

tec tec car



Save the environment · Meet new people · Get lifted

TEC TEC CAR - DELIVERABLE I
SOFTWARE ENGINEERING
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1. INTRODUCTION

The aim of this report is not only to provide an overview of our application: Tec Tec Car but also to explain all the information and characteristics our application will have. We will highly remark all its uses as well as its implementation process with the requirements listed in this document. In addition, the reach and possibilities of our application will be explained.

1.1 Purpose

The objective of Tec Tec Car is to offer Tecnun students an online and “immediate” platform where they can be part of a ridesharing community. We want to connect drivers and passengers willing to travel together between Tecnun and their houses and share the cost of the journey. Members must register and create a personal online profile, which includes ratings and reviews by other members as well as their personal information. So, we could briefly summarize that it is designed for short distances and geared toward students looking to fill empty seats during journeys they would have been making anyway. So, it could be understood as a favor chain.

1.2 Scope

The software will:

- Connect students willing to travel in car with students offering free places in their cars.
- Create access to all you planned journeys.
- Search for journeys: selecting the range of time and date.
- See opinions of drivers: users’ experiences with the drivers.
- Create a personal account and modify it.
- Have a calendar of the previous journeys you have established.

The software won’t:

- Offer the services to other members that do not belong to Tecnun.
- Offer the possibility to chat online.

1.3 Definitions, Acronyms, and Abbreviations

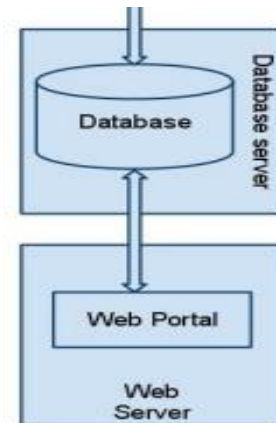
- **User:** Someone who interacts with the web application.
- **Administrator/Admin:** System administrator who is given specific permission for managing and controlling the system
- **Car owner:** Someone who has a car and could provide its transport services on the web.
- **Registered owner:** Someone that not only interacts with the web application but also has a personal account on it.

2. GENERAL DESCRIPTION

The aim of this section is to give an overview of our web page. The only condition that is in force is that only Tecnun students will have the opportunity to sign in it, so that the timetable is more suitable for the students.

2.1 Product Perspective

This system will only consist on a part: a web portal. It will be used to connect Tecnun students and facility them access of being part of an internal ridesharing community. The website will need to store the data somewhere as it is a data-centric product. In order to achieve it, our website will communicate with the database. In our concrete case, the portal will use the database to get, modify and add data. All of the database communication will go over the Internet.



2.2 Product Functions

With this application, students will have the opportunity to search for different drivers and see if they are going to come driving by another one or they can also introduce a route because they have a car and want to save money picking up people in different places from San Sebastian, establishing where the driver is going to do the different stops. For facilities, and because most students are living in San Sebastian, the application will be only available for people who live here.

People who are searching will have different timetables, prices, and stops, because they are established by the driver. That is to say, if more drivers are introducing their offers in the application, more possibilities the other students will have to choose the most economic route or the most convenient, depending on the time.

Each user will have within their account a link which gives to the place to see what they have reserve or in the case the person is offering a car, this person will see who are the people who have reserve his car. It's important to say that the application is valid for going from home to Tecnun or vice versa. I would also like to mention that people will also have the option to insert some comments, about their experience with each driver.

2.3 User Characteristics

As it is already mentioned, only Tecnun students will have the opportunity to navigate in this application. Concretely, in our application we can identify two different types of user: Tecnun students and administrator. Each of these two types

of users make a different use of the system. That is why each of them has their own requirements.

On the one hand, we have Tecnun students. In this case, the user is able to search for offered rides, propose a ride and to see his planned rides.

On the other hand, administrators as they are managing the overall system, their main function is to scan the application so there is no incorrect information within it. The administrator can manage the information for each commentary on the web as well as to verify personal information.

Another constraint is the capacity of our database. We want our application perform perfectly without needing to queue incoming requests. In addition, we do not want to have a high waiting time when fetching data.

