

Project Part 2

CU Night Ride App

Summary:

CU Night Ride has become an essential service. A common complaint among students is that they had to wait long time in queue over phone – sweaty ears, mobile phone becomes hot etc.,. To tackle this we will extend this awesome service to the mobile platform. CU students and faculty will login using their IdentiKey and password to request rides.

Business Requirements

ID	Requirements	Topic Area	User	Priority
BR 1	Users can login using colorado.edu email ID and password	Authentication	Passenger	Critical

User Requirements

ID	Requirements	User	Priority
UR 1	As a passenger, I must be able to login and create a profile with Home address, phone number.	Passenger	Medium
UR 2	As a passenger, I must be able to provide details required for the ride.	Passenger	High
UR 3	As a passenger, I must be able to request a ride.	Passenger	Critical
UR 4	As a passenger, I must be able to view my ride history	Passenger	Low
UR 5	As a passenger, I must be able to accept/cancel a ride.	Passenger	Critical
UR 6	As a passenger, I must be able to check my wait list number.	Passenger	Medium
UR 7	As a passenger, I must be able to track my cab.	Passenger	Medium
UR 8	As a driver, I must be able to checkin and checkout	Driver	Medium

UR 9	As a driver, I must be able to view and accept passenger requests.	Driver	Critical
UR 10	As a driver, I must be able to view passenger details after accepting the ride request.	Driver	Critical
UR 11	As a driver, I must be able to view the locations of the passengers to be picked up in google maps.	Driver	Medium
UR 12	As a driver, I must be able to indicate that I dropped off a customer.	Driver	Critical
UR 13	As a passenger, I must be able to give feedback.	Passenger	Low

Functional Requirements

ID	REQUIREMENTS	AREA	PRIORITY
FR 01	Authenticate the user logging in.	Authentication	Critical
FR 02	Should be able to retrieve the profile when a user logs in.	Database	High
FR 03	If a user requests a cab and there are no cabs available, then the ETA should be displayed.	Display	High
FR 04	If the user agrees to wait for ETA amount of time, then a wait list number should be assigned to the user.	Database	Critical
FR 05	When a wait listed user is assigned a cab, then a notification will be sent to the user with an option to accept the ride or reject the ride.	Display	Critical
FR 06	System updates the waitlist number.	Database	Critical
FR 07	Set a timer of 5 minutes for the user to accept the ride once he/she is assigned a cab.	Database	Critical

FR 08	The system should be able to send notifications (app/email) to the user.	Database	Critical
FR 09	System should be able to tag people who are booking from same location and same/nearby destination area.	Database	Critical

Non-functional requirements

ID	REQUIREMENTS	AREA	PRIORITY
NFR 01	The app is compatible with Android devices with versions above Jelly Bean.	Compatibility	Medium
NFR 02	It takes 2 seconds for the system to retrieve the passenger history and display it to the user.	Reliability	High
NFR 03	The user passwords will be encrypted.	Security	Critical

USE CASE DOCUMENTATION

Use Case ID	UR1
Use Case Name	Create a customer profile
Description	As a passenger, I must be able to login and create a profile with Home address, and phone number

Actors	Passenger	
Pre-Conditions	Passenger should have valid Colorado account	
Post-Conditions	User email address, home address, phone number are stored to the database	
Frequency of Use	One time	
Flow of Events		
	Actor Action	System Response
	1. Passenger opens the app	App displays login screen
	2. Passenger enters email address and password	System validates the credentials and displays error if there is no match and displays next page
	3. Passenger enters home address and phone number and clicks next	System displays success message and moves to request page
Variations		
Notes and Issues		
Developer Notes		

Use Case ID	UR2			
Use Case Name	Enter ride details			
Description	As a passenger, I must be able to provide details required for the ride.			
Actors	Passenger			
Pre-Conditions	Passenger must be logged in with colorado.edu			
Post-Conditions	Passenger will be able to request a cab			
Frequency of Use	Very frequently since this is the initial step			
Flow of Events	<table><tr><td>Actor Action</td><td>System Response</td></tr></table>		Actor Action	System Response
Actor Action	System Response			

	1. Passenger logs in using colorado.edu ID	The system authenticates the user and displays the screen to request a ride.
	2. Passenger enters the details - time, number of people and enters the location (manually)	The system checks for the availability of the cabs and assigns a cab
Variations	2. Passenger enters the details – time, number of people and chooses the location from history.	
Notes and Issues		

Use Case ID	UR3					
Use Case Name	Request a cab					
Description	As a passenger, I must be able to request a ride.					
Actors	Passenger					
Pre-Conditions	Passenger must be logged in with <i>colorado.edu</i>					
Post-Conditions	Passenger will have a cab assigned to him or be assigned a wait list					
Frequency of Use	Very frequently since this is the intent of the app					
Flow of Events	<table><tr><th>Actor Action</th><th>System Response</th></tr><tr><td>1. Passenger logs in using colorado.edu ID</td><td>The system authenticates the user and displays the screen to request a ride or view history</td></tr></table>		Actor Action	System Response	1. Passenger logs in using colorado.edu ID	The system authenticates the user and displays the screen to request a ride or view history
Actor Action	System Response					
1. Passenger logs in using colorado.edu ID	The system authenticates the user and displays the screen to request a ride or view history					
Variations						
Notes and Issues						

