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Rule of Law Program - Justice and Enforcement

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RULE OF LAW PROGRAM

JUSTICE AND ENFORCEMENT

DFD-I-01-04-00173-00

IMPLEMENTED BY DPK CONSULTING

DOCUMENT MANAGEMENT SYSTEM (DMS)
AT THE MINISTRY OF JUSTICE (MOJ)

SYSTEMS DESIGN – SOFTWARE DESIGN
SPECIFICATION (SDS)

DECEMBER 2008

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1. INTRODUCTION

This document encapsulates the architectural design of the Ministry of Justice Document Management System (DMS) based on the analysis document. The use-cases are designed and documented in this report.

1.1. Purpose

The purpose of this document is to provide a comprehensive architectural design of the Ministry of Justice Document Management System (DMS) based on the analysis document. It is intended to capture and convey the significant architectural decisions which have been made on the system.

1.2. Scope

This Software Architecture document provides a set logical, process, deployment, implementation and other specifications of the DMS. These specifications are expressed in the UML graphical language. They are based on the previously defined Vision and Use Case specifications document and will help orient the Software Development Plan of the DMS project.

1.3. Definitions, Acronyms and Abbreviations

See the Glossary. Appendix A

1.4. References

1. Analysis Document.
2. Design Document.

1.5. Overview

Section 2 gives a general view of the software architecture of the current system, and how it is represented conceptually. It presents the main interrelation between the Kernel of the system acting as a communication infrastructure between the DMS clients and the DMS server.

Section 3 describes the architectural goals, strategy and constraints that have significant impact on the architecture; for example, safety, security, privacy, uses of an off-the-shelf product, portability, distribution, and reusability. It also captures the special constraints that may apply: design and implementation strategy, development tools, team structure, schedule, legacy code, and so on.

Section 4 lists use cases or scenarios from the use-case document of the final system to illustrate the different possible scenarios in the architecture.

Section 5 describes the logical view, the possible business workflows and their user interface screens associated with them. For each possible business workflow there are possible sub flows and direction that may be done.

Section 6 describes one or more physical network (hardware) configurations on which the software is deployed and run, called the Deployment Model. For each configuration, the physical nodes (computers, CPUs) that execute the software and their interconnections (bus, LAN, point-to-point, and so on.) are indicated. A mapping of the processes of the Process View onto the physical nodes is also represented.

Section 7 describes the overall structure of the implementation model, the decomposition of the software into layers and subsystems in the implementation model, and any architecturally significant components.

Section 8 describes some of the major dimensioning characteristics of the software that impact the architecture, as well as the target performance constraints.

Section 9 describes how the software architecture contributes to all capabilities (other than functionality) of the system: extensibility, reliability, portability, and so on. Characteristics with special significance, such as safety, security or privacy implications, are explained.

2. ARCHITECTURE OVERVIEW

This section gives a general view of the software architecture of the current system, and how it is represented conceptually. It presents the main system components and end users interrelation and how the system setup can be done.

2.1. The DMS System

The central goal of the DMS project is to let Ministry of Justice employees automate the business processes of the functional areas: endorsements, complaints, license issuing and internal administration. This system is intended to be a component module in a larger e-Government project enabling its functionality and end user domain to be extended dramatically. The system intended to be dynamic in all its domains through dynamic forms for data operations and on the screen views, dynamic report for data output, and dynamic workflow and organizational structure for dynamic business logic definition.

Figure 1 identifies the main parts of the *DMS infrastructure* that enables MOJ users to communicate, through a Web Server with a set of services predefined by the system administrator available on the system such as endorsements, complaints, and license issuing.

At the centre of Figure 1, we present the main component of the DMS which is the Web Server which acts as the user interface server and the business logic server. The Web Server interacts with a Database Server which holds the system data. A separate File Server can be used for the purpose of storing file attachments instead of using Database Server.

DMS consists of a set of services and software APIs that let current and future systems integration process as easy as possible. The integration is thought to be done through API calling passing and receiving software messages. The DMS user interface can be thought of as an external system that needs to communicate with the system core APIs through software message calling.

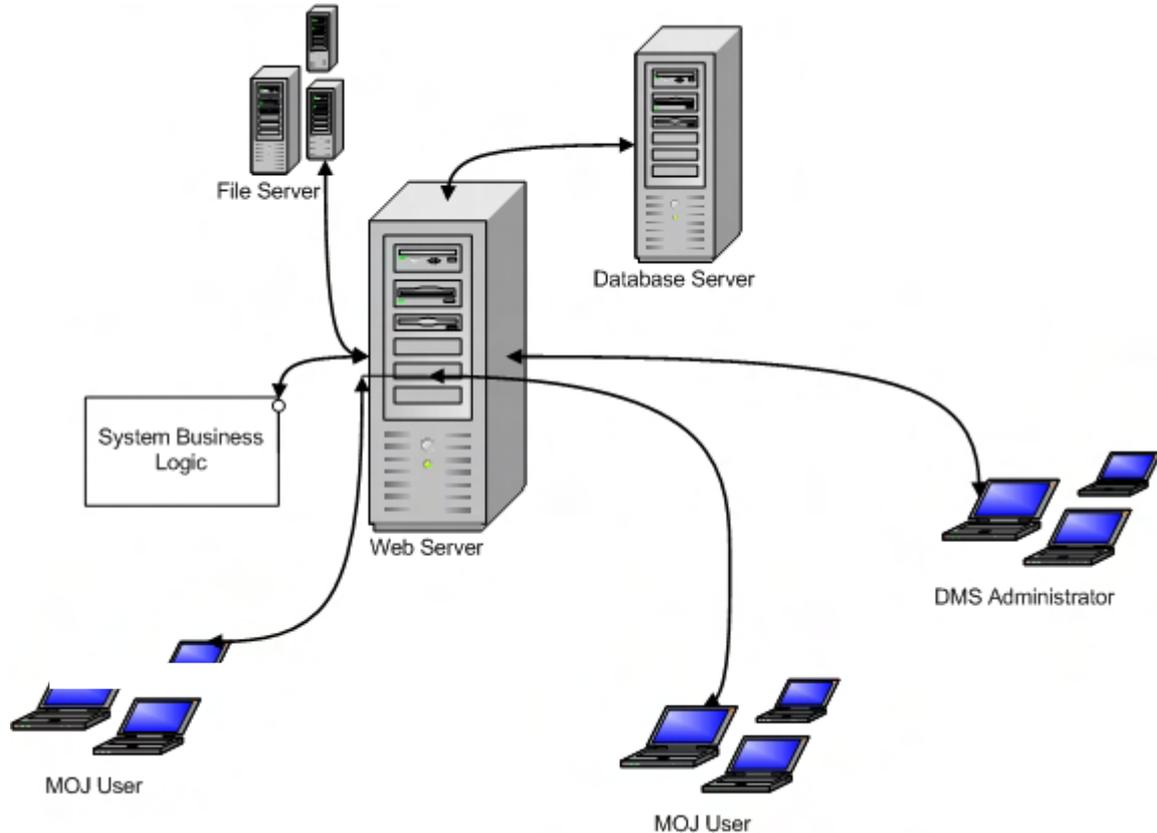


Figure 1: DMS architecture overview

2.2. Architectural Goals and Constraints

This section describes the software requirements, strategy or constraints that have some significant impact on the architecture; for example, safety, security, privacy, use of an off-the-shelf product, portability, distribution, and reuse. It also captures the special constraints that may apply: design and implementation strategy, development tools, team structure, schedule, legacy code, and so on.

2.3. Architectural Goals

DMS is basically a document management system enabling any entity (other system, group or individual) to start a business route, send/read notifications, do actions and attach documents. Business routes are a predefined business flows and actions taken by the system users. Business routes can be defined by the system administrator. A hardware and software solution that allows MOJ users and other systems to connect to a web server, to store and find documents and documents' profiles called work units.

The goals of the architecture presented here is to enable DMS users:

1. To search for archived work unit profiles and documents.
2. To manage and track existing MOJ routes and workflows.
3. To set up new routes and workflows.
4. To manage documents and archive user work.

To achieve this, the DMS software architecture aims:

1. To provide an open infrastructure using Software APIs.
2. To support existing and future national and international specifications and standards.
3. To support and be part of the e-Government project.

The architecture and interfaces must enable newcomer modules to connect to the DMS system and start operating very rapidly. From an operational viewpoint, the DMS is designed to as dynamic as possible, enabling it to be flexible in any situation.

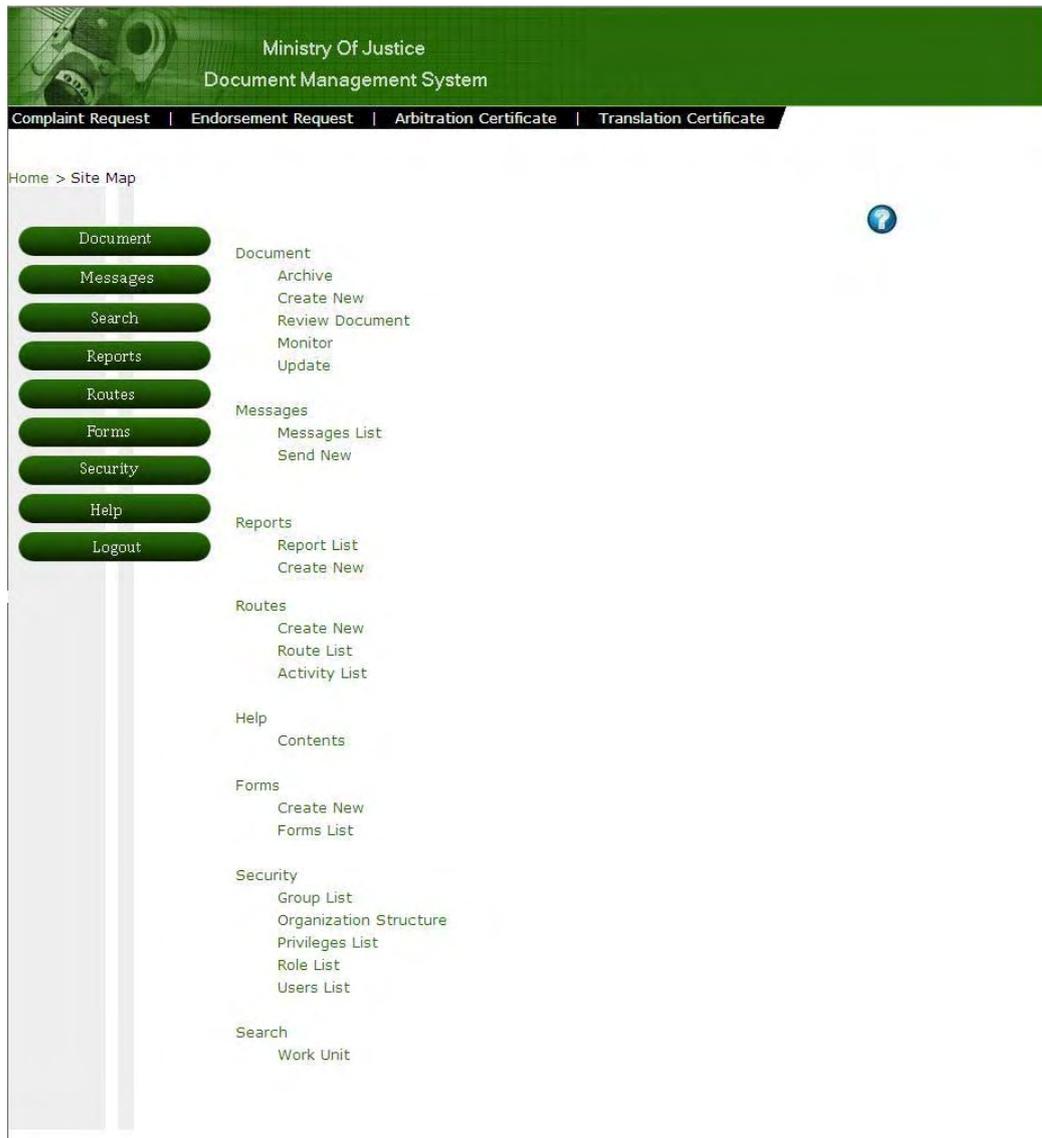
3. USE-CASES

This section lists use cases or scenarios from the use-case model if they represent some significant, central functionality of the final system, or if they have a large architectural coverage - they exercise many architectural elements, or if they stress or illustrate a specific, delicate point of the architecture.

The system menu is dynamic generated at login for each user since privileges are dynamic and can be changed by the system administrator. In addition, system administrator can generates new forms and reports that need to be appear in the user workspace if the user is authorized to "use" them. For these reasons, the menu is dynamically generated according to the user privileges. The menu would appear as a tree at the side page and will appear all the time unless the user has the option to hide and view it whenever he/she wants to. The following is the system desktop menu



The system will provide a navigation menu at the top of the master page enabling the user to return back to the previous pages at any time he/she wants to. The navigation menu always starts from “Home>” then the pages the user has opened. The user can return back to his/her workspace at any time by clicking the “Home” menu link. The following is the system Site Map:



The DMS system is supposed to be web based Arabic - English Interface system. The system will behave such a web system in considering master web page, master theme, master coloring and fonts setting by applying Cascade Style Sheet. The grid header used in the user interface is an action that sorts the grid contents either ascending by the first click then descending by the second click or vice versa.

The system will deliver confirmation message upon any action done by the end user. The confirmation message will be either a success or failure message. The system messages will be of types information, warnings, or errors. Each message type will have a special icon, the end user will see the message icon, the message number and the message text. The messages text will be able to be updated by the system administrator.

The interface labels will be saved in a properties file on the server. Each object label on the screen has an ID and a value for Arabic interface and another value for English interface, the system will read the labels value upon screen call from the client according to the selected language by the user.

The system will be able to validate data entry at the client level when it is possible before send a request to the server to reduce server and network workload as possible. Such validation examples are the data type validation and mandatory fields validations.

Since the system is dynamic, there will be a search form on every data entry form that can be opened in status search. The user can input the search criteria into the form fields and selects the search option in which the result will be displayed as a grid, the user then can choose to open any of the search results. Search forms are available according to user privileges.

3.1. Login Use Case

a. Brief Description

This use case allows system users to login the system.

The actor for this use case are Administrator, Minister, Department Employee, Deputy Assistant, DCU Employee, DCU Manager.

b. Flow of Events

The use case begins when the User types his/her name and password on the login form

Basic Flow – Add Student

1. User selects the “submit” option
2. System validates the user’s username and password, and logs him to the system.
3. System loads the appropriate main form for the user, and use case ends

Alternative Flows

1. *Invalid Name / Password*

If in the basic flow the system cannot find the name or the password is invalid, an error message is displayed. The actor can type in a new name or password or choose to cancel the operation, at which point the use case ends.

c. Special Requirements

There are no special requirements associated with this use case.

d. Preconditions

Any user should be registered to the system.

e. Postconditions

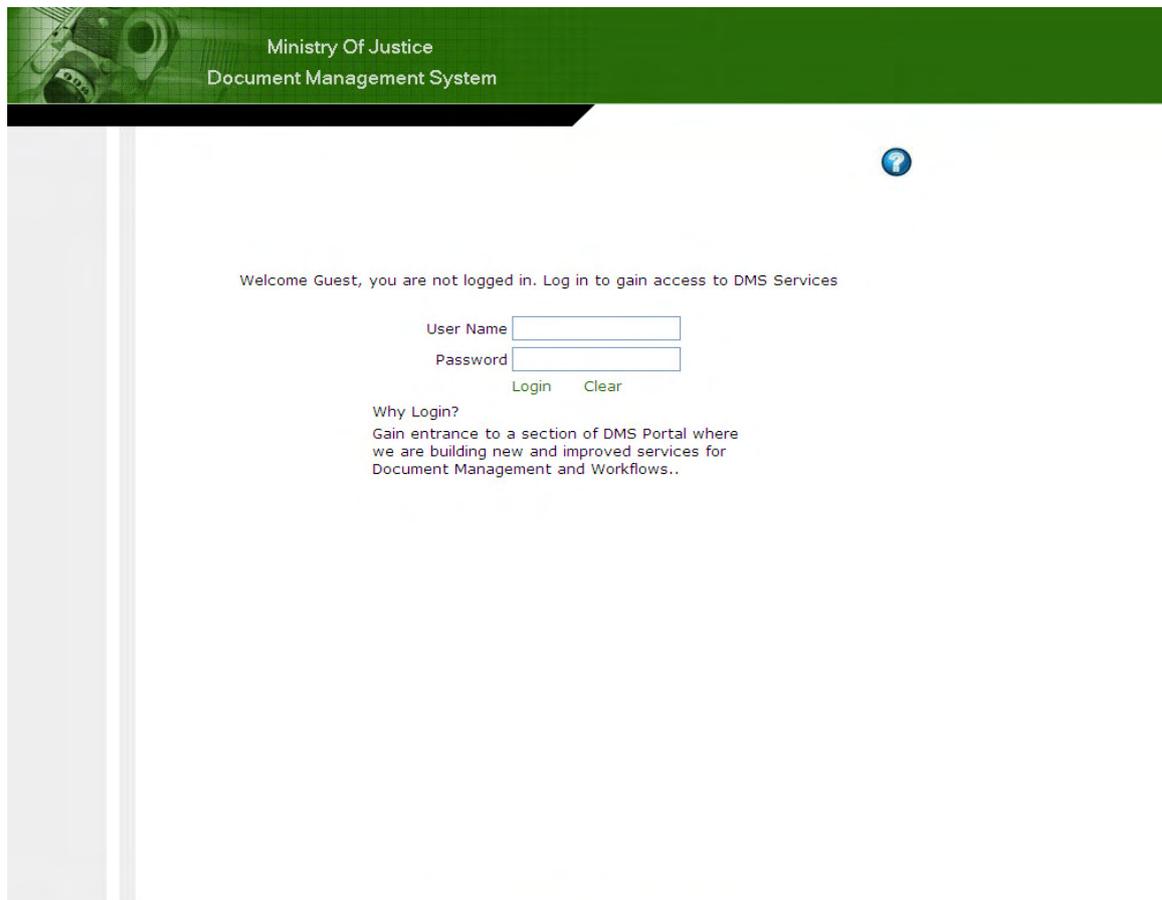
No postconditions so far

f. Extension Points

There are no extension points associated with this use case.

g. User Interface

Login:



Login Error



Ministry Of Justice
Document Management System



 3001: Incorrect Password, Please try again.