2.4 General Constraints

The main constraint of our application will be the Internet connection. Since the application fetches data from the database over the Internet, it is crucial the existence of an Internet connection in order that the application performs correctly.

2.5 Assumptions and Dependencies

No specific assumption or dependencies.

3. SPECIFIC REQUIREMENTS

The aim of this part of the requirements document is to fully describe the whole system and its features. This section contains the functional and quality requirements that the system is going to have.

Welcome page

A first time user of the application should see a log-in interface when he or she opens the application for the first time. In that interface there are going to be two options to click on: a registration process and a log in process. The interface is going to look similar to *Figure 1*. Next lines explain each process and their requirements in a more detailed way.



Figure 1

Specific functional requirements – WELCOME INTERFACE	
<ul style="list-style-type: none"> - The user shall be able to log in in the application - The system shall support the logging of users - The initial page should contain at least a field for introducing the user name, another one to introduce the password and two buttons: log in, sign up - The password field shall be a secret field, which does display what the user types - The sign up button should redirect the user to the signing up interface - When a user presses the log in button, the system should send a request to the server and it should verify if the user name and the corresponding password are correct and send a reply on that basis - If the log in process is successful, the user must be redirected to the principal menu 	

- a) Registration process: It is a process which must be done when the user is a first time user. The only way to interact with the different interfaces and functionalities that the system offers is being registered. This condition has been defined in order to ensure users' privacy. The registration process consists in filling out some fields in a form which is shown on screen. The information is sent to the database just clicking on "create account". The following *Figure 2* shows a general idea of the registration process interface.



Figure 2

Specific functional requirements- REGISTRATION PROCESS
<ul style="list-style-type: none">- The system should allow only Tecnun Engineering students- The system shall check the structure of the email, as all the students' mails should have *@tecnun.es structure- The user must fill a form consisting in some fields- The password should meet some requirements regarding its characters (capital letters, number of characters...)- The information is sent to the database- When the user clicks on the "create account" button, he or she must be redirected to the welcome interface- The system should verify that all the compulsory fields have been filled

- b) Log in process: In case that the user is not a first time user, he or she should be able to log in in the welcome interface of the system, including the user name and the password. After that, the user will be redirected to the principal menu by submitting.

Specific functional requirements- LOGIN
<ul style="list-style-type: none">- The user introduces the user name and the password in the corresponding fields- Once the fields are fulfilled, the user clicks on the submit button and the system will verify if the user name and the corresponding password are correct- If everything is right, the system guides the user to the homepage of the application

Homepage

After having described the log in process, the user is going to interact with the principal menu interface. At this point, the user must select the function that he or she wants to run. For a correct and complete operation of the system, the different functions which the application should offer are:

- Modify your personal data, My Account
- Delete your account
- Insert your driver profile
- Insert your journey: to Tecnun or way back home
- See introduced journeys
- Search your journey
- Book your journey
- Show calendar
- Give your opinion
- Change password
- Insert comment
- Send message to a driver

- a) Modify your personal data - Delete your account: every user should be able to change his or her data on a profile page. This option should be accessible just clicking on *My Account*. This interface is going to look like *Figure 3*. The form which is going to be developed for that will have the next fields: current password, new password, change telephone number. Apart from that, the user will be able to delete the account if he or she does not want to use the application any more.



Figure 3

Specific functional requirements- MODIFICATION OF PERSONAL DATA

- The user clicks on "My Account" in order to modify his or her personal account data
- The system allows the user to change personal information and the password
- The user must fill different fields in order to change information
- To modify the password, the user must introduce first the older one and then write the new one
- The system will ask the user to repeat the modified password, and it will verify if these two fields are equal. If not, this process must be repeated by the user
- Besides, the system should verify that all the compulsory fields have been filled
- If this process is successful, the user must be redirected to the homepage with the new account data already modified

- b) Insert your driver profile: as it has been mentioned before, a user is going to be able to create a driver profile which is going to be visible for the other users when they click on a journey that has been offered by this person.