Use Case ID	UR 4				
Use Case Name	View Ride history				
Description	As a passenger, I must be able to view ride history.				
Actors	Passenger				
Pre-Conditions	Passenger must be logged in with <i>colorado.edu</i>				
Post-Conditions	Passenger can view last 5 booking details				
Frequency of Use	Very frequently				
Flow of Events	<table border="1"> <thead> <tr> <th>Actor Action</th><th>System Response</th></tr> </thead> <tbody> <tr> <td>1. Passenger clicks view history</td><td>The system fetch last five ride history of passengers and displays it</td></tr> </tbody> </table>	Actor Action	System Response	1. Passenger clicks view history	The system fetch last five ride history of passengers and displays it
Actor Action	System Response				
1. Passenger clicks view history	The system fetch last five ride history of passengers and displays it				
Variations					
Notes and Issues					

Use Case ID	UR5
Use Case Name	Passenger accepting/cancelling a ride.
Description	As a passenger, I must be able to accept/cancel a ride.
Actors	Passenger
Pre-Conditions	Passenger should have booked the ride
Post-Conditions	System removes the ride data of passenger from the database if cancels the ride
Frequency of Use	One time

Flow of Events		
	Actor Action	System Response
	1. Passenger clicks accept ride button	System check for cab availability and displays waitlist information or confirmed details
	2.Passenger opens the app	System displays the current booked ride details (Driver details for confirmed ride) with accept and cancel ride button at below
Variations	3. Passenger clicks cancel ride button	System deletes the ride details of the user from the database and displays the success message and navigates to book ride page
	Passenger can cancel ride when ride is confirmed/waitlisted	
Notes and Issues		
Developer Notes		

Use Case ID	UR6	
Use Case Name	Passenger checking wait-list of current booking	
Description	As a passenger, I must be able to check my wait list number.	
Actors	Passenger	
Pre-Conditions	Passenger should have booked the ride	
Post-Conditions	Passenger should be displayed with wait-list number of current booking	
Frequency of Use	Multiple	
Flow of Events		
	Actor Action	System Response
	1.Passenger opens the app	System retrieves data from DB displays the current booking details dynamically (wait-list

		number, Estimated time of arrival - for wait-listed ride) and cancel ride button below
Variations		
Notes and Issues		
Developer Notes		

Use Case ID	UR7									
Use Case Name	Track cab									
Description	As a passenger, I must be able to track my cab									
Actors	Passenger									
Pre-Conditions	Passenger must have requested a cab and not be on the waitlist									
Post-Conditions	Passenger boards the cab									
Frequency of Use	Frequently since this is the intent of the app									
Flow of Events	<table><tr><th>Actor Action</th><th>System Response</th></tr><tr><td>1. Passenger logs in using colorado.edu ID</td><td>The system authenticates the user and displays the screen to request a ride.</td></tr><tr><td>2. Passenger enters the details - time, number of people and enters the location (<i>manually</i>)</td><td>The system checks for the availability of the cabs and assigns a cab</td></tr><tr><td>3. A map will be displayed with the passenger's cab highlighted</td><td></td></tr></table>		Actor Action	System Response	1. Passenger logs in using colorado.edu ID	The system authenticates the user and displays the screen to request a ride.	2. Passenger enters the details - time, number of people and enters the location (<i>manually</i>)	The system checks for the availability of the cabs and assigns a cab	3. A map will be displayed with the passenger's cab highlighted	
Actor Action	System Response									
1. Passenger logs in using colorado.edu ID	The system authenticates the user and displays the screen to request a ride.									
2. Passenger enters the details - time, number of people and enters the location (<i>manually</i>)	The system checks for the availability of the cabs and assigns a cab									
3. A map will be displayed with the passenger's cab highlighted										

Variations	
Notes and Issues	

Use Case ID	UR8	
Use Case Name	Driver can clock the hours	
Description	As a driver, I must be able to checkin and checkout	
Actors	Driver	
Pre-Conditions	Driver should have a valid driver profile	
Post-Conditions	Database should track clock in and clock out hours of driver	
Frequency of Use	Multiple	
Flow of Events		
	Actor Action	System Response
	1. Driver opens the app	App displays clock in screen
	2. Driver may accepts the current time as clock in hours	System should update database with check in hours and displays page where passenger pickup may be available
	3. After Driver completes all assigned jobs. He can navigate to clocking page where he can select clock out	System should update database with check out hours
Variations		
Notes and Issues		
Developer Notes		

