Project Management

Specification of a system component

System component chosen is OrderService which is responsible for creating and fetching orders, this component will be created using Unit of Work and repository design patterns. OrderService uses number of repositories (which abstract database access) to manage in memory collection of objects and any changes written do database together as one unit, hence the name unit of work. Either all operations succeed or fail. Repositories will be implemented with their corresponding interfaces for repository specific operations together with inheriting from generic repository class which contains generic methods for common operations on the generic type. Generic type will be replaced by concrete type -entity, when inheriting from generic repository class. This will help with reusability as there will no longer be need to create separate collection class for each type together with stored procedures which are very similar for common operations such as select, create, update, delete.

Event Tables

Admin - Event table

Subject	Verb	Object	Response
Admin	Add item to catalog	Item	Item is added to the catalogue
Admin	Update item details	Item	Item details are updated
Admin	Sign In	System	Admin is signed in
Admin	Sign Out	System	Admin is signed out
Admin	Approve item review	Review	Review is updated
Admin	Add Employee	Employee	Employee is added
Admin	Change employee password	Employee	Employee password is changed
Admin	Employee change employee task permissions	Employee	Employee task permissions are changed
Admin	View Warehouse locations	Locations	Warehouse locations are displayed
Admin	Search warehouse locations	Locations	Warehouse locations are filtered and displayed
Admin	Add warehouse locations	Locations	Warehouse locations are added
Admin	View Warehouse locations items	Locations	Warehouse locations items are displayed

Customer - Event table

Subject	Verb	Object	Response
Customer	Sign Up	System	Customer is registered
Customer	Sign In	System	Customer is singed in
Customer	Sign Out	System	Customer is signed out
Customer	Edit Login and Security details	System	Login and security details are changed
Customer	Add address	System	Address is added
Customer	Update address	System	Address is updated
Customer	View item details	System	Item details are displayed
Customer	Add item to the basket	System	Item is added to the basket
Customer	Delete item from the basket	Basket	Item is deleted from the basket
Customer	Update item quantity	Basket	Item quantity is updated
Customer	Add payment details	System	Payment details are added
Customer	Update payment details	System	Payment details are updated
Customer	View order details	Order	Order details are displayed
Customer	View order history	Account	Order history is displayed
Customer	Submit item review	Item	Review is submitted for review

Employee - Event table

Subject	Verb	Object	Response
Employee	Sign In	System	Employee is Singed In.
Employee	Sing Out	System	Employee is Signed Out.
Employee	Receive	Item	Item is received into receive location.
Employee	Stow	Item	Item is stowed into a storage location.
Employee	Pick	Order	Order is picked from a storage location.
Employee	Drop into packing location	Order	Picked orders are added to a pack location.
Employee	Pack	Order	Order is packed and shipment is created.
Employee	Drop into shipping location	Shipment	Shipment is added to a shipping location.
Employee	Dispatch shipment	Shipment	Shipment is dispatched.

Use Case Descriptions

Admin - Use Case Descriptions

Admin - Add item to the catalogue

Use Case Name	Add item to the catalog
Use Case Description	Admin adds item to the catalog so it will become available to the customers to buy
Use Case Author	Martin Kovac
Actor	Admin
Locations	Admin portal
Primary pathway	1. Admin clicks on add item button 2. Admin enters all necessary details 3. Details are validated 4. Admin presses add button 5. Added item is available at customer site
Alternate pathways	Validation fails - message is displayed to the user (depends on the input field and actual input) User presses cancel/back button - user is returned to previous screen (no item is added)
Exception pathway	Database connection fails - error is displayed to the Admin advising of connection problem

Admin - Update item details

Use Case Name	Update item details
Use Case Description	Admin updates item details
Use Case Author	Martin Kovac
Actor	Admin
Locations	Admin portal
Primary pathway	1. Admin finds and selects item 2. Admin presses edit button 3. Non-editable fields are not selectable, only editable fields are available for modification 4. Admin updates details 5. Details are validated 6. Admin presses save button 7. Item details are updated 8. Notification is displayed to the user
Alternate pathways	Validation fails - message is displayed to the user (depends on the input field and actual input) User presses cancel/back button - user is returned to previous screen (details are not updated)
Exception pathway	Database connection fails - error is displayed to the Admin advising of connection problem