Specific functional requirements- INSERT YOUR DRIVER PROFILE

- The user has to create a driver profile, so that the users that are booking somebody's journey, they can see with whom they are going.
- These fields will be needed to complete: car model, personal data, acquisition, date of the driving license...



- c) Insert your journey: when a person becomes a user, he or she can play two different rolls in the system:
- Being a driver who offers journeys
 - Booking journeys which have been inserted by other people

The next lines sum up the inserting a journey process:

Specific functional requirements- INSERT YOUR JOURNEY	
-	The user will have to choose a neighborhood from San Sebastian.
-	Once this is done, the system should automatically show different meeting points from that area.
-	The user must complete other fields as departure, arriving time, price per person and number of seats offered
-	The Google maps application will be included there in order to see where are that meeting points and the distances which are more convenient for them.
-	Each meeting point will be represented by a pin too.

- d) See introduced journeys: from the principal menu, there is an option to go into a page which shows the introduced journeys. If the journey is modified or deleted, those people who have already booked the journey should be communicated by an email to their account. *Figure 5*, shows an approximation of how the interface is going to look like.



Figure 5

Specific functional requirements- SEE INTRODUCED JOURNEYS	
-	The user clicks in see introduced journeys in order to see what journeys have the user introduced.
-	For seen this, the only condition that the user needs is to have a car, and to have introduced a journey.
-	The user will also be able to delete the route that he or she has introduced, if finally, he can't put the car for that journey for a specific reason.

- e) Search a journey – See your agenda: every user should be able to search a journey to go to university or to go back home from university. This interface is going to be complemented with some search filters with the objective of making the search more efficient as it is going to show the information according to users' preferences. It is important to mention that the person who books a journey will have to go to the meeting point decided by the corresponding driver, this means that the driver will not pick up people in different meeting points during a journey.



Figure 6

Specific functional requirements- SEARCH A JOURNEY

- The user clicks on search a journey in order to see what car are available in his conditions
- The user must fill all the different fields in order to continue seeing the different possibilities. Unless the user does it, he or she won't be able to see the journeys.
- The user only need to include for fields because this is the quickly search.
- If this process is successful, the user must be directed to the different options that are available.

- f) Book a journey: when a user has selected a journey, the next step should be booking it. For that the system offers a specific interface. The application gives the chance of booking a journey not only for a single day but also for long periods of time, maximum one month. Once the journey has been booked, this should appear in the user's agenda.



Figure 7

Specific functional requirements - BOOK A JOURNEY	
	<ul style="list-style-type: none"> - The user clicks on book a journey in order to book the option that the user wants. - The user only needs to click in the field that for him or her is more convenient. - If this process is successful, the user must be directed to an interface where there can see his or her book realized.

- g) Give your opinion: there will be an interface which is going to be used to give opinion concerning drivers.

Specific functional requirements- GIVE YOUR OPINION	
	<ul style="list-style-type: none"> - There will be an interface in order to have the possibility to write about the driver with whom the user has gone. - Every user will be able to see different information about different drivers

- h) Change the password before logging: the application must have an option to change the password if the user does not remember it at the time of logging in.

Specific functional requirements- CHANGE THE PASSWORD BEFORE LOG IN	
	<ul style="list-style-type: none"> - The user must be registered in order to change the password before log in

- i) Insert comment: the application will allow you to rate from 1 to 5 and leave a comment about a driver. You will be asked to rate him/her from 1 to 5 and to select a driver that exists and is saved in a database.

Specific functional requirements- INSERT COMMENT	
	<ul style="list-style-type: none"> - To be able to insert a comment you must be logged in. - You also must have booked a lift with our application before. - The driver must exist in a database. - The field "rating" has to be filled up. - There's no need to write an opinion.

