Analysis

RESERVATION SYSTEM FOR DIM

GROUP 2 S6-RB03

Version history

Version	Date	Author(s)	Changes	State
0.1	21-02-2022	Group 2	User Stories	Development

Distribution

Version	Date	Receivers
1	24-2-2022	Stakeholders

Contents

Functional Requirements

N.	Description	MoSCoW
FR1	A customer should be able to make a reservation	M
FR2	A customer should be able to select a timeslot when making a reservation	M
FR3	A customer should be able to pass on dietary requirements when making a reservation	M
FR4	A customer should be able to pass on the number of people that will be present when making a reservation	M
FR5	A customer should receive a confirmation message when having made a successful reservation	M
FR6	A customer should be able to cancel a reservation	M
FR7	A customer should be able to pass on the names of everyone who is coming when making a reservation	S
FR8	A customer should be able to add remarks to a reservation	S
FR9	A customer should be able to create an account	S
FR10	A customer should be able to leave a review	C
FR11	A customer should be able to reschedule a reservation	C
FR12	~~A customer should be able to redeem a gift card~~	~~W~~

N.	Description	MoSCoW
FR13	A manager should be able to configure what dates and timeslots are available for reservation	M
FR14	A manager should be able to cancel a reservation	M
FR15	A manager should be able to configure the capacity of the restaurant	M
FR16	A manager should be able to make a (special) event for a fixed number of guests	S
FR17	A manager should be able to configure whether a customer needs an account for making a reservation	S
FR18	A manager should be able to toggle confirm/deny reservation	S
FR19	A manager should be able to view statistics on the incoming data	S
FR20	A manager should be able to insert a reservation manually	S
FR21	A manager should be able to toggle reviews	C
FR22	A manager should be able to configure sending an automatic reminder message to customers on their reservation	C
~~FR23~~	~~The system should be able to automatically arrange seating~~	~~W~~

Non-Functional Requirements

N.	Description	MoSCoW
NFR1	The system should be expandable, so that future groups that will work on the project can extend it easily	M
NFR2	The software should be optimized, in order for smooth operations to take place	M
NFR3	Data should be gathered and stored in accordance with the GDPR laws in place	M
NFR4	The system should be secure and minimize the risk of data leaks and other security breaches that could damage its image and lead to lawsuits	M
NFR5	The code should follow regulation standards	M
NFR6	The codebase should be easily testable and multiple tests should be performed to make sure everything operates as intended	M
NFR7	Documentation about the system, its inner workings and research should be provided so that the project can continue on easily with other developers	M
NFR8	The system is going to be accessible and easily understandable and usable by everyone	C

Security Requirements

Subject	Description
Integrity	Data should only be modified by authorized parties
Availability	Data should only be available to authorized parties
Authentication & Authorization	The identity and roles of a user should be known to a secured service
Secure Networks	A Service entry point should not be unnecessarily exposed
Encryption	Communication data between two parties should be encrypted

Use cases

Name	**UC01 | Make a reservation**
Functional requirements	FR-01 FR-02 FR-03 FR-04 FR-05 FR-07 FR-08
Summary	The actor can make a reservation in the system
Actor	Customer
Precondition	Actor has the reservation widget open
Description	1) The actor wants to make a reservation 2) The system asks for the amount of people for the reservation 3) The actor enters the amount of people 4) The system retrieves all available time slots from now for the amount of people entered **[A]** 5) The actor selects a timeslot 6) The system asks for the names of the guests 7) The actor fills in the names of his guests 8) The system asks for the dietary wishes of the customers 9) The actor fills in the dietary wishes for his guests **[B]** 10) The system approves the reservation and sends a confirmation email
Exception	**[A] There are no time slots available** a) stop **[B] Online payment is turned on**: a) The actor chooses to pay online b) The system prompts for a payment method c) The actor makes a payment d) The system approves the reservation and sends a confirmation email
Result	The actor has made a reservation

