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CSE343 – SOFTWARE ENGINEERING

PROJECT REPORT: UML DIAGRAMS

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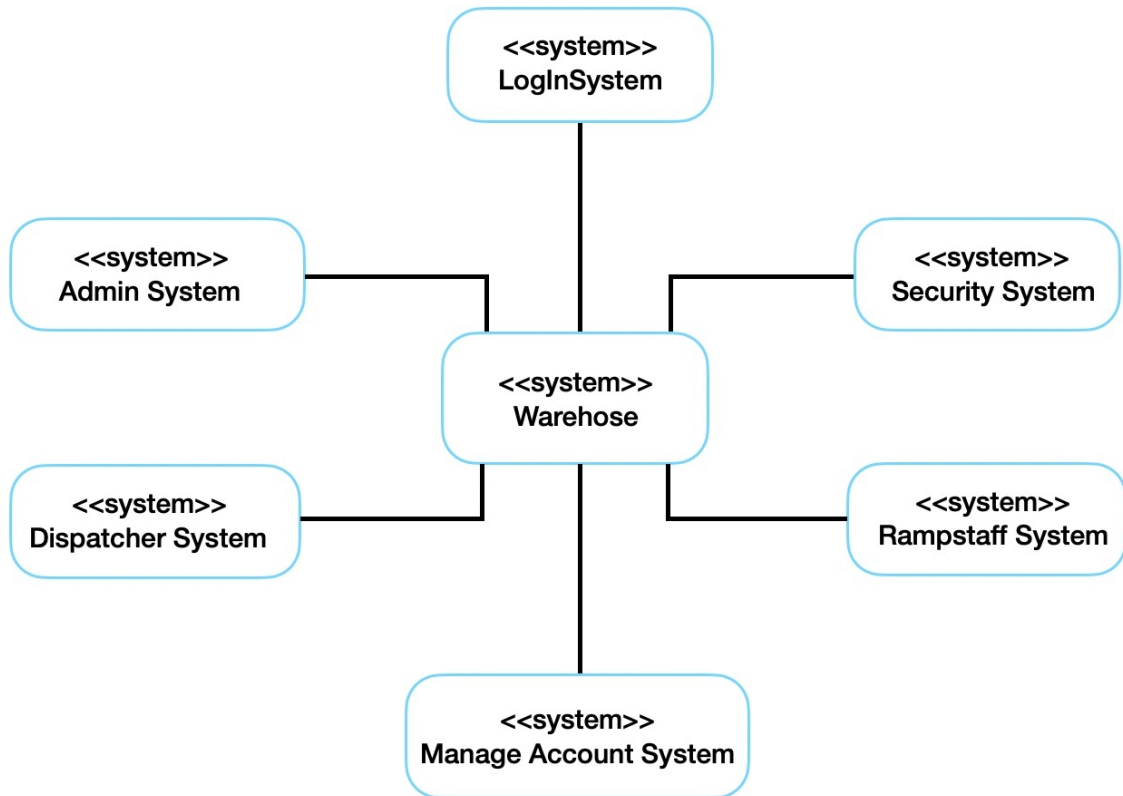
WAREHOUSE RAMP TRACKING SYSTEM

W R T S

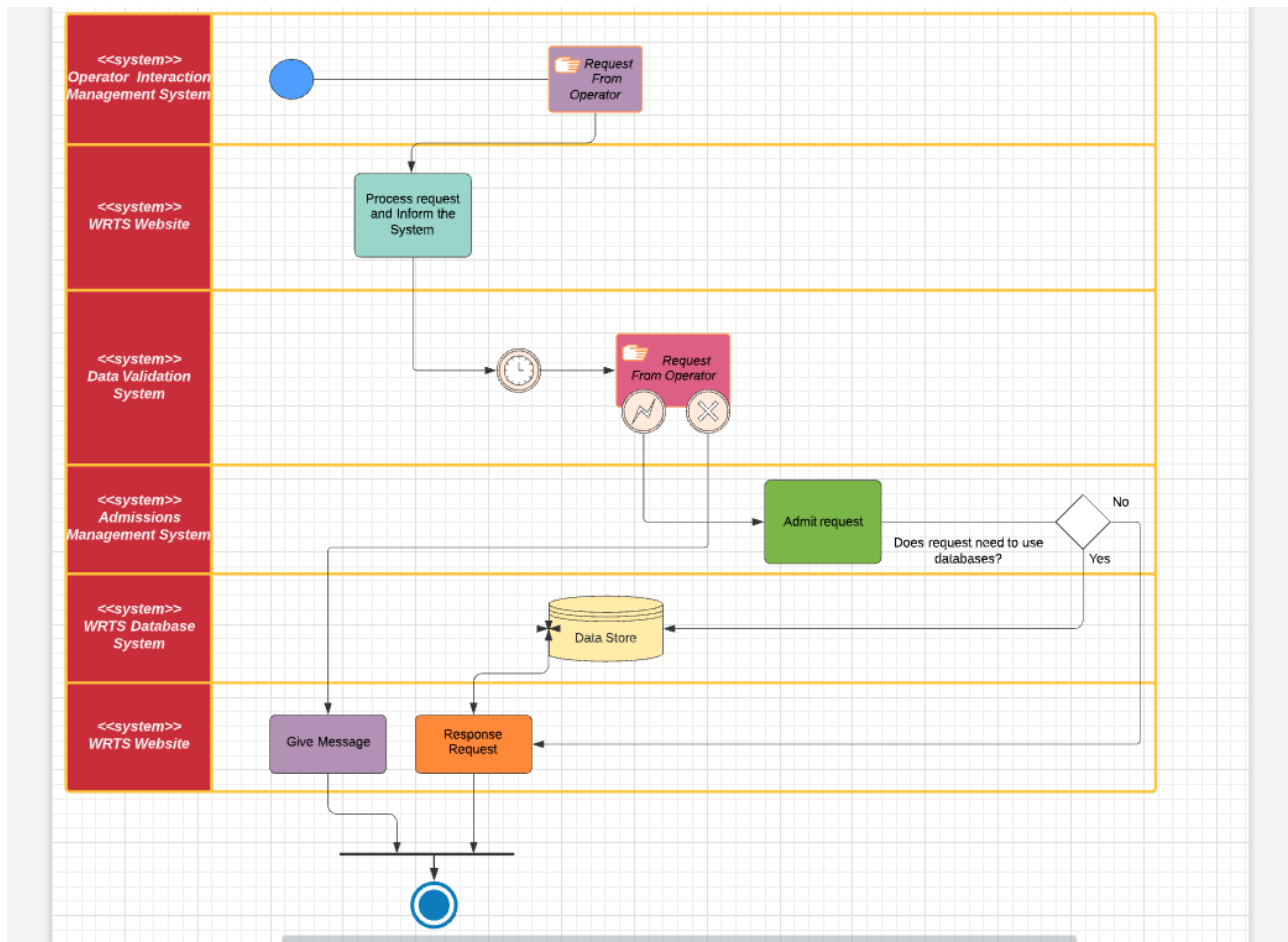
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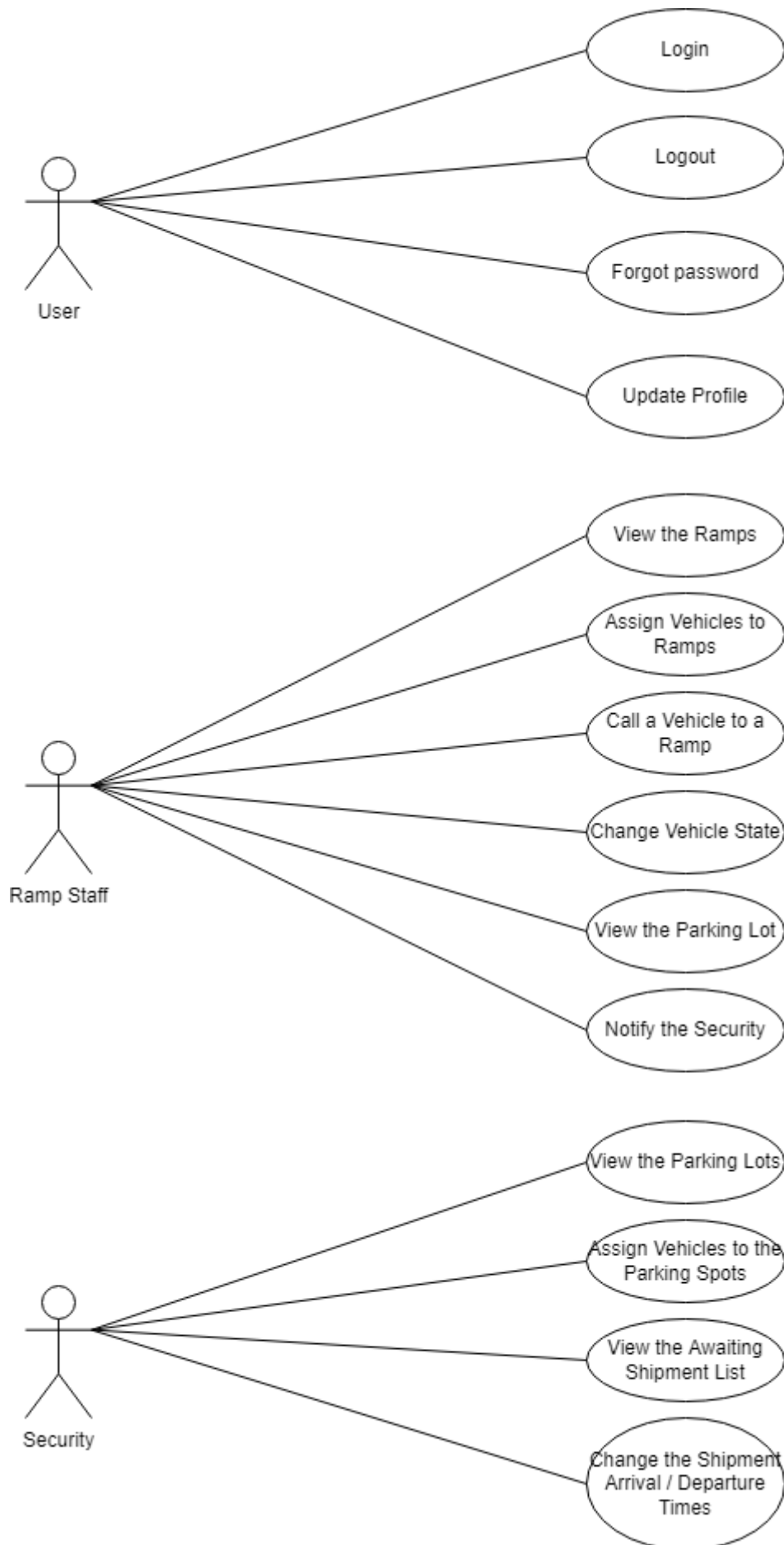
## 1. Context Model

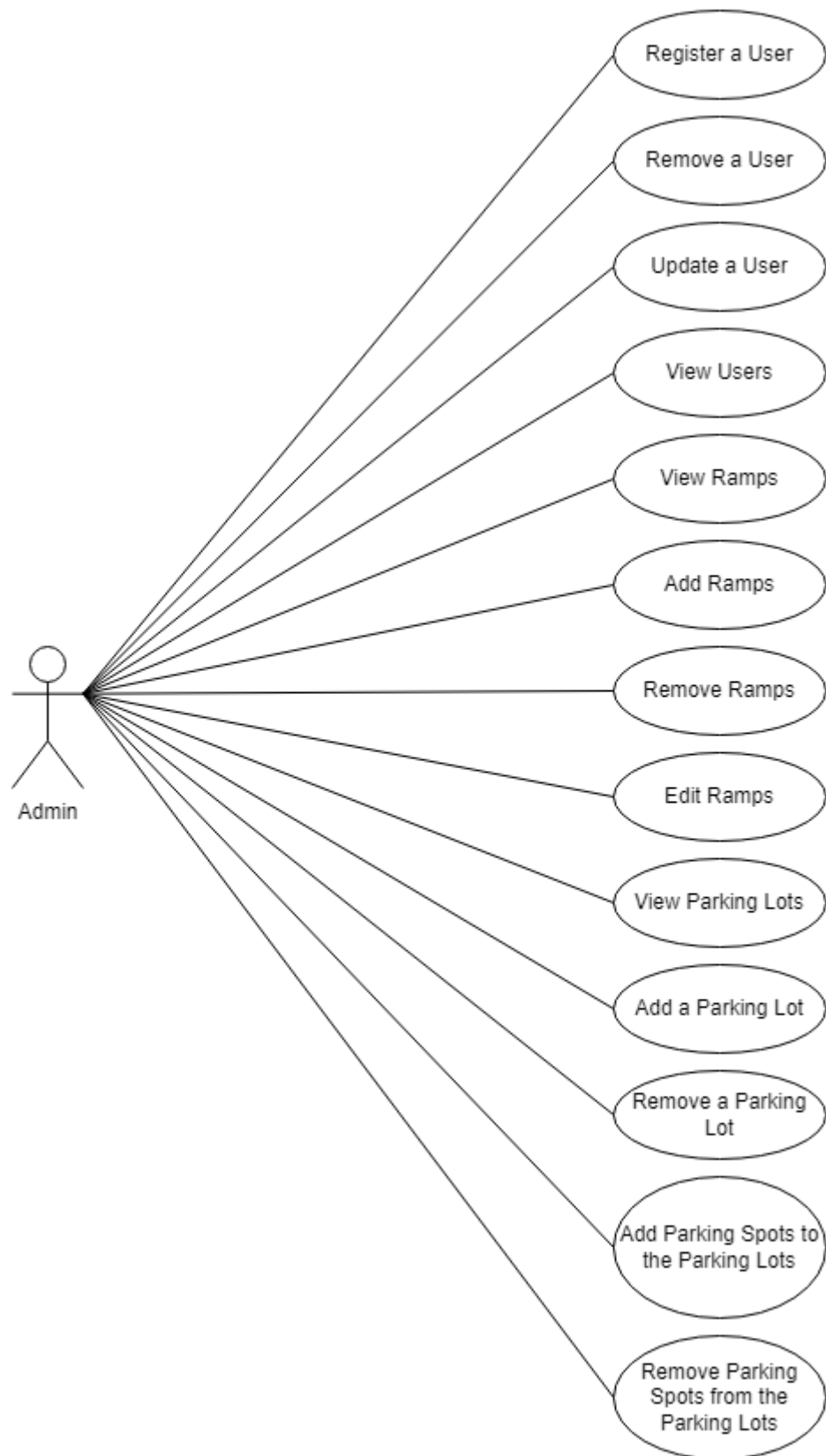


## 2. Process Model



### 3. Use Case Diagrams and Their Detailed Tables





Use Case Table 1	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Login
<b>Actors</b>	All Users
<b>Data</b>	User's email address and password.
<b>Stimulus</b>	The user wants to get into the system.
<b>Response</b>	The application logs in the user to the system.
<b>Comments</b>	In case of a wrong email or password input, the system warns the user and asks the user to fill out the login form again.

Use Case Table 2	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Logout
<b>Actors</b>	All Users
<b>Data</b>	Current user's id.
<b>Stimulus</b>	The user is done with the system and wants to log out of the system.
<b>Response</b>	The user gets logged out from the system.
<b>Comments</b>	The user is returned to the login page after logout.

Use Case Table 3	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Forgot Password
<b>Actors</b>	All Users
<b>Data</b>	User's email address.
<b>Stimulus</b>	User cannot remember his/her password and wants to change his password.
<b>Response</b>	The system sends an email to the user. The email contains a randomly generated password which is also changed in the user's record in database.
<b>Comments</b>	Current system might not send email to hotmail addresses.

Use Case Table 4	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Update Profile
<b>Actors</b>	All Users
<b>Data</b>	User might want to change his/her email, name, surname, password or phone number.
<b>Stimulus</b>	User wants to change his/her information.
<b>Response</b>	The system change user data to the new data provided by the user.
<b>Comments</b>	User might enter an email which already exists in the database. In that case inform the user and request him/her to fill the form again.