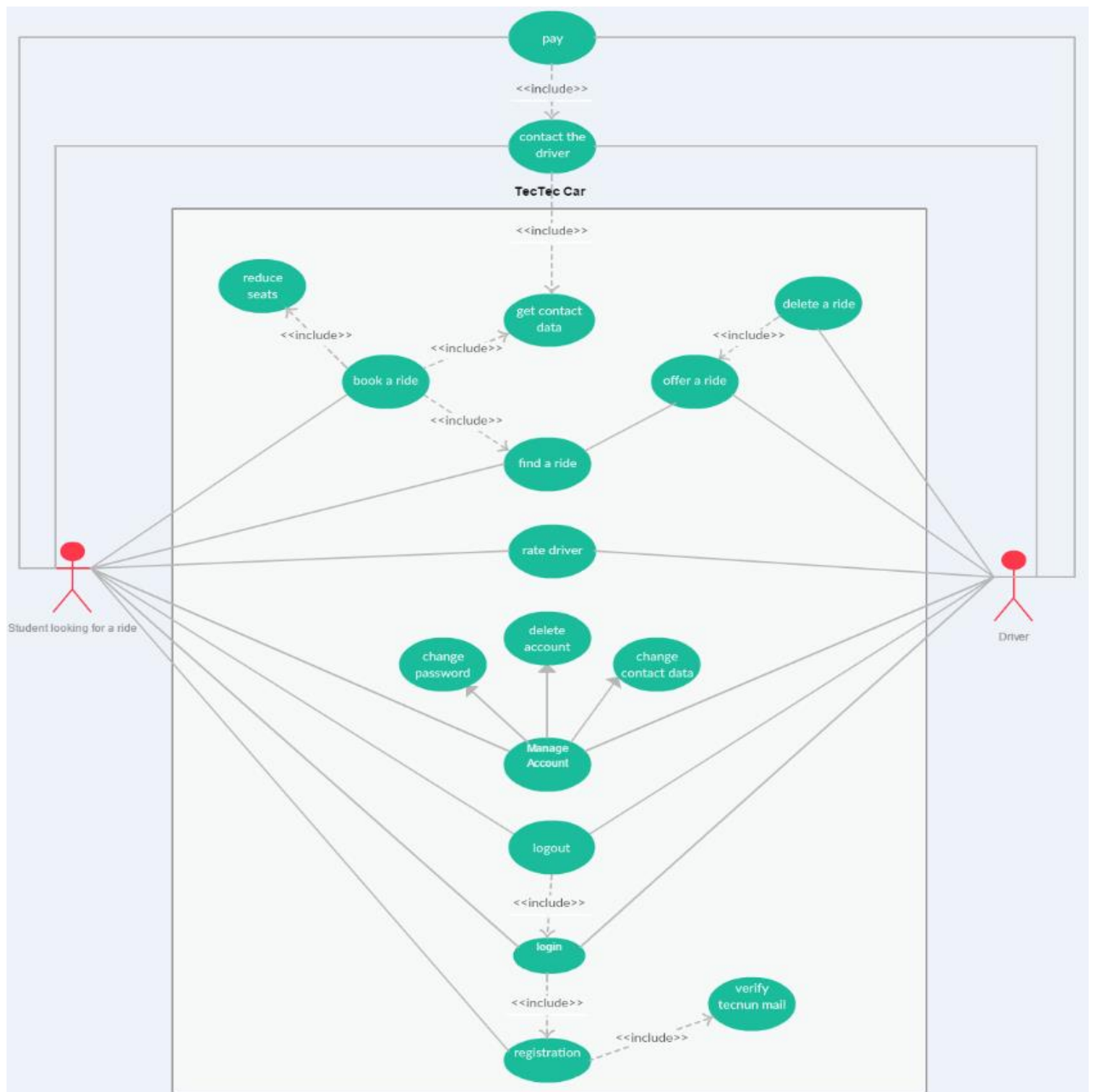
- j) Send message to a driver: this function enables the user to put in contact with the driver before and after a lift. This way, they can get to know each other, and also arrange how they are going to meet.

