



# REQUIREMENTS SPECIFICATION

PalletPals – Phase 1

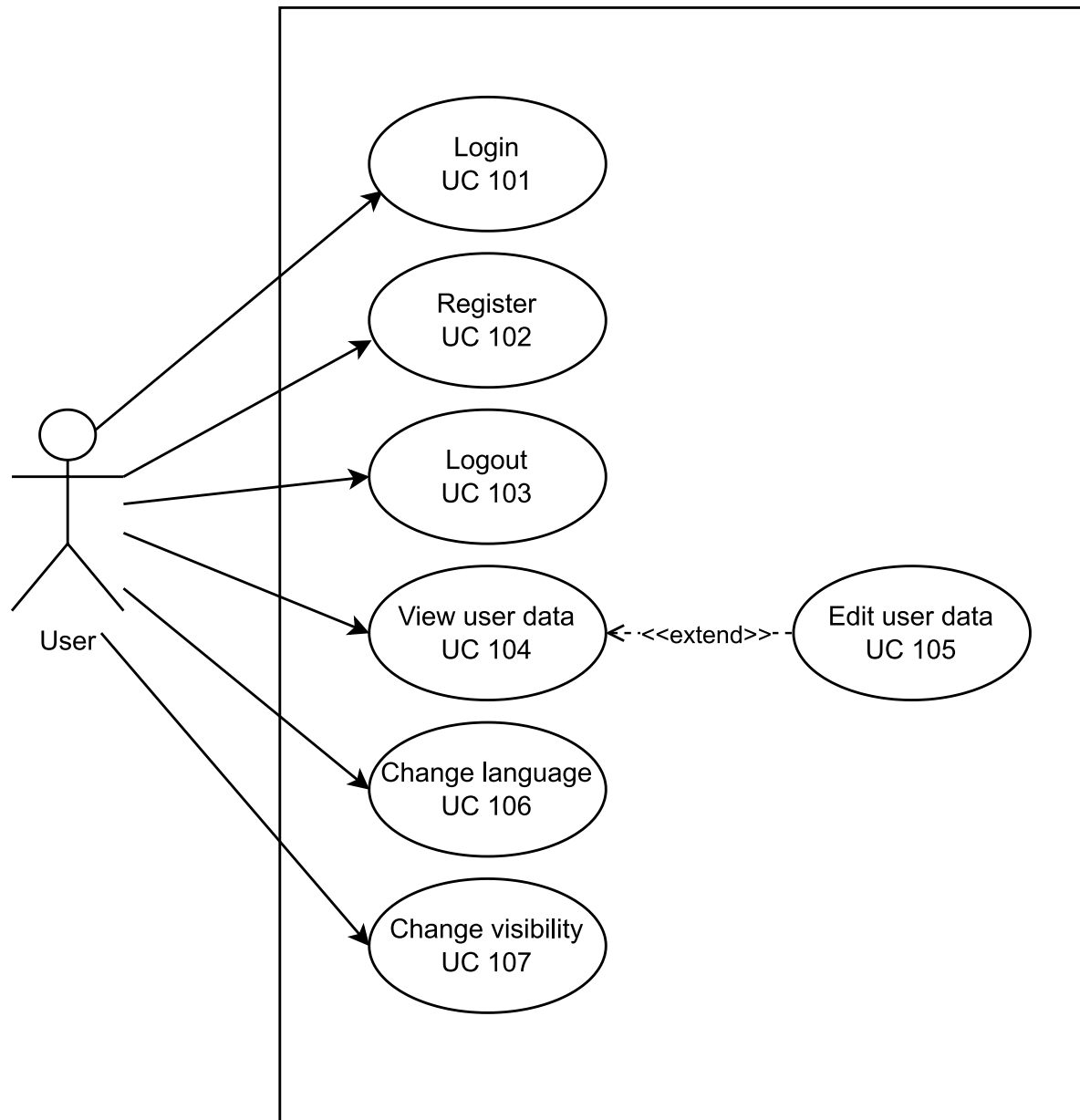
Lecturers	Lukas Frey Prof. Bradley Richards
-----------	--------------------------------------

Authors	Tibor Haller Marco Kaufmann Daniel Locher
---------	---

Place and date	Brugg-Windisch, 02.06.2022
----------------	----------------------------

