
Software Requirements Specification Report

for

Online Fish Auction System

Version 1.0

Prepared by Group 2

28.11.2021

Revision History

Name	Date	Reason For Changes	Version
SRS Report for Online Auction System	28.11.2021	Initial Release	v1.0

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1. Introduction

1.1. Purpose

The purpose of this document is to present a detailed description of the Online Fish Auction System. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli. This document is intended for both the stakeholders and the developers of the system and will be proposed to the Review Group, Mentor and Lecturer for its approval.

1.2. Scope

The software product to be produced is an “Online Fish Auction System”. The main goal of the product is to provide a reliable online market where bidders can participate by registering to the system without being limited by physical space. The major functions inside the product's scope are online video streaming for potential customers to see the fish, a registry system for customers and fishermen who sell their fish, a feature that calculates the amount to be paid to each fishermen and informs the fishermen about this amount. A delivery system to deliver fish to customers are out of the product's scope. Benefits of the product are higher profits for fishermen due to wider competitions, ease of attendance for customers, shorter auction time and ease of money handling for organizers of the auction.

1.3. Definitions, acronyms and abbreviations

Contract: A legally binding document agreed upon by the customer, cooperative and fishermen.

Customer: Person, or persons, who would like to buy fish.

Bidder: A customer that is making a bid on a fish.

Fishermen: Person, or persons, who sell their fish using the online auction system.

Cooperative: An establishment that organizes the auction and that interacts with customers and fishermen for various purposes.

Database: Collection of all the information monitored by the system.

User: Customer, fishermen or a cooperative member.

IEEE: The Institute of Electrical and Electronics Engineers, Inc.

SRS: Software Requirements Specification

GMT: Greenwich Mean Time

MTBF: Mean Time Between Failure

DBMS: Database Management System

1.4. References

1.4.1 “[Katma Değer Vergisi Kanunu](#)”

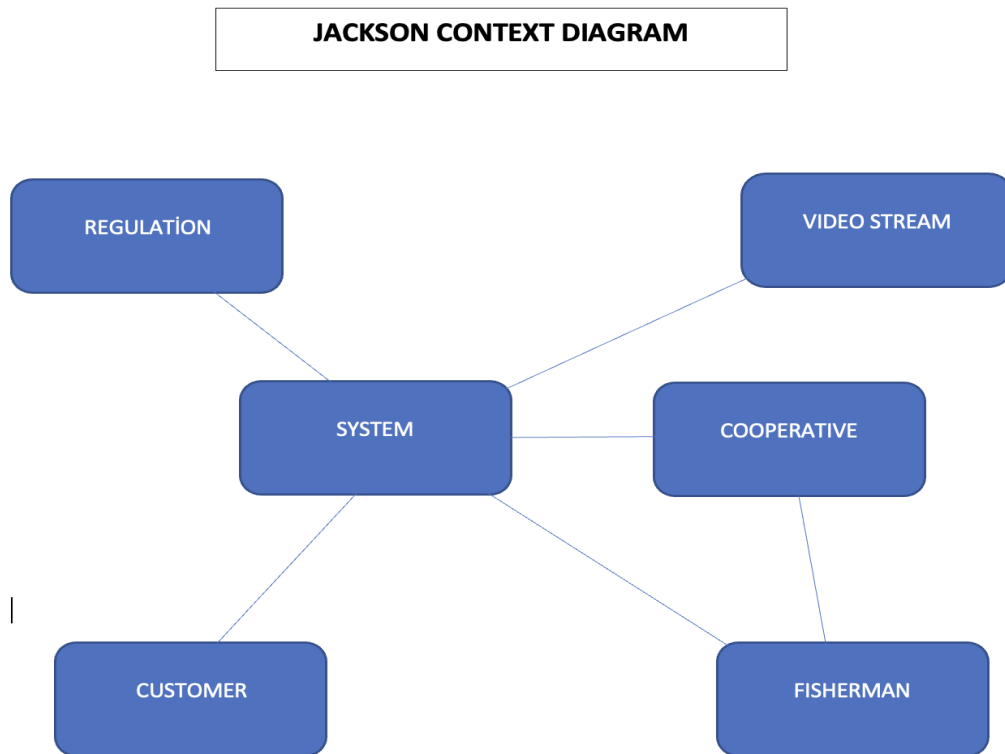
1.4.2 A Fish Auction System for Balıklıova Seafood Cooperative

1.5. Overview

We will describe all of the use case scenarios with diagrams and provide user, software and hardware interfaces. We will provide more details on performance standards and requirements. We will also provide more specifications on security. We will provide more details on business rules.

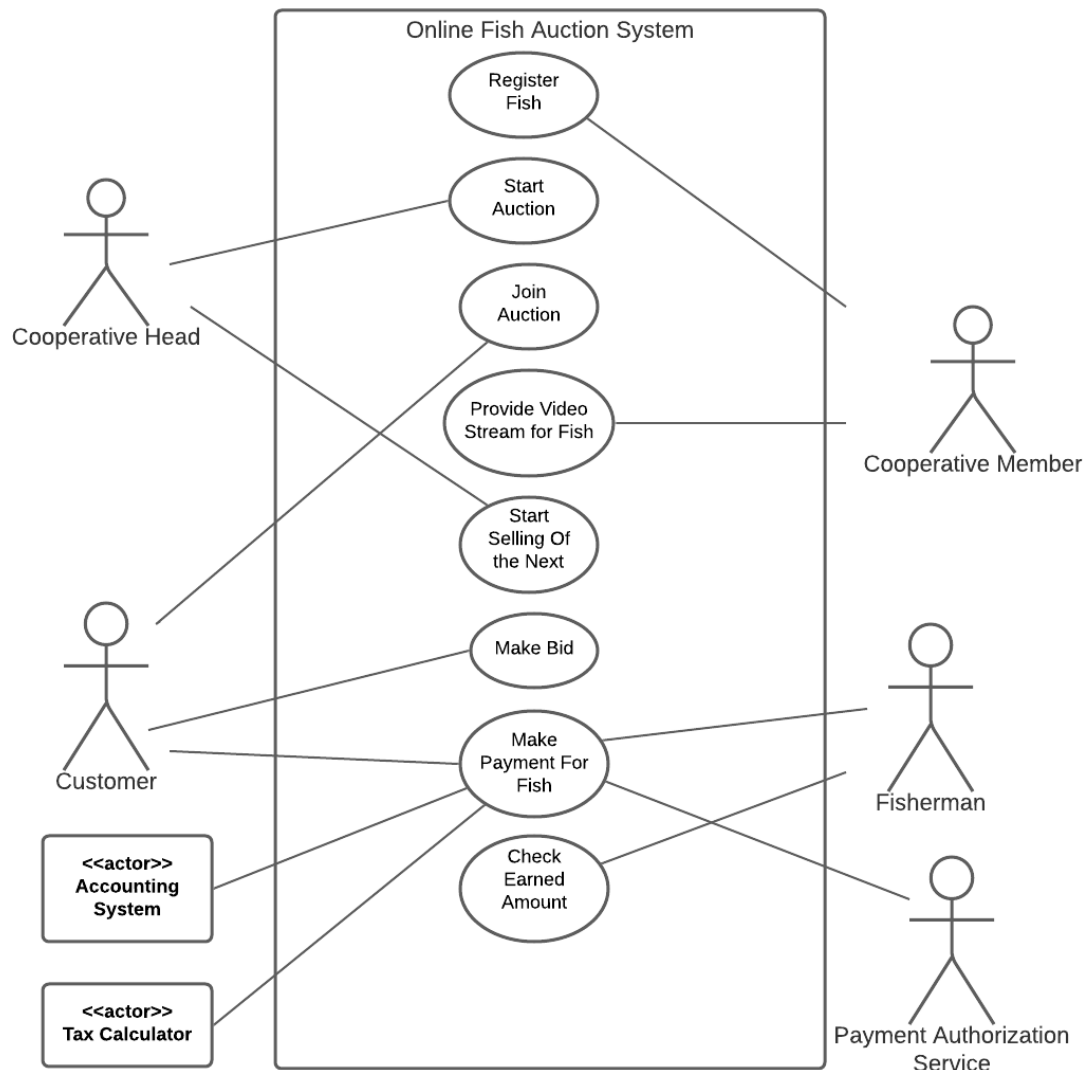
2. Overall Description

2.1. Product Perspective



- **Regulation:** Government may have some rules for online trade to which all associates must obey. Of course, our system shall regard these regulations at the implementation phase. For instance there are specific VAT (tax) rates excluded from sales legally. System shall calculate this in the payment phase.
- **Customer:** They use the system to join auctions. Customers purchase fish by making bids through the system.
- **Video Stream:** Video Stream is an action to show fish to the customers. Video Stream is the backbone of the system. One of the starting conditions for the auction is the availability of the video streaming.
- **Cooperative:** Cooperative is an establishment to collect the fish from fishermen and sell the customers directly. Cooperative members and head are authorized by the system to register fish and fisherman and conduct some auction features.
- **Fisherman:** The fisherman is a person who brings the fish. The fisherman registered the system via cooperative (cooperative member registers his/her). They also interact with the system to track their earnings from the auction.

