# Project

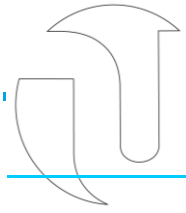
## EduSnap Dispatcher Use Case with Individual use case specifications

## Abstract

***This document provides an overview of the solution context, scope and high-level functional capabilities for the Dispatcher subset of the EduSnap project. It catalogs a subset of the actors that interact with the system and the use cases that together describe all the ways in which they interact with the system. It also documents the use-case diagrams that show the relationships that exist between the actors and the use cases.***

## Version History

| Date | Version | Author | Description |
|---|---|---|---|
| dd/mm/yyyy | | Arne Jørgen Berre | |
| 08/11/2016 | 0.01 | Christopher Foley | Draft Version Completed |
| 09/11/2016 | 0.02 | Christopher Foley | Moved User stories to Scenario Section |
| 09/11/2016 | 0.03 | Christopher Foley | Filled section 6 examples |
| 090/11/2016 | 1.00 | Christopher Foley | Final Edit |



An Essential Unified Process Document

# Table of Contents

# 1 Introduction

## 1.1 Document Purpose

The purpose of this document is to provide an overview of the EduSnap system use-case model in order to provide a high-level understanding of:

- Context – the people or things that interact with the system (the *Actors*)
- Scope – the things of value that the system performs for its Actors (the *Use Cases*).
- Value – the motivation and value provided by the system to the Actors (the *User Stories* ).

## 1.2 Document Scope

The scope of this document is limited to:

- Diagramming and cataloging the system actors and use cases for the project.

The scope of this document does *not* include consideration of:

- Detailed specification of each use case – this is provided separately in a Use-Case Specification document for each use case.

## 1.3 Document Overview

This document contains the following sections:

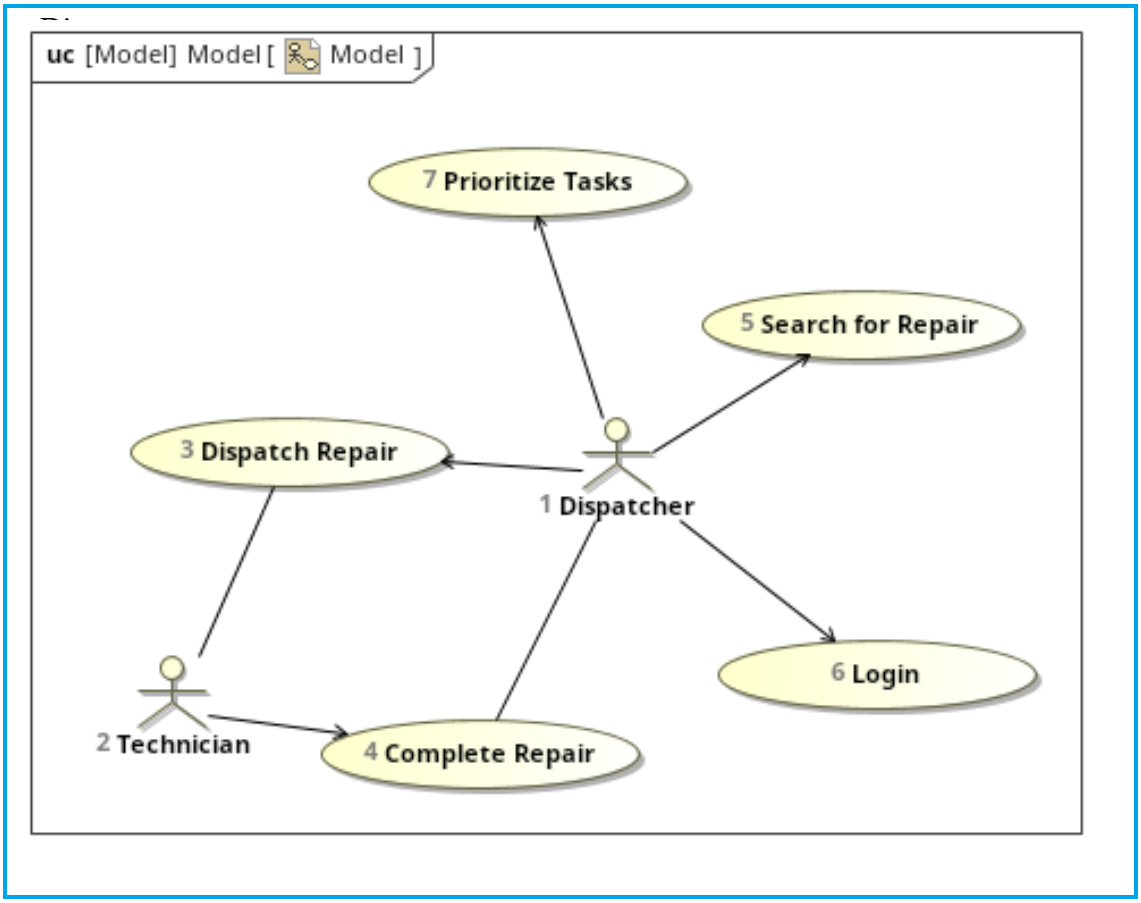
- **Brief Description** – reminder of why the use case is needed
- **Use-Case Model Overview** – overview of the use-case model in the form of one or more use-case diagrams with supporting explanatory text
- **Actor Catalog** – catalog of all system actors
- **Use Case Catalog** – catalog of all system use-cases and user stories.
- **References** – provides full reference details for all documents, white papers and books that are referenced by this document.