Use Case ID	UR 9				
Use Case Name	Accept ride request				
Description	As a driver, I must be able to view and accept passenger requests.				
Actors	Driver				
Pre-Conditions	1. Passenger should have made a request and should have got a cab. 2. Driver accepting the request should be available to accept the ride.				
Post-Conditions	The driver accepts the request and views the passenger details.				
Frequency of Use	Every day				
Flow of Events	<table> <tr> <th>Actor Action</th><th>System Response</th></tr> <tr> <td>1. Driver clicks on 'accept request' button.</td><td>Passenger requests a cab and the system checks for the next available driver and notifies the driver about the new ride request</td></tr> </table>	Actor Action	System Response	1. Driver clicks on 'accept request' button.	Passenger requests a cab and the system checks for the next available driver and notifies the driver about the new ride request
Actor Action	System Response				
1. Driver clicks on 'accept request' button.	Passenger requests a cab and the system checks for the next available driver and notifies the driver about the new ride request				
Variations					
Notes and Issues					
Developer Notes					

Use Case ID	UR 10
Use Case Name	View passenger details

Description	As a driver, I must be able to view passenger details after accepting the ride request.	
Actors	Driver	
Pre-Conditions	Driver should have accepted the ride request made by the passenger.	
Post-Conditions	Driver should be able to view the passenger details	
Frequency of Use	Every day	
Flow of Events		
	Actor Action	System Response
	1. Driver clicks on the ‘accept ride’ button.	System retrieves passenger information and displays it to the driver.
Variations		
Notes and Issues		
Developer Notes		

Use Case ID	UR 11
Use Case Name	View location of passengers in map.

Description	As a driver, I must be able to view the locations of the passengers to be picked up in google maps.					
Actors	Driver					
Pre-Conditions	Driver should have accepted the ride request made by the passenger.					
Post-Conditions	Driver should be able to view the location of passengers to pick them up.					
Frequency of Use	Every day					
Flow of Events						
	<table><tr><th>Actor Action</th><th>System Response</th></tr><tr><td>1. Driver clicks on the ‘accept ride’ button.</td><td>System retrieves passenger location from google maps.</td></tr></table>		Actor Action	System Response	1. Driver clicks on the ‘accept ride’ button.	System retrieves passenger location from google maps.
	Actor Action	System Response				
1. Driver clicks on the ‘accept ride’ button.	System retrieves passenger location from google maps.					
Variations						
Notes and Issues						
Developer Notes						

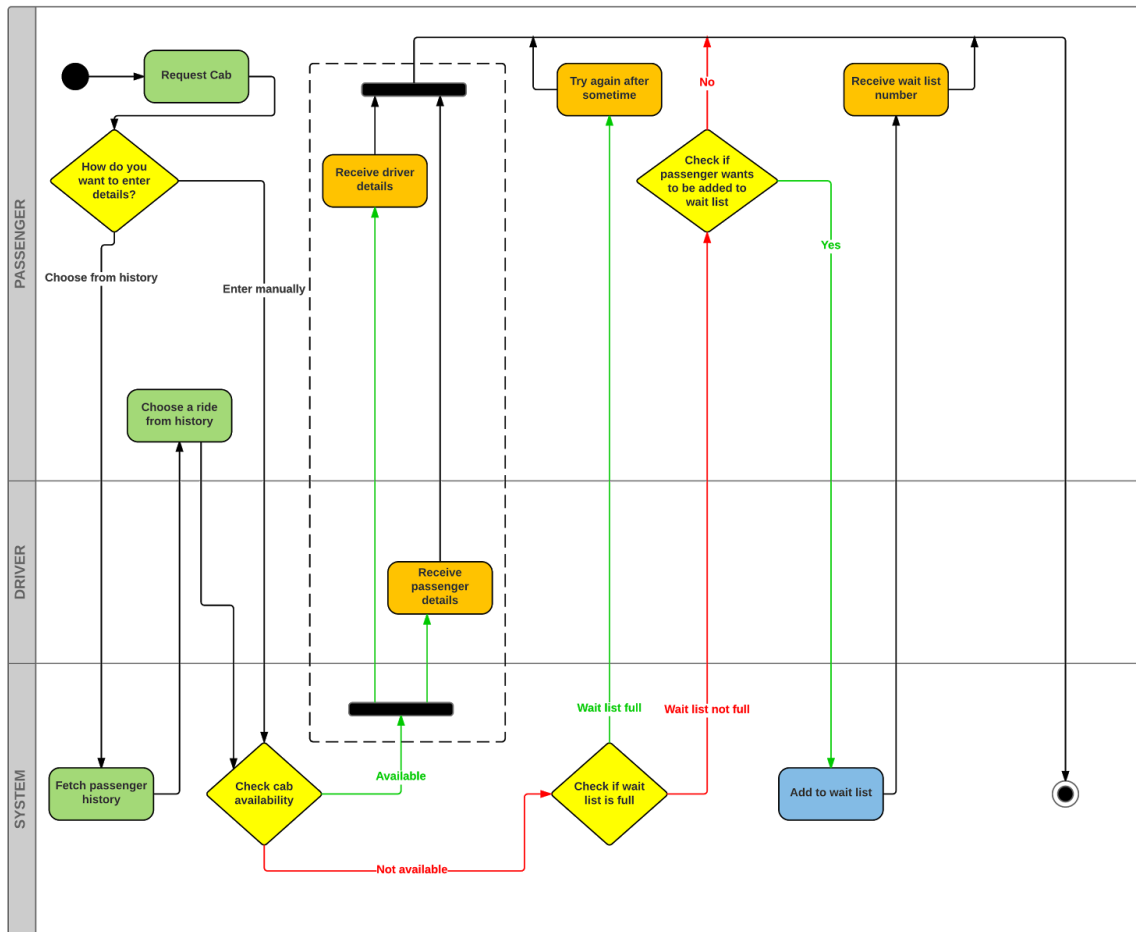
Use Case ID	UR 12
Use Case Name	Notify system that the picked up passengers were dropped.
Description	As a driver, I must be able to indicate that I dropped off a customer.
Actors	Driver
Pre-Conditions	Driver should have accepted the ride request.
Post-Conditions	Driver should have dropped off the passengers at their respective locations.
Frequency of Use	Every day

