Software Requirements Specification

Group 8

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Contents

Software Requirements Specification (SRS)

Initially we started by creating user stores and use cases for each of the different stakeholders that we had identified in the last stage. A user story is a description of how an actor may use the system. The user story is then refined by one or more use cases that further explain in detail how the actor interacts with the system. For every action there should be one use case.

Business support
Business support user story(s)

User Story	Repairing a truck		
Code	US-BS-1.1		
Package	Business Support		
File	US-BS.docx		
Story	A truck breaks down and a new part has to be delivered to repair this truck. The department of business support is responsible for this.		
Refined by	UC 1.1		
Version	1.0	Herm Lecluse	
User Story	Saving Files		
Code	US-BS-1.2		
Package	Business Support		
File	US-BS.docx		
Story	When an order is completed and all the information is collected, those data should be stored in a proper way		
Refined by	UC 1.2		
Version	1.0	Herm Lecluse	

Business support use cases

Use case	Order new Truck part
Code	UC-BS-1.1
Package	Business Support
File	UC-BS-1.1.docx
Actor	Staff employee
Description	A truck has a broken part which has to be replaced as soon as possible
Requirements	- The truck must be at the HQ - Access to the system & internet - Knowledge of the problem
Scenario	1. Message from another department comes in via mail 2. System shows information about what part(s) is/are broken. 3. Employee orders a new truck part via the internet. 4. Employee adds to the system that a part is being delivered 5. System returns a status message: "Part is on its way".
Exceptions	**3.1 Part is not available at the moment, reparation will be delayed**

	3.1.1 Employee adds to an field in the system :"part was out of stock". Use case ends here.
Extensions	**The truck mechanic is delivered the required parts so he can attach them**
Result	The truck has been repaired and can be used again for new transports
Version	1.0	Herm Lecluse	
Use case	Archive incoming paper work
Code	UC-BS-1.2
Package	Business Support
File	UC-BS.docx
Actor	Staff employee
Description	Information of an certain order/invoice/etc. should be stored
Requirements	- Access to the system & internet
Scenario	1. The employee gets an email which contains information about the deliveries of a certain period. 2. Employee logs into the system 3. Employee enters the information to the system 4. System will store this in a database 5. Employee saves the changes
Exceptions	**4.1 Database gives errors about inconsistent data.** 4.1.1 Employee checks his input for mistakes.
Extensions	
Result	The information is stored in a good and efficient way.
Version	1.0	Herm Lecluse	

Use case	Arranging a new truck
Code	UC-BS-1.3
Package	Business Support
File	UC-BS.docx
Actor	Staff employee
Description	When a truck can't be repaired anymore
Requirements	- Access to the system & internet
Scenario	1. The employee gets an email which contains information about the deliveries of a certain period. 2. Employee logs into the system 3. Employee enters the information to the system 4. System will store this in a database 5. Employee saves the changes
Exceptions	**4.1 Database gives errors about inconsistent data.** 4.1.1 employee checks his input for mistakes.
Extensions	

Result	The information is stored in a good and efficient way.	
Version	1.0	Herm Lecluse

CEO

CEO user story(s)

User Story	CEO requests overviews	
Code	US-ceo-1.0	
Package	CEO	
File	US-ceo-1.0.docx	
Story	CEO can request an overview of driving schedules, employees, orders, financial situation, issues or customer relations at any given time. This will give the CEO an ability to see how his business is doing whenever he wants.	
Refined by	UC-ceo-1.1 (request financial report) UC-ceo-1.2 (request issues overview)	
Version	1.1	Bas de Weerd

User Story	Issue handling		
Code	US-CEO-2.0		
Package	CEO		
File	US-CEO.docx		
Story	CEO will be prompted in case of delays or issues in order to be up to date of any issues and then can act accordingly.		
Refined by	UC 1.1		
Version	1.0	Bas de Weerd	

CEO use cases

Use case	Request financial report
Code	UC-ceo-1.1
Package	CEO
File	UC-ceo-1.1.docx
Actor	Chief Executive Officer (CEO)
Description	CEO requests a financial report

Requirements	- Data is up to date - Working PC and working software connected to the database though internet connection - User is logged in
Scenario	1. User goes to the finance section 2. User selects time period 3. User submits 4. User receives financial report
Exceptions	**2.1 User selects invalid time period.** 1. System responds with corresponding error message. 2. Use case proceeds at step 2.
Result	User has a financial report of a certain time period
Version	1.1	Bas de Weerd

Use case	Request issues overview	
Code	US-ceo-1.2	
Package	CEO	
File	UC-ceo-1.2.docx	
Actor	Chief Executive Officer (CEO)	
Description	CEO requests an overview of all issues	
Requirements	- Data is up to date - Working PC and working software connected to the database through internet connection - User is logged in	
Scenario	1. User goes to the issues section 2. User views a complete overview of all issues with dates and descriptions 3. Users selects issue(s) he wants to address and selects them for further details 4. CEO addresses the issue	
Exceptions	Not applicable	
Result	User is able to view details of issues	
Version	1.1	Bas de Weerd

Use case	Prompt for issues
Code	UC-ceo-2.1
Package	CEO
File	UC-ceo-2.1.docx
Actor	Chief Executive Officer (CEO)
Description	CEO will be prompted in case there are any issues or delays.

Requirements	- Other user submits top priority issue - Working PC and working software connected to the database through internet connection - User is logged in	
Scenario	1. User gets a pop up containing short information about issue 2. User can view issues section for more details 3. User closes pop up 4. User acts accordingly with a solution to the problem	
Exceptions	**1.1 User is away from keyboard and thus cannot respond.** 1. User sees message when he/she returns	
Result	If necessary a solution is applied, CEO is aware of issue instantly	
Version	1.1	Bas de Weerd

Customer

Customer user story(s)

User Story	Mailing and then viewing an order	
Code	US-cu-1.0	
Package	customer	
File	US-cu-1.0.docx	
Story	The user thinks up what he wants to order and writes this in an email along with his personal information. The user will email their order to the orders and invoices department of the company. The order will be processed there. The user will receive an ordercode. The user will enter this ordercode in the system. Now the user can see the status of their order.	
Refined by	UC-cu-1.1 (Checking Order)	
	UC-cu-1.3 (Mailing Order)	
Version	1.0	Jurian Janssen	

Customer use case

Use case	Checking Orderstatus
Code	UC-cu-1.1
Package	customer
File	UC-cu-1.1.docx
Actor	Customer
Description	Checking the status of a placed order by a customer

Requirements	- Working PC and working Software - Unoccupied and working phone.		
Scenario	1. User goes to the application 2. User clicks the "Check order" button 3. User fills in the ordercode in the textfield 4. User clicks "Confirm" 5. Orderdetails will be displayed to the user		
Exceptions	**Ordernumber is incorrect** 1. Customer will be asked to fill in their number again 2. If correct the customer will now see their order		
Result	The user can view the status of their order		
Version	1.0	Author	Jurian Janssen

