

South East Technological University

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Ollscoil Teicneolaíochta an Oirdheiscirt



Fleet Management Project

Function Specification

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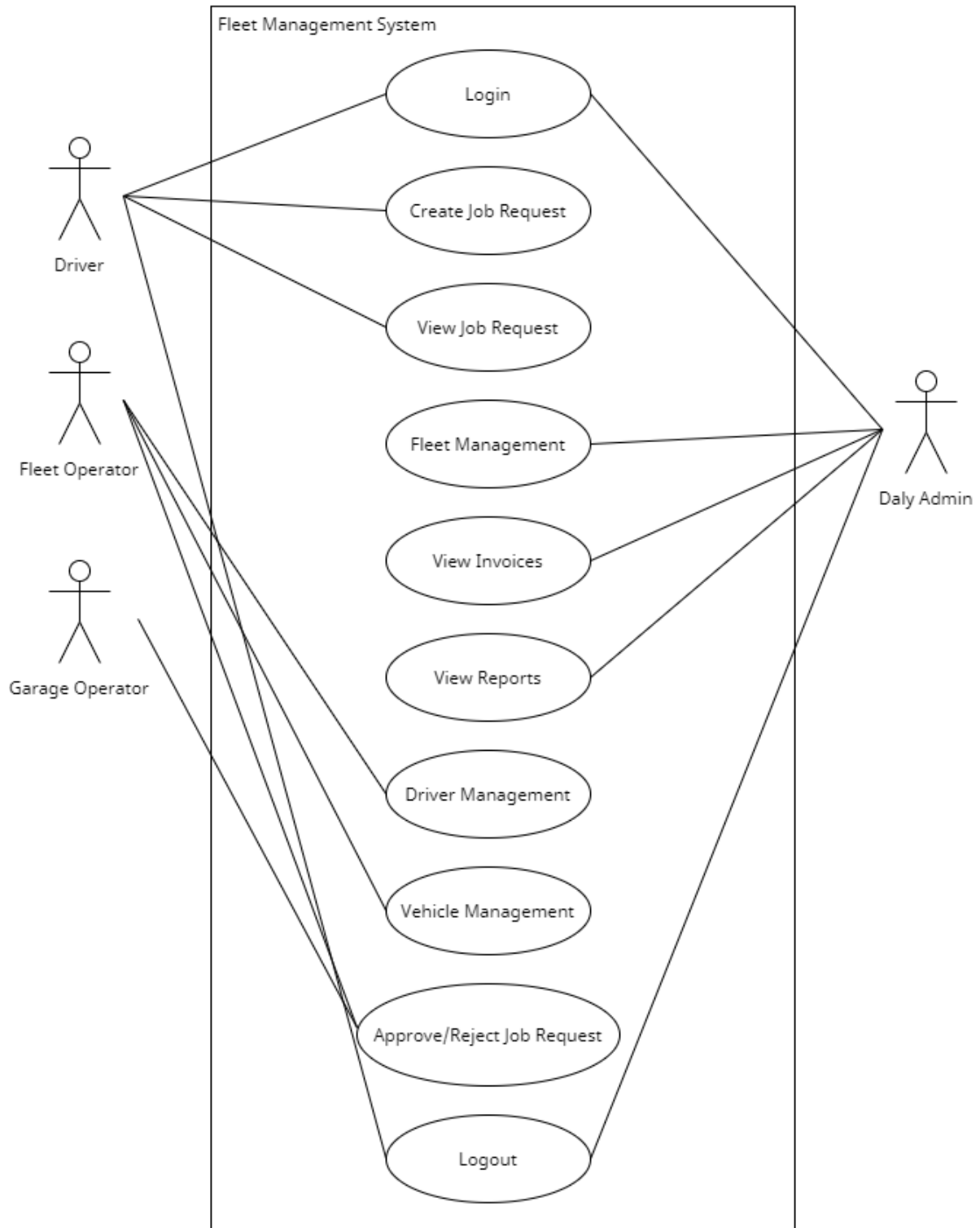
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# Use Case Diagram



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## Brief Use Case

This section will briefly outline the use cases that were outlined in the diagram on the previous page. This outline will include the name of the use case, any of the four listed actors that are involved, and a brief description of the use case as it relates to the actor or actors. The Fleet Management System has four different actors.

- Driver
- Fleet Operator
- Garage Operator
- Daly Admin

### Use Case 1

Name: Login  
Actor(s): Driver, Fleet Operator, Garage Operator, Daly Admin  
Description: An actor will need to enter their username and password to login to the system to access their homepages.