Flow of Events		
	Actor Action	System Response
	1. Driver clicks on 'finish ride' button.	System updates the database after driver drops off the passengers
Variations		
Notes and Issues		
Developer Notes		

Use Case ID	UR 13	
Use Case Name	Give feedback	
Description	As a passenger, I must be able to give feedback.	
Actors	Passenger	
Pre-Conditions	Passenger should have been dropped off at their respective location.	
Post-Conditions	Passenger should have submitted a feedback.	
Frequency of Use	Every day	
Flow of Events		
	Actor Action	System Response
	1. Passenger clicks on 'submit feedback' button.	System updates the database with the feedback details after driver drops off the passengers.

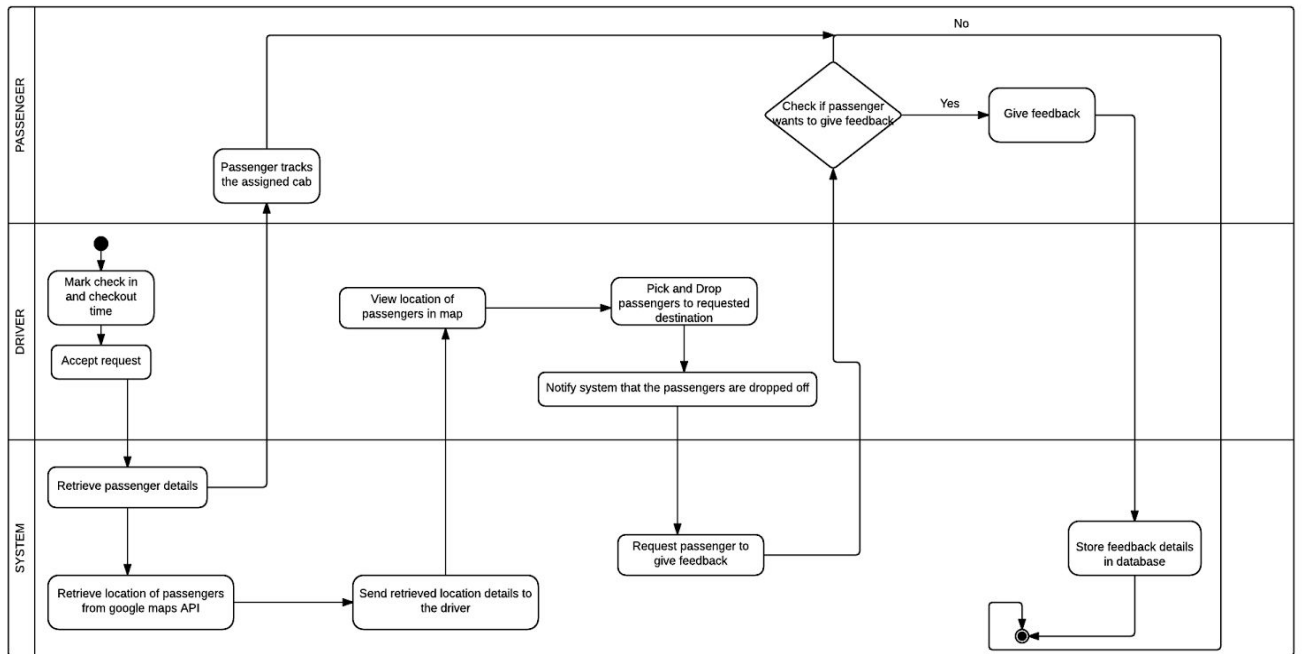
Variations	
Notes and Issues	
Developer Notes	