Use Case Table 5	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Register a User
<b>Actors</b>	Admin
<b>Data</b>	User' email, name, surname, phone number and department.
<b>Stimulus</b>	A new employee is hired and has to be registered to the system.
<b>Response</b>	The system adds the new user to the database.
<b>Comments</b>	The admin might enter an invalid email address or leave empty fields. Warn the admin and request him/her to fill the form again. The password for the new user is randomly generated. The admin can look at the user list and tell the password to the user.

Use Case Table 6	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Remove a User
<b>Actors</b>	Admin
<b>Data</b>	The user's id is retrieved from the row which the remove button exist in.
<b>Stimulus</b>	The admin wants to remove a user from the system after the employee parts his/her way with the warehouse.
<b>Response</b>	The system removes the user from the database.
<b>Comments</b>	The removed user should be out of the user lists and such.

Use Case Table 7	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Update a User
<b>Actors</b>	Admin
<b>Data</b>	User's email, password, name, surname, phone number, department.
<b>Stimulus</b>	The admin is requested to change the information of the user. This request might be due to the change of the department of the employee or some other reason.
<b>Response</b>	The system changes the user information in the database.
<b>Comments</b>	The admin might enter an invalid email. In that case, inform the admin and request him/her to fill the form again.

Use Case Table 8	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	View Users
<b>Actors</b>	Admin
<b>Data</b>	The information of all of the users who are registered in the system.
<b>Stimulus</b>	The admin wants to see the user list so that he/she can edit or remove a desired user.
<b>Response</b>	The system gets the information from the database and presents the users in tabular form.
<b>Comments</b>	The user list must show all of the information about the users.

Use Case Table 9	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	View Ramps
<b>Actors</b>	Admin
<b>Data</b>	The information of all of the ramps which are added to the system.
<b>Stimulus</b>	The admin wants to see the ramp list. From this list the admin might change the name of the existing ramps, remove ramps or add a new ramp.
<b>Response</b>	The system presents the ramps as a list to the admin.
<b>Comments</b>	All of the information about the ramps must be shown in the list.



Use Case Table 10	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Add Ramps
<b>Actors</b>	Admin
<b>Data</b>	Ramp name
<b>Stimulus</b>	The admin is requested to add some ramps to the system because of the expansion of the ramps in the warehouse.
<b>Response</b>	The new ramp is added to the system.
<b>Comments</b>	The admin has to enter a ramp name. If he/she doesn't, inform the admin and request him/her to fill the form again.

Use Case Table 11	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Remove Ramps
<b>Actors</b>	Admin
<b>Data</b>	The id of the ramp.
<b>Stimulus</b>	The admin is asked to remove a ramp from the system because the requested ramp is removed in real life as well.
<b>Response</b>	The ramp is deleted on the database.
<b>Comments</b>	There cannot be any vehicle present in the ramp at the time of removal.

Use Case Table 12	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Edit Ramps
<b>Actors</b>	Admin
<b>Data</b>	The new name of the ramp.
<b>Stimulus</b>	The admin is requested to change the name of a ramp.
<b>Response</b>	The ramp name is changed on the database.
<b>Comments</b>	There can be duplicate ramp names in the current system. The system must prevent this from happening.

Use Case Table 13	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	View Parking Lots
<b>Actors</b>	Admin
<b>Data</b>	The parking lots that exist in the database.
<b>Stimulus</b>	The admin wants to choose a parking lot or add a new parking lot.
<b>Response</b>	The system displays the parking lots in cards where the admin can click on and a button to add new parking lots.
<b>Comments</b>	If the parking lot has no name, call it the nth park depending on its position in the list.

Use Case Table 14	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Add a Parking Lot
<b>Actors</b>	Admin
<b>Data</b>	The name of the parking lot and the vehicle type that is going to be accepted to that parking lot.
<b>Stimulus</b>	The admin is requested to add a new parking lot to the system because a new parking lot is built in the warehouse.
<b>Response</b>	The new parking lot is added to the system.
<b>Comments</b>	The parking lot name should be unique. Do the necessary checks.

Use Case Table 15	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Remove a Parking Lot
<b>Actors</b>	Admin
<b>Data</b>	The id of the parking lot.
<b>Stimulus</b>	The admin is requested to remove a parking lot from the system. This may be because a parking lot is no more in use in the warehouse.
<b>Response</b>	The system removes the parking lot from the system.
<b>Comments</b>	There cannot be any vehicles assigned to that parking lot during the deletion process.

Use Case Table 16	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Add Parking Spots to the Parking Lots
<b>Actors</b>	Admin
<b>Data</b>	The id of the parking lot.
<b>Stimulus</b>	The admin is asked to add new parking spots to a parking lot.
<b>Response</b>	The parking lot is added to the database and is related to the parking lot.
<b>Comments</b>	There might be a naming feature added for the parking spots.

Use Case Table 17	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Remove Parking Spots from the Parking Lots
<b>Actors</b>	Admin
<b>Data</b>	The id of the parking spot
<b>Stimulus</b>	The admin is requested to remove a parking spot from the system since the warehouse might have shrunk the parking lot and removed some spots.
<b>Response</b>	The parking spot is deleted from the system.
<b>Comments</b>	There cannot be any vehicles in the parking spot which is going to be removed.

Use Case Table 18	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	View Shipments
<b>Actors</b>	Dispatcher
<b>Data</b>	All of the information about the shipments.
<b>Stimulus</b>	The dispatcher wants to see the shipments.
<b>Response</b>	A list of all of the shipments is displayed.
<b>Comments</b>	The awaiting shipments should be on top and the finished shipments should come after them.

Use Case Table 19	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Add New Shipments
<b>Actors</b>	Dispatcher
<b>Data</b>	Shipment's waybill code, company name, vehicle information, driver information.
<b>Stimulus</b>	The dispatcher always talks to companies and registers new shipments to the system.
<b>Response</b>	The system registers the shipment to the system.
<b>Comments</b>	The vehicle and the driver might exist in the system for the other shipments. The system should not create duplicates and just relate their information to the new shipment.

Use Case Table 20	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Remove Shipments
<b>Actors</b>	Dispatcher
<b>Data</b>	The id of the shipment.
<b>Stimulus</b>	The shipment might be canceled and the dispatcher wants to remove the shipment.
<b>Response</b>	The new shipment is added to the system.
<b>Comments</b>	The new shipment should be in the awaiting state.

Use Case Table 21	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Change Shipment Information
<b>Actors</b>	Dispatcher
<b>Data</b>	The id of the shipment, the new information about the shipment.
<b>Stimulus</b>	The dispatcher wants to change a data on the shipment.
<b>Response</b>	The shipment record is updated with the new information on the database.
<b>Comments</b>	The dispatcher might want to add a description about the shipment.

Use Case Table 22	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	View the Ramp List
<b>Actors</b>	Dispatcher
<b>Data</b>	The information of all of the ramps in the system.
<b>Stimulus</b>	The dispatcher wants to see the ramps and their information in a tabular form.
<b>Response</b>	The system displays the ramps as a list.
<b>Comments</b>	The dispatcher can assign or remove ramp staff from the ramps on this list.

Use Case Table 23	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Assign Ramp Staff to the Ramps
<b>Actors</b>	Dispatcher
<b>Data</b>	The id of the ramp and the id of the ramp staff.
<b>Stimulus</b>	The dispatcher wants to add a ramp staff to a ramp where there is nobody assigned to or simply just replace the current staff with the new one for the ramp.
<b>Response</b>	The system adds the new ramp staff to the ramp on the database.
<b>Comments</b>	The dispatcher can choose a new ramp staff and the other ramp staff gets automatically removed from the ramp.

Use Case Table 24	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Enable or Disable a Ramp
<b>Actors</b>	Dispatcher
<b>Data</b>	The id of the ramp
<b>Stimulus</b>	The ramp is unusable and needs to be updated on the system. So the dispatcher disables the ramp or vice versa.
<b>Response</b>	The ramp state changes to “Available” on enable and “Maintenance” on disable.
<b>Comments</b>	There might be a vehicle in the ramp when the dispatcher wants to disable the ramp.

Use Case Table 25	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	View the Ramps
<b>Actors</b>	Ramp Staff
<b>Data</b>	The information of the ramps that are assigned to the current ramp staff.
<b>Stimulus</b>	The ramp staff wants to see the ramps and their information in a tabular form.
<b>Response</b>	The system displays the ramps as a list.
<b>Comments</b>	The ramp staff can assign vehicles or do other operations for the vehicles in the ramps from the ramp list.

Use Case Table 26	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Assign Vehicles to Ramps
<b>Actors</b>	Ramp Staff
<b>Data</b>	The waybill of the vehicle, the id of the chosen ramp.
<b>Stimulus</b>	The ramp staff wants to add the called vehicle to the ramp.
<b>Response</b>	The vehicle is added to the ramp and can be processed.
<b>Comments</b>	The waybill is used instead of the plate number.

Use Case Table 27	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Call a Vehicle to a Ramp
<b>Actors</b>	Ramp Staff
<b>Data</b>	The id of the vehicle, id of the ramp
<b>Stimulus</b>	The ramp staff chooses and sends a notification to a vehicle in the parking lot.
<b>Response</b>	The driver gets a notification which contains the ramp name.
<b>Comments</b>	The notification can be a call or a message

Use Case Table 28	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Change Vehicle State
<b>Actors</b>	Ramp Staff
<b>Data</b>	The vehicle id and the next state after the current state.
<b>Stimulus</b>	The ramp staff wants to get the shipment to the next step.
<b>Response</b>	The system switches the state of the shipment to the next state.
<b>Comments</b>	This operation should be parallel to the real life state of the vehicle.

Use Case Table 29	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	View the Parking Lot
<b>Actors</b>	Ramp Staff
<b>Data</b>	The parking spots that exist and contain a vehicle in the database.
<b>Stimulus</b>	The ramp staff wants to see the parking spots with vehicles in them to call one of them.
<b>Response</b>	The system displays the occupied parking spots and the shipment information of the vehicle in that spot.
<b>Comments</b>	The waybill information should be enough to call the vehicles.

Use Case Table 30	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Notify the Security
<b>Actors</b>	Ramp Staff
<b>Data</b>	The id of the parking spot which is occupied by the non responsive vehicle.
<b>Stimulus</b>	The ramp staff calls a vehicle but the vehicle doesn't come to the ramp. The ramp staff notifies the security to make the security check the vehicle.
<b>Response</b>	A notification is sent to the security.
<b>Comments</b>	The security might not find the driver of the vehicle. In that case, the ramp staff should call another vehicle.

Use Case Table 31	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	View the Parking Lots
<b>Actors</b>	Security
<b>Data</b>	The parking lots that exist in the database.
<b>Stimulus</b>	The security wants to choose a parking lot.
<b>Response</b>	The system displays the parking lots in cards where the security can click on.
<b>Comments</b>	If the parking lot has no name, call it the nth park depending on its position in the list.

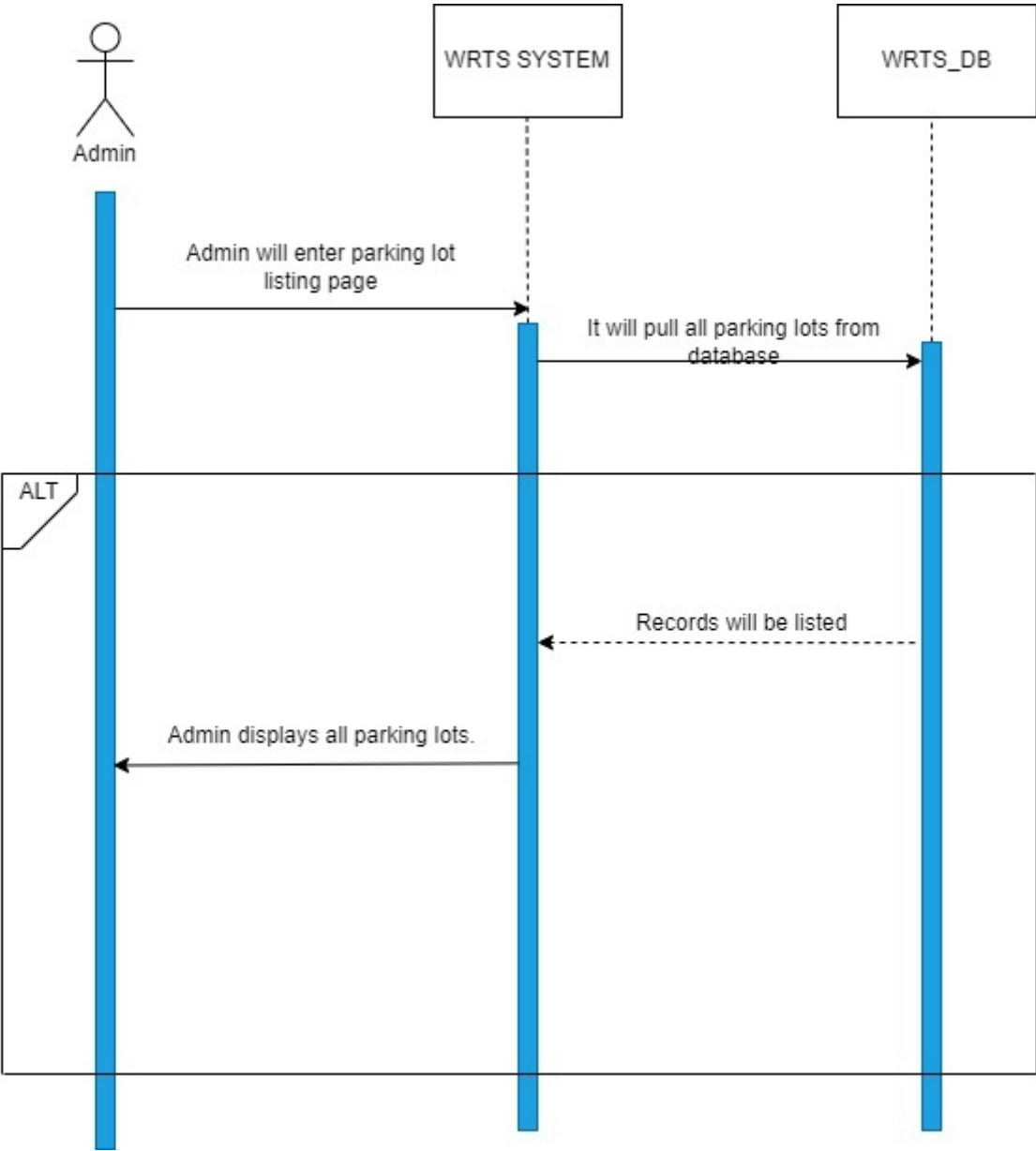
Use Case Table 32	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Assign Vehicles to the Parking Spots
<b>Actors</b>	Security
<b>Data</b>	The waybill of the vehicle and the id of the parking spot.
<b>Stimulus</b>	The security wants to assign a new coming vehicle to a parking spot.
<b>Response</b>	The system adds the vehicle to the parking spot.
<b>Comments</b>	The parking lot is chosen according to the type of the vehicle.