Use case	Faxing an order		
Code	UC-cu-1.2		
Package	customer		
File	UC-cu-1.2.docx		
Actor	Customer, Orders and Invoices		
Description	Faxing an order to the orders and invoices department		
Requirements	- Working PC and working Software - A fax.		
Scenario	1. User creates a fax of their soon to be order 2. User sends their order to the orders and invoices department by fax 3. Order is processed via fax 4. Order is received by Orders and Invoices 5. Orders and invoices will add the order (see creating order usercase)		
Exceptions	**Faxdocument is unclear** 3. Orders and invoices will contact the customer and asks them to send it again.		
Result	Order will be processed by Orders and Invoices		
Version	1.0	Author	Jurian Janssen

Use case	Mailing an order
Code	UC-cu-1.3
Package	customer
File	UC-cu-1.3.docx
Actor	Customer, Orders and Invoices
Description	Mailing an order to the orders and invoices department
Requirements	- Working PC and working Software - An email client.
Scenario	1. User creates a mail of their soon to be order 2. User sends their order to the orders and invoices department by mail 3. Order is processed via mail 4. Order is received by Orders and Invoices 5. Orders and invoices will add the order (see creating order usercase)
Exceptions	**Maildocument is unclear** 4. Orders and invoices will contact the customer and asks them to send it again.
Result	Order will be processed by Orders and Invoices
Version	1.0	Author	Jurian Janssen

Use case	Ordering by phone
Code	UC-cu-1.4
Package	customer
File	UC-cu-1.4.docx
Actor	Customer, Orders and Invoices
Description	Phoning an order to the orders and invoices department
Requirements	- Working PC and working Software - A phone.
Scenario	1. User writes down what he wants to order 2. User calls and tells their order to the orders and invoices department 3. Order is processed via phone 4. Order is received by Orders and Invoices 5. Orders and invoices will add the order (see creating order use case)
Exceptions	

Result	Order will be processed by Orders and Invoices		
Version	1.0	Author	Jurian Janssen

Orders and invoices

Orders & invoices user story(s)

User Story	Staff of the order and invoice department takes orders and creates receipts		
Code	US-oi-1.0		
Package	order-invoice		
File	US-oi-1.0.docx		
Story	Staff of the order and invoice department takes orders by phone or fax and writes invoices.		
Refined by	UC-oi-1.1 (Take order by phone)		
	UC-oi-1.2 (Take order by fax)		
	UC-oi-1.3 (Print an invoice)		
	UC-oi-1.4 (Take order by email)		
Version	1.1	Schahab Kaiumi	

Orders & invoices use cases

Use case	Take order by phone
Code	UC-oi-1.1
Package	order-invoice
File	UC-oi-1.1.docx
Actor	Order and invoice department
Description	The staff of the order and invoice department takes an incoming phone order.
Requirements	- Working PC and working Software connected to the database - Unoccupied and working phone.
Scenario	1. The staff accepts the incoming phone call. 2. System gets all information. (name of the company, adress, contact information and sales tax ID number, how many tons, where and when it has to be load and unload, what kind of liquid)
	3. System checks if the filled information is complete. 4. System checks if the customer has paid all his invoices yet. 5. System adds the current date and a new invoice number will be inserted automatically. 6. System gives an internal number to each task and subtask that has to be done by the truck driver. (load/unload) 7. System checks the availability of trucks and drivers. 8. The staff accepts the order. 9. End of the conversation.
Exceptions	**3.1 The typed information is incomplete.** 1. The missing information has to be asked by the staff. 2. The missing information has to be filled in.

	3. Use case proceeds at step 4.
Exceptions	**4.1 The customer has not paid his debts yet.** 1. Use case ends here. 2. A report about the customers call will be send to the finance department.
Result	All needed information are collected and the job can be done. Now they can be used for an invoice that has to be created next.
Version	1.1	Schahab Kaiumi	

Use case	Take order by fax		
Code	UC-oi-1.2		
Package	order-invoice		
File	UC-oi-1.2.docx		
Actor	Order and invoice department		
Description	The staff of the order and invoice department takes incoming fax order.		
Requirements	- Working PC and working Software connected to the database. - Unoccupied and working fax device.		
Scenario	1. A fax arrives and gets printed out. 2. System gets all information typed in. (name of the company, adress, contact information and sales tax ID number, how many tons, where and when it has to be load and unload, what kind of liquid) 3. System checks if the filled information is complete. 4. System checks if the customer has payed all his invoices yet. 5. System adds the current date and a new invoice number will be inserted automatically. 6. System gives an internal number to each task and subtask that has to be done by the truck driver. (load/unload) 7. System checks the availability of trucks and drivers. 8. System sends feedback to the customer and confirms the order.		
Exceptions	**3.1 The typed information is incomplete.** 1. The customer has to be called by the staff to get those missing information. 2. The staff gets the need information. 3. Use case proceeds at step 4.		
Exceptions	**4.1 The customer has not payed his debts yet.** 1. Use case ends here. 2. A report about the customers call will be send to the finance department.		
Result	All needed information are collected and the job can be done. Now they can be used for an invoice that has to be created next.		
Version	1.1	Schahab Kaiumi	

Use case	Print an invoice
Code	UC-oi-1.3
Package	order-invoice
File	UC-oi-1.3.docx
Actor	Order and invoice department
Description	The staff of the order and invoice department calculates the price and creates an ivoice.
Requirements	- Working PC - Working Software connected to the database. - Working Printer
Scenario	1. System accepts the order and saves it in the internal DBS. 2. System determines the deadline for the payment automatically. (14 days) 3. System prints the invoice.
Exceptions	**2.1 The determined day of payment is a nonbusiness day** 1. The System automatically takes the next possible date. 2. Use case proceeds at step 3.
Exceptions	**3.1 The printer does not work.** 1. The System reminds the staff of the invoice department to print daily. 2. If the print process was successful, then this alert will not appear no more. 3. This use case ends here.
Result	All needed information about the order and the invoice are saved in the databse and the invoice is printed out.
Version	1.1	Schahab Kaiumi	

Use case	Take order by email
Code	UC-oi-1.4
Package	order-invoice
File	UC-oi-1.4.docx
Actor	Order and invoice department
Description	The staff of the order and invoice department takes an incoming email order.
Requirements	- Working PC and working Software connected to the database.
Scenario	1. The staff gets a new email notification. 2. System gets all all information typed in. (name of the company, adress, contact information and sales tax ID number, how many tons, where and when it has to be load and unload, what kind of liquid) 3. System checks if the filled information is complete. 4. System checks if the customer has payed all his invoices yet. 5. System adds the current date and a new invoice number will be inserted automatically. 6. System gives an internal number to each task and subtask that has to be done by the truck driver. (load/unload) 7. System checks the availability of trucks and drivers. 8. The staff accepts the order. 9. End of the conversation.

