Business Requirements Document

Mobile Cab Booking Application

	Name	Role	Location	Revision Date
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Reviewed By				
Approved By				
Distribution List	Pruthvi Rao		**Version No.**	1

Purpose of Sign-off

The purpose of the sign-off on this document is to provide alignment and agreement to the content of baseline requirements and scope for the requirements to be considered in future project and/or release plans.

Sign-Off	Typed Name	Date Approved
Executive Sponsor		
Process Owner		
Business Analyst		

Email Approvals/Comments (if any)

REVISION HISTORY

#	Version #	Release Date	Name	Description
1	*1*	*22/04/15*	*V.Srinivasamurthy*	**Proposed BRD document for Mobile Solution.**

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1 INTRODUCTION

The Mobile Cab booking Application is a mobile application for booking cabs. The application is developed on the mobile paltform catering to three operating systems including Windows,Android and IOS. The application is divided into two main functional categories namely Passenger booking Application and Driver Application catering to registered user(Passenger) and Driver respectively. The applications would be developed using Client-server architecture, where the business Logic and Data access are exposed as web services .The Business Layer consists of Passenger,Driver and Admin modules along with COTS software modules.The module interfaces would be exposed as webservices consumed by the applications.Both the applications would make use of GPS and Map utilities for location of cabs and passengers on a interactive map. It would also use the latest wallet features to ease the process of payment and build credibility.

1.1 PURPOSE

The purpose of this document is to provide the stakeholder a comprehensive view of all their business requirements in developing a product suite of mobile cab application. The motive is to develop mobile application(s) targetting passengers who would like to book cab using mobile devices and for cab drivers who would be using it on company provided tablets.

1.2 BUSINESS OBJECTIVE

The mobile application segment users have been increasing tremondously since few years. Smart phones are being used on a daily basis by the public, not only for calls but also as medium to solve their daily needs like mobile banking, booking cinema tickets etc. Various mobile apps targetting various operating systems are available on mobile App stores.The market for these apps is projected to grow in the coming years. Various Industry segments are showing a keen intrest in converting existing e-Applications or developing mobile applications catering to their domain needs.The public transport industry has also caught up to this trend. Development of this Applicaion will increase the reach of the customer base and increase in revenue to the Client.

The client (a leading cab services provider) needed a cab booking solution for their fleet of cars equipped with tablets. The solution should simplify the cab reservation process to deliver cohesive customer service with operational efficiency. The solution should leverage the cutting-edge GPS technologies in enhancing control and gain business visibility for delivering premium services in public transport profession. The solution should also provide unified user experience for cab drivers and passengers, enabling them to access and streamline the booking process on the fly.

1.3 SCOPE

The project is focussed on implementing a Mobile application solution for cab booking for Passenger and Driver Application for company provided tablets in the cab.The mobile applications would target Windows,IPhone and Android mobile platforms and their specific versions.

1.3.1 IN SCOPE

The Features of Passenger Mobile Application are as follows:

- Registration and Login Features.

- Change Password.
- Recover Password for a registered Passenger.
- Show Cab and Passenger Location(s) on Interactive Map.
- Show Street Address of Passenger Location.
- Show Cabs based on cab type available in the vicinity of the Passenger on the Map.
- Track the Location of a booked cab from its current Location to Passenger Pickup Point.
- Book Cab immediately or at a later date based on Passenger Pickup and Destination location.
- Add pickup or dropoff points to favourite locations.
- Choose Pickup locations by the following options:
    - Scroll on map to choose PickUp Location.
    - Input PickUp Location.
    - Choose from Favourite or Recommended Location in the City.
- Cancel a Cab booking.
- Choose type of Cab and view their avialabilty.
- View Fare List valid for a given city.
- Enroll Passsenger to Mobile Wallet feature.
- Pay for Travel using cash or Mobile Wallet.
- Abilty to refill wallet using Debit,Credit or Net Banking facility.
- Recieve SMS, e-mail and Push notifications from the Cab Company with regard to travel.
- Send Feedback about the travel.