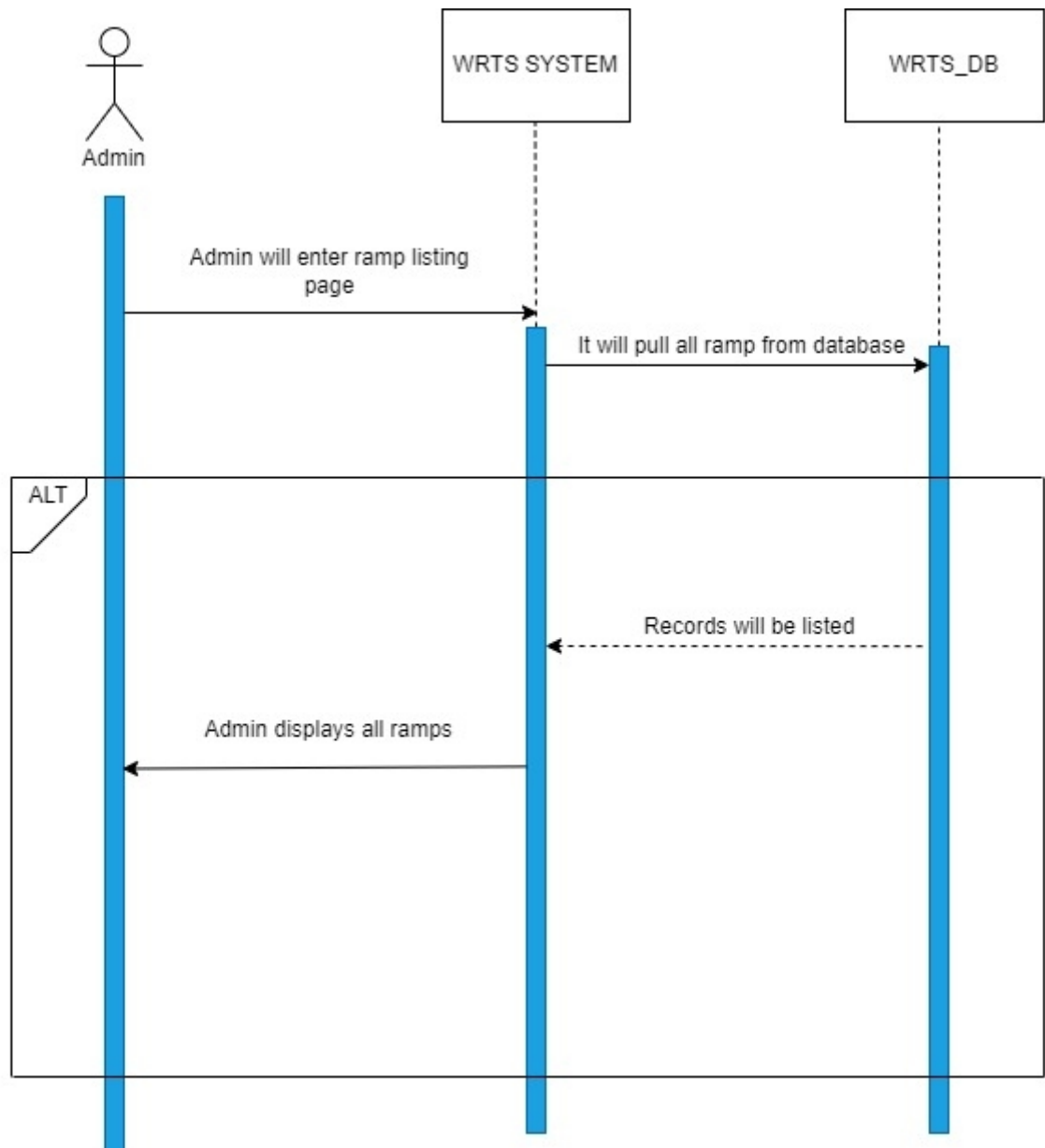
Use Case Table 33	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	View the Awaiting Shipment List
<b>Actors</b>	Security
<b>Data</b>	The information of all of the awaiting shipments
<b>Stimulus</b>	The security wants to see the awaiting shipments as a list so that he/she can change a desired vehicles arrival or departure times.
<b>Response</b>	The awaiting shipments are shown as a list.
<b>Comments</b>	Each shipment has an edit button next to it.

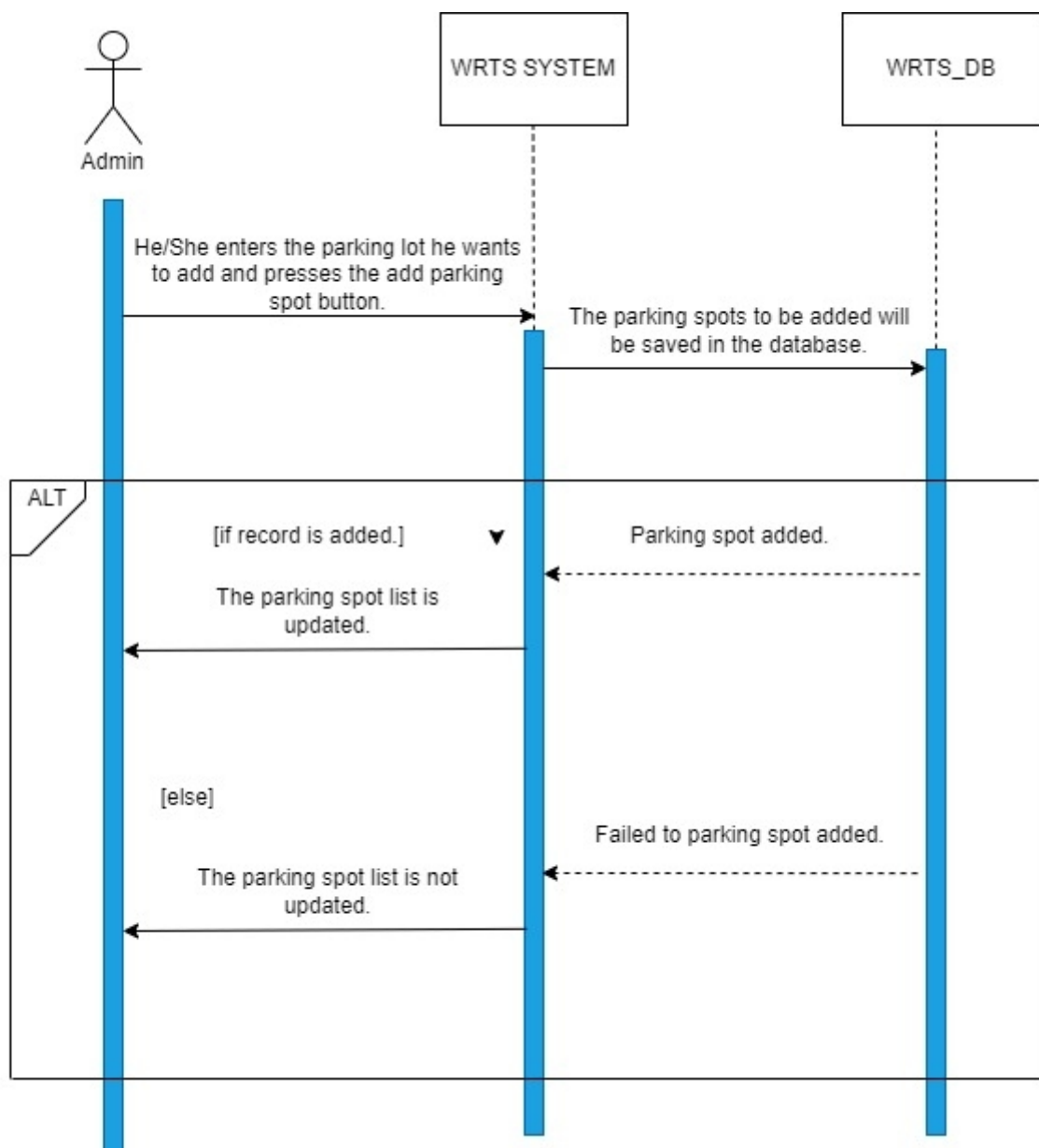
Use Case Table 34	
<b>System</b>	Warehouse Ramp Tracking System
<b>Use Case</b>	Change the Shipment Arrival / Departure Times
<b>Actors</b>	Security
<b>Data</b>	The id of the shipment, the arrival time and the departure time.
<b>Stimulus</b>	The vehicle is getting in the warehouse or getting out the warehouse so the security changes the arrival and the departure times of the vehicle.
<b>Response</b>	The arrival and the departure times of the vehicle are changed in the database.
<b>Comments</b>	When the departure time is set, the shipment becomes finished.

