Report on the Final Implementation of the Paper-Based and Electronic Correspondence Filing System for the Trade Agreements and Foreign Trade Sectors

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Project Name:	**Paper-Based and Electronic Correspondence Filing System**
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Version History (insert rows as needed):

Version	Date (DD/MM/YYYY)	Comments
1.0	27/07/2006	English version only.
2.0	14/08/2006	After receiving feedback from ATR and Ministry of Trade and Industry
3.0	23/08/2006	Completing all deliverables

Deliverable Number	Description
Task 1	Summary Report
Task 2	Policy & Procedures Manual
Task 3	Metadata
Task 4	Operational DMS
Task 5	Effective Coding System
Task 6	Quality Assurance, testing, and steps to enter historical information
Task 7	Training Plan

1. Task 1 Deliverables

Deliverable Name: Summary Report

Deliverable Description:

- Review all aspects of the existing correspondence and correspondence filing process in order to provide recommendations to enhance current procedures, especially vis-à-vis automating parts of the system.

- Do a quick review of the existing correspondence and correspondence filing system, both electronic and paper-based, in both TAS and FTS, to better understand existing practice and to better be able to recommend DMS software for correspondence filing.

1.1 INTRODUCTION

Defining the specifications for a relevant filling and correspondence system, to be under the disposal of such a critical entity like the MOFT (Ministry of Foreign Trade), is not an easy task. Moreover, the dispersion of the involved parties, especially the most frequent expected users who are the investigators, among different departments, taking into account the project tight schedule has added to this challenge. Consequently, our intentions was to be able to collect the maximum amount of information in the allocated time frame for analysis, so that by the end of this phase, all the broad requirements should be clear and ready to be worked upon, with the least details postponed to be tackled when a need does arise.

This document summarizes the implementation of our analysis ideology, which was adopted during the analysis phase and how that led us to quickly dissect the current procedures utilized. Consequently, our project has started with a thorough analysis to the existing system, which paved the way for laying down clear requirements for the prospected computer based system specifications.

1.2 ANALYSIS METHODOLOGY

Most of this work relies on the analysis held during the first phase of this project. Due to our belief of the importance of this phase and how requirements risks should be carefully considered, we have developed a work scheme to carry on throughout our analysis. This scheme was built around an analysis structure and consisted from a number of tasks. Furthermore, due to the project nature, focus has been specially drawn towards a number of considerations.

1.2.1 ANALYSIS STRUCTURE:

The following is a simple structure of the analysis held representing the key inputs and outputs expected, as well as, emphasizing the key techniques utilized.

Input:

A fuzzy, minimal, possibly inconsistent target specification, user policy and project charter.

Output:

Understanding, a complete, consistent description of essential characteristics and behavior.

Techniques:

Study, brainstorming, interviewing, documenting.

Key notion for the descriptions:

Object.

1.2.2 ANALYSIS TASKS INVOLVED:

The following points represent the tasks that should be performed and to which we can evaluate the success of our work.

- Establishing and maintaining agreements with the customers and other stakeholders on what the system should do.
- Providing system developers with a better understanding of the system requirements, as well as formally stating those requirements.
- Defining the boundaries of (delimit) the system, taking into account the systems our system should interact with; however, ignoring any irrelevant details.
- Providing a basis for planning the technical contents of iterations of the development lifecycles.
- Providing a basis for estimating cost and time to develop the system. Although they have already set, a validation to those values should be completed by the end of this step.
- Defining a relevant user-interface for the system, focusing on the needs and goals of the users.
- Transforming the requirements into a design of the system to-be, keeping in mind that the challenges of the design should not obscure any requirements gathering, as well as, any proposed features that might contribute to the project success.
- Evolving a robust architecture for the system, based on the knowledge of the current system, the gaps in it and the current work place requirements.
- Non-functional requirements should not be devaluated.