The Driver Tablet Application features are as follows:

- Login for Registered Drivers of the Company.
- Accept a Trip.
- Cancel a Trip.
- Total Amount Earned in a Day.
- Best Route to Reach the Customer.
- Best Route to reach Passenger Destination.
- Make a Call to Customer.
- Get Customer Details and Location.

1.3.2 OUT OF SCOPE

The following items have been discussed during analysis, but a decision has been made to exclude them from the scope of this project:

- Any new feature additions that arise later in the project will be considered out of scope for this project.
- Extension of existing Passenger,Driver and Admin Modules on the server side are out of scope.
- Web development of the intended system is out of scope.
- Applications would be targetting specific operating systems and versions and any addition to support would be out of scope.
- Fleet tracking and asset management would not be part of the solution but would use these modules if necessary.
- Server side resources and their maintainence would be done by Client.

1.4 DEFINITIONS, ACRONYMS AND ABBREVIATIONS

App Store	An installed application on mobile phone which helps user to find new compatible applications and download them from Internet.
CRUD	Create,Read,Update and Delete operations specific to Database.
Geocoding	Feature of the Application where the GPS location can be resolved to street address.
GPS	Global Positioning System
GUI	Graphical User Interface
HTTPS	Hyper Text Transfer Protocol Secured
ITR	Indian Telecom Regulations
MB	Mega Bytes (1024 bytes)
Mobile App	Mobile Cab Booking Booking Application
MoSCoW	Prioritization technique,Must have,Should have,Could have and Would have.
Passenger	Registered User of the Mobile Cab Booking Application.
Reverse Geocoding	Feature of Application where the street address can be converted to GPS coordinate location.
SMS	Short Messaging System
SOAP	Simple Object Access Protocol
SRS	Software requirements Specification.
System	Mobile Cab Booking Application
UI	Mobile Cab booking User Interface
User	Person who has not yet registered for the Mobile Cab Booking

	Application.
XML	Extensible Markup Language

1.5 ASSUMPTIONS AND CONSTRAINTS

The Assumptions and constraints for the application(s) are as follows:

1.5.1 *ASSUMPTIONS*

Serial No.	DESCRIPTION
1	Application(s) would be developed for two types of users, one being the Passenger and for registered Drivers of the Company on the mobile platform.
2	Already existing modules for Passenger,Driver and the Administrator would be deployed on a centralized server and exposed as web services.
3	Mobile applications(Driver and Passenger Applications) would be developed making use of available web service modules on the server side.
4	The Applications would be be developed as native mobile application for each of the platforms for enhaced security,access to local services and fastness of the application.
5	Passengers who would like to avail the services of the cab services can download the mobile application provided by the company for the following platforms: Windows,Android and Iphone, from their respective mobile stores.
6	Cabs would be provided with a tablet pre-loaded with application specific to cab Driver(s). It would also contain GPS unit to relay its location.
7	Registered Company Drivers would be able to use the application in the cab with the driver login credentials.
8	The Passenger mobile application would have the same UI components for all the device platforms.
9	Both the Driver and Passenger applications would make use of SMS,e-mail and push notification services.
10	Complex algorithms API's for distance calculation,Path Optimization,route generation and others already exist and can be availed by the application as webservices.
11	The Company would have suitable storage(Database) for storing Passenger details,Driver details and Location details (GPS) of Cabs operated by the company. These would be available to the Mobile App using webservices.
12	The application would make use of map services and location based services(GPS) on the mobile for tracking and showing the map and location of the Passenger on his/her mobile.
13	Wallet services would be developed in-App to the Passenger mobile booking solution and can be refilled using credit card,debit card and net banking.The Wallet service can be accessed seperately.
14	Wallet APIs for transaction management and other services would be exposed on the server as web services.
15	The Third party wallet service would hold the passenger details and passenger card and netbanking information on their secure servers.
16	Server and Database infrastructure would be provided by the Client. Scalability related issues would be taken care of by the Client.
17	Secure transfer of data to and from the server would be guaranteed by the

	Client by using suitable encryption technologies.
18	Data encryption of all tables on the server would be provided by the Client.
19	No Legal binding would exist for disclosure or breach of Privacy details on the Solution Provider
20	Development of the software for these module would be done at the Client end with pseudo-data. Final testing and conformance would be done on the Client side server Machine.