# Functional Requirements

## User Management



## UC 101 – Login

Title	Login	
ID	UC 101	
Precondition	UC 102	
Flow	Main	Alternative
	<ol style="list-style-type: none"> <li>1. User enters login credentials</li> <li>2. System checks login credentials</li> <li>3a. Login credentials are correct</li> <li>3b. Login credentials are incorrect</li> <li>4a. System redirects user to homepage</li> <li>4b. System displays error message</li> </ol>	
Postcondition	User is logged in	

## UC 102 – Register

Title	Register	
ID	UC 102	
Precondition	User is on start page	
Flow	Main	Alternative
	<ol style="list-style-type: none"> <li>1. User selects option to register</li> <li>2. User enters relevant information</li> <li>3a. Entered information is valid</li> <li>3b. Entered information is invalid</li> <li>4a. System saved new user</li> <li>4b. System displays error message</li> <li>5a. System redirects user to homepage</li> <li>5b. User goes back to step 2.</li> </ol>	
Postcondition	User is registered	

#### UC 103 – Logout

Title	Logout
ID	UC 103
Precondition	UC 101
Flow	Main
	<ol style="list-style-type: none"><li>1. User selects option to log out</li><li>2. System invalidates user session</li></ol>
Postcondition	User is logged out

#### UC 104 – View user data

Title	View user data
ID	UC 104
Precondition	UC 101
Flow	Main
	<ol style="list-style-type: none"><li>1. User clicks on profile icon</li><li>2. System fetches user data and displays it on new view</li></ol>
Postcondition	User sees user data

### UC 105 – Edit user data

Title	Edit user data	
ID	UC 105	
Precondition	UC 101, UC 104	
Flow	Main	Alternative
	<ol style="list-style-type: none"> <li>1. User selects option to edit user data</li> <li>2. User edits his information: <ol style="list-style-type: none"> <li>a. E-Mail</li> <li>b. Address</li> <li>c. Password</li> </ol> </li> <li>3a. Entered information is valid</li> <li>3b. Entered information is invalid</li> <li>4a. System saves changes</li> <li>4b. System displays error message</li> </ol>	
Postcondition	User data is edited	

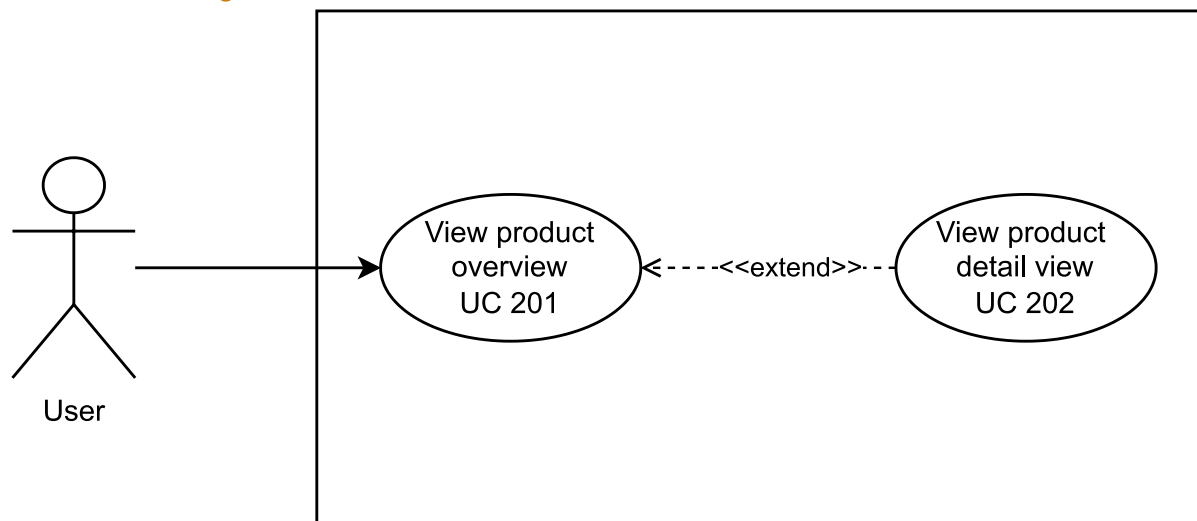
### UC 106 – Change language

Title	Change language	
ID	UC 106	
Precondition		
Flow	Main	Alternative
	<ol style="list-style-type: none"> <li>1a. User is logged in</li> <li>1b. User is not logged in</li> <li>2. User selects option to change language</li> <li>3. User confirms preferred language</li> <li>4a. System saves language preference into user profile</li> <li>4b. System saves language preference in local storage of user</li> </ol>	
Postcondition	Current page reloads in preferred language	