# 2 Use-Case Diagrams

This section provides an overview of the use-case model in the form of one or more use-case diagrams with supporting explanatory text.

## *2.1 Dispatcher Use Case Diagram*

Illustrates the dispatcher interacting with the system.



# 3 Actor Catalog

The table below catalogs the system actors, specifying for each actor:

- Name – unique and meaningful name for the actor
- Brief Description – summarizing the role that the actor plays with respect to the system.

| Name | Brief Description |
|---|---|
| Dispatcher | Responsible for prioritizing and dispatching field technicians to repair observed anomalies. |
| Technician | Individual who completes the repair |
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# 4 Use-Case Catalog

The table below catalogs the system use cases, specifying for each use case:

- ID – unique identifier for the use case
- Name – unique and meaningful name for the use case
- Type:
  - *Base – end-to end interaction between an actor and the system*
  - *Inclusion – abstracted common part of many Base Use Cases that is explicitly referenced by these use cases*
  - *Extension – extension of one or more referenced Base Use-Cases*
  - *Abstract – use case describing generic aspects of many Base Use Cases which in turn specialize this general case in some way.*
- Brief Description – summarizes the use-case purpose in terms of the value produced for its actors and other stakeholders.

| ID | Name | Type | Brief Description |
|---|---|---|---|
| D003 | Dispatch Repair | Base | Dispatcher selects a repair to be performed |
| D004 | Repair Completed | Base | Dispatcher inspects repair for completion. |
| D005 | Search for repair | Base | Dispatcher searches for a repair to be performed. |
| D006 | Login | Inclusion | Dispatcher logs into system, included from other use cases. |
| D007 | Prioritize Tasks | Base | Dispatcher prioritizes tasks. |
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# 5 Use case Specification

## *5.1 Use Case D003 – Dispatch Repair*

***The specifies all requirements relating to this use case, including the flows through the use case and any non-functional requirements that relate specifically to this use case.***

### 5.1.1 Introduction

#### 5.1.1.1 Document Purpose

The primary objectives of the Dispatch Repair Use-Case Specification are to:

- Provide a complete set of requirements relating to the use case, including the flows through the use case and all significant external behavior of the use case
- Provide additional supporting information to support the communication of the purpose, requirements, constraints and flows through the use case.

##### *5.1.1.1.1 Document Scope*

The scope of this document is limited to consideration of:

- The interactions between the dispatcher and the EduSnap system.

This scope of this document does not include consideration of:

- Requirements that relate specifically to the Login use case – these are described in separate specifications for the other use cases
- Requirements that do not relate to any specific use case – these are described in a separate Supplementary Requirements document.