Exceptions	**3.1 The typed information is incomplete.**
	1. The missing information has to be asked by the staff. 2. The missing information has to be filled in. 3. Use case proceeds at step 4.
Exceptions	**4.1 The customer has not payed his debts yet.** 1. Use case ends here. 2. A report about the customers call will be send to the finance department.
Result	All needed information are collected and the job can be done. Now they can be used for an invoice that has to be created next.
Version	1.1	Schahab Kaiumi	

Planning

User story planning

User Story	(re-)Scheduling orders
Code	US-PL-1.1
Package	Planning
File	US-BS.docx
Story	The planner, Creates a schedule, get details from the customer, CEO and truck drivers, creates an individual plan for every day. Later he gives the information or the plan to the financial department and personal department.
Refined by	UC 1.1
Version	1.0	Herm Lecluse	

Use cases planning

Use case	Scheduling an order
Code	UC-PL-1.1
Package	Planning
File	UC-PL.docx
Actor	Planner
Description	Planner creates an schedule for an order
Requirements	Planner needs information about who is allowed to transport hazardous fluids The order that has to be assigned is communicated to Transport department.
Scenario	1. Order comes from order department 2. Planner logs in to system 3. Planner checks if the fluid is hazardous 4. Planner looks up in the system what trailers, trucks and drivers are ready to be scheduled. 5. Planner assigns trailer truck and driver to order 6. Planner saves these fields 7. System returns a message to the driver which contains his order 8. Planner logs out

Exceptions	**3.1 order contains a hazardous fluid and the driver is not allowed to transport this order**
	3.1.1 System returns error message
	3.1.2 Planner assigns order to a certified driver
	3.1.3 Use case continuous at step 4.
	3.2 Driver is already booked
	3.2.1 System returns error message.
	3.2.2 Planner assigns new driver to the order 3.2.3
	Use case continuous at step 4.
	3.3 Order is already scheduled
	3.3.1 System returns error message
	3.3.2 Planner realizes he already planned this order
	3.3.3 Use case ends here.
Extensions	
Result	The order that came in from the Order and invoices department is scheduled for a driver.
Version	1.0	Herm Lecluse	

Use case	Change an schedule
Code	UC-PL-1.2
Package	Planning
File	UC-PL.docx
Actor	Planner
Description	Planner needs to change something in an schedule he made earlier
Requirements	Planner must have access to the system
	Planner has a reason to reschedule an order or change a schedule.
Scenario	1. Planner logs in to system
	2. Planner opens schedule for an order he previously planned
	3. Planner applies changes
	4. Planner saves the changes
	5. System updates the schedule of the drivers (where needed).
	6. Planner logs out.
Exceptions	**4.1 The new truck/driver/trailer is already occupied**
	4.1.1 System returns error message
	4.1.2 Planner assigns another truck/driver/trailer to the order
	4.1.3 Use case continuous at step 5.
Extensions	Another change has to be scheduled repeat same use case
Result	The schedule has been changed and the problems should be resolved. Truck drivers are informed as well.
Version	1.0	Herm Lecluse	

Truck Driver

User Story truck driver

User Story	Finding your schedule		
Code	US-td-1.0		
Package	Truckdriver		
File	US-td-1.0.docx		
Story	The user starts up their device and starts the application. They fill in their employee number and their password. If these are entered correctly the user will see the homescreen of the application. The user then clicks on the schedule tab. A new screen will appear with several options. the user selects "Personal schedule". His or her personal schedule will be shown on the screen.		
Refined by	UC-td-1.1 (Checking Schedule)		
	UC-td-1.3 (Logging in)		
Version	1.0	Jurian Janssen	

Use cases Truck Driver

Use case	Checking schedule		
Code	UC-td-1.1		
Package	Truckdriver		
File	UC-td-1.1.docx		
Actor	Truck Driver		
Description	Checking the schedule for the day		
Requirements	- User must have a machine that runs the software - User must be connected to the database server - User must be logged in		
Scenario	1. User clicks the "Schedules" tab 2. User clicks on the "Personal Schedule" 3. The user views his personal schedules		
Exceptions			
Result	User can view his or her schedule for a certain timeperiod		
Version	1.0	Author	Jurian Janssen

Use case	Confirming Delivery
Code	UC-td-1.2
Package	Truckdriver, customer
File	UC-td-1.2.docx
Actor	Truck Driver
Description	Confirming the delivery was made
Requirements	- User must have a machine that runs the software - User must be connected to the database server

	- User must be logged in
Scenario	1. User clicks on the "Deliveries" tab 2. User selects the delivery he wants to fill out 3. User fills out the different fields 4. User lets the customer sign in a digital field 5. User clicks on the "Save" button
Exceptions	
Result	Forms are filled in and saved on the server. The order will be set as "Delivered"
Version	1.0 Author Jurian Janssen

|	
Use case	Logging in
Code	UC-td-1.3
Package	Truckdriver
File	UC-td-1.3.docx
Actor	Truck Driver, CEO, Planner, Business Support, Orders and Invoices
Description	Logging in to the system in order to work for the company
Requirements	- User must have a machine that runs the software - User must be connected to the database server
Scenario	6. User starts the software on his or her device 7. User fills in his or her employee-number 8. User fills in his or her password 9. User clicks the loginbutton
	10. The user us redirected to the homepage
Exceptions	**Incorrect password or employee number** The user will be asked to re-enter their information
Result	The user enters the system and is redirected to the homepage of the software.
Version	1.0 Author Jurian Janssen

General use cases

There is one use cases that are universal for all stakeholders, thus we had not made one separately for each stakeholder.

Use case	Logging in
Actor	Truck Driver, CEO, Planner, Business Support, Orders and Invoices
Description	Logging in to the system in order to work for the company
Requirements	User must have a machine that runs the software User must be connected to the database server

Scenario	1. User starts the software on his or her device
	2. User fills in his or her employee-number (username)
	3. User fills in his or her password
	4. User submits
	5. The user is redirected to the homepage
Exceptions	Password or employee-number are wrong: The user will be asked to reenter their information
Result	The user enters the system and is redirected to the homepage of the software.

