV Owner	