Specific functional requirements- SEND MESSAGE TO DRIVER	
	<ul style="list-style-type: none"> - The user needs to be logged in - It's also necessary to be book a lift to have the details of a driver - Once a lift is booked, the user will have access to the details of the driver he is going to travel with. - Then, the user decides if he/she wants to get in contact with the driver

4. FUNCTIONS

1. Log in – Asier Bengoetxea
2. Sign up – Asier Bengoetxea
3. Modification of personal account data
4. Change password – Asier Bengoetxea
5. Insert driver profile – Naiara Castro
6. Delete account (user/driver) – Asier Bengoetxea
7. Insert journey – Sara Odriozola
8. Search for a journey – Jorge Díaz de Alda
9. Search for a journey with filters - Jorge Díaz de Alda
10. Book a journey - Pius Ganter
11. Show a personal calendar – Sara Odriozola
12. Insert comment - Pablo Herrero
13. Send a message to the driver – Pablo Herrero
14. Represent possible routes in Google Maps – Naiara Castro
15. Log out – Asier Bengoetxea
16. Show ratings – Pablo Herrero
17. Receive a booking – Jorge Diaz de Alda
18. Cancel a journey – Pius Ganter
19. Update availability of a journey – Sara Odriozola

5. USE CASES



LOG IN FUNCTION

Use Case	Log in into the system in order to be able to interact with the different functions that the system includes
Descriptions	The user starts using the application by entering into the system introducing her or his user name and corresponding password
Actors	The actors of the log in function should be Tecnun students and also the administration service, who is in charge of managing the overall system
Steps	<ul style="list-style-type: none"> - The system provides an interface with 2 fields to be completed. - The user introduces his or her user name and the corresponding password. - After that the user clicks on a log in (submit) button. - This information will be sent and verified in the database. - If the information is correct, the principal menu will be shown to the user. If not, the system shows an error message.
Notes and issues	<p>The system should show possible users when a user inserts a letter. (E.g. If the user introduces an A, all the users whose name starts with A).</p> <p>The system should have a system that enables to change the password before logging in into the system.</p>

SIGN UP FUNCTION

Use Case	Signing up in the system enables to become a user of the application
Descriptions	A first time user registers his or her personal data in order to create an account that will be used to log in afterwards into the system
Actors	The actors of the signing up function should be Tecnun students
Steps	<ul style="list-style-type: none"> - A first time user opens the application's welcome interface and clicks on the button "sing up". - The user must fill a form including his or her personal data. - The information will be sent to the database and the first time user will become a user - The welcome interface will be shown again in order to log in
Notes and issues	Only Tecnun students will be allowed to sing in. The user name should be the Tecnun email

MODIFICATION OF PERSONAL ACCOUNT DATA	
Use Case	Modification of my personal account profile. It enables to change some data included in the personal profile.
Descriptions	The function allows the user to change his or her personal information which has been saved until the moment in the database.
Actors	This function is supposed to be used by any user of the system who has gone through the log in process
Steps	<ul style="list-style-type: none"> - The user is in the principal menu and clicks on “My account” and after that on “Change my personal account” - The personal data that has been saved in the system until the moment is going to be visible in separated fields - The user will be able to change or modify these data - The user will save the new data and it will be sent to the database - After that, the user is redirected to the principal menu
Notes and issues	

CHANGE OF PASSWORD	
Use Case	Changing password if the user does not remember it before the log in process
Descriptions	The function allows the user to change his or her password before going through the log in process
Actors	Every user of the system should be able to change the password
Steps	<ul style="list-style-type: none"> - The user opens the application and the welcome interface will be shown - He or she clicks on “I have forgotten my password” - The user will be able to change the password in another interface to which he or she will be redirected - He or she will save the changes and go back to the welcome interface
Notes and issues	<p>The password must meet certain requirements concerning the including characters</p> <p>The changing process can be done by sending a link to the email, answering to a question with a defined answer at the time of signing up, etc)</p>

INSERTION OF A DRIVER PROFILE	
Use Case	Insert a driver profile allows the user to have more detailed information. It could be seen as an advantage over those ones that do not have a more specific profile
Descriptions	The user registers more information about himself and other data, such as car model, experience, etc.
Actors	The actors of this function should be Tecnun students
Steps	<ul style="list-style-type: none"> - Once the log in process has been completed, the user opens the insertion of a driver profile option in the menu - The user must fill the different information that will appear in the screen - When this process is fulfilled, the changes must be saved and send to the database - After this, the user is redirected to the menu
Notes and issues	