2.2. Product Functions



- **Register Fish:** The cooperative member records the fish to the system with the information. Fish and the information about the fish is taken from the fishermen.
- **Start Auction:** When the auction time has arrived, the cooperative head checks the video stream. If it is valid then the head starts the auction.
- **Join Auction:** Customers join auctions for making bids to buy fish. Customers can join the auction anytime. If somehow they go offline, they can rejoin the auction.
- **Provide Video Stream for Fish:** Cooperative members provide video stream of the fish for the ongoing auction via their equipment.
- **Start The Selling Of The Next Fish:** When a sale is over, the next sale is started by the cooperative head after preparation of the next fish is done.
- **Make Bid:** Customers make bids for the fish they want to buy through the system. Current price and current buyer is updated when a higher bid is received. Customers

can bid as long as their bid is higher than the current price. If no bid is received in ten seconds then sale is closed.

- **Make Payment for Fish:** Customers who bought fish in auction make payment for the fish.

2.3. User Characteristics

- **The Cooperative Head:** The cooperative head is expected to be literate and has an intermediate level of computer literacy.
- **Cooperative Member:** The cooperative member is expected to be literate and has an intermediate level of computer literacy. He also must know how to use a camera.
- **Customer:** The customer is expected to be literate and has an intermediate level of computer literacy. Customers are expected to have financial capability to pay the fish they bought.. Also the customer should be over 18 years old.
- **Fisherman:** The fisherman is expected to be literate and has an intermediate level of computer literacy. In order to become a member, it is necessary to have a bank account to collect the money which is coming from the auction.

2.4. Constraints

- The GUI will be in Turkish language.
- The system can only be used by registered users.
- The system allowed the users over the age of 18.
- Login and password is used for the identification of users.
- The system shall work on any type of browsers.
- The system can accept only contractual credit card types.
- Fishermen must register contractual bank accounts that belong to them.

2.5. Assumptions and Dependencies

- We assume that the cooperative head starts the auction at the intended time.
- We assume that the cooperative head and at least one cooperative member is available before and during the auction time.?
- We assume that users enter the right information about themselves.?
- We assume that at least one customer has joined the auction.
- We assume that the cooperative has a strong internet connection.
- We assume that the customers who buy fish will make their payments.
- We assume that the delivery of the fish part is completed by the cooperative.
- The system depends on online trade regulations established by the government.
- The system depends on the video stream which will be provided by the cooperative.
- The system depends on external payment services.

2.6. Apportioning of Requirements

High requirements are our priorities for the system which will be done with utmost urgency. Then it is followed by medium priority requirements.

These requirements may be delayed until further versions of the system.

- The system can work on mobile platforms.
- The system can provide support for multi-languages.
- The system can accept users from outside of Izmir province.
- The system can provide a wallet system that users deposit money in.
- The system can accept other online payment opportunities (paypal, ininal etc.) for payment.

3. Specific Requirements

3.1. Use Cases

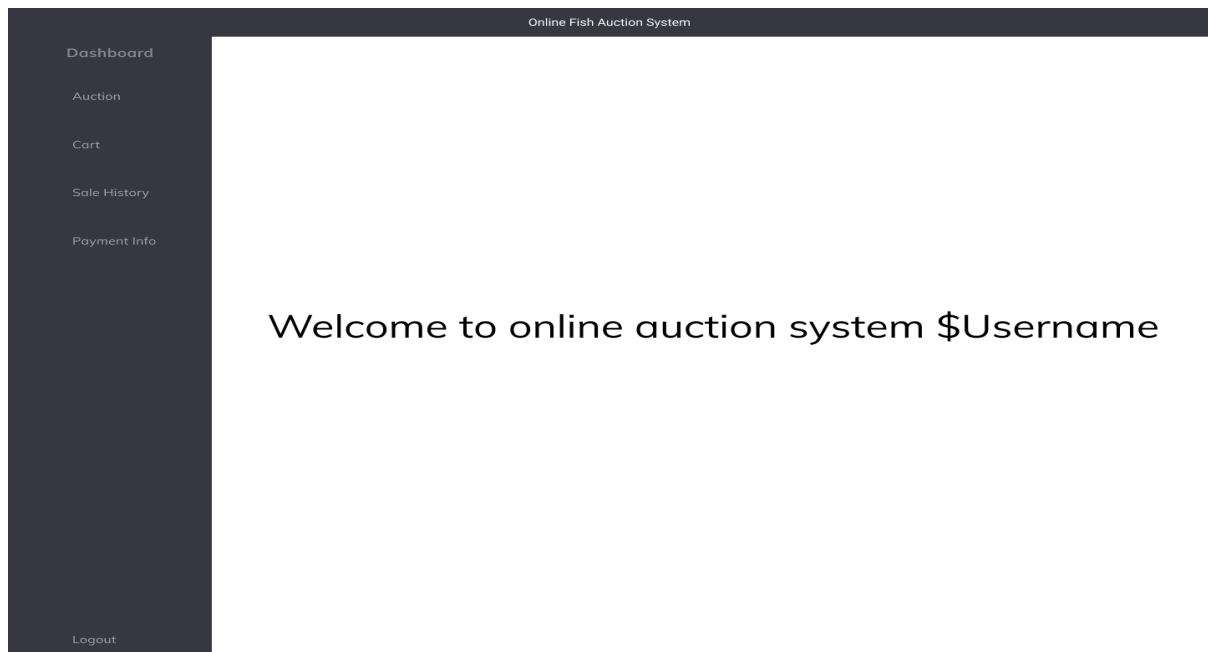
3.1.1 Use Cases for Customer

3.1.1.1 Make Bid

3.1.1.1.1 Use Case Template

Details of the use case is in Appendix 1 - page 1.


3.1.1.1.2 User Interface



Dashboard
Auction
Cart
Purchase History
Payment Info

Logout

Online Fish Auction System



\$type

\$weight

\$base price

Current Price

\$price

Current Buyer

\$name

+0.25

+0.50

+0.75

+1


Custom bid:

Express Bid

Dashboard
Auction
Cart
Purchase History
Payment Info

Logout

Online Fish Auction System



\$type

\$weight

\$base price

Current Price

\$price

Current Buyer

\$name

+0.25

+0.50

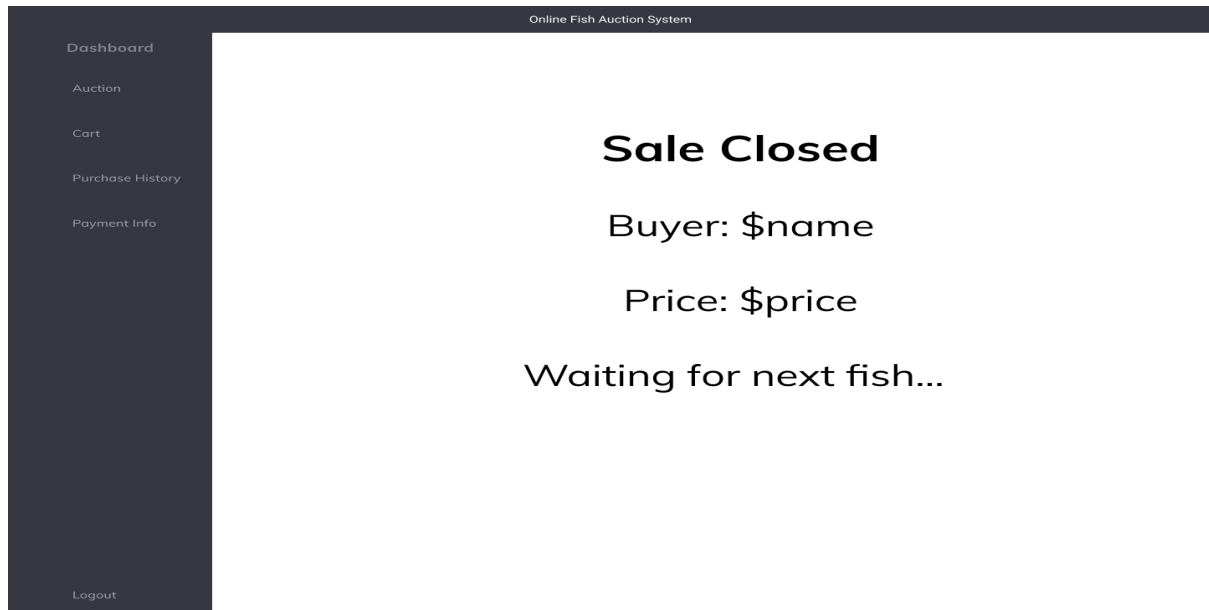
+0.75

+1

Custom bid:

Express Bid

Bid is rejected. Because it is not higher than current price.



