# **Project Log Book**

# **Group Members:**

<b>Entry Date</b>	Work Done
September 7th, 2000	Discussed the basic plan to build the prototype for CRM in class, noting down all constraints to be taken care of. Furthermore, we decided our next group meeting would be on September 15th, 2000 (Friday) at 5:30, meeting place: Zaida Morales' House.
September 15th, 2000	Meeting at Zaida's Place: We discussed about the project objective. Using the Software Management Plan template printed from the web site, we stepped through each section and discussed what was required and what resources were available to us. We also discussed how this prototype should be flexible for other countries. There was constant reference to the "Chinese Railway Passenger Reservation System" and other related articles.
September 16th, 2000	Finished a rough draft prototype and set it up on the online account.
September 19th, 2000	Zaida M. Morales checked the document of the Software Project Management Plan, and she made some correction marking the corrections in red.
September 20th, 2000	The mistakes were corrected on the web site, and email was sent to Zaida M. morales to check the document for any more mistakes
September 20th, 2000	The document was checked by Zaida M. Morales and few more mistakes were found. These mistakes were corrected and put on the web.
September 22th, 2000	Meeting at Zaida's Place: We discussed the Reservation System in more detail and added more information to the SPMP document.
September 25th, 2000	Zaida M. Morales checked the document of the Software Project Management Plan, and she made some corrections.
September 27th, 2000	The mistakes were corrected on the web site, and email was sent to Zaida M. morales to check the document for any more mistakes.
September 29th, 2000	Meeting at Zaida's Place: We discussed parts 4 and 5 of the Software Project Management Plan in more detail and decided to update some information in the SPMP document. The different parts of the document were divided between the team for updates.
October 3th, 2000	Finished updating the rough draft prototype and set it up on the online account. Sent all team members email with link to latest copy of the document.
October 4th, 2000	Zaida M. Morales checked the document of the Software Project Management Plan. The mistakes were corrected on the web site. The latest version of the document is available online.

# **Software Requirements Specification**

for

# Cab Management System

M.Hanif Hasan 9003 Ali Asghar Karani 8999 Muhammad Waseem 9039 Abdul Rafay 9353 Muhammad Ali 9656

# December 04, 2020

Version	Changes Made	Date
1.0	First Pass for Review	10/24/2020
1.2	Second Pass for Review	11/07/2020
1.3	Third Pass for Review	11/28/2020
1.4	CRM Review Version	12/04/2020

# **Table of Contents**

- 1. Introduction
- The General Description
   Specific Requirements
   Supporting Information

#### 1. Introduction

#### 1.1 Purpose

This document describes the software requirements for the Automated Railroad Reservation System built for the Chinese Railway Ministry (CRM).

#### 1.2 Scope In

The CRM is requesting proposals to build a prototype of an Automated Railroad Reservation System (ARRS) for their current system. This new ARRS needs to be scalable enough so that it can accommodate the increase in reservations caused by new railroad building in China.

The system will be designed to provide an electronic version of the railway passenger reservation system in China. The system will have a user-friendly graphical interface and will be more cost effective compared to the current non-electronic version of the reservation system.

The **objectives** of this development effort are:

- 1. To provide existing clerks with a new environment in which to make reservations for railroad travel.
- 2. To provide an avenue for customers to get their tickets in a more convenient way.
- 3. To regain control of the railway ticket sales to avoid scalping and overselling of tickets.
- 4. To implement a prototype of a scaled down version of the final system to test the solution and further develop requirements.
- 5. To collect statistics in a more efficient manner for future railroad development and construction.
- 6. To increase efficiency of railroads.

#### 1.3 Scope Out

The following features will not be the part of this Project: 1.

#### 1.3 Definitions, Acronyms, and Abbreviations.

APPM – AsiaPac Marketing Manager

ARRS – Automated Railroad Reservation System

CASE – Computer Aided Software Engineering

CITS – China International Travel Agency

CRM – Chinese Railroad Ministry

PP - Project Plan

SDD - Software Design Description

SRS - Software Requirement Specification

SDS – Software Design Specification

SPMP - Software Project Management Plan

GUI – Graphical User Interface

QAM – Quality Assurance Manager

PDM – Project Development Manager

PMP - Project Management Professional

TBD – To be determined

UML – Unified Modeling Language

#### 1.4 References

- Situation Update Chinese Railway Passenger Reservation System http://www.cs.swt.edu/~donshafer/Marketing Update(1).html
- China 2000 http://www.china2thou.com
- Pressman, Roger S., *Software Engineering: A Practitioner's Approach*, McGraw-Hill Companies, Inc., 1997.

#### 1.5 Overview

Chapter 2 of the SRS is a brief description of the characteristics of the software to be built, its functions, its users, its constraints and its dependencies.

Chapter 3 is about specific requirements, such as functional requirements, external interface requirements, performance requirements, and also design constraints and quality characteristics.

Finally, chapter 4 includes all the supporting information, such as the Table of Contents, the Appendices, and the Index.

# 2. The General Description

This section describes the general factors that affect the product and its requirements. This section consists of five subsections that follow. This section does not state specific requirements. Each of the subsections makes those requirements easier to understand, it does not specify design or express specific requirements. Such detail is provided in section 3.

#### 2.1 Product Perspective

The Automated Railway Reservation System diagram showing the overview of the system's modules and the relationship of the system to external interfaces is presented in Figure 2.1.

ARRS

Database Server

External Interfaces

Cell Phones Terminal PC

Railroad Administration Agents

Passengers

Figure 2.1 Overview/Architecture Diagram of the ARRS

#### **Functions of System Components:**

#### Database:

- Stores data
- Creates reports
- Provides access to data
- Updates information

#### Server:

- Provides access to the database
- Authenticates users
- Processes reservations
- Performs backups
- Produces reports

#### **External Interfaces:**

#### **Terminal**

- Users use terminals to access the server
- Passengers and travel agents use terminals to reserve the tickets and to get information about the available seats on particular trains.
- Railroad administration may use terminals to see the reports generated by the database software.

#### **Personal Computers**

Users (passengers, travel agents, and railroad administration) may use personal
computers to obtain a remote access to the server and the reservation database via the
Internet.

#### Cell Phones

- Serve as a medium of accessing the server and the reservation database.
- Passengers may use cell phones and the latest telecommunication technologies to
  access the server and the reservation database via Internet, or they may use cell
  phones to call travel agents to inquire about railroad and ticket information.

#### Computer Hardware and Peripheral Equipment to be used:

- 30 workstations, which include CPUs, monitors, keyboards, and mice
- Printers
- Network
- Terminals
- Cell phones to test connection to the server via remote access

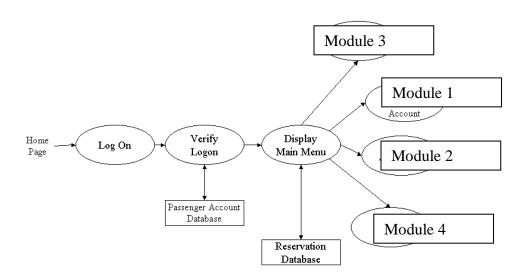
#### 2.2 Product Functions

This section provides a summary of the functions that the software will perform.

#### 2.2.1 Function Relationships

Figure 2.2 to 2.6 depict the relationships among the functions to be implemented by the system.

Figure 2.2 ARRS General Function Relationship/Higher Level Usecase Diagram



#### 2.2.2 Function Descriptions (Functional Requirement Listings)

#### 2.2.2.1 Log In Function

**Description:** This function ensures that only authorized users gain access to the Reservation databases. An authorized user is a user who has an account on the system. Users include passengers, train officials, and CRM ministry officials. The user must type a valid username and password to gain access.

#### 2.2.2 Module 1: Make Reservation Function

**Description:** This function allows the user to [Make | Drop | View | Update] a reservation for a particular train on a particular date for a certain number of tickets.

If the user does not already have a reservation, then all reservations are dropped. If the user already has a previous reservation, a chosen reservation is dropped from the list of current reservations, and the passenger account balance gets updated.

#### 2.2.3 **Module 2**:

**Description:** This function

**2.2.4 Module 3:** 

**Description:** This function

2.2.5 **Module 4**:

**Description:** This function

2.2.6 Module 5:

**Description:** This function

#### 2.3 User Characteristics

The main users of the system will be the passengers buying train tickets, the travel agents that process reservations for passengers, and the CRM administration that access the reports generated by the system. The users are not required to have knowledge in the computer field. The graphical interface provides an easy way of using the ARRS system with minimum of training.

#### 2.4 General Constraints

The constraints for the project are:

- The functional prototype should be available after 30 days upon the arrival of the management team to China. This may prove to be a serious time constraint on the development of a successful prototype.
- Communication with the Chinese team members may prove to be difficult since some Chinese developers do not speak English and the management team does not speak Chinese. Even with the presence of a translator, communication may be difficult. Absence of the translator may severely affect project development.
- Team members are restricted from bringing their own equipment, and insufficient equipment supply may hinder project development.
- Team members are restricted to bringing only the analysts of the team to China. This might affect the project development if more people are needed or the required skills are not available.
- The majority of the Chinese population does not have or have a limited access to the Internet.

#### 2.5 Assumptions and Dependencies or Business Logic

The assumptions for the project are:

- Ten trains transport the passengers between three cities known as Guangzhou, Shanghai and Nanjing. These trains originate only in cities Guangzhou and Shanghai, and they make a stop at Nanjing before arriving to their destination.
- There are five classes of tickets as listed below
  - Sleeping (soft) compartment style coaches 4 passenger per compartment
  - Sleeping (hard) compartment style coaches 6 passenger per compartment
- Reservation can be made up to one month before a particular trip.
- Seats are assigned during reservation.
- Phone reservation involves tickets being purchased within 24 hours after making the reservation. Otherwise, the reservation will be cancelled.
- No reservations can be made 48 hours prior to the trip. Rather, it will be done on a first come first serve basis from that point on.
- Passenger lists will be provided for conductors at each stop.
- The expected reservations during test period may amount to approximately 25,000 per day. This volume varies by hour, day, and season.
- Chinese Ministry will provide us with information about identification process used in China, so that it can be applied to the reservation system and scalping of tickets is avoided.
- Network connection will always remain established.

# <ADD OOAD REPORT DIAGRAMS HERE>

# 3. Specific Requirements

This section of the SRS contains design requirements for the Cab Management System.

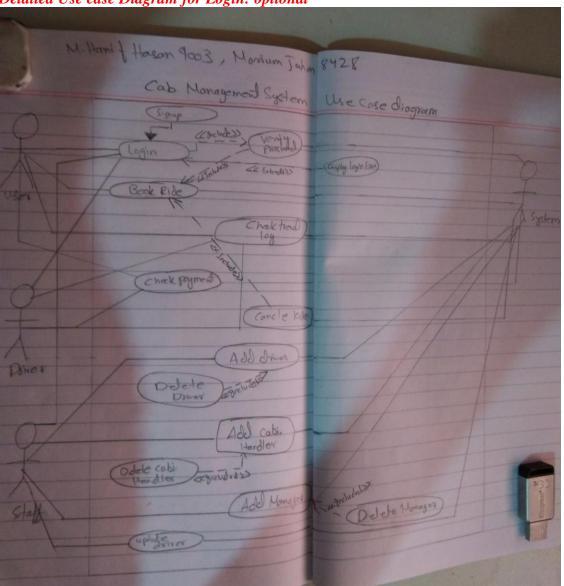
### 3.1 Functional Requirements

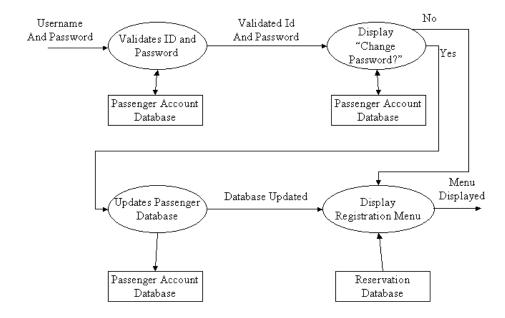
### 3.1.1 Log In Function

- a) *Description:* This function ensures that only authorized users gain access to the Reservation databases. An authorized user is a user who has an account on the system. Users include Admins. The user must type a valid username and password to gain access.
- b) Usage Scenario/ Use case Description/ Specification:

Description	Allows access to online CMS	
Inputs	Username, password	
Source	1. User inputs username and password	
	2. Press Login Button	
Alternate case		
Outputs	Successful login; unsuccessful login	
Destination	None	
Precondition	Authorized Admin	
<b>Post Condition</b>	No change to Passenger Accounts Database	
Side Effects	Failures and successful logins are sent to	
	Reservation Database	

c) Detailed Use case Diagram for Login: optional



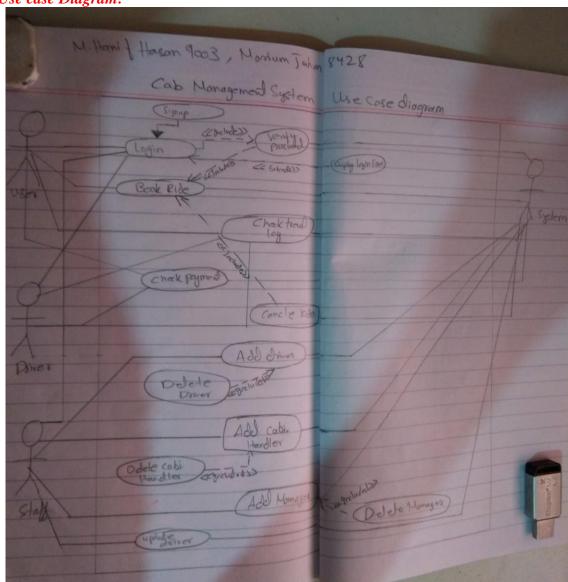


# 3.1.2 Module 1 complete CRUD on Registration and signin

- a) *Description:* This function allows the admin or user to [make | drop | view | update] a Module Admin Accounts.
- b) Usage Scenario/ Use case Description/ Specification:

Description	[ make   drop   view   update] to the Admin			
	accounts			
Inputs	Username and passwords			
Source	1. User inputs from city, to city, seat			
	type, travel date, return date and			
	time			
	2. Press Button			
Alternate Case				
Outputs	Added   Deleted   Viewed   Modified			
	Accounts			
Precondition	If they already have a account they can			
	simply login, if they don't have a account			
	they register.			
<b>Post Condition</b>	On signing up added to Users account table			

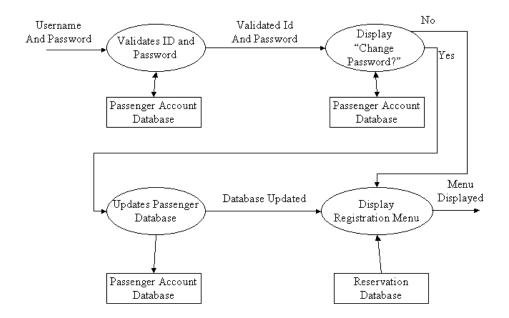
# c) Use case Diagram:



### d) Use case Realization:

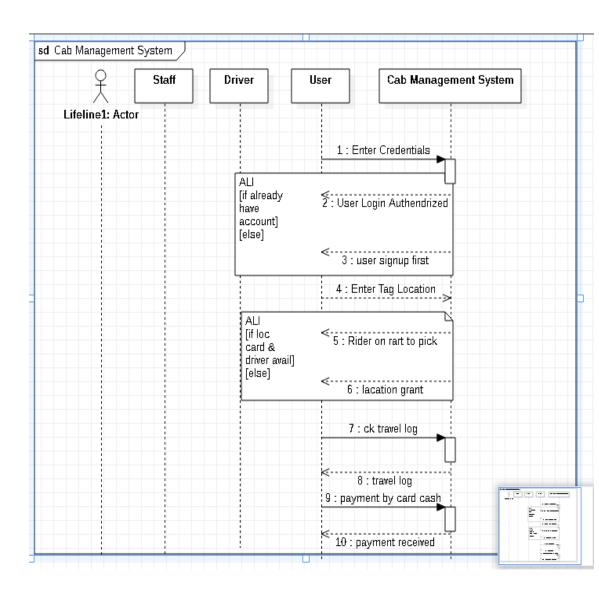
The realization was not needed.