## UC 107 – Change appearance

Title	Change appearance	
ID	UC 107	
Precondition		
Flow	Main	Alternative
	1a. User is logged in	1b. User is not logged in
	2. User selects option to change appearance	
	3. User selects either dark or light mode	
	4a. System saves appearance preference into user profile	4b. System saves appearance preference in local storage of user
Postcondition	Current page reloads in preferred mode	

## Product Management



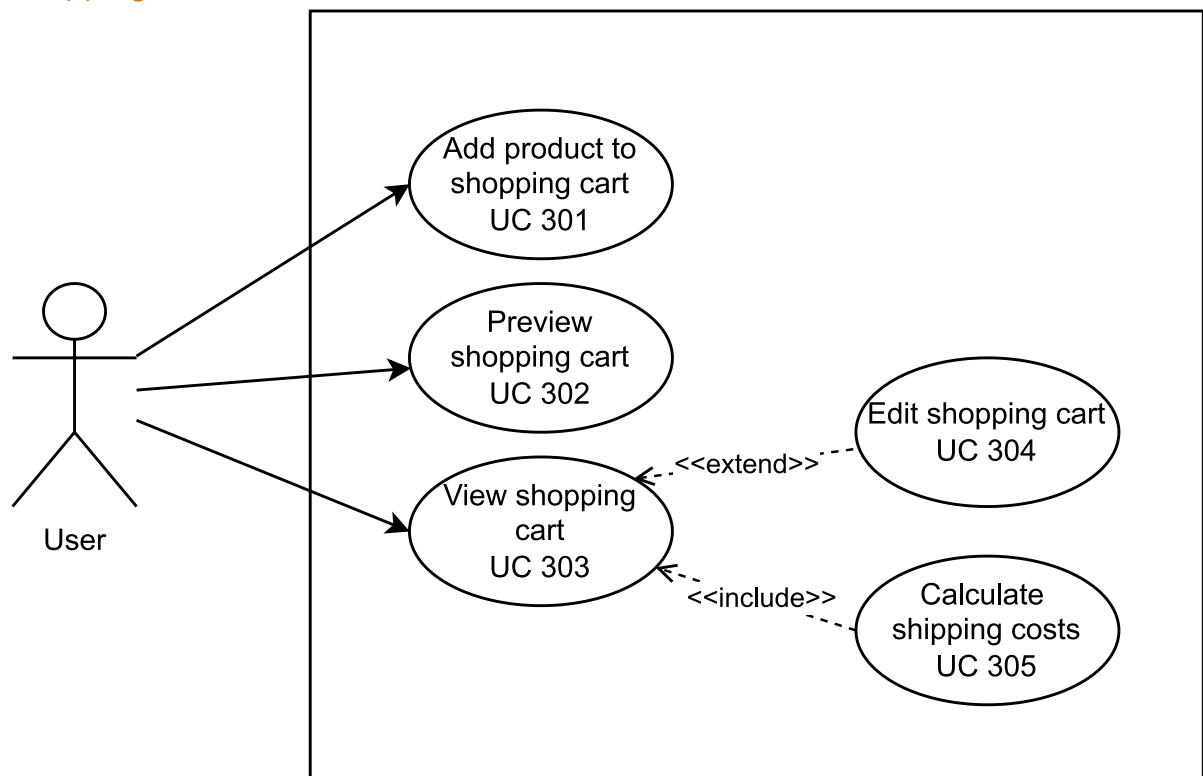
### UC 201 – View product overview

Title	View product overview
ID	UC 201
Precondition	UC 101 (User is logged in)
Flow	Main <ol style="list-style-type: none"><li>1. User selects option to view the product overview</li><li>2. System fetches all products</li><li>3. System displays all products as an overview</li></ol>
Postcondition	Overview of products is shown