Admin - Sign In

Use Case Name	Sign In
Use Case Description	Admin signs in
Use Case Author	Martin Kovac
Actor	Admin
Locations	Admin site
Primary pathway	1. Admin goes to admin site URL 2. Admin is presented with sign in page 3. Admin enters his username and password 4. Admin is granted access and is redirected to dashboard
Alternate pathways	Incorrect details are entered – notification is displayed (user name or password are incorrect)
Exception pathway	Database connection fails - Error displayed to the Admin advising of connection problem

Admin - Sign Out

Use Case Name	Sign out
Use Case Description	Admin signs out
Use Case Author	Martin Kovac
Locations	Admin site
Actor	Admin
Primary pathway	1. Admin clicks on sign out button 2. Admin is redirected to login screen 3. Notification is displayed confirming logging out
Alternate pathways	None
Exception pathway	Error occurs - notification is displayed to the user

Admin - Approve item review

Use Case Name	Approve item review
Use Case Description	Item reviews have to be checked(foul language, spam) and approved by admin in order to be displayed
Use Case Author	Martin Kovac
Actor	Admin
Locations	Admin site
Primary pathway	1. Admin receives notification about pending review 2. Admin opens review section of the application 3. Admin selects review 4. Review is displayed to admin to be checked 5. Admin presses approve button 6. Review accessible to customers on item page
Alternate pathways	Admin presses reject button - dialogue is displayed with dropdown where reason for rejection can be selected. Notification is displayed to the customer next time he is logged in stating that review has been rejected and reason
Exception pathway	Database connection fails - Error displayed to the Admin advising of connection problem

Admin - Add Employee

Use Case Name	Add employee
Use Case Description	Admin adds employee
Use Case Author	Martin Kovac
Actor	Admin
Locations	Admin site
Primary pathway	1. Admin signs in and navigates to add employee page 2. Admin is presented with a form with employee details and tasks checkboxes 3. Admin fills up details and presses Add employee 4. Employee is added and notification is displayed
Alternate pathways	
Exception pathway	Database connection fails - Error displayed to the Admin advising of connection problem

Admin - Change employee task permisions

Use Case Name	Change employee task permissions
Use Case Description	Admin changes employee task permissions
Use Case Author	Martin Kovac
Actor	Admin
Locations	Admin site
Primary pathway	1. Admin signs in and navigates to view employees page 2. Admin presses edit details on the chosen employee row 3. Admin is presented with employee details 4. Admin checks or unchecks checkboxes for corresponding employee tasks 5. Admin presses Update employee info button and changes are saved
Alternate pathways	
Exception pathway	Database connection fails - Error displayed to the Admin advising of connection problem

Admin - Change Employee password

Use Case Name	Change employee password
Use Case Description	Admin changes employee password
Use Case Author	Martin Kovac
Actor	Admin
Locations	Admin site
Primary pathway	1. Admin signs in and navigates to view employees page 2. Admin presses edit details on the chosen employee row 3. Admin is presented with employee details and change password button 4. Admin presses reset password button and modal with new password and confirm password is displayed 5. After entering matching passwords, admin presses update password 6. Password is udated
Alternate pathways	
Exception pathway	Database connection fails - Error displayed to the Admin advising of connection problem

Admin - View warehouse locations

Use Case Name	View warehouse locations
Use Case Description	Admin views warehouse locations
Use Case Author	Martin Kovac
Actor	Admin
Locations	Admin site
Primary pathway	1. Admin signs in and navigates to view locations page 2. All warehouse location are displayed
Alternate pathways	
Exception pathway	Database connection fails - Error displayed to the Admin advising of connection problem

Admin - Search warehouse locations

Use Case Name	Search warehouse locations
Use Case Description	Admin searches warehouse locations
Use Case Author	Martin Kovac
Actor	Admin
Locations	Admin site
Primary pathway	1. Admin signs in and navigates to view locations page 2. Admin enters whole or part of location id into the search box 3. Admin presses search and matched locations are displayed
Alternate pathways	
Exception pathway	Database connection fails - Error displayed to the Admin advising of connection problem

