

Online Taxi Sharing System

TEAM 01

ANAR BAYRAMOV
NARGIZ BAYRAMOVA
NIGAR SALAYEVA
SANAN MARDANLI



What is Online Taxi Sharing System?

- Online platform (mobile application or web-based) connecting riders with multiple passengers traveling same direction/sharing same routes
- Cost-effective, and eco-friendly alternative to traditional taxis
- Creating/joining ride requests, tracking ride, splitting fare among other passengers, rating and reporting
- driver/service after ride is completed



The specific functionalities that the system should have:



Permit sharing their location in order to find the nearest driver or passenger



Enter the destination where want to go



Add ride details automatically to the system when the drivers select destination which should be easily found by passengers

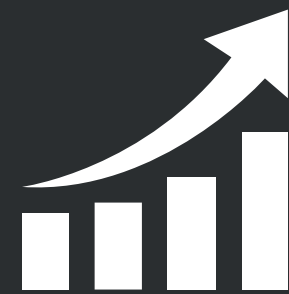


Both card and cash payments should be valid in the system



Architectural Design

Client - Server architecture



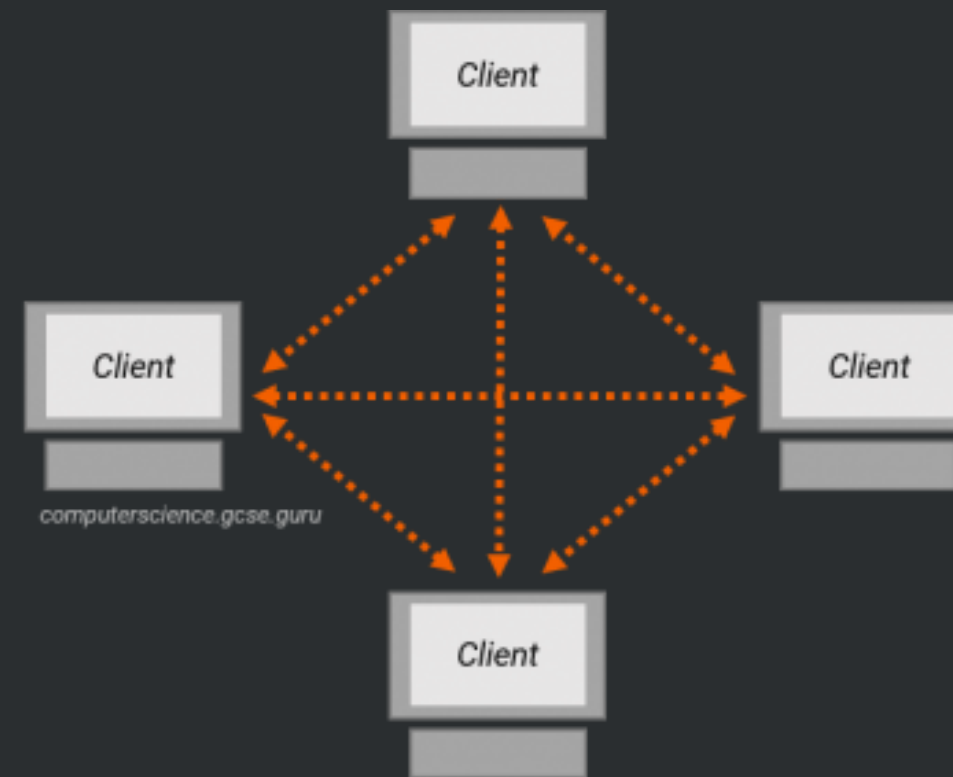
Scalable and efficient way to handle multiple client requests