# e) Flow of Event or Data Flow Diagram:

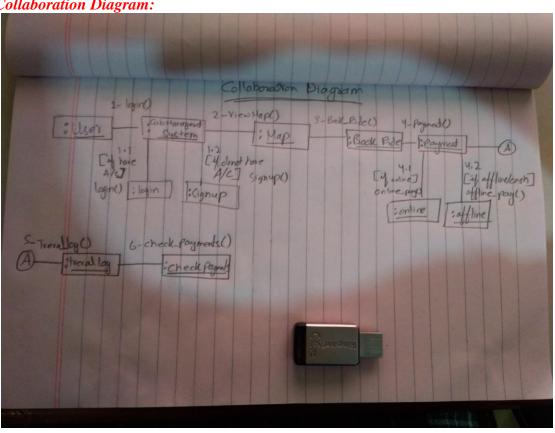


f) Sequence Diagram:

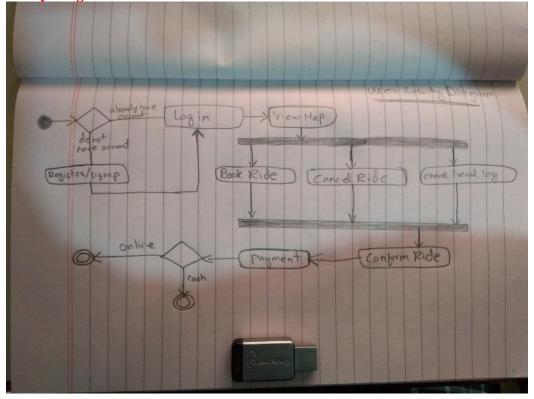
Sequence Diagram:			
M. Harif Hoson 9003 Morrium jakan 8428 Se	quence Diagra	ano.	
	Cab Maro	genew	System.
Staff	Doner U	sey	Cab Naragard System
	1	1 enters	(xederous
	Hatsendy nave	luer legin	A Shewardal
	[eke]	1 West	signup firet
		ENTR	Togotadon
	[if location ward and on on	Rider	on Part Topal
	Taldend mer Leke]	location Inat	d down rot and the
		Troad log into	Is eval log
		Paymed	by and/cash  Received.
			Cented



g) Collaboration Diagram:



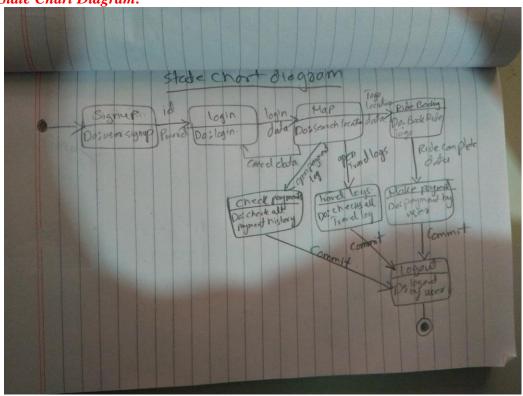
h) Activity Diagram:



i) Class Diagram:

		good Class Diag	ian) M. Hanif Hosa	n 9002 U.	
				Manu	m Jahan 8428
1110					
Statt		drivers	Toides		
8-11-12	-C_user_id	-dimerid	-nacid	emplay salarias	*
rame	- name	-name	-dnaid	-amploy-id	Job_THIE
city	-age	-age	-cuse-id		
job_id	-city	-cnic	- Storty-locates	-dule-of-paging	- Job-Fithe
department-id	-father-name	-Con-rame	- Greling - location	-mangh - pt-subny	- salary
ucername	- userrome	- Car_mod	- price	-odmin-action-time	-admin action
Puord	-pword	-car-brand	-time-af-rice	tade()	+448 ()
admin-id	-admin_id	-Carnumber place	-admin-id	+ Oddel)	+update()
odmin ochen ham	-admin other	- username	-odninaction-time	+update()	+ ddele ()
add()	+0000	- Pword	+ add ()		
Showall()	+ Shavall()	-online_stadius	tupdate ()	expenses	
Search()	+ Search()	-admin-id	+ odete()	- exprese id	
update()	+ update()	- admin_cackion_time	+ Serich ()	-ext-growthen	
	+ddelel)	+add()	+ shavall()		
dete()	4	+ showall)	deportments.	-exp sade	
9	Tuger_phones	+ Search()	-deportment_id	- odminid	
		+ detell	-deport-rame	rachin when time	
Staff_Ptones	-c_wer_id	+update()	-admin-id	+1200	-
staff id	- phase_ro	+ upage C	-admin-action-time	+uplate()	
phone-no	-odmin-id	James-proves	+ Add ()		
admin-id	-admin-action-time		+ deletel)	+semeh()	
admin_action_time	+ 4000	-driver-id -prone-no -odmin-id	+ srowall) + update + Search()		
ADD ()	+ showall ()	- obmin-action-time	Sentito		
Shavall ()	+update()	+ odd ()	1		
	+ deteco	+ upde()	1		
sorch ()	+ Search O	+ deleter + Serreh ()			

j) State Chart Diagram:

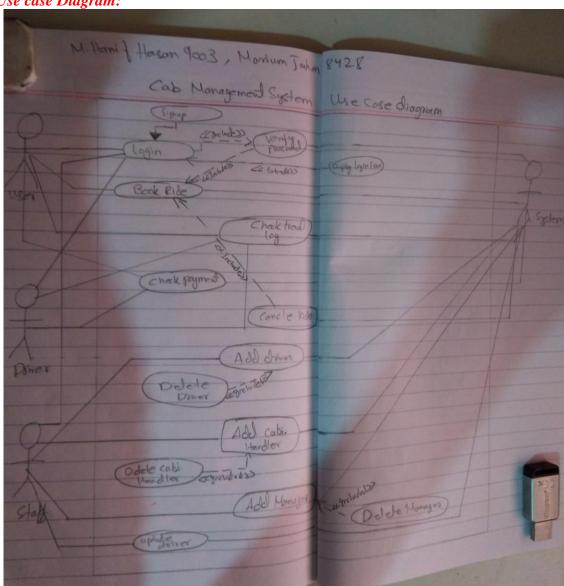


# 3.1.3 Module 2 complete CRUD Staff

- a) **Description:** This modules Add,update,delete Staff Users.
- k) Usage Scenario/ Use case Description/ Specification:

Description	[ make   drop   view   update] to the user's			
	accounts			
Inputs	Username and passwords			
Source	3. User inputs from city, to city, seat			
	type, travel date, return date and			
	time			
	4. Press Button			
Alternate Case				
Outputs	Added   Deleted   Viewed   Modified			
	Accounts			
Precondition	If they already have a account they can			
	simply login, if they don't have a account			
	they register.			
<b>Post Condition</b>	On signing up added to Users account table			

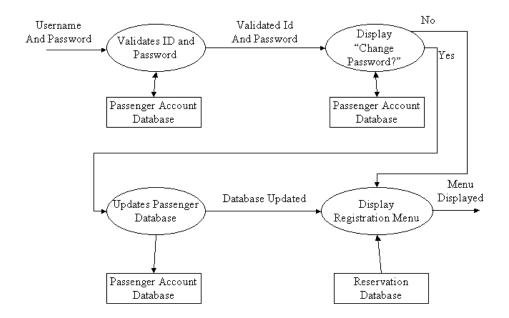
# l) Use case Diagram:



### m)Use case Realization:

The realization was not needed.

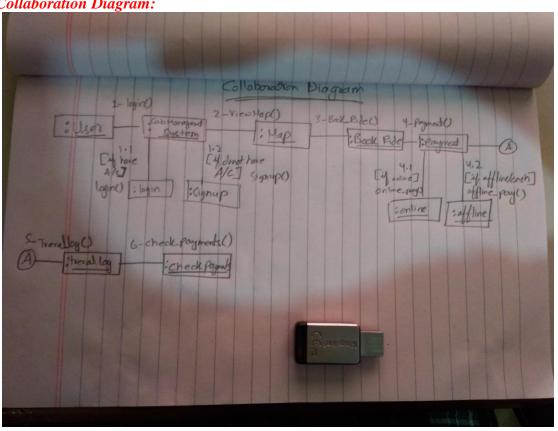
# n) Flow of Event or Data Flow Diagram:



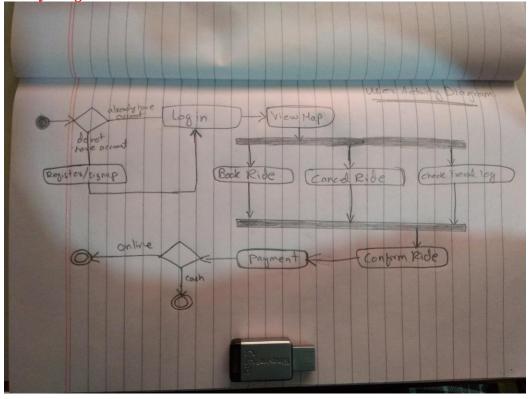
o) Sequence Diagram:

Sequence Diagram:		
M. Harif Hosen good Mossum Jahan 8428 Sec	quence Diagra	In .
	Cab Maro	geneut System.
* Sall	Daties W	ser Cab Naragaret Cyslem
		enters tredentials.
	Ati) Lifatseody rave Alc]	Was login Adherdredad
	[elce]	Ver signup first
		Enter Togolación
	[in location vard of other party and end other party and	Rida on Rail Topal
	[elce]	(ecasion and id / diversof quilde
		Frank Treval log
		Paymod by and/cash Paymod Received.
		Carea

p) Collaboration Diagram:



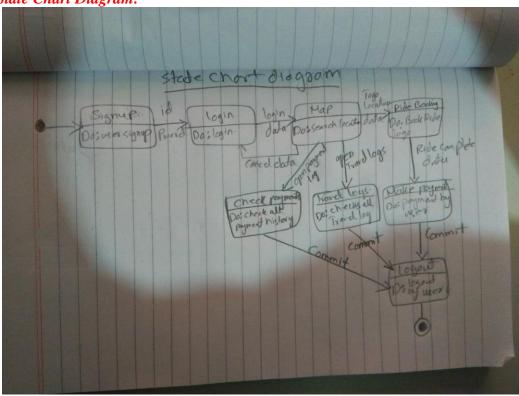
q) Activity Diagram:



r) Class Diagram:

		Journal Chang Diag	man) M. Hanif Hasa	1 9002 11.	
1				1003) Mariur	n Jahan 8421
110	r 7				
Staff	users (	0.116.2	rides	[mil ]	
Staff of	-C_usor_id	-dimerio	-nidejd	- employ-solving	-
rame	- hame	-name	-dnor-id	-amount	Job-THE
- city	-age	-age	-cuse_id	-ddc-af-pyoy	
Bi-doi-	-city	-cnic	- Storty-location	- marsh 1 h	- Jobatitle
- department-id	-father-name	-Con-rame	- ending - location	-mary -n-subry	- adminid
utername	- usernome	-Car_mod	- price	-admin-active-time	-admin action
Puord	-pword	-car-brand	-time-af-yide	todo)	+488 ()
-admir_id	-admin_id	-Carnumber place	-admin-id	+ Oddel)	+update()
odmin ochen time	-admin other	- wername	-odminaction-time	+update()	+ ddele ()
- add()	+000()	- Pword	+ add ()		
Showall()	+ Shavall()	-online_stadus	+ update ()	expenses	
+ Search()	+ Search()	-admin_id	+ ddete()	- orpose id	
+ update()	+ update()	- admin_action_time	+ Serich ()	-organization	
	+odel)	+add()	+ showall()		
+ dete()	1+00000	+ showall)	departments.	-expende	
•	Tuger_phones		-deportment_id	- pominid	
		+ Search() + dolete()	-depart-name	-action some home	-
Staff_Phones	-c-wer-id		-admin-id	+166(1)	21
- staff id	- phare_ro	+update()	-admin_adion_time	rugdate()	
- phone-no	-admin_id		+ 422()		
-admin-id	-admin_action-time	driver-proves	+ ddetel)	tsemehl)	
- admin action time	+ ADAC)	-driver-id -phone-no -odmin-id	+ stought) + update		
+ ADD ()	+ showall ()	Lodmin-action-time	+Serich()		
	+update()	1000	1		
sharall()	+ detect	1 shawall			
tuplate()	+ Search O	+ delete() + Search()			

s) State Chart Diagram:

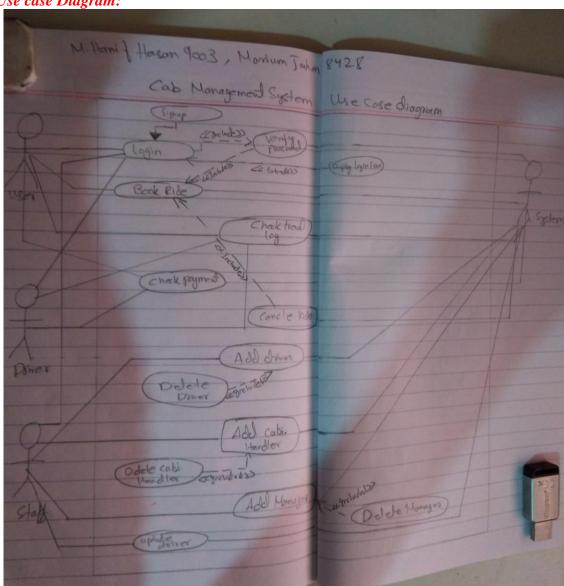


# 3.1.4 Module 3 complete CRUD Users

- b) **Description:** This modules Add, update, delete Users.
- t) Usage Scenario/Use case Description/Specification:

Description	[ make   drop   view   update] to the user's	
_	accounts	
Inputs	Username and passwords	
Source	5. Inputes user name .phoneetc	
	6. Press Button	
Alternate Case		
Outputs	Added   Deleted   Viewed   Modified Users	
Precondition	If login via module admin	

# u) Use case Diagram:



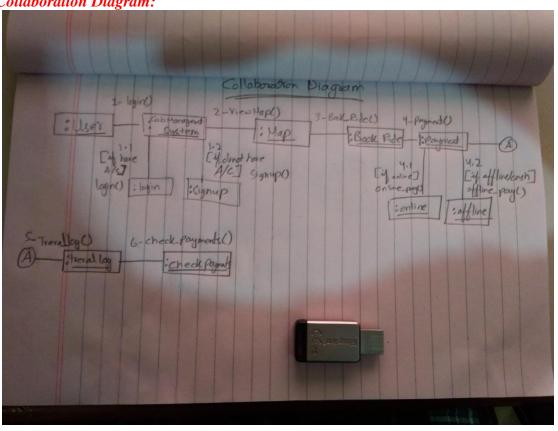
# v) Use case Realization:

The realization was not needed.