3.1.1.1.3 Performance / Software Quality Requirements

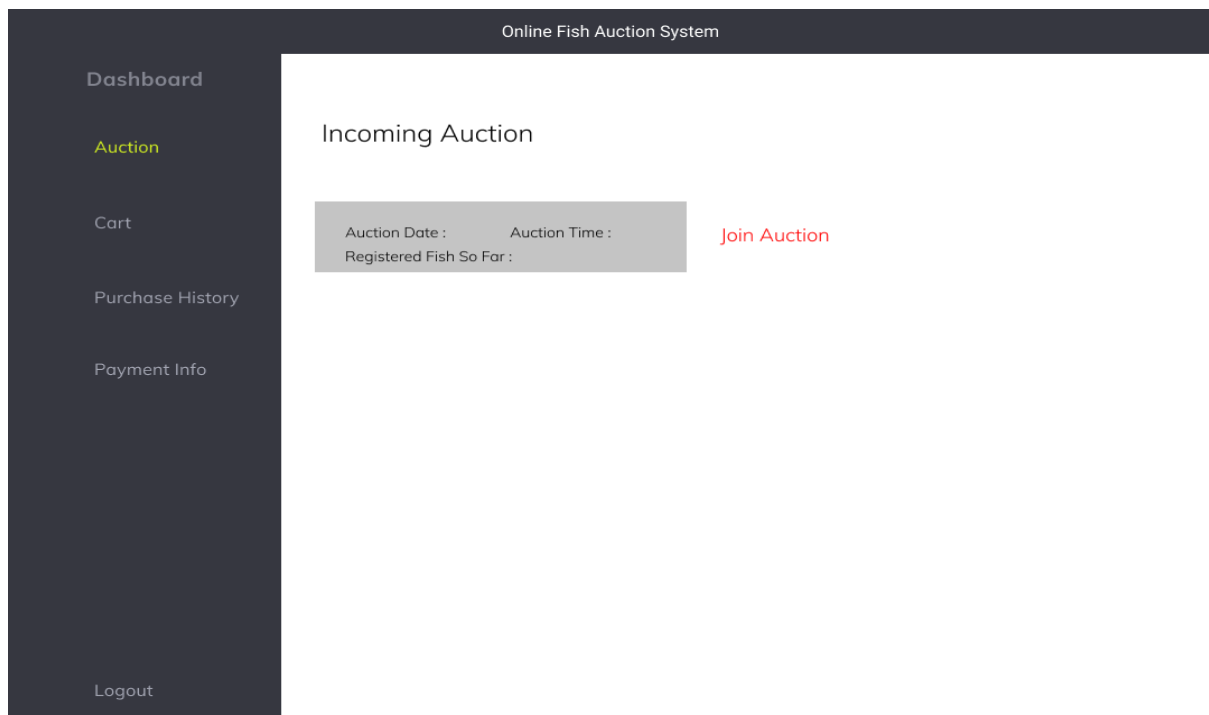
Every click while filling this page will respond between 0.1 second to 1 second.

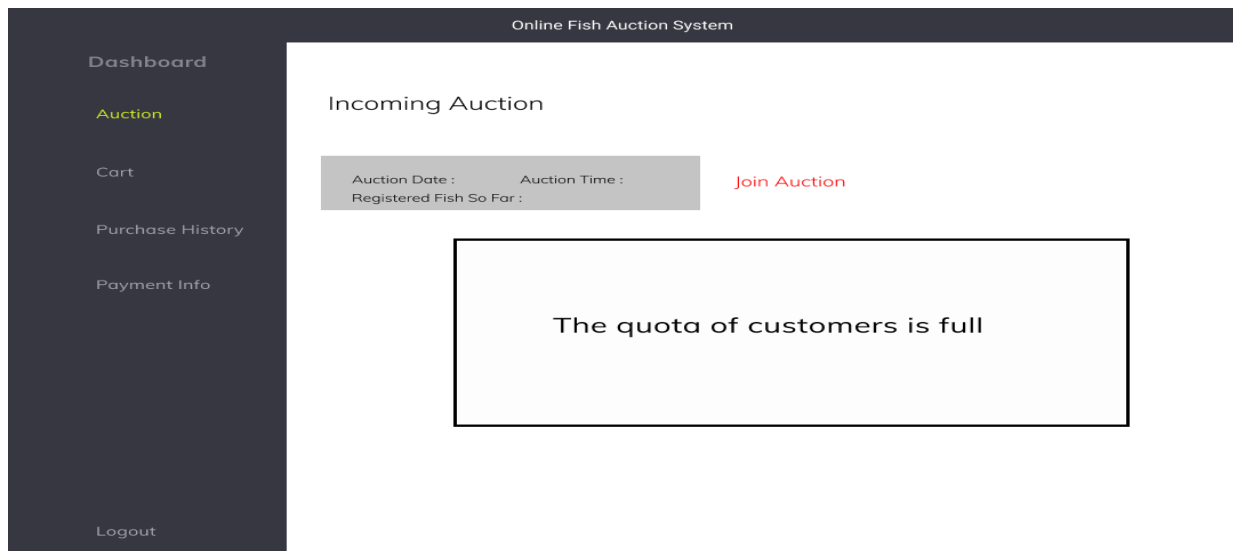
3.1.1.2 Join Auction

3.1.1.2.1 Use Case Template

Details of the use case is in Appendix 1 - page 3.

3.1.1.2.2 User Interface





3.1.1.2.3 Performance / Software Quality Requirements

Every click while filling this page will respond between 0.1 second to 1 second. The system shall respond to the join requests (from customers) within 10 seconds %90 of the time.

3.1.1.3 Make Payment

3.1.1.3.1 Use Case Template

Details of the use case is in Appendix 1 - page 4.

3.1.1.3.2 User Interface

Online Fish Auction System

Dashboard

Auction

Cart

Purchase History

Payment Info

Logout

	FISH TYPE	WEIGHT	PRICE
1			
.			
.			
.			
.			
.			
.			
.			
n			

TOTAL PRICE

Make Payment

Online Fish Auction System

Dashboard

Auction

Cart

Purchase History

Payment Info

Logout

Payment Option List

	FISH TYPE	WEIGHT	PRICE
1	<input type="radio"/>	\$paymentoption	
.	<input type="radio"/>	\$paymentoption	
.	<input checked="" type="radio"/>	\$paymentoption	
.	<input type="radio"/>	\$paymentoption	
.			
.			
.			
n			

TOTAL PRICE

Pay

Make Payment

Online Fish Auction System

Dashboard

Auction

Cart

Purchase History

Payment Info

Logout

Payment Option List

	FISH TYPE	WEIGHT	PRICE
1	<input type="radio"/>	\$paymentoption	
.	<input type="radio"/>	\$paymentoption	
.	<input type="radio"/>	\$paymentoption	
.	<input type="radio"/>	\$paymentoption	

Something goes wrong!

