

Chapter 1

Requirements Traceability

In this section, we analyze every single Functional Requirement (ordered by Goals described in the RASD) and it's indicated in which components these requirements are implemented.

All the Goals (G.x) are well described in the RASD at section 3.2

1.1 G.1

With the Goal G.1, we want to allow Guest Users to become Customers by creating a new myTaxiService account. Here are the requirements for this goal:

Requirement	Components		
	Data Tier	Logic Tier	Presentation Tier
[Req.1] Provide a Registration Page with: 1) A text box where the user can insert his username. 2) Two text boxes where the user can insert his password (the second one is for security check). 3) A text box where the user can insert his email. 4) A button to submit informations to the system.	-	-	Application UI
[Req.2] Registration Page only accessible by Guest Users	-	-	Application UI
[Req.3] All the Informations submitted by the user must be validated by the system	-	Profile Manager	-

Table 1.1: Goal 1 Requirements Traceability

1.2 G.2

With the Goal G.2 we want to allow a Guest User to become a Customer by using his facebook Account. Here are the requirements for this goal:

Requirement	Components		
	Data Tier	Logic Tier	Presentation Tier
[Req.1] Provide a Registration Page containing: 1) A button that calls Facebook Login API	-	-	Application UI
[Req.2] The Registration Page shall be the only page accessible by a Guest User.	-	-	Application UI
[Req.3] All the informations must be evaluated by the Facebook System.	-	Facebook Login System	Application UI

Table 1.2: Goal 2 Requirements Traceability

1.3 G.3

With the Goal G.3 we want to allow a Guest User to become Taxi Drivers. Here are the requirements for this goal:

Requirement	Components		
	Data Tier	Logic Tier	Presentation Tier
[Req.1] Provide a Registration Page containing: 1) A text box where the user can insert his username. 2) Two text boxes where the user can insert his password (the second one is for security checks). 3) A text box where the user can insert his email. 4) A text box where the user can insert a valid taxi license. 5) A text box where the user can insert a valid taxi number. 6) A button to submit informations to the system.	-	-	Application UI
[Req.2] The Registration Page shall be the only page accessible by a Guest User.	-	-	Application UI
[Req.3] All the informations submitted by the Guest User must be validated by the system	-	Profile Manager	-

Table 1.3: Goal 3 Requirements Traceability

1.4 G.4

With the Goal G.4 we want to allow a Guest User to login with a myTaxiService Account. Here are the requirements for this goal:

Requirement	Components		
	Data Tier	Logic Tier	Presentation Tier
[Req.1] Provide a Login Page containing: 1) A text box where the user can insert his username 2) A text box where the user can insert his password 3) A button to submit informations to the system.	-	-	Application UI

Table 1.4: Goal 4 Requirements Traceability

1.5 G.5

With the Goal G.5 we want to allow a Guest User to login his Facebook Account.
Here are the requirements for this goal:

Requirement	Components		
	Data Tier	Logic Tier	Presentation Tier
[Req.1] Provide a button that calls the Facebook Login API.	-	-	Application UI
[Req.2] Delegate to the Facebook System all the checks about the existence of the user.	-	Facebook Login System	-

Table 1.5: Goal 5 Requirements Traceability

1.6 G.6

With the Goal G.6 we want to allow a Guest User to view or modify his username and email. Here are the requirements for this goal:

Requirement	Components		
	Data Tier	Logic Tier	Presentation Tier
[Req.1] Provide an Homepage that contains: 1) A button that, if clicked, shows the page that contains the Registered User's informations.	-	-	Application UI
[Req.2] Provide a page used to show Registered User's informations that contains: 1) A clickable label showing the username of the Registered User. 2) A clickable label showing the email of the Registered User. 3) A box with a label inside that shows how many times the Registered User has been reported as a bad user.	-	-	Application UI
[Req.3] The personal Registered User's page shall be only accessible after the login.	-	Profile Manager	Application UI

Table 1.6: Goal 6 Requirements Traceability

1.7 G.7

With the Goal G.7 we want to allow a Registered User to retrieve his password if he doesn't remember it. Here are the requirements for this goal:

Requirement	Components		
	Data Tier	Logic Tier	Presentation Tier
[Req.1] Provide a link, on the login page, that will show to the Registered User a field where he can write his email to allow the system to send him an email containing the password.	-	Profile Manager	Application UI

Table 1.7: Goal 7 Requirements Traceability

1.8 G.8

With the Goal G.7 we want to allow a Registered User to signal another one if he has made a bad use of the system. Here are the requirements for this goal:

Requirement	Components		
	Data Tier	Logic Tier	Presentation Tier
[Req.1] Check if the registered user is correctly logged in.	Database Manager	-	-
[Req.2] For Taxi Drivers, provide an end-ride page that contains: 1) A label showing the username of the Customer that he has just served. 2) A label showing the starting location of the current ride. 3) A label that asks to the Taxi Driver if he wants to report the Customer. 4) A button that ends the current ride without reporting the Customer. 5) A button that ends the current ride incrementing the Customer's Bad Evaluation Counter.	Database Manager	Requests and Reservations Manager	Application UI
[Req.3] When one of the Taxi Driver end-ride page button is pressed, the system must ensure that the page is not reachable anymore and the Taxi Driver must only access to his Homepage.	-	-	Application UI
[Req.4] For Customers, provide an end-ride page that contains: 1) A label showing the username of the Taxi Driver that has just served him. 2) A label showing the starting location of the current ride. 3) A label that asks to the Customer if he wants to report the Taxi Driver. 4) A button that ends the current ride without reporting the Taxi Driver. 5) A button that ends the current ride and increments the Taxi Driver's Bad Evaluation Counter.	Database Manager	Requests and Reservations Manager	Application UI
[Req.5] When one of the Customer's end-ride page button is pressed, the system must ensure that the page is not reachable anymore and the Customer must access only to his Homepage.	-	-	Application UI
[Req.6] The end-ride page shall be only accessible after the Registered User logs in.	-	Profile Manager	Application UI

Table 1.8: Goal 8 Requirements Traceability

1.9 G.9

With the Goal G.9 we want to allow customers to require a taxi. Here are the requirements for this goal:

Requirement	Components		
	Data Tier	Logic Tier	Presentation Tier
[Req.1] Provide an Homepage that contains: 1) A map showing the current location of the Customer. 2) A button that calls the function of the system to require a Taxi (called "require button")	Database Manager	Zones Manager; Requests and Reservations Manager	Application UI
[Req.2] The require-taxi page shall be only accessible by Customers and after they have performed the login as Customers.	-	Profile Manager	Application UI

Table 1.9: Goal 9 Requirements Traceability

1.10 G.10

With the Goal G.10 we want to allow customers to reserve a ride. Here are the requirements for this goal:

Requirement	Data Tier	Components	
		Logic Tier	Presentation Tier
[Req.1] Provide an Homepage that contains: 1) A button that, if clicked, shows the page used to reserve a ride.	-	-	Application UI
[Req.2] Provide a page used to reserve a ride that contains: 1) A map where the customer can select the starting location for his ride. 2) A map where the customer can select the ending location for his ride. 3) A field where the customer can insert the starting date for the ride. 4) A field where the customer can insert the starting time for the ride. 5) A button that calls the function of the system to reserve a ride (called "reserve button")	Database Manager	Zones Manager; Requests and Reservations Manager	Application UI
[Req.3] The page used to reserve a ride shall be only accessible after the Customer logs in.	-	Profile Manager	Application UI
[Req.4] Reserve button must be clickable only if the reserve date and time are at least two hours after the current time.	-	-	Application UI
[Req.5] The system must notify the Customer that a Taxi Driver has accepted his reservation at least 10 minutes before the ride.	Database Manager	Requests and Reservations Manager; IO Manager;	-

Table 1.10: Goal 10 Requirements Traceability

1.11 G.11

With the Goal G.11 we want to allow customers to delete a previous reservations.
Here are the requirements for this goal:

Requirement	Components		
	Data Tier	Logic Tier	Presentation Tier
[Req.1] Provide an Homepage that contains: 1) A button that, if clicked, shows the page that contains all the reservations made by the customer.	-	-	Application UI
[Req.2] Provide a page that contains all the reservations made by the customer with these rules: 1) All reservations that have a difference between the start time and the current time of less than two hours are not erasable. 2) Others reservations are erasable. 3) The page also contains a button to add a new reservation. If clicked, that button leads to the page used to reserve a ride (described in the Functional Requirement Req.3 of G.4)	Database Manager	Requests and Reservations Manager;	Application UI
[Req.3] The page that contains all the reservations shall be only accessible after the Customer login.	-	Profile Manager	Application UI

Table 1.11: Goal 11 Requirements Traceability

1.12 G.12

With the Goal G.12 we want to allow Taxi Drivers to accept or decline a ride request.
Here are the requirements for this goal:

Requirement	Components		
	Data Tier	Logic Tier	Presentation Tier
[Req.1] Notify the Taxi Driver (if he is available) that is at the top of the zone-queue that a new taxi-request is made (Req.4 of G.9).	Database Manager	Requests and Reservations Manager; IO Manager; Zones Manager	Application UI
[Req.2] On the notification screen, show two buttons: one for the acceptance and one for the declination of the taxi-request.	-	-	Application UI

Table 1.12: Goal 12 Requirements Traceability

1.13 G.13

With the Goal G.13 we want to allow Taxi Drivers to notify their availability. Here are the requirements for this goal:

Requirement	Components		
	Data Tier	Logic Tier	Presentation Tier
[Req.1] Provide an home page that contains: 1) An ON/OFF button that signals to the system that the Taxi Driver is Available/Not Available. 2) A map showing his current zone and position.	Database Manager	Profile Manager	Application UI
[Req.2] The home page should be accessible only if the Taxi Driver is logged in.	-	Profile Manager	Application UI

Table 1.13: Goal 13 Requirements Traceability