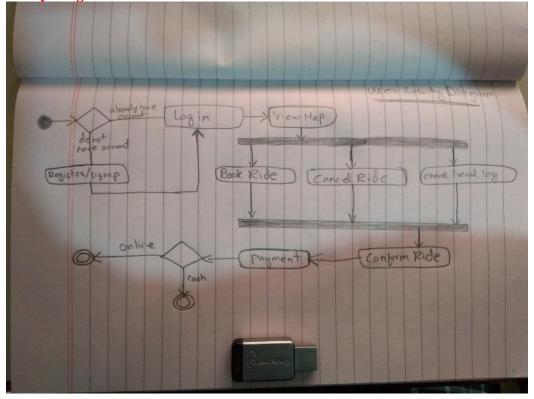
w) Sequence Diagram:

M. Hon't Hoson Jos		
Mossum Jahan 8428 Se	quence Diagra	im The second se
	Cab Mara	gement System.
2 011		
* Staff	Dates U	sex Cap Maragard Cyclan
	1	error (recentus
	ALT)	
	alsordy rare	va lagin Adhardedal
	[else]	11 211
		War signup first
		Enter Togotacidon
	ALT)	Rider on Rad Topice
	[if location rand of location	
	[el(e]	location inat of I donor not awilde
		Troad log the sont
		payma by and/cash
		Paymod Received.

x) Collaboration Diagram:



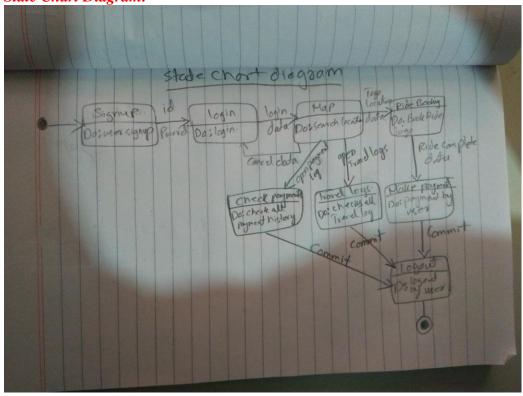
y) Activity Diagram:



z) Class Diagram:

		Journal Chang Diag	man) M. Hanif Hasa	1 9002 11.	
1				1003) Mariur	n Jahan 8421
110	r 7				
Staff	users (	0.116.2	rides	[mil ]	
Staff of	-C_usor_id	-dimerio	-nidejd	- employ-solving	-
rame	- hame	-name	-dnor-id	-amount	Job-THE
- city	-age	-age	-cuse_id	-ddc-af-pyoy	
Bi-doi-	-city	-cnic	- Storty-location	- marsh 1 h	- Jobatitle
- department-id	-father-name	-Con-rame	- ending - location	-mary -n-subry	- adminid
ucername	- usernome	-Car_mod	- price	-admin-active-time	-admin action
Puord	-pword	-car-brand	-time-af-yide	todo)	+488 ()
-admir_id	-admin_id	-Carnumber place	-admin-id	+ Oddel)	+update()
odmin ochen time	-admin other	- wername	-odminaction-time	+update()	+ ddele ()
- add()	+000()	- Pword	+ add ()		
Showall()	+ Shavall()	-online_stadus	+ update ()	expenses	
+ Search()	+ Search()	-admin_id	+ ddete()	- orpose id	
+ update()	+ update()	- admin_action_time	+ Serich ()	-organization	
	+odel)	+add()	+ showall()		
+ dete()	1+00000	+ showall)	departments.	-expende	
•	Tuger_phones		-deportment_id	- pominid	
		+ Search() + dolete()	-depart-name	-action some home	-
Staff_Phones	-c-wer-id		-admin-id	+166(1)	21
- staff id	- phase_ro	+update()	-admin_adion_time	rugdate()	
- phone-no	-admin_id		+ 422()		
-admin-id	-admin_action-time	driver-proves	+ ddetel)	tsemehl)	
- admin action time	+ ADAC)	-driver-id -phone-no -odmin-id	+ stought) + update		
+ ADD ()	+ showall ()	Lodmin-action-time	+Serich()		
	+update()	1000	1		
sharall()	+ detect	1 shawall			
tuplate()	+ Search O	+ delete() + Search()			

# aa) State Chart Diagram:



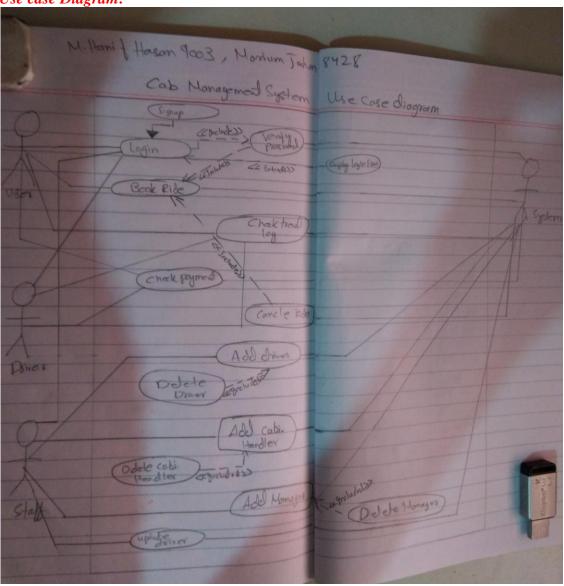
# 3.1.5 Module 4 complete CRUD Rides

c) *Description:* This modules Add,update,delete Rides.

# bb) Usage Scenario/ Use case Description/ Specification:

Description	[ make   drop   view   update] to the Rides
	Table
Inputs	Ride time, area, start time, end time
Source	7. The Module admin sets a ride up
	8. Press Button
Alternate Case	
Outputs	Added   Deleted   Viewed   Modified Rides
Precondition	If logedin via Module admin.

cc) Use case Diagram:



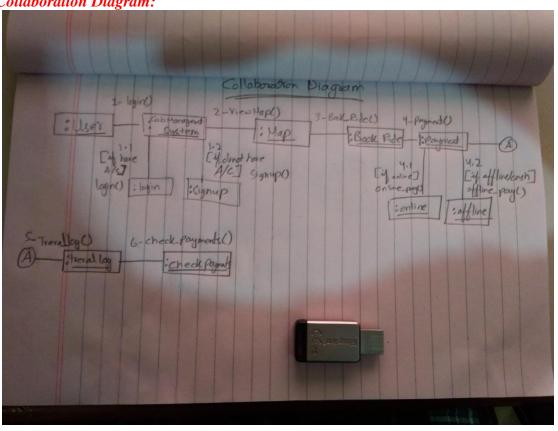
# dd) Use case Realization:

The realization was not needed.

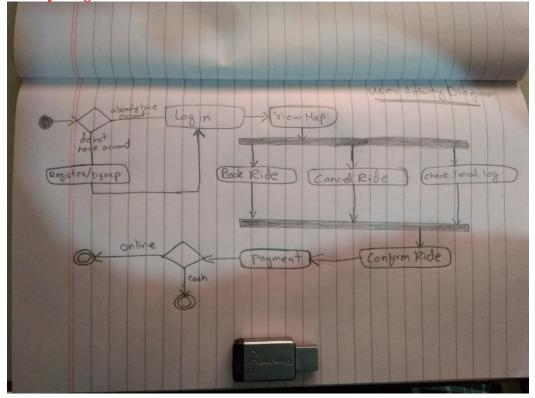
ee) Sequence Diagram:

Sequence Diagram:			
M. Harif Hoson 9003 Morium Jahan 8428	Sequence Diagra	m	
	Cab Mara	gement	System.
7 54	Daties Us	iey l	Cab Maragarent Cystem
	1	enters	(redentials
	Att latsendy have	Lucer Login	Adheroudal
	[else]	Vier	signup first
		Enter	Togotac Stan
	[if leater and and driver		on Patropal
	[el(e]	location Ina	d down rot and de
		Tread log into	Iseral log
		Paymed	Seconed.
1			

ff) Collaboration Diagram:



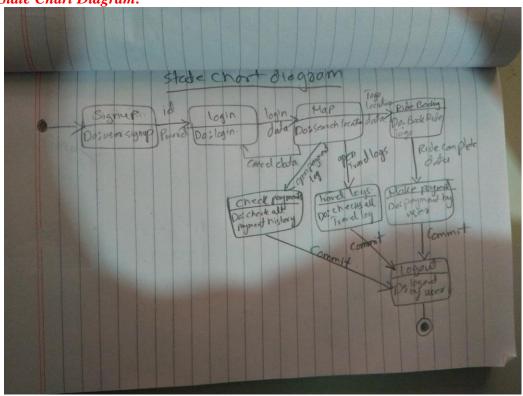
gg) Activity Diagram:



hh)Class Diagram:

			Diagram)	M. Hanif Hasas	1 903, Marine	TI
			-		-> who	2 Journ Ed S.
CLI	r V					
Staff of	-Cuerid	0.116.2		rides	emplay calorical	
name		-dimorid		-nidejd	- onplay-id	Til
	- hame	-name		-drawid	-amount	Job_THE
city	-age	-age		-cuse-id	-dale-of-paying	- Jobatille
Bi-doi	-city	-cnic		- Starty-location	-many -nt-subry	- Salary
department-id	-father-name	-Can-rame		- ending - location	-admin_id	- admind
ucername	- usernome	-Car_model		- price	-admin-action-time	- admin actions
Pword	-pword	-car_brand		-time-af-rice	tadel()	+420 ()
admin-id	-admin_id	- Cax-number place		-admin-id	+ Oddel)	+update()
odmin ochen time	-admin octon	- wername		-admin action-time	+update()	+ ddete ()
add()	+0000	- Pword		+ add ()		
Showall()	+ Shavall()	-online_stadius		+ update ()	expenses	
Search()	+ Search()	-admin_id		+ ddete()	- orpose id	
update()	+ update()	- admin_action_time		+ Serich ()	-exp. deceptor	
	+odel)	+add()		+ showall()		
delete()	1+00000	+ showall)		departments.	-expende	
•	Tuger-phones			-deportment_id	- odmid	
		+ Search()		-depart-rame	-schinachen time	-
Staff_Phones	-c-user-id	+ ddetel)		-admin-id	+166(1)	217
staff id	- phae_ro	+update()	-	-admin-adion-time	+ uplate()	
phone-no	-odmin_id	-	-	+ 40d ()		
admin-id	-admin_action-time	dimer-proces	-	+ deletel)	tsement)	
admin_actor_time	+ 4000	-driver-id		+ stought) + update		
	+ showall ()	- phone no - odmin-id - odmin-oction-time	-	+ Serich()		
ASO ()	+update()	2001				
Shavall ()	+ddetec)	- Showard	-			
sorch() uparte() Jelele()	+ Search O	+ delete() + Search()				

ii) State Chart Diagram:

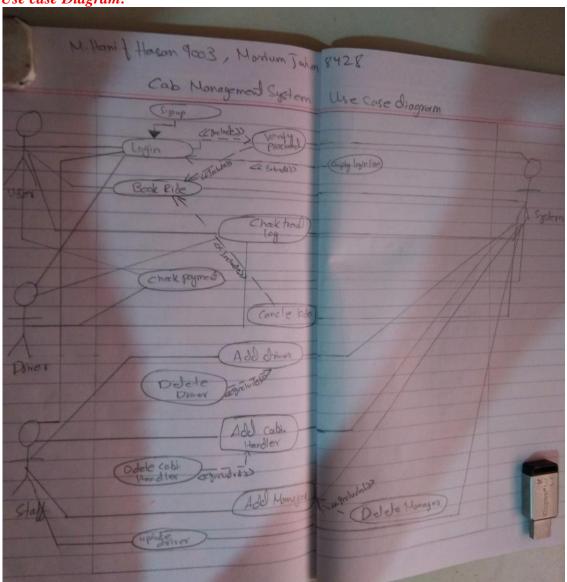


# **3.1.6 Module 5 complete CRUD** Drivers

- d) **Description:** This modules Add, update, delete Drivers.
- jj) Usage Scenario/ Use case Description/ Specification:

Description	[ make   drop   view   update] to the Drivers		
	Table		
Inputs	Driver Name, Adress, Car Name, Car		
	Number, Phone, etc		
Source	9. The Module admin sets a Driver up		
	10. Press Button		
<b>Alternate Case</b>			
Outputs	Added   Deleted   Viewed   Modified		
	Drivers		
Precondition	If logedin via Module admin.		
Description	[ make   drop   view   update] to the Drivers		
	Table		

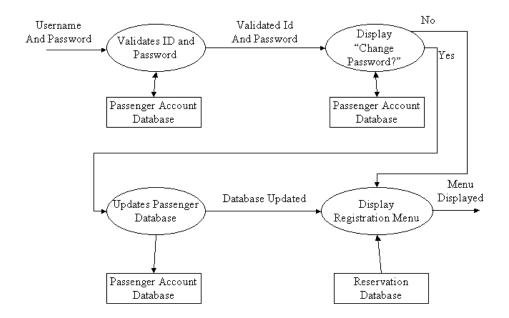
# kk) Use case Diagram:



# Il) Use case Realization:

The realization was not needed.

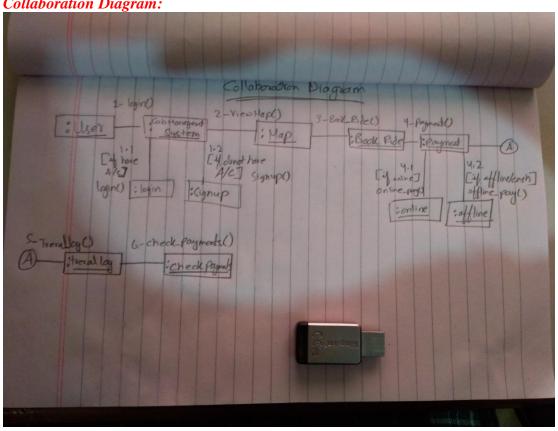
# mm) Flow of Event or Data Flow Diagram:



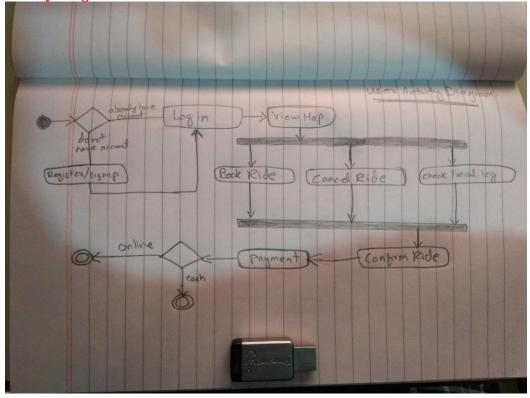
nn) Sequence Diagram:

Mossium Jahan 8428 Sequence Diagram  Cab Management System.  Stat Done User Caedenous System.  Att Jaserby Lucy Cap Narasand System.  Att Jaserby Lucy Signup fort  Enth Togolar alon  Alt Jaserby Lucy Signup fort  Enth Togolar alon  Alt Jaserby Ladon Met Jahornat and the  Cock To eval log  Incod log Mp set  Payred by card/cash  Payred by card/cash  Payred by card/cash  Payred by card/cash	Sequence Diagram:			3
State Dancy User Cab Management System.  Dancy User Cab Management System  Att Jensey I was login to the exacted all  Patrondy now Atternation  Enter Togo lacation  Att Jester Robert on Road Topole  Sold all down  Levice I leader and Johnson of another  Check Is eval log  Incol log top sont  Payman by and logs  Payman by and	M. Harif Hason god Mossium jahan 8428 S	equence Diagra	TWO	
Darvey User Cap Naragard System  Att   Carter   User Legin Adhersted    I attendy   User Legin Adhersted    I lessed   User Legin Adhersted    Entra Toget & Son  College   Caster Ind Johns rot and the  Check Is eval tog  Trad toget of son  Paymad Lacable of		Cab Mara	gement	System.
Att   Control	9			
ALT leater Pider on Rail topice  [al leater Pade   leader Indian   leader Indi	7 Staff	Daver U	sex	Cap Narma de 1
ALT   West Legin Adherocal     Italian   Rider on Rout Topice     The leastern   Rider		7	1	Credentiale System
Lette legin Adhersterdal  Trave  Att  Lette logo to signup first  Enter logo to about  Att  Lette logo to about  Aut logo to about  Aut logo to about  Aut logo to about  Charle is eval logo  End logo to sent		MIL		
Leke   Were signup first  Enter Togotac aton  Pala leader Policy on Rail topic  Taken able   leader and of Johns not awide  Check The eval lay  Trad log hip sont			1 wer lagin	Adherredal
Enter Togotacasion  Enter Togotacasion  Rider on Raut Topical  Paymad Lacation and advantace  Check The eval lacation and log this sent  Paymad By and log this sent			-	
[in location Raid to Pick which and log hip sent		[GISE]	1 Clear	. signup firet
[in leastern Rider on Rail Topick railed and many laber]  [else]   leader don't delay law log lines and log life sont				Ed h
[ig location Real topics  Take and and and and and another  [celce]   Check   The eval location and log this sent			ENTE	10 go lacaron
Taild and from  Associated from a leader death of Johnson not awildle  Check Is eval log  Timal log hip sont  Paymed by myllogel			1 01	E D IT NO
Check Is eval log  Total log into sout		Tel location		
Check Is eval log Final log Mo sout  Paymat by and/ord		[elce]	location Inal	id / Inor not amilde
Paymad by and love !				
paymed by and love			Check	Treval log
Paymot Received.			I wal log into	tot
Paymo Received.			Paymod	by and/cash
			Paymat	Received.
	7			

oo) Collaboration Diagram:



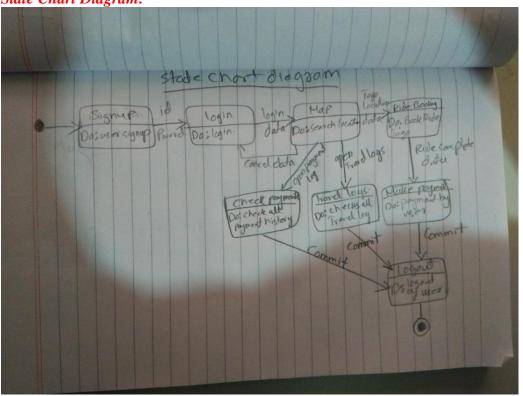
pp) Activity Diagram:



qq) Class Diagram:

			ian) M. Hanif Hosa	n 9003, Mariur	n Jahan 8428
			1		
Staff	wers K	drivers			
SH &	-C_usor_id	-dimonio	rides -maejd	emplay salarias	
rame	- name	-name	-dnorid	-amplog-id	Job_THE
- city	-age	- 090	-cuse-id	-amount	-Job_id
Bi-doi-	-city	-cnic	- Storty-location	-dele-of-paging	- Tobatille
- department_id	-father-rome	-Con-rame	- Greling - location	-mark-pt-salony	- Salary
ucername	- werrome	- Car_mod	- Price	-admin-action-time	- admin.id
Puerd	-pword	-car-brand	-time-of-rice	tode()	-admin action of
admin-id	-admin_id	-Carnumber plate	-admin-id	+ Odolet)	+ASS () +update()
odmin or him time	-admin oden	- wername	-adminaction-time	+update()	+ dele ()
- odd()	+ add()	- Pword	+ add ()	1	
Showall()	+ Shavall()	-online_stadus	+ updute ()	expenses	
	+ Search()	-admin_id	+ ddete()	-expose id	
f Search()	+ update()	- admin_cacken_time	+ Serich ()	- our deception	
update()	+ delel)	+add()	+ showall()		
+ delete()	1400000	+ showall()	deportments.	-expende	
9	Tuger-phones	+ Search()	-department_id	- odminid	
		+ detell	-depart-rame	-schwarten time	-
Staff_Phones	-c-wer-id		-admin-id	+166(1)	217
- stall id	- phae_ro	+update()	-admin-action-time	tuplate()	1
- phone-no	-odmin-id	driver-phases	+ Add ()		
-admin-id	-odmin-oction-time		+ detel + stowall) + update	tsench()	
- admin_actor_time	+ ADAC)	-driver-id -phone-no -odmin-id	+ seach()		
+ ASD ()	+ showall ()	-odmin-action-time			
sharall ()	+update()	+ add ()			
+Sorch()	+ doleteco	+ showall() + uporte() + delete()			
tupout ()	+ Search O	+ Serich ()			

rr) State Chart Diagram:

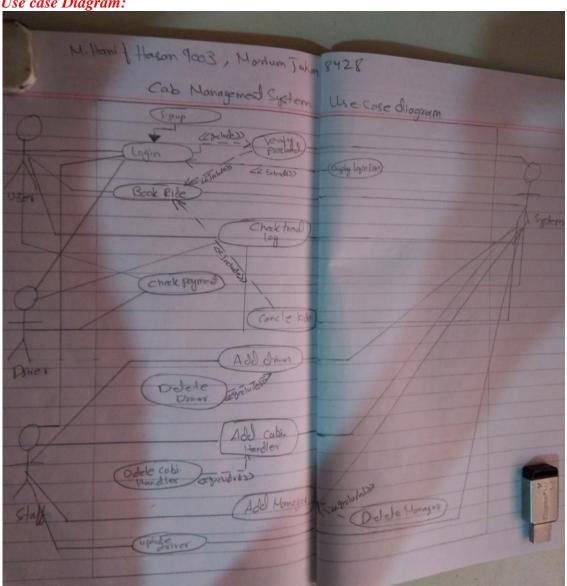


# **3.1.6 Module 6 complete CRUD** Employ salary

- e) **Description:** This modules Add,update,delete Employ Salary.
- ss) Usage Scenario/ Use case Description/ Specification:

Description	[ make   drop   view   update] to the
	Employ_Salarys Table
Inputs	Employ name, Salary, time stamp, Salary
	Ammount
Source	11. The Module admin sets a
	Employ_Salarys up
	12. Press Button
Alternate Case	
Outputs	Added   Deleted   Viewed   Modified
	Employ_Salarys
Precondition	If logedin via Module admin.
Description	[ make   drop   view   update] to the
	Employ_Salarys Table

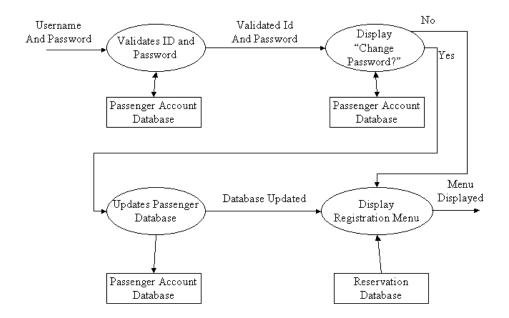
# tt) Use case Diagram:



#### uu) Use case Realization:

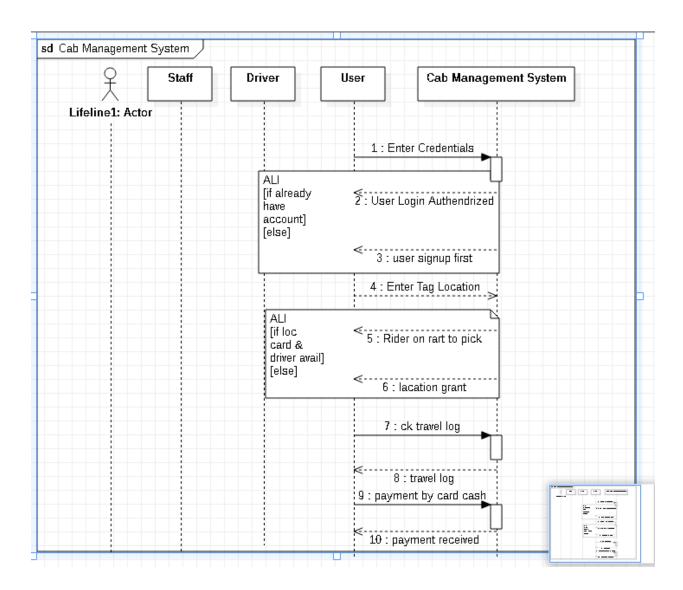
The realization was not needed.

#### vv) Flow of Event or Data Flow Diagram:

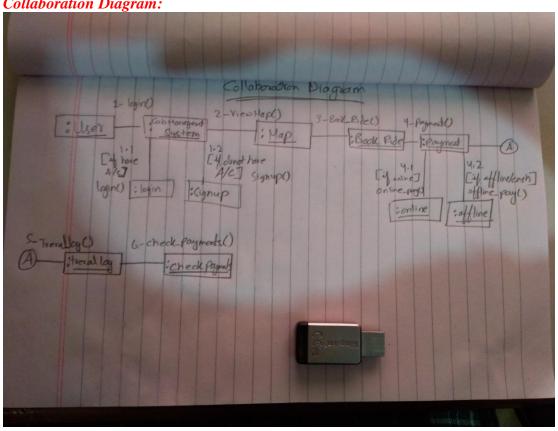


ww) Sequence Diagram:

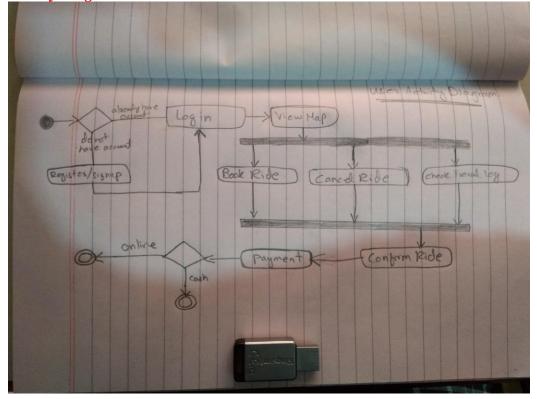
Sequence Diagram	<i>m:</i>		
M. Harif Hosan gas Mossum Jahan 8428 Se	quence Diagra	im	
0	Cab Mara	gement	System.
* Staff	Dates U	sex	Cab Naragaran System
		enter	Credentus.
	ALT) Walsendy have	luer legin	A Sheward al
	[eke]	View	agnup fixt
		ENTO	Togotadion
	[if leater raid and orien Assertable]	Rider	on Ratiopal
	[elce]	Lecation Inat	d / dimor not and lot
		Troad log into	Is eval log
		Paymat	By and/cash Received.
4			



xx) Collaboration Diagram:



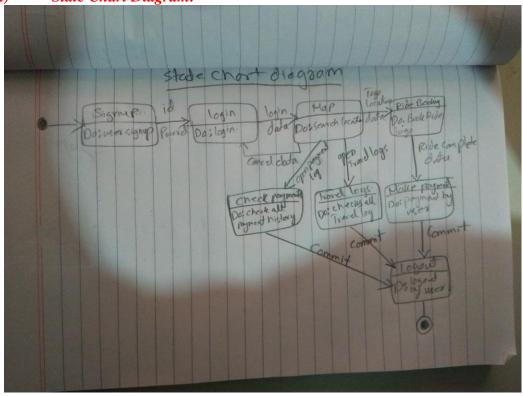
yy) Activity Diagram:



zz) Class Diagram:

			gan) M. Hanif Hasa	n 9003, Marium	n Jahan puzz
Stall	wers K	drivens		_, _	
staff of	-Cusor-id	-divers	rides	emplay solvice	
rame	- name	-name	-nidejd	- compley-id	Job_THE
city	- age		-dnord	-amount	-Job_id
Bi-doi-	-	-age	-cuse-id	- de et pjig	- Jobatale
	-city		- Storty-location	-many -n-salony	- Salovy
department_id	-father-name	-Cox-rame -Cax-mod	- Greling - location	-admin_id	- adminid
uterrame	- werrome		- price	-admin-active-time	-admin octions
Purd	-Pword	-car-brand	-time-of-rice	tode()	+438 ()
admin-id	-admin_id	-Carnumber place	-admin_id -admin_id	+ Odolel) + update()	+upoute()
odmin-oction-time	-admin_ochen_	- username		+showall()	+ ddele ()
add()	+000()	- Pword	+ add ()	-	
Showall()	+Shavall()	-online_stadius	t upwe ()  + oldete()	expenses	Instruction .
Search()	+ Search()	-admin-id	+ Sench ()	-exposerior	
update()	+ update()	- admin_cackion_time	+ showall()	- Cost	
+ delete()	+ddele()	+add()		-cup side	
•	•	+ showall)	departments.	- odminid	
	user-phones	+ Search()	-deportment_id	- ourseles time	-
staff_Phones	-c-wer-id	+ deletel)	-de part-rame	+106(1)	213
	- phae_ro	+update()	-admin-id		
- Staff_id	-admin-id	*	-admin-adien-time	to detect	
phone-no	-odmin_oction-time	Onner-phases	+ Add () + ddete()	Harall)	
-admin-id		-driver-id	+ srought) + update		
- admin_action_time	+ Add()	- phme no -odmin-id	+ Search()		
ASO ()	+ showall ()	+ add ()			
Shavall ()	+update()	+ showall () + update ()			
Sorch ()	+ bearche	+ delete() + Search()			

aaa) State Chart Diagram:

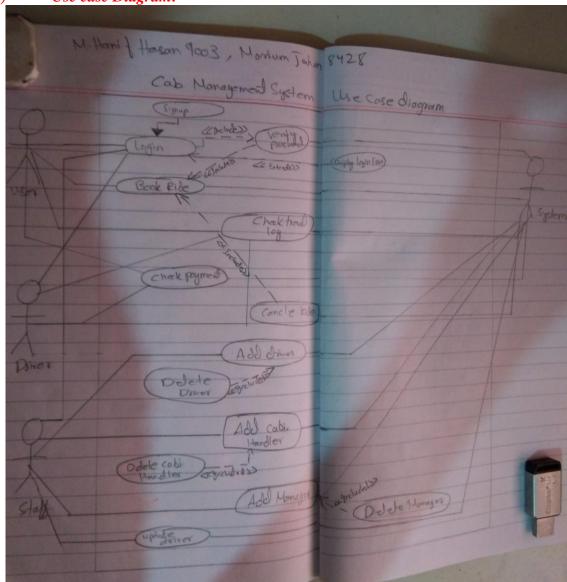


# 3.1.6 Module 7 complete CRUD Job\_titles

- f) **Description:** This modules Add,update,delete Job\_titles.
- bbb) Usage Scenario/ Use case Description/ Specification:

Description	[ make   drop   view   update] to the
	Job_titles Table
Inputs	Job_TITLE,Job_Discription
Source	13. The Module admin sets a Job_titles
	up
	14. Press Button
Alternate Case	
Outputs	Added   Deleted   Viewed   Modified
	Job_titles
Precondition	If logedin via Module admin.
Description	[ make   drop   view   update] to the
	Job_titles Table

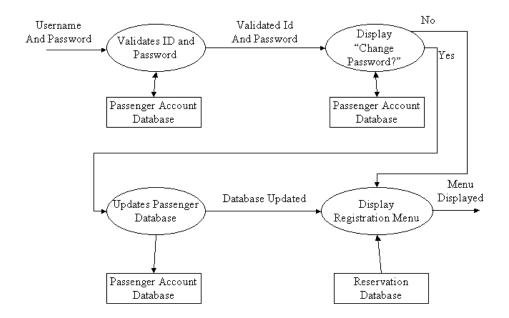
ccc) Use case Diagram:



ddd) Use case Realization:

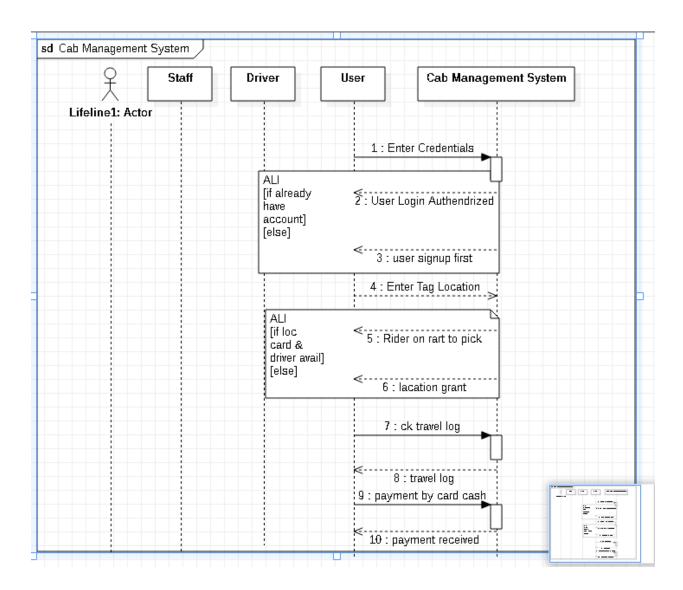
The realization was not needed.