Welcome Guest, you are not logged in. Log in to gain access to DMS Services

User Name

Password

[Login](#) [Clear](#)

Why Login?
Gain entrance to a section of DMS Portal where we are building new and improved services for Document Management and Workflows..

User Workspace

Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home

Document
Messages
Search
Reports
Routes
Forms
Security
Help
Logout

Welcome Wanees S. Abu Safa, you are logged in Saturday, December 6 2008

You have (3) new Messages

Use Case Realizations and Database Mapping

Name	Login Screen			
Function	Function Description			
Login	Verifies that the User Name and Password fields are not empty, and checks if the user name and password are found and match on the database table "SystemUsers" and the user has the right to logon. If yes, the user screen appears instead of the login screen displaying the available services for the user. If not, a message displayed for the user explaining why he is not logged on.			
Clear	Clears the any text entered into User name and Password fields.			
English	Shows the English user interface			
عربي	Shows the Arabic user interface			
Database Table	DB Filed	Screen Field	Operation	Validation
LoginTrans	trans id		System generated ID	
LoginTrans	userLogin	User Name	The system registers the "user name" entered into user name text on the screen.	Required, not empty
LoginTrans	TransStatus		The key value of the LoginTransTable, either success or failed.	
LoginTrans	LoginTransTime		TimeStamp from the system date and time.	

systemUsers	userLogin	User Name	Select match ignore case and spaces	Required, not empty
systemUsers	userPassword	Password	Select match	Required, not empty
systemUsers	userNameA		Select, save in session	
systemUsers	userNameE		Select, save in session	

3.2. Archive Records Use Case

a. Brief Description

This use case allows the administrator to archive work units along with their documents and notifications.

Actor of this use case is Administrator

b. Flow of Events

This use case begins when the Actor selects “archive” option from his/her workspace.

Basic Flow – View Documents Status

1. System displays a list of all work unit records created in the system
2. Administrator selects one work unit record
3. System displays the date of the oldest work unit that reached its final state and has not been archived yet
4. Administrator enters time interval (from-date and to-date), and then selects “archive” option.
5. System archives all work units that belongs to that interval.

c. Special Requirements

No special requirements so far.

d. Preconditions

Login.

e. Postconditions

Archived documents’ status is changed into “archived”

f. Extension Points

There are no extension points associated with this use case.

g. User Interface

Archive

Use Case Realizations and Database Mapping

Name	Archive Screen			
Function	Function Description			
Description	This screen views only ready to archive work units, with status Finished. Archive means move the attached documents out of the database into another storage place and mark document, and route instance as archived.			
Archive	Save action and return to document list window			
Search	Apply search criteria			
Clear	Clears search criteria			
Database Table	DB Filed	Screen Field	Operation	Validation
workUnits	wuName	Name	The work unit name	
workUnits	wuType	Type	References workUnitTypes. wuTypeId	
routeInstances	completionDate	From Date/ To Date/ Completion Date	The completion date of the route instance, when its status became Finish	“From Date” less than or equals “To Date”. Date format check

3.3. Assign to a Route Use Case

a. Brief Description

This use case can extend use cases “Create New Work Unit Record” and “Generate a Report” use cases. This use case allows the actor to put the work unit (along with it imported documents) and the generated report in an approval workflow (route).

Actors of this use case are DCU Employee, Minister, Department Employee,

b. Flow of Events

This use case begins when the Actor selects “assign to a route” option from his/her workspace.

Basic Flow – Assign Work Unit to a Route

1. System displays a list of routes
2. Actor selects one route
3. System displays the activities of the route, with a conformation message “assign work unit to this route? Ok , Cancel”
4. Actor selects ok option.
5. System opens a special section, lets call it memo section so that the actor can type in any comments/information he/she finds necessary. This memo will be attached to the work unit and will be available for other users when processes the work unit.
6. Actor selects “done” option
7. System puts the work unit, including any attached document in that route, and updates the work unit status from initial into “pending *username* review”. The *username* is the name of the system user of the next activity in the route.

Alternative Flows

Assign Generated Report to a Route

1. System displays a list of routes
2. Actor selects one route
3. System displays the activities of the route, with a conformation message “assign report to this route? Ok , cancel”
4. Actor selects ok option.
5. System opens a special section, let’s call it memo section so that the actor can type in any comments/information he/she finds necessary. This memo will be attached to the report and will be available for other users when processes the work unit.
6. Actor selects “done” option

7. System puts the report, including any attached document in that route, and updates the work unit status from initial into “pending *username* review”. The *username* is the name of the system user of the next activity in the route.

c. Special Requirements

There are no special requirements.

d. Preconditions

Login.

e. Postconditions

Status of work unit / report is changed from initial into “pending *username* review”

f. Extension Points

- Attach Document Use Case in step 4 in basic flow
- Assign to a Route Use Case in step 7 in basic flow

g. User Interface

Assign to Route

Use Case Realizations and Database Mapping

Name	Assign to Route Screen			
Function	Function Description			
Search	Search routes according to search in the text field Route			
Assign	Assign the route from the grid into work unit.			
Back to Work Unit	Close the screen without any database modifications			
Select Route	If the user selects a route from the list, the values Start Immediately, Start On Date and Route Priority are populated from routes database table. If the user change the default values the changed data applied into routeInstances table.			
Database Table	DB Filed	Screen Field	Operation	Validation
routeInstances	rInstanceId		System Generated ID	
routeInstances	routeId		References routes.routeId	
routes	routeName	Route Name	The route name	More than 5 chars
Routes	routeDesc	Description	The route description	Not empty
Routes	startUpon	Start Immediately/ Start on Date	When the route instance should start	Valid date
Routes	startDate	Start on Date		
Routes	priority	priority	The route priority	

3.4. Create New Work Unit Use Case

a. Brief Description

This use case allows the Actor to create new work unit. A work unit can be complaint request, endorsement request, arbitration certificate request, translation certificate request, job delegate, translation committee or any work unit record that the Administrator has created previously in the “maintain forms use case”.

The Actor of this use case is DCU Employee, Minister, or Department Employee.

b. Flow of Events

This use case begins when the Actor selects “create new work unit” option from his/her workspace.

Basic Flow – Create New Work Unit

1. System displays a list of all work units that this actor can create.
2. Actor selects one option from the list
3. System displays that work unit’s empty form
4. Actor fills in information. Actor may include attached documents. **Extension Point: Attach Document Use Case**
5. Actor selects add option.
6. System validates data to ensure proper data format, and saves the data in the repository.
7. Actor may choose to assign work unit to a predefined route. **Extension Point: Assign to a Route**

c. Special Requirements

There are no special requirements.

d. Preconditions

Login.

Administrator has created work unit forms and gave the actor a privilege to access that form..

e. Postconditions

Document status is set to “initial”.

f. Extension Points

- Attach Document Use Case in step 4 in basic flow
- Assign to a Route Use Case in step 7 in basic flow

g. User Interface

Create Work Unit

Home > Create Work Unit

- Document
Create New
- Messages
- Search
- Reports
- Routes
- Forms
- Security
- Help
- Logout



Name #

Author

Description

Header	User	Date
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

Path Browse

Add Scan

Document	Mime	Secure
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Security View Print Remove
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Security View Print Remove
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Security View Print Remove
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Security View Print Remove
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Security View Print Remove
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Security View Print Remove

Assign to Route Status

Retention Type Retention Days

Enable Content Searching

Created Edited

Add

Clear

Use Case Realizations and Database Mapping

Name	Create Work Unit Screen			
Function	Function Description			
Clear	Clears the any text entered into the screen fields.			
Add	Creates the work unit and save it into the database			
Notifications	Opens the work unit notes, allowing user to read, reply, forward, or creat a new note attached with this work unit.			
Browse	Opens file open dialog allowing the user to select a file			
Add	Varefies that the text in the path refers to a valid file and if yes add its path into the grid			
Scan	Opens the scan window			
Edit Security	Edit document security policy in case of secure document was checked. If secure document check is not checked Edit button will not be available. If the secure document check was checked without assigning any security at all, then just the work unit creator only can manage the work unit documents.			
View	Open the document in a new window			
Remove	Removes the document.			
Assign to Route	Choose a predefine route to start this document in. Just in case of document routing.			
English	Shows the English user interface			
عربي	Shows the Arabic user interface			
Database Table	DB Filed	Screen Field	Operation	Validation
workUnits	wuNo		System generated ID	
workUnits	wuName	Name	The system registers the “work unit name” entered into Name text on the screen.	Not less than5 chars
workUnits	wuAuthor	Author	The system registers the work unit creator, the logged in user.	
workUnits	wuDesc	Descripti on	The system registers the “work unit description” entered into Description text on the screen.	Not empty
workUnits	wuRetention Type	Type	References the selected Retention Type from the screen. Retention Type is	

			matched with retentionTypes database table.	
workUnits	rtNoOfDays	Retention Days	In case of Retention Type archive or delete specify the number of days to auto archive or auto delete the attached documents.	Valid number
workUnits	wuCreationDate		Creation date, from the system.	
workUnits	wuLastEditDate		Date of last action taken on the work unit.	
workUnits	wuEnableCS	Enable Content Searching	If checked, when searching a work unit also search the attached document contents in case of attached documents are text readable.	
workUnits	formId		References the forms table, in order for the system to determine in which form this work unit will be opened.	
retentionTypes	rtId		Matches workUnits. wuRetentionType	
retentionTypes	rtDescA/ rtDescE	Type	Fill the type screen component	
docSecurity	docId		References wuDocs. docId	
docSecurity	userId		Selected user	
docSecurity	canView		If selected the user can view this document	
docSecurity	canUpdate		If selected the user can update this document	
docSecurity	canRemove		If selected the user can remove this document	
docSecurity	canGrant		If selected the user can change this document security	
wuDocs	docId		System Generated ID	
wuDocs	wuNo		References workUnits. wuNo	
wuDocs	docPath	Document	The document path	

wuDocs	docMime	Mime Type	Helps the browser determines the document mime.
wuDocs	docAttachDate		Date of attachment, system date
wuDocs	lastEditDate		Date of last editing done on the document. System date
wuDocs	lastEditedBy		Last user edited the document
wuDocs	secureDoc	Secure	Set document security
wuDocs	Doc		Attached document

3.5. Import Document Use Case

a. Brief Description

This use case can extend “Create New Work Unit Record” and “Generate a Report” use cases. This use case allows actors to attach documents to an existing work unit record or generated report. The document may be scanned, or it may be simply a file in MS Word or PDF format.

b. Flow of Events

This use case begins when the Actor selects “attach document” option from his/her workspace.

Basic Flow – Attach Document

1. System displays a browse dialog
2. Actor navigates to the folder containing that document, then chooses the document itself, and then selects “attach”.
3. System attached that document to work unit record or report currently in progress
4. Actor can attach several documents to the same work unit record or generated report.

c. Special Requirements

System shall be able to attach documents regardless their size.

d. Preconditions

Login.

e. Postconditions

No post conditions so far.

f. Extension Points

No extension points.

g. User Interface

Document Attachment (Scan)

Document Type:
Document Name:
 Color Grayscale Black & White

Document Preview

Use Case Realizations and Database Mapping

Name	Import Documents Screen		
Function	Function Description		
Preview	Load the document from the scanner device into screen allowing user to select scan area and other options		
Attach	Accept entries and attach the document into work unit.		
Database Table	DB Filed	Screen Field	Operation
		Document Name	The document name, used as the document path in work unit screen.
		Document Type	The document type, picture, pdf, text etc... Scanner property

3.6. Maintain Privileges Use Case

a. Brief Description

This use case can extend the use case “Maintain System Roles”.

This use case allows the Administrator to add, delete and modify system privileges. Please note that the “details” information is about data forms and system functions (such as which forms to use, whether or not to view documents status, which views to see and use, etc) and their access rights viewed as a table, this can be negotiable, and the designer can suggest more insight.

What I intend to show in the two use cases (Maintain Security Roles and Maintain Privileges) is that the security permissions are dynamic, and we can change, create, modify them as we need.

The actor for this use case is the Administrator.

b. Flow of Events

The use case begins when the administrator selects “maintain privileges” option.

Basic Flow – Add Privilege

1. System displays a list of levels of system privileges with all associated privileges at for each level
2. Administrator selects “new privilege” option
3. System displays an empty privilege form
4. Administrator types in the new privilege information: privilege name, and description. Then selects “add” option
5. System validates data entry, generates a new ID for this privilege.
6. System displays a list of all privilege’s details
7. Administrator selects one or more details to associates them with this privilege, then selects “ok”
8. System associates the new details with this privilege closes the details form, and refreshes the detail form.
9. When the administrator is done with this privilege, he selects “add” option
10. System adds the new privilege, closes the privilege form and refreshes the privileges list.
11. steps 2-5 are repeated if the administrator wants to add several privileges

Alternative Flows

Modify a Privilege

1. The Administrator selects "modify Privilege" option
2. The system displays a blank privilege form.
3. The Administrator types in the privilege name he wishes to modify.
4. The system retrieves the privilege information and displays it on the screen.

5. The administrator modifies one or more of the privilege information: name, description. Then selects “details” option
6. System displays a list of all details associated with this privilege
7. Administrator selects/deselect one or more details then selects “ok”
8. System associates the new details, and closes the details form, and refreshes the details list
9. When the administrator is done modifying this privilege, he selects “ok” option
10. System modifies the new privilege, closes the privilege form and refreshes the privileges list.
11. Steps 1-10 are repeated for each privilege the Administrator wants to modify. When edits are complete, the use case ends.

Delete a Privilege

1. The Administrator selects "delete privilege" option
2. The system displays a blank privilege form.
3. The Administrator types in the privilege name for the privilege that's being deleted.
4. The system retrieves the privilege and displays the privilege information in the form.
5. The Administrator selects "delete."
6. The system displays a delete verification dialog confirming the deletion.
7. The Administrator selects "yes."
8. The privilege is deleted from the system.
9. Steps 2-8 are repeated for each privilege deleted from the system. When the Administrator is finished deleting privileges from the system the use case ends.

Privilege Already Exists

If in the "Add a privilege" sub-flow the system finds an existing privilege with the same name an error message is displayed "Privilege Already Exists". The Administrator can either change the name, or cancel the operation at which point the use case ends.

Privilege Not Found

If in the "Modify a Privilege" or "Delete a Privilege" sub-flows the privilege name is not located, the system displays an error message, "Privilege is Not Found". The Administrator can then type in a different privilege name or cancel the operation at which point the use case ends.

c. Special Requirements

No special requirements

d. Preconditions

Login.

e. Postconditions

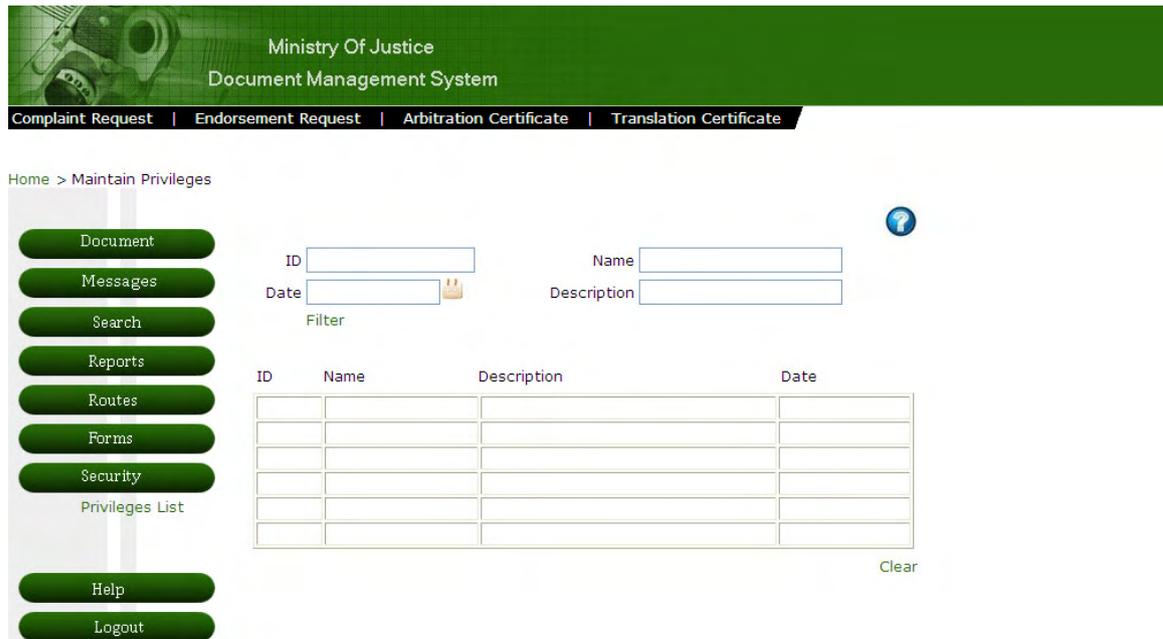
Administrator must logout or system will automatically logout upon exit

f. Extension Points

No extension points

g. User Interface

Maintain Privileges



3.7. Maintain Reports and Views Use Case

a. Brief Description

This use case allows the Administrator to create reports (views) about some data that can be interesting to some party or system user in a department. The Administrator creates the view and then assigns which users can see and view it.

An example of this need is the Endorsement department which need to be aware of registered formal translators. This data is already available by translation department, but the administrator opens a view to it and assigns endorsement employees a privilege to view it.

The actors for this use case are Administrator.

b. Flow of Events

This use case begins when the Administrator selects “create view” option from his workspace.

Basic Flow – Create New Work Unit Form

1. System displays query view.
2. Administrator selects one or more tables form the repository, then select ok.
3. System adds tables to the view.
4. Administrator selects required fields from the selected tables. And can change their order/caption
5. Administrator can then select the layout of the report, types in report name, header and description. Then selects “create” option
6. System generates and creates the report and displays it to administrator.
7. Administrator can then select which users are allowed to see this view by selecting them from a list.
8. System assigns those users to this view.