### UC 202 – View product detail view

Title	View product detail view
ID	UC 202
Precondition	UC 101, UC 201
Flow	Main <ol style="list-style-type: none"><li>1. User selects a product from product overview</li><li>2. System fetches product data</li><li>3. System displays product data as a detail view</li></ol>
Postcondition	Detail view of selected product is shown

## Shopping Cart



### UC 301 – Add product to shopping cart

Title	Add product to shopping cart	
ID	UC 301	
Precondition	UC 101, UC 201/UC 202	
Flow	Main	Alternative
	1a. User is on product overview page 2. User enters desired amount for product 3. User clicks on add to shopping cart icon	1b. User is on product detail page
Postcondition	Product in desired amount is added to shopping cart	



#### UC 302 – Preview shopping cart

Title	Preview shopping cart
ID	UC 302
Precondition	UC 101
Flow	Main
	1a. User clicks on shopping cart icon
	2a. System fetches and displays shopping cart preview on the right of the current view
Postcondition	Preview of shopping cart is shown

#### UC 303 – View shopping cart

Title	View shopping cart
ID	UC 303
Precondition	UC 101
Flow	Main
	1. User presses shopping cart icon
	2. System fetches and displays shopping cart information
	3. System calculates shipping costs (UC 305)
	4. System displays total amount
Postcondition	Overview of shopping cart and total amount is shown

