**Meal Router Project**

**Use-Case Model overview with Individual use case specifications**

**Abstract**

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| ***This document provides an overview of the solution context, scope and high-level functional capabilities for the Meal Router project. It catalogs 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**

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| --- | --- | --- | --- |
| **Date** | **Version** | **Author** | **Description** |
| dd/mm/yyyy | <Version> | Arne Jørgen Berre |  |
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An Essential Unified Process Document

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# **Introduction**

## ***Document Purpose***

The purpose of this document is to provide an overview of the 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*).

## ***Document Scope***

The scope of this document is limited to:

* Diagramming and cataloging the system actors and use cases for the Meal Router 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.

## ***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
* **References** – provides full reference details for all documents, white papers and books that are referenced by this document.

1. **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.

## ***<Diagram Name>***

<Diagram description>

<Diagram>

1. **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.

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| **Name** | **Brief Description** |
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1. **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.

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| **ID** | **Name** | **Type** | **Brief Description** |
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# **Use case Specification**

One section per use cases – according to the use case specification template below

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| ***The <Use Case Name> Use-Case Specification 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.*** |

## ***Introduction***

### **Document Purpose**

The primary objectives of the 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.

### **Document Scope**

The scope of this document is limited to consideration of:

* The specification this specific use case, including any non-functional requirements and constraints that relate specifically to this use case.

This scope of this document does not include consideration of:

* Requirements that relate specifically to any other 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.

### **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.

## ***Brief Description***

This section provides a succinct description of the use case that conveys its purpose and the value that it offers to its actors.

## ***Preconditions***

This section lists the preconditions that apply to the use case. Use only if they add clarity to the extent of the use case.

## ***Basic Flow***

This section describes the normal flow through the use case in terms of what the actor does and what the system does in response, structured as a dialog between the actor and the system.

## ***Alternative Flows***

This section describes the alternative flows for the use case, grouped into named subsections reflecting the area of functionality to which to the alternative flow relates. Each alternative flow is described in terms of:

* The point in the use case at which the alternative flow might begin
* The conditions under which the alternative flow will begin
* The flow of events within the alternative flow
* The point at which the use case resumes on completion of the alternative flow.

### **<Area of Functionality>**

#### < A1 First Alternative Flow >

#### < A2 Second Alternative Flow >

### **<Area of Functionality>**

#### < A3 Third Alternative Flow >

## ***Post-Conditions***

This section lists the valid states that the system can be in immediately after the use case has finished. Use only if it adds clarity to the use-case.

## ***Special Requirements***

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

## ***Extensibility***

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

## ***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.

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| **Name** | **Flows Exercised** | **Additional Notes** |
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# **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).

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| **Use Case Template** | **Description** | **Examples** |
| Use Case Name | Name of the use case | Visualise proposed water height after the tsunami event |
| Use Case ID | Unique identifier of a use case |  |
| Revision and Reference | Revision = version number of use case ID  Reference = URL of the use case (you get the URL by right-clicking on the entry in the index column) | V02, http://SDI.server.de/servlet/is/4900/ |
| Use Case Diagram | Description of the UML use case diagram for the actual use case. The diagram should include extend and include relationships if there is any.  The actual UML diagram figure may be added at the bottom of the template by uploading a bitmap generated from a UML editor. |  |
| Status | Status of the use case development | One of the following:  Planned  in progress |
| Priority of accomplishment (optional) | The priority of the use case to be considered when assessing its importance for a development cycle. | One of the following:  Must have: The system must implement this goal/ assumption to be accepted.  Should have: The system should implement this goal/ assumption: some deviation from the goal/assumption as stated may be acceptable.  Could have: The system should implement this goal/assumption, but may be accepted without it. |
| Goal | Short description (max. 100 characters) of the goal to be achieved by a realization of the use case. | System generates alerts based on user observations |
| Summary | Comprehensive textual description of the use case. | The user opens the browser which shows map-window with the water height after the tsunami event in the affected area |
| Category | Categorisation of use cases according to overall reference architecture. | *Context dependent* |
| Actor | List of users of the use case (actors) | Examples may be citizen, administrator or employee of a SDI agency |
| Primary Actor (initiates) | Actor that initiates the use case execution. |  |
| Stakeholder (optional) | Company, institution or interest group concerned by the execution of the use case |  |
| Requested Information Resources  (optional) | Information category or object that is required to execute the use case or is being generated during the course of the use case execution.  The requested information resource shall be listed together with its requested access mode (create, read, update or delete) or “manage” which encompasses all access modes. | user observation (read)  user-specific effect (read, update)  alert (manage) |
| Preconditions | Description of the system/user status statement) that is required to start the execution of the use case.  Note that use cases can be linked to each other via "preconditions“. This means, a precondition for a use case can be either an external event or another use case. In this case the use case ID should be provided in the field „preconditions“. | The user has opened the portal successfully. |
| Triggers (optional) | (External) event that leads to the execution of the use case.  Note that use cases can be linked to each other via "triggers“. This means, a trigger for a use case can be either an external event or another use case. In this case the use case ID should be provided in the field "triggers“. | The user chooses water height forecast. |
| Main success scenario | Numbered sequence of actions (use case workflow) to be carried out during the execution of the use case. | 1. User chooses assessment report.  2. He specifies one or more components (default should be all).  3. He sets a time-frame (last 24 hours, last week, last month)  4. The system shows a report as graphical visualisation. |
| Extensions | Extension of an action of the main success scenario. The action to be extended shall be referred to by its number (e.g. 1) appended by a letter (e.g. 1a). | 1a. The user defines the temporal extent b. The user defines an unavailable temporal extent. A new dialogue window opens and requires a new temporal extent. |
| Alternative paths (optional) | Alternate path through the main success scenario w.r.t. an identified action. | 4a. User can select to view report in different formats, e.g. tabular or graphical map |
| Post conditions | Description of the system/user status (statement) that holds true after the successful execution of the use case. | Report is displayed on the screen. |
| Non-functional requirements | Description of non-functional requirements for this use case with respect to performance, security, quality of service or reliability. | Display of report expected after 20 seconds at the latest. |
| Validation statement | List of statements that indicate how to validate the successful realization of the use case. |  |
| Notes | Additional notes or comments (also by other users). |  |
| Author and date | Author of use case, date of last edition. |  |