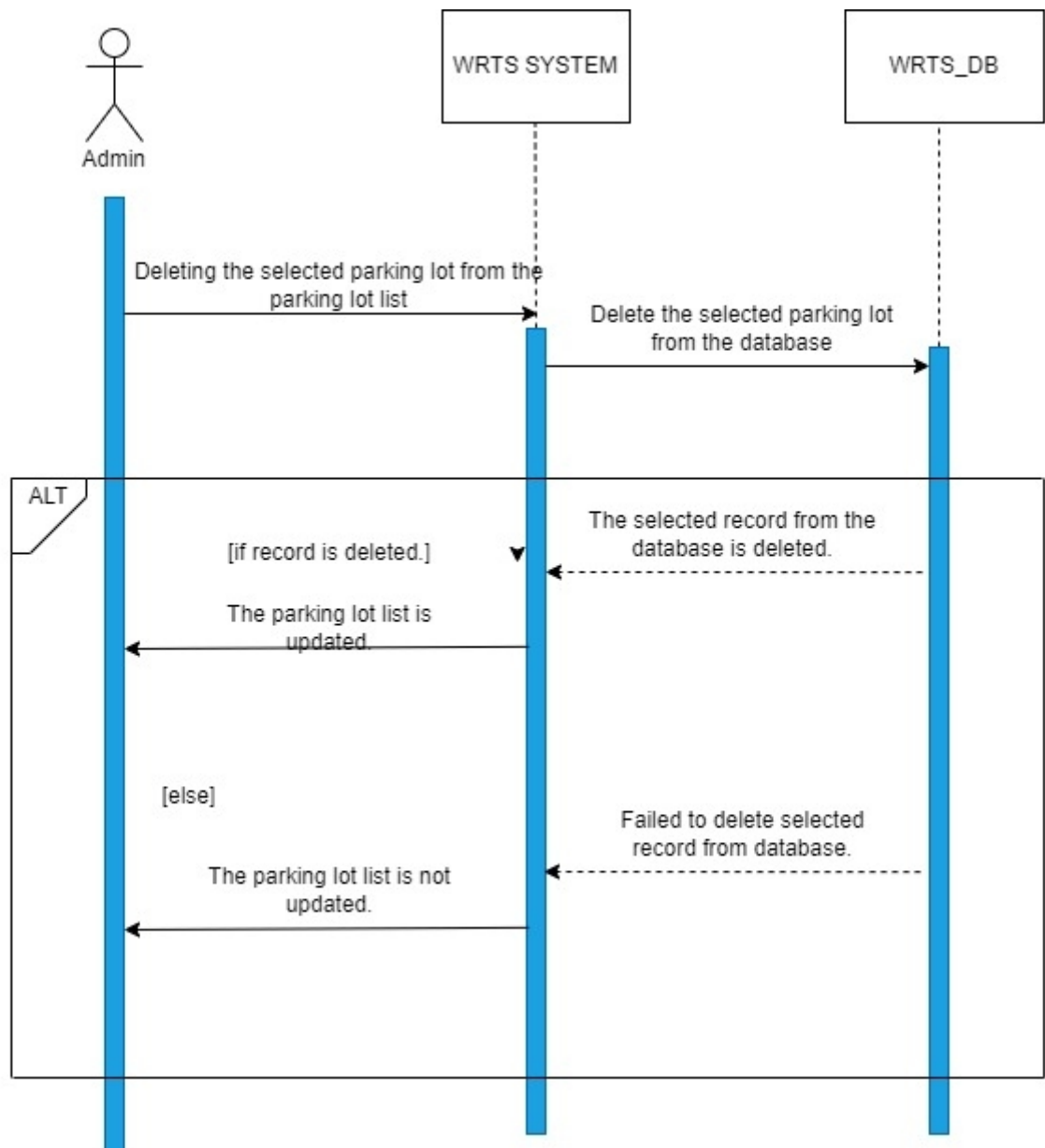


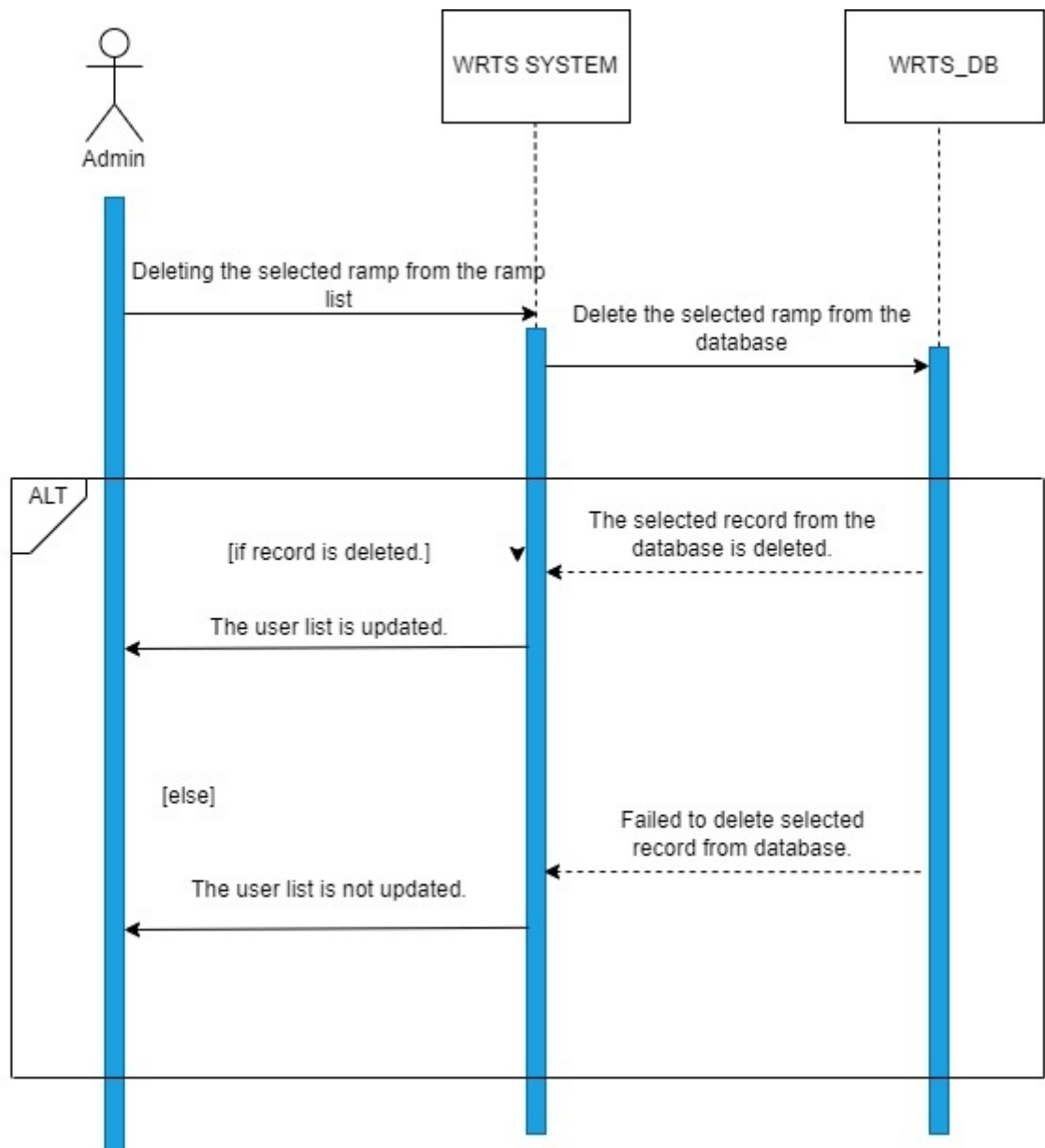
4. Sequence Diagrams

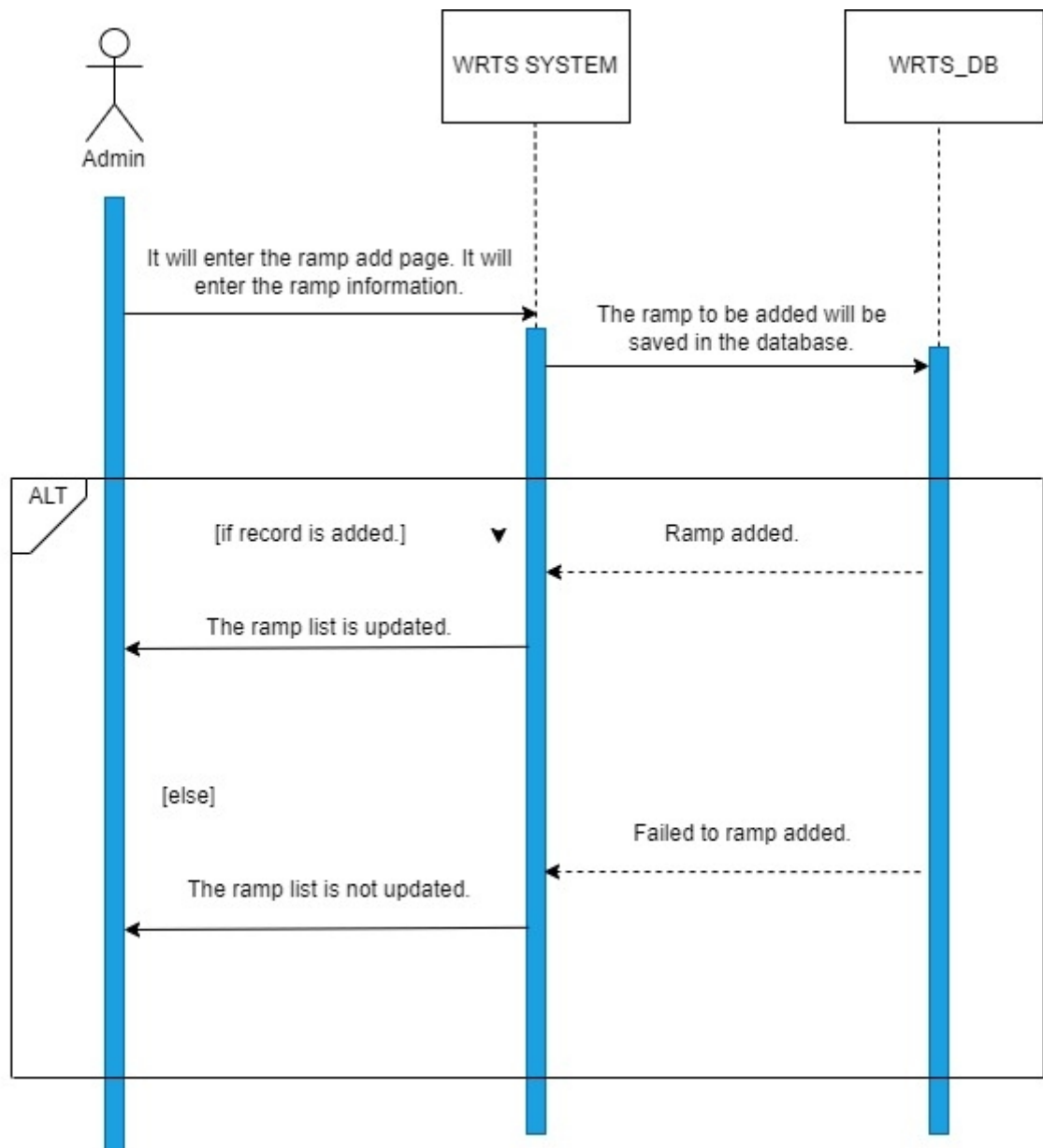


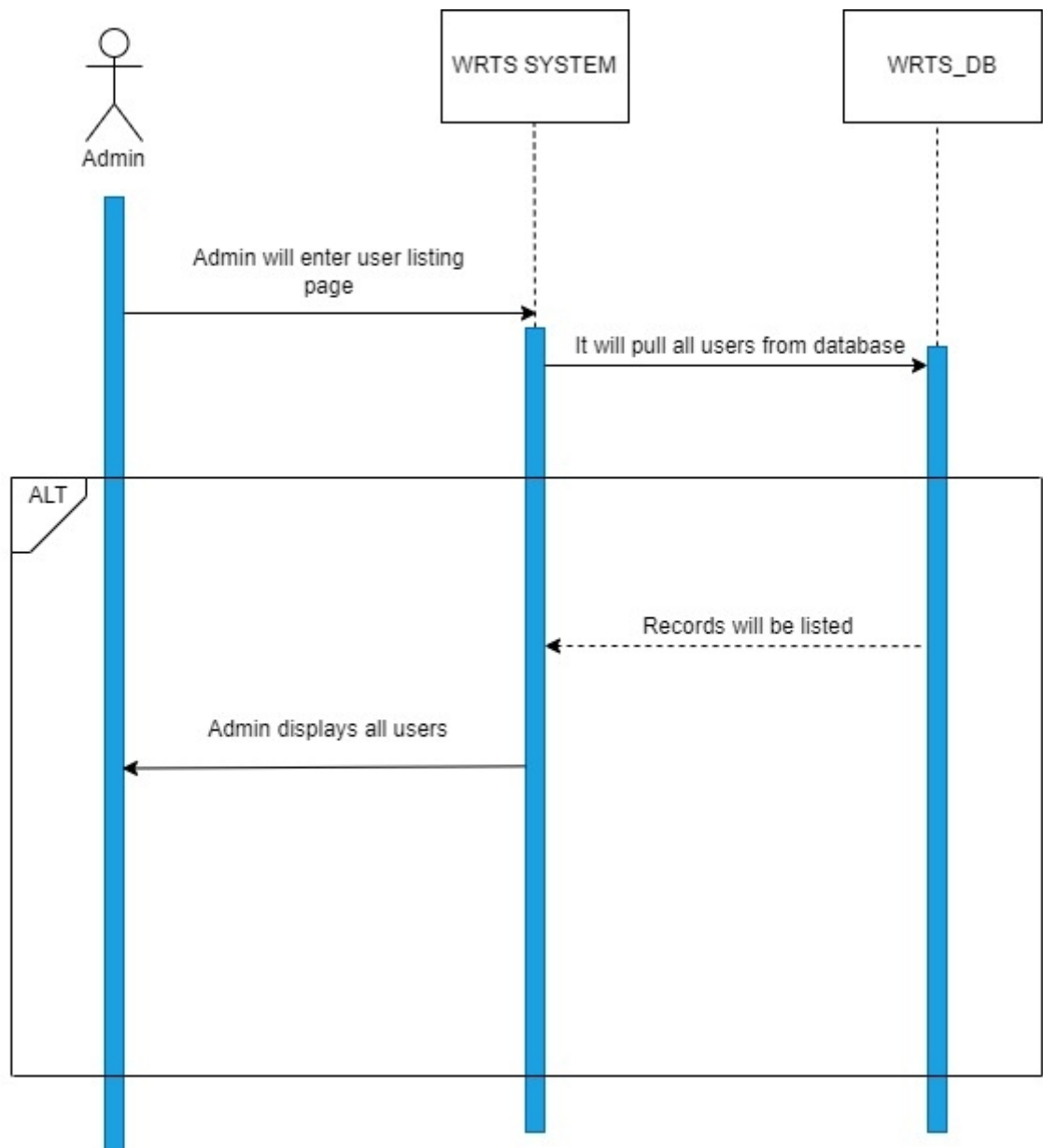


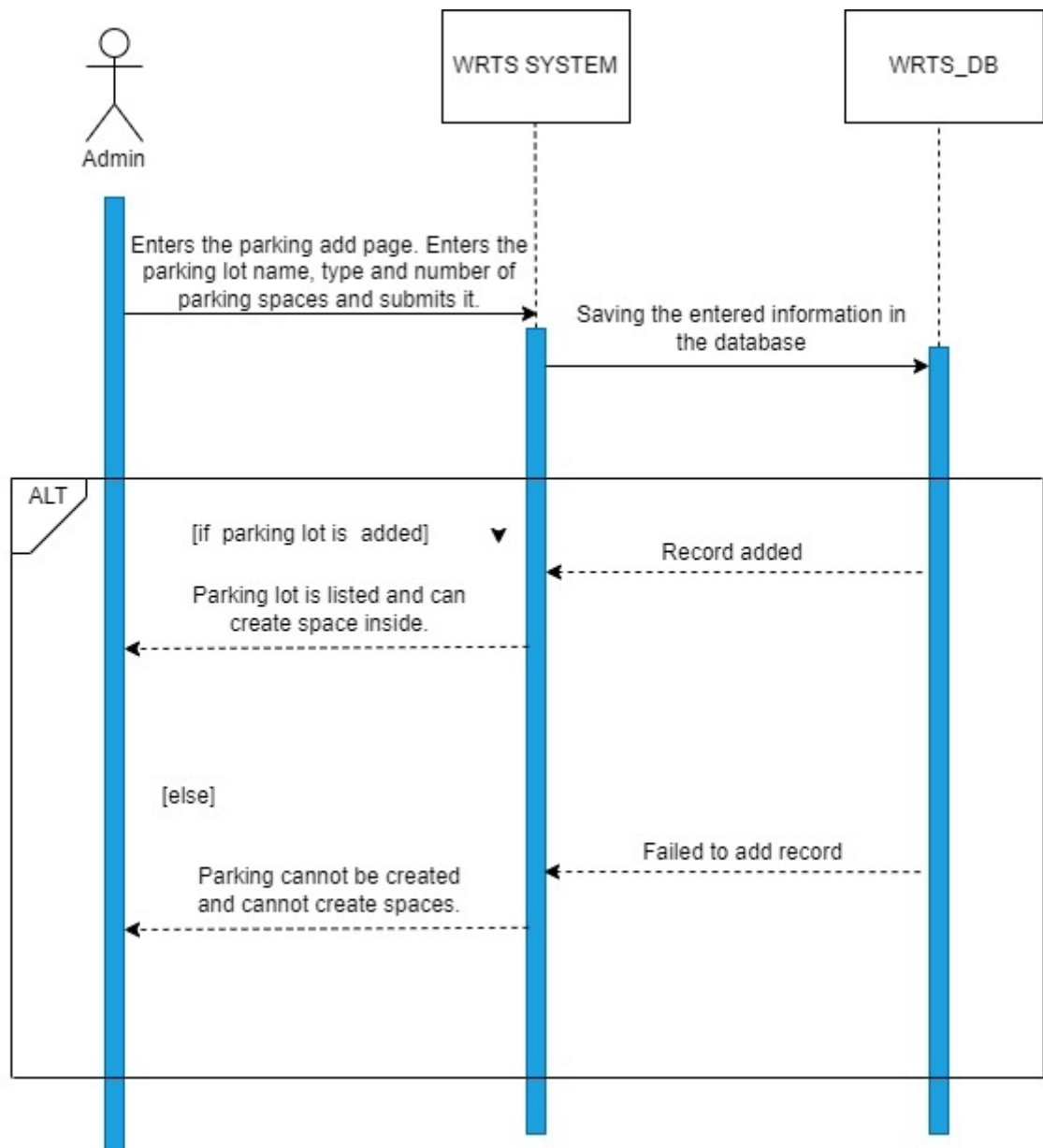




