Requirements Traceability

G1 : clicking on the button contained in the passenger home activity, a taxi request form will be shown. Filling the form allows the user to make a taxi request.

G2 : as soon as a taxist decides to take care about a call, the controller asks the map service to calculate an ETA. After that, the system will notify the passenger's client, that will display those information through an ad hoc activity.

G3 : when a taxi driver accepts to take care about a call, his controller will remove him from the queue.

G4 : in order to request a shared ride, a passenger must fill the form for a reservation/request, and add the shared option; The server will create a ride object, search for a sharedride that respect the constraints explained in the RASD document, and add the ride object to the shared ride; otherwise a new sharedride will be created.

G5 : when the taxi driver's client receive a call notification from the server, the application will select and display and ad hoc activity, that allow the taxi driver to click on "accept" or "refuse". After that, the client will send a message to the server, in order to inform him about the human's decision.

G6 : the taxi driver home activity provide a button that switch the taxist status; it will requests the controller to remove/ add himself to a taxi queue.

G7 : when a taxists accepts to take care about a requests (either shared or not), the controller will notify the client about the ETA and the fee amount. The client will display an ad hoc activity for these informations.

Goal	Requirement	Design document sections involved
G1	Persons can create an account	2.3.1 Userinterface, Action, Activity, Clientnetworkinterface 2.3.2 Controller, User, Servernetworkinterface 2.3.4 Database server
G1	Persons can log into their account	2.3.1 Userinterface, Action, Activity, Clientnetworkinterface 2.3.2 Controller, User, Servernetworkinterface 2.3.4 Database server
G1	Passengers can select from a menu the option of requesting a taxi as soon as possible	2.3.1 Userinterface, Action, Activity
G1	Passengers can insert their position filling an input form and confirm it	2.3.1 Userinterface, Action, Activity, Clientnetworkinterface 2.1 GPS
G1	The system will receive the request and identify the zone in which the passenger is in	2.3.2 Servernetworkinterface,Ride, Controller
G1	The system will forward the request to the first taxi in the selected zone queue and wait for an answer	2.3.2 Controller, Ridesmanager, Servernetworkinterface
G1	If the taxist accepts, the system will remove him from the queue; otherwise it will append the taxist to the last position and scan the list for a taxist to accept	2.3.2 Controller, Ridesmanager, Ride
G2	As soon as a taxist accepts a request, the system invokes the support system to calculate the ETA giving the position of the taxi and the position of the passenger	2.3.2 Servernetworkinterface, Controller, Ridesmanager, Ride 2.5 Google map service
G2	he system will communicate the taxi code and the ETA	2.3.1 Userinterface, Activity, Clientnetworkinterface 2.3.2 Controller, Servernetworkinterface, Ridesmanager, Ride

Goal	Requirement	Design document sections involved
G3	Passengers can select from a menu the option of reserving a taxi for a chosen ride and date	2.3.1 Userinterface, Activity, Action
G3	Passengers can insert the initial and final position, time and date, their email and confirm it	2.3.1 Userinterface, Activity, Action 2.1 GPS
G3	The system will receive the reservation and if it respects the 2 hour constraint it will send a confirmation	2.3.2 Servernetworkinterface, Controller, Ridesmanager, Ride
G3	Ten minutes before the ride starts, the system allocates a taxi for it.	2.3.2 Passenger, Taxidriver, Ridesmanager, Ride
G4	The application must have a selectable option labled:"share your ride", that allows passengers to enable the shared ride service. In case of non reserved ride, the application will ask passengers the amount of time they can wait for others people	2.3.1 Userinterface, Activity, Action
G4	When the system receive a request of a shared ride, it will search for others shared ride requests starting from the same taxi zone, and going in the same direction	2.3.2 Servernetworkinterface, Controller, Ridesmanager, Sharedride, Ride 3.2.1 sharedRequest, findSharedRideAvailable
G4	When a new passenger is added to a shared ride, the system will interact with the map service, in order to retrieve a new route for the taxi driver, and to calculate new fees	2.3.2 Controller, Ridesmanager, Ride, Sharedride 2.5 Google map service 3.2.2 Billing calculation
G4	When the timeout of one passengers ,added to the current ride, occur, the system will procede with the allocation of the taxi	2.3.2 Ridesmanager, Sharedride, Ride 3.2.1 getAvailableTaxi
G4	After the taxi allocation, the passengers who requested the shared ride will receive, not only the taxi ID, but also the fee they have to pay	2.3.1 Userinterface, Activity, Clientnetworkinterface