#### 5.1.1.2 Document Overview

This document contains the following sections:

- **Brief Description** – focusing on the purpose of the use case
- **Preconditions** – the state the system must be in before the use case can performed
- **Basic Flow** – what normally happens when the use case is performed
- **Alternative Flows** – unusual, optional or exceptional use case behavior
- **Post-Conditions** –valid system states after the use case has finished

- **Special Requirements** – non-functional requirements that relate specifically to this use case
- **Extensibility** – where the use case can be extended by other use cases
- **Scenarios** – lists the key representative scenarios for this use-case
- **Additional Information** – any other useful supporting information
- **References** – provides full reference details for all documents, white papers and books that are referenced by this document.

#### 5.1.1.3 Brief Description

The Dispatch repair use case describes the interactions between the Dispatcher and the system resulting in a technician being sent to conduct a repair. The dispatcher saves time and resources by reviewing the photograph of the area under investigation and can dispatch a technician with appropriate equipment.

### 5.1.2 Preconditions

The dispatcher has successfully accessed the system (Use Case D006) and determined which service is to be performed (Use Case D007).

### 5.1.3 Basic Flow

The Dispatcher has selected a service to be performed.

The Dispatcher will then determine the equipment required to perform the task.

The Dispatcher will assign the task to a technician for repair and advise of any specialized equipment the dispatcher believes is needed.

The Dispatcher will mark the job ticket as assigned.

### 5.1.4 Alternative Flows

***N/A***

### 5.1.5 Post-Conditions

The service card is marked as pending – Waiting completion.

### 5.1.6 Special Requirements

N/A

### 5.1.7 Extensibility

The Select Task for Repair may be extended to provide access to other individuals.

### 5.1.8 Scenarios

A scenario is an instance or specific occurrence of a use case. This section lists key representative scenarios for this use-case, listing for each scenario:

- Name – a unique and meaningful name for the scenario
- Flows Exercised – List of the use case flows exercised by the scenario
- Additional Notes – any supporting notes about the scenario or its purpose.

| Name | Flows Exercised | Additional Notes |
|---|---|---|
| Dispatch Repair | | I as a dispatcher need to determine the best way to allocate my technicians and tools. |
| Dispatch Repair | | I as a dispatcher need to determine when a repair needs additional work. |
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## *5.2 Use Case D004 – Dispatcher marks repair as completed*

***The specifies all requirements relating to this use case, including the flows through the use case and any non-functional requirements that relate specifically to this use case.***

## 5.2.1 Introduction

### 5.2.1.1 Document Purpose

The primary objectives of the Dispatch Repair Use-Case Specification are to:

- Provide a complete set of requirements relating to the use case, including the flows through the use case and all significant external behavior of the use case
- Provide additional supporting information to support the communication of the purpose, requirements, constraints and flows through the use case.

#### *5.2.1.1.1 Document Scope*

The scope of this document is limited to consideration of:

- The interactions between the dispatcher and the EduSnap system.

This scope of this document does not include consideration of:

- Requirements that relate specifically to the Login use case – these are described in separate specifications for the other use cases
- Requirements that do not relate to any specific use case – these are described in a separate Supplementary Requirements document.

### 5.2.1.2 Document Overview

This document contains the following sections:

- **Brief Description** – focusing on the purpose of the use case
- **Preconditions** – the state the system must be in before the use case can performed
- **Basic Flow** – what normally happens when the use case is performed
- **Alternative Flows** – unusual, optional or exceptional use case behavior
- **Post-Conditions** –valid system states after the use case has finished
- **Special Requirements** – non-functional requirements that relate specifically to this use case
- **Extensibility** – where the use case can be extended by other use cases
- **Scenarios** – lists the key representative scenarios for this use-case
- **Additional Information** – any other useful supporting information
- **References** – provides full reference details for all documents, white papers and books that are referenced by this document.

#### 5.2.1.3 Brief Description

The Dispatcher receives indication that a service has been performed. The dispatcher then inspects the images transmitted with the repair and determines if the repair is sufficient or if it needs to be reassigned (Use Case D003).

### 5.2.2 Preconditions

The Dispatcher has received an indication that a service has been completed.

Dispatcher has logged in (Use Case D006).

### 5.2.3 Basic Flow

The Dispatcher receives an indication that a service has been completed.

The Dispatcher logs into the system (Use Case D006) and retrieves the repair in question (Use case D005).

The dispatcher views the images of the completed work or visits the site to verify completion and then , if the job is complete, closes the task in the system.