Alternative Flows

Update View

1. Administrator selects “update view” option
2. System displays a list of all views
3. Administrator selects one view
4. System opens that view in design view
5. Administrator can add/remove fields and tables, and can also change report format, name, description, and/or header. Then selects “ok” option.
 9. System generates and creates the report and displays it to administrator.
 10. Administrator can then change which users are allowed to see this view by selecting them from a list.
6. System assigns those users to this view.

Delete View

1. Administrator selects “delete view” option
2. System displays a list of all views
3. Administrator selects one view
4. System opens that view in design view
5. Administrator selects “delete” option
6. System displays a confirmation message “view will be deleted, are you sure? Yes/No”
7. Administrator selects “yes”
8. System deletes view form the system

c. Special Requirements

No special requirements so far.

d. Preconditions

Any user should be registered to the system.

e. Postconditions

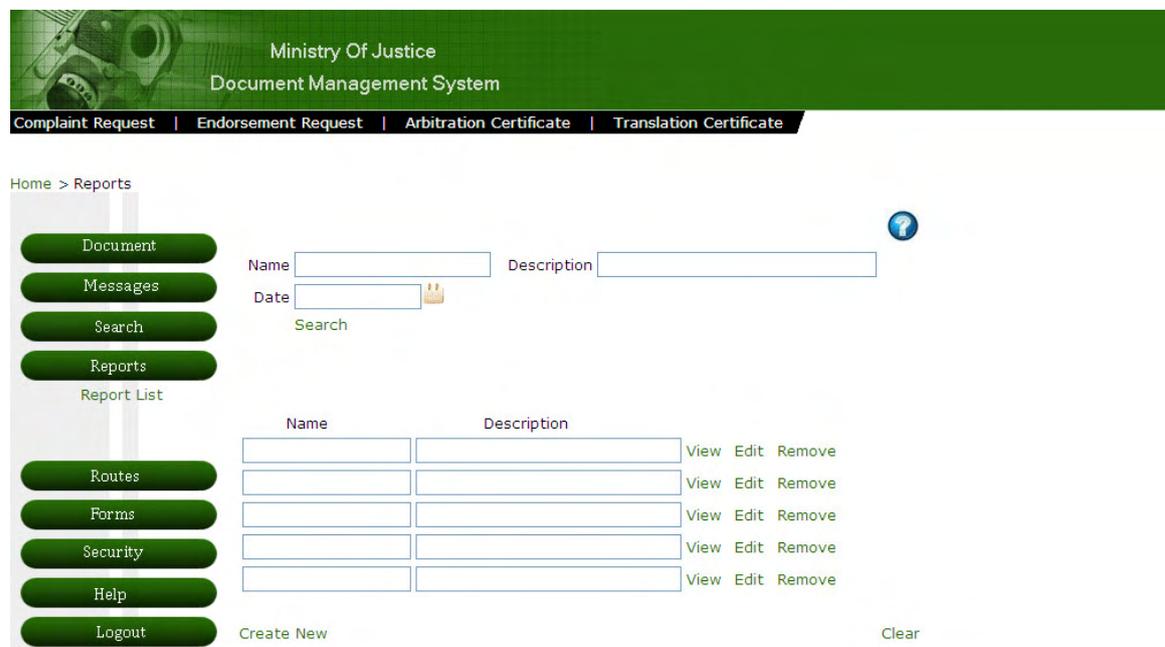
After creating, deleting or updating a view, the system will reflect it in the work space for the assigned system users of that view as defined by the administrator..

f. Extension Points

There are no extension points associated with this use case.

g. User Interface

Maintain Reports and Views



Use Case Realizations and Database Mapping

Name	Maintain Reports and Views Screen			
Function	Function Description			
Search	Apply search criteria			
View	Run report			
Edit	Allow user to edit report properties			
Remove	Delete the report			
Crteate New	Opens the create new report screen wizard			
Clear	Clear any text entered into screen			
Database Table	DB Filed	Screen Field	Operation	
Reports	rName	Name	The report	Not less than 5 chars

			name	
Reports	rDesc	Description	The report description	Not empty
Reports	creationDate	Date	Report creation date, system date	

Create Report - Information Screen

User Interface



Use Case Realizations and Database Mapping

Name	Create Report - Information Screen		
Function	Function Description		
Next	Open the create report next screen wizard		
Database Table	DB Filed	Screen Field	Operation

Create Report – Select Tables Screen

User Interface



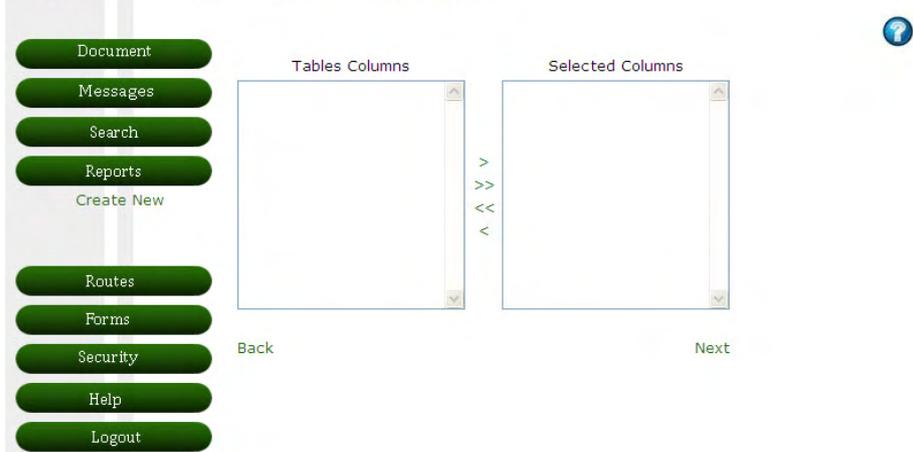
Use Case Realizations and Database Mapping

Name	Create Report – Select Tables Screen		
Function	Function Description		
Next	Open the create report next screen wizard		
Back	Close the screen, return to back screen		
>	Select the selected table		
>>	Select all tables		
<<	Deselect all tables		
<	Deselect selected table		
Database Table	DB Filed	Screen Field	Operation
Tab	Tname	Available Tables	Query database data dectionary about available tables and views this user can select from.

Create Report – Select Columns Screen

User Interface

Home > Create Report > Report Information > Tables > Columns



Use Case Realizations and Database Mapping

Name	Create Report – Select Columns Screen		
Function	Function Description		
Next	Open the create report next screen wizard		
Back	Close the screen, return to previous screen		
>	Select the selected column		
>>	Select all columns		
<<	Deselect all columns		
<	Deselect selected column		
Database Table	DB Filed	Screen Field	Operation
Table_columns	Col_name	Available Columns	Query database data dectionary about columns of the selected tables and views in the previous wizard step.

Create Report – Define Parameters Screen

User Interface

Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home > Create Report > Report Information > Tables > Columns > Parameters

Document
Messages
Search
Reports
Create New
Routes
Forms
Security
Help
Logout

Parameter Name
Default Value
Parameter Type Add

Parameters

Remove

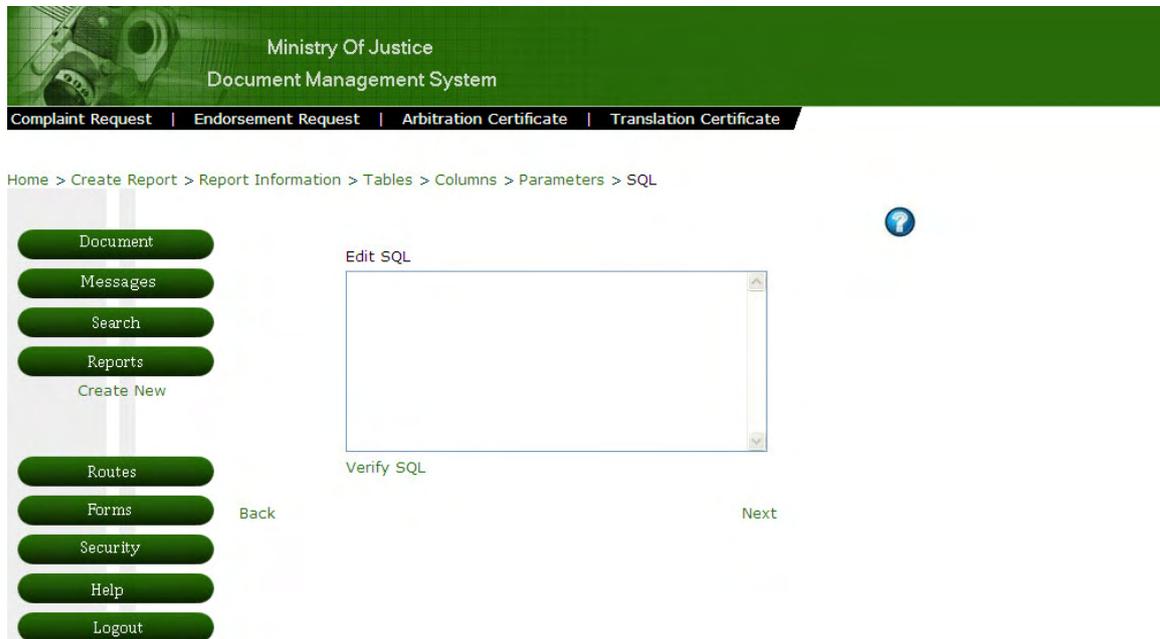
Back Next

Use Case Realizations and Database Mapping

Name	Create Report – Define Parameters Screen		
Function	Function Description		
Next	Open the create report next screen wizard		
Back	Close the screen, return to previous screen		
Add	Verify that a valid name is entered into “Parameter Name” text and adds the parameter into “Parameters” list on the screen		
Remove	Removes the selected parameter(s) from the list		
Database Table	DB Filed	Screen Field	Operation
reportParameterTypes	paramType	Parameter Type	Lookup for parameter data types to fill the screen combo box
reportParameterTypes	paramTypeId		References reportParams. paramDataType

Create Report – Final Edit Screen

User Interface



Use Case Realizations and Database Mapping

Name	Create Report – Final Edit Screen		
Function	Function Description		
Next	Open the create report next screen wizard		
Back	Close the screen, return to previous screen		
Verify SQL	Query the database and return Ok in case of success, or return database error in case of failure.		
Database Table	DB Filed	Screen Field	Operation

Create Report – Columns Display Width Screen

User Interface

Home > Create Report > Report Information > Tables > Columns > Parameters > SQL > Format

- Document
- Messages
- Search
- Reports
- Create New
- Routes
- Forms
- Security
- Help
- Logout

Selected Column	Display Name	Display Width
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

Tabular Form

Back
Preview Next

Use Case Realizations and Database Mapping

Name	Create Report – Columns Display Width Screen		
Function	Function Description		
Next	Open the create report next screen wizard		
Back	Close the screen, return to previous screen		
Preview	Open the report in a new window		
Database Table	DB Filed	Screen Field	Operation

Create Report – Select Users Screen

User Interface



Use Case Realizations and Database Mapping

Name	Create Report – Select Users Screen			
Function	Function Description			
Finish	Save all data into database tables and close screen.			
Back	Close the screen, return to previous screen			
>	Select the selected user			
>>	Select all users			
<<	Deselect all users			
<	Deselect selected user			
Database Table	DB Filed	Screen Field	Operation	
Reports	rName	Name	The report name, wizard step1	Not less than 5 chars
Reports	rDesc	Description	The report description, wizard step1	Not empty
Reports	rHeader	Header	The report header, wizard step1	Accept HTML Formatting
Reports	rFooter	Footer	The report footer, wizard step1	Accept HTML Formatting
Reports	rSQL	Edit SQL	The report SQL, wizard step5	Valid database SQL Select statement

Reports	rFormat	Tabular/ Form	The report Format, wizard step6	
Reports	creationDate		The report creation Date, system date	
reportParams	paramName	Parameter Name	Report parameter name, wizard step4. Multi row	Not less than 5 chars
reportParams	paramDataTy pe	Parameter Type	Report parameter data type, references reportParamete rTypes. paramTypeId, wizard step4. Multi row	
reportParams	paramDefault Value	Default Value	Report parameter default value, wizard step4. Multi row	Default value must of type of the parameter type
reportColumns	colId		System generated id, wizard step6.	
reportColumns	colName	Selected Columns	Name from SQL, wizard step6. Multi row	
reportColumns	colDisplayNa me	Display Name	The column header to be viewed in the report, wizard step6. Multi row	
reportColumns	colWidth	Display Width	The column width to be viewed in the report, wizard step6. Multi row	Valid number
reportUsers	userName	Selected Users	The list of users who allowed to view the report.	

3.8. Maintain Route Use Case

a. Brief Description

This use case allows the DCU Manager to create, change, and delete documents' routes. Routes are the approval processes that the e-documents travel in (i.e. workflows). Routes can be simple as requires approval or complex and based on conditional branching.

The actor for this use case is DCU Manager.

b. Flow of Events

This use case begins when the DCU Manager selects "maintain routes" option from his/her workspace.

Basic Flow – Create New Route

1. Actor selects "new route" option
2. System opens new route design view
3. Actor enters route information: route name, and then starts to add route's activities. Since every activity is associated with system user, the actor can select from user list. The actor can then select the action that the system user is supposed to perform such as approve, reject, or review. The actor can also specify conditional branching and can specify time constrains for each activity, and what the system should do when the time constraint is violated.. Actor can add several activities then selects "save"
4. System adds new routes and displays a confirmation message that route is created successfully.

Alternative Flows

Change Existing Route

1. Actor selects "change route" option
2. System displays a list of all routes
3. Actor selects one route
4. System displays route activities in design view
5. Actor can add, delete or change the order of activities as he/she requires. Then selects "save" option
6. System updates route and displays a conformation message.

Delete Existing Route

1. Actor selects "delete route" option
2. System displays a list of all routes
3. Actor selects one route
4. System displays route in design view.

5. Actor selects “delete”
6. System displays a confirmation message. If there are documents currently assigned to this route the system should notify the actor as well
7. Actor selects “confirm”
8. System deletes that route and if there are documents assigned to that route the system should change their status into “route deleted” status

c. Special Requirements

No special requirements so far.

d. Preconditions

Login.

e. Postconditions

No post conditions.

f. Extension Points

There are no extension points associated with this use case.

g. User Interface

Maintain Routes

Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home > Maintain Route

Document
Messages
Search
Reports
Routes
Route List
Forms
Security
Help
Logout

Name Description
Date
Search

Name	Description	Date	
<input type="text"/>	<input type="text"/>	<input type="text"/>	Details Activities Remove
<input type="text"/>	<input type="text"/>	<input type="text"/>	Details Activities Remove
<input type="text"/>	<input type="text"/>	<input type="text"/>	Details Activities Remove
<input type="text"/>	<input type="text"/>	<input type="text"/>	Details Activities Remove
<input type="text"/>	<input type="text"/>	<input type="text"/>	Details Activities Remove

New Clear

Use Case Realizations and Database Mapping

Name	Maintain Routes Screen		
Function	Function Description		
New	Creat Route Wizard		
Clear	Clear text fields and star a new search		
Search	Filter/search routes.		
Activities	Open Route Activites Screen		
Remove	Mark as deleted		
Details	Opens route form loaded with route information		
New Functionality in addition to Actions, and Delete.	In order to enhance route management, suspend route, and create like are useful functionality to update current routes. Since it is not recommended tou update routes that have instances. So, the administrator, can suspend a route, choose create like, edit the new route.		
Database Table	DB Filed	Screen	Operation

		Field	
Routes	routeName	Name	The Route Name
Routes	routeDesc	Description	Description about the route
Routes	creationDate		The report creation Date, system date

Route Activities:

User Interface

Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home > Maintain Route > Route Activities

Document
Messages
Search
Reports
Routes
Activity List
Forms
Security
Help
Logout

Name Description

Date

Search

Activity	Action	
<input type="text"/>	<input type="text"/>	Details Remove
<input type="text"/>	<input type="text"/>	Details Remove
<input type="text"/>	<input type="text"/>	Details Remove
<input type="text"/>	<input type="text"/>	Details Remove
<input type="text"/>	<input type="text"/>	Details Remove

New Clear

Use Case Realizations and Database Mapping

Name	Route Activities Screen		
Function	Function Description		
Search	Apply search criteria		
New	Creat new Activity, open create activity screen		
Clear	Clear search text fields and remove any applied filters. View all		
Details	Open selected Route Activity Screen for edit		
Remove	Delete selected activity if no other activity is pointing to.		
Database Table	DB Filed	Screen Field	Operation
Routes	routeName	Name	The Route Name
Routes	routeDesc	Description	Description about the route
Routes	creationDate		The report creation Date, system date
routeActivities	aName	Activity	The activity name

activityActions	actionName	Actions	Comma separated values. Just for view list of actions to the activity.
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Create Route – Information:

User Interface

Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home > Create Route > Route Information

Document
Messages
Search
Reports
Routes
Create New
Forms
Security
Help
Logout

Name

Description

Monitor Edit

Start Upon Start Date

Priority Mail Notification

Relative Deadline Absolute Deadline

Clear Next

Use Case Realizations and Database Mapping

Name	Create Route – Information			
Function	Function Description			
Next	Open the create route next screen wizard			
Clear	Clear screen text and selection			
Edit	Opens a new screen to select Route Monitors. Monitors are not necessarily performers but users who have the authority to track the route and view its status.			
Database Table	DB Filed	Screen Field	Operation	Validation
Routes	routeId		System generated Id	
Routes	routeName	Name	The Route Name	Not less than 5 chars
Routes	routeDesc	Descripti on	Description about the route	Not empty
Routes	startUpon	Start Upon	Either immediately, or specific date. If specific date is used, a valid date time value must be	

			entered in the Date/Time field.	
Routes	startDate	Date/Time	Either entered by user when select specific date option or the current date/time from the system if immediately was chosen.	Valid date and time. Date must not be expired when creation.
Routes	relativeDeadline	Relative/Absolute	This define how the deadlines on action would be treated. Relative means periods between action, absolute means specific date	
Routes	priority	priority	The route priority, Either high, normal, or low.	
Routes	mailNotification	Mail Notification	Send an email to the performer when he/she has a task to perform. This assumes an email server is functioning and defined on the system. Either mail notification was set or not an internal notification will be sent automatically by the system.	
Routes	creationDate		The report creation Date, system date	
routeMonitors	routeId		References route.routeId	
routeMonitors	userId	Monitor	The selected users to monitor this route. At least the route starter is a monitor to the route.	
routeMonitors	assigningDate		The system date. Usually the same as creation date unless editing has been done.	