1.2.3 FURTHER ANALYSIS CONSIDERATIONS:

This project has been introduced with a tight schedule from the time of its beginning, thus special considerations had been clear in the mind of those who held the analysis because, due to this time limitations, most probably, there are going to be fewer chances to have that close interaction with the end users as the project progresses. Moreover, one of the goals, in such projects, is to reduce the communication overhead to the minimal. Consequently, the following are some of the elaborations on certain issues involved during the analysis.

Interviewing:

MOFT (Ministry of Foreign Trade) is mainly divided into two sectors: FTS (Foreign Trade Sector) and the TAS (Trade Agreement Sector). Each sector consists of three Central Departments, as well as, a number of administrative and technical units. Moreover, each Central Department is further divided into Sub-Departments where the investigators work as individuals or in teams. Consequently, it can be safely implied that interviewing every role in this structure would consume a huge amount of resources, as well as, involving a vast amount of repetitive and tedious work. In addition to the fact that the expected time to be consumed in such an analysis of this type would render the project schedule completely infeasible. Therefore, based on the recommendations from the IT Manager who is responsible about the project and whose position and experience with the MOFT promotes his idea of interviewing only key persons from each department to be the best approach. Thus, interviews have been held with key persons from four separate departments, two of them belong to the FTS and the other two belong to the TAS.

Mainly interviews were conducted to analyze the following:

- Work activities and why things happen the way they are.
- Importance and criticality of documents utilized.
- Frustrations and impediments related to the current document flow or the current applied procedures.
- Foundations of the document inventory.

Influence of existing processes:

Since the MOFT is an already established entity, it is very critical to our upcoming design to take into consideration the existing processes. This will provide the most flexibility in getting a new system into life and, in the same time, laying out any obsolete procedures.

An eye has been kept on processes of the documents with regard to:

- Delays in any of the document flow cycle.
- Transfer time.
- Movement of files and the associated sequential processes.
- Identifying retention requirements.
- Identifying needs for reuse of information.
- Focusing on the approval process.

1.3 THE EXISTING CORRESPONDENCE AND CORRESPONDENCE FILING PROCESS REVIEW

To be able to propose recommendations and to grab the requirements for the new system to be introduced, the study of the current existing processes and their expected formal or informal influence on our final output was a major prerequisite.

With respect to the correspondence system, documents are both the input and the output of the workflow cycle. Initially, documents can be created somewhere else and get in as incoming correspondence, consequently, some processing is applied according to the content enclosed and, sometimes, it is even required to create a completely new set of documents in response to that correspondence. Both types of these documents flowing either as incoming or outgoing correspondence should end up in a safe storage area for at a least a certain period of time before disposal.

1.3.1 DOCUMENTS TYPE CLASSIFICATION:

Typically documents involved in the information flow throughout the MOFT can be broadly classified according to their type into the following two basic types:

Paper-based:

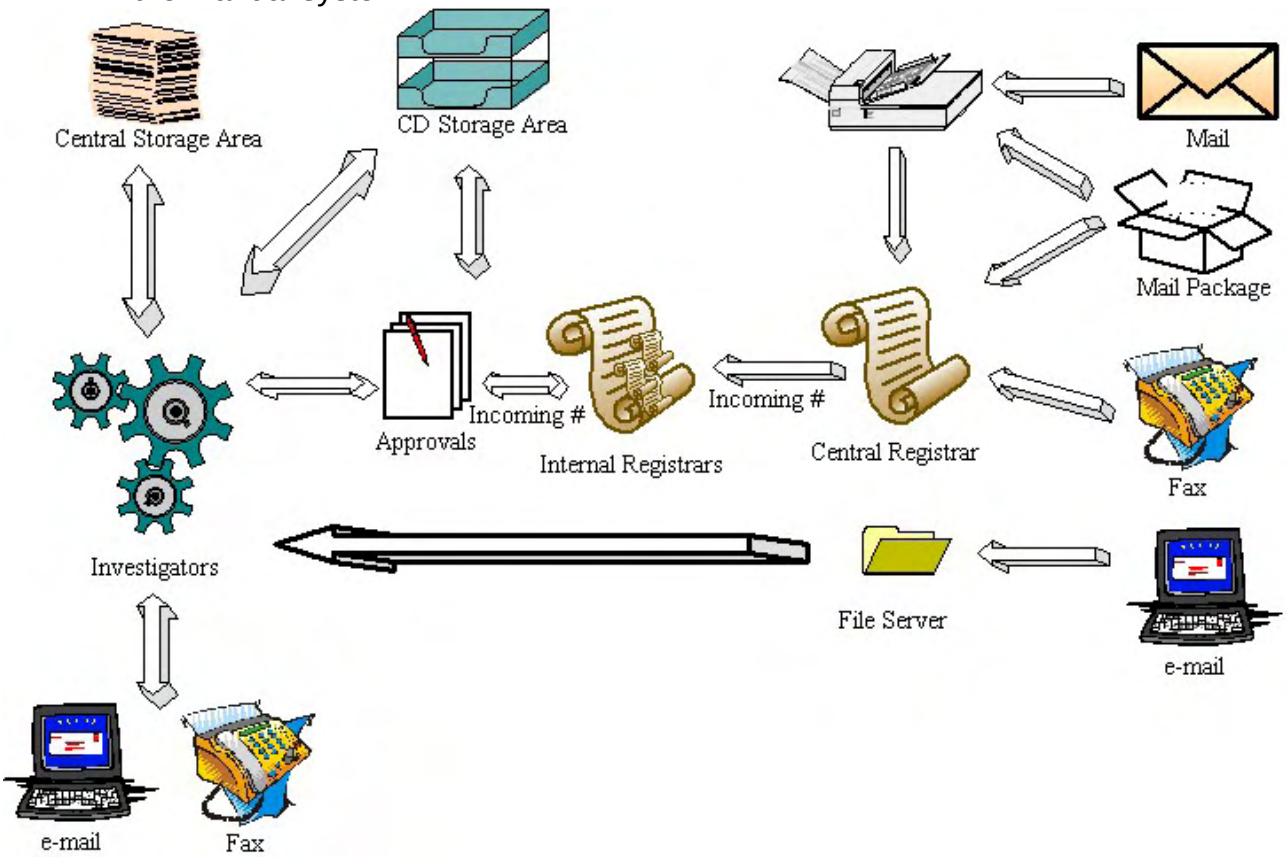
Such as
- Paper documents
- Attachments in the form of publications or books
- Fax documents

Electronic:

Such as
- E-mail
- Different formats of computer files

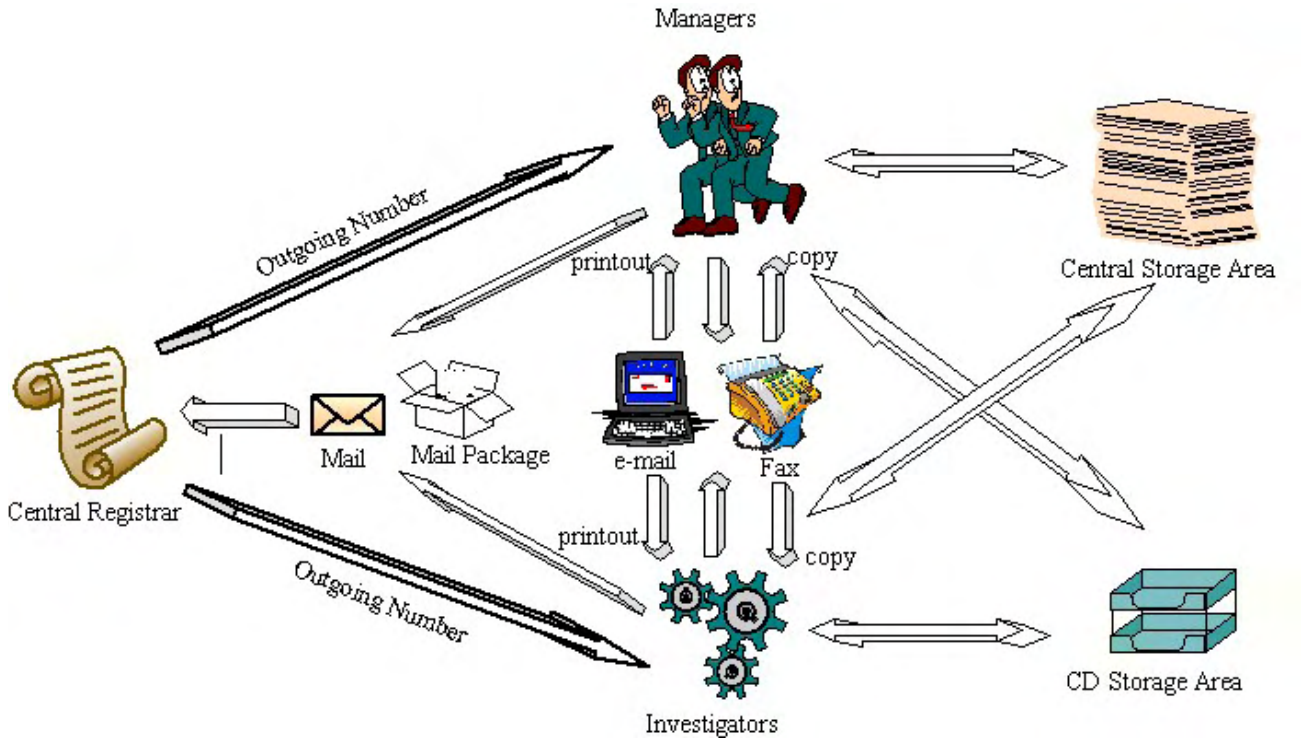
1.3.2 INCOMING DOCUMENTS WORKFLOW:

The following drawing represents a typical incoming correspondence cycle in the manual system.



1.3.3 OUTGOING DOCUMENTS WORKFLOW:

The following drawing represents a typical outgoing correspondence cycle in the manual system.



1.3.4 SAMPLES OF THE MANUAL SYSTEM FILING STRUCTURE:

The following are two typical sample filling structures as introduced by some of the investigators from the WTO/CD (World Trade Organization Central Department):

Sample #1:

- ملف خاص بمفاوضات النفاذ للأسواق
- مكاتبات الوزير (قد يحتوي على مذكرات دراسة الموضوع)
- المكاتبات الخارجية
- مكاتبات اللجنة القومية
- دراسات بشكل عام

Sample #2:

- تراخيص الاستيراد
- ملف المكاتبات
- ملف اخطارات
- ملف اجتماعات جنيف

1.3.5 General Paper-Based Potential Problems:

- Delayed response.
- Preservation of historic records.
- Lost files, incomplete files, cost to recreate files.
- Inability to know if users have the latest version of key documents.
- Photocopying, redundant files.
- Hard to index
- Time consuming to work with
- Hard to track through a work process
- Can be destroyed, misplaced or torn
- Requires large physical storage facilities
- Peripheral product costs (paper clips, staples, folders)

1.3.6 CURRENT ELECTRONIC ARCHIVING AND CORRESPONDENCE SYSTEM PROBLEMS:

- No unified way to record, and retrieve correspondence that arrives to the Sectors' offices.
- Electronic files are disseminated through several servers and PCs.
- There is no Central Document Management System for all departments, to be easily administrated and managed by IT Department.
- Inconsistent Response Processes
- Insufficient Historical Records

1.4 RECOMMENDATIONS FOR IMPROVING THE CORRESPONDENCE AND THE FILING PROCESS

According to the above analysis, it has been crystal clear that the current system with its embedded processes possesses a number of flaws. Some of them are inherent from the fact of employing a manual system which mainly relies on paper flow, and others are related to processes themselves. Thus, the following is the fruit of this analysis introduced as the requirements collected and should be turned into specifications for the piece of software to be developed and deployed.