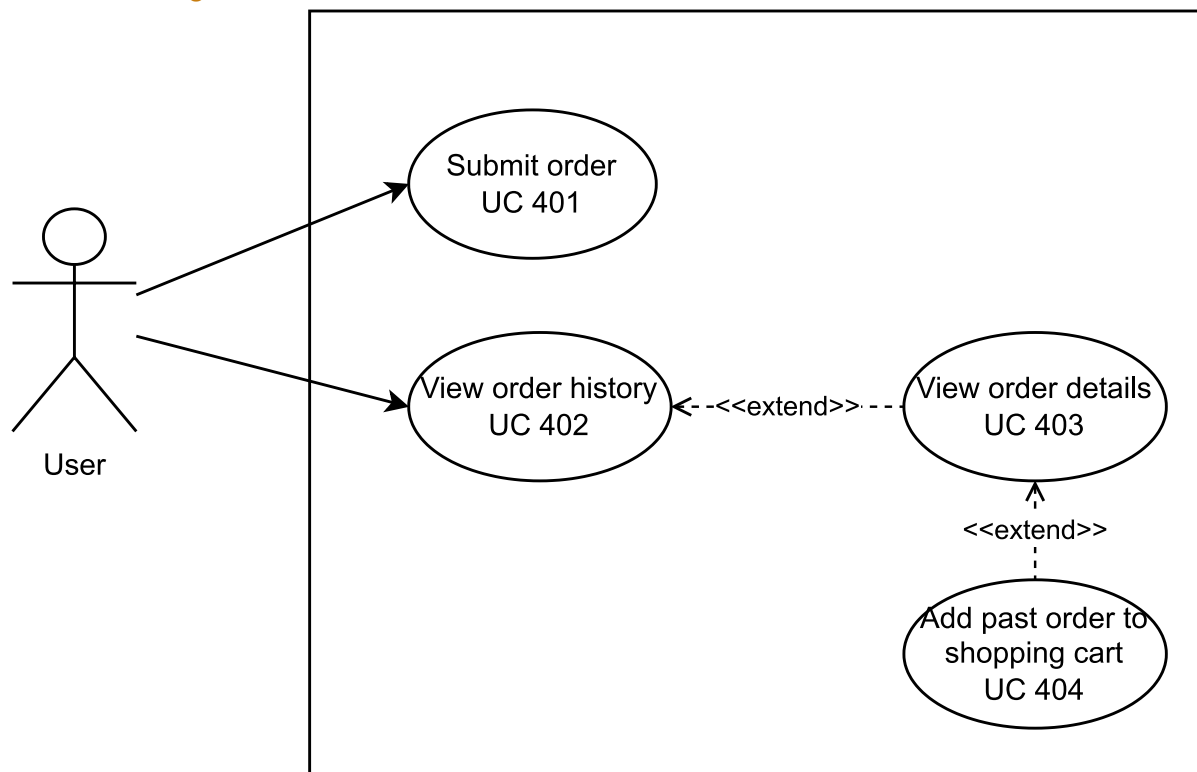
#### UC 304 – Edit shopping cart

Title	Edit shopping cart
ID	UC 304
Precondition	UC 101, UC 303
Flow	Main <ol style="list-style-type: none"><li>1. User is in shopping cart view</li><li>2. User edits his shopping cart<ol style="list-style-type: none"><li>a. Amount</li><li>b. Remove product</li><li>c. Add products (user gets redirected to product overview)</li></ol></li><li>3. System recalculates shipping costs (UC 305) and total</li></ol>
Postcondition	Shopping cart is edited and costs are adapted

#### UC 305 – Calculate shipping costs

Title	Calculate shipping costs
ID	UC 305
Precondition	UC 101, UC 303 started
Flow	Main <ol style="list-style-type: none"><li>1. System selects the nearest warehouse to customer address</li><li>2. System calculates distance from warehouse to customer</li><li>3. System calculates pallet space required for shipping</li><li>4. System calculates shipping cost based on price plan</li></ol>
Postcondition	Shipping cost

## Order Management



### UC 401 – Submit order

Title	Submit order
ID	UC 401
Precondition	UC 101, UC 303
Flow	Main <ol style="list-style-type: none"><li>1. User clicks on submit button in the check-out view</li><li>2. System saves order in DB and in customer order history</li><li>3. System empties shopping cart of customer</li></ol>
Postcondition	The order is saved to DB and shopping cart is emptied

### UC 402 – View order history

Title	View order history
ID	UC 402
Precondition	UC 101
Flow	Main <ol style="list-style-type: none"><li>1. User selects option to view order history</li><li>2. System displays per page 10 orders that are ordered chronologically</li><li>3. User filters order<ol style="list-style-type: none"><li>a. Date from to</li><li>b. Amount from to</li></ol></li></ol>
Postcondition	List of all orders is shown that can be filtered

