

Software Requirements Specification (SRS) Document

Delivery Cost & Time Optimization for Packaged Drinking Water

Supply

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Brief problem statement

Build a webapp/ android App for a SaaS platform for managing value chain profitably. Simplifying Subscription business by digitising deliveries. We have to suggest some sort of route optimization (if possible). One major part is the module responsible for calculation of bills.

System requirements

System requirements include just a Regular PC with an editor to write code.

Technical requirements: MERN Stack (MongoDb , Express , React , Node)

Users profile

Users of the platform include:

1. SW provider

Further divided into different categories

- Operational
- Commercial
- Customer care

2. SW Client / Owner

- Create a company profile with proper documents
- Create manager profiles

3. Manager / Admin

- Create Supervisor profiles
- Create vehicle profiles
- Create delivery team (driver, delivery boys) profiles.
- Create Product Profiles (Different water cans with different Quantity)
- Do supervisor's work in case a supervisor is off duty.

4. Supervisor

- Create a delivery route and list of delivery points every day
- Supervise the assigned deliveries
- Supervise the vehicle maintenance, fuel maintenance etc.

5. Delivery team (Driver, Delivery Boys)

- Deliver the stock

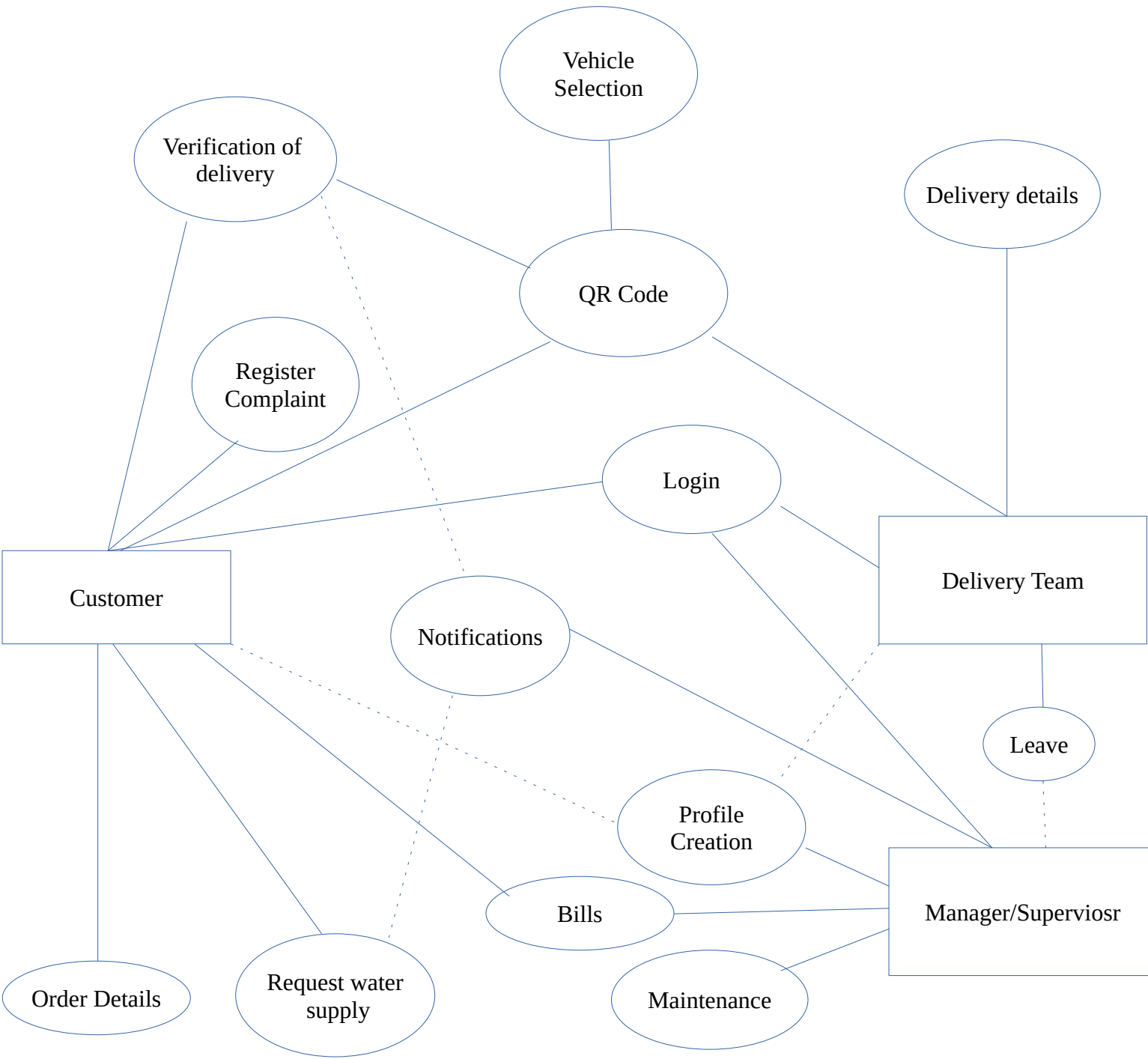
6. Customer

- Request water cans
- Check consumption and bills
- Raise complaints

Feature requirements (described using use cases)

No .	User Case Name	Description	Release
1.	Profile Creation	Company profile creation → Manager profile → Supervisor Profile → (Delivery Team, Customer) Profiles.	
2.	Login	Each type of user should be able to login through the provided credentials.	
3.	Attendance	One's Attendance will be displayed, We can integrate it with bio-metric in future.	
4.	QR codes	QR codes will be generated for each of the vehicles which will be used further to generate regular trips and routes.	
5.	Trip Creation	When the QR code of a particular vehicle is scanned by the driver then both of them are bound to each other on that day with a Trip ID.	
6.	Trip – Delivery Boys	On scanning the QR code of a vehicle then the boy scanning will be bound to that particular vehicle on that day.	
7.	QR code (Customer)	Each of the customers will be given a QR code which will be scanned by the delivery team on delivery in order to fetch the details.	
8.	Modify routes	The Supervisor will be able to enter and delete a node from the daily routes.	