Name	**UC02 | Cancel a reservation**
Functional requirements	FR-06
Summary	The actor is able to cancel a reservation in the system
Actor	Customer
Precondition	Actor has placed a reservation
Description	1) The actor wants to cancel his reservation 2) The system shows the reservation that the customer has **[A]** 3) The actor specifies wanting to remove the reservation 4) The system removes the reservation **[B]**
Exception	**[A] The customer tries to cancel the reservation on a too short** notice: a) stop **[B] The customer has already paid online**: a) The system refunds the payment b) The system removes the reservation and sends an email to the customer
Result	The actor has cancelled a reservation

Name	UC03 | Reschedule a reservation
Functional requirements	FR-11
Summary	The actor is able to reschedule a reservation in the system
Actor	Customer
Precondition	Actor has placed a reservation
Description	1) The actor wants to reschedule his reservation 2) The system shows the reservation that the customer has **[A]** 3) The actor specifies wanting to reschedule the reservation 4) The system prompts for a new time slot 5) The actor specifies a certain time slot 6) The system reschedules the reservation
Exception	**[A] The customer tries to reschedule the reservation on a too short notice**: b) stop
Result	The actor has rescheduled a reservation

Name	UC04 | Configure timeslots
Functional requirements	FR-13
Summary	The manager of the reservation system defines what dates are available for reservation
Actor	Manager
Precondition	The reservation system has been set up
Description	1) The manager wants to configure what dates and timeslots are available or unavailable 2) The system shows an interface on which default timeslots and exceptions can be configured 3) The manager indicates which dates are (un)suitable
Exception	-
Result	The manager has configured the available dates for a reservation

Name	UC05 | Configure capacity
Functional requirements	FR-15
Summary	The manager of the reservation system defines the number of guests that can be fit into a time slot
Actor	Manager
Precondition	The reservation system has been set up
Description	1) The manager wants to configure the number of guests that fit in one time slot 2) The system shows an interface where the capacity can be divided into tables and timeslots per table 3) The manager configures the tables, the capacity and time
Exception	-
Result	The manager has configured the number of available reservations per time slot

Name	UC06 | Create special events
Functional requirements	FR-14
Summary	The manager of the reservation system can create a special event for a fixed number of guests.
Actor	Manager
Precondition	The reservation system has been set up
Description	1) The manager wants to create a special event 2) The system shows an interface where a special event can be created 3) The manager enters a title, description and date(s) **[B]** 4) The system saves the special event and disables the regular reservation for that date **[A]**
Exception	**[A] There is already a reservation made for the date the manager wants to create a special event at**: a) The system sends an email informing that the reservation falls under a special event and gives the ability to cancel or reschedule. **[B] The manager tries to create a special event on a date set to "unavailable"**: a) continue
Result	The manager has created a special event for a fixed number of guests

Name	UC07 | Configure account types
Functional requirements	FR-17
Summary	The manager of the reservation system configures what type of account is allowed when making a reservation. Examples of an account type are guest or regular.
Actor	Manager
Precondition	The reservation system has been set up
Description	1) The manager wants to allow both guest and regular accounts to make a reservation 2) The system displays an interface where the allowed account types can be checked 3) The manager checks both guest & regular accounts
Exception	-
Result	The manager has configured the allowed account types for his reservation system

Name	UC08 | Cancel a reservation
Functional requirements	FR-14
Summary	The manager of the reservation system can cancel a reservation
Actor	Manager
Precondition	The reservation system has been set up
Description	1) The manager wants to cancel a certain reservation 2) The system removes the reservation and sends an email to the customer **[A]**
Exception	**[A]** The customer has already paid online: a) The system refunds the payment b) The system removes the reservation and sends an email to the customer
Result	The manager has configured the allowed account types

Name	UC09 | Toggle reservation confirmation
Functional requirements	FR-18
Summary	The manager of the reservation system wants reservations to be manually confirmed by employees
Actor	Manager
Precondition	The reservation system has been set up
Description	1) The manager wants to review reservations before they are confirmed 2) The system displays a toggle where manual review can be turned on 3) The manager checks wanting to manually review reservations
Exception	-
Result	The manager has configured the allowed account types