Admin - Add warehouse locations

Use Case Name	Add warehouse locations
Use Case Description	Admin adds warehouse locations
Use Case Author	Martin Kovac
Actor	Admin
Locations	Admin site
Primary pathway	1. Admin signs in and navigates to add locations page 2. Admin add aisle number number of location and location number start 3. Admin presses add locations button. 4. Locations are added
Alternate pathways	Aisle is already present - error message is displayed
Exception pathway	Database connection fails - Error displayed to the Admin advising of connection problem

Admin - View warehouse location items

Use Case Name	View warehouse location items
Use Case Description	Admin views items in the location
Use Case Author	Martin Kovac
Actor	Admin
Locations	Admin site
Primary pathway	1. Admin signs in and navigates to view locations page 2. Admin clicks on view location items button 3. Items present in the location are displayed
Alternate pathways	
Exception pathway	Database connection fails - Error displayed to the Admin advising of connection problem

Customer - Use Case Descriptions

Customer - Register

Use Case Name	Sign Up
Use Case Description	Customer registers on the site
Use Case Author	Martin Kovac
Locations	Customer site
Actor	Customer
Primary pathway	1. Customer clicks on register button 2. Customer is presented with registration form 3. Customer fills up required fields 4. Entered values are validated 5. Customer is shown notification that confirmation email has been sent.
Alternate pathways	Invalid values are entered and validation fails - error message is displayed Confirmation email fails and is not delivered - registration process has to be repeated
Exception pathway	Error occurs - notification is displayed to the user

Customer - Sign in

Use Case Name	Sign In
Use Case Description	Customer signs in
Use Case Author	Martin Kovac
Actor	Customer
Locations	Customer site
Primary pathway	1. Customer goes to customer site homepage URL 2. Customer clicks on sign in button 3. Customer is presented with sign in page 4. Customer enters his username and password 4. Customer is signed in.
Alternate pathways	Incorrect details are entered – notification is displayed (user name or password are incorrect)
Exception pathway	Database connection fails - Error displayed to the Admin advising of connection problem

Customer - Sign out

Use Case Name	Sign out
Use Case Description	Customer signs out
Use Case Author	Martin Kovac
Locations	Customer site
Actor	Customer
Primary pathway	1. Customer clicks on sign out button 2. Notification is displayed confirming the action 3. Customer is redirected to homepage without access to their account and sign in button is visible
Alternate pathways	None
Exception pathway	Error occurs - notification is displayed to the user

Customer - Edit Login and Security details

Use Case Name	Edit Login and Security details
Use Case Description	Customer edits login and security details
Use Case Author	Martin Kovac
Locations	Customer site
Actor	Customer
Primary pathway	1. Customer signs in 2. Customer goes to Account -> Login & Security 3. Customer presses edit on (Name, Email, Phone Number, Password) 4. Customer changes selected details 5. Customer presses save 6. Changes are saved
Alternate pathways	Validation fails - customer is presented with error message
Exception pathway	Database connection fails - Error displayed to the Customer advising of connection problem

Customer - Add address

Use Case Name	
Use Case Description	
Use Case Author	Martin Kovac
Locations	Customer site
Actor	Customer
Primary pathway	
Alternate pathways	
Exception pathway	Database connection fails - Error displayed to the Customer advising of connection problem

Customer - Update address

Use Case Name	Update address
Use Case Description	Customer updates address details
Use Case Author	Martin Kovac
Locations	Customer site
Actor	Customer
Primary pathway	1. Customer signs in 2. Customer navigates to account page 3. Customer selects address and presses edit 4. Customer enters details that should be updated 5. Details are validated 6. Customer clicks update 7. Details are updated and notification is displayed to the customer about successfully updating address details
Alternate pathways	Validation fails - error message is displayed to the customer Customer clicks cancel/back button and is returned to the previous page (account page)
Exception pathway	Database connection fails - Error displayed to the Customer advising of connection problem