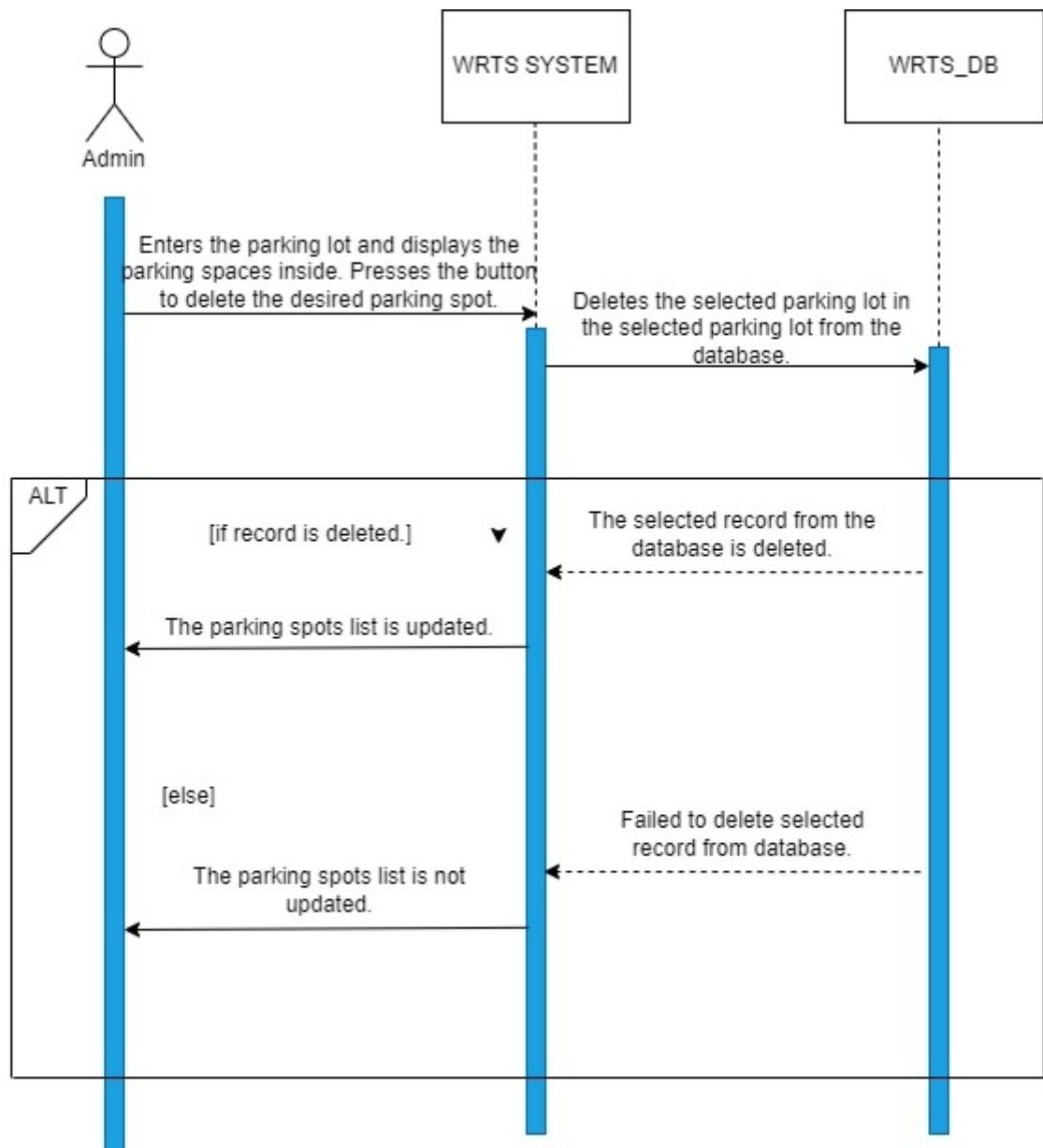


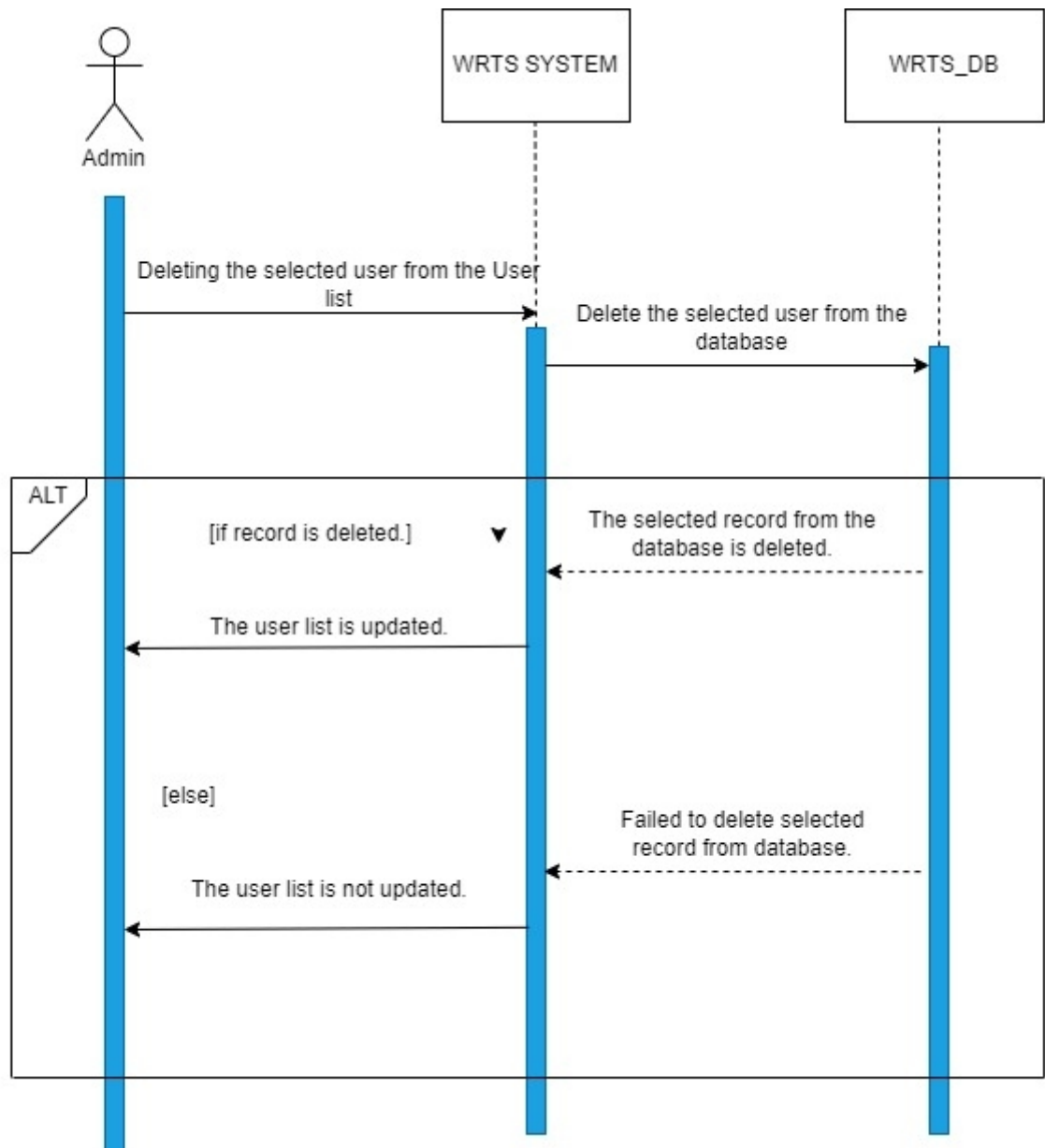


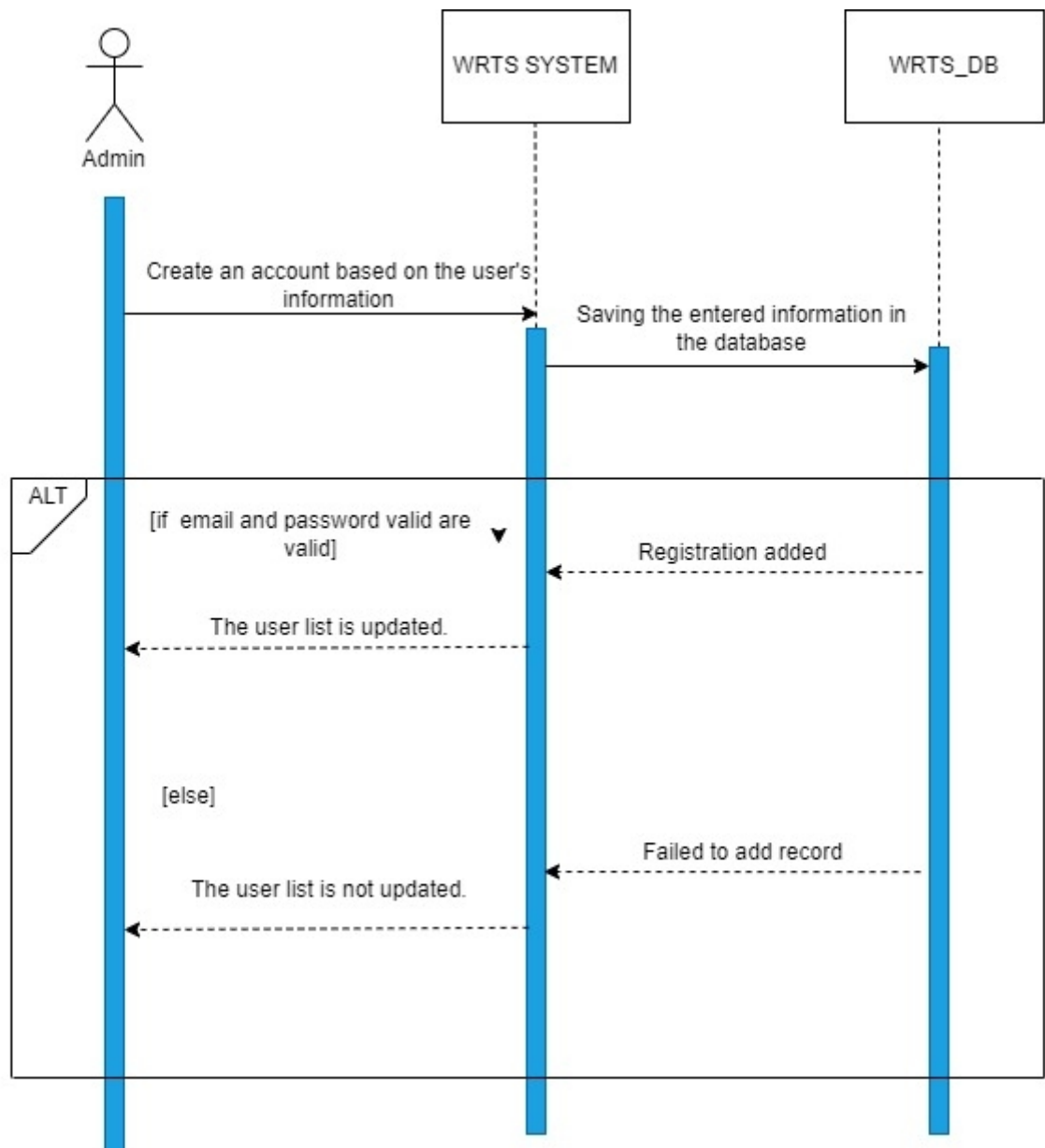


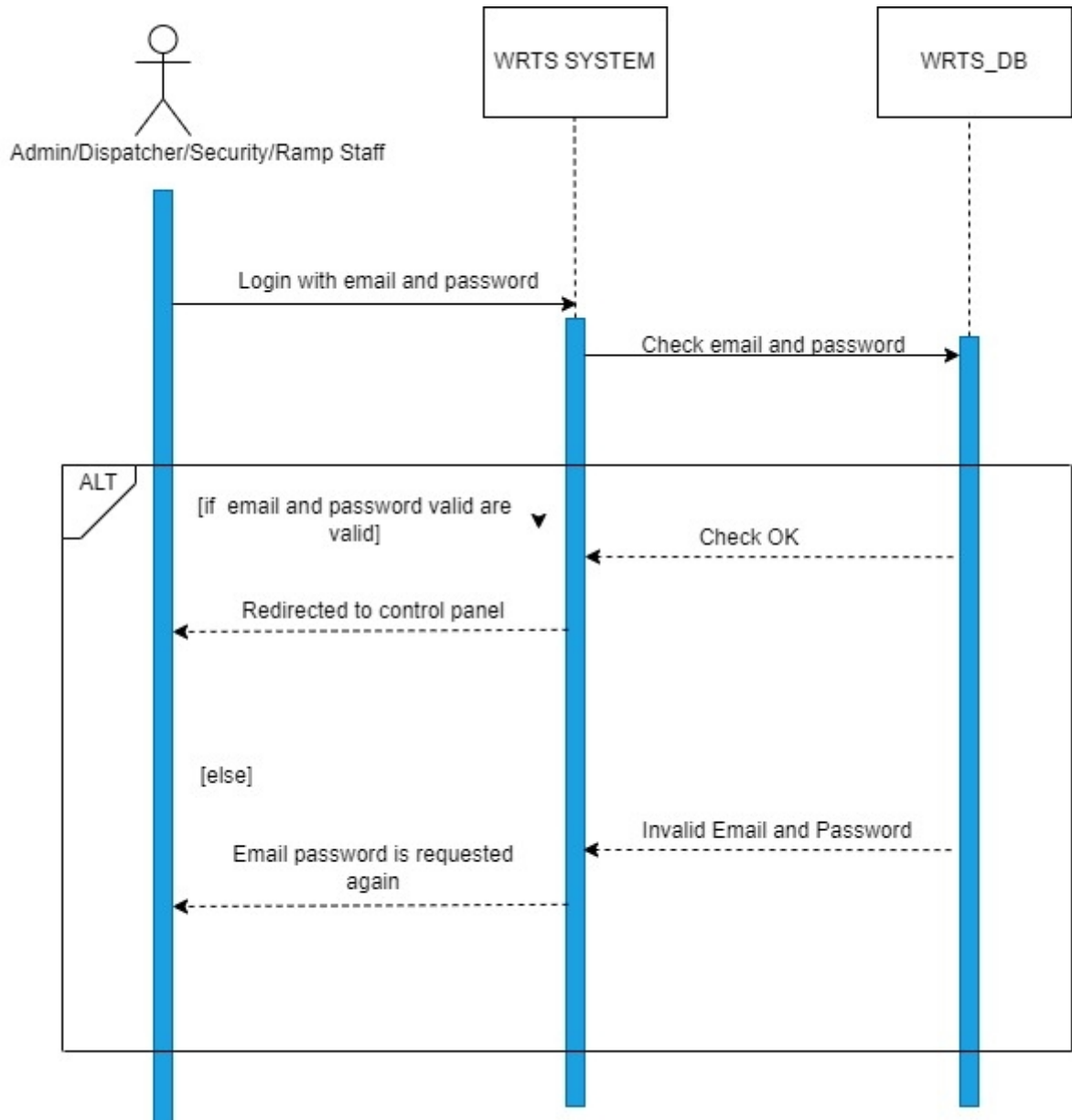


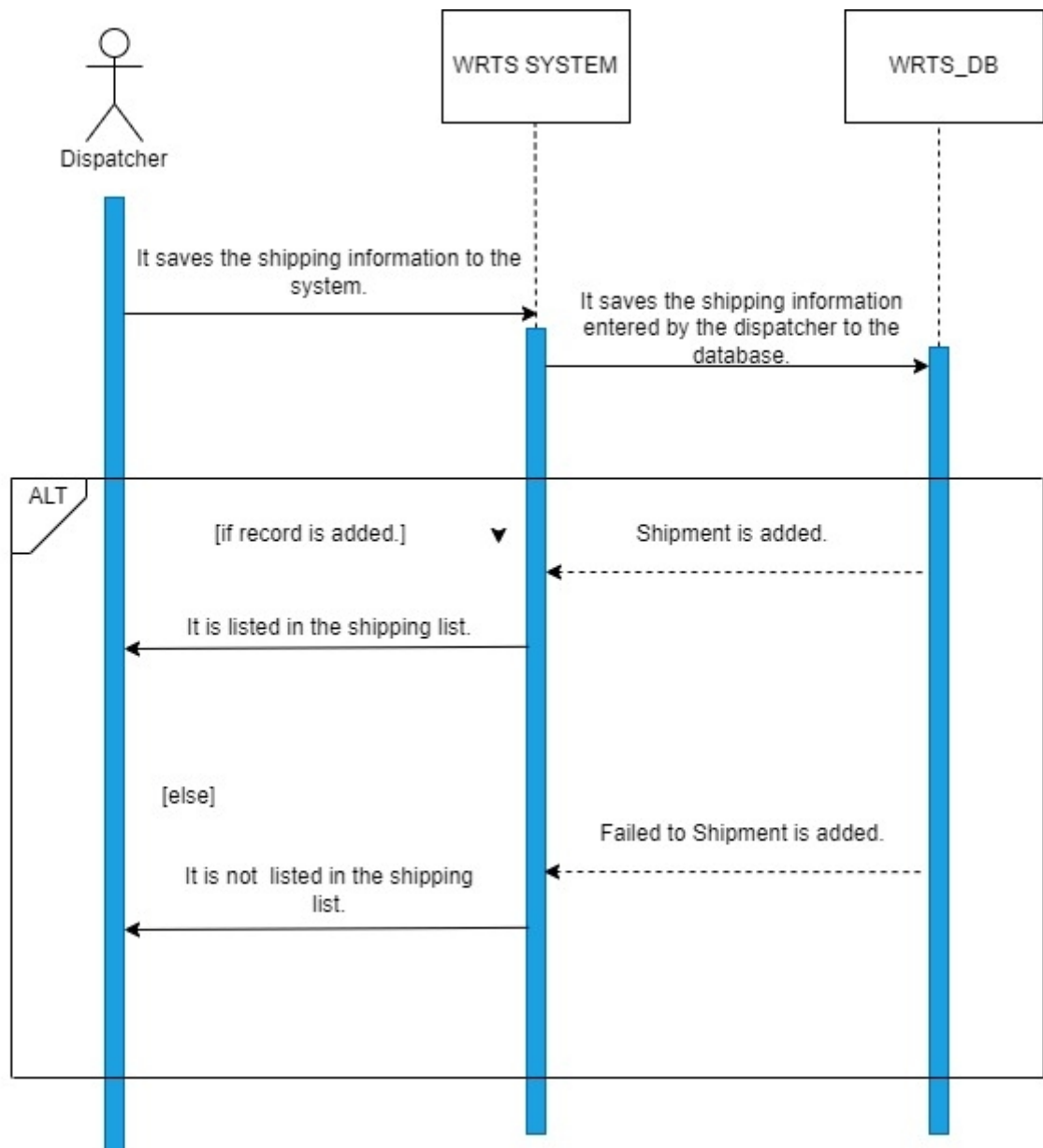


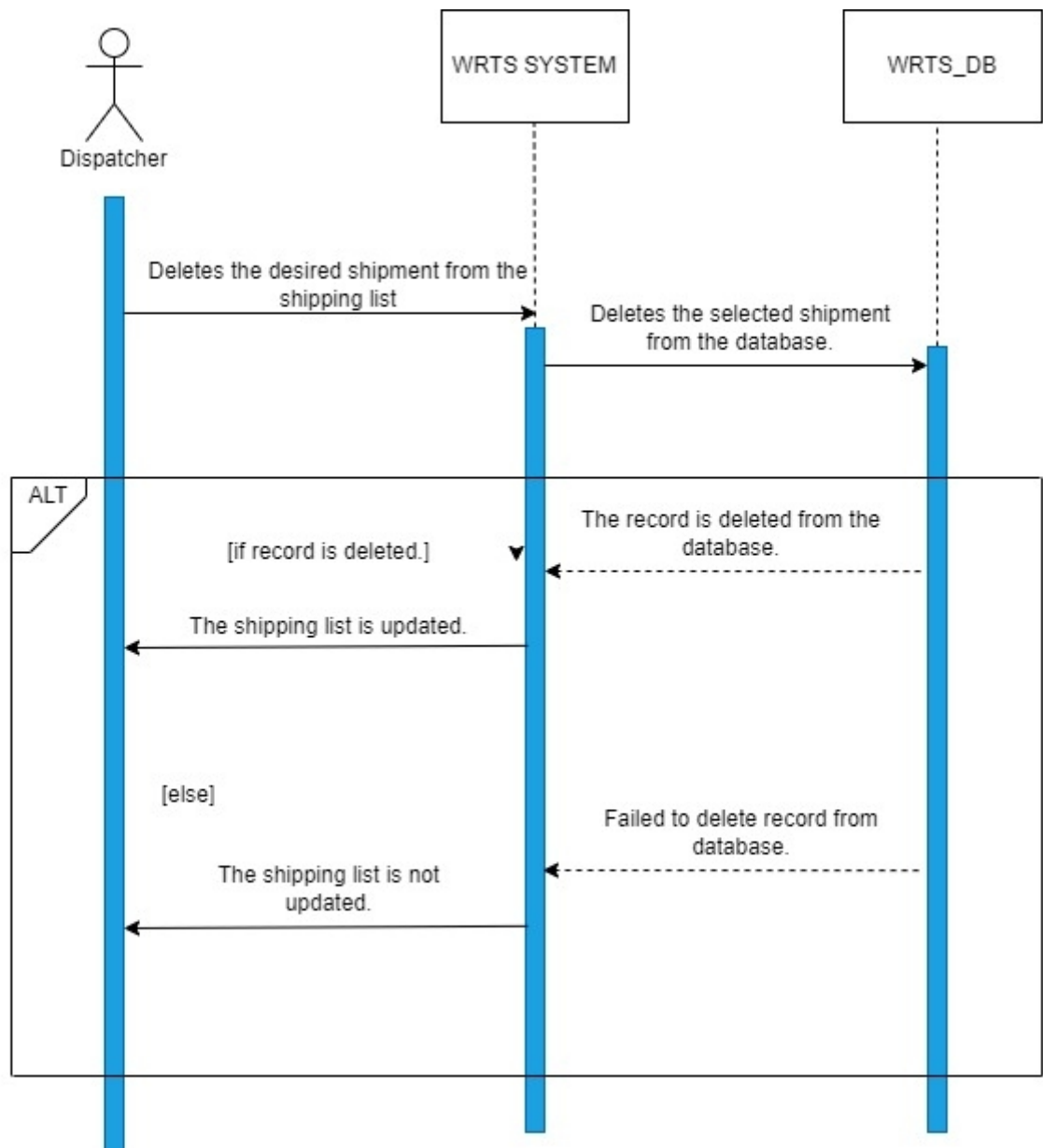