Initially, a number of artifacts representing the proposed system will be introduced and a few diagrams go further in the expected behavior as appropriate without much involvement in any unnecessary details and without regard to any implementation issue. This section closes with the general electronic archiving and correspondence system benefits which are expected to bear fruits by the end of this project.

1.4.1 RECAPITULATION OF THE PROPOSED SYSTEM:

Although Sakhr proposal has detailed its vision for developing the appropriate solution for the correspondence and filing system to be deployed at MOFT, it is beneficial, herein, to restate this vision in the light of the outcome of the analysis in the form of the expected requirements.

The proposal of extending the current system was really very correct due to the fact of the scalability of the product, it has been put into test before in another department and already some employees are familiar with its basic functionality. Besides, a limited version of a correspondence has been developed before and depending on this experience will be very beneficial to the current project, especially with consideration to the project's limited time frame.

Some of the steps required to expand the current solution includes among others:

1.4.2 Expanding Arabdox DMS:

It is already known that the product Arabdox is a standalone Content Management and Workflow System which implies that it can still serves as our main backend. Furthermore, due to the flexibility of Arabdox and its inherent scalability, no changes are required to the system, except that the new licenses purchased for the Capture and the Imaging Servers will be fully utilized by the new, to be presented proposed solution. Besides, the new improvements added to the latest version of this product will make the customization more straight forward, as well as, making the best of the enhancements applied on the system core server.

1.4.3 Enhancing the current Correspondence System applied in TAS Department:

Although the current AWFS (Automatic Workflow Solution) which was previously implemented by Sakhr should remain in action, it is

recommended that it would be ported to the latest version of the product Arabdox, to get the best of the applied improvements to the product.

With regard to the limited version of the internal correspondence system augmented with the AWFS solution, it is highly recommended that the new solution would replace it, taking into account any pending tasks which still utilize that limited version.