Customer - View item details

Use Case Name	View item details
Use Case Description	Customer views item details
Use Case Author	Martin Kovac
Locations	Customer site
Actor	Customer
Primary pathway	1. Customer clicks on desired category 2. Customer clicks on desired item 3. Customer is presented with item page displaying item details
Alternate pathways	None
Exception pathway	Database connection fails - Error displayed to the Customer advising of connection problem

Customer - Add item to the basket

Use Case Name	Add item to the basket
Use Case Description	Customer add item to the basket
Use Case Author	Martin Kovac
Locations	Customer site
Actor	Customer
Primary pathway	1. Customer clicks on desired category 2. Customer clicks on desired item 3. Customer clicks on add to basket button 4. Item is added to the basket, notification is displayed confirming addition of item to the basket and basket icon is updated to indicate quantity of items in the basket.
Alternate pathways	Item are not available - notification is displayed to the user
Exception pathway	Database connection fails - Error displayed to the Customer advising of connection problem

Customer - Update item quantity in the basket

Use Case Name	Update item quantity in the basket
Use Case Description	Customer updates/adjusts item quantity in the basket
Use Case Author	Martin Kovac
Locations	Customer site
Actor	Customer
Primary pathway	1. Click on the basket 2. Basket content is displayed 3. Customer can click on + and - signs buttons to increase or decrease quantity or enter number directly in the textbox 4. Quantity is updated when + or - buttons are clicked or textbox goes out of focus
Alternate pathways	No items in the basket - quantity cannot be adjusted unless there is at least one item in the basket
Exception pathway	Database connection fails - Error displayed to the Customer advising of connection problem

Customer - Add payment option

Use Case Name	Add payment option
Use Case Description	Customer adds payment optoion
Use Case Author	Martin Kovac
Locations	Customer site
Actor	Customer
Primary pathway	1. Customer signs in 2. Customer navigates to account page 3. Customer clicks on payment options 4. Customer clicks add payment option 5. Customer fills out details 6. Customer clicks save 7. Payment option is added and notification is displayed
Alternate pathways	Validation fails - message is displayed
Exception pathway	Database connection fails - Error displayed to the Customer advising of connection problem

Customer - Update payment details

Use Case Name	Update payment details
Use Case Description	Customer updates payment details
Use Case Author	Martin Kovac
Locations	Customer site
Actor	Customer
Primary pathway	1. Customer signs in 2. Customer navigates to account page 3. Customer clicks on payment options 4. Customer is presented with payment options 5. Customer clicks edit on the chosen payment option 6. After changing payment option details customer clicks save 7. Payment option is updated and notification is displayed to the customer
Alternate pathways	Validation fails - message is displayed
Exception pathway	Database connection fails - Error displayed to the Customer advising of connection problem

Customer - Delete payment details

Use Case Name	Delete payment details
Use Case Description	Customer deletes his/hers payment details
Use Case Author	Martin Kovac
Locations	Customer site
Actor	Customer
Primary pathway	1. Customer signs in 2. Customer navigates to account page 3. Customer clicks on payment options 4. Customer is presented with list of his/hers payment options 5. Customer clicks delete on chosen payment option. 6. Payment option is deleted and notification is displayed.
Alternate pathways	No payment options present - nothing to delete
Exception pathway	Database connection fails - Error displayed to the Customer advising of connection problem

Customer - View order details

Use Case Name	View order details
Use Case Description	Customer selects and views order details
Use Case Author	Martin Kovac
Locations	Customer site
Actor	Customer
Primary pathway	1. Customer signs in 2. Customer navigates to account page 3. Customer clicks on orders 4. Orders are listed in chronological order 5. Customer clicks on the desired order 6. Customer is presented with single order page with order details displayed
Alternate pathways	None
Exception pathway	Database connection fails - Error displayed to the Customer advising of connection problem

Customer - View order history

Use Case Name	View order history
Use Case Description	Customer view their order history
Use Case Author	Martin Kovac
Locations	Customer site
Actor	Customer
Primary pathway	1. Customer signs in 2. Customer navigates to account page 3. Customer clicks on orders 4. Customer is presented with their order history - list of previous orders in chronological order
Alternate pathways	If there are no orders - page is empty with message no orders placed
Exception pathway	Database connection fails - Error displayed to the Customer advising of connection problem