DELETE ACCOUNT FUNCTION	
Use Case	The removal of an account is the function that deletes the profile of a user
Descriptions	As the user is able to modify is or her personal data, this enables to delete all this information and eliminates this profile from the application forever
Actors	The actors should be Tecnun students
Steps	<ul style="list-style-type: none"> - After clicking on “My account”, the user is able to delete his or her profile - All personal data that the user has introduced in the application will be deleted by clicking on “Delete my account” - After that, the user will be redirected to the log-in interface - From now, he or she must be signed up again in order to use the application
Notes and issues	This function will delete user accounts and also driver profiles

INSERTION OF A JOURNEY	
Use Case	Insertion of a journey enables the users to introduce new routes into de system
Descriptions	The user offers journeys with different specifications .After a new route is updated, other users will be able to see and select it if this one meet their needs
Actors	The actors of this function will be Tecnun students
Steps	<ul style="list-style-type: none"> - The menu will show different options. The user, by clicking on “Insert a new journey”, will be guided to a new interface - Then, the user must fill the information that will be displayed in the screen - After fulfilling everything, the user clicks on a submit button - This journey will be sent to the database - If the information is correct, the principal menu will be shown to the user. If not, the system shows an error message.
Notes and issues	If all mandatory fields are not fulfilled, the user will not be able to submit the new route

SEARCH FOR A JOURNEY	
Use Case	Search for a journey in order to be able to see different journeys in different days and timetables quickly.
Descriptions	The user has to select different options in order to see what the best journey for him or her is.
Actors	The actors of this will be Tecnun students who want to see what journeys are available for going home or going to Tecnun.
Steps	<ul style="list-style-type: none"> - The system provides an interface with 4 fields to be completed. - The user introduces the place where she wants to be caught. - After that the user clicks the date in which she wants to take that journey. - Then, the user only has to include between what time wants the journey. - This information will be sent to the database. - If a journey is available that they during the time that the user has choose, that journey will appear as a possibility in the interface.
Notes and issues	The system should enable to book that journeys that appear as available.

SEARCH FOR A JOURNEY WITH FILTERS	
Use Case	Search for a journey with filters in order to be able to see different journeys in different days and timetables with some different filters.
Descriptions	The user has to select different options in order to see what the best journey for him or her is.
Actors	The actors of this will be Tecnun students who want to see what journeys are available for going home or going to Tecnun.
Steps	<ul style="list-style-type: none"> - The system provides an interface with some fields to be completed. - The user introduces the place where she wants to be caught. - After that the user clicks the date in which she wants to take that journey. - Then, the user only has to include between what time wants the journey. - The user will can choose in which place wants to sit in the car - This information will be sent to the database. - If a journey is available that they during the time that the user has choose, that journey will appear as a possibility in the interface.
Notes and issues	<p>The system should enable to book that journeys that appear as available.</p> <p>If the user wants to go home, the departure always will be in Tecnun, and it won't be possible to modify it.</p> <p>If the user wants to go to Tecnun, the user has to choose a neighborhood in where he wants to be caught, so the different stops that the car is doing only will be from that neighborhood.</p>

BOOK A JOURNEY	
Use Case	Book a journey in order to do a reserve.
Descriptions	The user will have different options to choose different drivers depending on the timetable that is chosen
Actors	The actors of this will be Tecnun students who want to see what journeys are available for going home or going to Tecnun.
Steps	<ul style="list-style-type: none"> - The system provides different options according to the conditions that the user has selected. - After analyzing the different options that the user have, he or she only has to click on the journey that he or she wants. - As well as is the journey chosen the computer will already have book that journey.
Notes and issues	The user has to accept the conditions that are established by the driver.

INSERT COMMENT

Use Case	Insert a comment about a driver. It gives you the opportunity to rate the driver you have travelled with.
Descriptions	The function allows the user to insert a comment and mark from 1 to 5 his/her journey with a specific driver.
Actors	The function is available for all the uses that have previously logged in in the application and want to leave a positive or negative comment about a journey.
Steps	<ul style="list-style-type: none"> - From the principal menu you can find an option where it says “Give us your opinion” - This will take you to a page where after inserting the driver and the rating you can click the button to send your opinion - You can also write what you think in the box called “Opinion” if you want to emphasize something positive or negative about the driver - After inserting your comment you can go back to add more comments or you go to the home page
Notes and issues	The driver must exist and the rating field must be filled up.