### 5.2.4 Alternative Flows

If the dispatcher determines that additional work is required, the work ticket is reassigned (Use Case D003).

### 5.2.5 Post-Conditions

The work ticket has been marked as closed or reassigned.

### 5.2.6 Special Requirements

This section lists any non-functional requirements that relate specifically to this use case.

### 5.2.7 Extensibility

This section lists any public extension points that the use case makes available for other use cases to extend.

### 5.2.8 Scenarios

A scenario is an instance or specific occurrence of a use case. This section lists key representative scenarios for this use-case, listing for each scenario:

- Name – a unique and meaningful name for the scenario
- Flows Exercised – List of the use case flows exercised by the scenario
- Additional Notes – any supporting notes about the scenario or its purpose.

| Name | Flows Exercised | Additional Notes |
|---|---|---|
| **Mark Complleted** | | **I as a dispatcher need a way to quickly verify that a repair has been completed so that vendors may be paid.** |
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## *5.3 Use Case D005 – Dispatcher searches for repairs*

***The specifies all requirements relating to this use case, including the flows through the use case and any non-functional requirements that relate specifically to this use case.***

#### 5.3.1.1 Document Purpose

The primary objectives of the Dispatch Repair Use-Case Specification are to:

- Provide a complete set of requirements relating to the use case, including the flows through the use case and all significant external behavior of the use case
- Provide additional supporting information to support the communication of the purpose, requirements, constraints and flows through the use case.

##### *5.3.1.1.1 Document Scope*

The scope of this document is limited to consideration of:

- The interactions between the dispatcher and the EduSnap system.

This scope of this document does not include consideration of:

- Requirements that relate specifically to the Login use case – these are described in separate specifications for the other use cases
- Requirements that do not relate to any specific use case – these are described in a separate Supplementary Requirements document.

#### 5.3.1.2 Document Overview

This document contains the following sections:

- **Brief Description** – focusing on the purpose of the use case.
- **Preconditions** – the state the system must be in before the use case can performed
- **Basic Flow** – what normally happens when the use case is performed
- **Alternative Flows** – unusual, optional or exceptional use case behavior
- **Post-Conditions** –valid system states after the use case has finished
- **Special Requirements** – non-functional requirements that relate specifically to this use case
- **Extensibility** – where the use case can be extended by other use cases
- **Scenarios** – lists the key representative scenarios for this use-case
- **Additional Information** – any other useful supporting information
- **References** – provides full reference details for all documents, white papers and books that are referenced by this document.

#### 5.3.1.3 Brief Description

The dispatcher searches for repairs to dispatch based upon criteria set outside the system. The dispatcher may use internal priorities or may set their own priorities.

### 5.3.2 Preconditions

The dispatcher has successfully logged into the system (Use Case D006).

### 5.3.3 Basic Flow

The dispatcher searched through the uncompleted tasks and determines what is to be repaired. The repair is then dispatched (Use Case D003).

### 5.3.4 Alternative Flows

N/A

### 5.3.5 Post-Conditions

N/A

### 5.3.6 Special Requirements

This section lists any non-functional requirements that relate specifically to this use case.

### 5.3.7 Extensibility

This section lists any public extension points that the use case makes available for other use cases to extend.

### 5.3.8 Scenarios

A scenario is an instance or specific occurrence of a use case. This section lists key representative scenarios for this use-case, listing for each scenario:

- Name – a unique and meaningful name for the scenario
- Flows Exercised – List of the use case flows exercised by the scenario
- Additional Notes – any supporting notes about the scenario or its purpose.

| Name | Flows Exercised | Additional Notes |
|---|---|---|
| **Search for Repairs** | | **I as a dispatcher need to determine what needs to be fixed.** |
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## *5.4 Use Case D007 – Dispatcher Prioritizes Task(s)*

***The specifies all requirements relating to this use case, including the flows through the use case and any non-functional requirements that relate specifically to this use case.***

## 5.4.1 Introduction

The primary objectives of the Dispatcher Prioritize Task Use-Case Specification are to:

- Provide a complete set of requirements relating to the use case, including the flows through the use case and all significant external behavior of the use case
- Provide additional supporting information to support the communication of the purpose, requirements, constraints and flows through the use case.