TOTAL PRICE

Pay

Make Payment

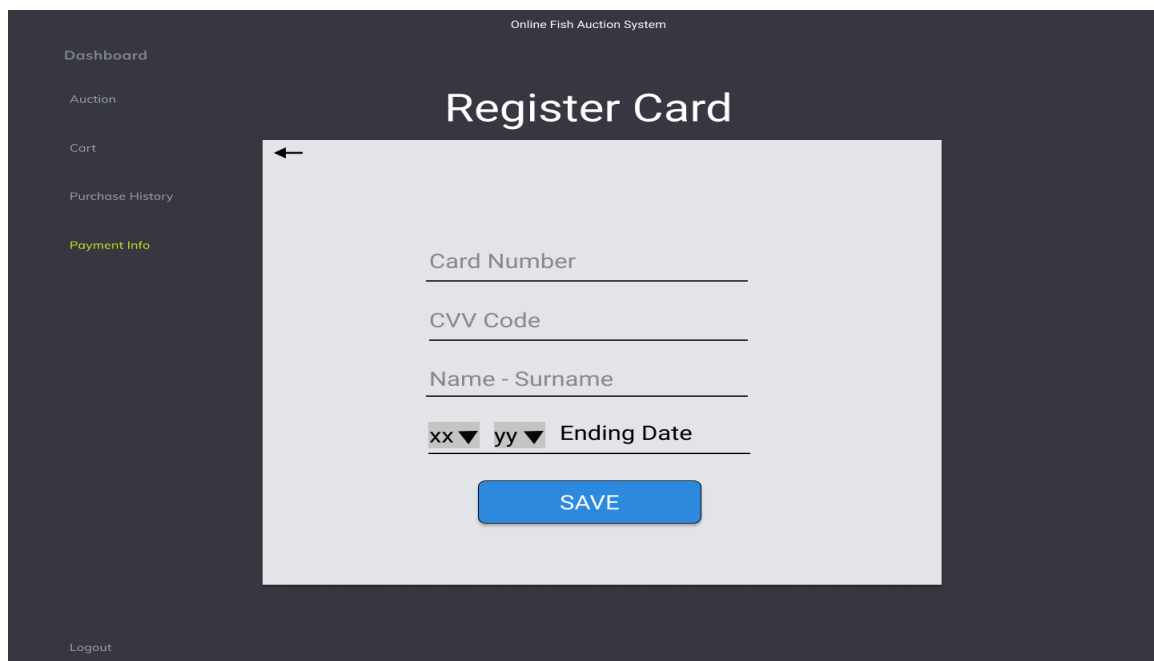
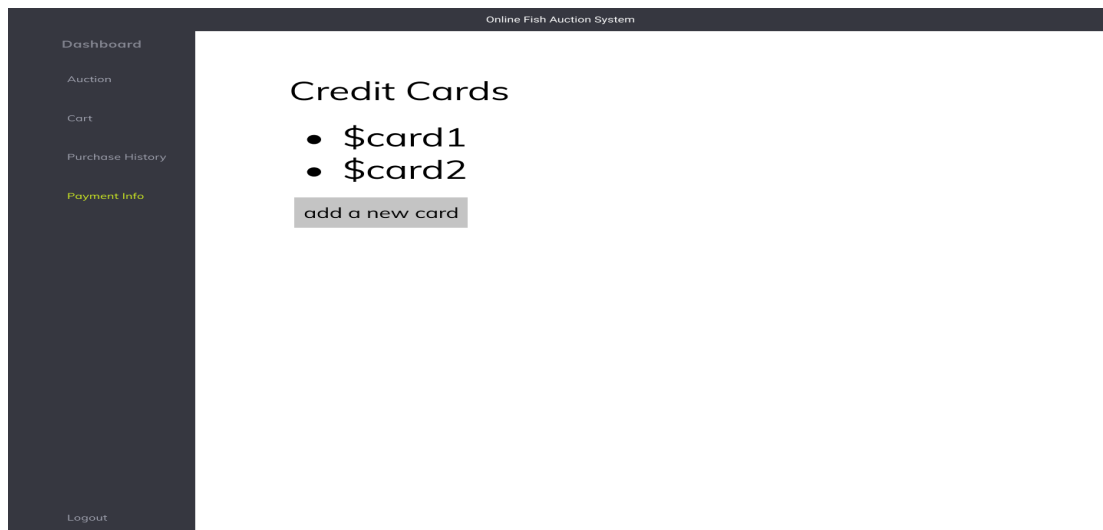
3.1.1.3.3 Performance / Software Quality Requirements
Every click while filling this page will respond between 0.1 second to 1 second.

3.1.1.4 Register Credit Card

3.1.1.4.1 Use Case Template

Details of the use case is in Appendix 1 - page 6.

3.1.1.4.2 User Interface



Online Fish Auction System

Dashboard
Auction
Cart
Purchase History
Payment Info
Logout

Register Card

←

Card Number

Something goes wrong!

Name - Surname

xx yy Ending Date

SAVE

3.1.1.4.3 Performance / Software Quality Requirements

Every click while filling this page will respond between 0.1 second to 1 second.

3.1.2 Use Cases for Cooperative Member

3.1.2.1 Provide Video Stream for Fish

3.1.2.1.1 Use Case Template

Details of the use case is in Appendix 1 - page 7.

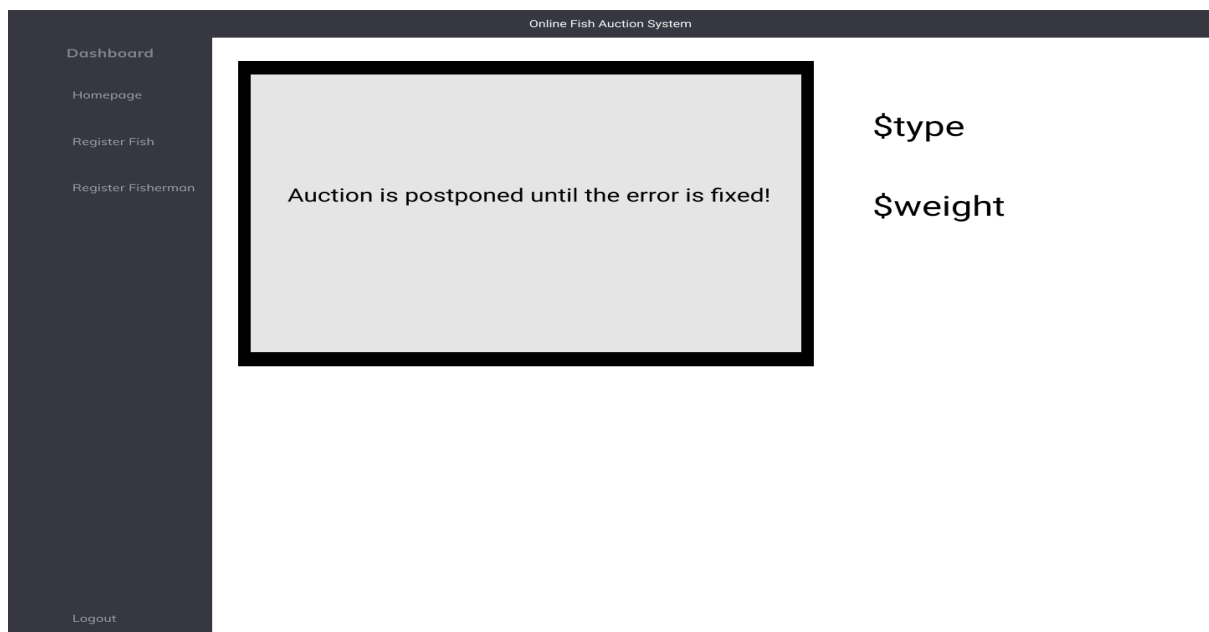
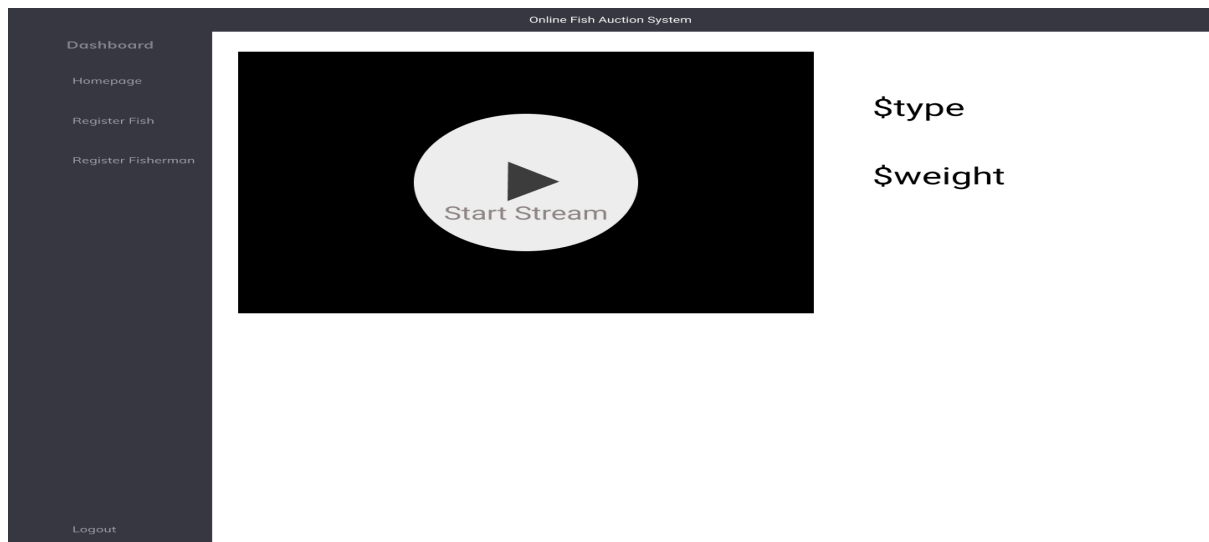
3.1.2.1.2 User Interface

Online Fish Auction System

Dashboard
Homepage
Register Fish
Register Fisherman
Logout

Auction date :	Auction Time :	Completed
Auction date:	Auction Time:	Completed
Auction date:	Auction Time:	Completed
Auction date:	Auction Time:	Completed

Upcoming Auction
Date: Auction Time:



3.1.2.1.3 Performance / Software Quality Requirements

Every click while filling this page will respond between 0.1 second to 1 second.