Use case diagrams: 1,2,3,4 - Vaishnavi
5,6,7,8,9 - Shyam
10,11,12,13 - Bharadwaj

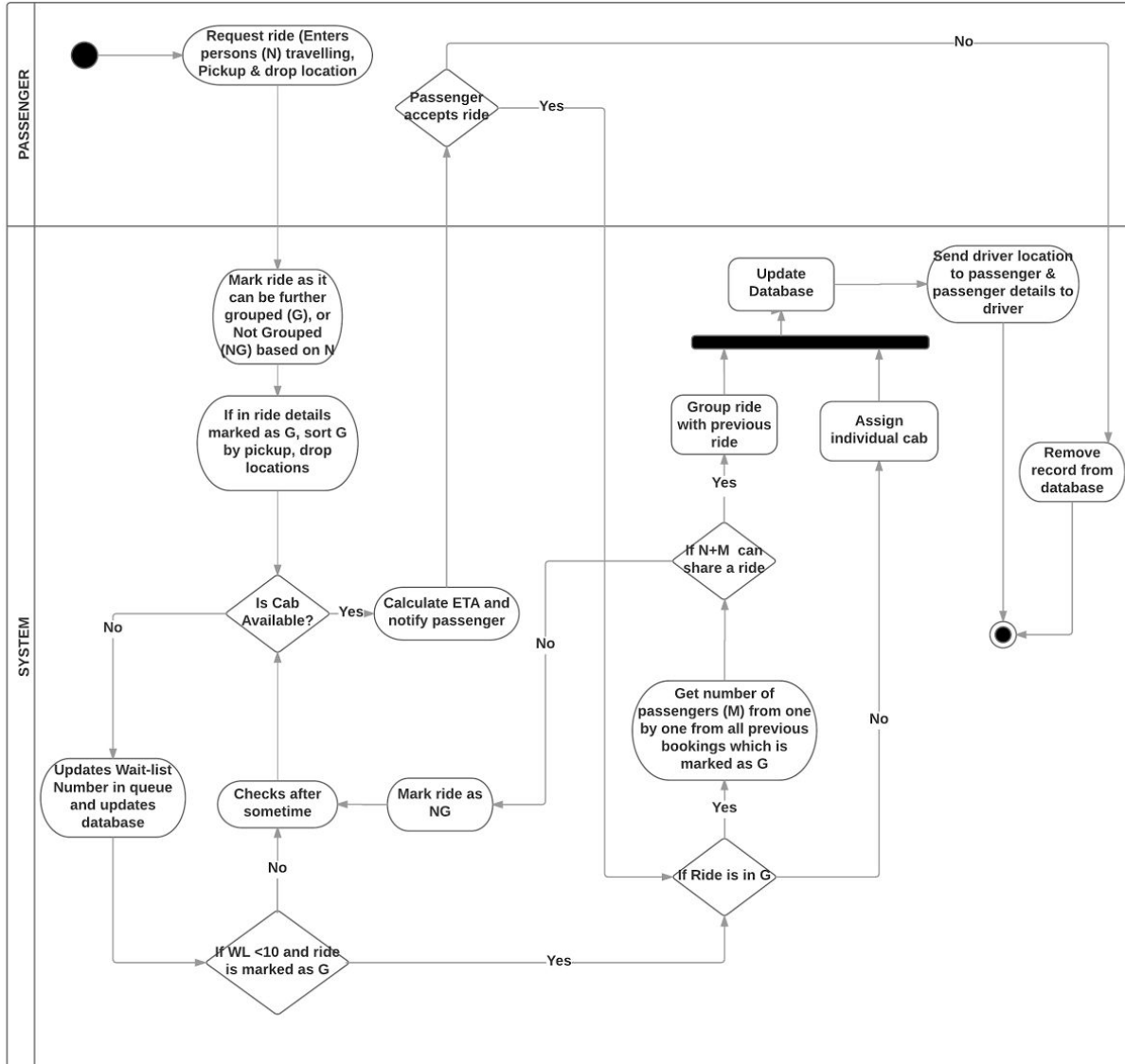


ACTION PERFORMED BY THE DRIVER

Student Name: Vaishnavi Viswanathan



**CAB ASSIGNMENT (GROUPING PASSENGERS,
ASSIGNING WAIT-LIST AND
ACCEPTING/CANCELLING RIDE)
USE CASE ID: UR5, UR6**



UI Mock-ups

Login Page

IdentiKey

Password

☒ Passenger ☐ Driver

☐ Admin

Landing Page

Please visit the web site
www.colorado.edu/umc/cunightride
to see the guidelines for
using CU Night Ride