1.4.4 Purpose of the new enhanced Correspondence System

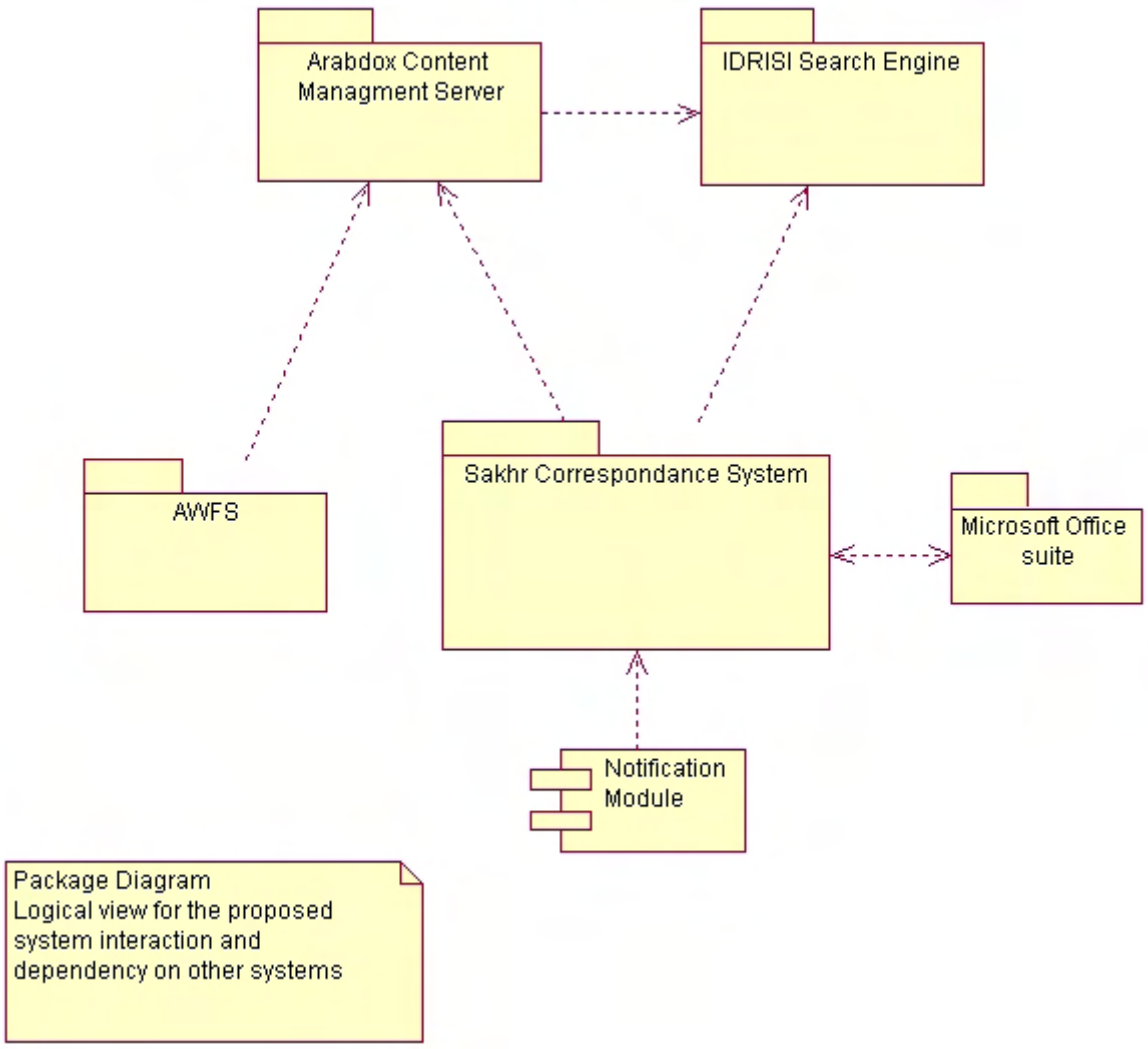
The purpose of new Sakhr Correspondence System is to manage correspondence. This means, briefly, tracking responses to outgoing correspondence, to reduce communication delays, and track responses to incoming correspondence to ensure all teams are taking appropriate actions to the issues as they arise.

1.4.5 PROPOSED SYSTEM STRUCTURE:

The proposed system for managing the correspondence as well as the filing requirements can be best described using a language of Software Engineering, such as UML (Unified Modeling Language), which is used herein. Package Diagram has been used to identify both a top view of the system, as well as, a logical view of the components which constitute the correspondence system.