SEND MESSAGE TO A DRIVER

Use Case	Send a message to the driver. It enables the user to send a message to the driver he is going to travel with.
Descriptions	The function allows the user to send a message to the driver once he has booked a lift with him/her.
Actors	This function is supposed to be used by anyone who books a lift and want to get in contact with the driver before the trip (or after) to get to know each other or arrange the meeting point, etc.
Steps	<ul style="list-style-type: none"> - First you have to log in (or sign up) and book a lift - Once you have decided which lift you prefer, the information about it is shown in the screen - Then, there's a button where you can click to see the information about the driver (Name, email, phone, rating...) - This way, you can get in contact with him pretty easily.
Notes and issues	It important to know that you have to book a ride before being able to get in contact with the driver.

REPRESENT POSSIBLE ITINERARIES AND ROUTES IN GOOGLE MAPS

Use Case	It allows you to map and send information about a concrete route. You also can add waypoints in which pick up people.
Descriptions	This user-friendly function allows the user to map a concrete and personal route in order that other can join its journey knowing beforehand what the picking points will be.
Actors	The function is available for all the uses that have previously logged in the application and want to offer a ride.
Steps	<ul style="list-style-type: none"> - It is an intermediate step that goes after entering the data of offering a ride. - This will take you to a confirmation page where you will see that your data has been correctly send to the server as well as the concrete coordinates of the meeting point. - After mapping the route (or even without doing it) if you are have change your mind of offering a ride you can return to the homepage by just clicking "go to menu".
Notes and issues	You must have an account created and be willing to offer a ride.

LOG OUT

Use Case	It allows you to log out of your personal account and sends you to the application's welcome interface where log in and sing up options are only available.
Descriptions	The function allows the user to log out. Once log out you will not be able to neither use your personal area or to access the platform. In order to access it, it is essential to once againn log in.
Actors	The function is available for all the uses that have previously logged in the application.
Steps	<ul style="list-style-type: none"> - From the principal menu you can find an option where it says "Log out" - This will take you to a welcoming page again. -
Notes and issues	Once log out you will not have access to the personal menu. Only log in /register actions could be done.

