Official Requirements Document

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Change history

Version	Changes

Contents

Abstract

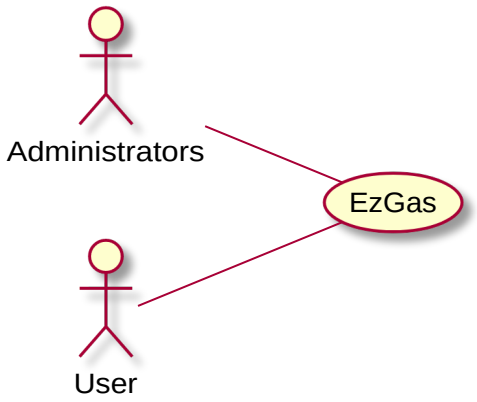
Multiple u users need to locate gas stations in an area, along with the prices they practice. The company also needs to collect and keep up to date the prices of fuels in different gas station.

Stakeholders

Stakeholder name	Description
Administrators	Use the application to update and insert gas station prices
Users	use the application to locate gas stations along with their prices

Context Diagram and interfaces

Context Diagram



Interfaces

Actor	Logical Interface	Physical Interface
Administrator	GUI	Screen, keyboard
User	GUI	Screen, keyboard,GPS(if available)

Stories and personas

John travels a lot. He is often not familiar with the territory he is in, hence he cannot know where to buy the cheapest fuel. He would also like to share his best discoveries of good prices during his journey since It's possible that some gas station will not be listed in the database the app relies on. John would also like to know if a gas station is opened at some time or it is not.

A gas station could be temporarly out of service.

Alberto is an administrator, he looks for lists of gas station and the prices they practice, interviews gas station owners, and verifies if some user reported a different price or a new gas station that was not in the database. He also reads complaints about the reliability of gas stations and in some case remove the ones run by inadempient owners for the sake of our beloved users.

Obviously gas stations sell different kind of fuels, john's mom has an electric car, she wants to know where to charge it at best prices.

Functional and non functional requirements

Functional Requirements

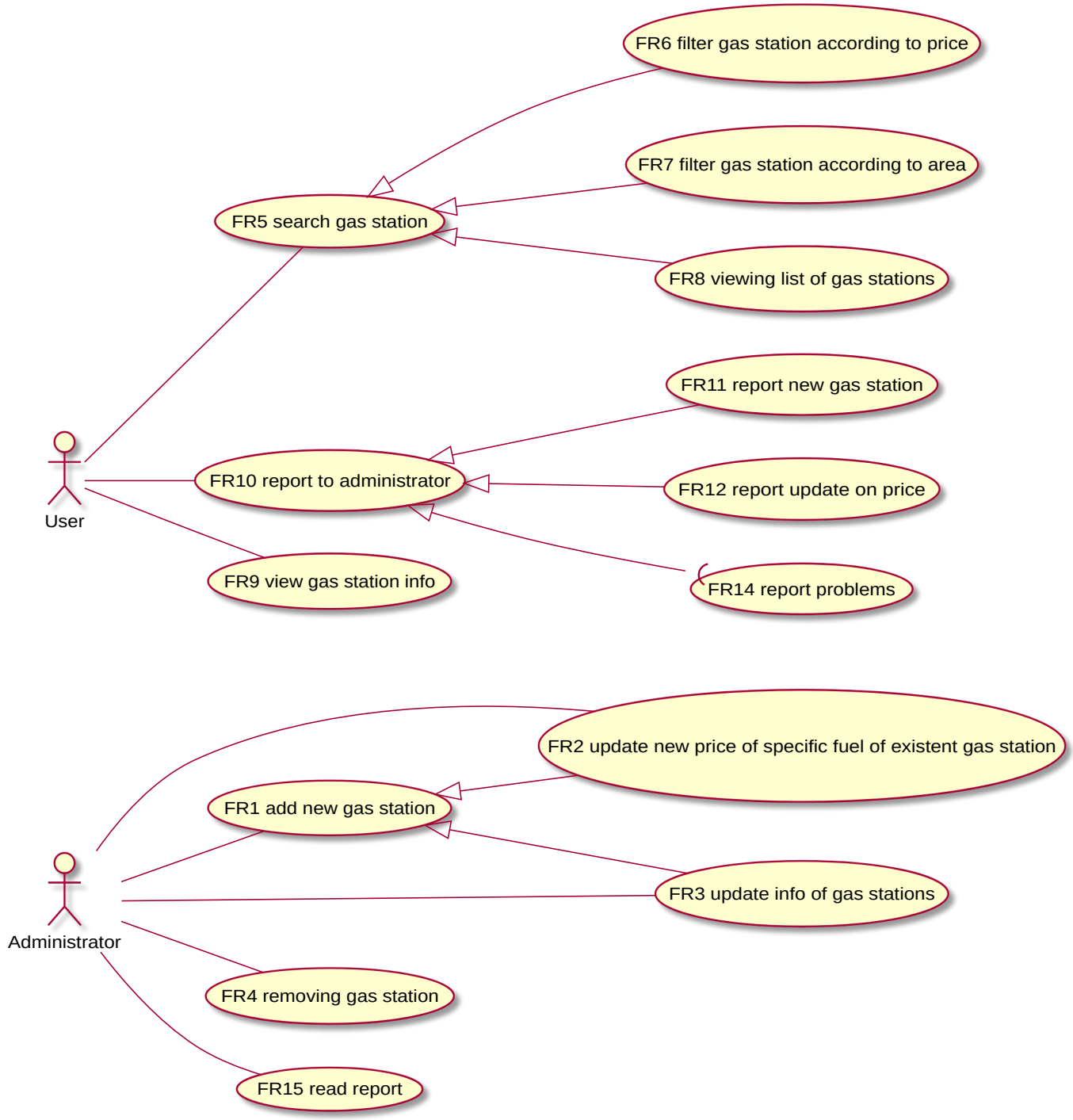
ID	Description
FR1	add new gas station
FR2	update new price of specific fuel of existent gas station
FR3	update info of gas stations
FR4	removing gas station
FR5	search gas station
FR6	filter gas station according to price
FR7	filter gas station according to area
FR8	viewing list of gas stations
FR9	view gas station info
FR10	report to administrator
FR11	report new gas station
FR12	insert info of gas station
FR13	report update on price
FR14	report problems
FR15	read report