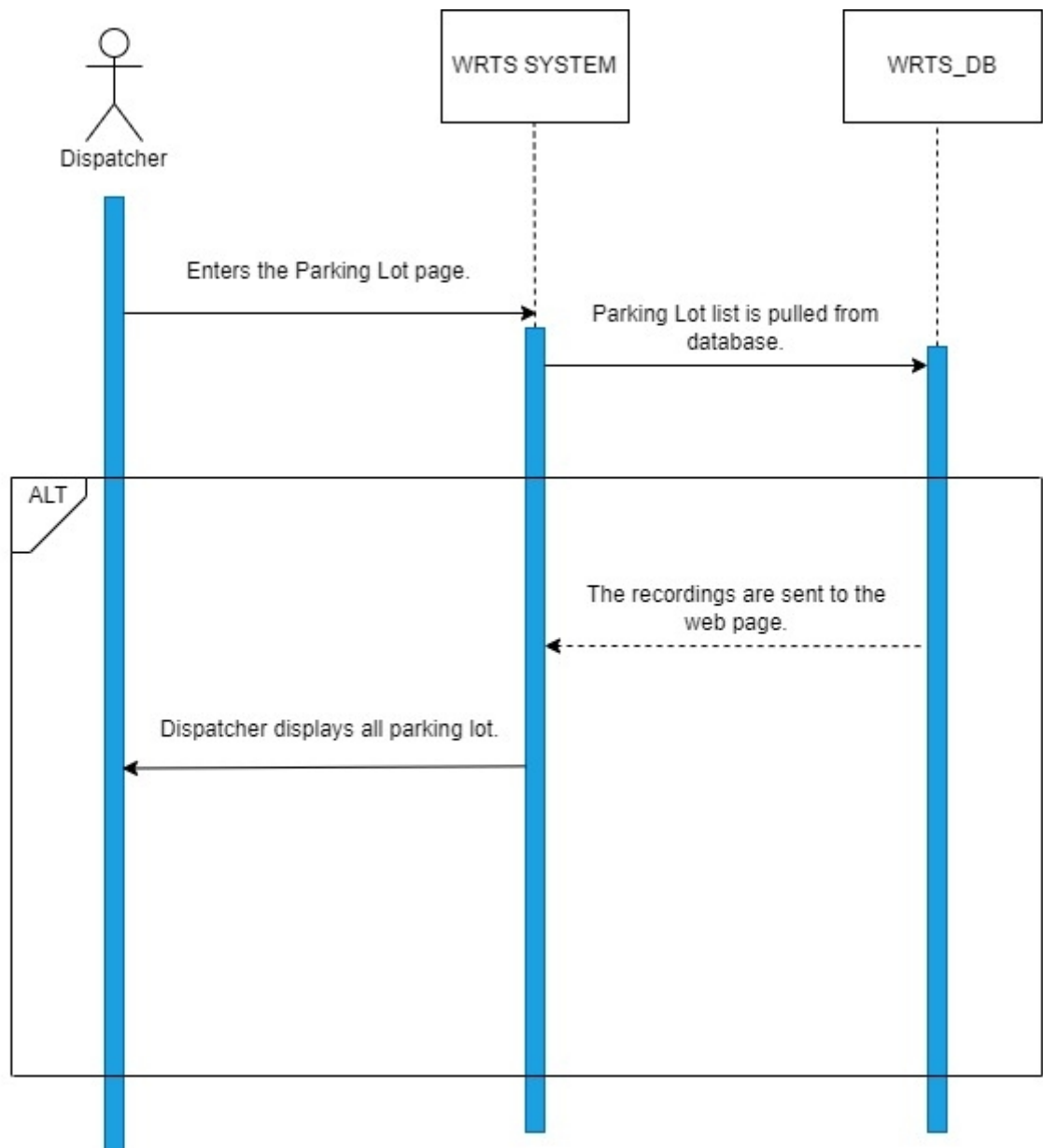


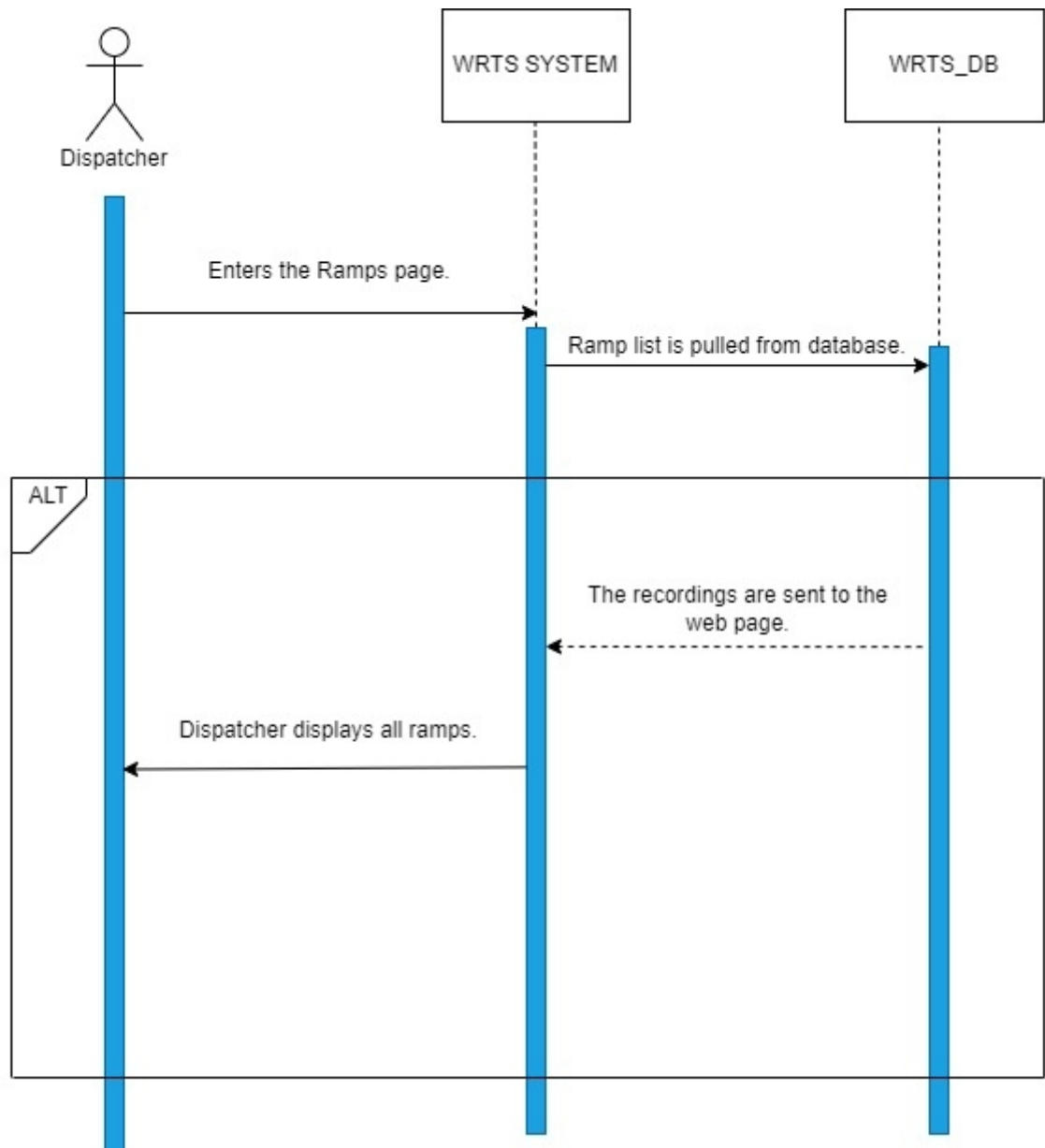




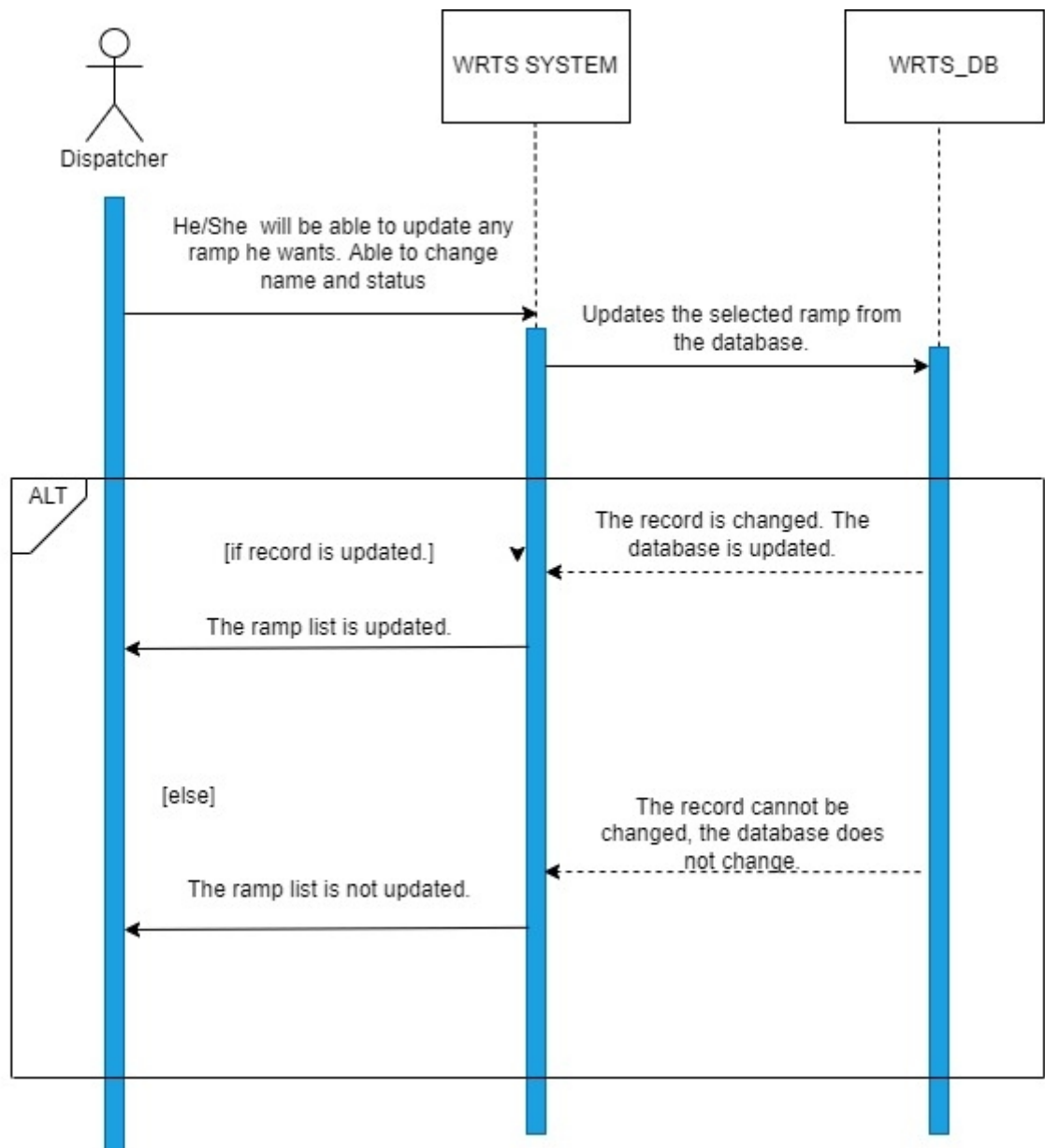


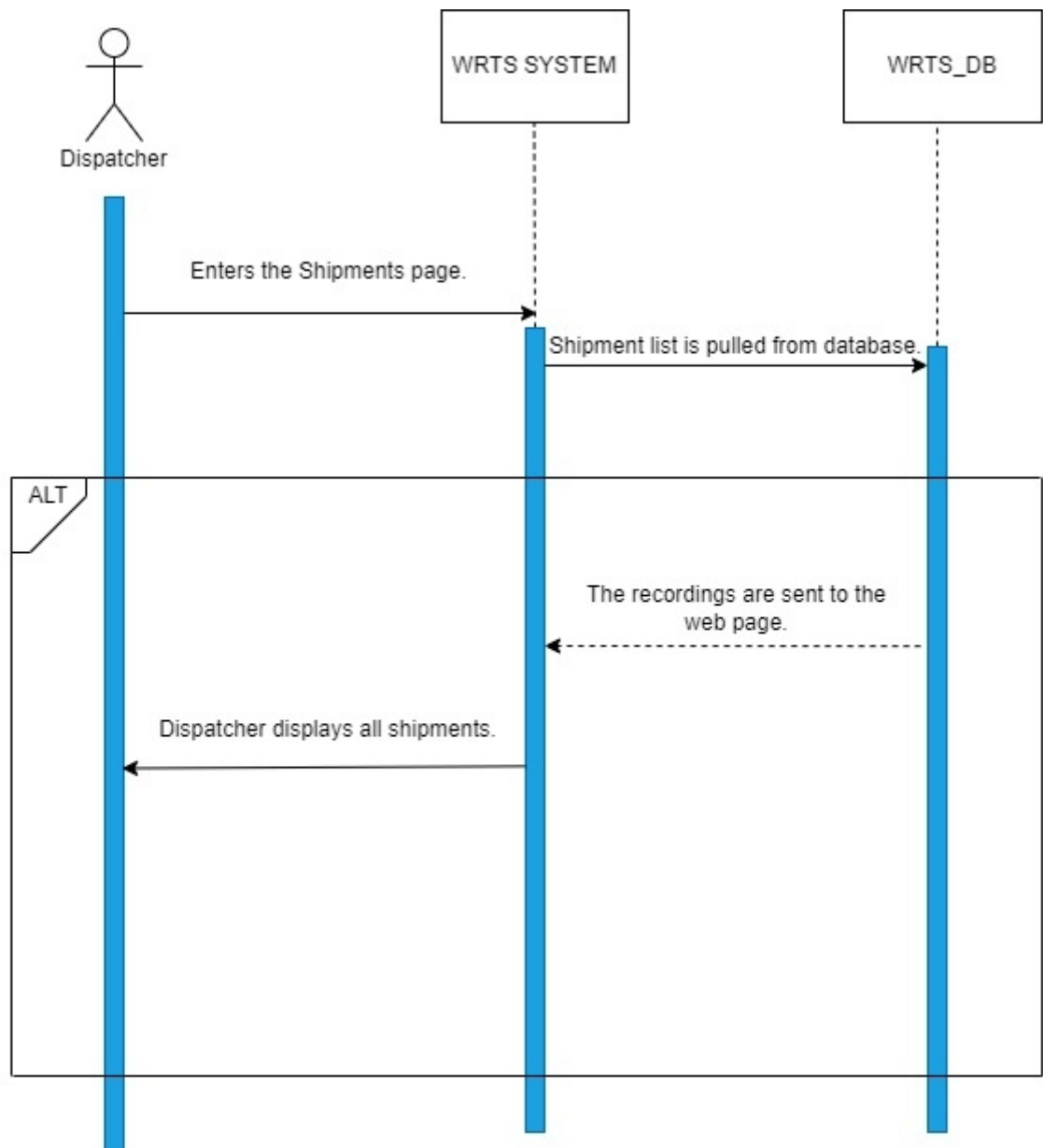


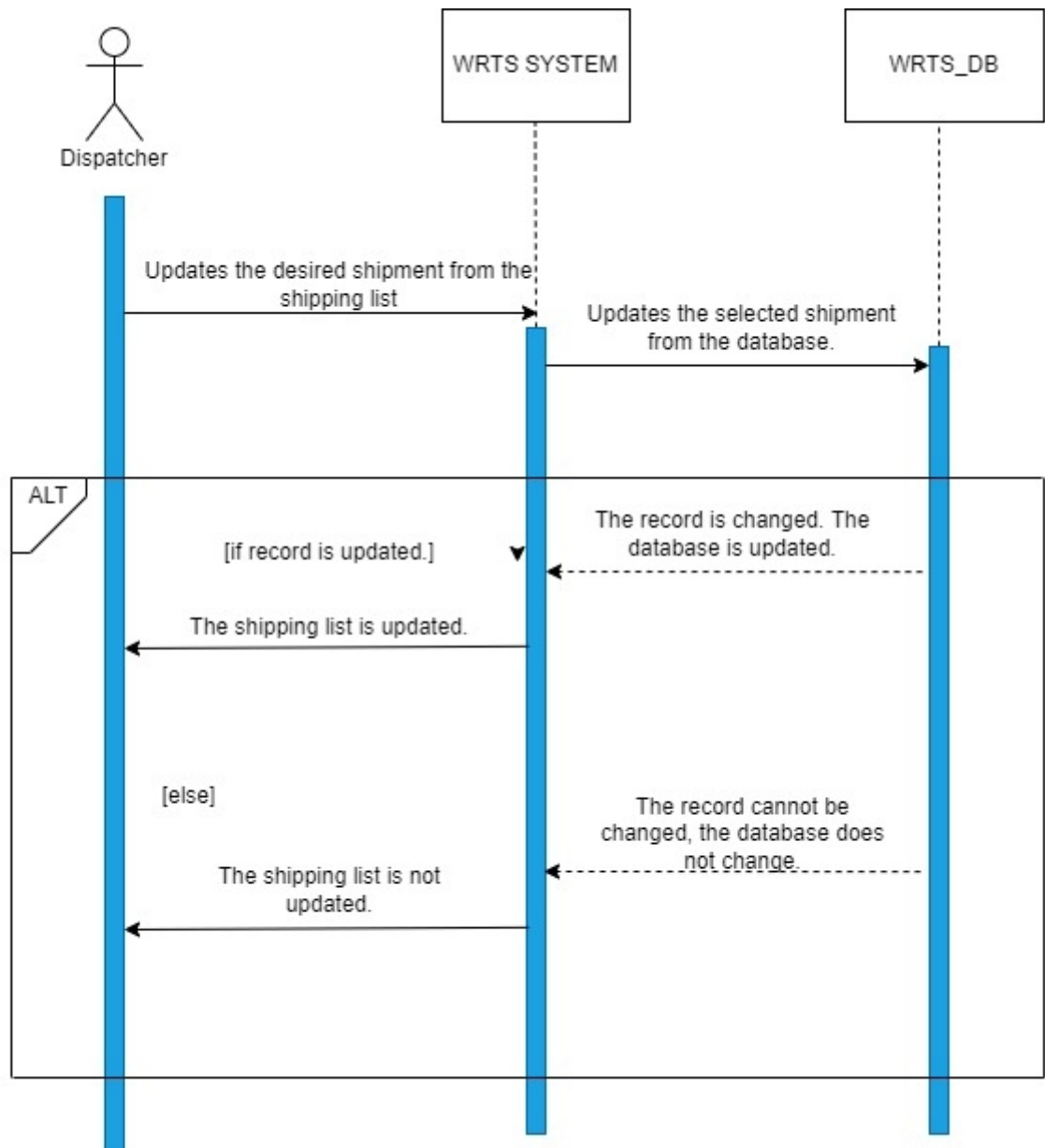