RIDE HISTORY

From: Engineering Center
To: Glendale Apartments
Date: 02/02/2016

From: Engineering Center
To: Glendale Apartments
Date: 02/03/2016

From: Duane Physics
To: Glendale Apartments
Date: 02/04/2016

Show More

CURRENT RIDE DETAILS

From: Engineering Center
To: Newton Court
Time: 07:30 PM

TRA

REQUEST RIDE

TIME 07:00 PM

NUMBER OF PASSENGERS 1

LOCATIONS ☒ Enter manually
☐ From history

FROM: Engineering Center
TO: Glendale Apartments

REQUEST

TRIP HISTORY

From: Engineering Center
To: Glendale Apartments
Date: 02/02/2016

From: Engineering Center
To: Glendale Apartments
Date: 02/03/2016

From: Duane Physics
To: Glendale Apartments
Date: 02/04/2016

Show More

CURRENT TRIP DETAILS

From: Engineering Center
To: Newton Court
Time: 07:30 PM

TRA

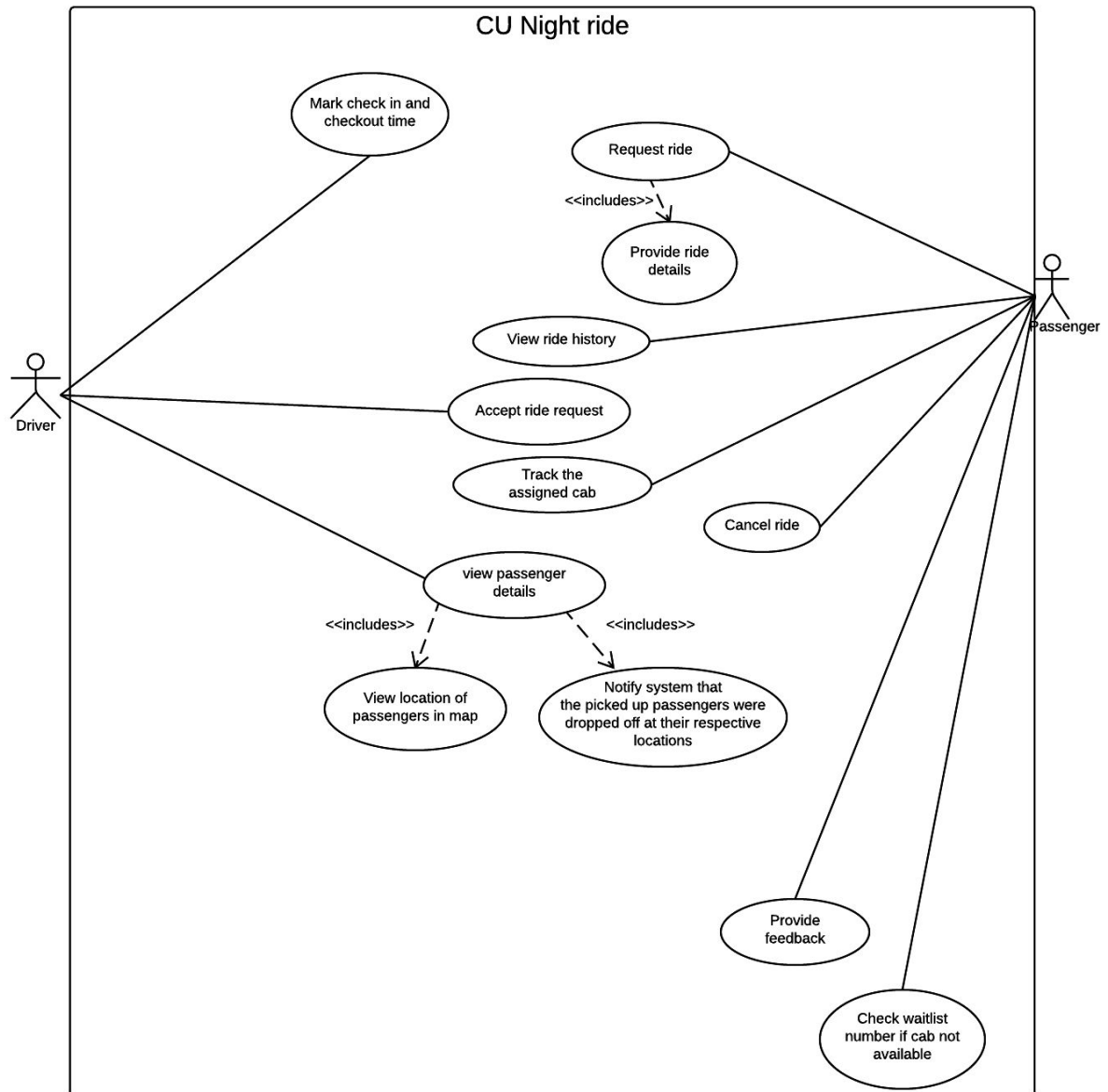
DRIVER'S LANDING PAGE

New Ride Request!

From: Engineering Center
To: Glendale Apartments
Time: 07:30 PM

Accept

Class diagram



Data Storage: SQLite

Class CUCentralController interacts with database for authentication and save user profile to database