#### *5.4.1.1.1 Document Scope*

The scope of this document is limited to consideration of:

- The interactions between the dispatcher and the EduSnap system.

This scope of this document does not include consideration of:

- Requirements that relate specifically to the Login use case – these are described in separate specifications for the other use cases
- Requirements that do not relate to any specific use case – these are described in a separate Supplementary Requirements document.

#### 5.4.1.2 Document Overview

This document contains the following sections:

- **Brief Description** – focusing on the purpose of the use case
- **Preconditions** – the state the system must be in before the use case can performed
- **Basic Flow** – what normally happens when the use case is performed
- **Alternative Flows** – unusual, optional or exceptional use case behavior
- **Post-Conditions** –valid system states after the use case has finished
- **Special Requirements** – non-functional requirements that relate specifically to this use case
- **Extensibility** – where the use case can be extended by other use cases
- **Scenarios** – lists the key representative scenarios for this use-case
- **Additional Information** – any other useful supporting information
- **References** – provides full reference details for all documents, white papers and books that are referenced by this document.

#### 5.4.1.3 Brief Description

The Dispatcher Prioritize Task Use Case provides the dispatcher the ability to assign arbitrary priorities to a task allowing employees and subcontractors to judge priorities and plan services to best meet the needs of their management. The priority is set as a reference value and is not required by the system.

### 5.4.2 Preconditions

The dispatcher has successfully logged into the system (Use Case D006).

### 5.4.3 Basic Flow

The dispatcher retrieves tasks that have arrived or are currently in the system and assigns a priority to the task. The priority is an arbitrary value and its relevance is determined by the dispatcher.

### 5.4.4 Alternative Flows

N/A.

### 5.4.5 Post-Conditions

A dispatcher assigned priority is assigned to the service request.

### 5.4.6 Special Requirements

None.

### 5.4.7 Extensibility

None.

### 5.4.8 Scenarios

A scenario is an instance or specific occurrence of a use case. This section lists key representative scenarios for this use-case, listing for each scenario:

- Name – a unique and meaningful name for the scenario
- Flows Exercised – List of the use case flows exercised by the scenario
- Additional Notes – any supporting notes about the scenario or its purpose.

| Name | Flows Exercised | Additional Notes |
|---|---|---|
| **Set Priority** | | **I as a dispatcher need to set priorities for repairs and easily communicate those to my staff.** |
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# 6 Additional Example of use case specification

This section provides any additional information required to make the use case more accessible to the stakeholders and the development team.

This template is an extended version of the original template defined by Cockburn [1], in particular extended with a possibility to describe Requested Information Resources often found useful when dealing with data oriented systems. [1] Cockburn, A. Writing Effective Use Cases. ISBN-13: 9780201702255. Addison-Wesley (2001).

| Use Case Template | Description |
|---|---|
| Use Case Name | Dispatch technician. |
| Use Case ID | D003 |
| Revision and Reference | Revision = 1.0<br>Reference = TBS |
| Use Case Diagram | See below. |
| Status | In Progress |
| Priority of accomplishment (optional) | Must have |
| Goal | System dispatches/assigns technician to provide service. |
| Summary | The dispatcher uses EduSnap to determine what is broken, what is needed to fix it and who to send. |
| Category | Dispatcher |
| Actor | Dispatcher, Technician |
| Primary Actor (initiates) | Dispatcher |
| Stakeholder (optional) | Campus |
| Requested Information Resources (optional) | User report (read),<br>Repair ticket (read, update),<br>Technician list (read) |
| Preconditions | Successful login to EduSnap system<br>Successful creation of work ticket |
| Triggers (optional) | (External) Receipt of work order |

| Use Case Template | Description |
|---|---|
| Main success scenario | 1. Dispatcher selects repair ticket<br>2. Dispatcher selects technician<br>3. Dispatcher selects priority<br>4. Dispatcher advises of equipment needed.<br>5. Dispatcher notifies technician |
| Extensions | N/A |
| Alternative paths (optional) | N/A |
| Post conditions | Work ticket assigned to technician. |
| Non-functional requirements | Worker expected to perform work. |
| Validation statement | Create repair Ticket<br>Assign to technician. |
| Notes | . |
| Author and date | Christopher Foley, 09-Nov-2016. |
| | |