### Use Case 2

Name: Create Job Request  
Actor(s): Driver  
Description: The driver will enter their details. Upon completing the form the driver will submit the request.

### Use Case 3

Name: View Job Request  
Actor(s): Driver  
Description: The driver will see the details of the job request they created. Including the status of the request.

### Use Case 4

Name: Fleet Management  
Actor(s): Daly Admin  
Description: The admin has control over the system and will need to Add and Delete any Fleet account.

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## Use Case 5

Name: View Invoices

Actor(s): Daly Admin

Description: The admin can view the invoices generated from the requests that have been accepted by the garage.

## Use Case 6

Name: View Reports

Actor(s): Daly Admin

Description: The admin can view the all the parts that have been ordered from the approved job requests.

## Use Case 7

Name: Driver Management

Actor(s): Fleet Operator

Description: The Fleet Operator has the ability to Add and Delete any driver account.

## Use Case 8

Name: Vehicle Management

Actor(s): Fleet Operator

Description: The Fleet Operator has the ability to Add and Delete any vehicle account.

## Use Case 9

Name: Approve/Reject Job Request

Actor(s): Fleet Operator, Garage Operator

Description: The fleet operator will receive a driver's job request. They can either accept or reject the request.

If the fleet operator accepts the job request it will be sent to the garage operator. Once the garage operator receives the job request they can either accept or reject the request.

## Use Case 10

Name: Logout

Actor(s): Driver, Fleet Operator, Garage Operator, Daly Admin

Description: An actor will need to press a logout button to exit the system.

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## Detailed Use Case

Taking some of the previous brief descriptions that focus on the main functionalities, in this section a step by step guide will be created to outline the actions that each actor will take in order to perform a single task. This will be written from the perspective of the actor. First the task being successfully carried out in the way that is intended will be outlined. Next, any possible outcomes that do not follow this path will be outlined.

### Use Case 2

Name: Create job Request  
Actor(s): Driver  
Main Task: The driver creates a job request for their vehicle.

1. On the homepage the driver will see a create a request button.
2. The driver will select this button.
3. A request form appears on screen.
4. The driver enters their vehicle registration and chooses the garage location and the mechanical issue from dropdown menus into the form.
5. The driver presses the complete button.
6. A notification will say the word success appears and the page returns to the homepage.

Alternative(s): The driver fails to create a job request for their vehicle.

- 5.a. A notification will say that an error has occurred and asks the driver to re-enter their vehicle registration.
- 6.a. The driver will re-enter the correct vehicle registration.
- 7.a. The driver presses the complete button.
- 8.a. A notification will say the word success appears and the page returns to the homepage.

### Use Case 3

Name: View job Request  
Actor(s): Driver  
Main Task: The driver can view any open job request that they have created.

1. On the homepage the driver will see a view job request button.
2. The driver will select this button.
3. Any open job requests will be displayed to the driver.

Alternative(s): None

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## Use Case 4

Name: Fleet Management  
Actor(s): Daly Admin  
Main Task: The admin can Add a Fleet Operator account.

1. On the homepage the admin will see a fleet management tab.
2. They will click on that tab.
3. The fleet management page will appear on screen.
4. There will be two choices on screen. They will be Add or Delete. Along with a list of all fleet accounts already in the database.
5. The admin will click on Add.
6. The Add account page will appear on screen.
7. The admin enters a new username and new password into a form.
8. They will click on the complete button.
9. The homepage will appear on screen.

Alternative(s): The admin can Delete a Fleet Operator account.

- 5.a. The admin will click on Delete.
- 6.a. The admin can now select an account.
- 7.a. They will click on the complete button.
- 8.a. The account will be deleted and the homepage will appear on screen.

## Use Case 5

Name: View Invoices  
Actor(s): Daly Admin  
Main Task: The Daly admin views the invoices.

1. On the homepage the admin will see an invoice tab.
2. They can click on that tab.
3. The invoice page will appear on screen. All invoices from that month are listed.

Alternative(s): None

## Use Case 6

Name: View Reports  
Actor(s): Daly Admin  
Main Task: The Daly admin views the reports.

1. On the homepage the admin will see a reports tab.
2. They can click on that tab.
3. All closed job requests will be displayed on screen.

Alternative(s): None

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## Use Case 7

Name: Driver Management  
Actor(s): Fleet Operator  
Main Task: The Fleet Operator can Add a Driver account.