#### eee) Flow of Event or Data Flow Diagram:

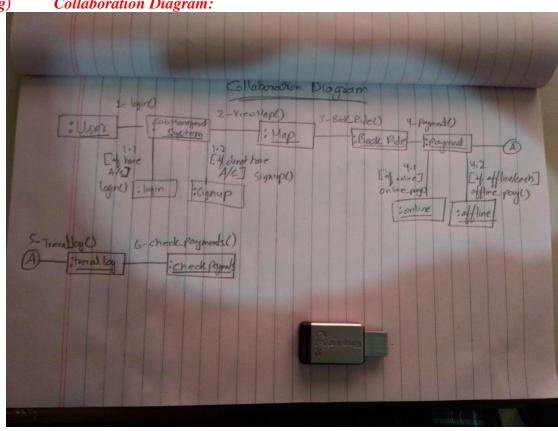


fff) Sequence Diagram:

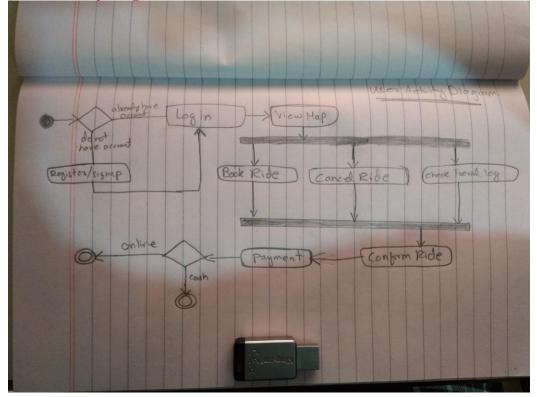
equence Diagram:			
M. Hanif Hosen 9003 Mossium Jahan 8428	sequence Diagra	ım	
	Cab Mano	gement	System.
* Saff	Dather W	sex	Cab Naragarat Cycle
	1	Perter	(redenting
	ALT) Watsendy have	uer lagin	Adherordal
	[else]	- Veor	signup firet
		ENTA	Togotadin
	AU [in location raid and graphs]		on Part Topal
	[ele]	lecation Inal	int / diver not awilde
		Troad log into	Treval log
		Paymed	By and/cash Received
7		N. C.	



Collaboration Diagram: **ggg**)



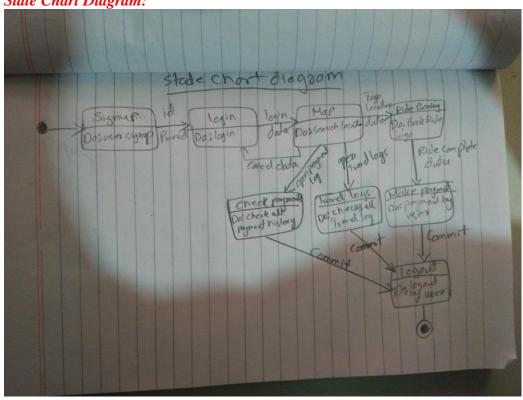
Activity Diagram: hhh)



iii) Class Diagram:

1			gan) M. Hanif Hasa	n 9003, Marium	n Johan Pune
Stall	wers K	drivens		_, _	
staff of	-Cusor-id	-divers	rides	emplay solvice	
rame	- name	-name	-nidejd	- cmplay-id	Job_THE
city	- age		-dnord	-amount	-Job_id
iob_idoi	-	-age	-cuse-id	- de et pjig	- Jobatale
	-city		- Storty-location	-many -n-salony	- Salary
department_id	-father-name	-Cox-rame -Cax-mod	- arding - location	-admin_id	- admin_id
uterrame	- werrome		- price	-admin-active-time	-admin octions
Purd	-Pword	-car-brand	-time-of-rice	tode()	+438 ()
admin-id	-admin_id	-Carnumber plate	-admin_id -admin_action_time	+ Odolel) + update()	+upoute()
odmin-oction-time	-admin_ochen_	- wername		+showall()	+ ddele ()
odd()	+000()	- Pword	+ add () + upwle ()	-	
Showall()	+ Shavall()	-online_stadius	+ ddete()	expenses	I South
Search()	+ Search()	-admin-id	+ Serich ()	-exp-decipted	
update()	+ update()	- admin_ciction_time	+ showall()	- Cost	
+ delete()	+ddetel)	+add()		-expende	
•	+	+ showall)	departments.	- odmid	
	user-phones	+ Search()	-deportment_id	- schoolson hime	-
Staff_Phones	-c-wer-id	+ deletel)	-depart-rame		213
- Staff id	- phae_ro	+update()	-admin-id		
	-odmin_id	*	-admin_adion_time + Add ()	to detect	1
phore-ro	-admin_action-time	Ormer-proces	+ deletel)	tsencht)	-
-admin-id -admin-action-time	+ AJA()	-driver-id	+ stought) + update		
	+ showall ()	- phone no - odmin-id - odmin-oction-time	+ Seach()		
ADD ()	+uplate()	1000			
sharall ()		1 Showard			
Sorch ()	+ bearche	+ delete() + Search()			

jjj) State Chart Diagram:

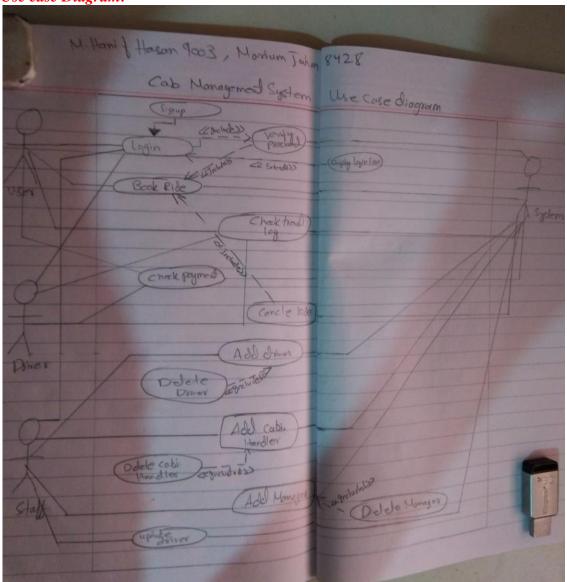


# 3.1.6 Module 8 complete CRUD Staff\_phones

- g) Description: This modules Add,update,delete Staff\_Phones.
- kkk) Usage Scenario/ Use case Description/ Specification:

Description	[ make   drop   view   update] to the
	Staff_phones Table
Inputs	Staff_Name, Staff_Phone
Source	15. The Module admin sets a
	Staff_Phones up
	16. Press Button
Alternate Case	
Outputs	Added   Deleted   Viewed   Modified
	Staff_Phones
Precondition	If logedin via Module admin.
Description	[ make   drop   view   update] to the
	Staff_Phones Table

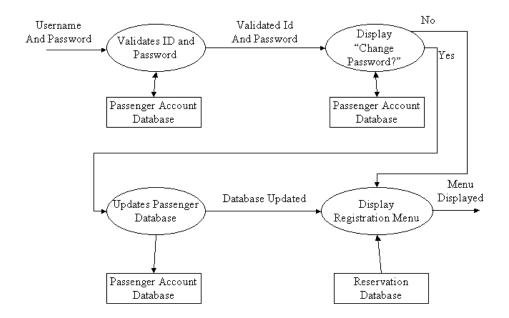
# lll) Use case Diagram:



#### mmm) Use case Realization:

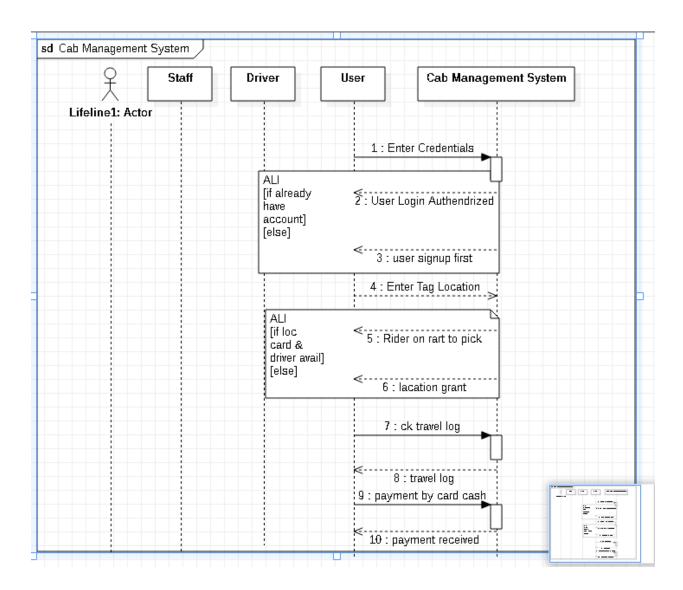
The realization was not needed.

#### nnn) Flow of Event or Data Flow Diagram:



ooo) Sequence Diagram:

Sequence Diagram		1	
Harif Hosen 9003 ortum jahan 8428 See	quence Diagra Cab Mara	m genew Sys-	l-en-
0	C 400 I-lare	gement 375	CIN.
* Staff	Driver U	ies c	ab Maragard Sys
		eners treder	Hule J
	Ati) Hatsendy nave Mc]	war login Adhero	redal
	[eke]	Ver sanup	hire+
		Enter Togoto	edon
	[4] location	Rider on Rai	Topa
	[elce]	location mat id /dinox	of aw ble
		Check Is eval	log
		Paymet by and Recen	leash .
4			

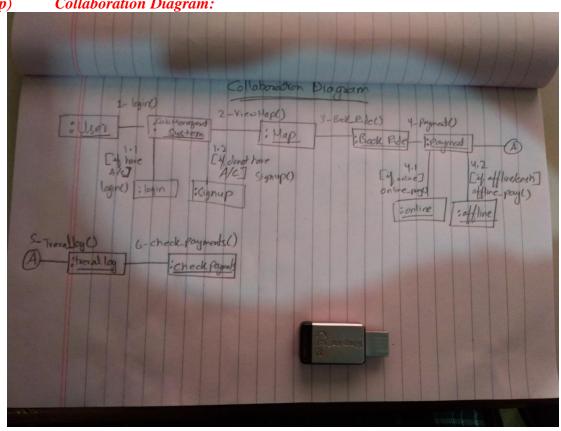


Collaboration Diagram: ppp)

Activity Diagram:

online

qqq)



login > View Map Book Ride Creck Treval log (Register/signer Canad Ride

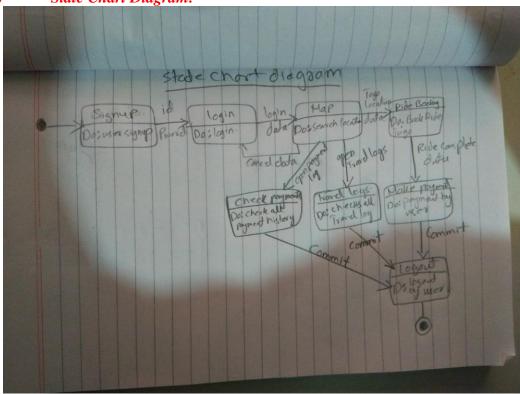
Payment }

f Confirm Ride

rrr) Class Diagram:

1		U S Diag	ian) M. Hanif Hosa	n 9003, Marium	n Jahan pune
			1		2124
Staff	Tusers K	drivers		-, 1	
Self-19	-Cuser-id	-dinoria	rides	emplay solving	
rame	- name	-name	-nacid	-amplog-id	Job_THE
- city	-age	-age	-down-id	-amount	
Bi-doi-	-city	-cnic	- Storty-locates	-dde-of-paging	- Job-title
- department-id	-father-name	-Con-rame	- Ording - location	-margh-nt-subry	- Salary
- wer name	- werrome	- Car_model	- price	-atmin-action-tone	- adminid
- Puord	-pword	-car-brand	-time-at-rice	tode()	- admin actions
-admir_id	-admin_id	-Carchumber place	-admin-id	+ Oddelel)	table ()
- odmin-oction time	-admin oden	- username	-commaction-time	+updoce()	+ ddete ()
+ odd()	+0000	- Pword	+ add ()		(+ showall ()
+ Showall()	+ Shavall()	-online_stadius	tupdate ()	expenses	
+ Search()	+ Search()	-admin_id	+ odete()	- expressed	
+ update()	+ update()	- admin_action_time	+ Serich ()	-orle-deceptor	
+ delete()	+ delel)	+add()	+ showall()		
+ OBETEC)	4	+ showall()	departments.	-oupside	
9	Tuger_phones	+ Search()	-deportment_id	- odmeid	
	-c-wex-id	+ deletel)	-depart-rame	-simportundine	
staff_Phones		+update()	-admin-id	thoughter)	
- Stall id	- phae_ro	+ upane C	-admin_ader-time	to detect)	
- phone-no	-odmin-id	driver-phases	+ 40d ()		
-admin-id	-admin-action-time	-driver-id	+ deletel) + srowall) + update	tsench()	
- admin actor time	+ ADAC)	- phone no	+ serich()		
+ ASO ()	+ showall ()	- admin-action-time			
+ Sharall ()	+update()	+ add ()			
+Search ()	+ddetec)	( Llete()			
tupout()	+ Search O	+ Search ()			

sss) State Chart Diagram:

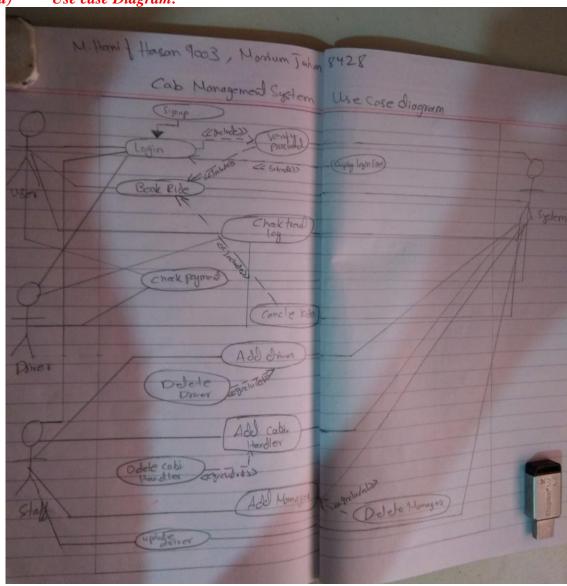


# 3.1.6 Module 9 complete CRUD User\_phones

- h) **Description:** This modules Add,update,delete User\_Phones.
- ttt) Usage Scenario/ Use case Description/ Specification:

Description	[ make   drop   view   update] to the
_	User_Phones Table
Inputs	User_Name,User_Phone
Source	17. The Module admin sets a
	UserPhones up
	18. Press Button
Alternate Case	
Outputs	Added   Deleted   Viewed   Modified
	User_Prones
Precondition	If logedin via Module admin.
Description	[ make   drop   view   update] to the
	User_Phones Table

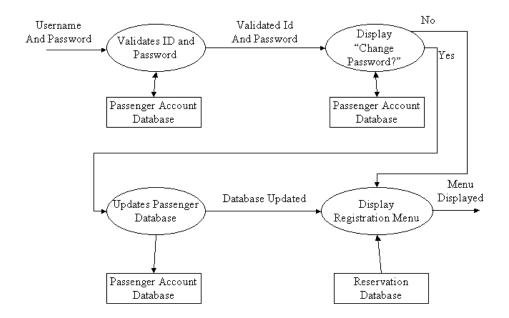
uuu) Use case Diagram:



vvv) Use case Realization:

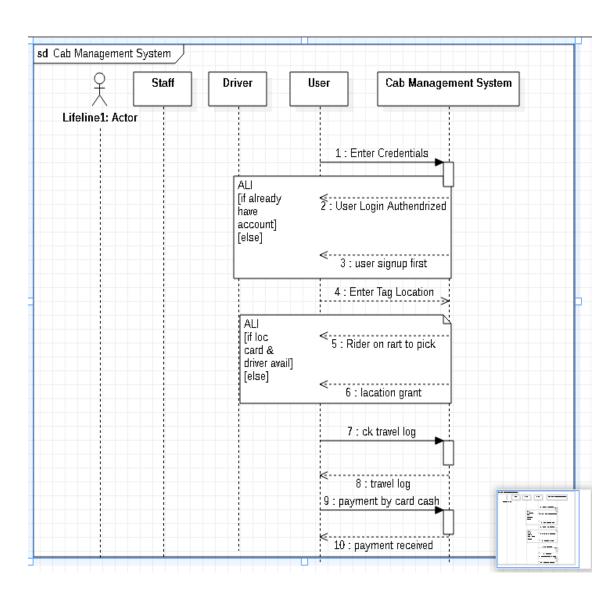
The realization was not needed.

www) Flow of Event or Data Flow Diagram:

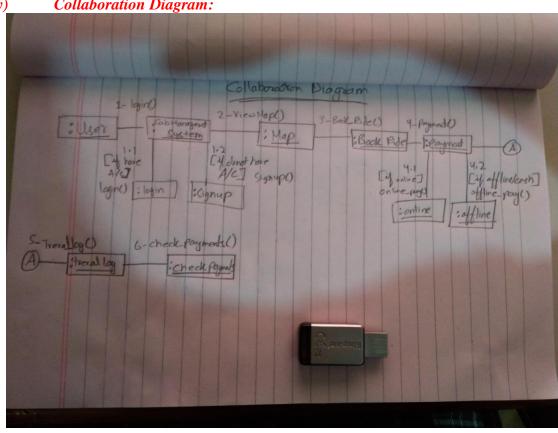


xxx) Sequence Diagram:

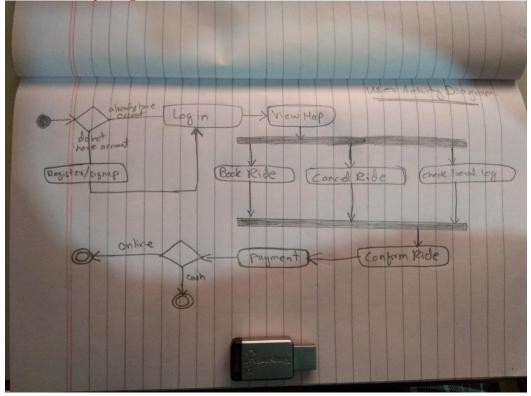
x) Sequence Diagran	<i>1:</i>		
M. Honif Hoson good Morium Jahan 8428 Seg	wence Diagra	m	
0	Cab Mara	gement	System.
Staff	Doner Us	ex	Cab Narosard Cyston
		1 enter	credentials.
	Ati) ( atserdy rave	l wa lagin	Adhertredal
	[else]	Vier	agnup first
		Enter	Togotacdon
	[if location Vald of Johnson Aprel able ]		on Pait Topa
	[e/ce]	lecation Inal	to Anor not grable
		Troal log into	Sort log
		Payma	by and/each Received.
		A	



Collaboration Diagram: yyy)



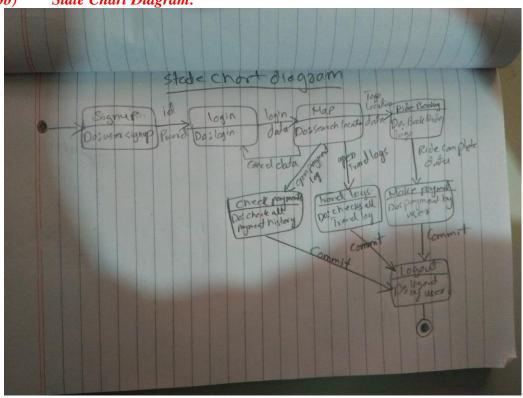
Activity Diagram: zzz)



aaaa) Class Diagram:

		o Wis Diag	man) M. Hanif Hosa	n 9003 U.	
9 1				Manui	n Jahan 8428
1110	7				
Saft	users	drivers	rides		
- Staff 3	-C_user_id	-dinario	-nidejd	- omplay caloring	-
rame	- rame	-name	-dnor-id	-amount	Job_THIE.
- city	-age	-age	-cuse_id	-dde-ab-paging	
- job_id	-city	-cnic	- Storty-location	-mansh -nf-subsy	- Jobetitle
- department-id	-father_rome	-Con-rame	- Greling - location	-adain-id	- samuel
- wer name	- userrome	-Car-mod	- price	-admin-active-time	- admin other
- Purd	-pword	-car_brand	-time-ak-ride	todel	+488 ()
-admir_id	-admin_id	-carchumber plate	-admin-id	+Oddel)	+update()
- odmin-oction time	-admin octon	- username	-odrinaction-time	+update()	+ ddete ()
+ 088()	+000()	- Pword	+ add ()		(+ showall ()
+ Showall()	+Shavall()	-online_stadius	+ update ()	expenses	
+ Search()	+ Search()	-admin_id	+ ddete()	- exprise id	
	+ update()	- admin_ action_ time	+ Serich ()	-exp-disciples	
+ update()	+ddel)	+add()	+ showall()		
+ delete()	100000		deportments.	-expende	
•	-	+ showall)	-deportment_id	- nominid	
	user_phones	+ Search()	- de part-rame	-schoolm line	-
Staff_Phones	-c-wer-id	+ ddetel)	Mark Street, Square and Street, Square and Street, Square and Squa	+126(1)	213
- shift id	- phase_ro	+update()	-admin_id	rugide()	
- phone-no	-odmin-id	-	+ Add ()	toletet)	
-admin-id	-admin-action-time	Ormer-prores	- 4 d-l-t-()	tsench()	
-admin-actor-time	+ Add()	-driver-id	+ stowall) + update	-	
	+ showall ()	- phone no - odmin-id - odmin-oction-time	+ Serich()		
+ 400 ()	+ update()	1000			
+ sharall ()	+ ddetect	+ showall() + update() + delete()			
+sorch() +uplate()	+ Search O	+ delete() + Search()			

bbbb) State Chart Diagram:

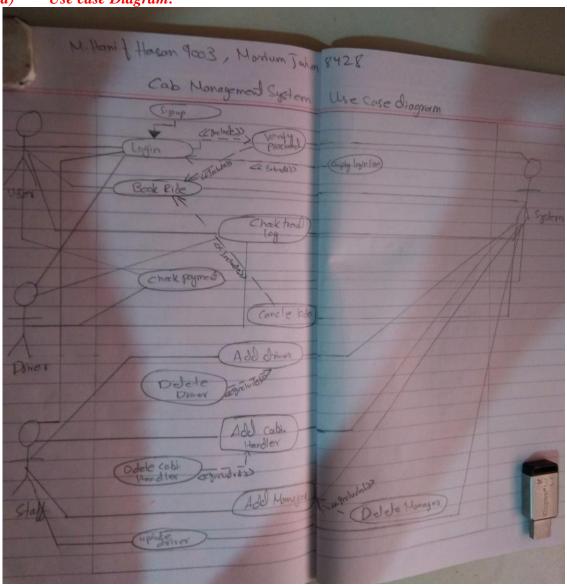


# 3.1.6 Module 10 complete CRUD Driver\_Phones

- i) *Description:* This modules Add,update,delete Driver\_Phones.
- cccc) Usage Scenario/ Use case Description/ Specification:

Description	[ make   drop   view   update] to the	
	Driver_Phnes Table	
Inputs	Driver_Name,Driver_Phone	
Source	19. The Module admin sets a	
	Driver_Phones up	
	20. Press Button	
Alternate Case		
Outputs	Added   Deleted   Viewed   Modified	
	Driver_PHones	
Precondition	If logedin via Module admin.	
Description	[ make   drop   view   update] to the	
	Driver_Phones Table	

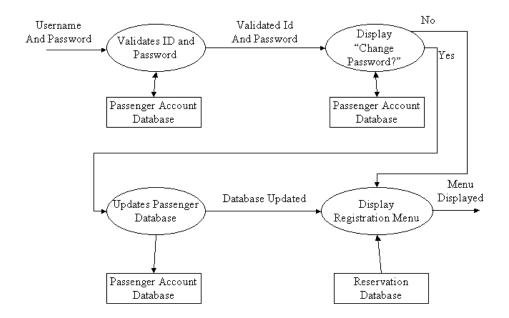
dddd) Use case Diagram:



eeee) Use case Realization:

The realization was not needed.

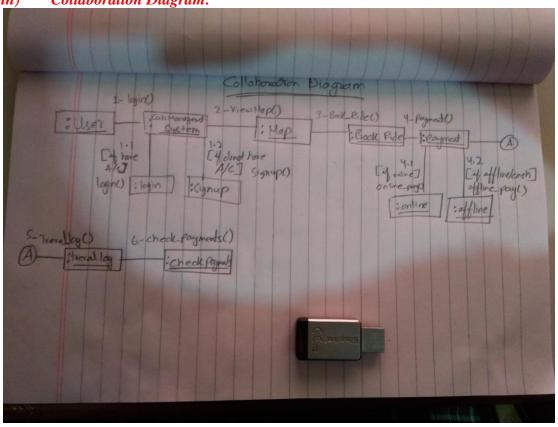
# ffff) Flow of Event or Data Flow Diagram:



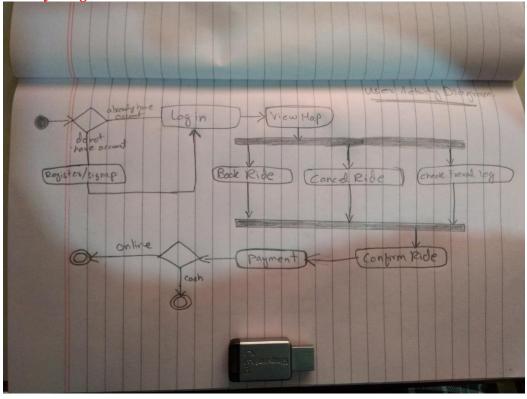
gggg) Sequence Diagram:

gg) Sequence Diagram:			
M. Hanif Hosen good Morium jakan 8428 Sequence	Diagram		
Cal	b Marage	ment	System.
Staff Dans	er User		Cab Narasard Cyston
	1	enter	credentials.
41	atserdy rare	wer login	A Sheebedad
	(e)	Vier	agnup first
		ENTER	Togoladon
AU DA	Location dever	Rider	on Part Topic
Celo	e]	location Inat	d / Amor not and be
		Check Isoal log hijo	Is eval log
		Paymed Paymed	by and/cash received

hhhh) Collaboration Diagram:



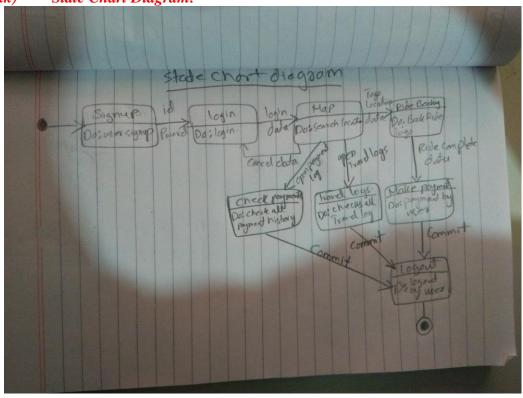
iiii) Activity Diagram:



jjjj) Class Diagram:

			M. Hanif Haca	1 9003, Marium	n Jahan 8428
Staff	wers K	drivers			
SH &	-C_usor_id	-dimerio	rides -ridejd	emplay salvice	
rame	- name	-name	-dnorid	-amplog-id	Job_THE
city	-age	-age	- Cuse id	- amount	-Job_id
Bi-doi-	-city	-cnie		- dide-of-paging	- Tobatitle
department_id	-father-rome	-Con-rame	- Storty-location	-mark-pt-salony	- Salary
werrame	- userrome	- Car_mod	- ending - location	-admin-action-time	- admin_id
Pword	-pword	-car-brand	- hre-af-rice	tocal()	-odmin-ochmol
admin-id	-admin-id	-Cax number plate	-admin-id	+ Deletel)	+A28 ()
odmin or him time	-admin other	- wername	- colorinaction-time	+update()	+ ddele ()
	The state of the s	- Pword	+ add ()	(+Showall)	
add()	+000()	-online_stadius	tupade ()	expenses	
Showall()	+Stavall()	-admin_id	+ ddete()	- exprese id	
(Search()	+ Search()	- admin_id - admin_adion_time	+ Search ()	-exp. deceptor	
+ update()	+ update()		+ shavall()	- Cost	
+ delete()	+ddelel)	+add()	11	-expende	
•	•	+ showall()	deportments.	- odminid	
	user-phones	+ Search()	-department_id	- selvise achieve time	-
Staff_Phones	-c-user-id	+ deletel)	-depart-rame		313
- stall id	- phae_ro	+update()	-admin-id		
	-odmin_id	*	-admin.action-time	therall)	10
- phone-no	-admin_action-time	driver_prores	+ Add () + ddetel)	tsench()	
-admin-id	+ AJ&C)	-driver-id	+ stought) + update		
- admin-action-time	+ showall ()	- phone no - odmin-id comin action the	+ Search()		
+ ADD ()		1000			
sharall ()	+update()	+ showall() + uporte() + delete()			
Sorch ()	+ detect	+ delete() + Search()			

kkkk) State Chart Diagram:



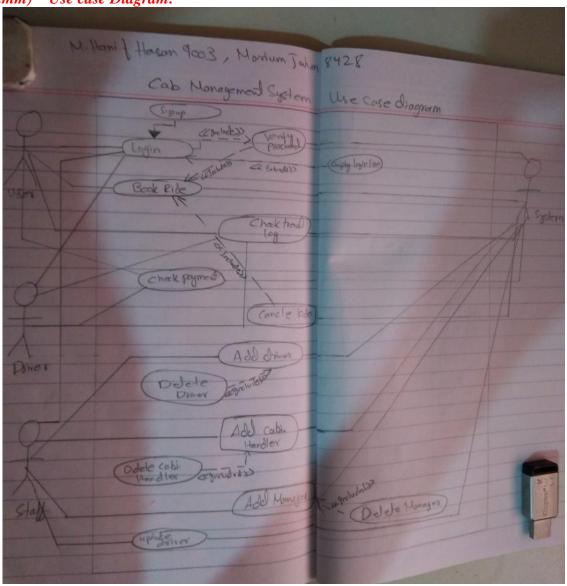
# **3.1.6 Module 11 complete CRUD** Departments

j) *Description:* This modules Add,update,delete Departments.