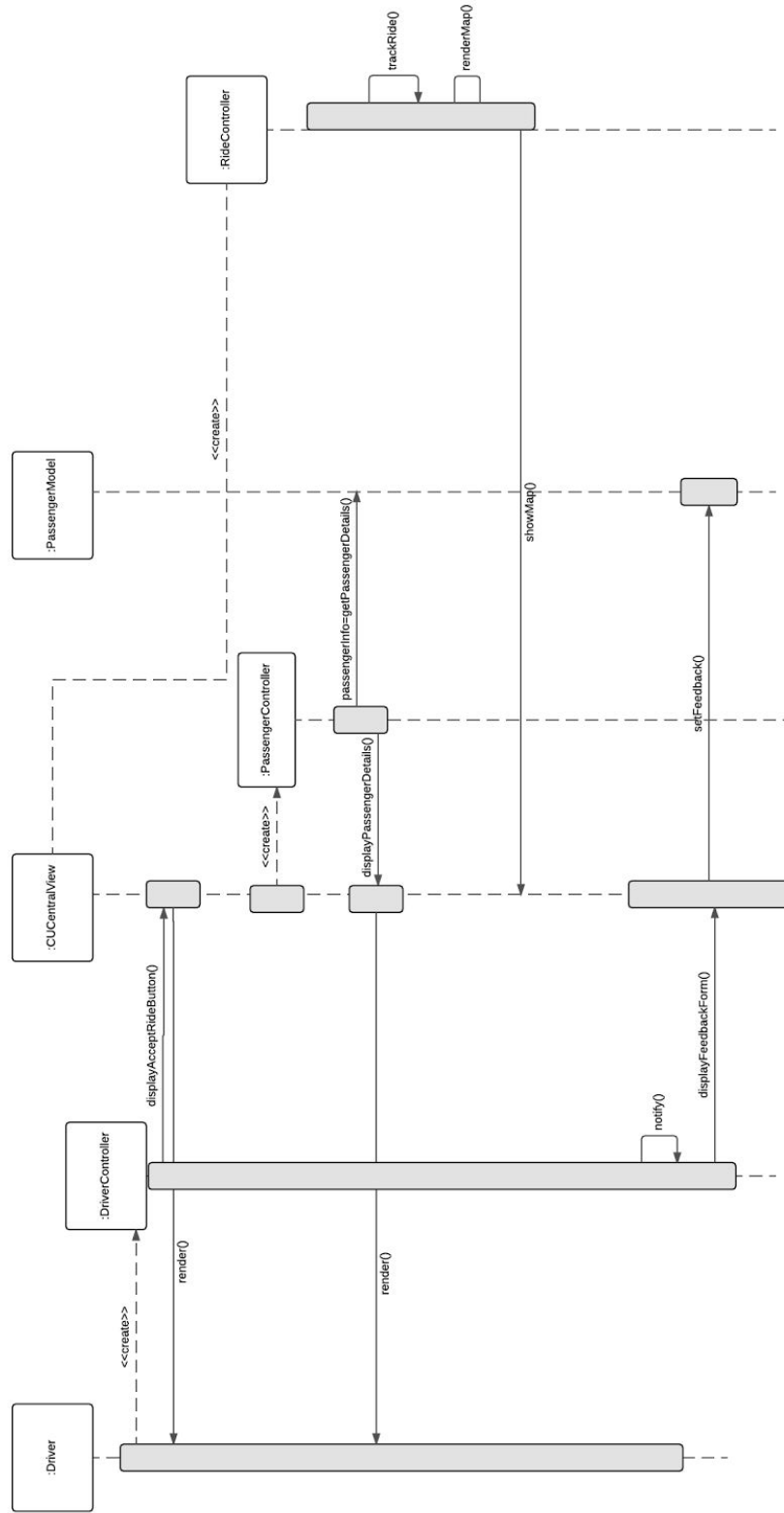
Class AdminModel sets the operating hours, wait-list of user request to database

Class DriverModel sets the driver profile, checkin, checkout hours of operation for each day to the database