Use Case Diagram

A use case diagram is an overview of all the use cases combined. With it, it is easier to imagine what
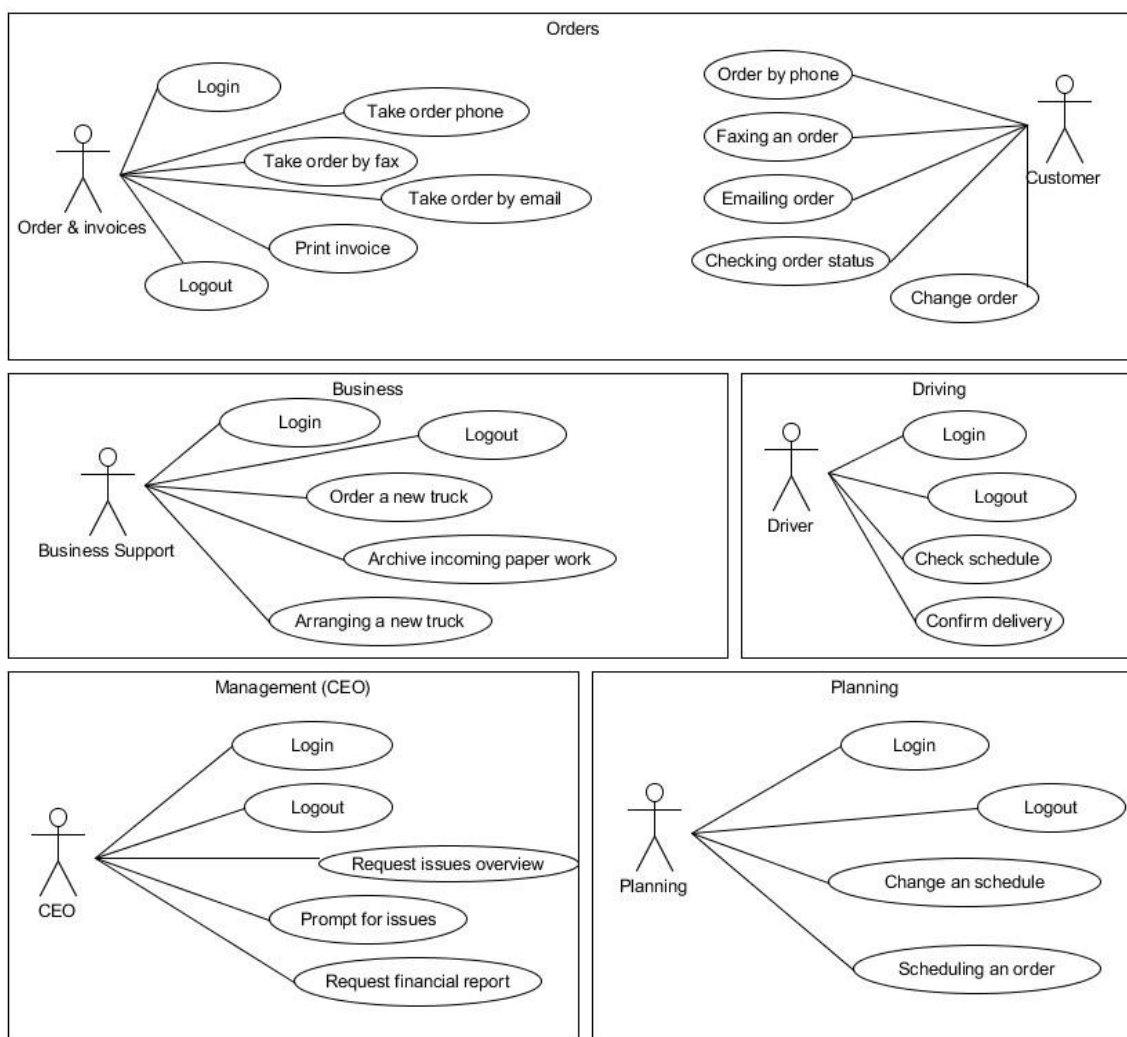
Concrete scenarios

Based on our user stories and use cases, we have created a concrete scenario. A concrete scenario is an example of how an actual employee will be using the system. It's not general, but contains concrete information; it's a real example.

Concrete scenarios business support

Order a new part for a broken truck

Ferd works at the business support of the logistics company. Ferd checks his email and sees a mail containing a message about a broken truck. Ferd checks the system and sees that a driver left a note for truck seven. The note tells Ferd that the speedometer of truck number seven is broken. Ferd starts up his internet browser and navigates to their truckpart supplier. He orders a new speedometer. When that is done he sets truck number seven as inactive in the system until it has been repaired. All other departments will be notified about this change.

Archiving incoming paperwork

Ferd gets an email from Geert (who is working at the Order & Invoices department of the logistics company) containing paperwork that needs to be stored. Ferd logs in to the system and navigates to the correct upload form for his paperwork (e.g. if Ferd needs to upload an order he navigates to a form for an order) starts uploading the documents to the system. When Ferd finished storing all documents he saves his work and logs off.

Arranging a new truck

Ferd gets a new mail. It comes from the technician. This message contains information about the truck that was broken a few weeks ago which Ferd had ordered parts for. Furthermore makes this mail clear that the truck cannot be repaired anymore. Next up Ferd opens his internet browser and navigates to their truck supplier. He orders a new truck. After he orders this truck, opens Ferd the system where he updates the old truck's status to : "deprecated" and adds the new truck to the system. And updates the attribute status to : "to be delivered". After this Ferd saves his work and closes the system.

Concrete scenario CEO

CEO requests overview

It is the end of the month and Mister van der Heijden (CEO) decides that he wants to analyse the performance of the company last month. Initially he logs in using his employee ID and password. The first thing he does once logged in, is to request a financial report. He goes to the finance section. He selects the time period of 1 January till 31 January in 2015 and submits. By accident he selects 2016 instead of 2015. The system responds with an error message. He changes corrects the date and submits again. This time it works and a financial report is generated. He's happy to see that his profit has increased this month. After that he decides to check if one of the trucks has been repaired. In order to do so he has to open the issues overview. He selects the issues section and scrolls through the issues. He finds the truck that was damaged and selects the issue. He can see an overview of when the truck was damaged, when it was fixed and who took care of the issue. He is glad to find out that the truck has been fixed.

Issue handling

Mister van der Heijden is logged in and working. Suddenly he gets a pop up saying that a truck has just crashed with a car near Rotterdam with milk. According to the message emergency services (police and ambulance) are already on its way. Mister van der Heijden closes the pop up and the first thing the CEO does is contact the planning department to try to find a solution as the delivery will likely not be on time. Then mister van der Heijden contacts orders and invoices to inform the

customer of the situation. The result is that the issue is solved instantly and any direct consequences are limited significantly.

Concrete scenarios planning

Scheduling an order

Richard works at the planning department. He gets a call from orders and invoices. Richard speaks to the employee at orders and invoices and asks him to give the details of the order that was placed. In the meantime Richard logs into the new system by filling in his employee number and his password. The employee begins to explain to Richard what the order contains and when it needs to be delivered. Richard checks if the order summed up by the employee contains any hazardous fluids. In this case it doesn't. Richard doesn't check the hazardous fluids checkbox in the system. The employee tells Richard he needs the fluids to be delivered on the 2nd of April 2015. Richard checks the schedule and sees That Bob Beton (truck driver) is available on this date. He also sees that truck number 5 is free on this date. Richard assigns Bob Beton to this delivery. He also assigns truck 5 to Bob Beton for that day. The driver will be notified of this change. Richard thanks the employee and tells that the order has been scheduled for delivery.

Changing a schedule

Richard gets a call from Bob Beton. Bob tells Richard that he is ill and that he can't drive today. Richard sees that Bob has one order on his schedule today. Richard checks the system and sees that Jacques van den Bergh (another driver) is on reserve today. Richard moves the delivery from Bob's schedule to Jacques' schedule. Jacques will now be notified of this change. Richard tells Bob that everything has been rescheduled.