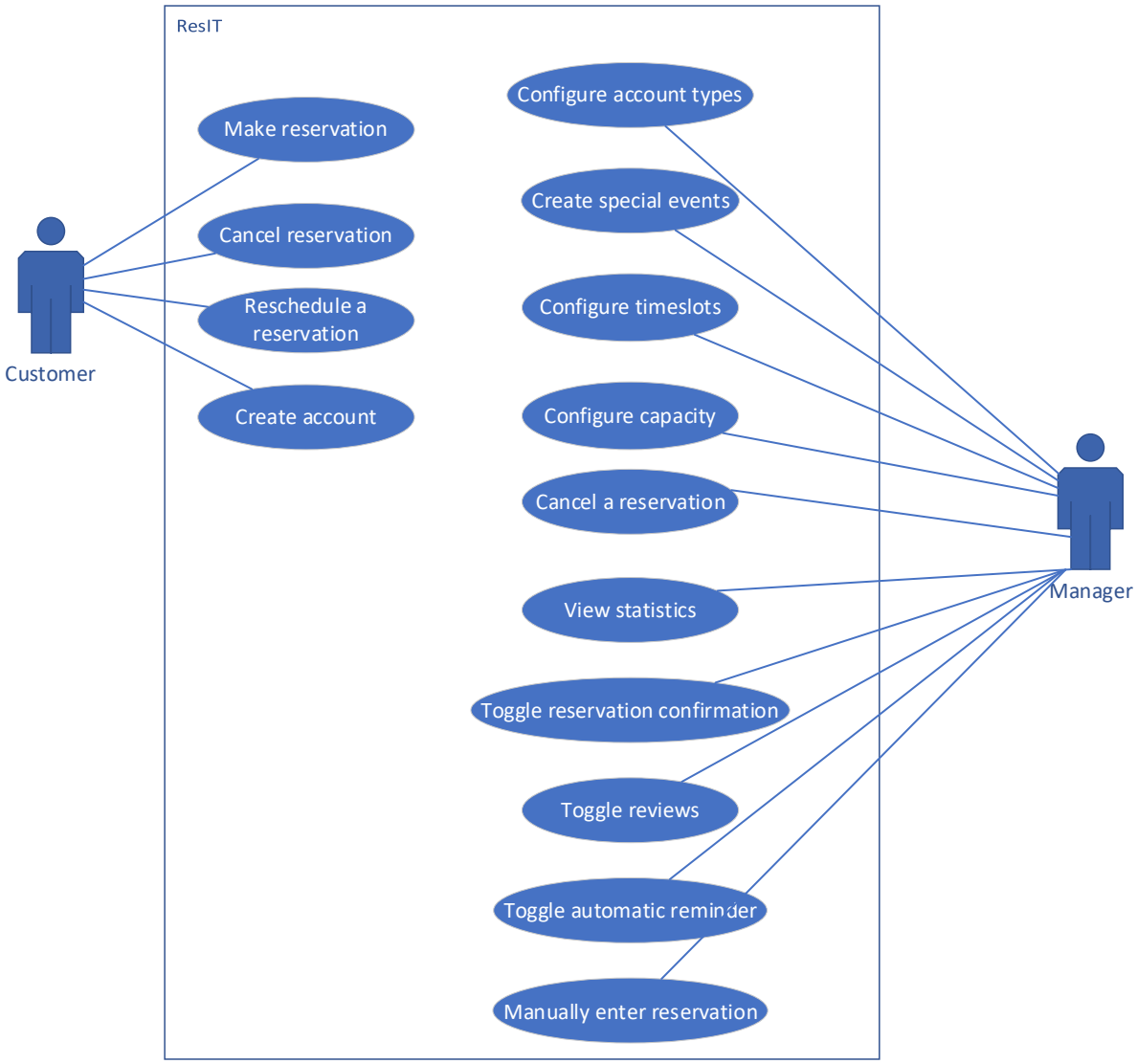
Name	UC10 | View statistics
Functional requirements	FR-19
Summary	The manager of the reservation system wants view relevant statistics on the reservation data
Actor	Manager
Precondition	The reservation system has been set up and there is data from at least one day available
Description	1) The manager wants to view the average occupancy of his restaurant based on reservations of the day before 2) The system shows the data in relevant visualizations
Exception	**[A] There is not data available on the requested time period:** a) The system shows a message with that there is no data available for that time period
Result	The manager has viewed the data