Goal	Requirement	Design document sections involved
G5	The system must forward a taxi request in the following cases: 1: A passenger has requested a ride. 2: A taxi reservation is sheduled to begin in 10 minutes.	2.3.2 Controller, Ridesmanager, Ride, Servernetworkinterface
G5	If a taxi driver refuses to take care about a call, the system will move him at the end of the queue,and forward the request to the next taxi driver in the queue. If a queue is empty, the system will notify the passenger that there are no taxi available	2.3.2 Servernetworkinterface, Controller, Ridesmanager
G5	If a taxe driver accepts to take care of the call, the system shall remove him from the queue.	2.3.2 Servernetworkinterface, Controller, Ridesmanager
G6	A taxi driver logged in into the system can select the button " Ready ", then the application will notify the server that the logged user is ready to accept some passengr's call. The application also send the taxi driver's position detected with a GPS	2.3.1 Userinterface, Activity, Action, Clientnetworkinterface 2.3.2 Servernetworkinterface, Controller, Ridesmanager 2.1 GPS
G6	If the application needs to retrieve data from a GPS and this isn't available, it will remind the user to turn it on	2.3.1 Activity, Userinterface, Action
G6	When the system receive a notification , by a taxi driver, informing that he is ready to take care of some passengers, it will append the user in the queue corresponding to the taxi zone that include the position retrieved by the application	2.3.2 Servernetworkinterface, Controller,Ridesmanager

Goal	Requirement	Design document sections involved
G7	When a taxi driver is assigned to a shared ride, the system will send him the route he needs to follow, and the fee amount every passenger have to pay	2.3.2 Controller, Ridesmanager, Sharedride, Servernetworkinterface
G7	When a driver is assigned to a non-shared ride, the system will send him the route he needs to follow, and the fee amount the passenger has to pay	2.3.2 Controller, Ridesmanager, Ride, Servernetworkinterface
G8	It is also neccessary to develop programmatic interfaces that allow to customize the system, adding new features	2.5.3 In-house developed API
	Passengers can access a section, in which they be able to check the ID of the taxi assigned to their ride and manage (delete or modify) an active reservation	2.3.1 Userinterface, Action, Activity
	When a passenger delete a reservation , the system will remove it from the reservation scheduler and, if a taxi driver is already assigned, notify the taxist	2.3.1 Userinterface, Activity, Clientnetworkinterface 2.3.2 Controller, Servernetworkinterface, Ridesmanager, Ride
	A passenger can modify an active reservation changing position, date and time	2.3.1 Userinterface, Action, Activity, Clientnetworkinterface 2.3.2 Servernetworkinterface, Controller, Ridesmanager, Rid 2.1 GPS
	The system will accept modification only if sent before the taxi allocation	2.3.2 Controller, Ridesmanager, Ride
	The system will accept date and time modification if it occur at least two hours after the request or/and after the previous reservation	2.3.2 Controller, Ridesmanager, Ride

Goal	Requirement	Design document sections involved
	A taxi driver have the possibility to remove himself from the queue by clicking the:"Disable" button	2.3.1 Userinterface, Action, Activity, Clientnetworkinterface 2.3.2 Servernetworkinterface, Controller, Ridesmanager
	The system will remove a taxi from the list if receive the corresponding request by the taxi driver, or if the taxist logged out	2.3.2 Ridesmanager, Controller
	A master terminal interface must be implemented in order to allow, the stakeholder, to configure some parameters (the number of the taxi zones, the set of positions belonging to each zone, the number of reports (per day, month and year) needed to automatically ban a user and the maximum number of reports (per hour) a user can insert)	2.3.3 Master view
	Every time a report is added to a user, the system will check if the constraints inserted by the master terminal are satified, otherwise the system must automatically ban the user	2.3.2 User
	The master terminal interface allows to manually ban users, or enable banned users	2.3.3 Master view
	The system must refuse reports added by a user if the user has already reached the maximum number of reports (per hour) decided by the master terminal	2.3.2 User
	When the system refuse a report, a notification appear on the user screen, reminding him that he has already exceeded the maximum number of reports for that hour	2.3.1 Userinterface, Activity, Clientnetworkinterface 2.3.2 Servernetworkinterface, User, Controller