9.	On - delivery details	The delivery man will enter the required units of full cans and units of empty and damaged cans that will be received in return at the delivery point.	
10.	Customer approval	The customer will approve the details entered by the delivery team.	
11.	Bill generation	Bill has to be generated at regular intervals (monthly) for each customer.	
12.	Notifications	The customer will get a notification after the successful delivery of cans. The supervisor will get a notification from the delivery man if all full cans are delivered.	
13.	Request Water Cans	The customer can request water cans not originally scheduled on day in question.	
14.	Register Complaint	Customer can register a complaint if he/she faces any issue.	
15.	Vehicle Registration	Supervisor will enter the details of a vehicle then a QR code will be generated with successful registration of that vehicle.	
16.	Product Creation	Manager should be able to create Product profiles. Product profiles here mean different products with different quantities	
17.	Stock Point/ Inventory	We have to store the details of a particular stock point basically the inventory details.	
18.	Create Route	Designing the daily routes which are to be followed by the delivery vehicles	

Use case diagram



Use case description

1. UC-01

Use Case Number:	UC-01
Use Case Name:	Profile Creation
Overview:	First the Company's account needs to be created which in turn will create the manager accounts. Manager will then create supervisor accounts, delivery team's accounts and customer accounts.
Actors:	Owner, Manager
Pre condition:	None
Flow:	Main Flow: 1. Successful account creation and storage of details in the database.
	Alternate Flows: 1. If failed on some validations then display error messages.
Post Condition:	Details secured successfully and the user should be able to login through these.

2. UC-02

Use Case Number:	UC-02
Use Case Name:	Login
Overview:	Each type of user(if registered already) should be able to login through the provided credentials(in case of manager, supervisor, delivery team, customer) should be able to login. For Owner he should be able to login through the his credentials.
Actors:	All Users
Pre condition:	Profile should be created before hand (successfully).
Flow:	Main Flow: 1. User enters the credentials and press login. 2. Credentials are verified against our database.

	3. Successful login if credentials matched.
	Alternate Flows: 1. Display error messages if credentials do not match or the user is not found.
Post Condition:	The User is now on the landing page of the webApp.