Non Functional Requirements

ID	Type (efficiency, reliability, .. see iso 9126)	Description	Refers to
NFR1	Usability	Application should be used with no training, FRs should be complete in no more of 3 interactions user-app	All user FR
NFR2	Performance	All functions should complete in < 0.5 sec	All FR
NFR3	Portability	The application runs on web broweser	All FR
NFR4	Portability	The application (functions and data) should be avaliable in all browsers	All FR
NFR5	Localisation	Decimal numbers use . (dot) as decimal separator	

Use case diagram and use cases

Use case diagram



Use Cases

Use case 1, UC1 - FR1 add new gas station

Actors Involved	**Administrator**
Precondition	Gas station G it's not in the database
Post condition	G it's in the database
Nominal Scenario	Administrator puts info of gas station: prices, opening times, location

Actors Involved	**Administrator**
Variants	gas station prices, opening times could not be present at the time while location must be insterted

Use case 2, UC2 - FR2 update new price of specific fuel of existent gas station

Actors Involved	**Administrator**
Precondition	administrator knows the price of gas station, prices of gas station G differ from the ones present in the database
Post condition	gas station prices are up to date

Use case 3, UC3 - FR3 update info of gas stations

Actors Involved	**Administrator**
Precondition	gas station G in the database, real time info differ from the ones in the database
Post condition	info is up to date

Use case 4, UC4 - FR4 removing gas station

Actors Involved	**Administrator**
Precondition	gas station G exist in DB
Post condition	DB doesn't contain G anymore

Use case 5, FR5 search gas station

Actors Involved	**User**
Precondition	reasonable criteria used to search
Post condition	return a number >=0 of G gas stations as a list
extended by	filter gas station according to area
extended by	filter gas station according to price
extended by	viewing a list of gas station
Nominal Scenario	User selects defines area and/or prices, then search
Variants	possible to return the complete list of gas station

Use case 6, FR6 filter gas station according to price

Actors Involved	**user**
Precondition	user u has access to read the database, user defines reasonable price range (not negative)
Post condition	a list of >0 gas stations is returned
Nominal Scenario	
extends	FR5 search gas station

Use case 7, FR7 filter gas station according to area

Actors Involved	**user**
Precondition	user u has access to read the database, user defines reasonable are range (not negative, land)
Postcondition	a list of >0 gas stations is returned
extends	FR5 search gas station

Use case 8, FR8 viewing list of gas stations

Actors Involved	**user**
Precondition	a list has been returned from FR5
Post condition	user visualizes the list
extends	FR5 search gas station

Use case 9, FR9 view gas stations info

Actors Involved	**user**
Precondition	user selected gas station G
Post condition	user visualizes info of gas station
extends	FR5 select gas station

Use case 10, FR10 report to administrator

Actors Involved	**user**
Precondition	user select kind of report
Post condition	user filled report
Nominal Scenario	

Actors Involved	user
extended by	report new gas stsation
extended by	report update on price
extended by	report problems