1.5.2 CONSTRAINTS

The constraints are as follows:

The Mobile Application is targetting three operating systems and are native to OS. A development team with suitable experience working on each operating system need to be chosen.

The development team needs to have have native mobile development software IDE's and suitable testing API's. Licencing for commercial distribution if any needs to be purchased.

Since there are multiple OS, the UI wil likely not be the same for every one of them. Also, there may be a difference between what navigation features each of them provide.

The Internet connection is also a constraint for the application. Since the application fetches data over the Internet, it is crucial that there is an Internet connection for the application to function.

Suitable COTS software provider for Wallet needs to be chosen, which would agree upon the legal and financial bindings with the Cab company.

The mobile application performance will be constrained by the number of users and load sharing on the server.

1.6 DEPENDENCY LINKAGES

The Driver and Passenger Mobile Applications would interact seperately with the Server. Any communication between the Passenger and Driver application need to go through the Server, except for direct voice based calls.

2 ROLES AND PROJECT STAKE HOLDERS

2.1 ROLES

Project Sponsor	Provides executive team approval and sponsorship for the project. Has budget ownership for the project and is the major stakeholder and recipient for the project deliverables.
Project Owner	Provides policy definition to the Project team. Resolves all policy issues with the appropriate policy owners in order to provide a clear, decisive definition. Makes final decisions and resolves conflicts or issues regarding project expectations across organizational and functional areas. The project owner and the project manager have a direct link for all communication. The project manager will work directly with the project owner on all policy clarification.
Project Manager	Provides overall management to the project. Accountable for establishing a Project Charter, developing and managing the work plan, securing appropriate resources and delegating the work and insuring successful completion of the project. All project team members report to the project manager. Handles all project administrative duties, interfaces to project sponsors and owners and has overall accountability for the project.
Steering Committee	Provide assistance in resolving issues that arise beyond the project manager's jurisdiction. Monitor project progress and provide necessary tools and support when milestones are in jeopardy.
Stakeholder	Key provider of requirements and recipient of project deliverable and associated benefits. Deliverable will directly enhance the stakeholders' business processes and environment. Majority of stakeholders for this project will be agency heads, CIO's and project management representatives.
Team Member	Working project team member who analyzes, designs and ultimately improves or replaces the business processes. This includes collaborating with teams to develop high level process designs and models, understanding best practices for business processes and partnering with team members to identify appropriate opportunities, challenging the old rules of the business and stimulating creating thinking, and identifying organizational impact areas.

2.2 STAKE HOLDERS

Name	**Role**
<Name>	Project Owner
<Name>	Project Manager
<Name>	Steering Committee Members
<Name>	Team Members
<Name>	Team Members
<Name>	*Team Member*
<Name>	*Team Member*
<Name>	*Team Member*

3 REQUIREMENTS

3.1 BUSINESS LEVEL REQUIREMENTS

3.1.1 REGULATORY REQUIREMENTS

ID	Regulation / Policy
REG 1.1	RBI Guidelines for Mobile Wallets.
REG 1.2	Client Privacy Policy for holding Personal information based on IT Regulations 2011.
REG 1.3	Third Party Mobile Wallet Policy for holding Personal information base on IT Regulations 2011.

3.1.2 REQUIREMENTS RELATING TO STRATEGIC GOALS

ID	Description
STR 2.1	Increase in customer base by using new technologies to cater to varying customer needs.
STR 2.2	Deliver cohesive customer service with operational efficiency.
STR 2.3	Increase in Revenue to the Cab company by catering to mobile segment users.