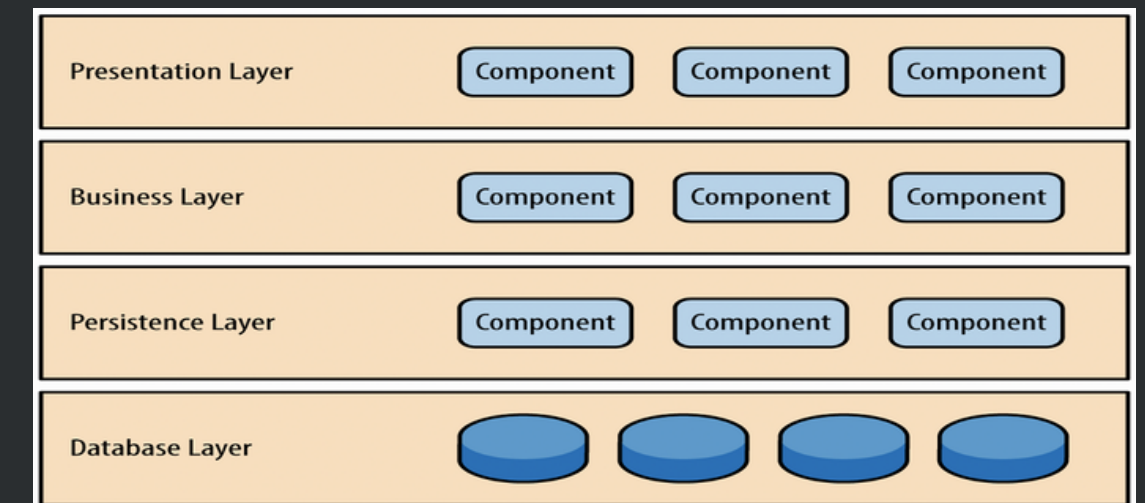
Clients communicate with a central server managing core functionalities

Architectural Design

Alternatives Considered



Peer-to-peer

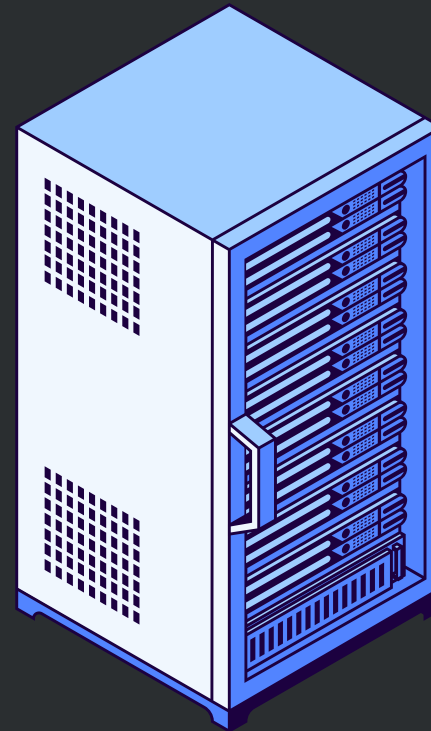


Layered architecture

Strengths of Client-Server



Scalability



Centralized management



Simplicity

Deficiencies of Client-Server

Single point of failure



Network dependency



Components and functions

Client Application

State: user's session state
Behavior: UI for passengers

Server

State: system's central state
Behavior: communication with client

Driver Application

State: Driver's session state
Behavior: UI for drivers

Database

State: stores persistent data
Behavior: data retrieval functionality

Geolocation

State: Contain info related to locations
Behavior: Geolocation service for the system

Authentication & Authorization

State: maintain user credentials
Behavior: verify the identity of users

Notification Service

State: stores delivery status
Behavior: handle real-time notifications

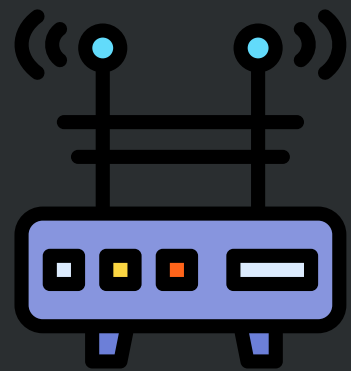
Ride Matching

State: maintain rules for matching users
Behavior: analysis of passenger requests