3.1.2.2 Register Fish

3.1.2.2.1 Use Case Template

Details of the use case is in Appendix 1 - page 8.

3.1.2.2.2 User Interface

Online Fish Auction System

Dashboard

Homepage

Register Fish

Register Fisherman

Logout

Fisherman Name

Fish Type

Weight

First Base Price

Second Phase Price

Save

Online Fish Auction System

Dashboard

Homepage

Register Fish

Register Fisherman

Logout

Fisherman Name

Fish Type

Weight

First Base Price

Second Phase Price

*There is incomplete information

Save

Online Fish Auction System

Dashboard

Homepage

Register Fish

Register Fisherman

Logout

Fisherman Name

Fish Type

Weight

First Base Price

Second Phase Price

*Unexpected input

Save

3.1.2.2.3 Performance / Software Quality Requirements

Every click while filling this page will respond between 0.1 second to 1 second.

3.1.2.3 Register Fisherman

3.1.2.3.1 Use Case Template

Details of the use case is in Appendix 1 - page 9.

3.1.2.3.2 User Interface

Online Fish Auction System

Dashboard

Homepage

Register Fish

Register Fisherman

Logout

Name

Surname

Address

Bank Account

Submit

Online Fish Auction System

Dashboard

Homepage

Register Fish

Register Fisherman

Logout

Name

Surname

Address

Bank Account

Submit

*There is incomplete information

Online Fish Auction System

Dashboard

Homepage

Register Fish

Register Fisherman

Logout

Name

Surname

Address

Bank Account

Submit

*Unexpected input

Online Fish Auction System

Dashboard

Homepage

Register Fish

Register Fisherman

Logout

Name

Yağızcan

Surname

Karaca

Address

İzmir

Bank Account

TR9226300016407340016

Submit

Registration Successful!
Username: \$username
Password: \$password

3.1.2.3.3 Performance / Software Quality Requirements

Every click while filling this page will respond between 0.1 second to 1 second.

3.1.2.4 Return Unsold Fish to Fisherman

3.1.2.4.1 Use Case Template

Details of the use case is in Appendix 1 - page 10.

3.1.2.4.2 User Interface

Online Fish Auction System

Dashboard

Homepage

Register Fish

Register Fisherman

Logout

←

Auction Outline

Id	Type	Fisherman	Weight	Price	Status
\$id	\$type	\$fisherman	\$weight	\$price	\$status
\$id	\$type	\$fisherman	\$weight	\$price	\$status
\$id	\$type	\$fisherman	\$weight	\$price	\$status
\$id	\$type	\$fisherman	\$weight	\$price	\$status
\$id	\$type	\$fisherman	\$weight	\$price	\$status
\$id	\$type	\$fisherman	\$weight	\$price	\$status
\$id	\$type	\$fisherman	\$weight	\$price	\$status
\$id	\$type	\$fisherman	\$weight	\$price	\$status
\$id	\$type	\$fisherman	\$weight	\$price	\$status
\$id	\$type	\$fisherman	\$weight	\$price	\$status

Check unsold fishes

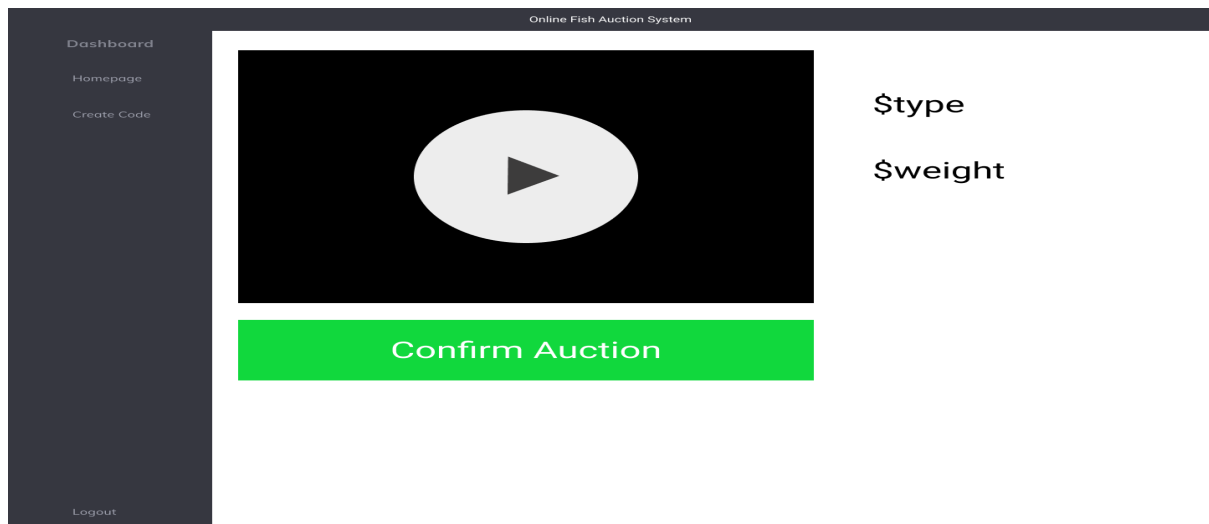
Online Fish Auction System					
<div>Dashboard</div> <div>Homepage</div> <div>Register Fish</div> <div>Register Fisherman</div> <div>Logout</div>	Unsold Fishes				
	Id	Type	Fisherman	Weight	Returned
	\$id	\$type	\$fisherman	\$weight	●
	\$id	\$type	\$fisherman	\$weight	●
	\$id	\$type	\$fisherman	\$weight	●
	\$id	\$type	\$fisherman	\$weight	●
	\$id	\$type	\$fisherman	\$weight	●

3.1.2.4.3 Performance / Software Quality Requirements

3.1.3 Use Cases for Cooperative Head

3.1.3.1.1 Use Case Template

3.1.3.1.2 User Interface



3.1.3.1.3 Performance / Software Quality Requirements

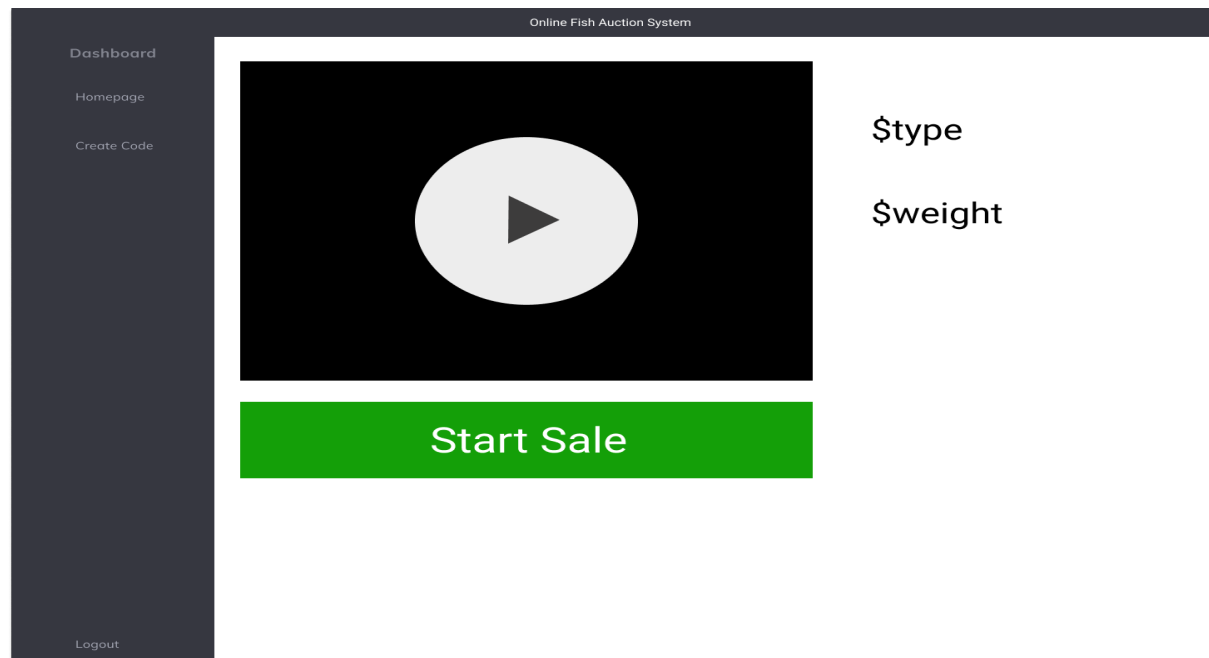
Every click while filling this page will respond between 0.1 second to 1 second.