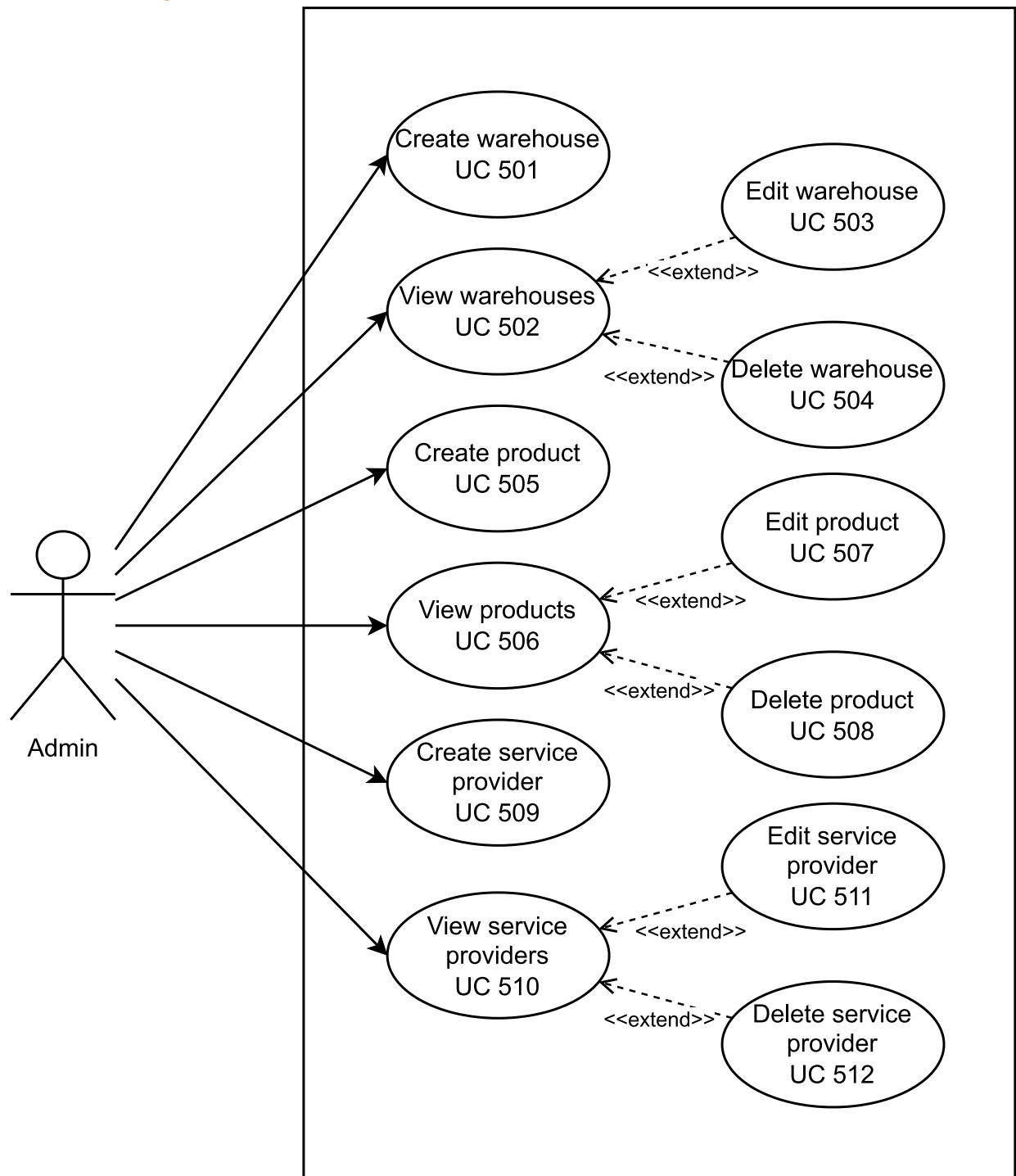
### UC 403 – View order details

Title	View order details
ID	UC 403
Precondition	UC 101, UC 402
Flow	Main <ol style="list-style-type: none"><li>1. User selects order form list</li><li>2. System displays order details on new view:<ol style="list-style-type: none"><li>a. Date</li><li>b. Products</li><li>c. Total amount</li><li>d. Shipping address</li></ol></li></ol>
Postcondition	Overview of all details for selected order

## UC 404 – Add past order to shopping cart

Title	Add past order to shopping cart
ID	UC 404
Precondition	UC 101, UC 401, UC 403
Flow	Main <ol style="list-style-type: none"><li>1. User clicks on button to add order to cart in the order detail view</li><li>2. System copies order to the shopping cart to be ordered again</li></ol>
Postcondition	Past order is added to the shopping cart

## Admin Management



### UC 501 Create warehouse

Title	Create warehouse
ID	UC 501
Precondition	UC 101
Flow	Main <ol style="list-style-type: none"><li>1. Admin selects option to create new warehouse</li><li>2. Admin enters relevant data and address</li><li>3. Admin submits and system saves warehouse to DB</li></ol>
Postcondition	The warehouse is saved to the DB

### UC 502 View warehouses

Title	View warehouses
ID	UC 502
Precondition	UC 101, 501
Flow	Main <ol style="list-style-type: none"><li>1. Admin selects menu to view all warehouses</li><li>2. System retrieves all warehouses</li></ol>
Postcondition	The admin has a overview of all warehouses

### UC 503 Edit warehouse

Title	Edit warehouse
ID	UC 503
Precondition	UC 101, 502
Flow	Main <ol style="list-style-type: none"><li>1. Admin selects option to edit a warehouse</li><li>2. Admin alters data</li><li>3. Admin submits his changes</li><li>4. System updates warehouse</li></ol>
Postcondition	The warehouse is updated

### UC 504 Delete warehouse

Title	Delete warehouse
ID	UC 504
Precondition	UC 101, 502
Flow	Main <ol style="list-style-type: none"><li>1. Admin selects option to delete a warehouse</li><li>2. Admin submits the deletion</li><li>3. System deletes warehouse from DB</li></ol>
Postcondition	The warehouse is no longer in the DB

### UC 505 Create product

Title	Create product
ID	UC 505
Precondition	UC 101
Flow	Main <ol style="list-style-type: none"><li>1. Admin selects option to create new product</li><li>2. Admin enters relevant data and adds images</li><li>3. Admin submits and system saves product to DB</li></ol>
Postcondition	The product is saved to the DB