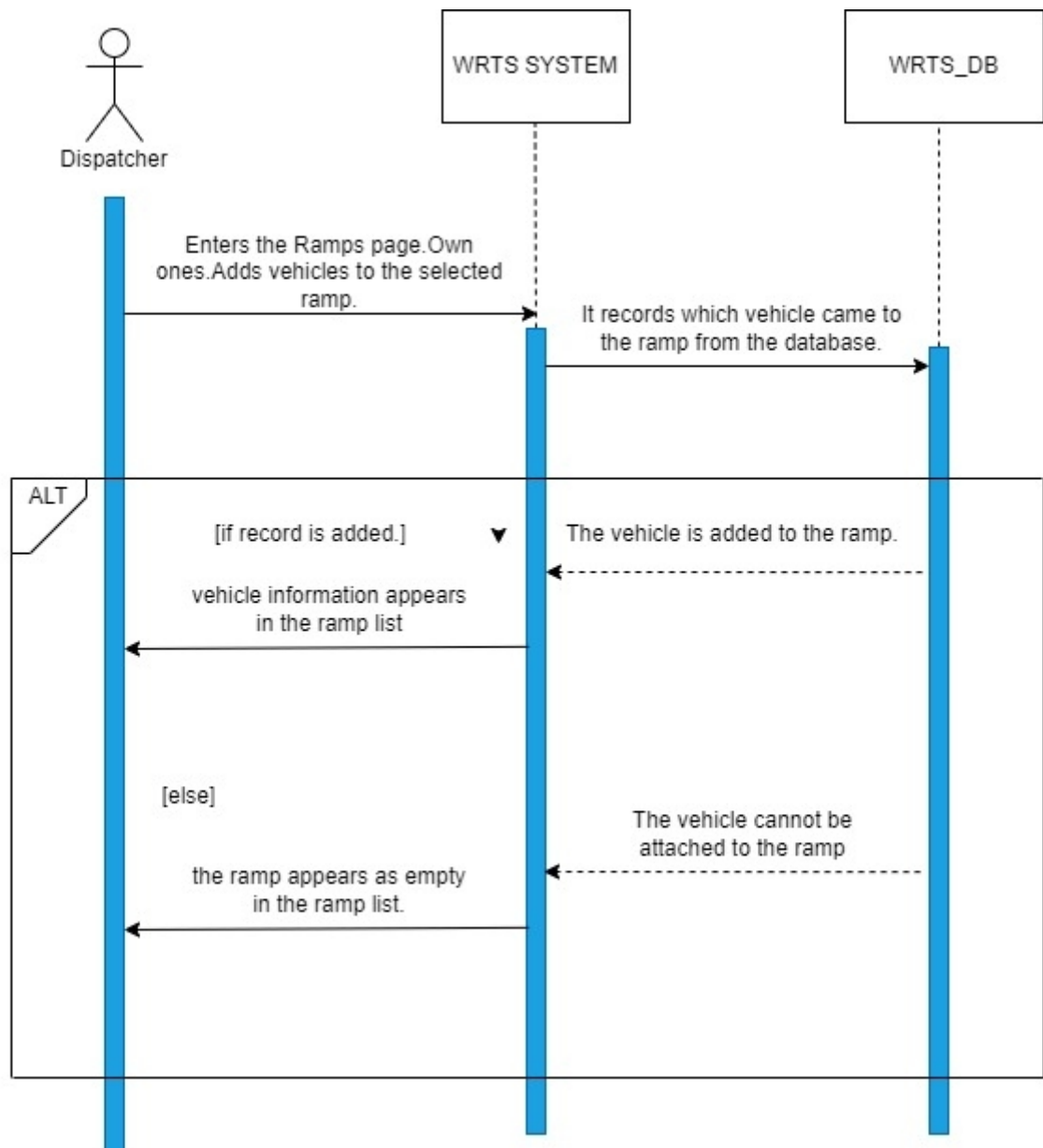


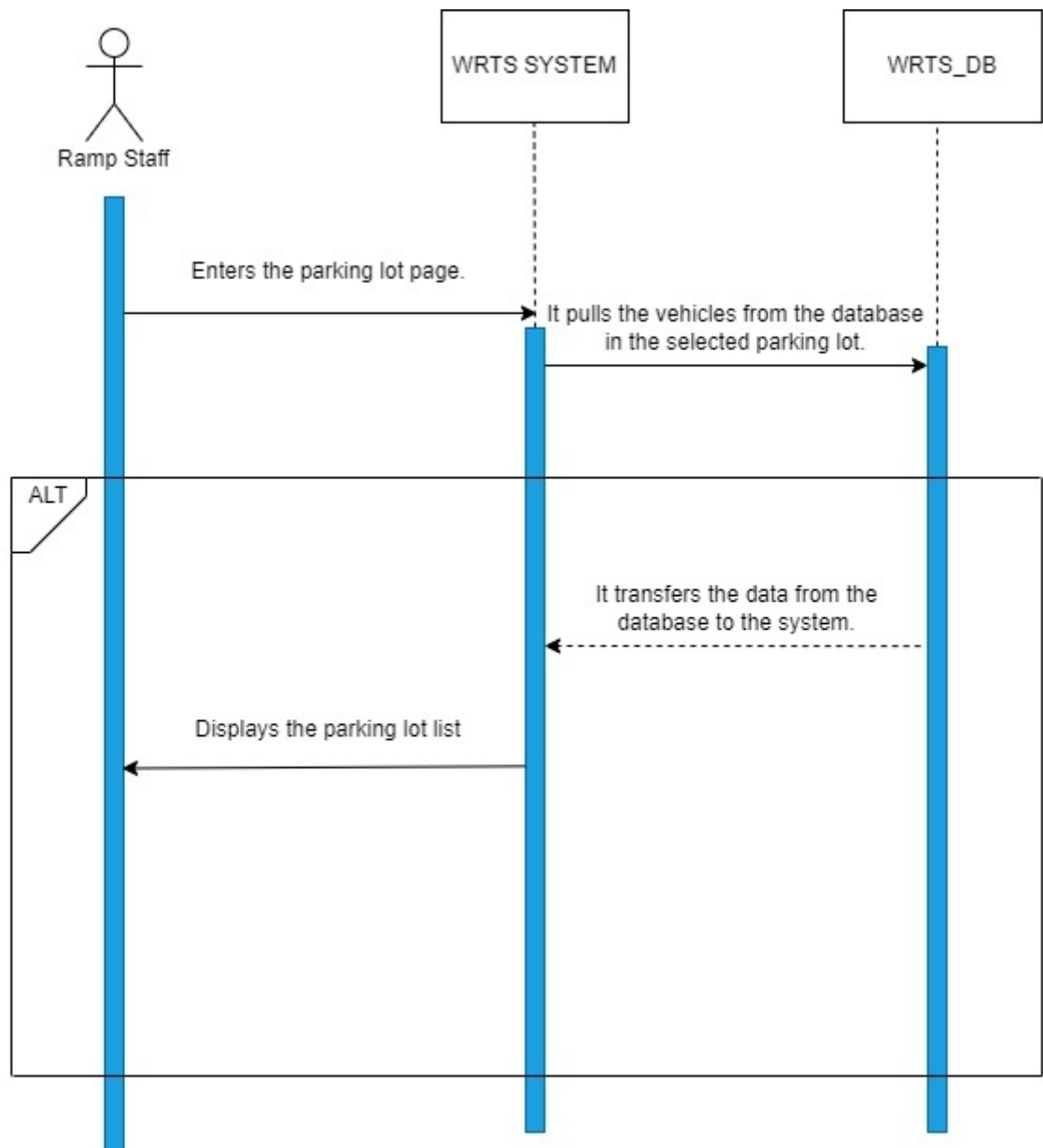


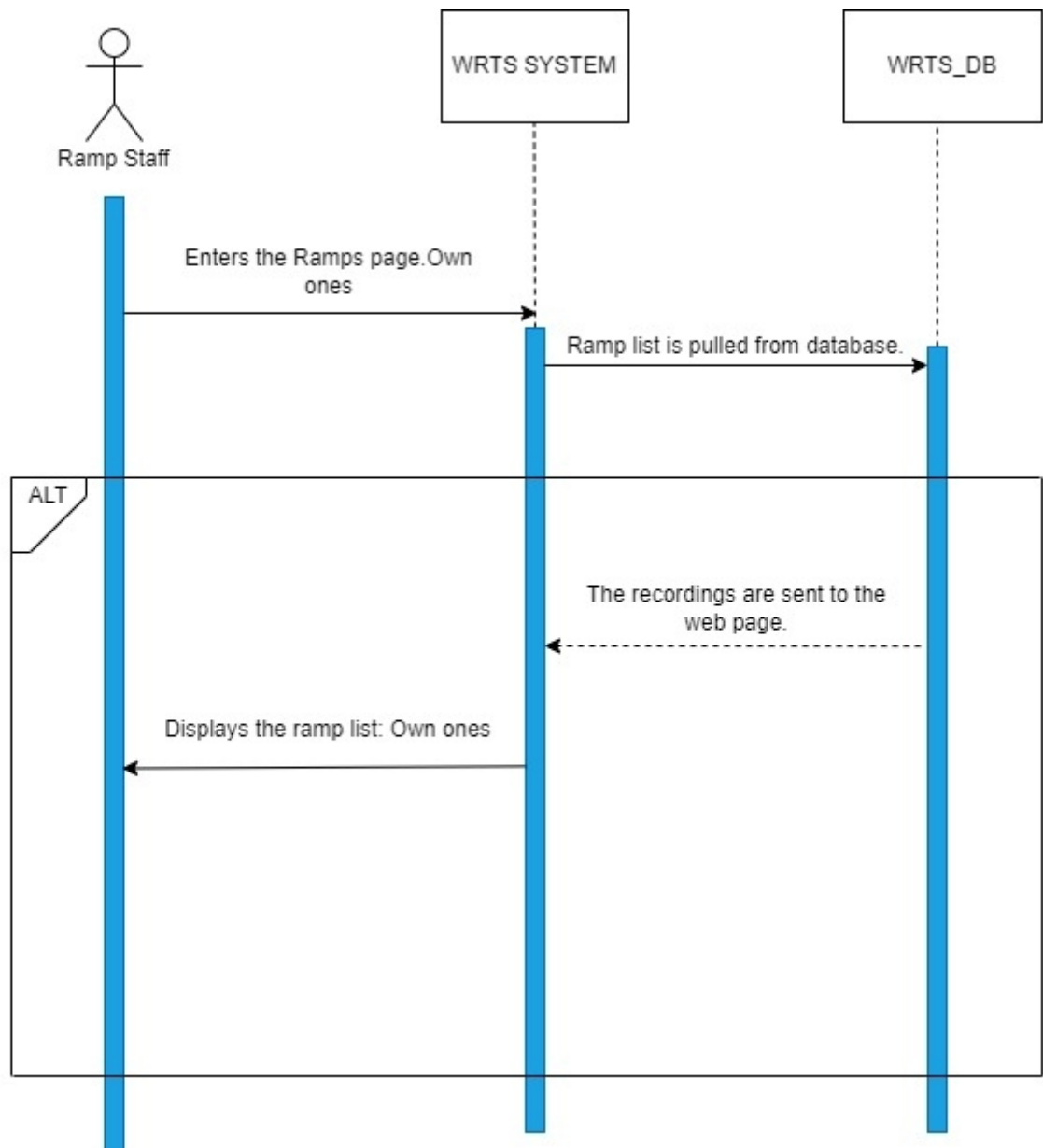


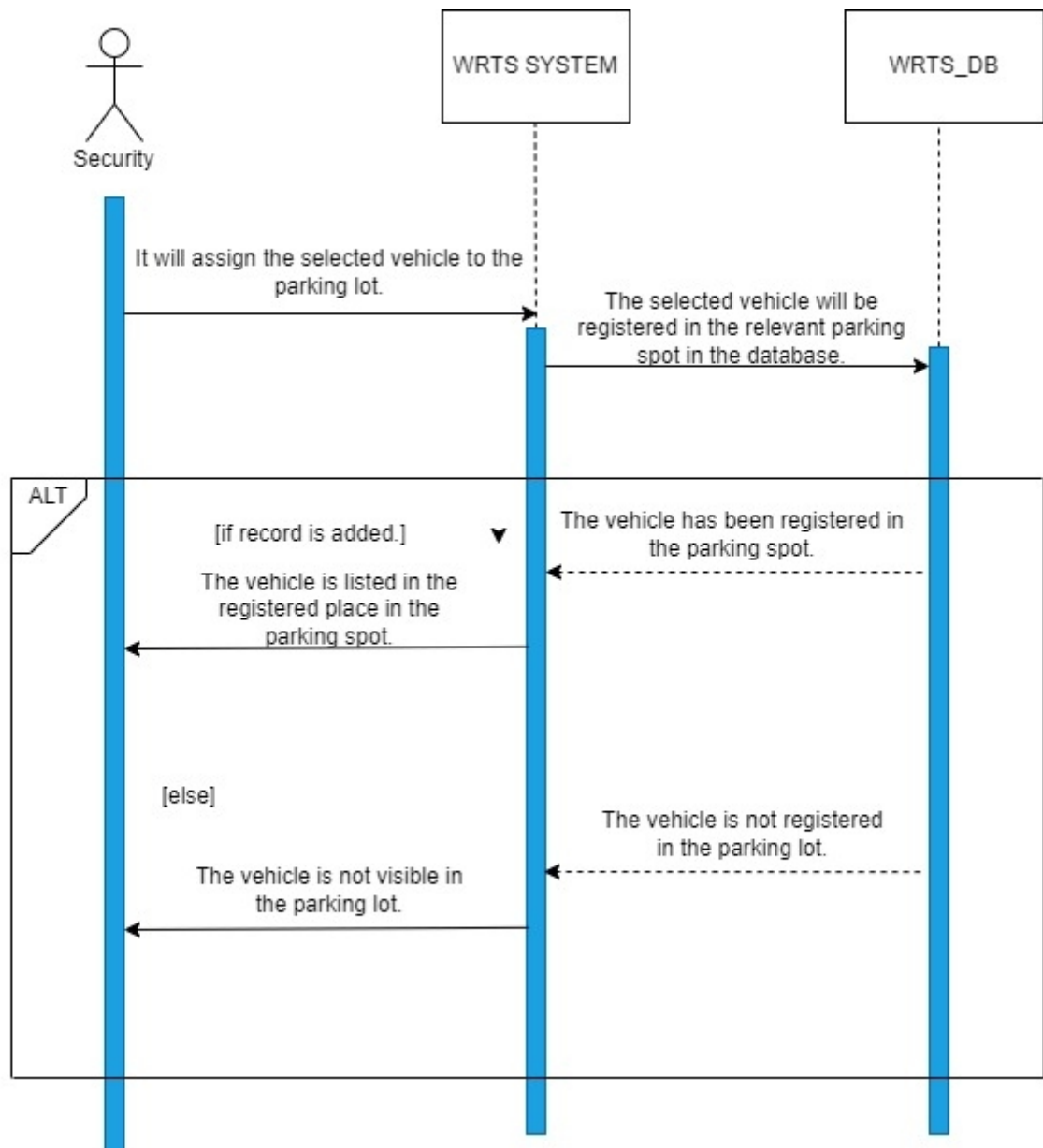


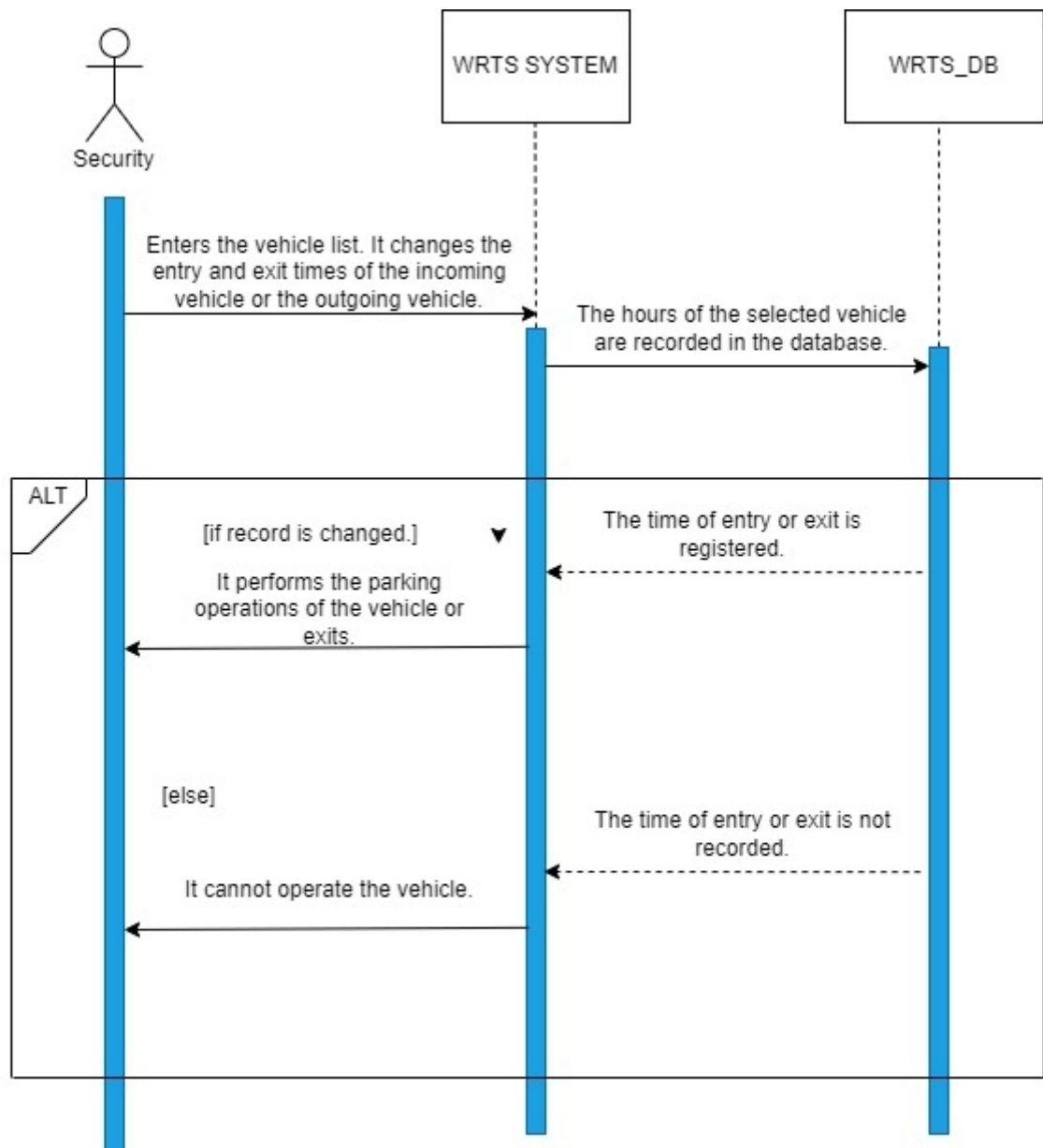




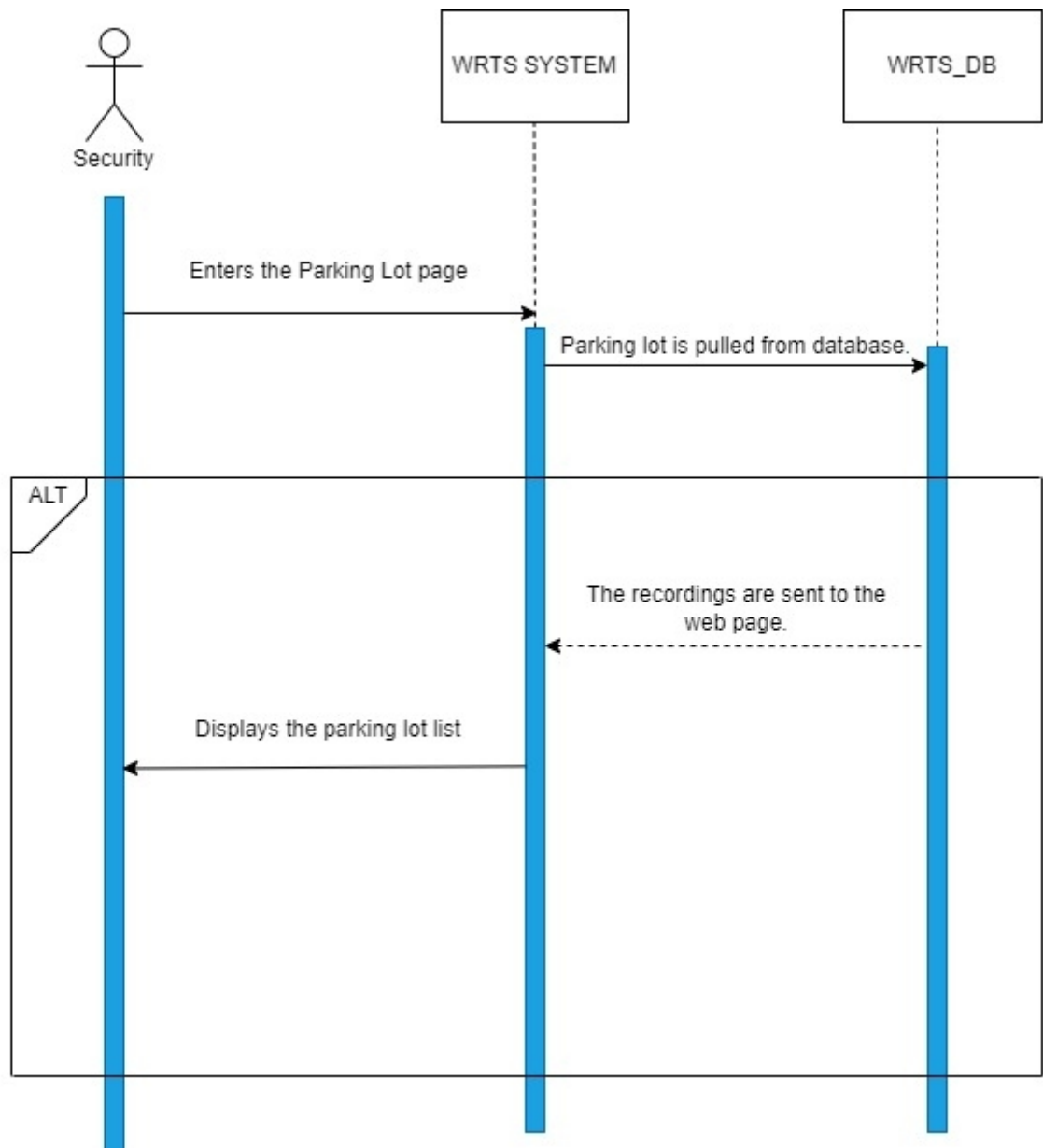