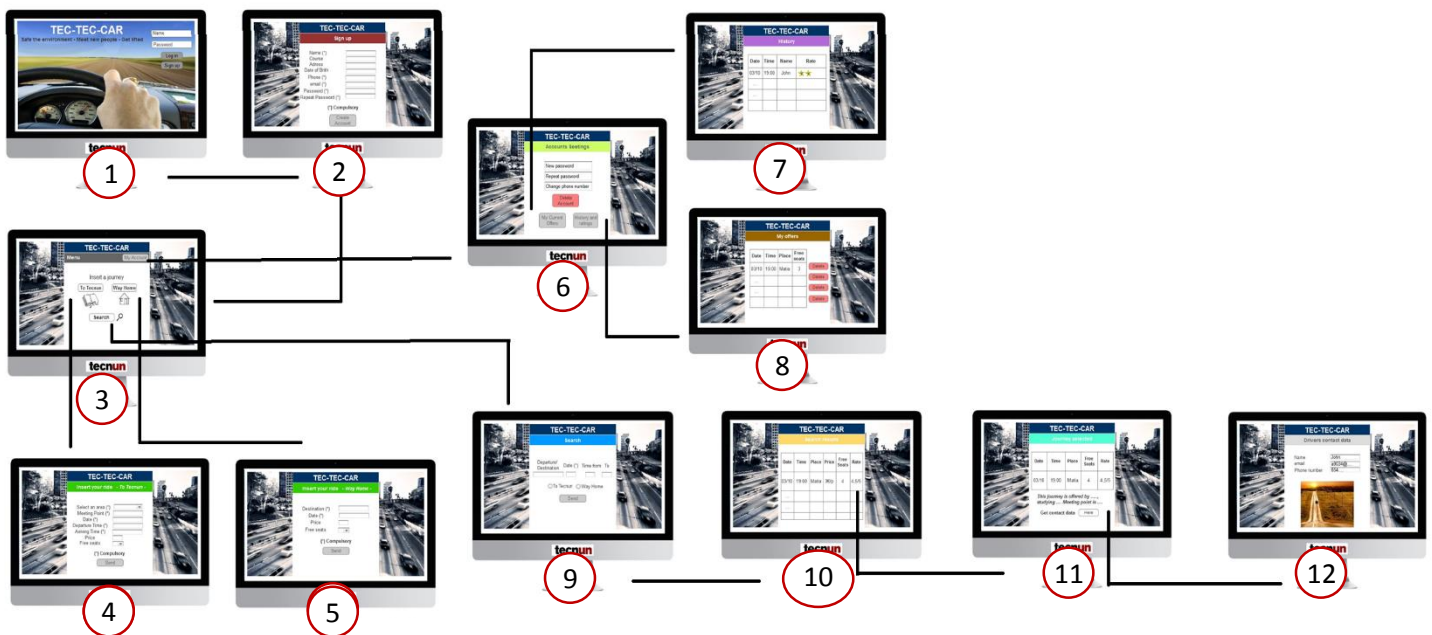
SHOW RATINGS

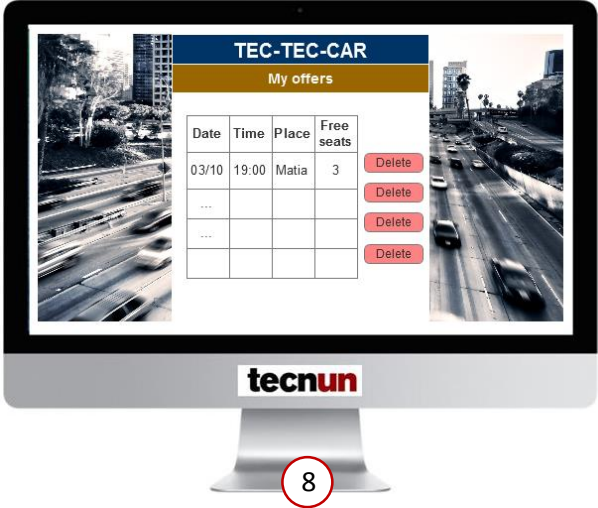
SHOW RATINGS	
Use Case	This function shows ratings of a concrete driver. It gives you the opportunity to know more of what previous users think about the way of driving.
Descriptions	The function allows to see marks between 1 and 5 about the way people drive.
Actors	The function is available for all the uses that have previously logged in and are willing to book a lift with a driver but they want to know more about them.
Steps	<ul style="list-style-type: none"> - Once you are log in from the principal menu you can find an option where it says "Give us your opinion" - This will take you to a page where after inserting the driver and the rating you can click the button to send your opinion - You can also write what you think in the box called "Opinion" if you want to emphasize something positive or negative about the driver - After inserting your comment you can go back to add more comments or you go to the home page
Notes and issues	The driver must exist and the rating field must be filled up.

RECEIVE A JOURNEY

RECEIVE A JOURNEY	
Use Case	Receive a journey in order to the drive know when someone has book a journey in his car
Descriptions	The driver will be able to see in which sit that user will go.
Actors	The actors of this will be Tecnun students who has inserted a journey
Steps	<ul style="list-style-type: none"> - They only will have to enter in their account in order to see if someone has booked their car.
Notes and issues	The only condition to receive a journey must be that the user that is receiving the notification has a car and has introduced that route.

6. PROTOTYPING – STORYBOARD







7. PROJECT PLANNING

We have calculated that taking into account that we have to develop 4-5 functions per person, in order to develop our collaborative project, the time that we will spend in this project will approximately be 50 hours/person. This includes individual work, coordination meetings and the preparation of different presentations. As we are 6 people, the hours that we are going to spend in this project reach 300 hours approx. So, considering that the cost of the project is of 100€/hour, the money we will need for doing this project will be of 30.000€.