Customer - Submit item review

Use Case Name	Submit item review
Use Case Description	Customer submits review for purchased items
Use Case Author	Martin Kovac
Locations	Customer site
Actor	Customer
Primary pathway	1. Customer signs in 2. Customer navigates to account page 3. Customer clicks on orders 4. Customer clicks on write review 5. Customer writes review 6. Customer presses submit button 7. Review is submitted for approval by administrator
Alternate pathways	
Exception pathway	Database connection fails - Error displayed to the Customer advising of connection problem

Employee Use Case Descriptions

Employee - Sign In

Use Case Name	Sign In
Use Case Description	Employee sings in
Use Case Author	Martin Kovac
Locations	Warehouse application
Actor	Employee
Primary pathway	1. Employee enters his/hers username and password 2. Employee is presented with main form
Alternate pathways	Wrong credentials entered - error message is displayed
Exception pathway	Database connection fails

Employee - Sign Out

Use Case Name	Employee sing out
Use Case Description	Employee signs out of the application
Use Case Author	Martin Kovac
Locations	Warehouse application
Actor	Employee
Primary pathway	1. Employee presses sign out button on the main form 2. Employee is presented with a sign in form
Alternate pathways	None
Exception pathway	

Employee - Receive item

Use Case Name	Receive Item
Use Case Description	Employee receives item
Use Case Author	Martin Kovac
Locations	Warehouse application
Actor	Employee
Primary pathway	1. Employee opens application and signs in 2. Employee chooses receive 3. Employee scans item barcode 4. Employee enters quantity 5. Employee click on receive 6. Item is received
Alternate pathways	Item barcode is not recognized by the system - employee sidelines item
Exception pathway	Database connection fails

Employee - Stow Item

Use Case Name	Stow item
Use Case Description	Employee stows item into the location
Use Case Author	Martin Kovac
Locations	Warehouse application
Actor	Employee
Primary pathway	1. Employee opens application and signs in 2. Employee chooses stow 3. Employee picks item from ready to stow location 4. Employee finds suitable warehouse location and scans it 5. Employee scans item 6. Employee enters quantity 7. Employee presses stow. 8. Item is added to location.
Alternate pathways	Item barcode is not recognized/ location id is not recognized - sideline item. retry scanning location
Exception pathway	Database connection fails

Employee - Pick customer order

Use Case Name	Pick Customer order
Use Case Description	Employee pick customer order from a warehouse location
Use Case Author	Martin Kovac
Locations	Warehouse application
Actor	Employee
Primary pathway	1. Employee signs in 2. Employee presses pick button 3. Employee is presented with information about the location and description of the order item 4. Employee finds location and the item and scans item. 5. Employee presses pick item. 6. Item is moved to employee pick container. 7. When ready employee presses finish picking and items are moved into ready to pack location
Alternate pathways	Item is not found, Item barcode is not recognized
Exception pathway	Database connection fails

Employee - Pack order

Use Case Name	Pack order
Use Case Description	Employee pack order
Use Case Author	Martin Kovac
Locations	Warehouse application
Actor	Employee
Primary pathway	1. Employee signs in 2. Employee presses pack button 3. Employee takes item from ready to pack location 4. Employee scans item barcode. 5. Employee packs item and presses print shipping label 6. Employee stick shipping label on the package 7. When ready employee presses finish packing 8. Items are moved into ready to ship location
Alternate pathways	Printer fails, barcode is not recognized by the system
Exception pathway	Database connection fails

Employee - Dispatch order

Use Case Name	Ship order
Use Case Description	Employee ships packed order
Use Case Author	Martin Kovac
Locations	Warehouse application
Actor	Employee
Primary pathway	1. Employee signs in 2. Employee presses ship button 3. Employee scans shipping label on the package 4. Employee loads package on trailer/lorry 5. Employee presses dispatch item 6. Order is marked as completed.
Alternate pathways	Shipping label is not recognized,
Exception pathway	Database connection fails