3.2 FUNCTIONAL REQUIREMENTS

3.2.1 PASSENGERS CAB BOOKING APPLICATION

FRP 1.01	The Application shall allow the user to register for the Cab booking application.
FRP 1.02	The Application shall allow the passenger to login.
FRP 1.03	The Application shall allow the passenger to change his password.
FRP 1.04	The Passenger shall be able to retrieve forgotten password on his registered e-mail.
FRP 1.05	The Application shall detect the location of the passenger once logged in.
FRP 1.06	The Application shall show the street address of the Passenger location.
FRP 1.07	The Application shall allow the passenger to choose a cab type for travel.
FRP 1.08	The Application shall show available cabs in the vicinity of the passenger on the map for a given cab type.
FRP 1.09	The Application shall allow the passenger to book a cab immediately from a given pick up point.
FRP 1.10	The Application shall allow the passenger to book a cab later for a given pickup point.
FRP 1.11	The Application shall allow the passenger to input his current location.
FRP 1.12	The Application shall allow the passenger to set a location as a favourite

	pickup or drop point location.
FRP 1.13	The Application shall display cars in the vicinity of the Passenger.
FRP 1.14	The Application shall display current and previous bookings.
FRP 1.15	The Application shall display the fare chart for a given city.
FRP 1.16	The Passenger shall be able to view his Wallet.
FRP 1.17	The Application shall have the facility for the passenger to refill his wallet using netbanking,debit and credit card.
FRP 1.18	The Application shall allow the passenger to give a review of the travel.
FRP 1.19	The Application shall display the travel details once the pickup and drop points have been confirmed.
FRP 1.20	The Application shall send the confirmed travel details to the e-mail and send SMS notification of the travel details.
FRP 1.21	The Aplication shall allow the user to view Driver details.
FRP 1.22	The Application shall be able to track his designated Cab once the travel is scheduled within 30 mins of start time.
FRP 1.23	The Application shall send a push notification along with SMS to the user after the designated driver has reached the pickup point.

3.2.2 DRIVER MOBILE APPLICATION

FRD 1.01	The Application shall allow Drivers with valid credentials to login.
FRD 1.02	The Application shall book the driver to the current zone where driver is located.
FRD 1.03	The Application shall book the Driver to a new zone when on the move.
FRD 1.04	The Application shall provide trip assignment on availibilty to a Driver for a given zone.
FRD 1.05	The Driver shall be able to accept a trip assignment in a given zone.
FRD 1.06	The Driver shall be able to decline a trip assignment in a given zone.
FRD 1.07	The Driver shall be able to view the passenger details on confirming trip assignment.
FRD 1.08	The Application shall provide the best route to travel to passenger location.
FRD 1.09	The Application shall provide best route of travel to passenger destination location.
FRD 1.10	The Driver shall have the facility to call the passenger.
FRD 1.11	The Driver shall start(Load) a trip after having reached the passenger pickup location.
FRD 1.12	The Driver shall end a trip after having reached the passengers drop off location.

FRD 1.13	The Application shall allow the Driver to view the payment status of current travel.
FRD 1.14	The Driver shall be able to view the total amount earned in a day.
FRD 1.15	The Application shall allow the Driver to logout from the application.

3.3 NON-FUNCTIONAL REQUIREMENTS

3.3.1 SECURITY

Ref	*Security*	*Requirement*	*Category*
SEC 1.1	*Authentication*	*RegisteredPassenger would be given a password that can be used to login to Cab Booking application. Only company approved drivers would be provided login credentials to login to the tablet in the cab.*	*MUST*
SEC 1.2	*Authorisation Levels*	*Admin – read/write access to application's administrative functionality and to all data User – view-only access to Application data. CRUD activities related to Database.*	*MUST*
SEC 1.4	*Data Security*	*All passenger card details and net banking information would be stored on secured Wallet provided servers.*	*MUST*

3.3.2 SCALABILITY

Ref	Scalability	Requirement	Category
SCA 1.1	Typical and Maximum number of concurrent users	2000 typical and 10000 max at any time.	MUST
SCA 2.2	Expected annual user growth	10-20 percent	MUST
SCA 2.3	Expected initial and maximum data volumes		MUST
SCA 2.4	Expected annual data growth		MUST