3. UC-03

Use Case Number:	UC-03
Use Case Name:	Attendance
Overview:	Each user will be able to view the daily attendance of him/her . We are currently just viewing it from the database. Populating the attendance's database should be handled by the bio-metric department.
Actors:	Supervisor, Delivery Team
Pre condition:	The Concerned User should be registered
Flow:	Main Flow: 1. The person arrives and punches bio-metric and the database gets updated. 2. Our App/WebApp will display the details
	Alternate Flows: None
Post Condition:	None

4. UC-04

Use Case Number:	UC-04
Use Case Name:	Vehicle QR code Generation
Overview:	Each of the vehicles when generated by the supervisor will be assigned a particular QR code, which will be used by delivery team on a daily basis to opt that particular vehicle on a particular day for a trip/route,
Actors:	Supervisor

Pre condition:	none
Flow:	Main Flow: 1. Supervisor creates a vehicle and adds its documents. 2. QR code is generated for it.
	Alternate Flows: Error will be displayed if any of the documents is out of date.
Post Condition:	A new vehicle is registered with the company.

5. UC-05

Use Case Number:	UC-05
Use Case Name:	Trip Creation
Overview:	A driver (registered) will scan the QR code of a vehicle then a trip ID will be generated for this pair.
Actors:	Driver and Vehicle
Pre condition:	Driver and vehicle should be registered with the company.
Flow:	Main Flow: 1. Driver scans the QR code. 2. Trip ID is generated.
	Alternate Flows: 1. Error if vehicle/ driver is not registered.
Post Condition:	Driver is assigned to a trip ID.

6. UC-06

Use Case Number:	UC-06
Use Case Name:	Trip – Delivery Boys
Overview:	The delivery boys will come and scan the QR codes of the vehicles and then will get coupled to that vehicle for that particular day. Moreover

	after this one of the routes designed by the supervisor will be allotted to this combo of vehicle driver and boy.
Actors:	Delivery Boy, Vehicle, Driver, Supervisor
Pre condition:	Route should be available before hand, Vehicle should be registered already.
Flow:	Main Flow: 1. Delivery boy will scan the QR code. 2. Delivery boy will be coupled and a route will be assigned to that trip.
	Alternate Flows: Vehicle should be active, Delivery boy should be registered with the vehicle.
Post Condition:	A trip will be generated with a route.

7. UC-07

Use Case Number:	UC-07
Use Case Name:	QR code - (Customer)
Overview:	Each of the customers when registered will be assigned a QR code which will be further used by the delivery team in order to complete deliveries and fetch details of the customers.
Actors:	Supervisor
Pre condition:	Supervisor should be registered with the company.
Flow:	Main Flow: 1. Supervisor will enter the details of the customer. 2. Customer gets registered.
	Alternate Flows: 1. If any of the details(required) are missing then display error messages.
Post Condition:	The customer will be provided with a QR code and login credentials.

8. UC-08

Use Case Number:	UC-08
Use Case Name:	Modify Routes
Overview:	The Supervisor will be able to add a new order/new location in an ongoing trip with a route. He will also be able to cancel a delivery.
Actors:	Supervisor
Pre condition:	Supervisor should be registered and the concerned route/trip should exist. Moreover the customer being added should be registered with the company.
Flow:	<p>Main Flow:</p> <ol style="list-style-type: none"> 1. Supervisor selects the route to edit. 2. Add new node's info (location, quantity of cans to be delivered).
	<p>Alternate Flows:</p> <ol style="list-style-type: none"> 1. He can, instead of adding , remove a per-existing node on their pathway. 2. Error will be displayed if the customer does not exist.
Post Condition:	Route will be modified.

9. UC-09

Use Case Number:	UC-09
Use Case Name:	Delivery Details Entry
Overview:	Delivery man will enter the required units of full cans and empty/damaged cans that are received in return
Actors:	Delivery Team
Pre condition:	Delivery Team should have scanned the QR code of the customer
Flow:	<p>Main Flow:</p> <ol style="list-style-type: none"> 1. The delivery man enters details of can exchange in assigned fields
	<p>Alternate Flows:</p> <p>None</p>
Post Condition:	Details sent to customer for approval

10. UC-10

Use Case Number:	UC-10
Use Case Name:	Customer Approval
Overview:	Customer approved details entered by the delivery team
Actors:	Customer
Pre condition:	Delivery Team must already have submitted details of transaction
Flow:	Main Flow: 1. The customer will review the details which will be sent to his/her mobile 2. The customer will accept/decline the transaction 3. If the customer accepts, the transaction concludes
	Alternate Flows: 1. If not, the delivery man will have to re-enter the correct details
Post Condition:	Transaction recorded in database