Concrete scenarios truck driver
Checking Schedule

Peter must have a machine that runs the software. It must be connected to the database server. He should be logged on this and he must check the regulations in order to minimize risks. A check list table is a valid itinerary in a schedule. It also includes how long a truck driver drives, the pattern of driving system, Inspection of vehicles and report columns in a schedule. Electronic reports are permitted. Finally, Peter must recheck Schedule and make changes if necessary.

Confirming Delivery

Peter clicks on the Deliveries tab where he can select the delivery. Then he fills out the different fields. So the customer signs in this digital field. Peter clicks on the save button. Delivery receipt confirming the message would be delivered to the recipient's (e-mail server or Read receipt) confirming the recipient viewed the message check box. Finally, if the Order has been successfully delivered there's a good satisfaction.

Logging in

Peter starts the software on his device. He fills his employee number and the password. Then Peter clicks on the login button. Login or sign in refers to credentials required to obtain or access a computer system. He redirected to the homepage and connected to the website. Logging in and out of a computer when leaving, is a common security practice, preventing unauthorized users from tampering with it.

Concrete scenarios orders & invoices

<u>Taking order by phone</u>

Mr. Oi is taking an order by phone. After he picks up the phone he asks the customer for his contact information and types them into the system.

- Cow Boys Ltd.
- Milky road 123
- contact@milk-company.com
- ID875982375 (sales tax ID number)

The employee tries to continue with the process and gets a prompt information that the phone number is missing. After asking the customer for the phone number and filling it out the employee can proceed the process.

The second part of the taking order process is to add information about the task that has to be done.

- Loading location: Amstelplein 1, Amsterdam, Niederlande on Tuesday 24 March 2016 at 8 a.m
- Friedrichstraße 136 ,Berlin Germany on Wednesday 25 March 2016 at 11 a.m.
- 15 tons -   milk

After filling out the form the order will be saved and printed. It´s also available for all departments except the truck driver. The driver will get those information he needs for his trips only.

<u>Taking order by email</u>

Mr. Oi is taking an after he recieves an email. He gets a notification about his email inbox. The first step is to check if the information is complete and then he types those into the system or add by copy and paste to avoid typing error.

- Cow Boys Ltd.
- Milky road 123
- 0031231234238534
- contact(@)milk-company.com
- ID875982375 (sales tax ID number)

The employee tries to continue with the process and gets a prompt information that the email adress is invalid. After replacing the (at) by @ the employee can continue with the order itself.

The second part of the taking order process is to add information about the task that has to be done.

- Loading location: Amstelplein 1, Amsterdam, Niederlande on Tuesday 24 March 2016 at 8 a.m
- Friedrichstraße 136 ,Berlin Germany on Wednesday 25 March 2016 at 11 a.m. -   15 tons

The customer forgot to mention what kind of liquid it is that has to be transported. Not the order and invoice employee hast to contact the customer by phone, email or fax to get this missing information. He is still able to save this information already typed in for this order but can´t print it because of the missen information. He gets a notification of unfinished orders every time he connects to the data base (login). After completing the order will be saved and printed. It´s also available for all departments except the truck driver. The driver will get those information he needs for his trips only.

<u>Taking order by fax</u>

In this case it´s nearly the same as getting an order by email. The only difference is that a printed fax is not always clearly readable. So then the employee has to contact the customer by phone, email or fax again to get those missing information.

Non functional requirements

Non-functional requirements are requirements that specifies criteria that can be used to judge the operation of a system, rather than specific behaviours.

A list of non-functional requirements our application might need:

<u>- Enough bandwidth</u>
Needed so that the application can be reached from any location connected to the internet without a problem.
<u>-Accessibility</u>
Needed to make the application easy to access for the users.
-Enough documentation for the less technical people
Needed for those who don't have a lot of experience with computer programs.
<u>-Portability (mobile device for drivers)</u>
Needed for drivers if they carry a mobile device with the application on it.
<u>-Usability by target users</u>
Application should be easy to use. Not too difficult with a user-friendly layout.
<u>-System backup</u>
A backup cycle so that in case of emergency data isn't lost.

Domain model

The domain model is an essential part of the software requirements specification. It contains the most important entities, attributes and relations between them that will be implemented into the final system.
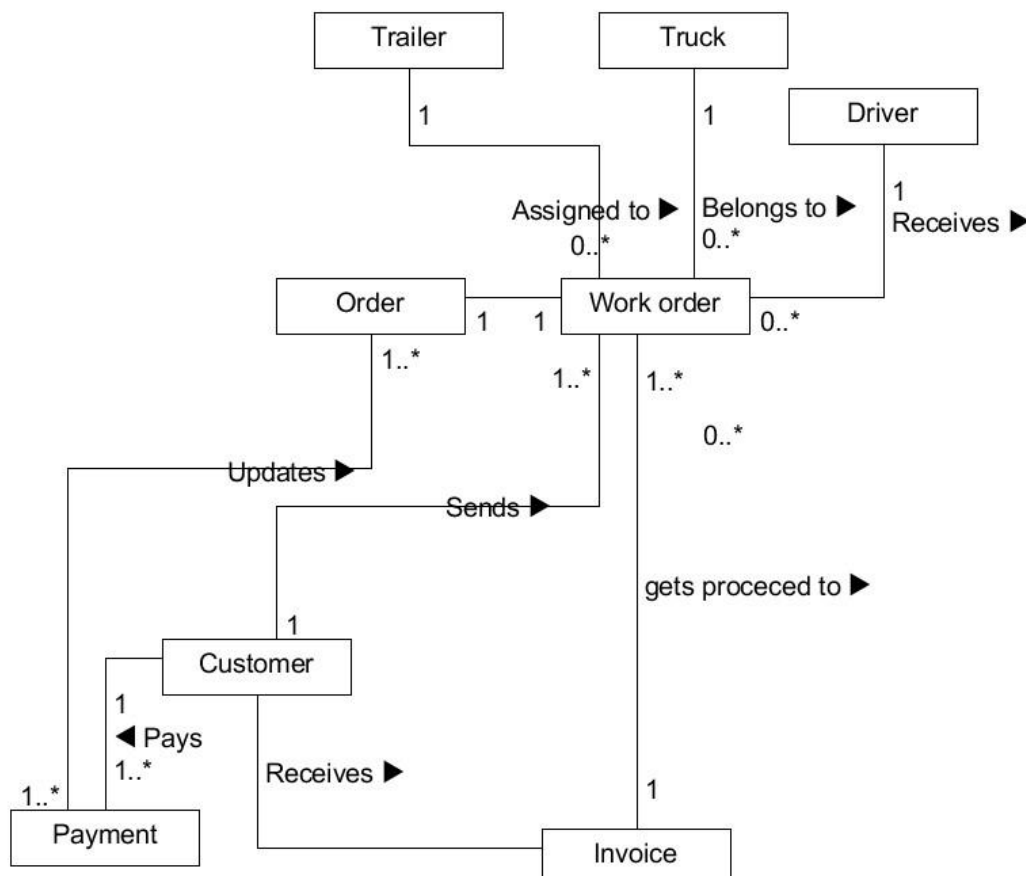
Data model dictionary

The data model dictionary is a list of definitions for all the specific words used during the project. It is essential because it allows the entire group to know what we are talking about and thus prevents communication problems.