1. On the homepage the Fleet Operator will see a driver management tab.
2. They will click on that tab.
3. The driver management page will appear on screen.
4. There will be two choices on screen. They will be Add or Delete. Along with a list of all driver accounts already in the database.
5. The admin will click on Add.
6. The Add account page will appear on screen.
7. The Fleet Operator enters a new username and new password into a form.
8. They will click on the complete button.
9. The homepage will appear on screen.

Alternative(s): The Fleet Operator can Delete a Driver account.

- 5.a. The Fleet Operator will click on Delete.
- 6.a. The Fleet Operator can now select an account.
- 7.a. They will click on the complete button.
- 8.a. The account will be deleted and the homepage will appear on screen.

## Use Case 8

Name: Vehicle Management  
Actor(s): Fleet Operator  
Main Task: The Fleet Operator can Add a Vehicle.

10. On the homepage the Fleet Operator will see a vehicle management tab.
11. They will click on that tab.
12. The vehicle management page will appear on screen.
13. There will be two choices on screen. They will be Add or Delete. Along with a list of all vehicles already in the database.
14. The admin will click on Add.
15. The Add vehicle page will appear on screen.
16. The Fleet Operator enters a new vehicle registration into a form.
17. They will click on the complete button.
18. The homepage will appear on screen.

Alternative(s): The Fleet Operator can Delete a Vehicle.

- 5.a. The Fleet Operator will click on Delete.
- 6.a. The Fleet Operator can now select a vehicle.
- 7.a. They will click on the complete button.
- 8.a. The vehicle will be deleted and the homepage will appear on screen.



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## Use Case 9

Name: Approve/Reject Job Request

Actor(s): Fleet Operator, Garage Operator

Main Task: The fleet operator or the garage operator receive a job request they can either accept or reject the request.

1. The fleet operator/garage operator will see the job management tab on the homepage. There will be an indicator on the tab if there is an open job request awaiting action from the fleet operator/garage operator.
2. They will then click on this tab.
3. Any job request will appear on the screen in order of latest to oldest.
4. They will accept or reject the request.
5. The request will disappear and the fleet operator/garage operator will be returned to the homepage.

Alternative(s): None

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# Non-Functional Requirements

Everything that has been covered so far has been mapping out the interactions that actors will have with the system. Here the way in which the system will be expected to perform will be made clear. To do this the FURPS model will be used.

## Functionality

Given all of the operations that have previously been outlined in this document, there does not appear to be a need for any complex features to be implemented. Instead some simple forms, message sending and records keeping is all that will be required.

There has been no requests made by the client related to any security requirements. Instead from looking at the operations that have been made clear it would appear that the most sensitive aspects of the system will be the username and password associated with each account. Protecting these should be a top priority as nothing else comes close to being as much of a threat to a user or to the system as an unauthorised individual gaining access.

## Usability

The client, Daly Tyres, has asked for this system in order to facilitate the transactions between themselves, the fleet company and the garages. Wanting as little involvement as possible between all involved. There will be no interfaces filled with text or needless features. Instead the aesthetic will be focused on practicality. With most users having access to only two or three interfaces, binary choices and forms.

## Reliability

Even though within the EU the delivery of goods should not be delayed by more than 30 days [1], that is not a reliable figure to use to calculate downtime. As HGV drivers can reasonably be expected to be transporting perishable goods. The Food Safety Authority of Ireland suggests that food in a fridge should be used within 2-3 days [2]. Taking that, any potential downtime exceeding 3 or more days becomes unacceptable. As it has been decided that cloud hosting is best suited for the system this will have to be taken into account when deciding upon a service provider.

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## Performance

With roughly 24,000 HGVs operating in Ireland [3] transporting goods a reasonable assumption can be made that the system will not need to handle more than 10% of that number at any time. Throughout the day the system being able to handle up to 2,400 users daily would be a high benchmark to achieve.

In order to be effective, the messages sent by the system will need to be delivered in real time. It needs to be a viable alternative to contacting others by telephone.

## Supportability

Needs to be available on a wide range of devices so when developing it should be kept in mind what version of Android is being developed for. As new versions can have a lower coverage rate for devices.

## References

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2. www.fsai.ie. (n.d.). *Domestic Practice | FAQ's | The Food Safety Authority of Ireland*. [online] Available at: <https://www.fsai.ie/faq/domestic.html>.
3. Oireachtas, H. of the (2021). *Haulage Industry – Thursday, 4 Nov 2021 – Parliamentary Questions (33rd Dáil) – Houses of the Oireachtas*. [online] www.oireachtas.ie. Available at: <https://www.oireachtas.ie/en/debates/question/2021-11-04/85/#:~:text=The%20national%20HGV%20fleet%20of>.