Payment Processing

State: maintain payment information
Behavior: handle payments between users

Hardware and Software Specification



Networking
Equipment



GPS Devices



Database
Management
Software



Security
Software



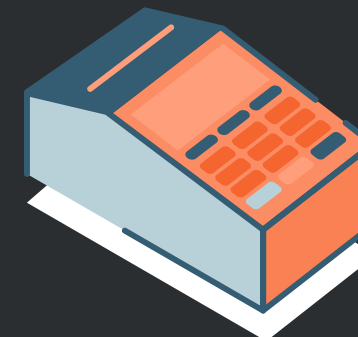
Analytics
Software



Mobile Devices



Payment Processing
Equipment

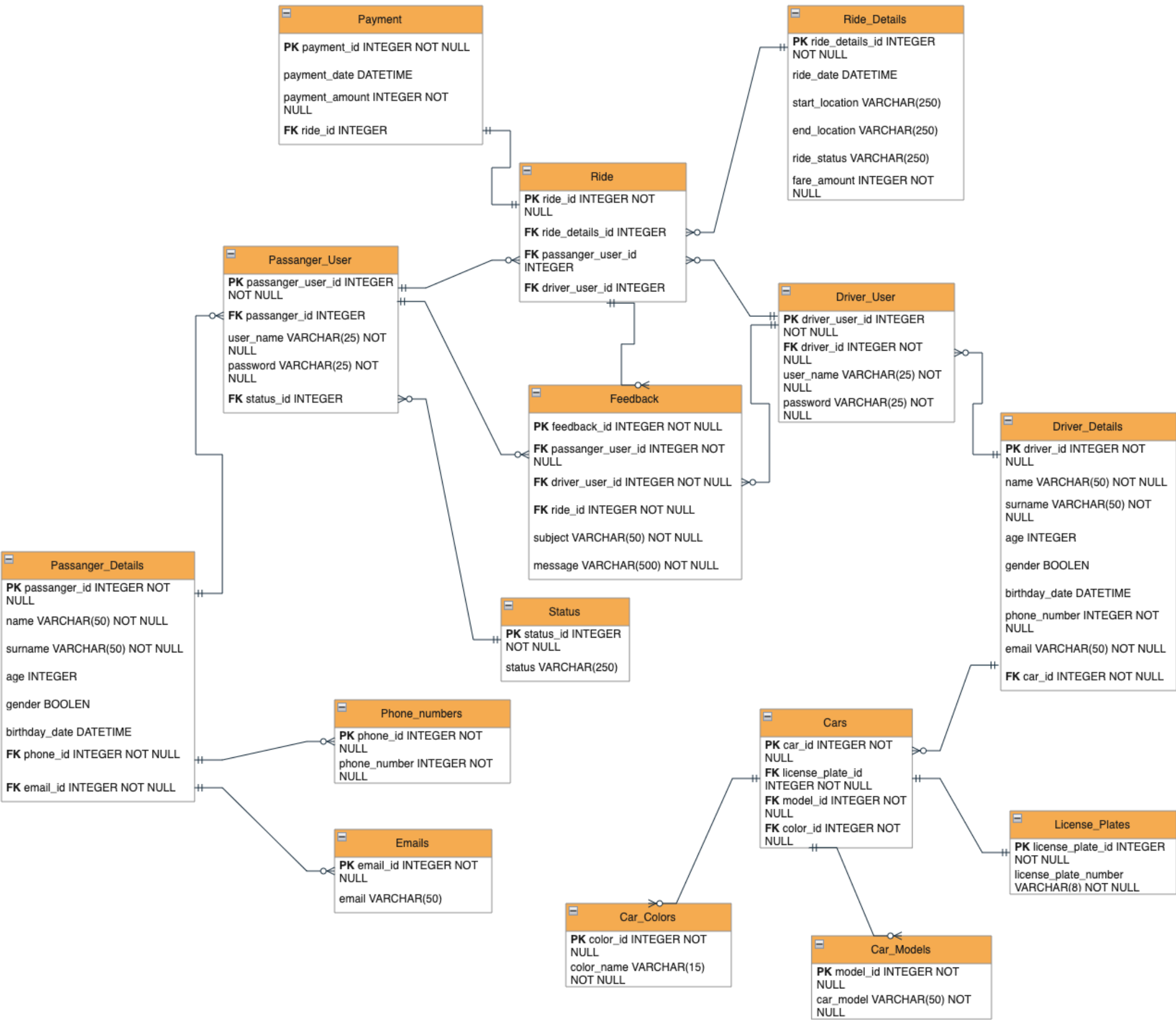