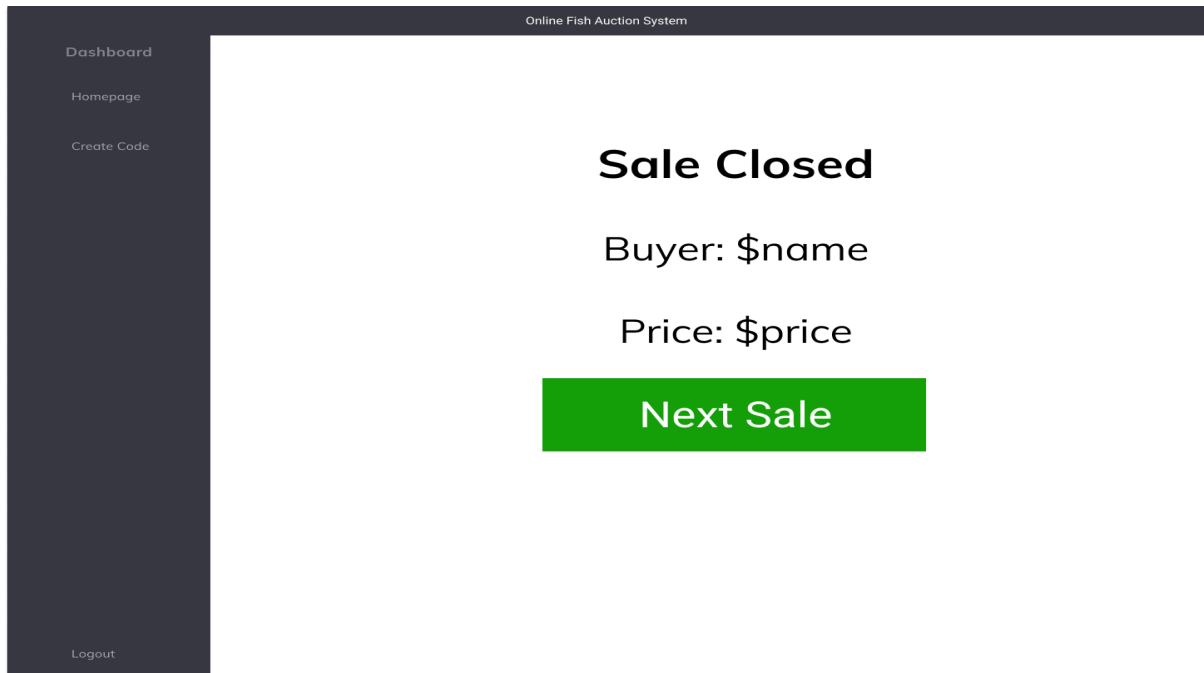
3.1.3.2 Start Selling of the Next Fish

3.1.3.2.1 Use Case Template

Details of the use case is in Appendix 1 - page 12.

3.1.3.2.2 User Interface





3.1.3.2.3 Performance / Software Quality Requirements

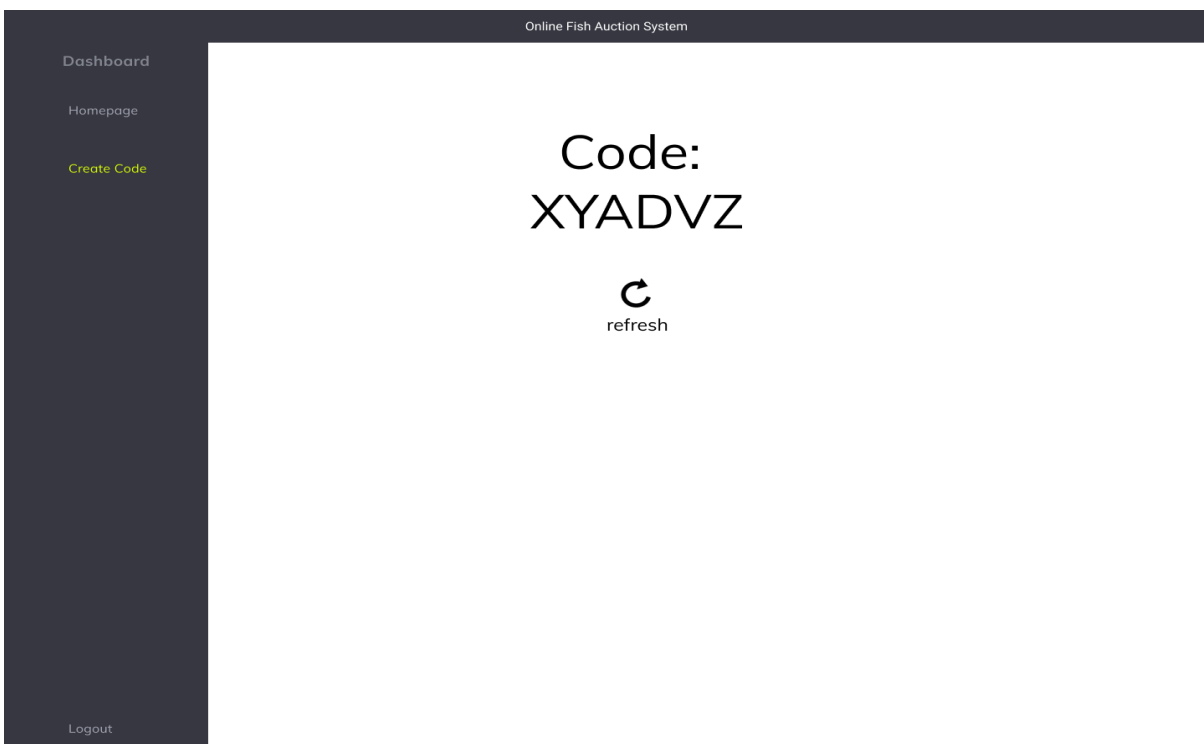
Every click while filling this page will respond between 0.1 second to 1 second.

3.1.3.3 Create Sign Code for Cooperative Member

3.1.3.3.1 Use Case Template

Details of the use case is in Appendix 1 - page 19.

3.1.3.3.2 User Interface



3.1.3.3.3 Performance / Software Quality Requirements

Every click while filling this page will respond between 0.1 second to 1 second.

3.1.4 Use Cases for Fisherman

3.1.4.1 Keep Track of His/Her Sales and Cash Situation

3.1.4.1.1 Use Case Template

Details of the use case is in Appendix 1 - page 13.

3.1.4.1.2 User Interface

Online Fish Auction System

Dashboard

Homepage

Auction

Sale History

Payment Info

Logout

Sales and Income Outline

Id	Type	Weight	Price	Status
\$id	\$type	\$weight	\$price	\$status
\$id	\$type	\$weight	\$price	\$status
\$id	\$type	\$weight	\$price	\$status
\$id	\$type	\$weight	\$price	\$status
\$id	\$type	\$weight	\$price	\$status
\$id	\$type	\$weight	\$price	\$status
\$id	\$type	\$weight	\$price	\$status
\$id	\$type	\$weight	\$price	\$status
\$id	\$type	\$weight	\$price	\$status
\$id	\$type	\$weight	\$price	\$status

Income: \$Income

Online Fish Auction System

Dashboard

Homepage

Auction

Sale History

Payment Info

Logout

×

WelcomSomething goes wrong!sername

3.1.4.1.3 Performance / Software Quality Requirements

Every click while filling this page will respond between 0.1 second to 1 second.