Use Case 11, FR11 report new gas station

Actors Involved	user
Precondition	user is able to locate with gps coordinates gas station
Post condition	user report location of gas station, user could have filled infos of gas station
Nominal Scenario	a user wants to report a gas station not present in the database

Use Case 12, FR12 insert info of gas station

Actors Involved	Administrator
Precondition	infos of gas station such as Prices, Location, Opening times are different from the one in the database or not present
extends	FR1 add new gas station

Use Case 13, FR13 report update on price

Actors Involved	user
Precondition	user is able to locate with gps coordinates gas station and knows new prices
Post condition	user reported new prices
Nominal Scenario	a user wants to report different prices of gas station G

Use Case 14, FR14 report problem

Actors Involved	administrator
Precondition	user is aware of something wrong which doesn't include info of gasstations
Post condition	user reported problem
Nominal Scenario	app crashes and it cannot even be opened, a user should also be able to report problem while is NOT able using the app, app presents lags

Relevant scenarios

Scenario 1

Scenario ID: SC1	**Corresponds to UC5**
Description	User searches gas stations
Precondition	Gas stations exist and are more than one
Postcondition	user gets list of gas stations
Step#	Step description
1	User define price range
2	User define area range
3	User gets list of gas station
4	User select gas station to view it's info

Scenario 2

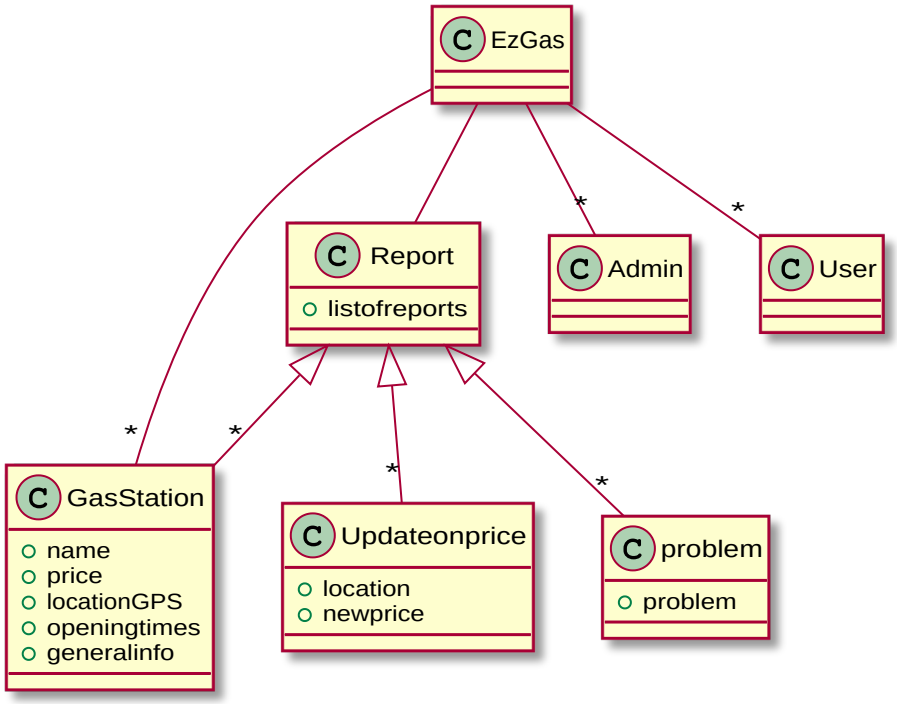
Scenario ID: SC2	**Corresponds to UC11**
Description	User is aware of a new gas station which opened recently
Precondition	gas station exist, user is able to locate it, user is able to provide infos, gas station is not in the database
Step#	Step description
1	User clicks on report new gas station
2	User fills field with gps coordinates, prices and general infos
3	user submit report

Scenario 3

Scenario ID: SC3	**Corresponds to UC3**
Description	Administrator is aware of new prices of gas station and new opening times, he checks them and validate them
Precondition	gas station exist, and prices and opening times are changed hence they differ from the ones in the database
postcondition	changes are visible right after administrator validates them
Step#	Step description
1	Administrator selects gas station
2	Administrator changes prices and opening times

Scenario ID: SC3	Corresponds to UC3
3	Administrator validate changes

Glossary



System Design

It is likely we will need a map service to integrate. It runs on the most common web browsers. Coordinates are in longitude/latitude format. Differnt currencies are supported as well as different languages.

Deployment Diagram

The architecture is composed by server a clientAdmin and a ClientSideUser, the server rapresents the system accessed by both clientAdmin and clientUser. ClientSideUser and clientUser cannot communicate, they have to use the system if they want to exchange informations indirectly