Name	UC11 | Toggle Reviews
Functional requirements	FR-21
Summary	The manager of the reservation system wants to turn on reviews for his restaurant
Actor	Manager
Precondition	The reservation system has been set up
Description	1) The manager wants to turn on reviews 2) The system displays a toggle where reviews can be turned on 3) The manager turns on the reviews
Exception	-
Result	The system now sends an email a day after a reservation asking for a rating & review

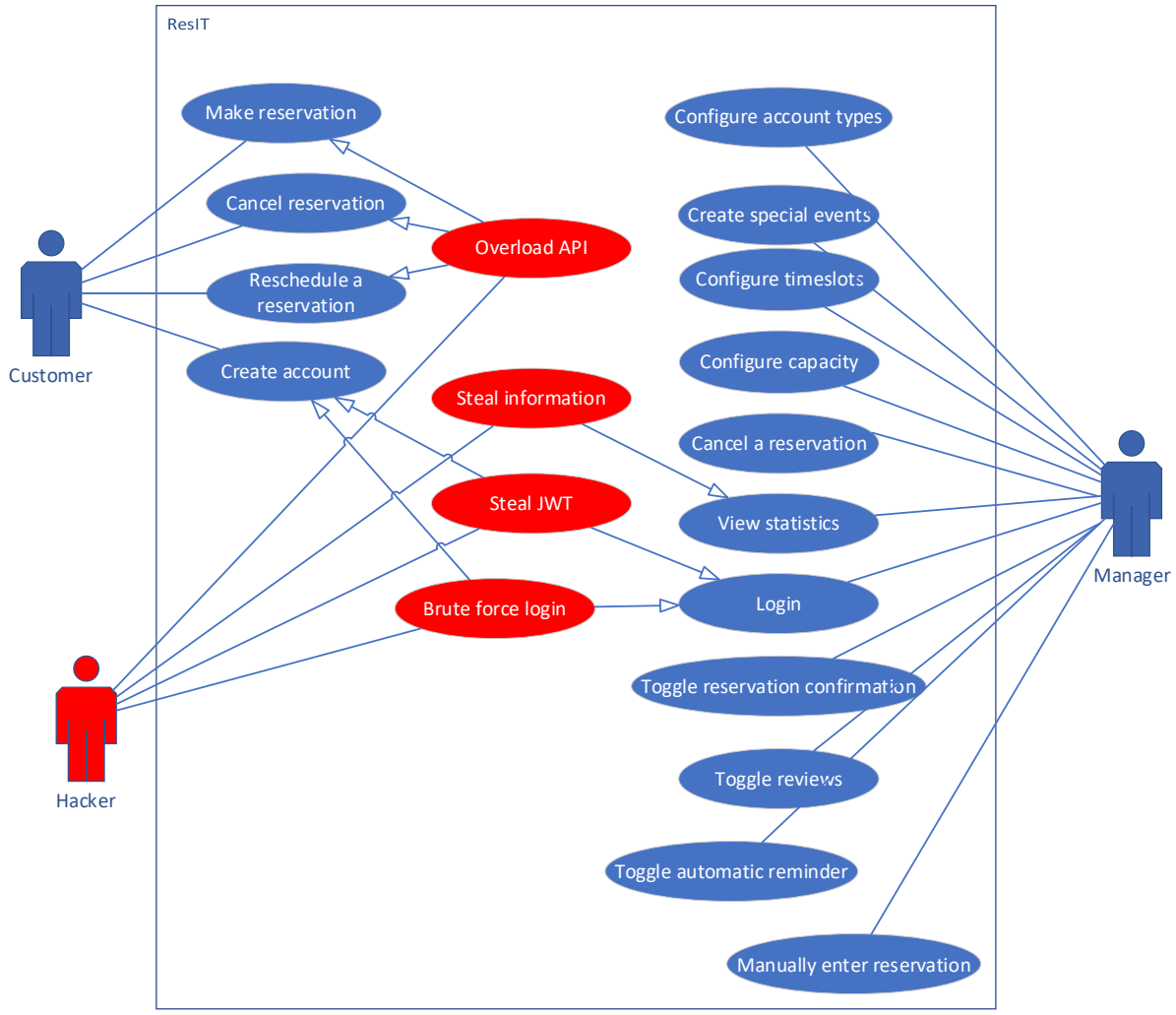
Name	UC12 | Toggle Automatic Reminder
Functional requirements	FR-22
Summary	The manager of the reservation system wants to turn on sending an automatic reminder 1 day before a reservation date to the customer
Actor	Manager
Precondition	The reservation system has been set up
Description	1) The manager wants to toggle on “automatic reminder email” 1 day before a dinner 2) The system shows an interface in which “automatic reminder email” can be configured 3) The manager defines “send reminder email 1 day in advance”
Exception	**[A] Communication configuration (Email/SMS) has not been set-up:** a) The system prompts the manager to first set-up an email configuration
Result	The system now sends a reminder email 1 day before the reservation date