Create Route – Activity:

User Interface

Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home > Create Route > Activity Information

Document
Messages
Search
Reports
Routes
Create New
Forms
Security
Help
Logout

Name

Description

Performer Performers

Action Activity Add

Actions Remove

Deadline Reminder Before

Action Upon Deadline

Add New Activity Finish

Use Case Realizations and Database Mapping

Name	Create Route – Activity			
Function	Function Description			
	When managing “actions” and “activities” a special check must be taken into consideration at the development time to prevent infinite loop routes.			
Performers	Opens the performers window to select activity performers and their relations.			
Add	Add new action to this activity			
Remove	Removes action from action list			
Finish	Save data into database			
Add New Activity	Opens this screen without data allowing user to enter a new activity information			
Database Table	DB Filed	Screen Field	Operation	Validation
routeActivities	routeId		References routes.routeId	
routeActivities	activityId		System generatedId	
routeActivities	aName	Name	The activity Name	Not less than 5 chars
routeActivities	aDesc	Description	The activity Description	Not empty

routeActivities	aDeadLine	Deadline	The activity deadline date.	Valid date
routeActivities	reminderAt	Reminder Before	The reminder Date. Reminder means send email notification. And before means before the deadline expires. If this field is null no reminder will be sent. This assumes a mail server is function and defined on the system.	
routeActivities	deadLineAction	Action Upon Deadline	Refernces activityActions.actionId. this is the action that would be performed if the deadline expires.	
activityActions	routeId		Refernces routes.routeid	
activityActions	activityId		Refernces routeActivites.activityId	
activityActions	actionId		System generated ID	
activityActions	actionName	Action	The action name	
activityActions	actionActivity	Activity	Refernces the routeActivites table. This assumes the next activity is already defined which is not always true. Either create a new interface to link actions with activities or easy use. Or the user can return and edit this page to assign action activity. The system assumes that always there is a "Finish" activity that do not have activities after it has been reached. The "Finish" activity always available. There must be one and only one "Start" activity for each route to be valid.	

Create Route – Performers:

User Interface



Use Case Realizations and Database Mapping

Name	Create Route – Performers		
Function	Function Description		
Done	Close screen, save data in session for future database save		
>	Add the selected user from Available users into Performers		
<	Removes the selected Performer		
Database Table	DB Filed	Screen Field	Operation
activityPerformers	routeId		References routes.routeId
activityPerformers	activityId		System generatedId
activityPerformers	userName	And Performers/ Or Performers	The performers name. Multi line
activityPerformers	aOperator	And	The list in And Performers saved with “And”

		Performers/ Or Performers	operator. The list in Or Performers saved with "Or" operator
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3.9. Maintain Security Roles Use Case

a. Brief Description

This use case allows the Administrator to add, delete and modify system roles information and their privileges.

The actor for this use case is the Administrator.

b. Flow of Events

The use case begins when the administrator selects "maintain security" option.

Basic Flow – Add Role

1. System displays a list of all system roles
2. Administrator selects "new role" option
3. System displays an empty role form
4. Administrator types in the new role information: role name, and description. Then selects "add" option
5. System validates data entry, generates a new ID for this role, adds the new role.
6. System displays a list of privilege levels say three, each with its associated detail
7. Administrator selects one or more privileges to associates them with this role, then selects "ok"
8. System associates the new privileges with this role closes the privileges form, and refreshes the privileges list.
9. When the administrator is done with this role, he selects "add" option
10. System adds the new role, closes the role form and refreshes the roles list.
11. steps 2-5 are repeated if the administrator wants to add several roles

Alternative Flows

Modify a Role

1. The Administrator selects "modify Role" option
2. The system displays a blank role form.
3. The Administrator types in the role name he wishes to modify.
4. The system retrieves the role information and displays it on the screen.
5. The administrator modifies one or more of the role information: name, description. Then selects "privileges" option
6. System displays a list of all privileges associated with this role

7. Administrator selects/deselect one or more privileges then selects "ok"
8. System associates the new privileges, and closes the privileges form
9. When the administrator is done modifying this role, he selects "ok" option
10. System adds the new role, closes the role form and refreshes the roles list.
11. Steps 1-10 are repeated for each role the Administrator wants to modify.
When edits are complete, the use case ends.

Delete a Role

1. The Administrator selects "delete role" option
2. The system displays a blank role form.
3. The Administrator types in the role name for the role that's being deleted.
4. The system retrieves the role and displays the role information in the form.
5. The Administrator selects "delete."
6. The system displays a delete verification dialog confirming the deletion.
7. The Administrator selects "yes."
8. The role is deleted from the system.
9. Steps 2-8 are repeated for each role deleted from the system. When the Administrator is finished deleting roles from the system the use case ends.

Role Already Exists

If in the "Add a role" sub-flow the system finds an existing role with the same name an error message is displayed "Role Already Exists". The Administrator can either change the name, or cancel the operation at which point the use case ends.

Role Not Found

If in the "Modify a Role" or "Delete a Role" sub-flows the role name is not located, the system displays an error message, "Role is Not Found". The Administrator can then type in a different role name or cancel the operation at which point the use case ends.

c. Special Requirements

No special requirements

d. Preconditions

Login.

e. Postconditions

System should log all activities done to the system in the log files.

Administrator must logout or system will automatically logout upon exit

f. Extension Points

This use case can be extended at any point by the “Maintain Privileges Use Case”

g. User Interface

Maintain Security Roles

Use Case Realizations and Database Mapping

Name	Maintain Security Roles Screen		
Function	Function Description		
Description	This screen allow administrator to create, or modify system security roles information and/or privileges. System security roles can be thought as of linux or windows security groups.		
Modify	Opens the role screen in edit mode.		
Details	Shows the role available privileges		
Delete	Delete role if it is not assigned to a user.		
New	Opens the role screen in new status, empty text fields with ability to save data.		
Filter	Filter/search roles according to search criteria defined by user.		
Database Table	DB Filed	Screen Field	Operation
systemRoles	roleId	ID	Role ID
systemRoles	roleNameA	Name	Role name
systemRoles	roleDescA	Description	Role description
systemRoles	creationDate	Date	Role creation date

Modify Role:

User Interface

Use Case Realizations and Database Mapping

Name	Modify Role Screen			
Function	Function Description			
Description	This screen allow administrator to create, or modify security role inofrmation and/or privileges.			
Save	Save the changes into database.			
Database Table	DB Filed	Screen Field	Operation	Validation
systemRoles	roleId	ID	Role ID	
systemRoles	roleNameA	Name	Role name	Not less than 5 chars
systemRoles	roleDescA	Descripti on	Role Description	Not empty
rolePriviliges	roleId	Role Privilege s		
rolePriviliges	privId	Role Privilege s		
screenPriviliges	privId	Available privilege s		

3.10. Maintain Form Use Case

a. Brief Description

This use case allows the Administrator to create the work unit records (data entry forms). We mean by work unit any of the functional processes of the MOJ such as complaints form, translation certificate request form, arbitration certificate request form, endorsement form, translation committee form, work delegate form or any other work unit record.

The work unit form can be master or master-detail (i.e. in the master detail form, the form itself can contain records from other previously defined forms). Forms also may contain data from previously defined system setup tables such as the status that a translation certificate request goes through etc. The user can choose to select an existing database column, create a new column to an existing table, or create a new table and column when drag a database column from the component list. The master table for forms is the work unit table. Created user tables can be named with remarkable prefix to distinguish from system tables. The Work Unit Form is the simplest template that will be available with the system in order for the system administrator to start creating other forms.

The actors for this use case are Administrator.

b. Flow of Events

This use case begins when the Administrator selects “maintain forms” option from his workspace.

Basic Flow – Create New Work Unit Form

1. Administrator select “new form” option.
2. System displays an empty form design space with a list of all common data types and action bottoms.
3. Administrator starts to drag and drop objects in the space, configuring them as he requires. Then selects “add” option
4. System displays a properties form.
5. Administrator types in form name, category, and assigns one or more “roles” to this form
6. System creates the form and its database relations. And displays the form in a preview.

Alternative Flows

Create New Master Detail Form

1. Administrator selects “new master-detail form” option
2. System displays an empty form design space with a list of all common data types and action bottoms. System also displays previously defined database relations
3. Administrator starts to drag and drop objects in the space, configuring them as he requires. Administrator also selects one or more relations and drags and drops their field into the design space. Then selects “add” option
7. System displays a properties form.
4. Administrator types in form name, category, and assigns one or more “roles” to this form. Then selects “add” option

5. System creates the form and its database relations. And displays the form in a preview. Later on when an actor wants to use this form, he can enter the data in the master section, and selects the data in the detail section

Change Existing form

1. Administrator selects “change existing form” option
2. System displays a list of all created forms
3. Administrator chooses one form
4. System displays that form in a design view
5. Administrator can add more field to the form, then selects “add” option
6. System displays a properties form
7. Administrator can change form name, category, and assigns one or more “roles” to this form
8. System creates the form and its database relations. And displays the form in a preview

c. Special Requirements

No special requirements so far.

d. Preconditions

Any user should be registered to the system.

e. Postconditions

If the notification originated from document possessing, the system should attach all notification to that document or work unit.

f. Extension Points

There are no extension points associated with this use case.

g. User Interface

Maintain Form

The screenshot displays the 'Maintain Form' interface within the Ministry of Justice Document Management System. The top navigation bar includes links for 'Complaint Request', 'Endorsement Request', 'Arbitration Certificate', and 'Translation Certificate'. The main content area is titled 'Home > Create Form' and features a sidebar with navigation buttons: Document, Messages, Search, Reports, Routes, Forms, Create New, Security, Help, and Logout. The 'Create New' section offers various form components: Text, Multiline text, Checkbox, Radio button, Combo box, Label, Command Button, Form, and Picture. A central 'Form Design' editor window is open, showing a blank canvas with a toolbar and input fields for 'Name' and 'Description'. At the bottom, there are buttons for 'Save', 'Save as Template', and 'Save as Form'.

Forms List

Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home > Maintain Forms

Document
Messages
Search
Reports
Routes
Forms
Forms List
Security
Help
Logout

ID Name
Date Description
Filter

ID	Name	Description	Date			
				Modify	Details	Delete
				Modify	Details	Delete
				Modify	Details	Delete
				Modify	Details	Delete
				Modify	Details	Delete

New Clear

Use Case Realizations and Database Mapping

Name	Maintain Form			
Function	Function Description			
	Here the form name will be the top menu that appears for users with privileges on the form. The user can run the form from this screen also.			
Save	Close screen, save data in database			
Save As Template	Close screen, save data in database with template flag set			
Save As Form	Save data in database with template flag not set			
Database Table	DB Filed	Screen Field	Operation	Validation
Forms	fId		System generated Id	
Forms	fName	Name	Form Name	Not less than 5 chars
Forms	fDesc	Description	The form description	Not empty
Forms	creationDate		System date, date of creation	
Forms	createdBy		The creator user, user who created the form	
Forms	lastEditedDate		System date, date of last modification done	
Forms	lastEditedBy		The modifier user	
Forms	isTemplate		Flag to save as form or as template. Templates are not used for data manipulation.	
formComponents	formId		References forms.fId	
formComponents	componentName		When dragging a component into design area, component properties appeared. One of the properties is component name	

formComponents	componentType		Text, label, command, or any other type. References componentTypes. typeId	
formComponents	componentValue		Value property of the component, like label text.	
formComponents	cDataType		Datatype property of component, text, number, or date	
formComponents	cFont		Component font	
formComponents	cFontSize		Component font size	
formComponents	cFontColor		Component font color	
formComponents	cBackgroundColor		Component background color	
formComponents	cBold		If the component font is bold or not	
formComponents	cItalic		If the component font is italic or not	
formComponents	cUnderline		If the component font is underlined or not	
formComponents	cDisplayFormat		Display format component property	
formComponents	databaseColumn		If the component is a database component, the database column name. This value is a list from "workUnits" database table column. If the user inserted a new value, a DDL is performed add the column into "workUnits" table with component dataType and length values. This is done at the save level. This operation should be done by one user at a time to avoid database object locking and operation failure.	
formComponents	cLength		Maximum allowed length of data to be entered by user.	
formComponents	cEnabled		If the component is enabled or not.	
formComponents	cEditable		If the component can be edited or not.	
formComponents	cX		Component x location on the form	
formComponents	cY		Component y location on the form	
formComponents	cWidth		Component width property	
formComponents	cHeight		Component height property	
formComponents	cEvent		Choose from a predefined set of events. Like import documents, notes, or assign to route. This functionality can have more insight at development stage. References	

			componentEvents.eventId	
componentEvents	eventId		References formComponents.cEvent	
componentEvents	eventName		Event to be chosen by user	
componentEvents	eventCode		Code to be executed whent action occurs, when button pressed in case of button component.	

3.11. Maintain Users Use Case

a. Brief Description

This use case allows the Administrator to add, delete and modify system users' information. It also allows the administrator to change the users' privileges of security.

The actor for this use case is the Administrator.

b. Flow of Events

The use case begins when the administrator selects "maintain users" option.

Basic Flow – Add User

1. System displays a list of all system users
2. Administrator selects "new user" option
3. System displays an empty user form
4. Administrator types in the new user information: user full name, system username, password, position, description, email, and selects user's role. Then selects "add" option
5. system validates data entry, generates a new ID for this user, adds the new user, closes the user form and refreshes the users list,
6. steps 2-5 are repeated if the administrator wants to add several users

Alternative Flows

Modify a User

1. The Administrator selects "modify User" option
2. The system displays a blank user form.
3. The Administrator types in the user name he wishes to modify.
4. The system retrieves the user information and displays it on the screen.
5. The administrator modifies one or more of the user full name, system username, password, position, description, email, and user's role
6. When changes are complete, the Administrator selects "save."
7. The system updates the user information.
8. Steps 2-7 are repeated for each user the Administrator wants to modify. When edits are complete, the use case ends.

Delete a User

1. The Administrator selects "delete user."
2. The system displays a blank user form.
3. The Administrator types in the user name for the user that's being deleted.
4. The system retrieves the user and displays the user information in the form.
5. The Administrator selects "delete."
6. The system displays a delete verification dialog confirming the deletion.
7. The Administrator selects "yes."
8. The user is deleted from the system.
9. Steps 2-8 are repeated for each user deleted from the system. When the Administrator is finished deleting users from the system the use case ends.

User Already Exists

If in the "Add a user" sub-flow the system finds an existing user with the same name an error message is displayed "User Already Exists". The Administrator can either change the name, or cancel the operation at which point the use case ends.

User Not Found

If in the "Modify a User" or "Delete a User" sub-flows the user name is not located, the system displays an error message, "User Not Found". The Administrator can then type in a different id number or cancel the operation at which point the use case ends.

c. Special Requirements

User's passwords always appear in their encrypted form. The administrator can never see the real password

d. Preconditions

Login.

e. Postconditions

If there is routes that contains the deleted user, the system should notify routes manager, in this case the DCU Manager.

Administrator must logout or system will automatically logout upon exit

f. Extension Points

There are no extension points associated with this use case.

g. User Interface

Maintain Users

Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home > Maintain Users

Document
Messages
Search
Reports
Routes
Forms
Security
User List
Help
Logout

User Name email
Full Name
Filter

User Name	Full Name	email			
			Modify	Details	Delete
			Modify	Details	Delete
			Modify	Details	Delete
			Modify	Details	Delete
			Modify	Details	Delete

New

Use Case Realizations and Database Mapping

Name	Maintain Users Screen		
Function	Function Description		
Description	This screen allow administrator to search for a user, modify an existing user information and/or security roles, deleting a user, and defining a new user.		
Modify	Opens the user screen in edit mode.		
Details	Shows the user available security roles		
Delete	Marks the user as deleted		
New	Opens the user screen in new status, empty text fields with ability to save data.		
Filter	Filter/search users according to search criterea definid by user.		
Database Table	DB Filed	Screen Field	Operation
systemUsers	userLogin	User Name	User Login ID
systemUsers	userNameA	Full Name	User full name
systemUsers	email	Email	User Email

Modify User:

User Interface

Use Case Realizations and Database Mapping

Name	Modify User Screen			
Function	Function Description			
Description	This screen allow administrator to create, or modify user information and/or roles. Also allows administrator to change the user status. Whenever a new user created, the system generates a password and sends it into the user email along with the user login name. Reset password functionality can be added to generate a new password and send it to the user email.			
Positions	Open the positions list that are not departments.			
Save	Save the changes into database.			
Database Table	DB Filed	Screen Field	Operation	
systemUsers	userLogin	User Name	User Login ID	
systemUsers	userNameA	Full Name	User full name	Not less than 10 chars
systemUsers	email	Email	User Email	Valid email address, contains @ and .

systemUsers	fax	Fax	Fax	
systemUsers	isInternallyManaged	Internal/External Management	If internally managed option was chosen, the system generates a password and sends it by email. If external management, the password and authentication issues is managed by an external server like ldap or sso server.	
systemRoles	roleNameA	Available Roles	Available roles in the system.	
userRoles	roleId	User Roles		
orgStructure	positionID	Position	Position in the organization structure, references systemUsers. positionID	

Maintain Groups:

User Interface

Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home > Maintain Groups

Document
Messages
Search
Reports
Routes
Forms
Security
Group List
Help
Logout

ID Name
Date Description
Filter

ID	Name	Description	Date			
				Modify	Details	Delete
				Modify	Details	Delete
				Modify	Details	Delete
				Modify	Details	Delete
				Modify	Details	Delete
				Modify	Details	Delete

New Clear

Use Case Realizations and Database Mapping

Name	Maqintain Groups Screen
Function	Function Description
Description	This screen allow administrator to search user groups, then administrator can either modify a group, view its details or removes a group. In order to remove

	a group, the group must be empty without any user assigned to the group		
Modify	Opens the groups screen in edit mode.		
Details	Shows the group available users		
Delete	Delete the group		
New	Opens the group screen in new status, empty text fields with ability to save data.		
Clear	Clears filter.		
Database Table	DB Filed	Screen Field	Operation
groups	groupID	ID	Group ID
groups	groupName	Name	Group name
groups	creationDate	Date	Group creation date
groups	groupDesc	Description	Group description

Modify a Group:

User Interface

Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home > Maintain Groups > Modify Group

Document
Messages
Search
Reports
Routes
Forms
Security
Group List
Help
Logout

ID Name
Description

Users

Available Users

Group Users

>>
>
<
<<

Save

Use Case Realizations and Database Mapping

Name	Maintain Groups Screen			
Function	Function Description			
Description	This screen allow administrator to create a new group or modify existing group information. Administrator can assign a user to a group or remove a user from a group.			
Save	Save changes into database.			
Database Table	DB Filed	Screen Field	Operation	Validation
groups	groupID	ID	Group ID	
groups	groupName	Name	Group name	Not less than 5 chars
groups	groupDesc	Description	Group description	Not empty
userGroups	userID	Group Users	References systemusers table	
userGroups	groupID	ID	References groups table	

3.12. Read a Notification Use Case

a. Brief Description

This use case allows system users to view a notification and they also may reply to it. The actor for this use case are Administrator, Minister, Department Employee, Deputy Assistant, DCU Employee, DCU Manager.

b. Flow of Events

The use case begins when the User types selects “notifications” from his/her main workspace.