3.3.3 PERFORMANCE

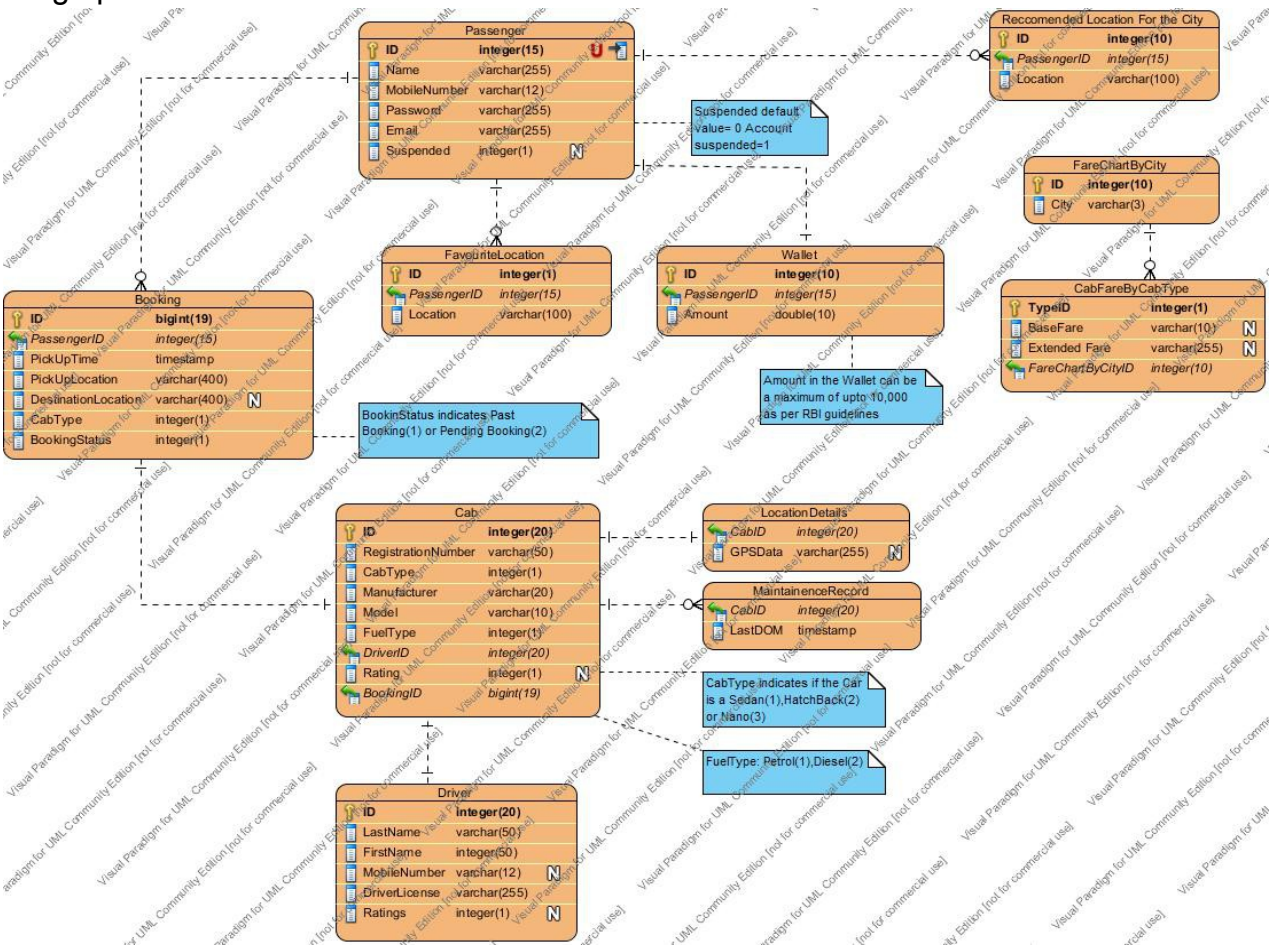
Ref	*Performance*	*Requirement*	*Category*
PER 1.1	Page render times	*5 sec*	*MUST*
PER 1.2	Response time for Cab booking process	*30 sec (max)*	*SHOULD*
PER 1.3	Response time for Wallet refill by Credit/Debit/ Netbanking at Payment gateway	*30 secs(max)*	*MUST*

3.3.4 CONFORMANCE WITH OPERATING SYSTEM

Ref	*OS*	*Version*	*IPhone*	*Windows Mobile*	*Others*
CON 1.1	*Android*	*Android JellyBean and above*	*WOULD*	*WOULD*	*MUST*
CON 1.2	*IPhone OS*	*IOS 6.0 and above*	*MUST*	*-*	*WOULD*
CON 1.3	*Windows OS*	*Windows*	*-*	*MUST*	*COULD*

