MedFinder   
Use Cases and Requirements

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Document History

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# About this Document

This document enumerates and describes the identified use cases for MedFinder. The system will be a web interface for querying a subset of the Drugs endpoint of the OpenFDA API.

## Terminology

These terms are used throughout this document.

|  |  |
| --- | --- |
| Term | Definition |
| Adverse Event | Side effect |
| Consumer | A user who is not employed in the medical field |
| Indication | Purpose of a drug |
| Medical Professional | A user who is employed in the medical field, such as a doctor or nurse practitioner |

## Color Coding

The items in this document are colored as follows:

* **Completed (black)**: The features and other functionality associated with these items has been implemented, tested, and documented. The features these items represent are ready for production use.
* **In progress (green)**: The implementation, testing, and/or documentation for the features or functionality represented by these items has been started but one or more of them has not been finished or is not of production quality.
* **Scheduled (blue)**: The implementation, testing, and documentation necessary to produce the production quality features and other functionality represented by these items has been designated to occur in an explicit future milestone.
* **Pending (red)**: None of the implementation, testing, and documentation for the features and other functionality associated with these items has been started or designated to occur in an explicit future milestone.

# Structure

## Use Case Structure

A use case is a description of a system’s behavior as it responds to a request that originates from outside of that system. A use case describes "who" can do "what" with the system in question. Use cases are grouped into categories; within each category each use case in this document adheres to the following structure.

### Use Case Name

A unique short name describing the case.

#### Goal

Short statement of what the user intends to accomplish in this use case.

#### Description

An overview that summarizes the preconditions, basic course of events, any alternative paths or extensions, and the post conditions of the use case.

#### Preconditions

The set of conditions that must be true in order for the use case to be applicable and well defined.

#### Sequence of Events

The typical sequence of actions and events that satisfy the goal of the use case. The items of this sequence are numbered for reference. Include a sequence diagram, if possible.

#### Alternative Paths or Extensions

An optional section that describes any alternate sequences of actions, such as error handling cases, which may occur as a result of executing one or more actions in the basic sequence of events. Each alternate sequence is described in its own subsection and it is also numbered for reference.

#### Postconditions

A description of the changes to the state of the components altered by the use case, formulated as a set of conditions that will be true after the basic sequence and any alternate paths complete.

## Requirements Structure

Individual requirements within the component sections are lettered, with each letter containing only one item. In this way, development work can be associated with specific requirements.

# Use Cases

## Consumer Use Cases

### View adverse drug events

#### Description

The user will submit a query with parameters regarding the age, gender, and weight of the patient that experienced the event, and regarding the drugs (brand, purpose, etc.) involved in the event. The result will be a list of events that matched the given parameters.

#### Preconditions

The user has access to the site.

#### Sequence of Events

1. The user navigates to the Consumer portal.
2. The user enters their search parameters into the form.
3. The user clicks the search button.

#### Postconditions

The results are displayed.

### Look up routes of administration

#### Description

The user will submit a query with parameters specifying the particular drug (brand name, generic name, etc.) or type of drug (indication/purpose, substance name/active ingredients) for which they would like to see routes of administration. The result will be a list of routes of administration for drugs matching the parameters.

#### Preconditions

The user has access to the site.

#### Sequence of Events

1. The user navigates to the Medical Professional portal.
2. The user enters their search parameters into the “Look up routes” form.
3. The user clicks the search button.

#### Postconditions

The results are displayed.

### Look up drugs for a particular route of administration

#### Description

The user will submit a query with parameters specifying the type of drug (indication/purpose, substance name/active ingredients) and route of administration they would like the drug to use. The result will be a list of drugs that match the parameters.

#### Preconditions

The user has access to the site.

#### Sequence of Events

1. The user navigates to the Medical Professional portal.
2. The user enters their search parameters into the “Look up drugs” form.
3. The user clicks the search button.

#### Postconditions

The results are displayed.

### Save searches

#### Description

Before executing any query the user will have the option to save the search in order to run it again later.

#### Preconditions

The user has access to the site.

#### Sequence of Events

1. The user navigates to either portal.
2. The user enters their search parameters into the form.
3. The user checks the “save search” checkbox.
4. The user clicks the search button.

#### Postconditions

The search is saved on the server.

### Repeat searches

#### Description

The user will select a previously run search and run it again.

#### Preconditions

The user has access to the site, and has previously run and saved a search.

#### Sequence of Events

1. The user navigates to either portal.
2. The user selects a search from the list of saved searches.
3. The user clicks the search button.

#### Postconditions

The results are displayed.

### Copy and edit searches

#### Description

The user will select a previously run search and edit it to quickly create a new, similar search.

#### Preconditions

The user has access to the site, and has previously run and saved a search.

#### Sequence of Events

1. The user navigates to either portal.
2. The user selects a search from the list of saved searches.
3. The user edits the parameters in the relevant form.
4. The user clicks the search button.

#### Alternate paths or extensions

The user may check or uncheck the save search checkbox depending on whether the new search should be saved.

#### Postconditions

The results are displayed.

### Delete searches

#### Description

The user will delete searches from the list of saved searches.

#### Preconditions

The user has access to the site, and has previously run and saved a search.

#### Sequence of Events

1. The user navigates to either portal.
2. The user clicks the delete button next to a search in the list of saved searches.

#### Postconditions

The search is deleted from the server.

# Requirements

The business requirements of MedFinder are derived from the use cases in Section 3, and refer to specific identified components.

Individual requirements within the component sections are lettered, with each letter containing only one item. In this way, development work can be associated with specific requirements.

## User Requirements

1. (U001) The system must allow consumers to query for adverse drug events by patient information and drug information.
2. (U002) The system must display adverse drug event results in a table.
3. (U003) The system should display adverse drug even results in a chart.
4. (U004) The system must allow medical professionals to query for routes of administration for a particular drug by indication, brand name, generic name, and substance name.
5. (U005) The system must display routes of administration results in a table.
6. (U006) The system must allow medical professionals to query for drugs with a particular indication and route of administration.
7. (U007) The system must display route of administration results in a table.
8. (U008) The system must allow queries to be saved.
9. (U009) The system should allow users to name saved queries.
10. (U010) The system must display saved queries to users.
11. (U011) The system must allow users to re-execute a saved search.
12. (U012) The system should allow users to delete saved searches.

## Web Interface

This is the user-facing component of the application. It will be a website with a page for consumers and a page for medical professionals.

### Consumer page

1. The page will have a form to search for adverse events.
2. The page will have a checkbox to indicate that a search should be saved for reuse.
3. The page will have a list of saved searches.
4. Selecting a saved search will populate the form with the parameters of that search.
5. Each search in the list will have a delete button.

### Medical professional page

1. The page will have a form to search for routes of administration for certain drugs.
2. The page will have a form to search for drugs with certain routes of administration.
3. The page will have a checkbox to indicate that a search should be saved for reuse.
4. The page will have a list of saved searches.
5. Selecting a saved search will populate the relevant form with the parameters of the search.
6. Each search in the list will have a delete button.

## Server Backend

### Datamodel

1. The datamodel will have a way of representing saved searches.

### REST API

1. The REST API will perform searches from the web interface by formatting them and passing them through to the OpenFDA API.
2. The REST API will include endpoints for getting, saving, and deleting searches.