Entity Name: **Driver**
Entity Description: Driver is a Person who delivers
Attributes Name: DriverID, Name, birth_of_date, picture_identification, transport, driving_licence
Column Description: unique identification , first and last name of the driver, the day and the year he/she was born, recent photograph, vehicle to transport something from place to place, a proof- he or she is allowed to drive heavy vehicles
Function: delivers customer the goods or ordered items

Entity Name: **Truck**
Entity Description: Motor-Vehicle used to Transport goods
Attributes Name: TruckID_number, Model, Power_engine, TrailerID, DriverID
Column Description: truck ID number is the number plate with which one can identify where is it from, brand of the truck, maximum power of the engine, a trailer is a unit to carry freight, a person who drives heavy vehicles
Function: Used by the driver to transport the goods

Entity Name: **Employee**
Entity Description: Employee works in a Company, full time or part time on a contract under an recognized rights and duties
Attributes Name: CompanyID, Name, Jobtitle
Column Description: employee's identification, first and the Surname of the employee, the position of an employee where he is working
Function: fulfills the tasks for the employer

Entity Name: **Customer**
Entity Description: a Customer, is a person who buys or orders something
Attributes Name: order_no, CustomerID, contact_information
Column Description: the number that is given when you place an order, a person's identification with a photo and details, a person full address - phonenumber and email address Function: placing an order or buying

Entity Name: **Transport**
Entity Description: moving goods and materials from one place to another
Attributes Name: TransportID, DriverID, TruckID, TrailerID, fuel, address
Column Description: transport number for identification, driver delivers goods with the truck(heavy vehicle, big platform with more space ,liquid source to run the vehicle, where to go(place) Function: the function is to deliver ordered goods
Entity Name: **Trailer**
Entity Description: a trailer is a big platform that is connected to the truck. There are different forms of trailers
Attributes Name: TrailerID, max_Weight, LengthandHeight, TruckID
Column Description: trailer identification number, the maximum weight the trailer can carry, length and height are the sizes of the trailer, and the truck is the head of the trailer Function: has a large loading area

Entity Name: **Invoice**
Entity Description: A nonnegotiable commercial instrument issued by a seller to a buyer
Attributes Name: Invoice_number, Date, CustomerID, total_payment, email_address
Column Description: invoice identification number, the day/month/year of invoice, information about to whom the item was sold, the final cost to be paid, email addresses of the receiver and the sender
Function: identifies the items sold, shows the date of shipment prices and discounts

Entity Name: **Order**
Entity Description: An entity containing the information of a client and the item he needs delivered
Attributes Name: OrderID, Order_date, Deliver_address, CustomerID, delivery_date Column Description: order number, when is the order made, address where the goods to be delivered, customer is a person who places orders, delivery date is when the goods to be delivered, Function: an instruction to buy an item in a trade market

Entity Name: **Work order**
Entity Description: written order from the customer providing specific details to the contractor to proceed with the performance of the contract without further instruction Attributes Name: work_orderID, instruction, priority, duration, ScheduleID
Column Description: identification of a worker in a company, requirement , rules or guidelines for a new worker, is to complete the most important duty of the assigned work, is the period of time of an order, it is a timetable with the starting and finishing date for the work order Function: a work request given by a customer to a contractor of a company

Entity Name: **Schedule**
Entity Description: a schedule is a plan of procedure or a list of plan activities usually written or typed for a propose objective to be done on time
Attributes Name: ScheduleID, an_event, account, duration, software, printer, DriverID, EmployeeID
Column Description: identification of a data, a current task to be completed, your prepare an account, it is just the time needed to complete the task, software to prepare a timetable, a machine that prints the timetable, the prepared timetable handed over to the driver, timetable given to the worker of a company