Payment Processing
Software

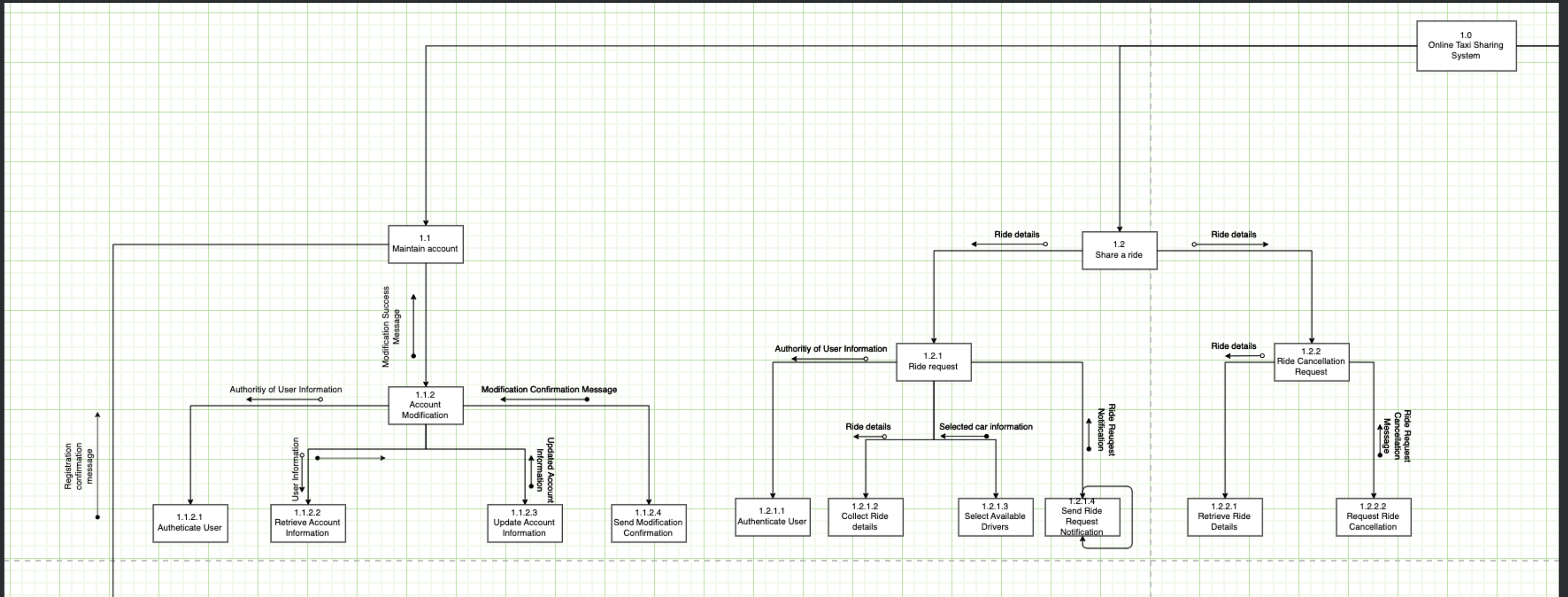


Real-time Location
Tracking Software

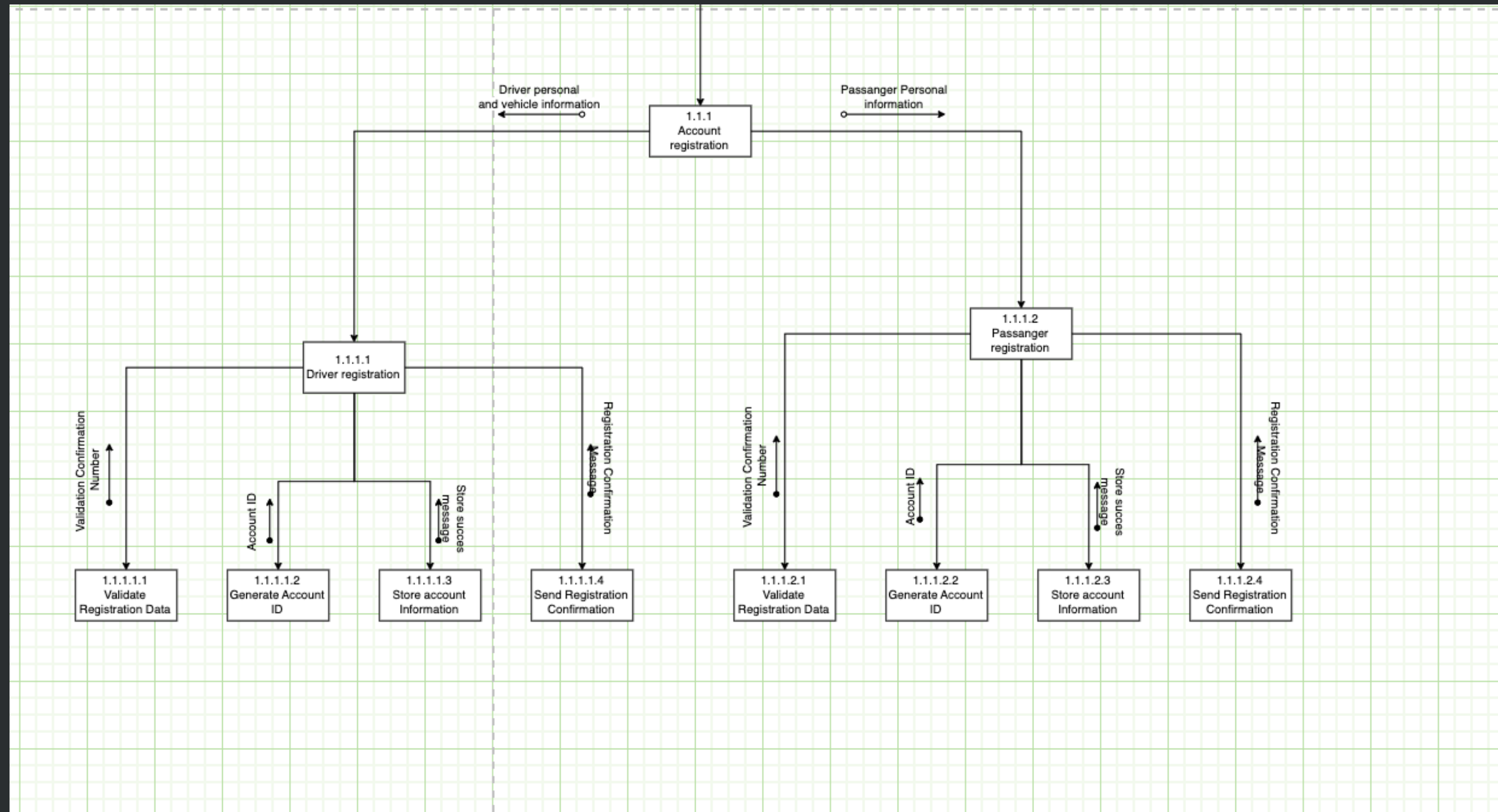
Data Storage Design



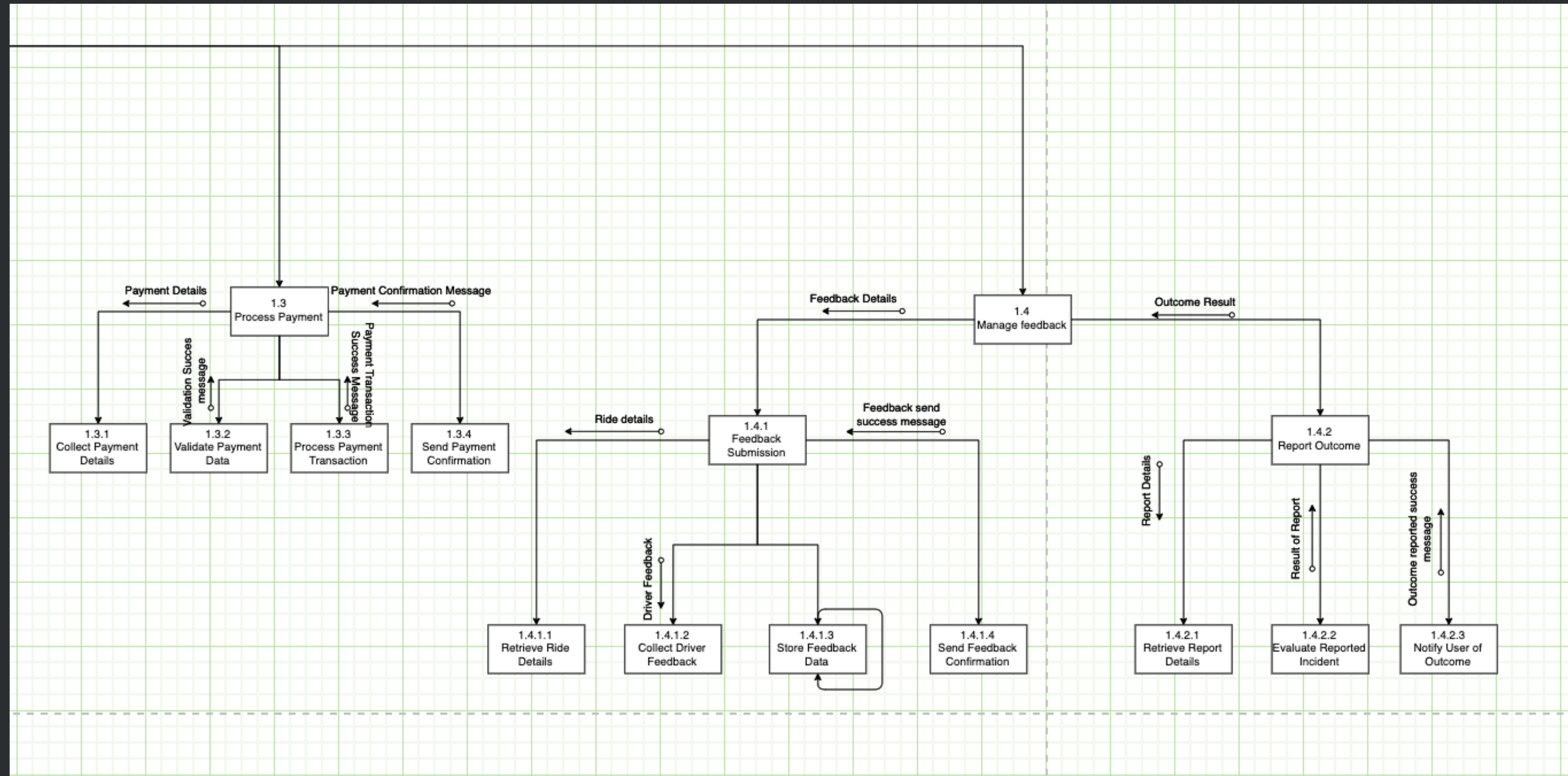