Sequence diagrams

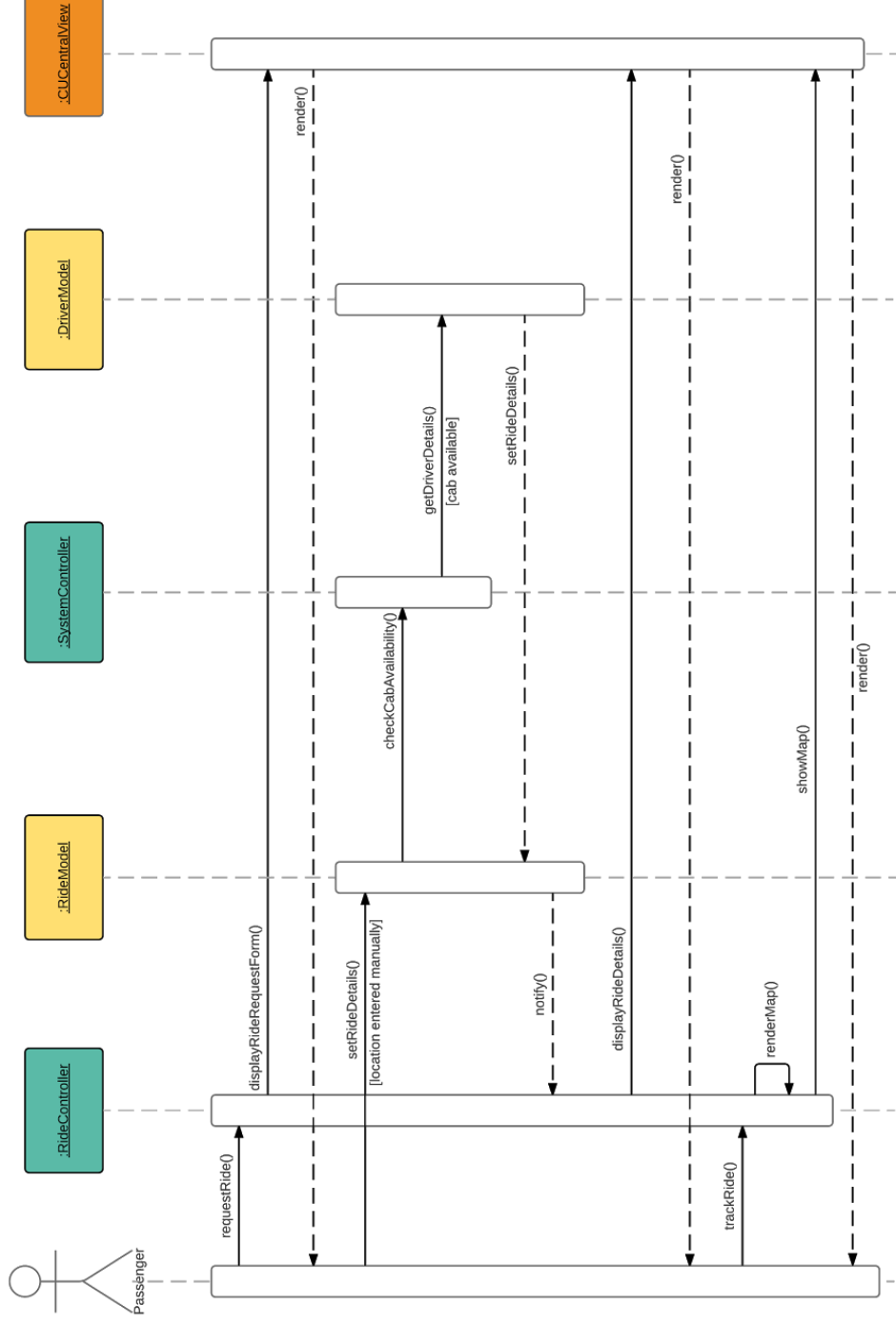
SEQUENCE DIAGRAM FOR USE CASE - VIEW PASSENGER DETAILS, PROVIDE FEEDBACK

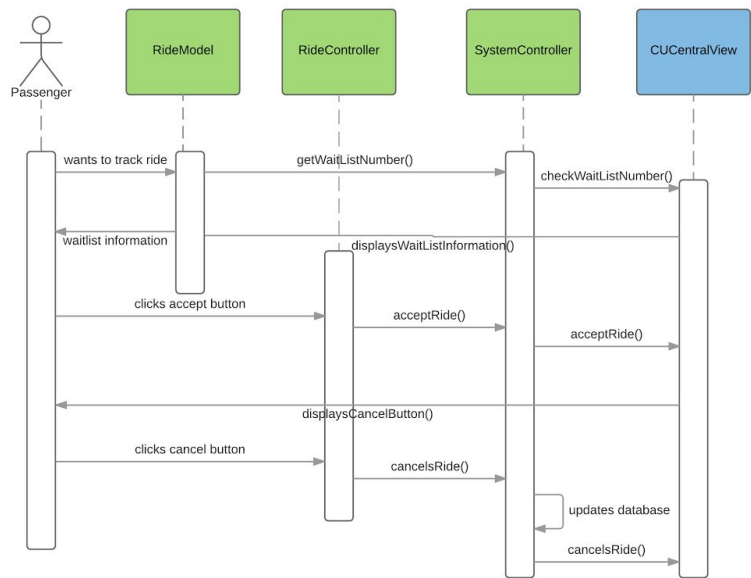
vaishnavi viswanathan



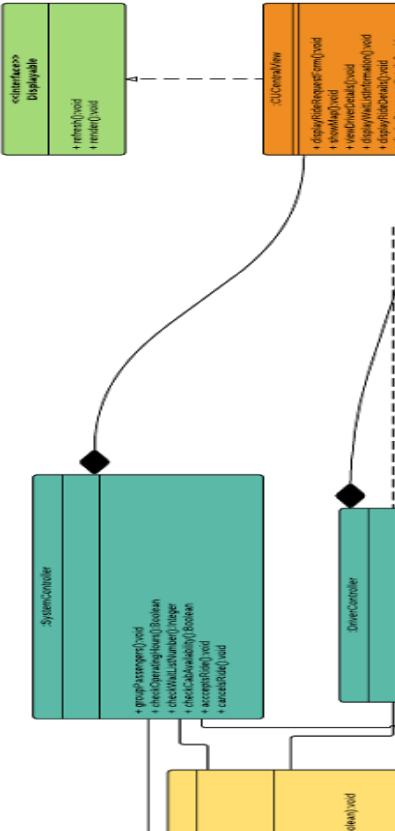
REQUESTING A CAB & TRACKING IT

Bharadwaj Thirumal





Class Diagram



Please look at the other PDFs in the github page for better views. Sorry for the inconvenience