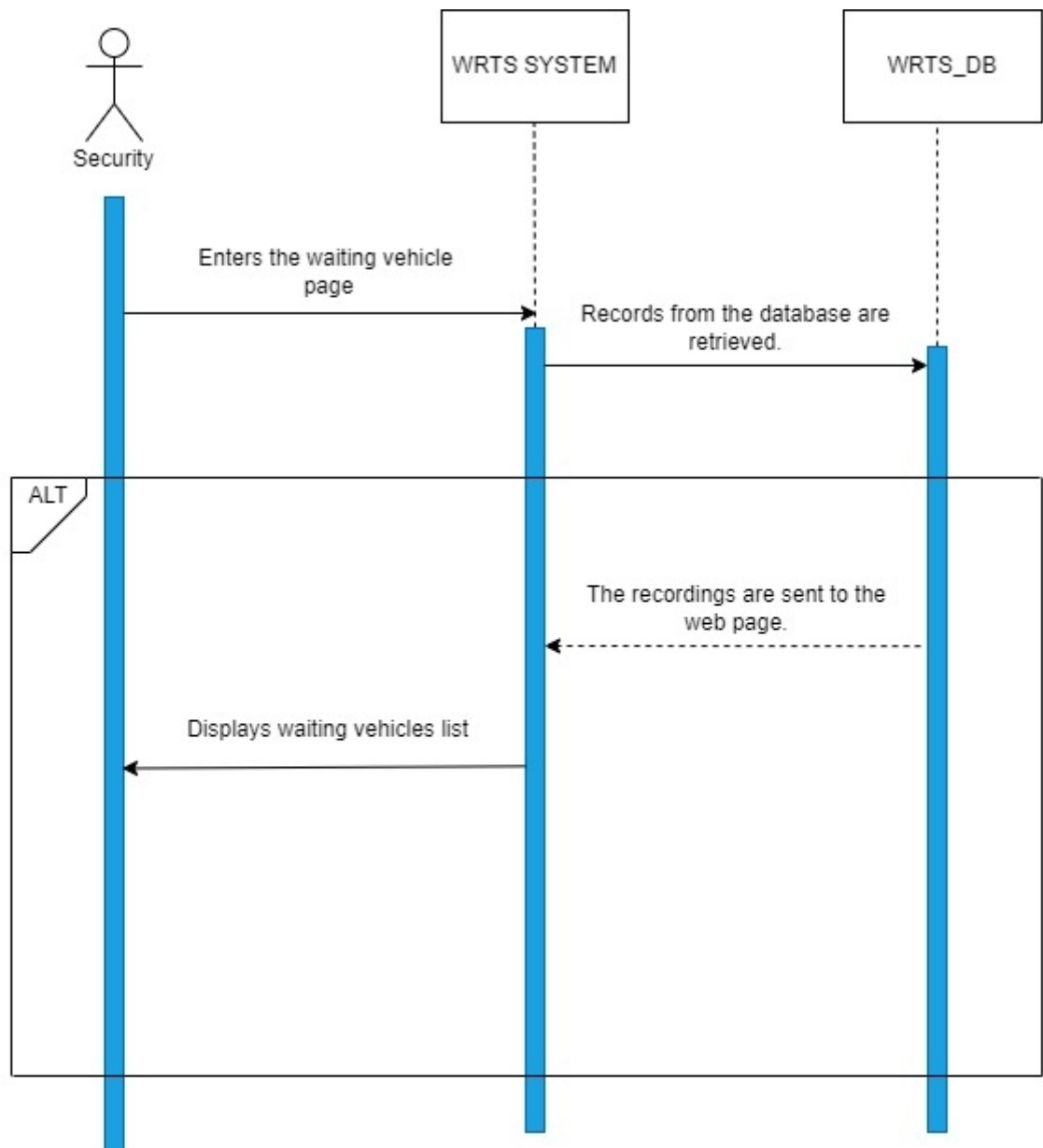












## 5. Class Diagrams

Our program is not object-oriented. So we didn't know how to design class diagrams for our program since it doesn't have classes.

## 6. State Diagrams