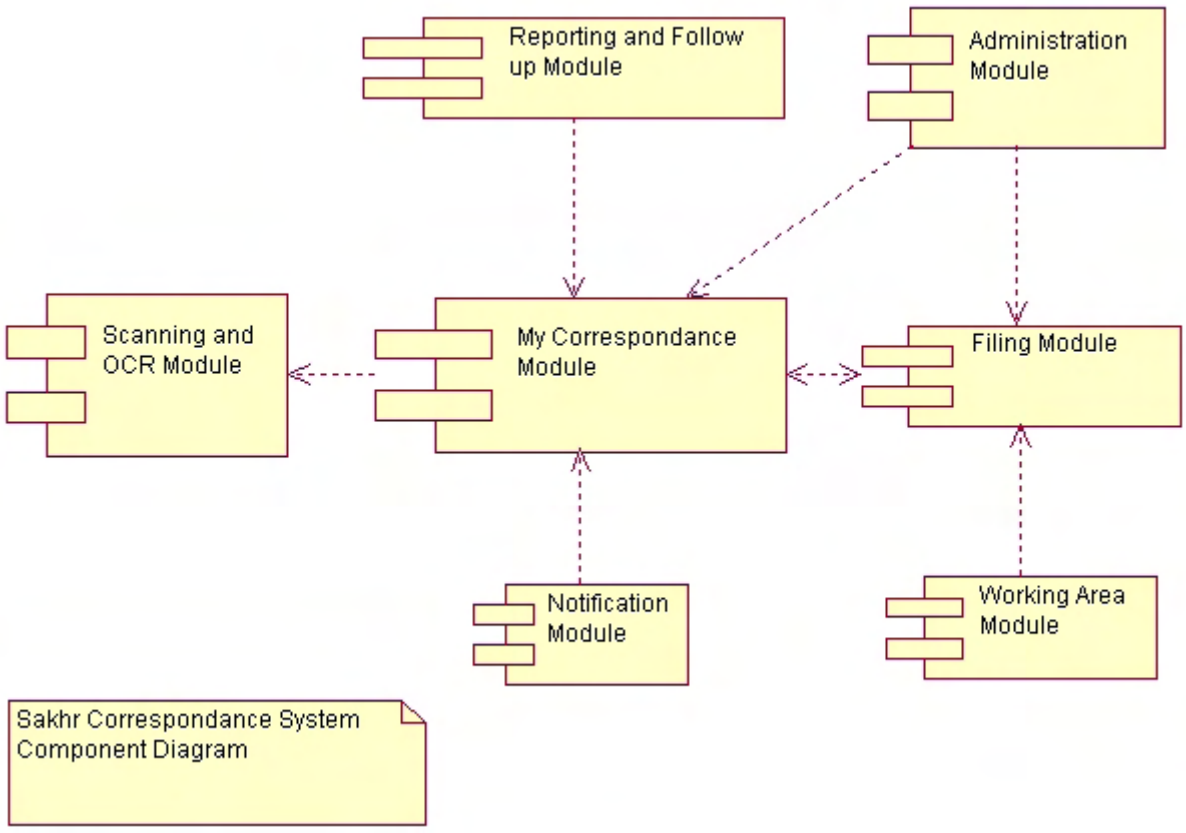
1.4.6 PACKAGE DIAGRAM FOR THE OVERALL SYSTEM:

UML packages can be used to organize any type of UML classifier. The following diagram visualizes the interaction between the proposed system with those which do already exist, as well as, with those which integration is prospected.



1.4.7 COMPONENT DIAGRAM FOR THE SAKHR CORRESPONDENCE SYSTEM:

Our focus in the previous diagram, was mainly around the Sakhr Correspondence System, thus a more elaborate diagram is laid down in the following diagram emphasizing the different modules which constitutes our system. Those modules enclose all the expected requirements from the system.



My Correspondence Module:
This module includes the basic functionality of the correspondence system such as retrieving the Incoming\Outgoing correspondence documents, replying to certain correspondence, and initiating new correspondence. Moreover this module provides the facilities to file the correspondence and any related documents in a relevant tree structure.

Working Area Module:
This module introduces a handy place for the logged in user to easily explore the documents s\he is working on at a specific time.

Notification Module:
This module provides a notification mean, so that each user should be almost instantaneously aware of any new correspondence transaction. Besides, any required notifications will be augmented to this module

Scanning and OCR(Optical Character Recognition) Module:
This module is mainly focusing on the scanning features and the OCR capabilities to convert raw images into editable text.

