COMSATS University Islamabad Abbottabad Campus

LAB FINAL

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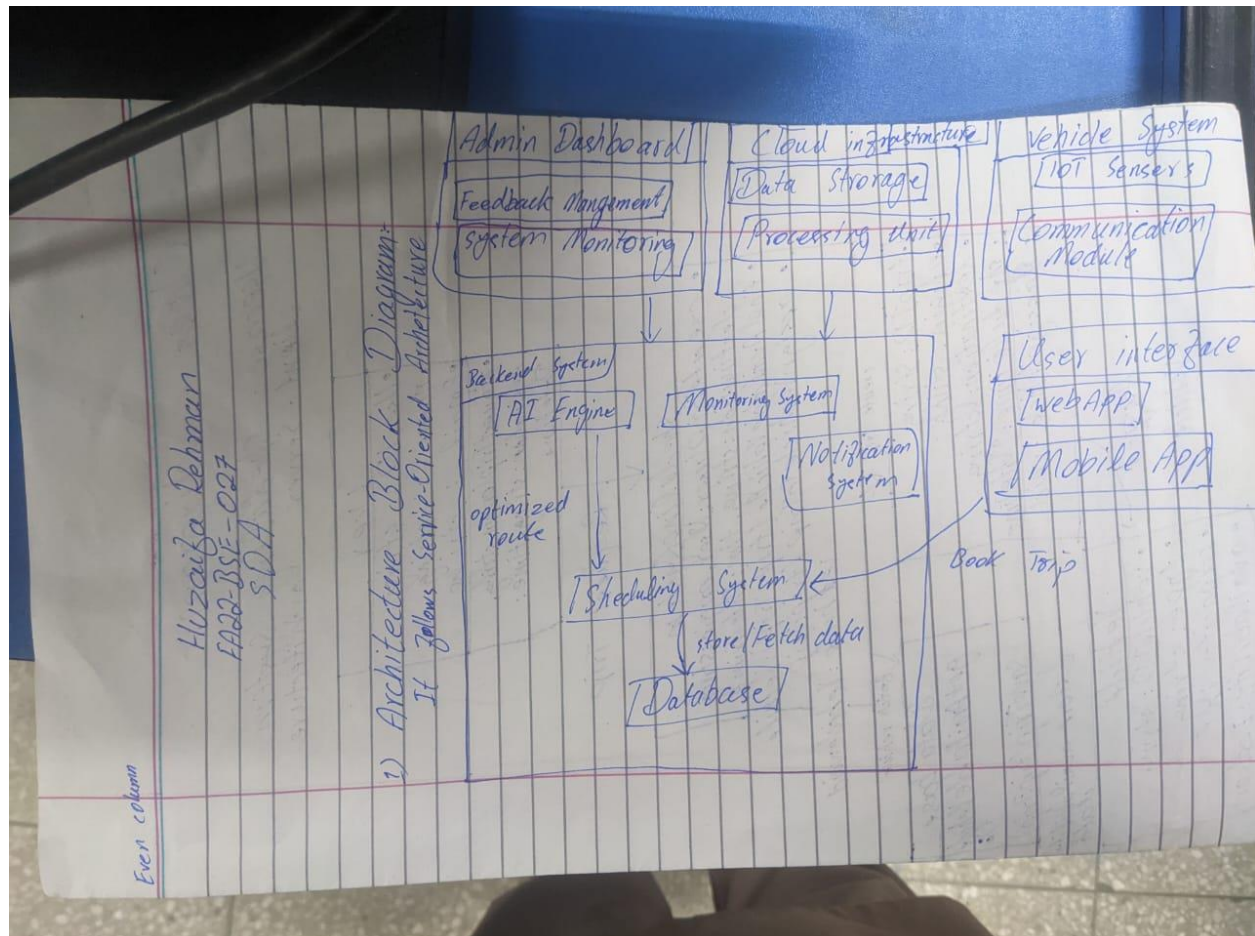**SUBJECT**   **Software Development And Architecture**
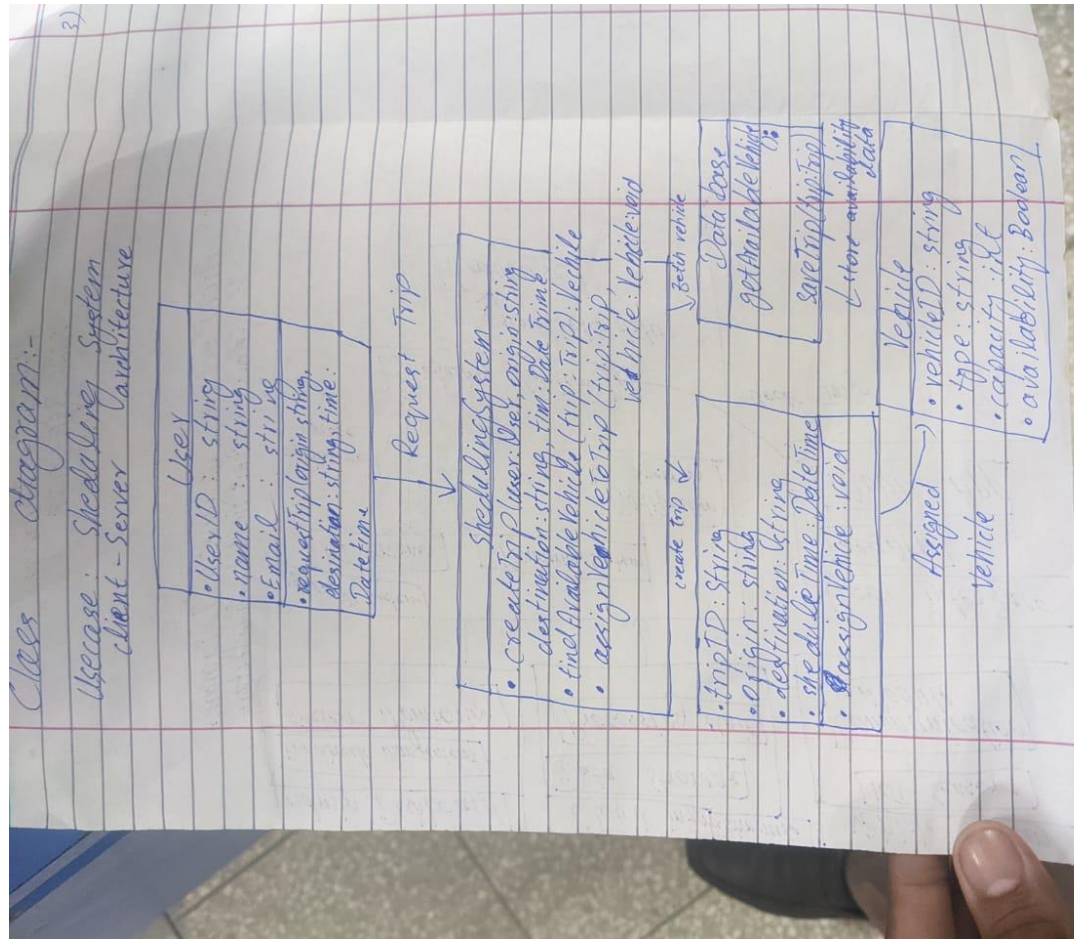
Submitted To   **Sir Prof Mukhtair Zamin**

Architecture Block Diagram:

Class Diagram :

Use case: Scheduling System

Class Diagram :-

Usecase : Scheduling System
Client - Server Architecture.

User
- UserID : string
- name : string
- Email : string
- requestTrip(origin:string, destination:string, time : Datetime

Request Trip

SchedulingSystem
- createTrip(user:User, origin:string, destination:string, time:DateTime)
- findAvailableVehicle (trip:Trip):Vehicle
- assignVehicleToTrip (trip:Trip, vehicle:Vehicle):void

create Trip

Trip
- TripID: String
- origin: string
- destination: string
- schedule Time: DateTime
- assignVehicle :void

fetch vehicle

DataBase
- getAvailableVehicle():
- saveTrip(trip:Trip)
- store availability data

fetch vehicle

Assigned vehicle

Vehicle
- vehicleID: string
- type: string
- capacity: int
- availability: Boolean

State Transition Diagram :

3) State transition Diagram

System initialized

Idle
Waiting for Request

Receive Trip Request

Validate Request

invalid data · valid data

Request invalid

Request valid

Searching Vehicle

Vehicle Found

Scheduling Trip

Trip Scheduled

→ Notify User