Basic Flow – View Notification

1. System displays a list of all notifications paged. The list shows sent date, sender and title.
2. Actor selects one notification
3. System displays the notification details including body memo.

Alternative Flows

Reply for Notification

The actor in the basic flow after step 3 can choose to reply by selecting “reply” option. The system displays a message body and the actor types in the comments then selects “send” option.

c. Special Requirements

No special requirements so far.

d. Preconditions

Any user should be registered to the system.

e. Postconditions

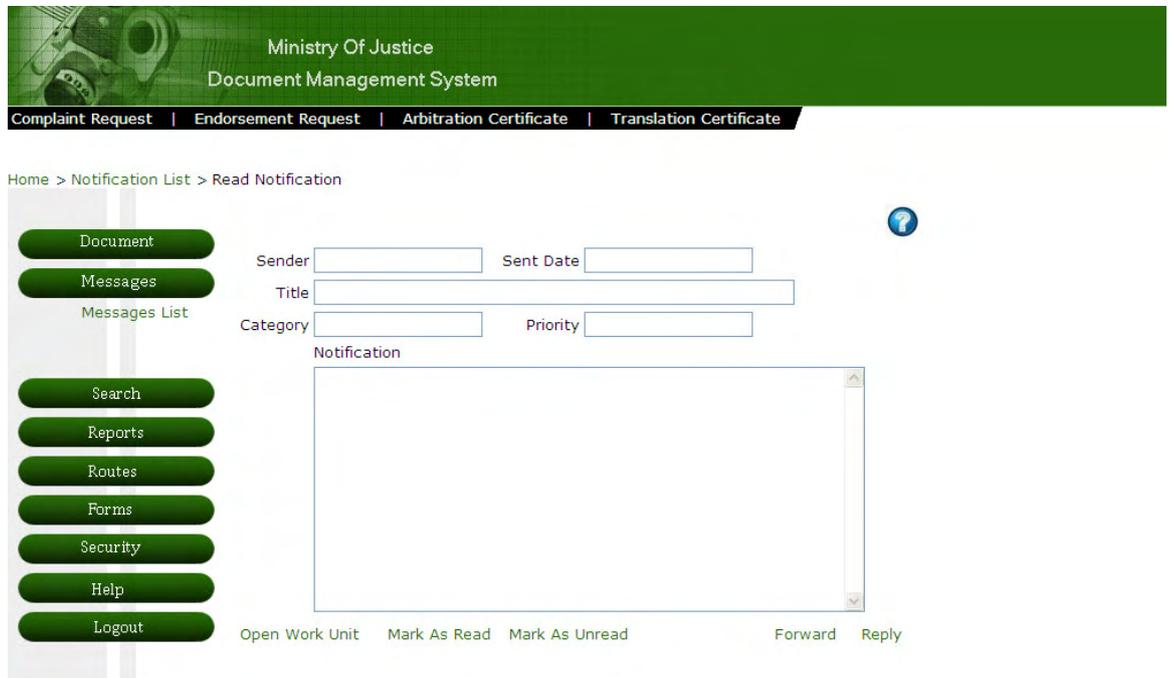
If the notification originated from document possessing, the system should attach all notification to that document or work unit.

f. Extension Points

There are no extension points associated with this use case.

g. User Interface

Read Notification



Use Case Realizations and Database Mapping

Name	Read Notification		
Function	Function Description		
Mark As Unread	Close window, Change notification status to not read		
Mark as Read	Close window, Change notification status to read		
Open Work Unit	Open the notificatrion work unit, if this is a work unit notification		
Forward	Open notification to be sent to another user		
Reply	Open new notification window with this notification data in body, title and to predefined.		
Database Table	DB Filed	Screen Field	Operation
notifications	nSentBy	Sender	The user who sent the notification
notifications	nTitle	Title	The notification title
notifications	nCreationDate	Sent Date	Notification date
notifications	nBody	Notificati on	Notification body

Notification List

User Interface

Use Case Realizations and Database Mapping

Name	Notification List		
Function	Function Description		
New	Opens new notification window		
Clear	Clear screen text fields		
Open	Open notification for read, change status from not read to read if needed.		
Reply	Open new notification window with this notification data in body, title and to predefined.		
Filter	Filter/search notification according to search criterea defind by user.		
Database Table	DB Filed	Screen	Operation

		Field	
notifications	nSentBy	Sender	The user who sent the notification
notifications	nTitle	Title	The notification title
notifications	nCreationDate	From Date/To Date/ Sent Date	Notification date
notifications	nStatus		S=saved not sent, N=new sent not read, R=read

3.13. Review Document Use Case

a. Brief Description

This use case allows actors to review (process) work units and generated reports including their attached documents. According to the Route currently assigned to that work unit or generated report, system can decide who can and who can't see that document (read / read-write) privilege. When processing the work unit/generated report, actor can add header information, stating comments or why he or she rejected / approved the work unit/generated report.

The actors for this use case are Department Employee, Minister, and Deputy Assistant.

b. Flow of Events

This use case begins when Actor selects "Review Documents" option from his/her workspace.

Basic Flow – Review Document

1. System displays a list of work units and generated reports that need to be processed by current actor
2. Actor selects one work unit/generated report
3. System displays work unit/generated report in a separate page.
4. Actor review and read basic information and can choose to read attached documents. After doing his/her work, the actor can choose to add memo to the header containing information or comments, approve/reject document, and/or send notifications. **Extension Point: Send Notification Use Case.**
5. Actor selects "submit"
6. System reflects actor changes and submits the document to next activity in the route currently assigned to it. Changing the document status into "pending *username* review". By which *username* is the name of the next activity user that is supposed to review/process the document as specified in the route.

c. Special Requirements

System shall be able to record and trace every addition in the header section and notifications as well.

d. Preconditions

Login.

e. Postconditions

Changing the document status into “pending *username* review” and recording every notification sent and received while processing this document..

f. Extension Points

There are no extension points associated with this use case.

g. User Interface

Review Document


Ministry Of Justice
Document Management System

[Complaint Request](#) | [Endorsement Request](#) | [Arbitration Certificate](#) | [Translation Certificate](#)

Home > Document List > Review Document

Document

Review Document

Messages

Search

Reports

Routes

Forms

Security

Help

Logout



Name #

Author

Description

Header	User	Date

Path [Browse](#)

Add Scan

Document	Mime	Security
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> C-Out C-In View Print
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> C-Out C-In View Print
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> C-Out C-In View Print
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> C-Out C-In View Print
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> C-Out C-In View Print
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> C-Out C-In View Print

Action

Memo

Created Edited

Document List Done

Use Case Realizations and Database Mapping

Name	Review Document
-------------	------------------------

Function	Function Description		
Done	Save action and return to document list window		
Document List	Go to document list window. Previous window.		
Notifications	Open notification List attached with this work unit set to this user. Allow user to send new notification, reply, and forward notification.		
View	List attached document allow the user to open accordind to document security assigned.		
Security	Change document security		
C-Out	Check out document. When a document checked out by a user no other user can check out the same document. It will be available for view only.		
C-In	Check-in document. In order to check-in a document it must be checked out. Whenever a check-in completes, a new document version will be generated.		
Add	Allow user to import additional documents to work unit.		
Edit	Allow user to edit document security		
Database Table	DB Filed	Screen Field	Operation
workUnits	wuName	Name	The work unit name
workUnits	wuNo	#	The work unit number
workUnits	wuAuthor	Author	Work unit, user login name and user full name from systemUsers table
workUnits	wuDesc	Descripti on	Work unit description
workUnits	wuCreationD ate	Created	
workUnits	wuLastEditD ate	Edited	
routeInstanceActivi ties	actionPerfor med	Action	The action selected by the user. The list is populated from activityActions table. If the user has authority he may choose to “Terminate” the route.
routeInstanceActivi ties	actionMemo	Memo	
docHeader	headerText	Header	The document header, every user can insert a new header and view headers inserted by other users and at what date and time.
docHeader	userId	User	The user who inserted the header, automatically by the system.
docHeader	headerDate	Date	The header date and time, automatically by the system.
docHeader	wuNo		References workUnits. wuNo
docHeader	headerID		Automatically generated by the system.

Document List:

User Interface

Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home > Document List

Document
Review Document

Messages

Search

Reports

Routes

Forms

Security

Help

Logout

Due Date 🗓️ Priority

Status ⌵

Filter

Name	Due Date	Priority	
			Review

Clear

?

Use Case Realizations and Database Mapping

Name	Document List		
Function	Function Description		
Review	Opens document review window		
Clear	Clear text fields		
Filter	Filter/search notification according to search criteria defined by user.		
Database Table	DB Field	Screen Field	Operation
routeInstances	priority	Priority	The action required priority. Priority is at the route instance level for all actions
routeInstanceActivities	actionExpireDate	Due Date	The action required due or expiration date
routeInstanceActivities	activityStatus	Status	The action required current status
routeInstanceActivities	aName	Name	The activity name. For example, review signature.

3.14. Search Use Case

a. Brief Description

This use case allows actors to search information they have access to it as specified by Administrator. Here we are talking about the work units records. In general, all data entered or processes by a department employee, shall be searchable and viewed in reports. System shall provide each work unit record with a special search form to view and filter reports. The search criteria should be based on work unit entry form's field as defined by the Administrator when creating that entry form. The user can choose to submit search results (report) as a work unit and then assign it to a route.

The actors for this use case are Department Employee, Minister, and Deputy Assistant.

b. Flow of Events

This use case begins when Actor selects “Search” option from his/her workspace.

Basic Flow – Review Document

1. System displays a list of work units records that current user can access
2. Actor selects one option from the list
3. System displays a search form. The search criteria are based on the fields that the form contains
4. Actor selects and types one or more data fields. Selects search option (and / or) and selects the type of generated report (tabular/columnar). Then selects search.
5. System returns results in the specified format.
6. Actor can choose to submit results as work unit. **Alternative Flow**

Alternative Flows

Submit Search Results as a Work Unit

If at the basic flow above at step 6, the actor chooses to submit search results (generated report) as a work unit, system behaves as follows:

1. System displays the generated report in a work unit view(i.e. adding header information to be edited).
2. Actor adds information to the header section. And may send notifications. **Extension Point: Send Notifications Use Case.**
3. Actor may also assign it to a route. **Extension Point: Send Notifications Use Case.** Then selects submit
4. Actor may also attach one or more documents. **Extension Point: Import Document Use Case.**
5. Actor then selects “submit”
6. System creates new work unit based on the report, header information, imported documents and assign it to the route.

c. Special Requirements

System shall be able to record and trace every addition in the header section and notifications as well.

d. Preconditions

Login.

e. Post conditions

Changing the document status into “pending *username* review” and recording every notification sent and received while processing this document.

f. Extension Points

- Extension Point: Send Notifications Use Case
- Extension Point: Import Document Use Case.
- Extension Point: Send Notifications Use Case.

The user generates a report, save the report as document, create work unit, and attach the generated report as document.

3.15. Send a Notification Use Case

a. Brief Description

This use case allows system users to send a notification. The notification can be separate notification, or can be as part of document possessing. If it is part of document processing then this use case can extend the use case “review document”

The actors for this use case are Administrator, Minister, Department Employee, Deputy Assistant, DCU Employee, and DCU Manager.

b. Flow of Events

Basic Flow – Send Notification

1. Actor selects “send notification”
2. System displays empty message form
3. Actor selects one or more receptionist, fills in notification title and can attach files. Then selects “send” option
4. System forwards message to target receptionist(s).

c. Special Requirements

No special requirements so far.

d. Preconditions

Any user should be registered to the system.

e. Post conditions

If the notification originated from document possessing, the system should attach all notification to that document or work unit.

f. Extension Points

There are no extension points associated with this use case.

g. User Interface

Send Notification

Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home > Notification List > Send Notification

Document
Messages
Send New
Search
Reports
Routes
Forms
Security
Help
Logout

Send to Date
 Title
 Category Priority
 Send SMS
 Notification
 Clear Save Send

Use Case Realizations and Database Mapping

Name	Send Notification Screen		
Function	Function Description		
Send	Save the notification into database with status New		
Save	Save the notification into the database with status Saved for future editing before send		
Clear	Clear screen text		
Database Table	DB Filed	Screen	Operation

		Field	
notifications	nId		System Generated ID
notifications	nSendTo	Send To	To whom the notification will be sent. The to section can be either user(s), group(s) or compination.
notifications	nSentBy		The user who sent the notification
notifications	nTitle	Title	The notification title
notifications	nBody	Notificati on	The notification body.
notifications	nCreationDate	Date	System date
notifications	nStatus		S=saved not sent, N=new sent not read
notifications	sendSMS	Send SMS	Whether to send notification as sms or not.
notifications	wuNo		The work unit that the notification is attached to

3.16. Update Work Unit Record Use Case

a. Brief Description

This use case can extend “Review Document” use case. This use case allows the Actor to update work unit record. A work unit record can be complaint, endorsement request, arbitration certificate request, translation certificate request, job delegate, translation committee or any work unit form that the Administrator has created previously in the “maintain forms use case”.

The Actors of this use case are Department Employee or Minister

b. Flow of Events

This use case begins when the Actor selects “update” option from his/her work unit workspace. If this use case extends “Review Document” use case then when selecting “update” option the system shall open current work unit record in edit mode.

Basic Flow – Update Work Unit Record

1. System opens current work unit record in edit mode
2. Actor adds new information in the form fields, change existing information such as status, and then selects “save” option
3. System validates data to ensure proper data format, and saves the data in the repository.

c. Special Requirements

There are no special requirements.

d. Preconditions

Login.

Actor should be in work unit record view for some record.

e. Postconditions

There should be a work unit record viewed by actor so that he can use this use case and edit it.

f. Extension Points

No extension points.

g. User Interface

Update Work Unit:


Ministry Of Justice
Document Management System

[Complaint Request](#) | [Endorsement Request](#) | [Arbitration Certificate](#) | [Translation Certificate](#)

Home > Update Work Unit

Document

Update

Messages

Search

Reports

Routes

Forms

Security

Help

Logout



Name =

Author

Description

Notifications

Header	User	Date

Path [Browse](#)

Add Scan

Document	Mime	Secure	
<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Security Out In View Print Remove
<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Security Out In View Print Remove
<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Security Out In View Print Remove
<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Security Out In View Print Remove
<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Security Out In View Print Remove
<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Security Out In View Print Remove

Assign to Route Status

Retention Type Retention Days

Enable Content Searching

Created Edited

[Save](#)

Use Case Realizations and Database Mapping

Name	Update Work Unit Screen
------	-------------------------

Function	Function Description			
Save	Save changes it into the database			
Notifications	Opens the work unit notes, allowing user to read, reply, forward, or creat a new note attached with this work unit.			
Add	Allows the user to attache documents to the current work unit according to document security policy.			
Security	Change document security			
Out	Check out document. When a document checked out by a user no other user can check out the same document. It will be available for view only.			
In	Check-in document. In order to check-in a document it must be checked out. Whenever a check-in completes, a new document version will be generated.			
Assign to Route	Choose a predefine route to start this document in. Just in case of document routing.			
English	Shows the English user interface			
عربي	Shows the Arabic user interface			
Database Table	DB Filed	Screen Field	Operation	
workUnits	wuNo		System generated ID	
workUnits	wuName	Name	The system registers the “work unit name” entered into Name text on the screen.	Not less than 5 chars
workUnits	wuAuthor	Author	The system registers the work unit creator, the logged in user.	
workUnits	wuDesc	Descripti on	The system registers the “work unit description” entered into Description text on the screen.	Not empty
workUnits	wuRetention Type	Type	References the selected Retention Type from the screen. Retention Type is matched with retentionTypes database table.	
workUnits	rtNoOfDays	Retention Days	In case of Retention Type archive or delete specify the number of days to auto archive or auto delete the attached documents.	
workUnits	wuCreationD ate		Creation date, from the system.	
workUnits	wuLastEditD ate		Date of last action taken on the work unit.	
workUnits	wuEnableCS	Enable Content Searchin g	If checked, when searching a work unit also search the attached document contents.	
retentionTypes	rtId		Matches workUnits. wuRetentionType	
retentionTypes	rtDescA/ rtDescE	Type	Fill the type screen component	
docHeader	headerText	Header	The document header, every user can insert a new header and view headers inserted by other users and at what date and time.	

docHeader	userId	User	The user who inserted the header, automatically by the system.	
docHeader	headerDate	Date	The header date and time, automatically by the system.	
docHeader	wuNo		References workUnits. wuNo	
docHeader	headerID		Automatically generated by the system.	