### UC 506 View products

Title	View products
ID	UC 506
Precondition	UC 101, 505
Flow	Main <ol style="list-style-type: none"><li>1. Admin selects menu to view all products</li><li>2. System retrieves all products</li></ol>
Postcondition	The admin has a overview of all products



### UC 507 Edit product

Title	Edit product
ID	UC 507
Precondition	UC 101, 506
Flow	Main <ol style="list-style-type: none"><li>1. Admin selects option to edit a product</li><li>2. Admin alters data</li><li>3. Admin submits his changes</li><li>4. System updates product</li></ol>
Postcondition	The product is updated

### UC 508 Delete product

Title	Delete product
ID	UC 508
Precondition	UC 101, 506
Flow	Main <ol style="list-style-type: none"><li>1. Admin selects option to delete a product</li><li>2. Admin submits the deletion</li><li>3. System deletes product from DB</li></ol>
Postcondition	The product is no longer in the DB

### UC 509 Create service provider

Title	Create service provider
ID	UC 509
Precondition	UC 101
Flow	Main <ol style="list-style-type: none"><li>1. Admin selects option to create new service provider</li><li>2. Admin enters relevant data and adds images</li><li>3. Admin submits and system saves service provider to DB</li></ol>
Postcondition	The service provider is saved to the DB

### UC 510 View service provider

Title	View service provider
ID	UC 510
Precondition	UC 101, 509
Flow	Main
	<ol style="list-style-type: none"><li>1. Admin selects menu to view all service provider</li><li>2. System retrieves all service provider</li></ol>
Postcondition	The admin has a overview of all service provider

### UC 511 Edit service provider

Title	Edit service provider
ID	UC 511
Precondition	UC 101, 509
Flow	Main
	<ol style="list-style-type: none"><li>1. Admin selects option to edit a service provider</li><li>2. Admin alters data</li><li>3. Admin submits his changes</li><li>4. System updates service provider</li></ol>
Postcondition	The service provider is updated

### UC 512 Delete service provider

Title	Delete service provider
ID	UC 512
Precondition	UC 101, 509
Flow	Main
	<ol style="list-style-type: none"><li>1. Admin selects option to delete a service provider</li><li>2. Admin submits the deletion</li><li>3. System deletes service provider from DB</li></ol>
Postcondition	The service provider is no longer in the DB

## Non-Functional Requirements

NFR	Description
Usability	<ul style="list-style-type: none"><li>• The system shall perform a client-side validation of all user inputs</li><li>• The website shall be responsive and work on all display sizes (e.g., phone, tablet, laptop, computer)</li><li>• The system should provide two or more languages to the users on the frontend</li><li>• The website shall have a good styling and design to help users navigate</li><li>• The appearance of the website should be customizable to a certain degree</li></ul>
Security	<ul style="list-style-type: none"><li>• The system shall perform a server-side validation of all user inputs</li><li>• The system shall ensure safe communication through the usage of a security protocol</li><li>• The system shall grant access only to registered users</li></ul>
Portability	<ul style="list-style-type: none"><li>• The application shall work on all major browsers (e.g., Chrome, Firefox, and Safari)</li></ul>
Maintainability	<ul style="list-style-type: none"><li>• Changes made in the source code shall be tracked and documented with a version control system</li></ul>

# Mockups

## Legend

text display	button
input field	button (active)
select	button (isAdmin)

## User Management Views

UC 102 Not logged in

logo

products (201)

login (101)

appearance (107)

language (106)

### Register

first name	last name
email	password

### Address

street	premise
postal code	city
country	

access code

register

login (101)

UC 101 Not logged in

logo

products (201)

login (101)

appearance (107)

language (106)

### Login

email

password

login

register (102)

UC 104

Logged in

logo

admin (506)

products (201)

profile (104)

logout (103)

cart (303)

appearance (107)

language (106)

Profile

edit (105)

Address

address

Email

email

Last order

all orders (402)

#orderid (403)	date ordered	date delivered	number of products	total price
----------------	--------------	----------------	--------------------	-------------

## Product and Shopping Cart Views

UC 201

Logged in

logo

admin (506)

products (201)

profile (104)

logout (103)

cart (303)

appearance (107)

language (106)

Products

image (301)

name

price

image (301)

name

price

image (301)

name

price

image (301)

name

price

...