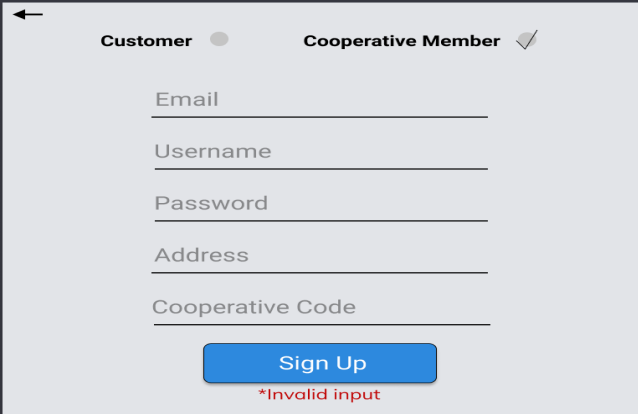
3.1.5 Use Cases for Login and Sign-Up

3.1.5.1 Sign-Up

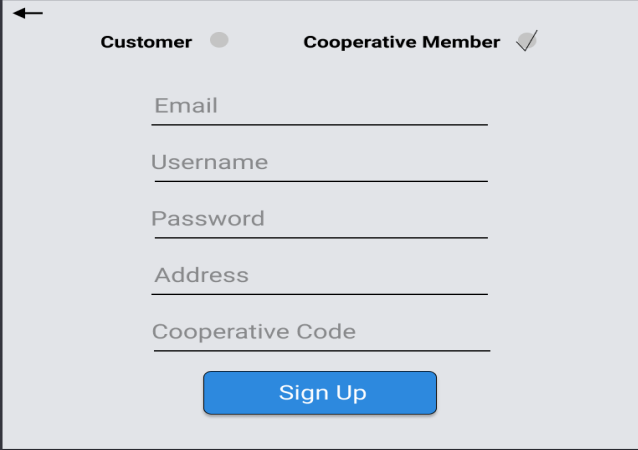
3.1.5.1.1 Use Case Template

Details of the use case is in Appendix 1 - page 14.

3.1.5.1.2 User Interface



The image shows a mobile application screen titled "SIGN UP". At the top left is a back arrow. Below it are two radio buttons: "Customer" (selected) and "Cooperative Member" (with a checkmark icon). The form contains five input fields: "Email", "Username", "Password", "Address", and "Cooperative Code". Below these fields is a blue "Sign Up" button. A red error message, "*Invalid input", is displayed below the button.



The image shows the same "SIGN UP" form as above, but without the error message. The layout is identical, including the back arrow, radio buttons, input fields, and the "Sign Up" button.

SIGN UP



Customer ☒

Cooperative Member ☐

Email

Username

Password

Address

Sign Up

*Invalid input

SIGN UP



Customer ☒

Cooperative Member ☐

Email

Username

Password

Address

Sign Up

3.1.5.1.3 Performance / Software Quality Requirements

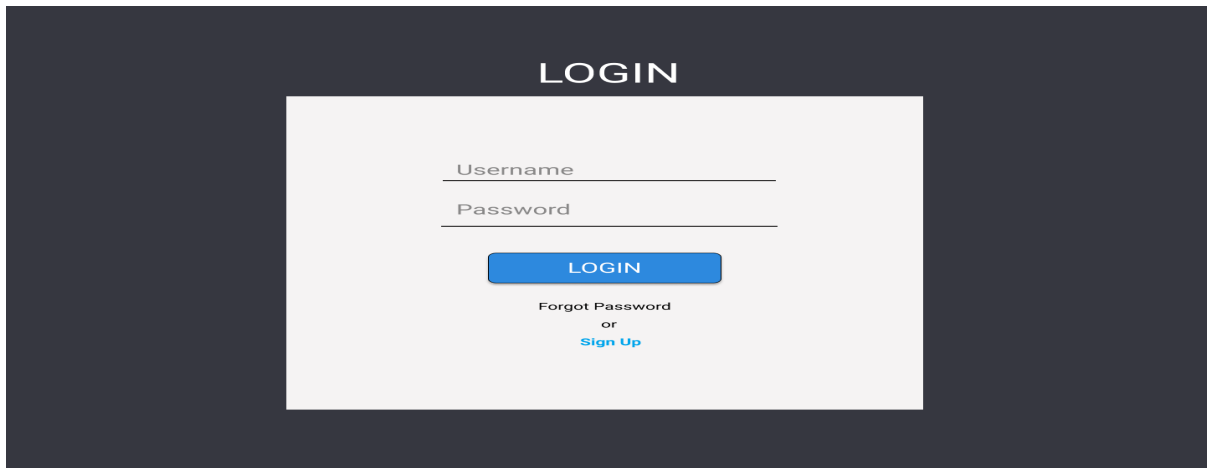
Every click while filling this page will respond between 0.1 second to 1 second.

3.1.5.2 User Login

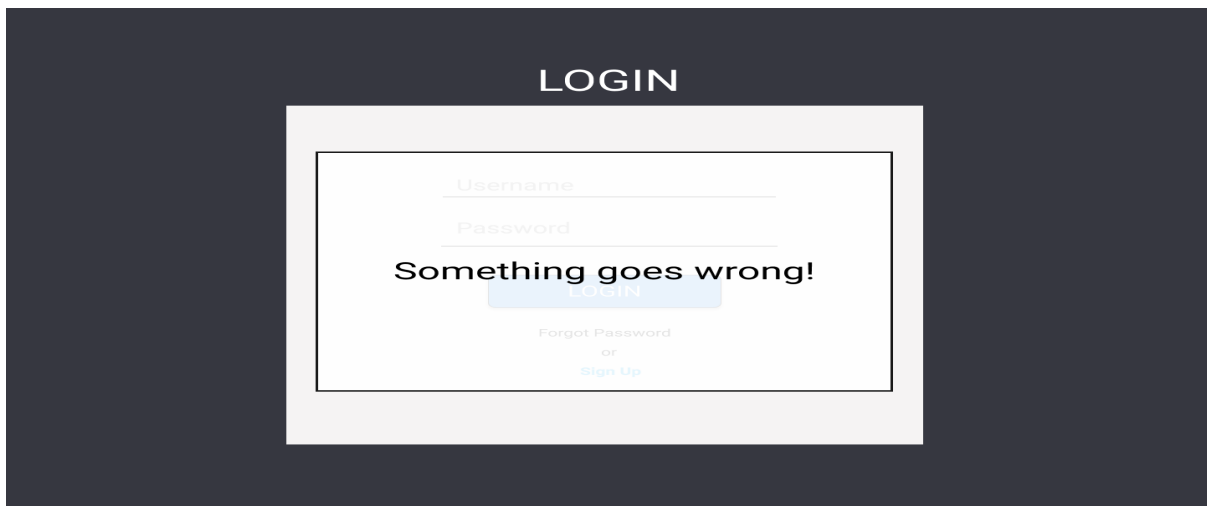
3.1.5.2.1 Use Case Template

Details of the use case is in Appendix 1 - page 16.

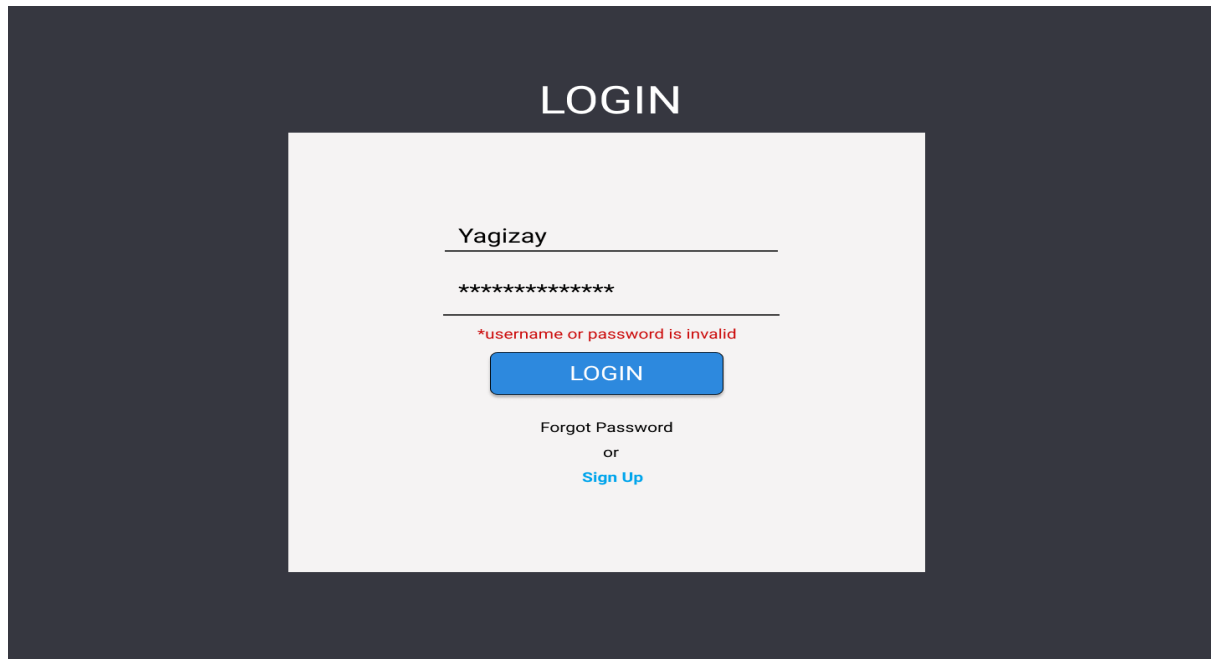
3.1.5.2.2 User Interface



A login form UI mockup on a dark blue background. The form is a light gray rectangle with the title "LOGIN" at the top. It contains two input fields labeled "Username" and "Password". Below these is a blue "LOGIN" button. Under the button, the text "Forgot Password or" is displayed, followed by a blue link "Sign Up".