Name	UC13 | Manually enter reservation
Functional requirements	FR-20
Summary	The manager of the reservation system wants to manually enter a reservation
Actor	Manager
Precondition	The reservation system has been set up
Description	1) The actor wants to insert a reservation 2) The system asks for the amount of people for the reservation 3) The actor enters the amount of people 4) The system retrieves all available time slots from now for the amount of people entered **[A]** 5) The actor selects a timeslot 6) The system asks for the names of the guests 7) The actor fills in the names of his guests 8) The system asks for the dietary wishes of the customers 9) The actor fills in the dietary wishes for his guests **[B]** The system approves the reservation and sends a confirmation email
Exception	**[A] There are no time slots available**, stop **[B] Online payment is turned on**: a) The actor chooses to pay online b) The system prompts for a payment method c) The actor makes a payment d) The system approves the reservation and sends a confirmation email
Result	The system now sends a reminder email 1 day before the reservation date

Use case diagram



Misuse cases



Name	Brute force login **(MUC01)**
Summary	The actor can brute force the credentials to login to the application
Actor	Hacker
Assumptions	
Description	1) The actor wants to gain access to the application 2) The actor starts a brute force attack 3) The system checks every time credentials are valid 4) The system sends back JWT by valid credentials 5) The actor is logged in on the site
Result	The actor has brute forced the system

Name	Steal JWT **(MUC02)**
Summary	The actor can steal authentication tokens from other users to login to the application
Actor	Hacker
Assumptions	A user from the website has already an authentication token
Description	1) The actor wants to steal an authentication token 2) The actor hacks someone else's computer and steals the authentication token 3) The actor uses the authentication token in his own browser 4) The system checks the authentication token 5) The actor is logged into the system
Result	The actor has stolen an authentication token from someone else

Name	Overload API **(MUC03)**
Summary	The actor can overload the API by sending multiple requests
Actor	Hacker
Assumptions	
Description	1) The actor wants to overload the API 2) The actor sends a lot of requests to the API 3) The system will flood with requests and freezes 4) The actor has overloaded the API
Result	The actor has overloaded the API

Name	Steal information **(MUC04)**
Summary	The actor can see sensitive information
Actor	Hacker
Assumptions	The actor is logged in
Description	1) The actor wants to see sensitive information 2) The system shows information 3) The actor can see the information
Result	The actor has gathered information