3.17. View Documents Status Use Case

a. Brief Description

This use case allows the DCU Manager and Minister or any system user given this privilege by system Administrator to view a general report of all documents currently processed by the ministry. System shall show external and internal documents work unites in separate views. For each view system shall show delayed, pending, halted, and progressed documents and their time frame.

The actor for this use case is DCU Manager or Minister.

b. Flow of Events

This use case begins when the Actor selects “view documents status” option from his/her workspace.

Basic Flow – View Documents Status

1. System shows filtration form to allow user to view certain group of e-documents.
2. Actor can choose to view e-documents by functional department, external, internal, or by system user. Actor can also view delayed or halted –e-documents as well
3. System displays a graphical report of e-documents currently in that group with their time frame.
4. Actor can choose certain document
5. System displays all notifications and header information related to this document in a report showing users and dates.
6. Actor can send notification if he desires. Use case Send Notification is extended here.

c. Special Requirements

No special requirements so far.

d. Preconditions

Login.

e. Postconditions

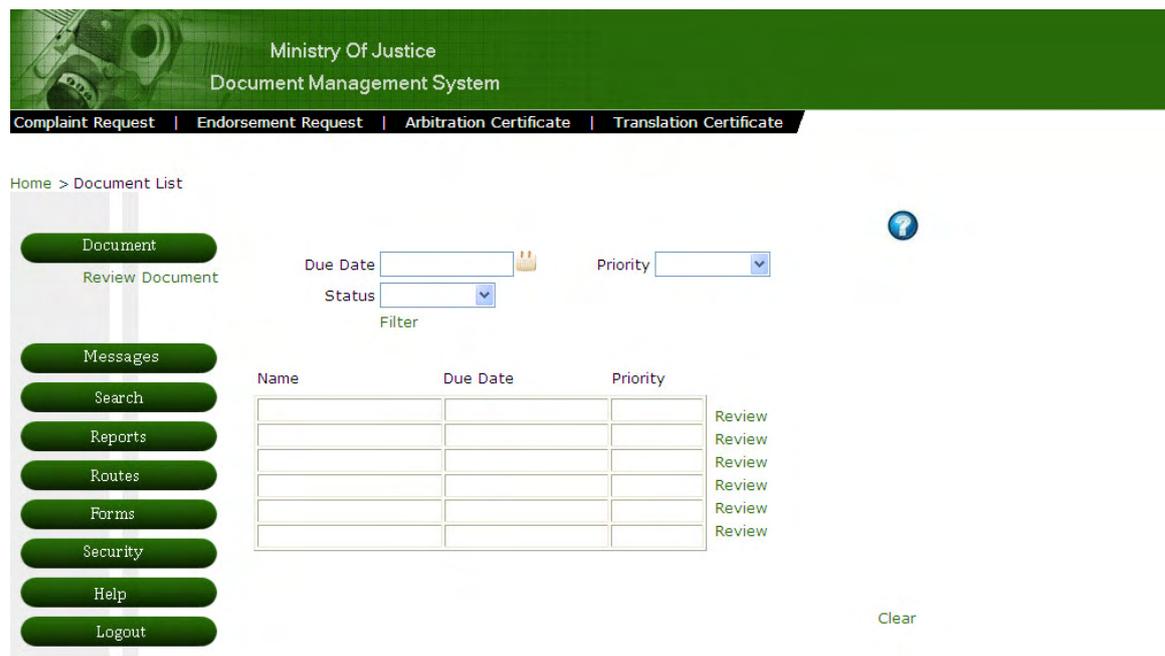
No post conditions.

f. Extension Points

There are no extension points associated with this use case.

g. User Interface

Document List

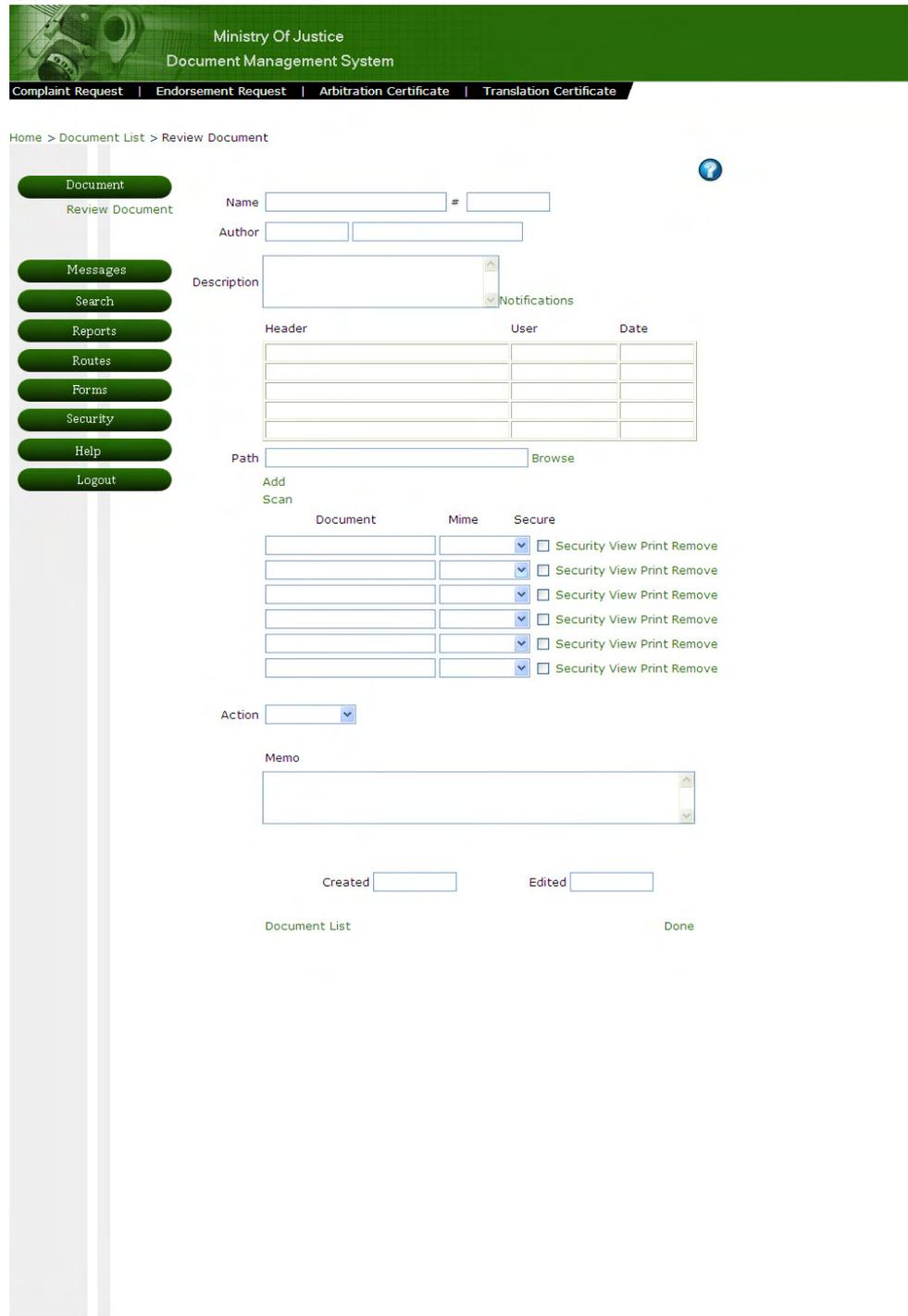


Use Case Realizations and Database Mapping

Name	Document List		
Function	Function Description		
Review	Opens document review window		
Clear	Clear text fields		
Filter	Filter/search notification according to search criteria defined by user.		
Database Table	DB Field	Screen Field	Operation
routeInstances	priority	Priority	The action required priority. Priority is at the route instance level for all actions
routeInstanceActivities	actionExpireDate	Due Date	The action required due or expiration date
routeInstanceActivities	activityStatus	Status	The action required current status
routeInstanceActivities	aName	Name	The activity name. For example, review signature.

Route Monitor

User Interface



Use Case Realizations and Database Mapping

Name	Route Monitor Screen		
Function	Function Description		
Database Table	DB Filed	Screen Field	Operation
routeInstances	routeId	Route ID	The route ID

Routes	routeName	Route Name	The route name
routeInstances	wuId	WU ID	The Work Unit ID
workUnits	wuName	WU Name	The work unit name
routeInstanceActivities	actionPerformer	Performer	The action required to be performed by whom?
routeInstanceActivities	aName	Activity	The activity name
routeInstanceActivities	activityStatus	Status	The activity status

3.18. View Reports Use Case

a. Brief Description

This use case allows any system user that was previously assigned a privilege to see a report, to open and view that report. Administrator had previously built a report and assigned users to open that report in use case “Maintain Reports and Views Use Case”

The actors for this use system user.

b. Flow of Events

This use case begins when the Actor selects “Views” option from his workspace.

Basic Flow – View Report

1. System displays a list of all views that current actor is allowed to view.
2. Actor selects one view
3. System displays that view to actor with real data

c. Special Requirements

No special requirements so far.

d. Preconditions

Any user should be registered to the system.

e. Postconditions

No postconditions.

f. Extension Points

There are no extension points associated with this use case.

g. User Interface

Maintain Reports and Views

Use Case Realizations and Database Mapping

Name	Maintain Reports and Views Screen		
Function	Function Description		
View	Run the report		
Edit	Edit report properties		
Remove	Delete report		
Crteate New	Opens the create new report screen wizard		
Clear	Clear any text entered into screen		
Database Table	DB Filed	Screen Field	Operation
Reports	rName	Name	The report name
Reports	rDesc	Descripti on	The report description
Reports	creationDate	Date	Report creation date, system date

View Reports and Views



Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home > View Report

Document
Messages
Search
Reports
Report List
Routes
Forms
Security
Help
Logout

Name Description

Date 

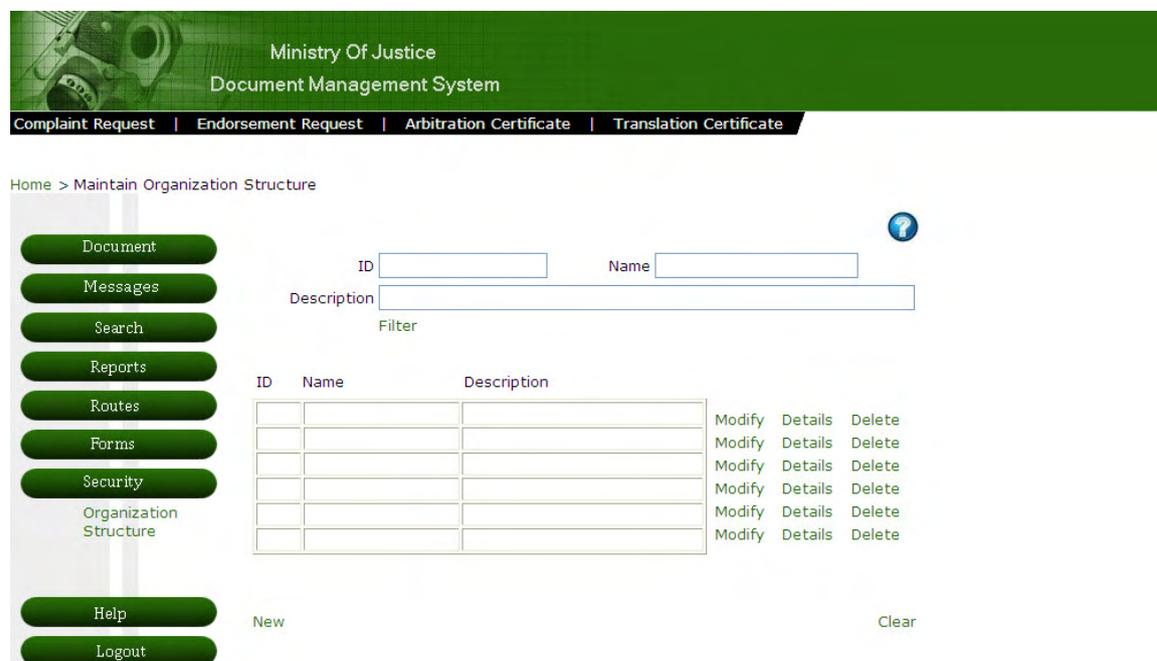
Search



Name	Description	
<input type="text"/>	<input type="text"/>	View
<input type="text"/>	<input type="text"/>	View
<input type="text"/>	<input type="text"/>	View
<input type="text"/>	<input type="text"/>	View
<input type="text"/>	<input type="text"/>	View

3.19. Maintain Organization Structure Use Case User Interface

Maintain Organization Structure



Use Case Realizations and Database Mapping

Name	Maintain Organization Structure Screen		
Function	Function Description		
Description	This screen allow administrator to create, or modify organization structure positions and relations.		
Modify	Opens the modify organization structure screen in edit mode.		
Details	Shows the position available privileges		
Delete	Delete position if it is not assigned to a user.		
New	Opens the positions screen in new status, empty text fields with ability to save data.		
Filter	Filter/search positions according to search criteria defined by user.		
Database Table	DB Filed	Screen Field	Operation
orgStructure	positionID	ID	Position ID
orgStructure	positionName A/ positionName E	Name	Position name
orgStructure	positionDesc A/ positionDesc E	Description	position description

Modify Organization Structure:

User Interface

Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home > Maintain Organization Structure > Modify Organization Structure

Document
Messages
Search
Reports
Routes
Forms
Security
Organization Structure
Help
Logout

ID Name

Description

Parent Select Parent

Position Department

Save

Use Case Realizations and Database Mapping

Name	Modify Organization Structure Screen			
Function	Function Description			
Description	This screen allow administrator to create, or modify organization structure and positions with their relations.			
Save	Save the changes into database.			
Database Table	DB Filed	Screen Field	Operation	Validation
orgStructure	positionID	ID	positionID	
orgStructure	positionName A/ positionName E	Name	positionname	Not less than 5 chars
orgStructure	positionDesc A/ positionDesc E	Descripti on	positionDescription	Not empty
orgStructure	positionParen t	Parent	Position parent in the organization structure. The root position has null parent.	Existing parent
orgStructure	isDepartment	Position/ Departm ent	Specify if the position is a department in the hierarchy or a normal position.	

Search Work Unit:

User Interface

Ministry Of Justice
Document Management System

Complaint Request | Endorsement Request | Arbitration Certificate | Translation Certificate

Home > Search

Document
Messages
Search
Work Unit
Reports
Routes
Forms
Security
Help
Logout

From Date To Date
No Name
Header Contains
Document Name
Status
Filter

Name	Creation Date	Status

Details
Details
Details
Details
Details
Details

Clear

Use Case Realizations and Database Mapping

Name	Search Work Unit Screen		
Function	Function Description		
Description	This screen allow Actor to search about previously saved and/or processed work units.		
Filter	Apply search filter and show results		
Details	Opens the work unit details screen		
Database Table	DB Filed	Screen Field	Operation
workUnits	wuNo	No	Work Unit Number
workUnits	wuName	Name	“work unit name”
workUnits	wuCreationDate	From Date/To Date	Creation date
docHeader	headerText	Header Contains	The document header
wuDocs	docPath	Document Name	The document name in case of scan and path in case of import.
workUnits	status	Status	If the work unit was on a route and the route finished the status is either finished, terminated or archived according to the situation in which the update is not allowed on the work unit. If it is part of a route, the status is in process. And if it is not

			in a route at all, the status is new in which update is allowed according to the user privileges.
--	--	--	---

Search Work Unit:

User Interface

The screenshot shows the 'Update Work Unit' page in the Ministry Of Justice Document Management System. The page has a green header with the system name and navigation links for 'Complaint Request', 'Endorsement Request', 'Arbitration Certificate', and 'Translation Certificate'. A breadcrumb trail shows 'Home > Update Work Unit'. On the left is a vertical menu with buttons for Document, Messages, Search, Work Unit, Reports, Routes, Forms, Security, Help, and Logout. The main content area contains a form with fields for Name, Author, and Description. Below these is a table with columns for Header, User, and Date. Further down is a 'Path' field with a 'Browse' button, an 'Add Scan' section with a table for Document, Mime, and Secure, and an 'Assign to Route' section with a 'Status' dropdown, 'Retention Type' dropdown, and 'Retention Days' field. At the bottom are 'Created' and 'Edited' date fields, and 'Back to Search Results' and 'Save' buttons.

Document Report:



Document Report

Work Unit Form: Complaint Request **Work Unit Number:** 1125 **Work Unit Name:** Mohammad Abdelhameed Saleh
Work Unit Description: The complaint about the xyz problem **Creation Date:** 17/11/2008

Notifications:				
From	To	Subject	Sent Date	Notification
Ahmad AbdelAziz	Sami Hamdan;Zuhair AlFahmawe;Yousuf Saleem	Why Late?	22/11/2008	Dear Colleagues, we need to solve this problem before the end of this day. Regards

Headers:		
Header	User	Date
Ok, no obligations	Sameer Sameh	24/11/2008
Has been reviewed according to standards	Saleem Karem	25/11/2008

Routes				
Position	User	Action	Overall Action	Date
DCU Employee	Akram Kareem	Start	Start	22/11/2008
I.T. Manager	Huda	Approve	Approve	22/11/2008
I.T. Engineer	Wanees	Done	Done	23/11/2008
Diwan Manager	Sameer Sameh	Not Accepted	Not Accepted	24/11/2008
Diwan Employee	Automatically by the system	Accept	Accept	2/12/2008

Attached Documents			
Document	Attached By	Attached Date	Version

[Save](#)

[Print](#)

4. IMPLEMENTATION VIEW

This section describes the overall structure of the implementation model, the decomposition of the software into layers and subsystems in the implementation model, and any architecturally significant components.

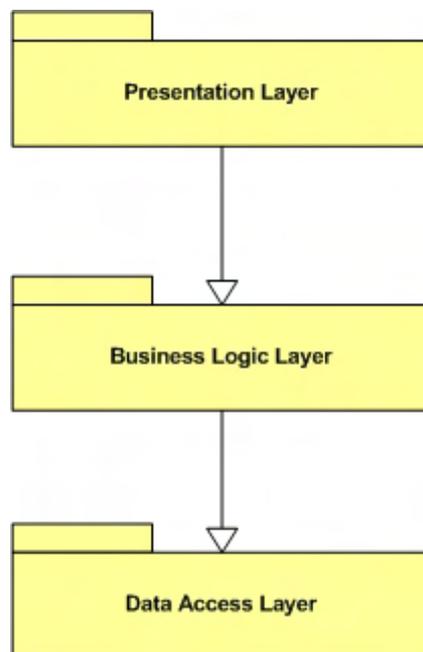
4.1. Overview

This subsection names and defines the various layers and their contents, the rules that govern the inclusion to a given layer, and the boundaries between layers. Include a component diagram that shows the relations between layers.