11. UC-11

Use Case Number:	UC-11
Use Case Name:	Bill Generation
Overview:	Bill has to be generated at regular intervals, likely monthly for each customer
Actors:	Manager, Customer
Pre condition:	Enter the condition that must be true before the main flow is executed.
Flow:	Main Flow: 1. Manager decides date when bill is to be generated for each customer 2. Bill is generated on decided date
	Alternate Flows: None
Post	Bill is sent / available for viewing by manager and concerned customer

Condition:	
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12. UC-12

Use Case Number:	UC-12
Use Case Name:	Notifications
Overview:	The customer will get a notification after successful delivery of cans. The supervisor will get a notification from the delivery team if all full cans are delivered
Actors:	Customer Supervisor
Pre condition:	The delivery takes place successfully
Flow:	Main Flow: <ol style="list-style-type: none"> 1. The customer receives a log of the delivery details 2. The supervisor receives a notification of the same
	Alternate Flows:None
Post Condition:	None

13. UC-13

Use Case Number:	UC-13
Use Case Name:	Request Water Cans
Overview:	The customer can order / request water supply according to his requirement in case of emergencies
Actors:	Customer
Pre condition:	None
Flow:	Main (success) Flow: Customer requests emergency delivery
	Alternate Flows: INone
Post Condition:	Request must be brought to the supervisor

14. UC-14

Use Case Number:	UC-14
Use Case Name:	Registering Complaint
Overview:	The customer can send a complaint regarding any issue that he/she is facing
Actors:	Customer
Pre condition:	None
Flow:	Main Flow: 1. Customer registers a complaint.
	Alternate Flows: None
Post Condition:	The complaint is available for viewing by either the customer or the manager(tbd) and will be discussed with the customer at some point

15. UC-15

Use Case Number:	UC-15
Use Case Name:	Vehicle Registration
Overview:	Supervisor will register a vehicle along with all its details. Subsequently the vehicle will be assigned a QR code.
Actors:	Supervisor
Pre condition:	Supervisor should be registered with the company.
Flow:	Main Flow: 1. Supervisor will add details. 2. Vehicle is registered.
	Alternate Flows: 1.) Error is any of the docs is missing.
Post Condition:	Vehicle is successfully registered.

16. UC-16

Use Case Number:	UC-16
Use Case Name:	Product Creation
Overview:	Manager will create different product profiles that is the different water cans with different quantities. For instance, water cans of 2L, 5L and 20L capacity.
Actors:	Manager
Pre condition:	Manager Account should be there
Flow:	<p>Main Flow:</p> <ol style="list-style-type: none"> 1. Manager will enter the Quantity of the new Product he want to create and correspondingly it should be created.
	<p>Alternate Flows:</p> <ol style="list-style-type: none"> 1. Invalid Quantity value should throw error <p>or</p> <ol style="list-style-type: none"> 1. If a product of that type already exists then we should inform the manager that it is already there.
Post Condition:	A new product will be created and now its supply and creation can begin

17. UC-17

Use Case Number:	UC-17
Use Case Name:	Stock Point / Inventory
Overview:	We must have inventory details of a particular stock point. Each stock point will be handled by a supervisor. We should store the number of damaged cans, filled cans, empty cans of each product type.
Actors:	Supervisor
Pre condition:	Product profiles should be there
Flow:	<p>Main Flow:</p> <ol style="list-style-type: none"> 1. Supervisor can view the details <p>or</p> <ol style="list-style-type: none"> 1. Supervisor can edit the details of each product type
	Alternate Flows:

	1.) Error In case an invalid value if entered while modifying the stock.
Post Condition:	None

18. UC-18

Use Case Number:	UC-18
Use Case Name:	Create Route
Overview:	<p>Supervisor will create the daily routes on the basis of the customer details and urgent requests that have been received by the stock point, furthermore these routes will be assigned to the trio of vehicle, driver and boy.</p> <p>Routes are created on daily basis.</p>
Actors:	Supervisor
Pre condition:	Supervisor should be registered with the company.
Flow:	<p>Main Flow:</p> <ol style="list-style-type: none"> 1. Supervisor will add details. 2. Route is generated and added to the list of all the routes created.
	<p>Alternate Flows:</p> <ol style="list-style-type: none"> 1.) Error is any of the docs is missing.
Post Condition:	Routes will be assigned and the delivery team can work smoothly