Entity Name: **CEO**
Entity Description: The CEO is the highest ranking executive in a company, whose main responsibilities include developing and implementing high-level strategies, making major corporate decisions, managing the overall operations and resources of a company, and acting as the main point of communication between the board of directors and the corporate operations. Source: *[http://www.investopedia.com/terms/c/ceo.asp]*
Attributes Name: Name of a CEO, Profile, Organization, social management, Title, E- mail Domain, EmployeeID
Column Description: Name and surname of CEO, profile is personal details - education, ability skills and work experience, organization is name of the institute where the CEO is, social management is the interaction with customers and coworkers. Title is the position of CEO. E-mail domain is the email ID of the Chief Officer. It only belongs to the CEO, he has a good contact with the employees and have an overall managing power
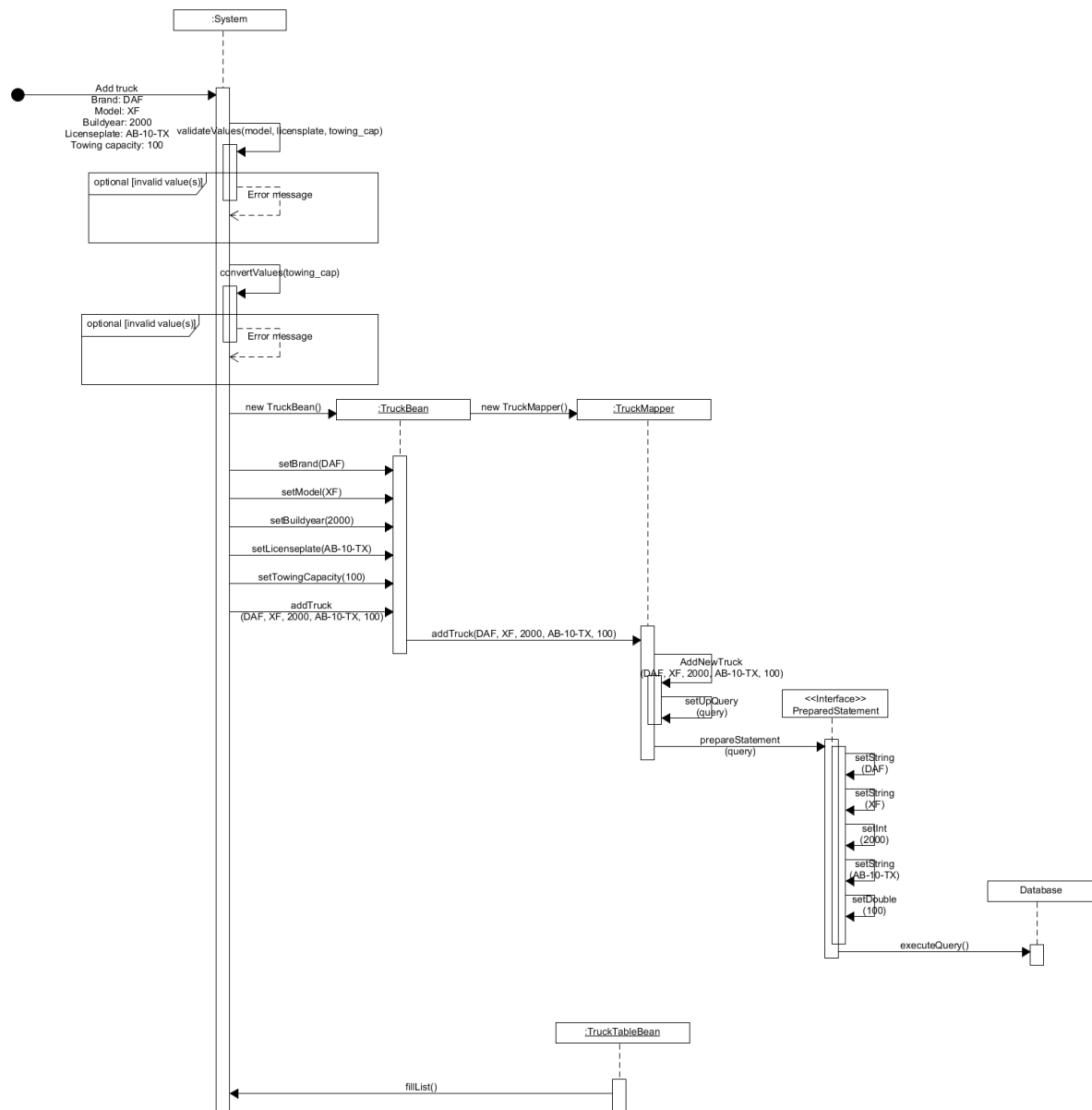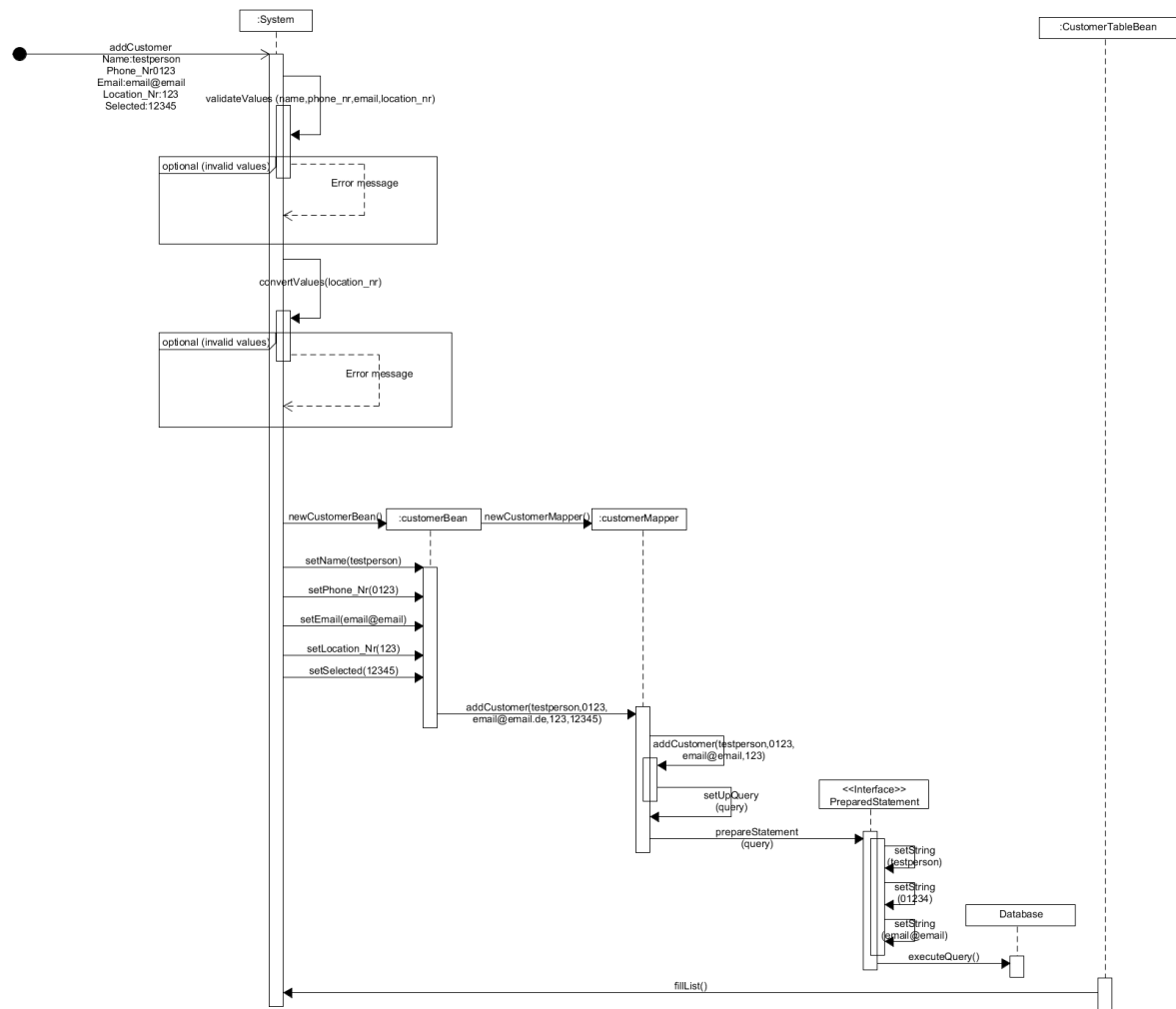Function: He manages the corporate companies as a senior officer.
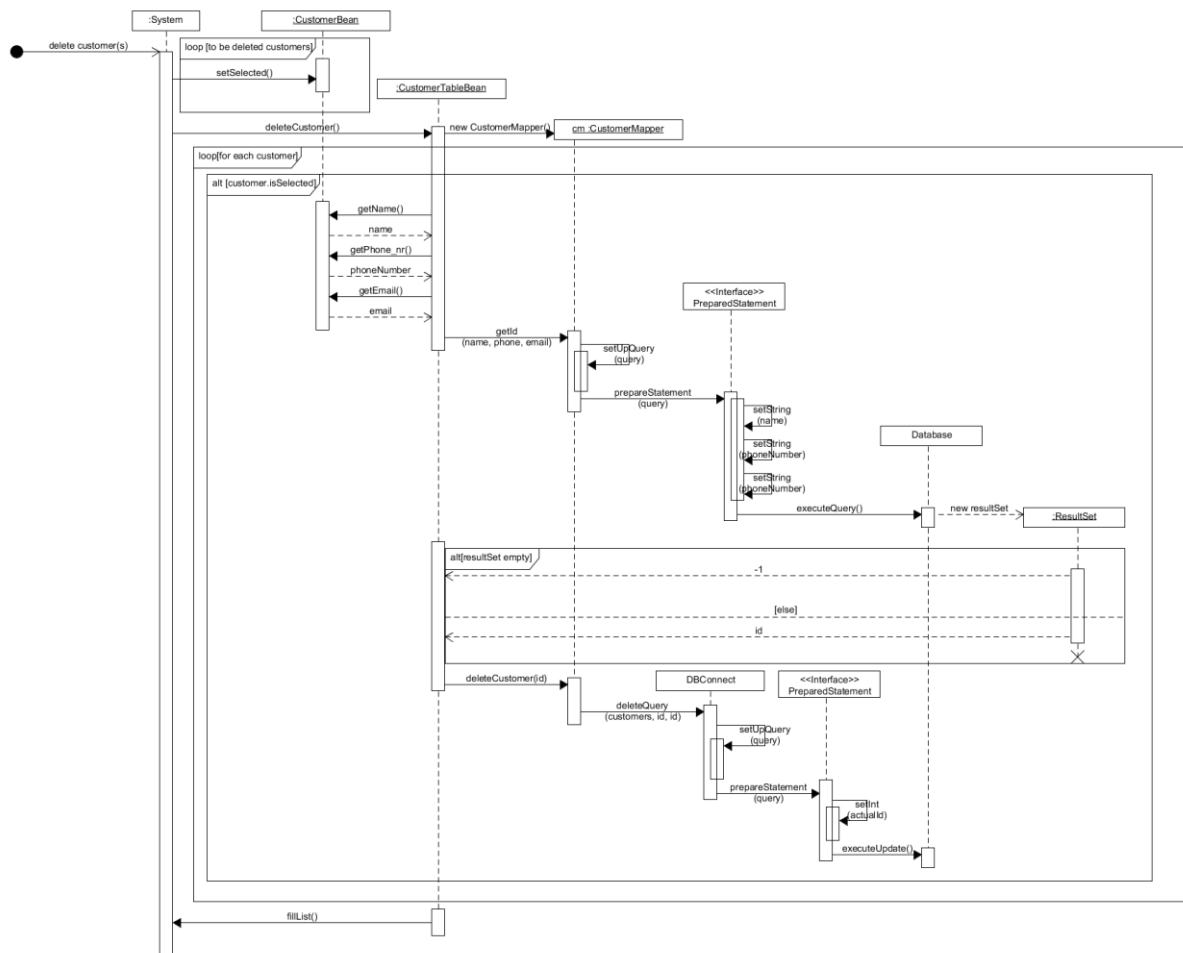
Sequence Diagrams
Adding a location
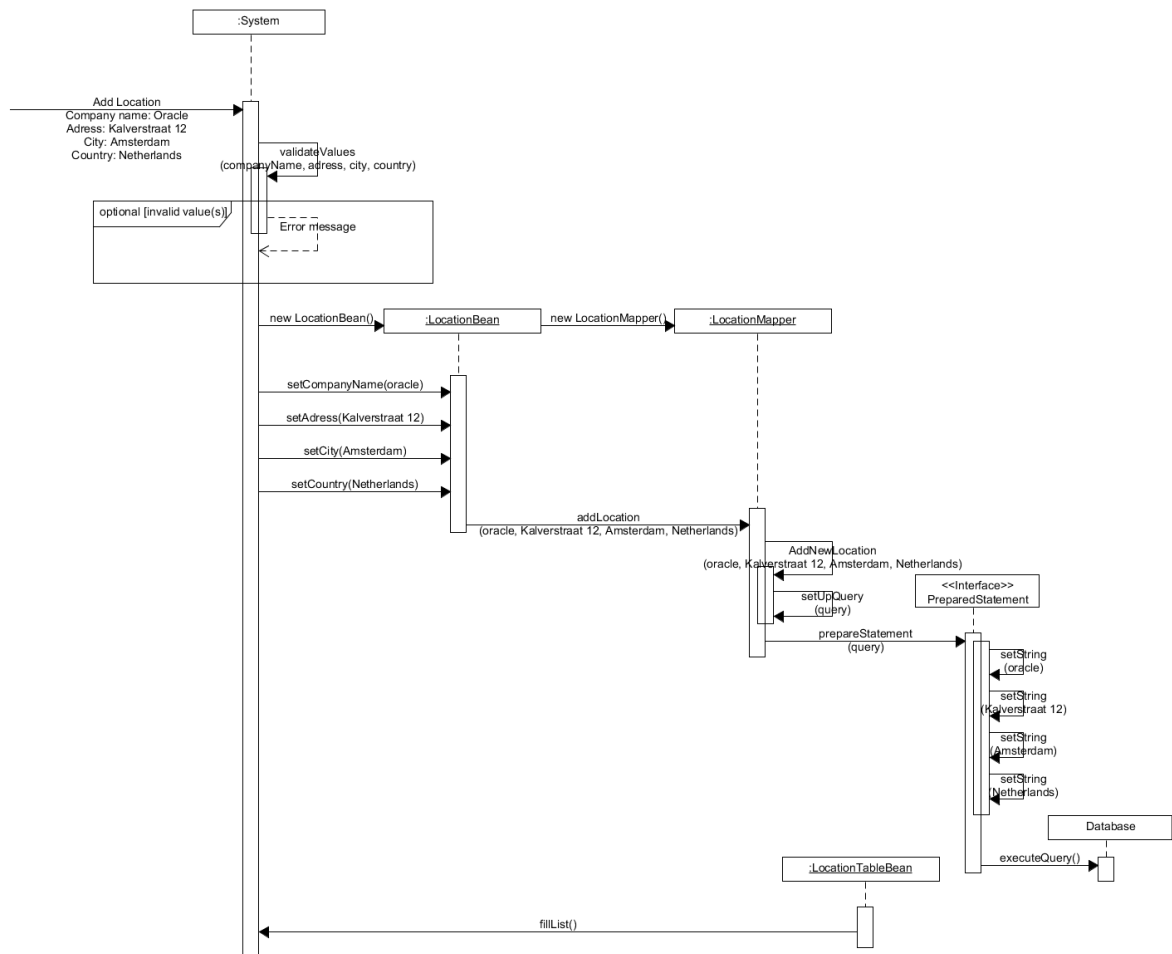
Adding a truck

Adding a customer

Deleting a customer

Appendix 1: Work division

Assignment	Member
Business support user story & use cases	Herm Lecluse
Planning user story & use cases	Herm Lecluse
CEO user story & use cases	Bas de Weerd
Orders & invoices user story & use cases	Schahab Kaiumi
Customer user story & use cases	Jurian Janssen
Truck driver	Jurian Janssen
General user story & use cases	Jurian Janssen
Use case diagram	Bas de Weerd & Schahab Kaiumi
Data model dictionary	Nithilan Kanesamoorthy
Concrete scenarios business support	Herm Lecluse
Concrete scenarios CEO	Bas de Weerd
Concrete scenarios customer	
Concrete scenarios orders & invoices	Schahab Kaiumi
Concrete scenarios truck driver	Nithilan Kanesamoorthy
Concrete scenarios planning	Jurian Janssen
Domain model	Herm Lecluse
Non-functional requirements	Jurian Janssen