A login form UI mockup on a dark blue background, showing an error state. The form is a light gray rectangle with the title "LOGIN" at the top. It contains two input fields labeled "Username" and "Password". Below these is a light blue "LOGIN" button. Under the button, the text "Forgot Password or" is displayed, followed by a blue link "Sign Up". A red border surrounds the input fields and the error message "Something goes wrong!" which is centered below the "Password" field.



3.1.5.2.3 Performance / Software Quality Requirements

Every click while filling this page will respond between 0.1 second to 1 second.

3.1.5.3 User Log Out

3.1.5.3.1 Use Case Template

Details of the use case is in Appendix 1 - page 18.

3.1.5.3.2 User Interface

Online Fish Auction System

Dashboard

Homepage

Register Fish

Register Fisherman

Logout

←

Unsold Fishes

Id	Type	Fisherman	Weight	Returned	Unreturned
\$id	\$type	\$fisherman	\$weight	●	
\$id	\$type	\$fisherman	\$weight	●	
\$id	\$type	\$fisherman	\$weight		●
\$id	\$type	\$fisherman	\$weight	●	
\$id	\$type	\$fisherman	\$weight		●

LOGIN

Username

Password

LOGIN

Forgot Password

or

Sign Up

3.1.5.3.3 Performance / Software Quality Requirements

Every click while filling this page will respond between 0.1 second to 1 second.

3.2. External Interfaces (other than user interfaces)

3.2.1 Hardware Interfaces

Desktop or laptop personal computers will be supported. Web browsers on Windows, Linux and Mac operating systems will be used to access the system.

3.2.2 Software Interfaces

We will use the Mastercard and Visa payment authorization system to handle money transactions. 3D-secure security protocol provided by authorization systems will be used.

3.2.3 Communications Interfaces

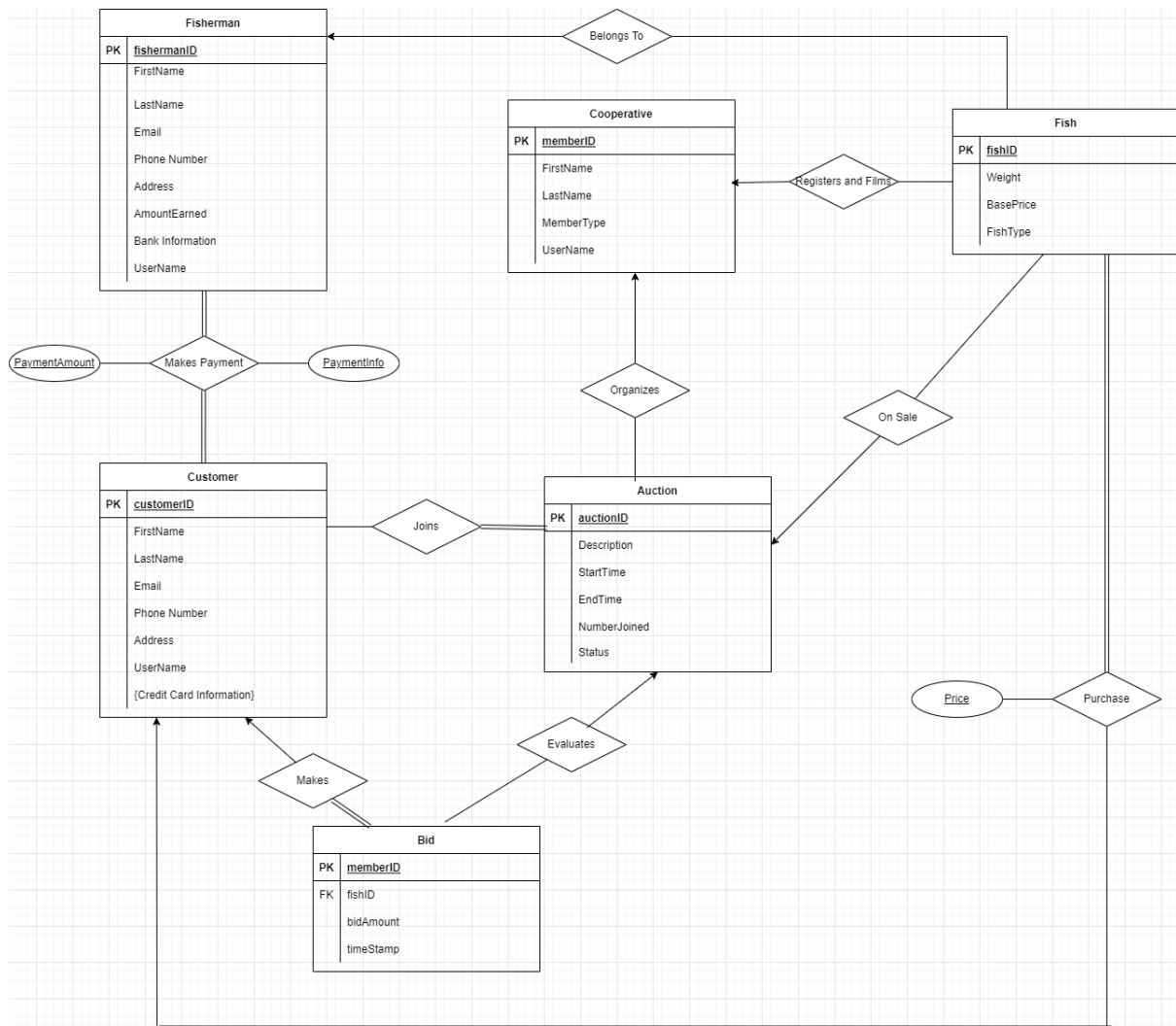
We will use cloud services to establish connection to the system.

3.3. Generic Performance / Software Requirement

- System database shall respond to the queries within five seconds %95 of the time.
- The system shall be able to respond to up to 1010 users simultaneously.
- The system shall be able to keep user information of more than 8000 users.
- The system shall be able to store up to 10,000 fish and sale (purchase) information.

3.4. Logical Database Requirements (ER Diagram)

ER Diagram



3.5. Design Constraints

There are no design constraints for now.

3.6. Other Requirements

3.6.1 Availability

- The system shall be at least 99 percent available on weekdays between 7:00 A.M. and 12:00 A.M. GMT+3, and at least 95 percent available on weekdays between 2:00 P.M. and 5:00 P.M. GMT+3.
- Down time that is excluded from the calculation of availability consists of maintenance scheduled during the hours from 11:00 P.M. Sunday GMT+3, through 7:00 A.M. Monday GMT+3.

3.6.2 Reliability

- The system will use MTBF calculation to obtain availability.
- The user shall be timed out after ten minutes of inactivity.

3.6.3 Integrity

- After the system performs a file backup, the system shall compare the backup copy with the original and report any inconsistencies.
- The system shall be protected against unauthorized addition, deletion or alteration of data.
- The system shall verify daily that the application executables have not been modified by adding unauthorized code.
- The system shall automatically save each entry for every change made. In case of any failure, there will be no loss as the system saves the changes made.

3.6.4 Security

- User authorization levels are provided to the system such as admins and different types of users(cooperative head, cooperative member, customer).
- Users will be able to login to the system with username and password. The login will be 2 way authentication and RSA encrypted.
- Passwords, addresses, credit card information, bank account information of the users and the money transactions shall be encrypted in DBMS.

3.6.5 Usability

- The system shall provide meaningful error messages which will guide the user.
- There should be more than one way of accomplishing a function.
- Ability to carry over information from previous functions.
- 95 percent of users who have never used the online auction system shall be able to use the system properly after -at most- ten minutes of orientation.
- There will be help screens and tooltips for all users and a FAQ tab.
- There will be auto correction of errors in words.
- There will be autocompletion of entries.

3.6.6 Scalability

- The system shall be able to handle a page-view growth rate of 15 percent per quarter for at least a year without user-perceptible performance degradation.