## 1111) Usage Scenario/ Use case Description/ Specification:

Description	[ make   drop   view   update] to the
	Departments Table
Inputs	Department_name,Department_discription
Source	21. The Module admin sets a
	Departments up
	22. Press Button
<b>Alternate Case</b>	
Outputs	Added   Deleted   Viewed   Modified
	Departments
Precondition	If logedin via Module admin.
Description	[ make   drop   view   update] to the
	Departments Table

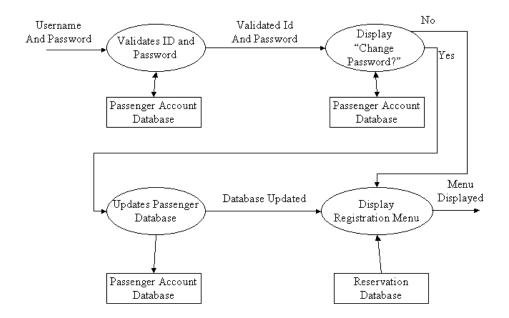
mmmm) Use case Diagram:



nnnn) Use case Realization:

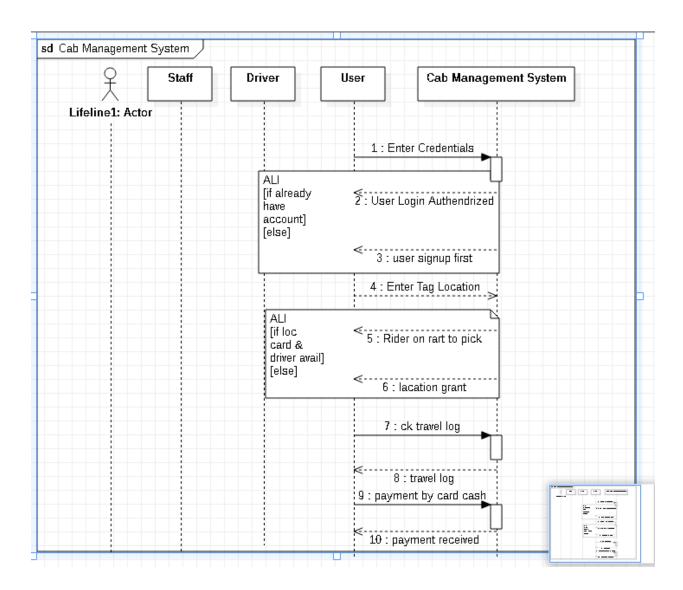
The realization was not needed.

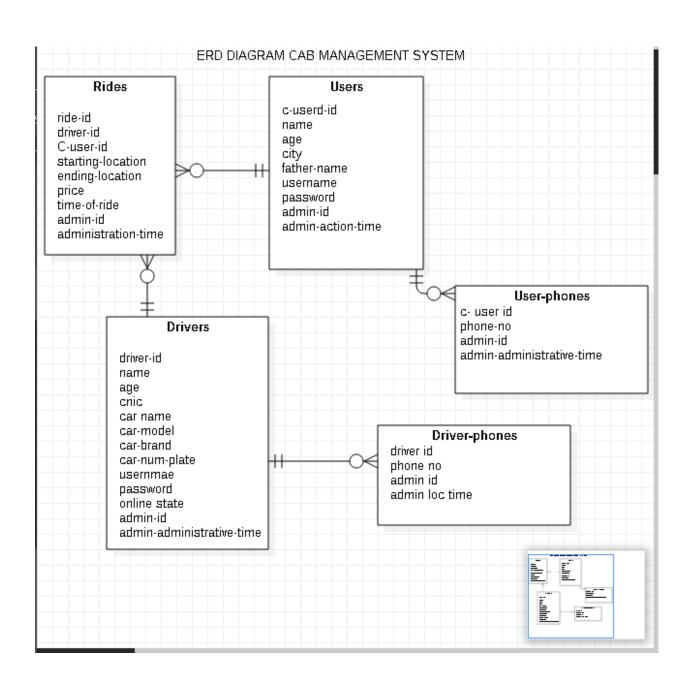
oooo) Flow of Event or Data Flow Diagram:



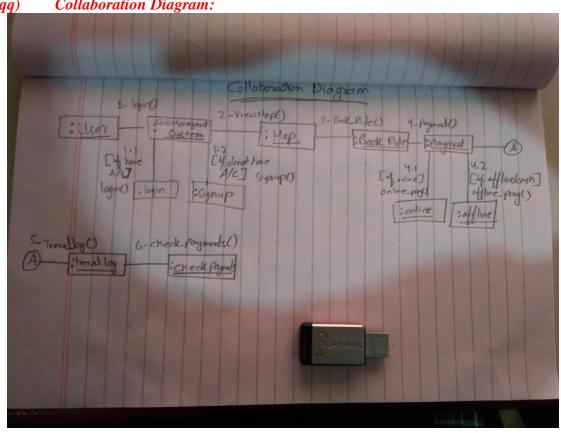
pppp) Sequence Diagram:

pp) Sequence Diagram:			
M. Harif Hoson good Morrium Jahan 8428 Seque	enre Diagra	m	
0	Cab Mara	gement	System.
Salf	Dather Us	ey	Cap Narayard Cyclen
	1	enters	executives.
	Att ) Lifatsepay rave Mc	Wer lagin	Adherdredal
	[else]	Vier	signup first
		ENTE	Togolación
	[if leader range and all of the same sales]		on Pattopal
	[el(e]	Lecation Inat	d/Imor not and be
		Check Troad log into	Treval log
		Paymat	by and/cash Received

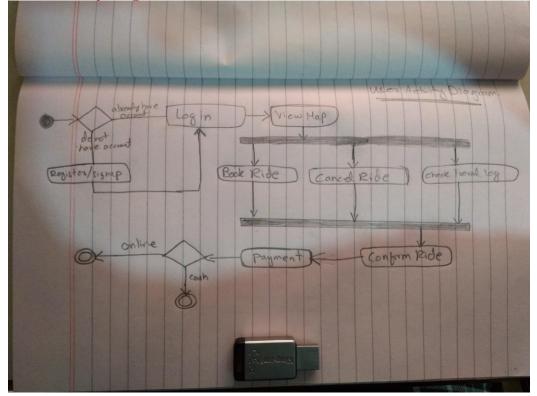




Collaboration Diagram: **qqqq**)



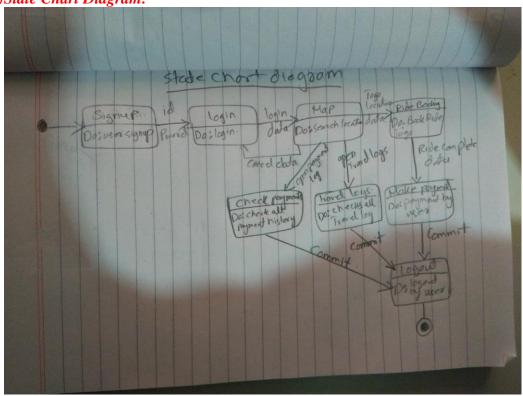
Activity Diagram: rrrr)



ssss) Class Diagram:

			ian) M. Hanif Hosa	n 9003, Marium	n Jahan 242
110			1		
Staff	users K	drivers			
Staff of	-Cusorid	-dinerio	rides	emplay caloring	
rame	- name	-name	-niejd -dnorid	-mplay-id	Tob-THE
- city	- age	-age	-cuse-id	-amount	-Job_id
Bi-doi-	-city	-cnic	- Storty-locaten	- Ode- of - Pring	- Job-title
- department-id	-father-rome	-CON_rame	- Greling - location	-marsh-pt-subsy	- Salary
wername	- werrome	-Car_mod	- price	-admin-active-time	- admin ochum
Puord	-pword	-car_brand	- time-af-rice	todel	+488 ()
admir_id	-admin_id	-Cax number place	-admin-id	+ Oddel)	+update()
-odmin-oction-time	-admin acton	- wername	-admin action-time	+update()	+ ddete ()
- add()	+000()	- Pword	+ add ()		
Showall()	+ Shavall()	-online_stadus	t update ()	expenses	+Serich()
+ Search()	+ Search()	-admin_id	+ ddete()	- organize id	
+ update()	+ update()	- admin_action_time	+ Search () + Showall()	-exp-decipion	
+ dete()	+ddele()	+add()	1+ Shapase	- Cost	
-	4	+ showall)	departments.	-exp side	
	user-phones	+ Search()	-department_id	- odminid	-
staff_Phones	-c_wer_id	+ deletel)	-depart-name	+140()	
	- phae_ro	+update()	-admin_id	rugidel)	
- Stalf-id	-odmin_id	*	-admin-adien-time	k detect)	
- phone-no	-admin_action_time	Ormer_prores	+ Add () + Odet e()	therall)	
-admin-id	+ 4000	-driver-id	+ stowall) + wedate		-
- admin_actor_time	+ showall ()	- phone no - odmin-id - odmin-oction-time	+ Serich()		
+ ADD ()	+ spende()	1. 2001	100		
tshovall()	+ detect	1 showall			
+sorch()	+ Search O	+ delete(). + Search()			

tttt)State Chart Diagram:



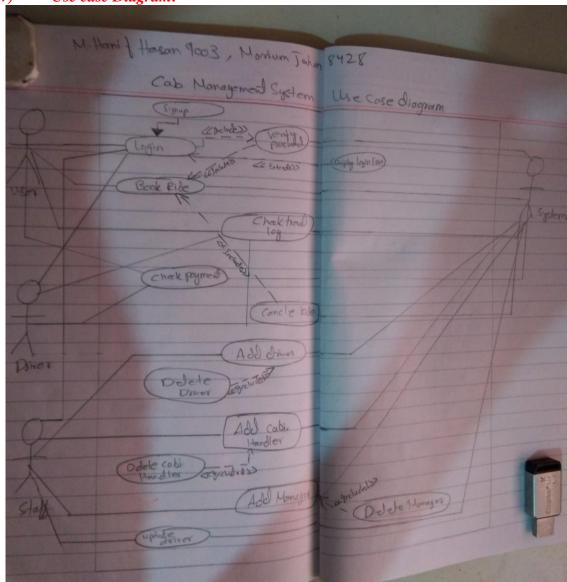
# **3.1.6 Module 12 complete CRUD** Expenses

k) **Description:** This modules Add, update, delete Expenses.

# uuuu) Usage Scenario/ Use case Description/ Specification:

Description	[ make   drop   view   update] to the
	Expenses Table
Inputs	Expense_name, Expense_ammount
Source	23. The Module admin sets a Expenses
	up
	24. Press Button
<b>Alternate Case</b>	
Outputs	Added   Deleted   Viewed   Modified
	Expenses
Precondition	If logedin via Module admin.
Description	[ make   drop   view   update] to the
	Expenses Table

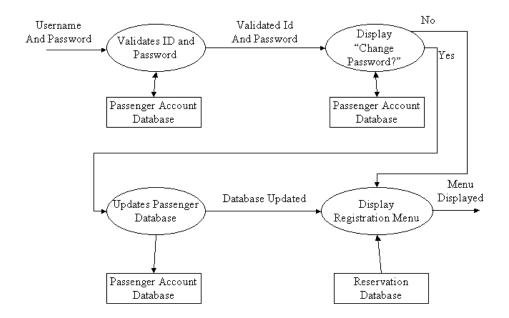
vvvv) Use case Diagram:



wwww) Use case Realization:

The realization was not needed.

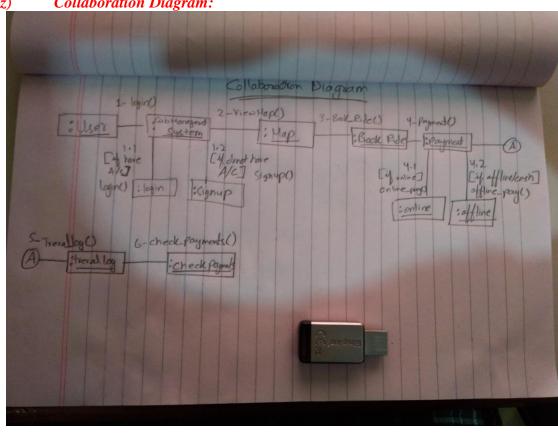
## xxxx) Flow of Event or Data Flow Diagram:



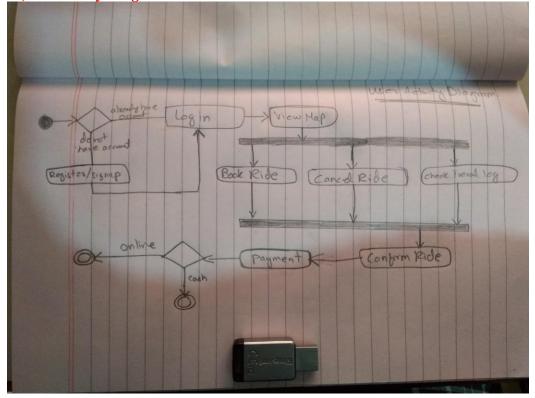
yyy<u>y</u>) Sequence Diagram:

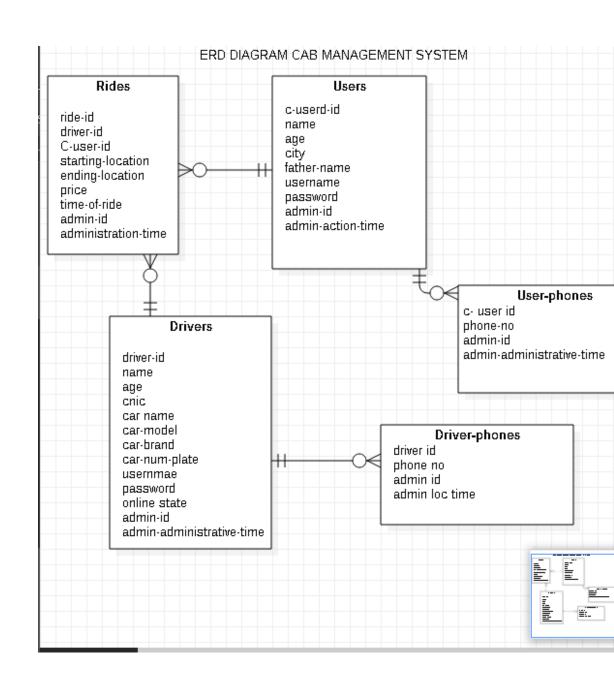
(y) Sequence Diagran			
M. Harit Hosen good Mossium Jahan 8428 See	quence Dipara	W)	
	Cab Mara	gement	System.
Stall	Driver U	ey	
1		1	Cab Narosand System
		- Emes	, 11
	Ati) [i] atsendy nave Alc]	luer lagin	Adheroredal
	[else]	Vier	signup first
		Enter	Togola Ston
	ALT) [4] location	Rider	on Pattopal
	raid and war	lecation Inat	id Aner not awilde
		Check Troad log into	Treval log
			by and/cash
		Faymed	Received.
3			