4.2. Layers

Overview

A layer represents a slice through the software architecture, with each layer representing a grouping of related functionality. Layering provides a way to decompose the system into more manageable software components and restrict inter-system dependencies with the goal being to design a system that is more loosely coupled and thus easier to maintain. An important characteristic of the layers design pattern is the directional dependencies that exist between the various layers. That is, a software component within a given layer should ideally access only components within its own layer or components in the layers beneath it. This directional dependency rule is one of the mechanisms by which the goal of the layers design pattern is realized.



Presentation Layer

The DMS Presentation Layer provides support for the interactions between the actors, or the users of the system, and the software system itself through the presentation of user interfaces.

Business Logic Layer

The DMS Business Logic Layer provides support for application specific business processes, as well as, the application and enforcement of business and data integrity rules.

Data Access Layer

The DMS Data Access Layer provides support for data access and persistence in conjunction with the DMS relational database.

4.3. Size and Performance

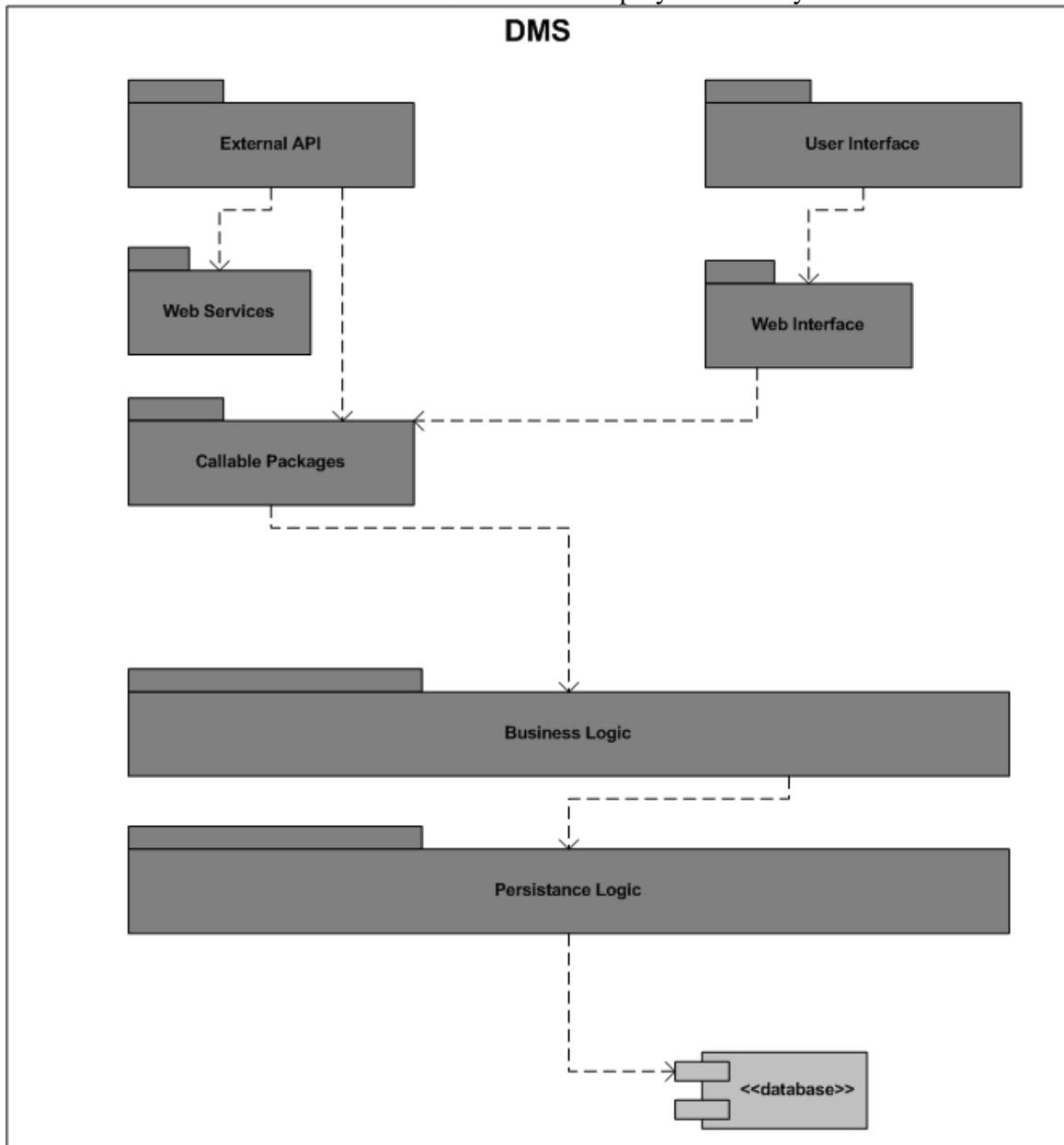
1. The system shall support up to 300 simultaneous users against the central database at any given time, and up to 50 simultaneous users against the local servers at any one time.
2. The system shall provide access to the login page with no more than a 10 second latency.
3. The client desktop shall require less than 20 MB disk space and 32 MB RAM. A PC with web browser.

4.4. Quality

1. The desktop user-interface shall be system independent.
2. The user interface of the System shall be designed for ease-of-use and shall be appropriate for a computer-literate user community with no additional training on the System.
3. Each feature of the System shall have built-in online help for the user. Online Help shall include step by step instructions on using the System. Online Help shall include definitions for terms and acronyms.
4. The System shall be available 24 hours a day, 7 days a week. There shall be no more than 4% down time for maintenance.

5. LOGICAL VIEW

This section of the document first describes the structural hierarchy of the system in layers, packages, and subsystems and then goes on to describe how these elements collaborate to provide the most architecturally significant functionality. The figure below shows the top-level structural organization of the system. The User Interface layer is accessible to web clients via HTTP. Clients of the system can be characterized as either web UI clients or API clients for future and current modules for integration purposes. The subsystems will be described briefly following the diagram. The functionality of each of these subsystems or packages is described in Section 4 with the context of their use which documents the use-case realizations that employ these subsystems.



The DMS Logical View addresses the business and functional requirements of the system and is based upon the DMS Design Model, which was created through the use case realization process.

Because not all of design is architecturally significant, only those architecturally significant components of the DMS Design Model will be presented in this section. These components are those UML model elements within the design model that reflect or incorporate the architecturally significant decisions presented in Section 4, DMS Architecturally Significant Decisions.

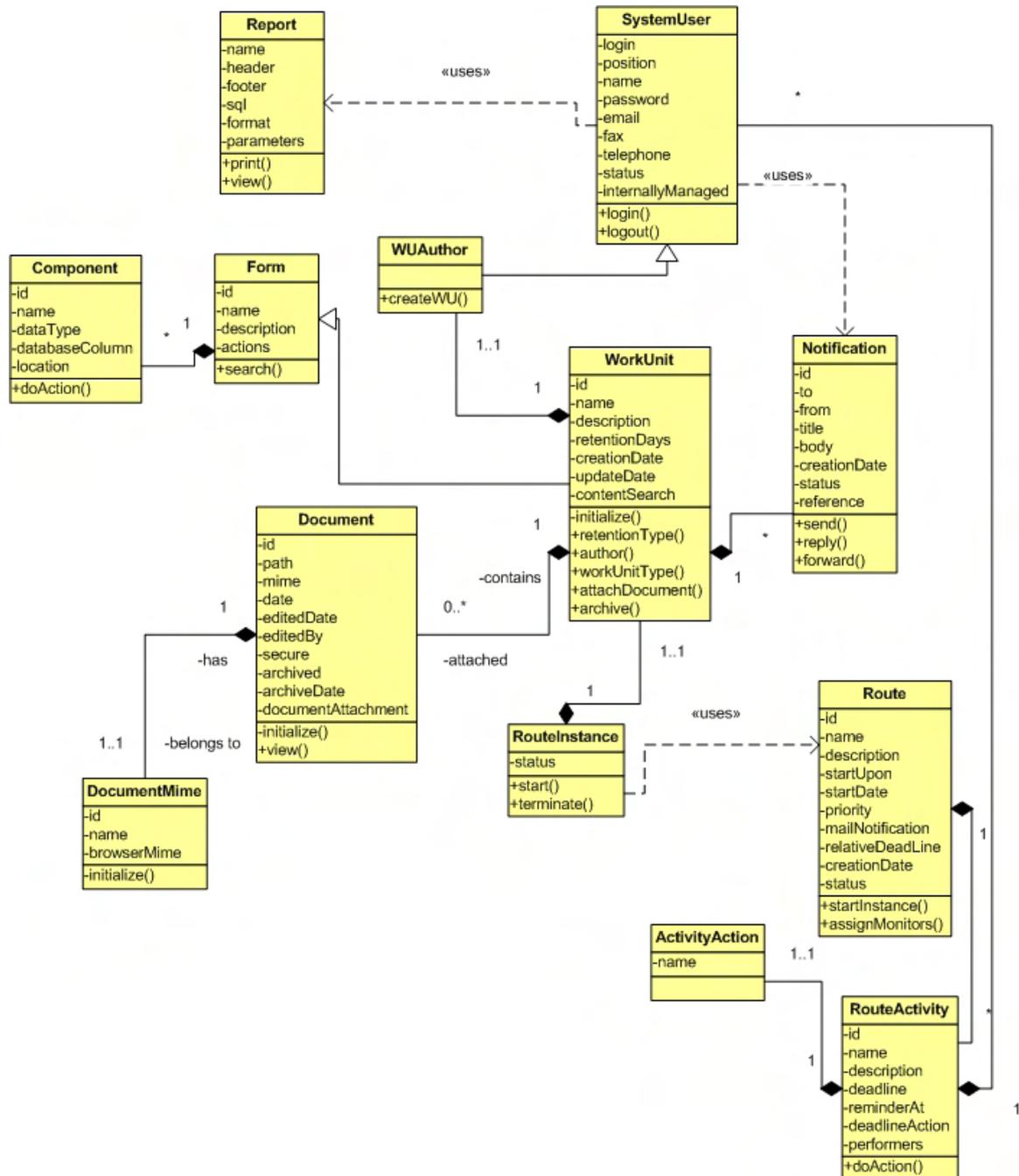
This approach will be followed for the following architecturally significant decisions:

- Object-Oriented Software Development Methodology
- Layering
- Boundary, Control, and Entity Design Pattern
- Security Architecture
- Object-Relational Broker Design Pattern
- Trusted User Design Pattern

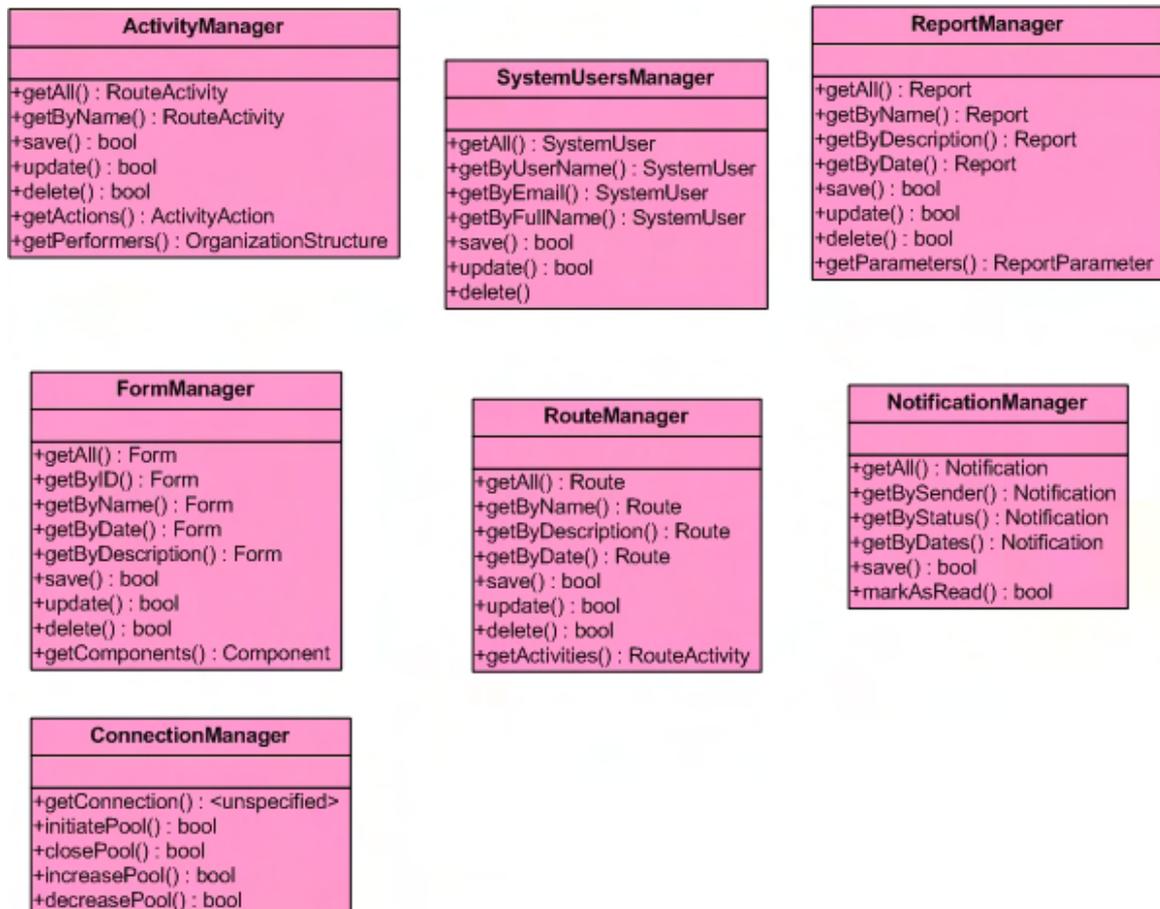
6. OBJECT-ORIENTED SOFTWARE DEVELOPMENT METHODOLOGY

DMS System is being developed using an object-oriented development methodology; a methodology that is based on the concepts of classes, objects, data abstraction, encapsulation, messages, and inheritance.

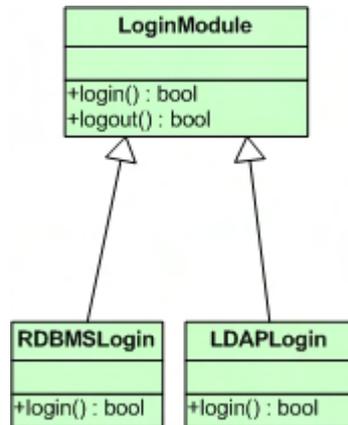
In the class diagram in the following figure, the diagram illustrates the OO development methodology being utilized by the DMS Design Model. These model elements are considered architecturally significant because of the central importance these classes have to the whole of the DMS system



The data access layer on the other hand is the layer that is responsible for operations with the relational database. It transforms object operations into relational database commands by issuing standard SQL operations transparently. Usually, a connection manager class is responsible for establishing a connection pool with the database, the connection pool has properties saved in a properties file like the initial number of connection the maximum number of connections and the increment and decrement numbers when needed by the connection pool manager. Every object that has a persistence state should have a manager class in the data access layer that connects it with the database. Usually, there are normal database operations available in the manager class; that are CRUD SQL operations. Sometimes a combination of filter operations are needed like `getByIDandName` or `getByIDandNameandDescription` operations. The following is the class diagram for the important classes in the data access layer.

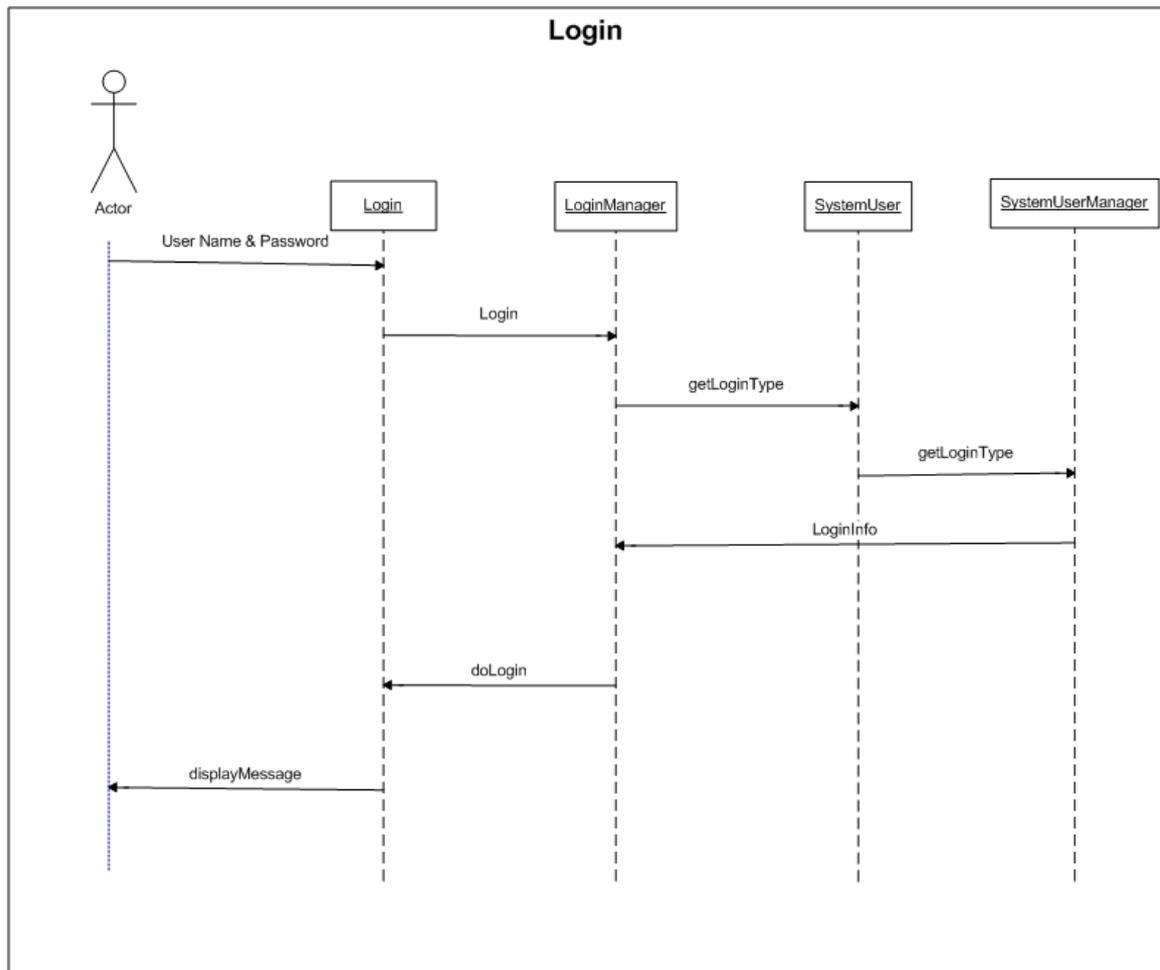


On the other hand the user interface will be able to communicate with business logic in which the DMS logic is implemented. When needed, the business logic may contact the relational database through the data access layer while some other cases are completed without any interaction with the database. The login module is built either using the LDAP server like the Microsoft active directory server or through the database. If the user credentials are saved on LDAP server, then the login is done through LDAP without the need to contact the database for password verification. The following diagram illustrates this issue.