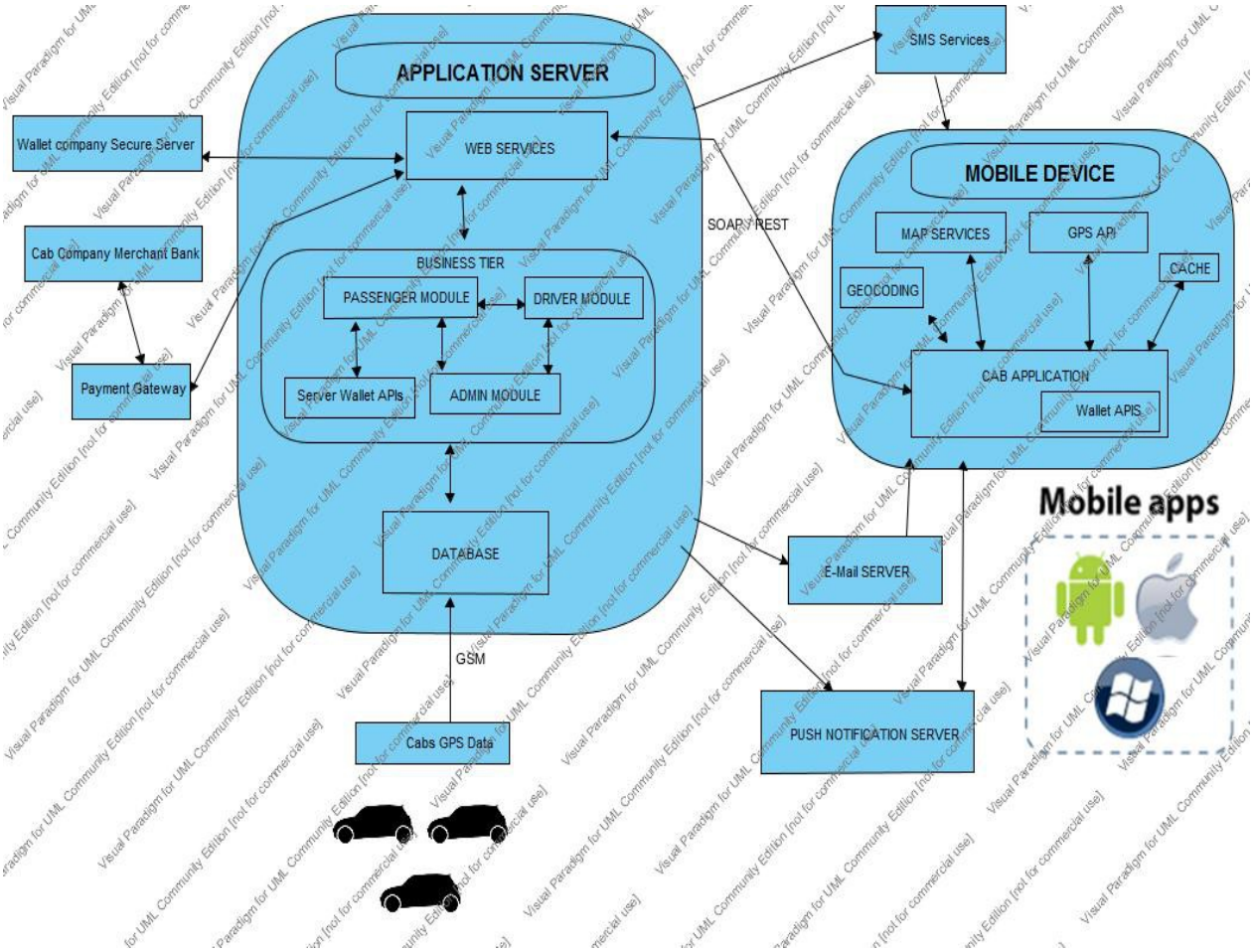
3.4 DATA REQUIREMENTS

The data entities for the Mobile Cab booking Application are as shown below. The representation is based on the initial requirements and are subject to change in the final design process.