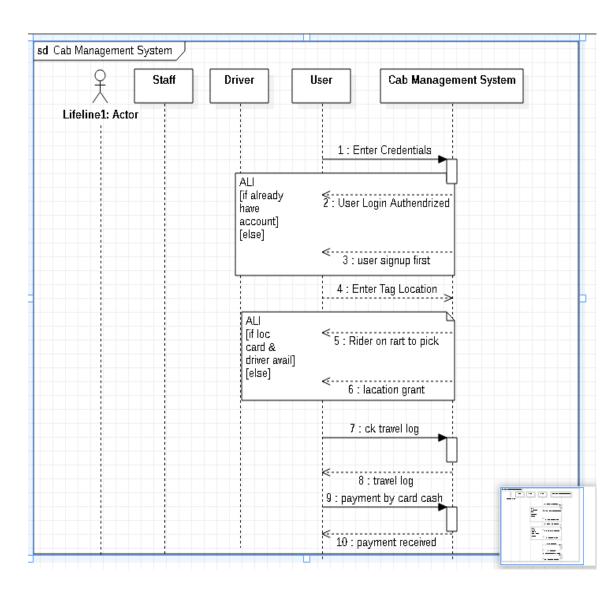
Collaboration Diagram: zzzz)



aaaaa) Activity Diagram:



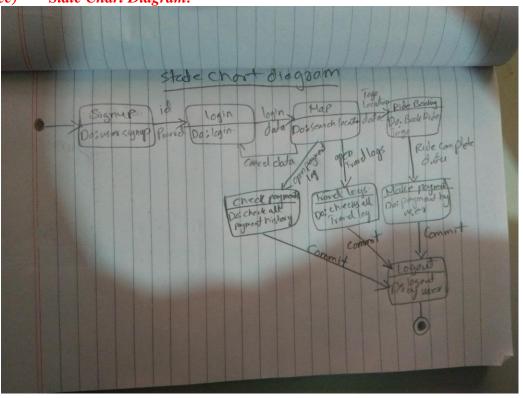




bbbbb) Class Diagram:

1			(an) M. Hanif Haca	n 9003, Marium	n Jahan pune
Statt	wers K	drivens		_, _	
staff w	-C-user-id	-dinoria	rides	emplay coloride	
rame	- name	-name	-nidejd	-omploy-id	Tob_THE
city	-age	-age	-dnor-id	-amount	-Job_id
Bi-doi	-city	-cnie	- storty-locaten	- dele-of-paging	- Job-title
department-id	-father name	-Con-rame	- Greling - location	-many -pt-subry	- Salary
utername	- werrome	- Car_mod	- Price	-admin-action-time	- admin action
Pword	-pword	-car_brand	-time-af-ride	tode()	+ASS ()
admir_id	-admin_id	-Carnumber place	-admin-id	+ Oddel)	+update()
odmo-oction time	-admin oden	- wername	-admin action-time	+update()	+ ddete ()
add()	+0000	- Purd	+ add ()		
Showall()	+ Shavall()	-online_stadius	tupdate ()	expenses	+ Serich()
Search()	+ Search()	-admin_id	+ ddete()	- exprese id	
update()	+ update()	- admin_cachion_time	+ Search () + Shavall()	-exp-dusipher	
+ delete()	+ddele()	+add()		- Cost - exp side	
•	+	+ showall()	departments.	- odminid	
	luger-phones	+ Search()	-depostment_id	- separation has	-
Staff_Phones	-c-wer-id	+ deletel)	- de part-rame		217
Stall id	- phae_ro	+update()	-admin-id		
phone-no	-odmin-id	•	-admin-ader-time	totelett Wordt	
admin-id	-admin_action-time	Omei-prores	+ delete()	tsement)	
- admin_actor_time	+ 4000	-driver-id	+ stowall) + update + Search()		
ADD ()	+ showall ()	- phone no - odmin-id - odmin-action time	Sendie		
Sharall ()	+update()	+ adl ()	1		
sorch()	+dddeco	- Lete()			
uplate()	+ Search()	+ Search ()			

ccccc) State Chart Diagram:

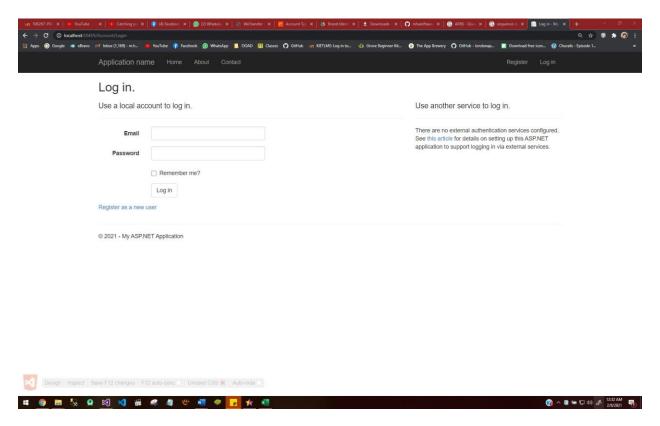


## 3.2. External Interface Requirements

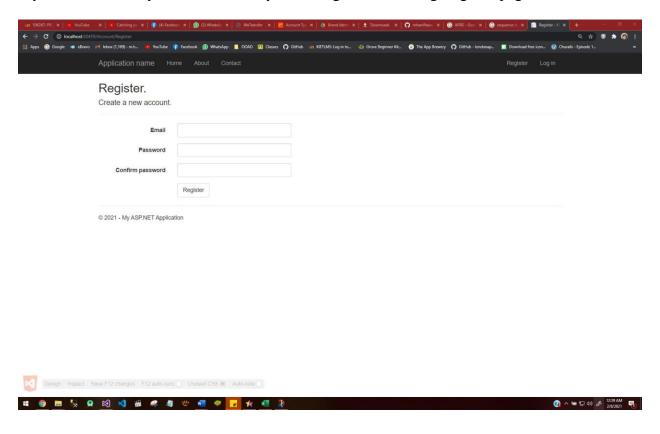
## 3.2.1 User Interfaces

Login Page:

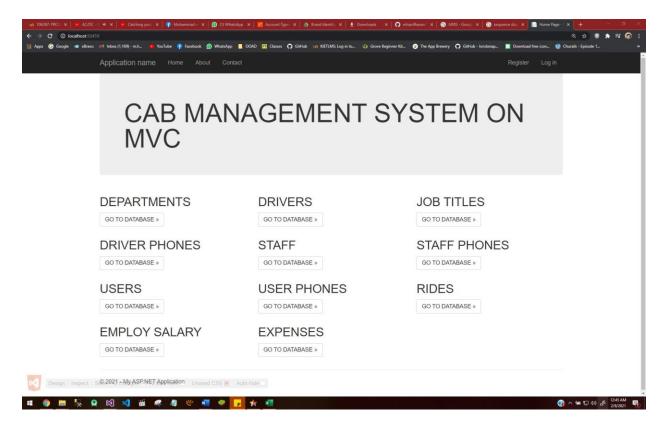
Signs in the appropriate admins for the different modules.



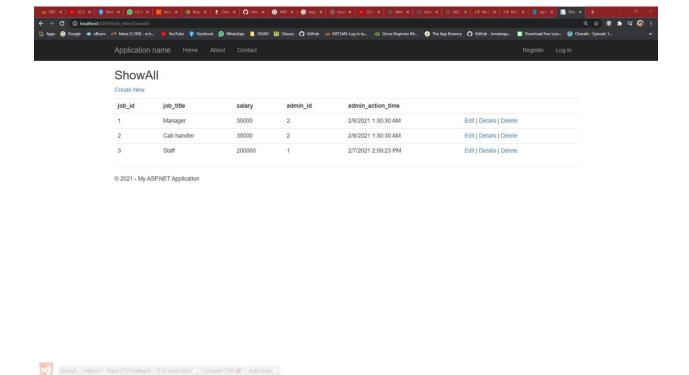
If you don't have any Admin Account you can register here using Register page:



Once you login via a modile admin account you end up in the module show All page it changes according to the type of module admin :



The appropriate admin can perform CRUD functions on each module:



#### 3.2.2 Hardware Interfaces

The ARRS includes two major hardware components: cellular phones and regular PC's. The cell phones require WAP (wireless application protocol) network protocol, which is already programmed in the latest phones.

(7) ^ 9 // (4) d 2/8/2021 €2

The second component involves the regular PC's, which communicate with the server. The server then communicates with the database. The protocol involved between the PC's and the server is the HTTP protocol, which allows communication between the PC's and the Server. The remote PC's, such as someone accessing the ARRS from home using the Internet, are able access the information through the CGI. The requests come in through the HTTP protocol, and using an ODBC the database results are returned and processed using Perl to give an HTML web page. The format of the output is displayed as web pages.

#### 3.2.3 Software Interfaces

An Sql Server DBMS will be used to manage the database and any changes made to it. Furthermore, the DBMS will make regular backups of the database and generate reports regularly so that they can be accessed by the CMS. the server will run on Somee.com. Furthermore, the HTML pages must be implemented such that they can be displayed on two common browsers: Netscape and Google Chrome.

Information about the products used for the CMS:

(1) Name: Sql Server
 (2) Mnemonic: Sql Server
 (3) Version Number: ?
 (4) Source: Sql Server

(1) Name: Somee.com(2) Mnemonic: Somee.com(3) Version Number: ?(4) Source: Online

(1) Name: Google Chrome(2) Mnemonic: Chrome(3) Version Number: ?(4) Source: Google

### **3.3 Performance Requirements**

The following sections list the performance requirements for the system.

## **3.3.1** User Requirements

<b>User Requirements</b>	Description of Requirement For
_	Design Environment
Location(s) and Number(s) of Users	Guangzhou, Nanjing, Shanghai
Expected Growth in Number of Users	
After 1 Year	50%
After 2 Years	TBD
After 3 Years	TBD
User Expectation	
Interactivity	User expect that it provides a very
	easy to use graphical user interface
Reliability	For some applications, reliability
	must be 100% during the application
	session
Adaptability	Network must adapt to user additions,
	deletions and changes
Security	Encryption software would be used
	for Credit Card transactions
Cost / Funding	Less than \$250K

### 3.3.2 Application Requirements

Since no specified service is indicated, then we have listed the applications as best – efforts. This may change as we learn more about the application.

The communication package is determined to be bursty in nature, with small data sizes and frequent transmissions. We can consider this application to be interactive-burst, while the database transaction-processing application is described by the CRM as transferring large amounts of data (initial estimates are 1 MB/transaction), we have listed this application as interactive-bulk.

Categorizing	Best-Efforts	Application
Applications	Dest-Efforts	Locations
Communication	100 Kb/s	Guangzhou and Nanjing
Database Access	400 Kb/s	All Locations
Database Transaction processing	1.5 Mb/s	All Locations

## 3.3.3 Host Requirements

	Type of Host	Numbers and
	or	Locations
	Equipment	
Host A	PC	Guangzhou (10), Nanjing(7), Shanghai(10)
Host B	Database	Shanghai
	Server	
Host C	Application	Nanjing
	Server	

#### 3.4.1 Standards Compliance

There are no design constraints that can be imposed by other standards limitations.

#### **3.4.2 Software Limitations**

- must be able to run Internet Explorer or Netscape Communicator web browsers to access the system.
- must have cell-phone web based capability to access the system from a mobile phone.

#### 3.4.3 Hardware Limitations

- Input/Output: One or two-button mouse, keyboard, cell-phone, or touch screen required.
- Network card required at thin-client terminals to make communication with server possible.

#### 3.5 Quality Characteristics

There are a number of quality characteristics that apply to the ARRS software system.

#### 3.5.1 Portability

The ARRS system will be developed using HTML and Java so that it can be accessed from any type of system using just a regular web browser. It will also be

available to users that have web access on their cellular phones. The system will be tested on all types of hardware before being released to ensure that is it compliant with this requirement.

#### 3.5.2 Reliability

The system should be capable of processing a given number of reservations within a give time frame with no errors and the system should be available and operational all the time. During the development of the prototype for the 3 cities, the system will be tested in its actual environment to ensure that it can handle the load of reservations that occur during a regular workday.

#### 3.5.3 Usability

The ARRS system will be developed so that it is an easy to use system that requires the least amount of user input possible. Every input will be validated. The user should only have general computer use knowledge. Error messages will be displayed if the user enters an invalid value or tries to access a function without the required permissions. An easy and well-structured user manual will be provided to the CRM and the system will include descriptive help for all operations allowed.

#### 3.5.4 Correctness

The ARRS system will be considered correct when the CRM approves the prototype presented and agrees that all the functions they require are implemented as stated in the Software Requirements Specification.

#### 3.5.5 Flexibility

The ARRS system should be developed in such a way that it is easily customizable. If new functions are required by CRM, there will be little effort required to update the system to support new cities or new transactions.

### 3.5.6 Security

The ARRS system should not compromise the customer information at any time. The user information will never be sold to other parties and will be kept secure at all times. Users will be authenticated to ensure that no unauthorized users gain access to private information.

#### 3.5.7 Maintainability

The ARRS source code will be kept well structure and documented so that it is easier to maintain and extend the system. All changes to the system shall be documented.

### **3.6 Other Requirements**

Certain requirements may, due to the nature of the software, the user organization, etc., be placed in separate categories such as those below.

#### 3.6.1 Data Base

The Automate Railway Reservation System will have two main databases. One is the Reservation Database, and another is the Passenger Account Database. These database will be created with Oracle8i (Client/Server) version 8.1.6.0.0 Release 2. The following are the requirements for these databases that are to be developed as part of the product. They include:

#### **Reservation Database**

Types of information	Schedule information for the trains, including date, time, departure city, destination city, ticket cost and ticket availability for a particular train
Frequency of use	Depends on the passenger demand, which may reach 25,000 per day during peak periods
Accessing capabilities	The database should allow access to at least 1,000 people at once; the users will have a general access to the information about the train schedule, and a secure access to the reports (available only to CRM officials) using a username and a password
Data element and file descriptions	To be determined
Relationship of data elements, records and files	To be determined
Static and dynamic organization	To be determined
Retention requirements for data	Train schedule information will be available as long as the train for a particular route is in use and at least one year after the train has been cancelled. The reports information will be available at least for 5 years

### **Passenger Account Database**

Types of information	Passenger account information including their name, address, phone numbers, last reservations, balance owed, credit card number (if they paid by a credit card)
Frequency of use	Depends on the passenger demand, which may reach

	25,000 per day during peak periods
Accessing capabilities	The database should allow access to at least 500 people at once; the users will have a secure access to the database using a username and a password
Data element and file descriptions	To be determined
Relationship of data elements, records and files	To be determined
Static and dynamic organization	To be determined
Retention requirements for data	Passenger account will be available for as long as a passenger is using the account, and at least for 6 month since the passenger logged on last time.

### 3.6.2 Operations

The normal operations required by the user can be viewed as the following:

### <u>User-initiated Operations:</u>

These operations include the login operation, which is initiated by the users. Also, the process of becoming a new user is in this category. Building, changing, and viewing itineraries, as well as paying for the itinerary are all initiated by the users. The user initiates the report generation activity, as well as changing train schedules.

#### Interactive Operations and Unattended Operations:

The users initiate all the operations mentioned above, and almost all of them are somehow interactive. Displaying the train schedule is non-interactive. The report display is a non-interactive operation, although selecting the desired reports will require user input.

#### Data Processing Support Functions:

The user account data is used to create new accounts, as well as to validate user id's during login functions. For building itineraries, user input, user account data, and train schedule data are used, and processed. User data along with final results of user interaction (whether the user purchased a trip, number of tickets bought, etc.) are collected, and used for report generation purposes. Administrative users' inputs are collected in order to modify and present schedules.

### **Backup and Recovery Operations:**

Both databases used (passenger account database and reservations database) are production databases. The main operation used for the backup and recovery is Oracle's built-in cold backup, which is also known as the "archive mode". Depending on the customer's needs and budget, additional redundancy can be added using systems like RAID 5 and tape backup.\_

### 3.6.3 Site Adaptation Requirements

There are no site adaptation requirements for this project.

## 4. Supporting Information.

There is no supporting information required for this project.