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User Requirements Specifications

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Synthesis Assignment

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## Non-Functional Requirements

NFR-01: Maintainable and extendable

* The application will be open to new functionalities to be added, or to easily update the existing functionalities without influencing the application’s behavior or flow and without time consuming.

NFR-02: Bug free system

* The application will handle potential users’ errors and unexpected behaviors.
* Unit testing will be implemented and kept up to date to the application’s development through time, to track and handle errors.
* The software will be equipped with a test plan to test every single performance of the desktop and web application.
* A test report will be made out of the test plan to fix any unexpected behavior after every testing.

NFR-03: Secure Application

* Application’s users (whether admins or clients) won’t be able to access saved passwords (hashing and salting will be implemented for passwords), and also different access levels will be implemented to keep application’s users’ sensitive data safe.

NFR-04: Environment and availability

* The desktop and web apps are going to be deployed on an online server so that it is available to users online 24/7

NFR-05: Usability

* User experience testing will be made and distributed over groups of people (unknown number for now) to test if the apps are behaving as expected and update any unexpected received results.
* The application is going to be user-friendly and easy to use without extra time for users to get acquainted with the system.

## Functional Requirements (Desktop App)

ID: FR A-01

Title: Employee can login

Description:

Employee should be able to login to the desktop application

Constraint: Employee must an admin

ID: FR A-02

Title: Employee can log out

Description:

Employee should be able to log out

Constraint: Employee must be logged in

ID: FR A-03

Title: Employee can go back

Description:

Employee should be able to go back to a previous page

Constraint: Employee must be logged in

ID: FR A-04

Title: Employee can access the inventory form

Description:

Employee should be able to access the inventory form

Constraint: Employee must be logged in

ID: FR A-05

Title: employee can add new boats

Description:

Employee should be able to add new boats to the company’s inventory

Constraint: Employee must be logged in

ID: FR A-06

Title: employee can add new items

Description:

Employee should be able to add new items to the company’s inventory

Constraint: Employee must be logged in

ID: FR A-07

Title: employee can update existing boats

Description:

Employee should be able to update the existing boats in the inventory

Constraint: Employee must be logged in

ID: FR A-08

Title: employee can update existing items

Description:

Employee should be able to update the existing items in the inventory

Constraint: Employee must be logged in

ID: FR A-09

Title: employee can delete an existing boat

Description:

Employee should be able to delete an existing boat from the inventory

Constraint: Employee must be logged in

ID: FR A-10

Title: employee can delete an existing item

Description:

Employee should be able to delete an existing item from the inventory

Constraint: Employee must be logged in

## Use Cases (Desktop App)

ID: FR A-01 – Employee can login

Pre-condition:

* The employee is an admin
* The employee is logged out

Post-condition:

* Employee is logged in

Actor: Employee

Main Success Scenario:

1. Employee opens the application
2. System displays a login form
3. Employee provides valid data for their username and password and presses login
4. System displays a dashboard form
5. End of use case

Extensions:

3a. text fields are empty

1. System displays a guiding message saying that username and password are required fields
2. Employee fills in the fields
3. Go back to use case 3

3b. username contains numbers

1. System displays a guiding message saying that username cannot contain numbers
2. Employee provides a username without numbers
3. Go back to use case 3

3c. Incorrect credentials

1. System displays a guiding message saying that username or password is incorrect
2. Employee provides valid credentials for username and password
3. Go back to use case 3

ID: FR A-02 – Employee can log out

Pre-condition:

* FR A-01 is fulfilled

Post-condition:

* Employee is logged out

Actor: Employee

Main Success Scenario:

1. Employee is at any given form
2. Employee clicks on logout
3. System displays the login form
4. End of use case

ID: FR A-03 – Employee can go back

Pre-condition:

* FR A-01 is fulfilled

Post-condition:

* Employee is in the previous form

Actor: Employee

Main Success Scenario:

1. Employee is at any given form
2. Employee clicks on back
3. System displays the previous page
4. End of use case

ID: FR A-04 – Employee can access the inventory form

Pre-condition:

* UR FR A-01 is fulfilled

Post-condition:

* Employee is in the inventory form

Actor: Employee

Main Success Scenario:

1. Employee is at the Dashboard form
2. Employee presses on inventory
3. System displays the inventory form
4. End of use case

Extensions:

1a. employee logs out

1. Go back to URS FR A-02

ID: FR A-05 – employee can add new boats

Pre-condition:

* UR FR A-04 is fulfilled

Post-condition:

* New boat is added to the inventory

Actor: Employee

Main Success Scenario:

1. Employee is in the inventory form
2. Employees presses on “add new”
3. System displays a dashboard with options
4. Employee presses on “BOAT”
5. System displays “Add boat” form
6. Employee fills in all the required fields with valid data and confirms
7. System displays a message that item is successfully added to the inventory
8. End of use case

Extensions:

2a. employee logs out

1. Go back to URS FR A-02

2b. employee goes back

1. Go back to URS FR A-03

4a. employee logs out

1. Go back to URS FR A-02

4b. employee goes back

1. Go back to URS FR A-03

6a. employee logs out

1. Go back to URS FR A-02

6b. employee goes back

1. Go back to URS FR A-03

6c. employee doesn’t fill in all the required fields

1. System displays a request message to fill in all the required fields
2. Employee fills in all the required fields with valid data
3. Go back to use case 6

6d. employee provides a letter instead of a valid number in cost, deposit, or quantity

1. System displays a guiding message that cost, deposit, or quantity can’t contain a letter
2. Employee provides a valid number in cost, deposit, or quantity fields
3. Go back to use case 6

ID: FR A-06 – employee can add new items

Pre-condition:

* UR FR A-04 is fulfilled

Post-condition:

* New item is added to the inventory

Actor: Employee

Main Success Scenario:

1. Employee is in the inventory form
2. Employees presses on “add new”
3. System displays a dashboard with options
4. Employee presses on “ITEM”
5. System displays “Add item” form
6. Employee fills in all the required fields with valid data and confirms
7. System displays a message that item is successfully added to the inventory
8. End of use case

Extensions:

2a. employee logs out

1. Go back to URS FR A-02

2b. employee goes back

1. Go back to URS FR A-03

4a. employee logs out

1. Go back to URS FR A-02

4b. employee goes back

1. Go back to URS FR A-03

6a. employee logs out

1. Go back to URS FR A-02

6b. employee goes back

1. Go back to URS FR A-03

6c. employee doesn’t fill in all the required fields

1. System displays a request message to fill in all the required fields
2. Employee fills in all the required fields with valid data
3. Go back to use case 6

6d. employee provides a letter instead of a valid number in cost, deposit, or quantity

1. System displays a guiding message that cost, deposit, or quantity can’t contain a letter
2. Employee provides a valid number in cost, deposit, or quantity fields
3. Go back to use case 6

ID: FR A-07 – employee can update existing boats

Pre-condition:

* UR FR A-04 is fulfilled

Post-condition:

* New boat is updated in the inventory

Actor: Employee

Main Success Scenario:

1. Employee is in the inventory form
2. Employees selects row from the boats’ table and presses on “update selected row”
3. System displays “add/update boat” form
4. Employee fill in all the required fields with valid data and presses “update boat”
5. System displays that item is successfully added to the inventory
6. End of use case

Extensions:

2a. employee logs out

1. Go back to URS FR A-02

2b. employee goes back

1. Go back to URS FR A-03

4a. employee logs out

1. Go back to URS FR A-02

4b. employee goes back

1. Go back to URS FR A-03

4c. employee doesn’t fill in all the required fields

1. System displays a request message to fill in all the required fields
2. Employee fills in all the required fields with valid data
3. Go back to use case 4

6d. employee provides a letter instead of a valid number in cost, deposit, or quantity

1. System displays a guiding message that cost, deposit, or quantity can’t contain a letter
2. Employee provides a valid number in cost, deposit, or quantity fields
3. Go back to use case 4

ID: FR A-08 – employee can update existing items

Pre-condition:

* UR FR A-04 is fulfilled

Post-condition:

* New item is updated in the inventory

Actor: Employee

Main Success Scenario:

1. Employee is in the inventory form
2. Employees selects row from the items’ table and presses on “update selected row”
3. System displays “add/update items” form
4. Employee fill in all the required fields with valid data and presses “update item”
5. System displays that item is successfully added to the inventory
6. End of use case

Extensions:

2a. employee logs out

1. Go back to URS FR A-02

2b. employee goes back

1. Go back to URS FR A-03

4a. employee logs out

1. Go back to URS FR A-02

4b. employee goes back

1. Go back to URS FR A-03

4c. employee doesn’t fill in all the required fields

1. System displays a request message to fill in all the required fields
2. Employee fills in all the required fields with valid data
3. Go back to use case 4

6d. employee provides a letter instead of a valid number in cost, deposit, or quantity

1. System displays a guiding message that cost, deposit, or quantity can’t contain a letter
2. Employee provides a valid number in cost, deposit, or quantity fields
3. Go back to use case 4

ID: FR A-09 – employee can delete an existing boat

Pre-condition:

* UR FR A-04 is fulfilled

Post-condition:

* Boat is deleted from the inventory

Actor: Employee

Main Success Scenario:

1. Employee is in the inventory form
2. Employees selects row from the boats’ table and presses on “delete selected row”
3. System displays “Warning” form
4. Employee presses on confirm
5. System displays that item was successfully deleted from the inventory
6. End of use case

Extensions:

2a. employee logs out

1. Go back to URS FR A-02

2b. employee goes back

1. Go back to URS FR A-03

4a. Employee cancels

1. End of use case

ID: FR A-10 – employee can delete an existing item

Pre-condition:

* UR FR A-04 is fulfilled

Post-condition:

* Item is deleted from the inventory

Actor: Employee

Main Success Scenario:

1. Employee is in the inventory form
2. Employees selects row from the items’ table and presses on “delete selected row”
3. System displays “Warning” form
4. Employee presses on confirm
5. System displays that item was successfully deleted from the inventory
6. End of use case

Extensions:

2a. employee logs out

1. Go back to URS FR A-02

2b. employee goes back

1. Go back to URS FR A-03

4a. Employee cancels

1. End of use case

## Functional Requirements (Web App)

ID: FR B-01

Title: Placing a Reservation

Description:

Clients should be able to place a reservation by selecting the preferred options and providing their contact detail

ID: FR B-02

Title: Quote Access

Description:

Clients should be able to access their created quote containing their chosen preferences and contact details (by providing the quote unique ID)

Constraint: Quote should exist

ID: FR B-03

Title: Quote update

Description:

Clients should be able to update the quote by providing their new preferences and\or contact details (by providing the quote unique ID)

Constraint: at least 7 days before rental day

ID: FR B-04

Title: Quote deletion

Description:

Clients should be able to delete/cancels the quote by providing the quote unique ID

Constraint: at least 7 days before rental day

ID: FR B-05

Title: deposit an amount for the boat rental options

Description:

On the renting day, client must deposit an amount of money for the boat rental options mentioned in the provided appendix

Constraint: reservation is made and quote is created

ID: FR B-06

Title: Final payment calculation

Description:

The final payment is calculated and terminated

## Use Cases (Web App)

ID: FR B-01 – Placing a Reservation

Pre-condition: None

Actor: Client

Main Success Scenario:

1. Client opens the application
2. Dashboard is shown
3. Client requests to view rental information
4. System displays boats and items’ rental information
5. Client presses make a reservation
6. A new form opens and client selects their preferred options and confirms
7. System requests for contact details
8. Client fills in their contact details
9. System displays full details (contact details and selected options) and requests for client’s signature
10. Client provides signature (via a checkbox) and confirms
11. System confirms the reservation was successful, stores it and display a summary copy

Extensions:

6.

1. Client cancels
2. End of use case

6.

1. Client provides invalid data
2. System shows guiding message to fill in the valid data
3. Client provides valid data and confirm
4. Go back to use case 6

8.

1. Client cancels
2. End of use case

10.

1. Client cancels
2. End of use case

ID: FR B-02 – Quote Access

Pre-condition: Quote should exist

Actor: Client

Main Success Scenario:

1. Client types in the quote ID and presses on “show quote”
2. System shows the quote with its information

Extensions:

1. Client provides invalid data

1. System shows a guiding message to provide valid data (number)
2. Client provides valid data
3. Go back to use case 1

2. Client provides a number of non-existing quote

1. System shows a guiding message that it cannot find the quote
2. Client provide an ID of existing quote
3. Go back to use case 1

ID: FR B-03 – Quote Update

Pre-condition: Quote should exist

Actor: Client

Main Success Scenario:

1. Client provides the quote (reservation) ID
2. System displays the quote with all the reservation and contact information
3. Client presses on update quote
4. System displays the quote with all the reservation and contact information
5. Client fills in the new details and confirms
6. System displays the quote with all the reservation and contact new information and requests for signature
7. Client provides signature (via a checkbox) and confirms
8. System confirms the reservation was successfully updated, stores it and displays a copy

Extensions:

1. Rental day is in less than 7 days
2. End of use case

5. Client cancels

1. End of use case

5. Client provides invalid data

1. System shows a guiding message for the client to provide valid data
2. Client provides valid data and confirms
3. Go back to use case 5

7.

1. Client cancels
2. End of use case

ID: FR B-04 – Quote Deletion/Cancelation

Pre-condition: Quote should exist

Actor: Client

Main Success Scenario:

1. Client provides the quote (reservation) ID
2. System displays the quote with all the reservation and contact information
3. Client presses on delete quote
4. System requests client’s confirmation
5. Client confirms
6. System displays the quote deletion confirmation

Extensions:

2.

1. Rental day is in less than 7 days
2. End of use case

5.

1. Client cancels
2. End of use case

ID: FR B-05 – Deposit an amount for the boat rental options

Pre-condition:

* Employee is logged in
* Employee is an admin

Actor: Employee

Main Success Scenario:

1. Employee provides the quote (reservation) ID
2. System displays the quote with all the reservation and contact information and expected deposit
3. Employee provides the expected deposit and confirms
4. System displays confirmation message of the made deposit

Extensions:

4. Deposit is lower than the expected amount

1. System displays a guiding message with the expected amount/deposit
2. Employee provides the expected amount
3. Go back to 3

ID: FR B-06 – Final payment calculation

Pre-condition:

* Employee is logged in
* Employee is an admin
* Deposit has been already made

Actor: Employee

Main Success Scenario:

1. Employee provides the quote (reservation) ID
2. System displays the quote with all the reservation, contact information, and the made deposit
3. Employee requests to Finalize the payment
4. System requests for the final payment
5. Employee provides the final payment and confirms
6. System displays confirmation message of successful payment finalization

Extensions:

5. Final payment incorrect

1. System displays a guiding message with the expected final payment
2. Employee provides the expected final payment and confirms
3. Go back to 5

5. Final payment is invalid input

* 1. System displays a guiding message that the input is invalid
  2. Employee provides valid input
  3. Go back to 5