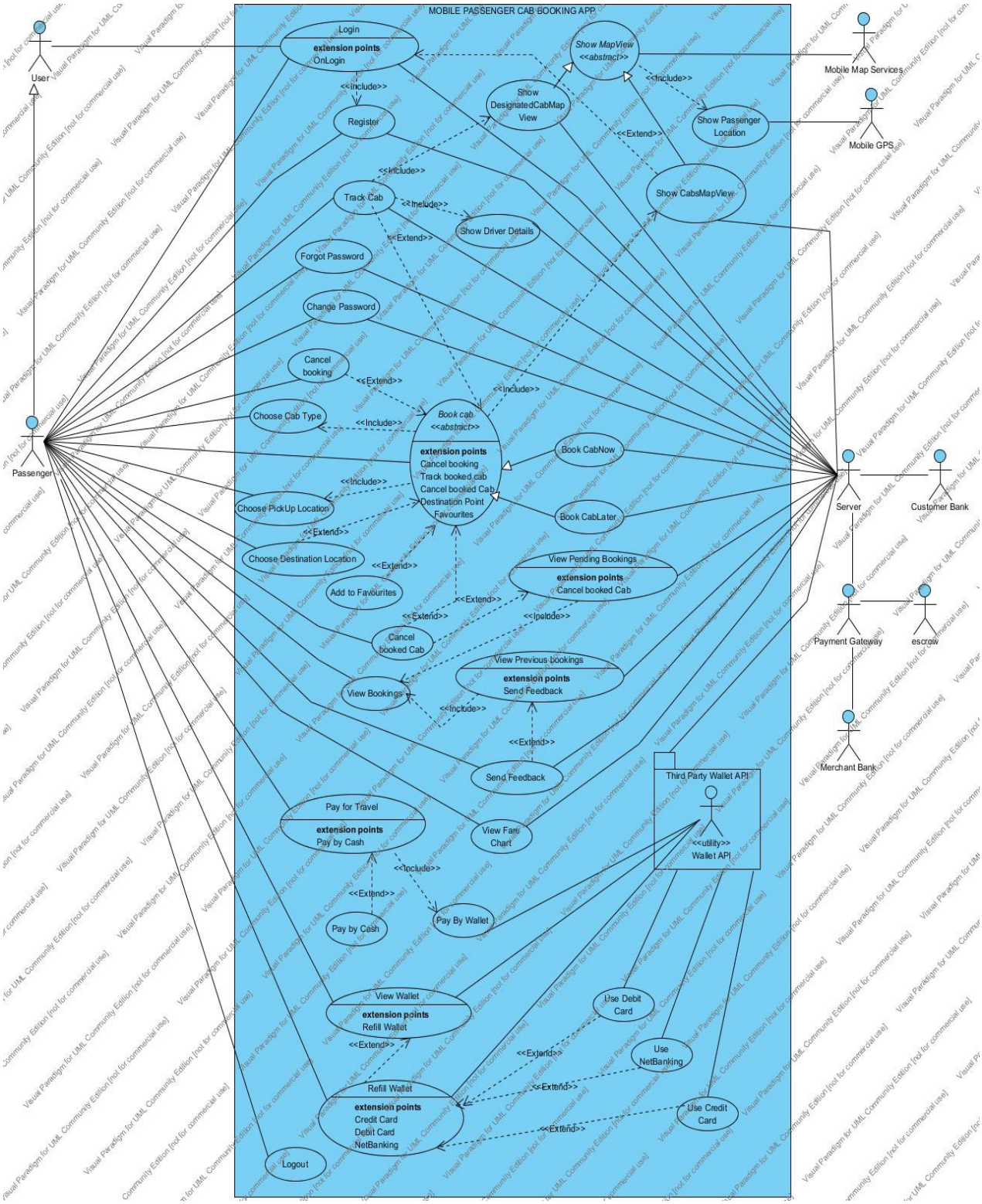


4 CONTEXT DIAGRAM AND USE CASES

4.1 CONTEXT DIAGRAM



4.2 USE CASES FOR PASSENGER MOBILE BOOKING APPLICATION



4.3 USE CASES FOR DRIVER MOBILE CAB APPLICATION