UC 202

Logged in

logo

admin (506)

products (201)

profile (104)

logout (103)

cart (303)

appearance (107)

language (106)

image

name

price

description

amount

add to cart (301)

details

image

image

image

UC 302

Logged in

logo

admin (506)

products (201)

profile (104)

Cart x

thumbnail	name	price
	amount	

thumbnail	name	price
	amount	

...

go to cart (303)

logo

admin  
(506)

products  
(201)

profile  
(104)

logout  
(103)

cart  
(303)

appearance  
(107)

language  
(106)

## Cart

### Products

image	name	amount	update (304)	remove (304)
	price per unit			
	amount			
	total			

...

### Shipping

details & cost (305)
----------------------

order (401)

## Order Management Views

UC 403

Logged in

logo

admin (506)

products (201)

profile (104)

logout (103)

cart (303)

appearance (107)

language (106)

**Order #orderid**

reorder (404)

#orderid	date ordered	date delivered	number of products	total price
----------	--------------	----------------	--------------------	-------------

**Products**

name	pallet space	amount	price per unit	price
name	pallet space	amount	price per unit	price
...				

**Shipping**

details & cost
----------------

UC 402

Logged in

logo

admin (506)

products (201)

profile (104)

logout (103)

cart (303)

appearance (107)

language (106)

**Order History**

#orderid (403)	date ordered	date delivered	number of products	total price
----------------	--------------	----------------	--------------------	-------------

#orderid (403)	date ordered	date delivered	number of products	total price
----------------	--------------	----------------	--------------------	-------------

...



## Admin Dashboard Views

UC 511

Logged in

logo

admin  
(506)

products  
(201)

profile  
(104)

logout  
(103)

cart  
(303)

appearance  
(107)

language  
(106)

products  
(506)

service providers  
(510)

warehouses  
(502)

### Edit Service Provider

name

price plan upload / drag and drop area

save

UC 501

Logged in

logo

admin  
(506)

products  
(201)

profile  
(104)

logout  
(103)

cart  
(303)

appearance  
(107)

language  
(106)

products  
(506)

service providers  
(510)

warehouses  
(502)

### Create Warehouse

name

#### Address

organisation

street

postal code

city

country

create

logo

admin (506)

products (201)

profile (104)

logout (103)

cart (303)

appearance (107)

language (106)

products (506)

service providers (510)

warehouses (502)

### Warehouses

create (501)

name	edit (503)	delete (504)
name	edit (503)	delete (504)

...

logo

admin (506)

products (201)

profile (104)

logout (103)

cart (303)

appearance (107)

language (106)

products (506)

service providers (510)

warehouses (502)

### Edit Warehouse

name

#### Address

organisation

street

postal code

city

country

save

logo

admin (506)

products (201)

profile (104)

logout (103)

cart (303)

appearance (107)

language (106)

products (506)

service providers (510)

warehouses (502)

### Create Product

name

description

description\_de

description\_fr

details

description\_de

description\_fr

max\_products

min\_pallet\_space

price

image previews (remove images)

image upload / drag and drop area

create

logo

admin (506)

products (201)

profile (104)

logout (103)

cart (303)

appearance (107)

language (106)

products (506)

service providers (510)

warehouses (502)

### Products

create (505)

name	edit (507)	delete (508)
name	edit (507)	delete (508)

...

logo

admin  
(506)

products  
(201)

profile  
(104)

logout  
(103)

cart  
(303)

appearance  
(107)

language  
(106)

products  
(506)

service providers  
(510)

warehouses  
(502)

### Edit Product

name

description

description\_de

description\_fr

details

description\_de

description\_fr

max\_products

min\_pallet\_space

price

image previews (remove images)

image upload / drag and drop area

save

logo

admin  
(506)

products  
(201)

profile  
(104)

logout  
(103)

cart  
(303)

appearance  
(107)

language  
(106)

products  
(506)

service providers  
(510)

warehouses  
(502)

### Create Service Provider

name

price plan upload / drag and drop area

create

logo

admin  
(506)

products  
(201)

profile  
(104)

logout  
(103)

cart  
(303)

appearance  
(107)

language  
(106)

products  
(506)

service providers  
(510)

warehouses  
(502)

Service Providers

create  
(509)

name	edit (511)	delete (512)
name	edit (511)	delete (512)

...