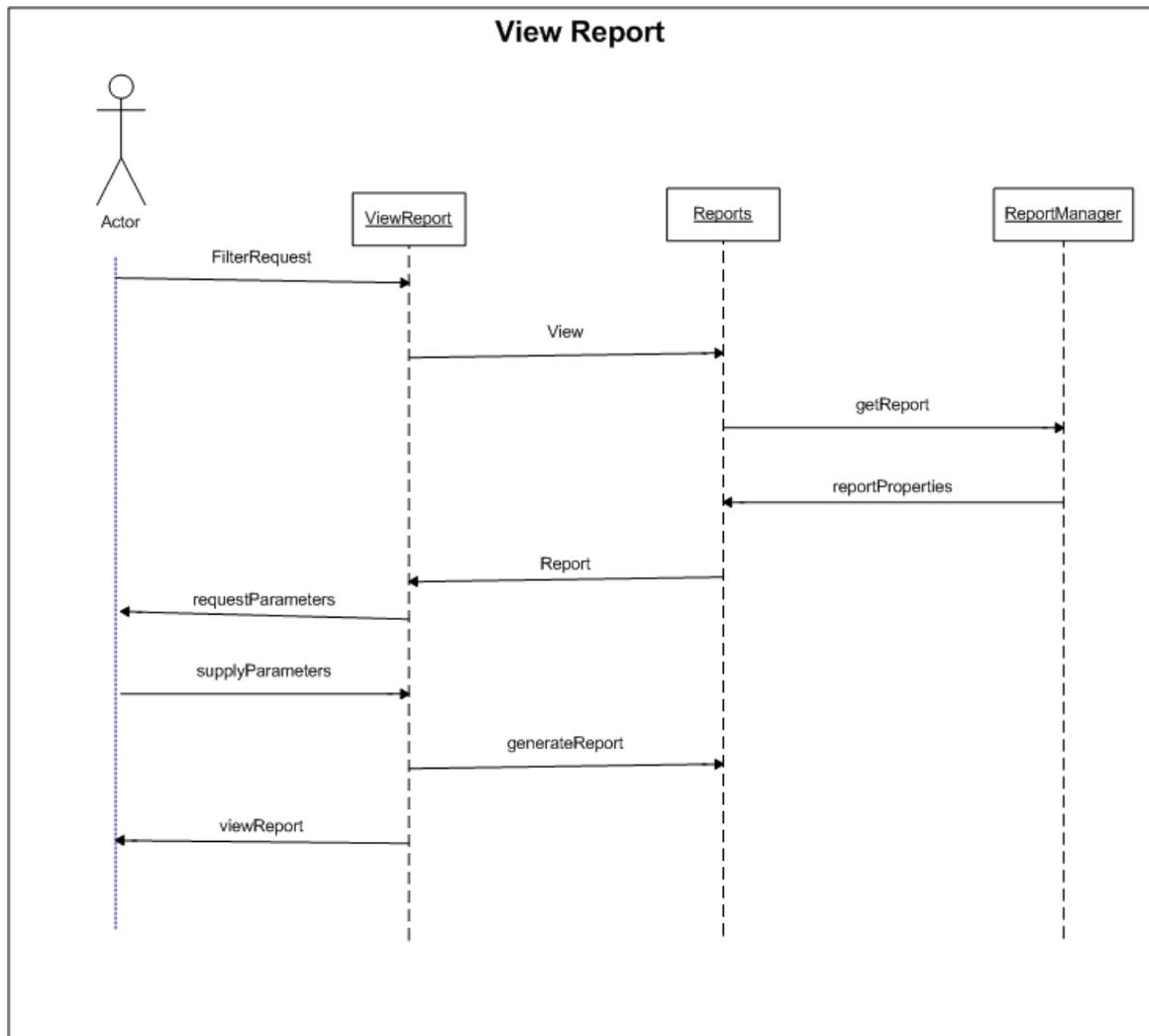


In scenario diagrams a participating object that takes a set of actions, communicating the results of one or more of these actions in a message to another participating object — which (in turn) takes its own set of actions and communicates. Sometimes the participating object needs help from other object, so it requests a service in a message to another participating object, which (in turn) takes its own set of actions and communicates. The following four scenario diagrams shows the Login, View Report, Create Route, and Send Notification scenarios:

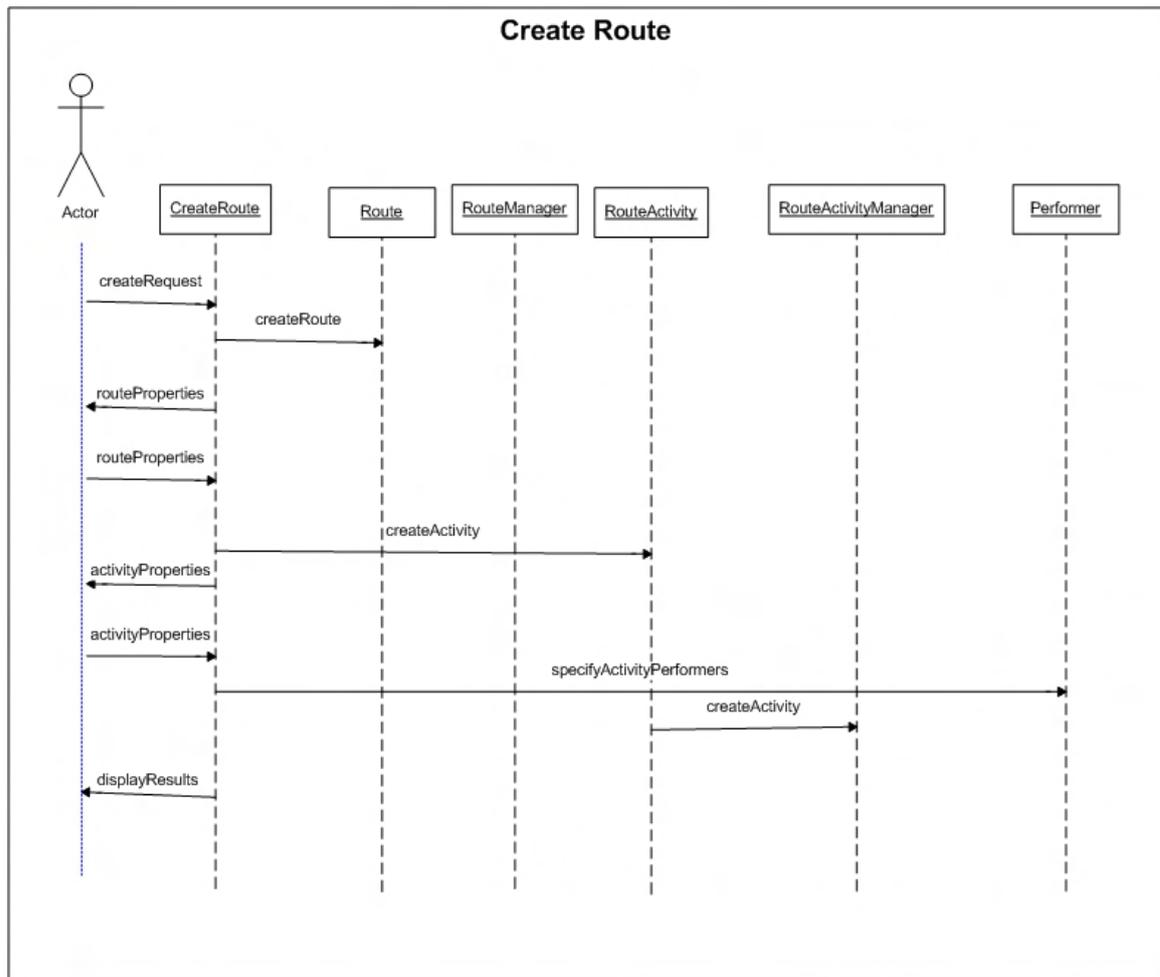
Login Scenario:



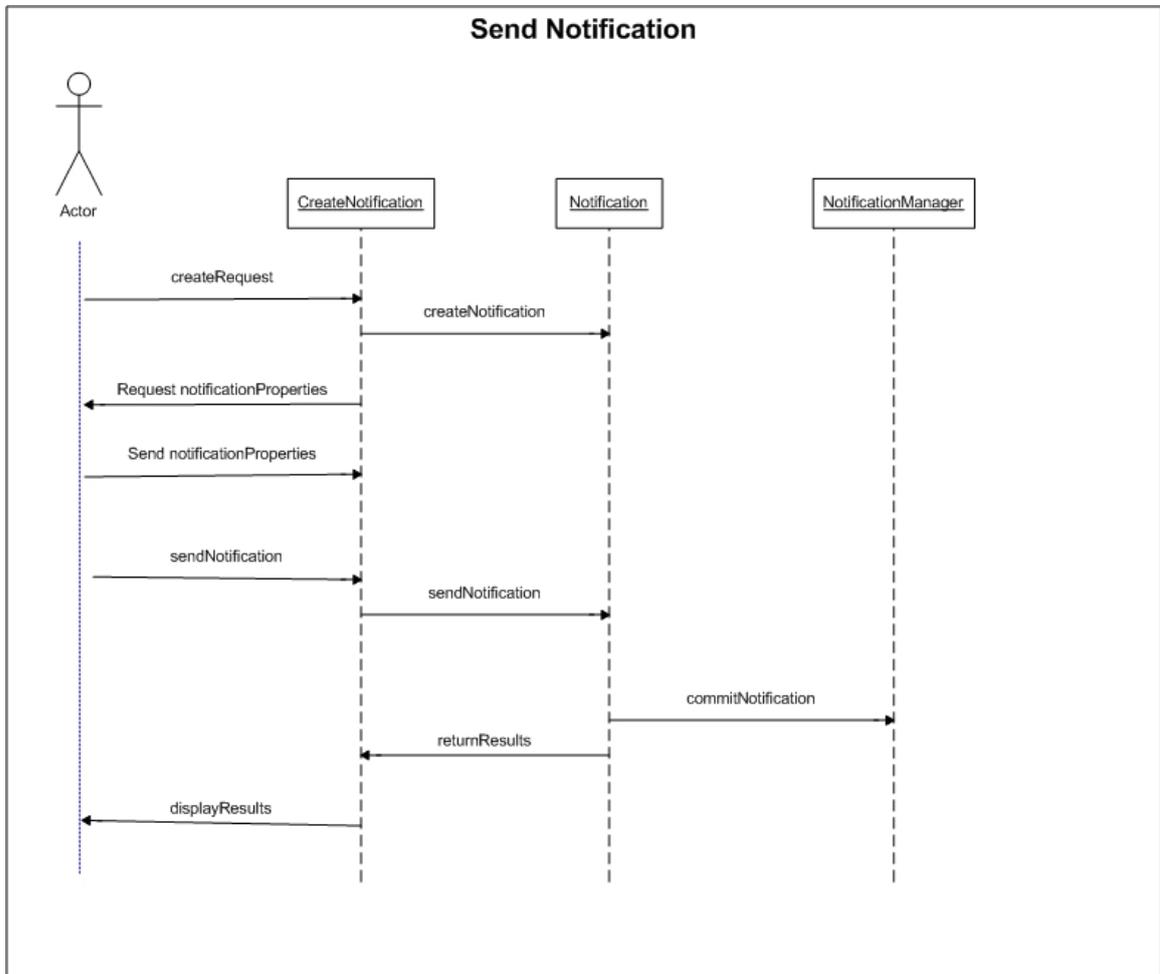
View Report Scenario:



Create Route Scenario:



Send Notification Scenario:



7. DEPLOYMENT VIEW

7.1. Introduction

The likely physical network and hardware configurations on which the DMS System will be deployed will be presented. Similar to the DMS Logical View, the DMS Deployment View has been informed by a number of the architecturally significant decisions including:

- Relational Database Management System
- Distributed 3-Tier Client/Server Architecture
- Thin Web Client Architecture

Following an overview of these decisions, the DMS UML Deployment Model will be presented.

7.2. Relational Database Management System

The DMS System will utilize an SQL Server RDBMS and relational databases created within this environment to store the system's persistent information.

7.3. Distributed 3-Tier Client/Server Architecture

Each conceptual component of a distributed 3-tier client/server architecture must be individually discussed in order to ensure that a clear understanding of this architecture has been conveyed.

7.4. Client/Server

Within the context of a distributed 3-tier client/server architecture, the phrase 'client/server' indicates that multiple client and server processor nodes will be used to execute the software written to support the system's business and functional requirements. In addition, and at any given point in time, each individual client processor node will only provide support for a single client. In contrast, each server processor node will provide support for multiple clients. Server processor nodes could include, but are not limited to, one or more application web and RDBMS servers.

7.5. 3-Tier

The use of the phrase '3-tier' indicates that the software written to support the system's business and functional requirements will be divided into 3 logical partitions where each partition provides a distinct service. The three logical partitions are:

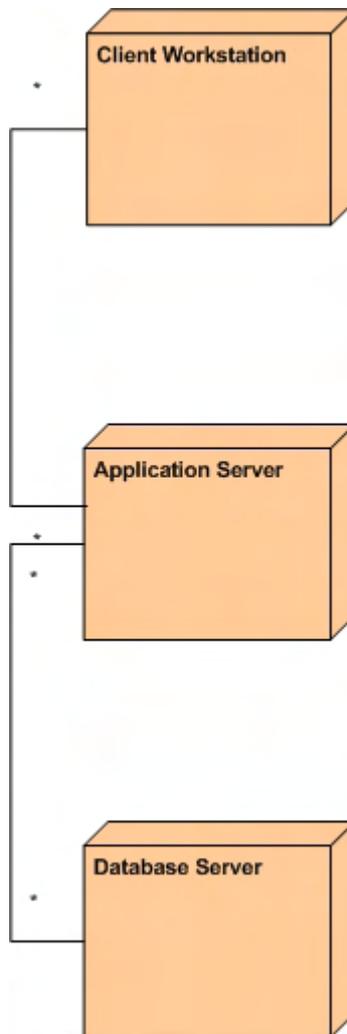
- Presentation Services
- Business Services
- Data Services

7.6. Distributed

The use of the term 'distributed' indicates that the three logical partitions will be spread among the various client and server processor nodes discussed above. Further, this distribution of functionality will be specialized in terms of the software executed on each of the processor nodes. That is, client processor nodes will specialize in providing support for the presentation services. In contrast, server processor nodes will specialize in providing support for business and data services.

7.7. Thin Web Client Architecture

The Thin Web Client architecture pattern builds upon both the layering and distribution patterns discussed previously in that this architecture pattern provides support for the DMS Presentation Layer utilizing a standard web browser on the client processor node. Within the context of this architecture, the browser functions as a generalized user interface device and most user interactions with the system will be conducted through the browser. Beginning with the DMS login page, each interaction with the system returns an HTML page. This page serves as the browser's instructions on how to render the text and graphics displayed to the user. This architecture requires minimal client processor node computing power and has few client configuration dependencies. As a result, the scope of supported client processor nodes is maximized and users could conceivably access the DMS System by means of a hardware device as powerful as a desktop computer or as minimal as a Pocket PC or a web-enabled cell phone.



APPENDIX A

1. Introduction

The glossary contains the working definitions for all classes in the Criminal Record Automation System. This glossary will be expanded throughout the life of the project.

2. Definitions

Class	Arabic definition	Description
MOJ	وزارة العدل	Ministry of Justice
MOI	وزارة الداخلية	Ministry of the Interior
DMS	Document Management System	
DCU	Document Control Unit	
Work Unit Record	<p>A work unit refers to any functional requests such as:</p> <ul style="list-style-type: none"> • complaint request, • translation certificate request, • arbitration certificate request, • Translation committee • translation certificate, • arbitration certificate, • endorsement request • Translation committee work accomplishment notice • Translation certificate withdrawal • Arbitration certificate withdrawal • Work delegate 	
Work Delegate	تكليف	
PNA	السلطة الوطنية الفلسطينية	Palestinian Authority
Public Prosecution	النيابة العامة	
Ministry cabinet	مجلس الوزراء	
Courts	المحاكم	
Arab League	الجامعة العربية	
Association	جمعيات	
Detention and	مراكز الحجز والتأهيل	

Rehabilitation centers		
Retrial Form	نموذج إعادة المحاكمة	
Written cassation	النقد بأمر خطي	
Internal Delegation of mandates	التكليفات الداخلية	
Translation Certificate department	دائرة ترخيص مهنة الترجمة	
Arbitration department	دائرة التحكيم	
Associations management department	دائرة متابعة شؤون الجمعيات	
Complaints Department	دائرة الشكاوى	