Program Design



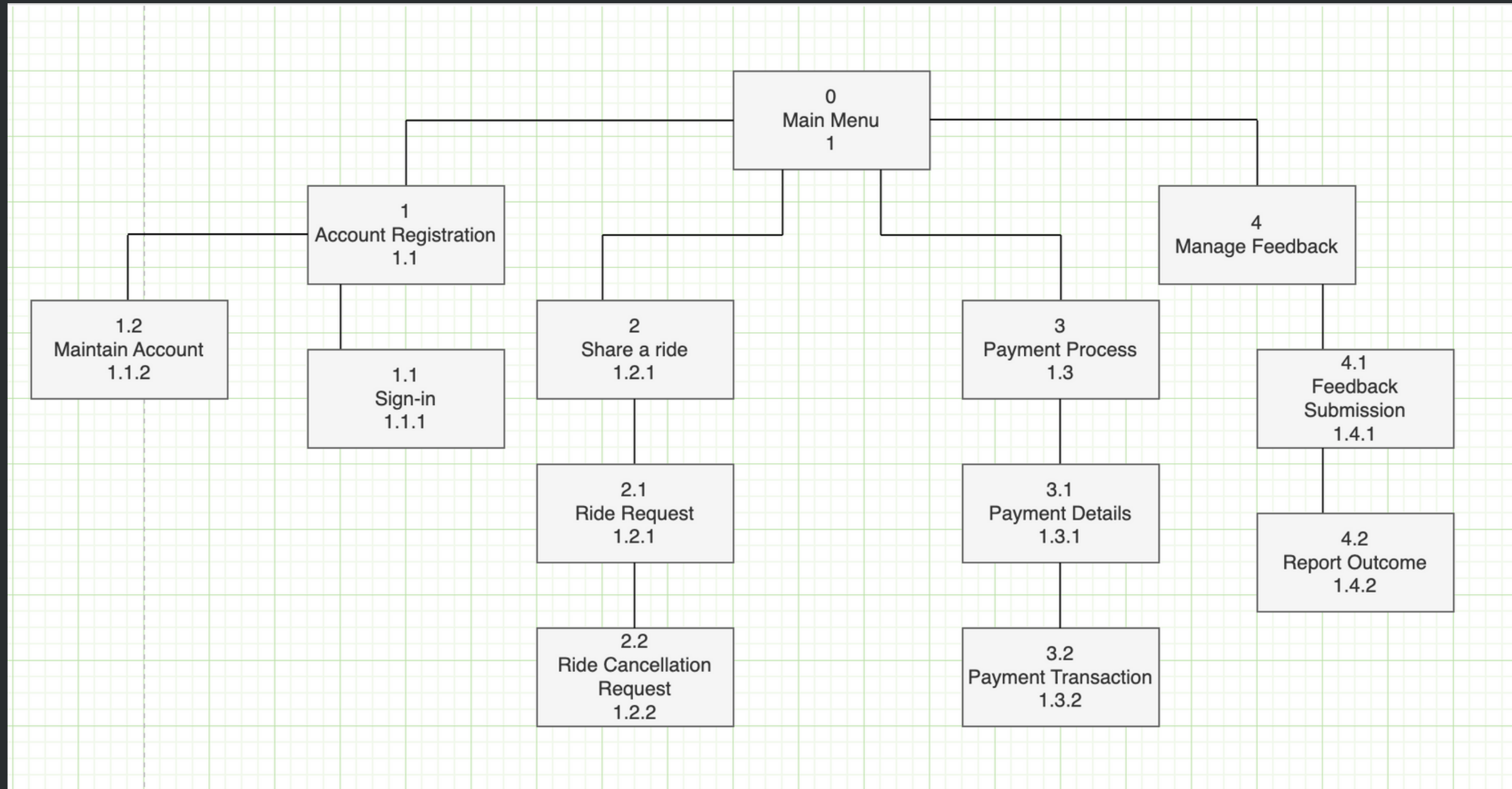
Program Design



Program Design



User Interface Design



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Thank you for attention!



PRESENTED BY

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ANAR BAYRAMOV
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NIGAR SALAYEVA
SANAN MARDANLI