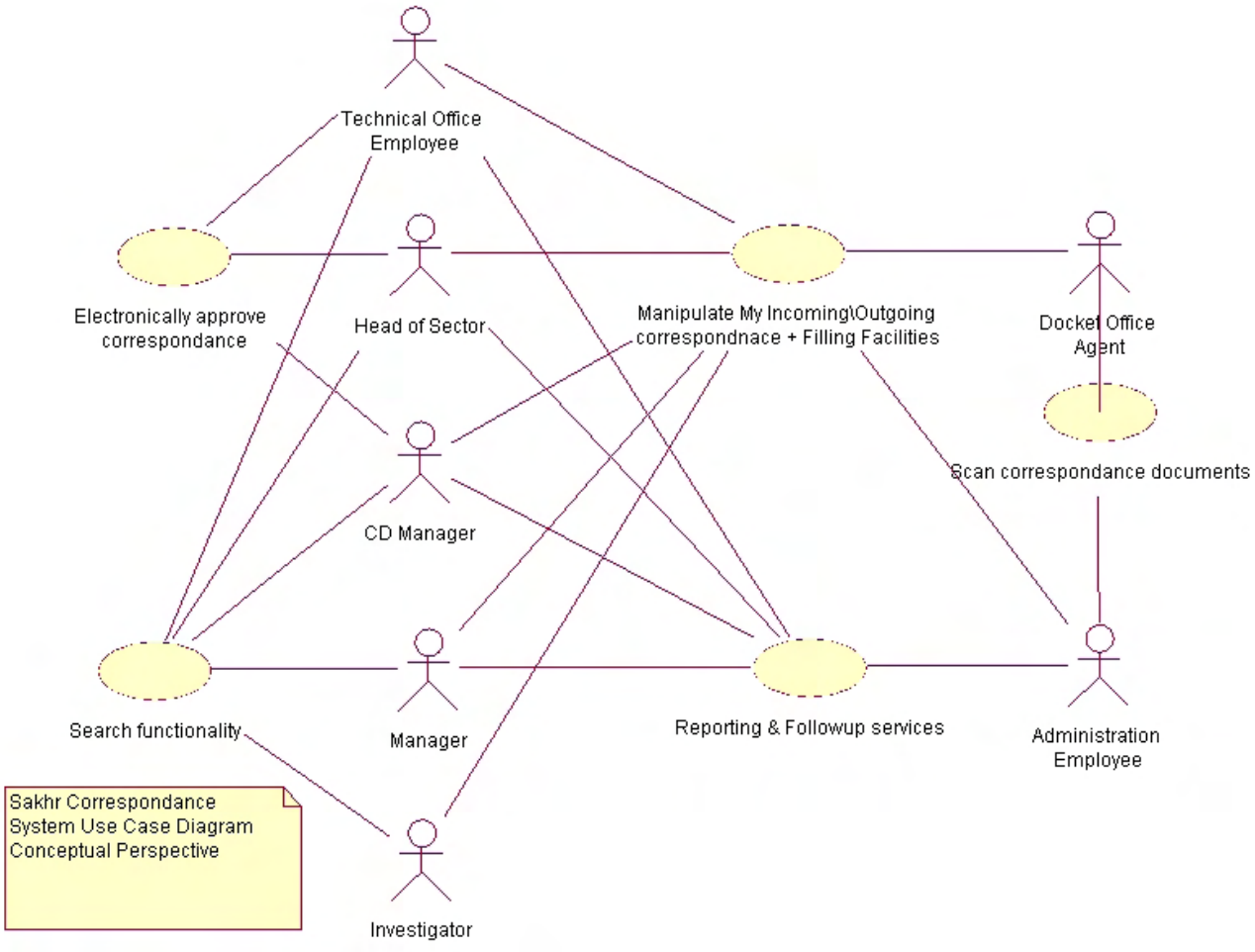
Reporting and Follow up Module:
All the reporting and follow up is collected in a separate module, where those features will be only available who have the appropriate rights to generate those reports.

Administration Module:
Administering the Correspondence System is an indispensable capability to have full control over the system. Some the administrative tasks include, adding users to the system, assigning specific users to specific files, or managing the storage areas.

1.4.8 USE CASE DIAGRAM FOR THE SAKHR CORRESPONDENCE SYSTEM:

UML Use Case Diagrams are used to describe the functionality of a system in a horizontal way. That is, rather than merely representing the details of individual features. They are used to show all of its available functionality depending on the garrulity required. No special order of the use cases is considered; however, the roles should be precisely linked to only the use cases to which they need to have access.

The following use case diagram is a coarse representation of the Sakhr Correspondence System. More detailed requirements will be separately listed afterwards.

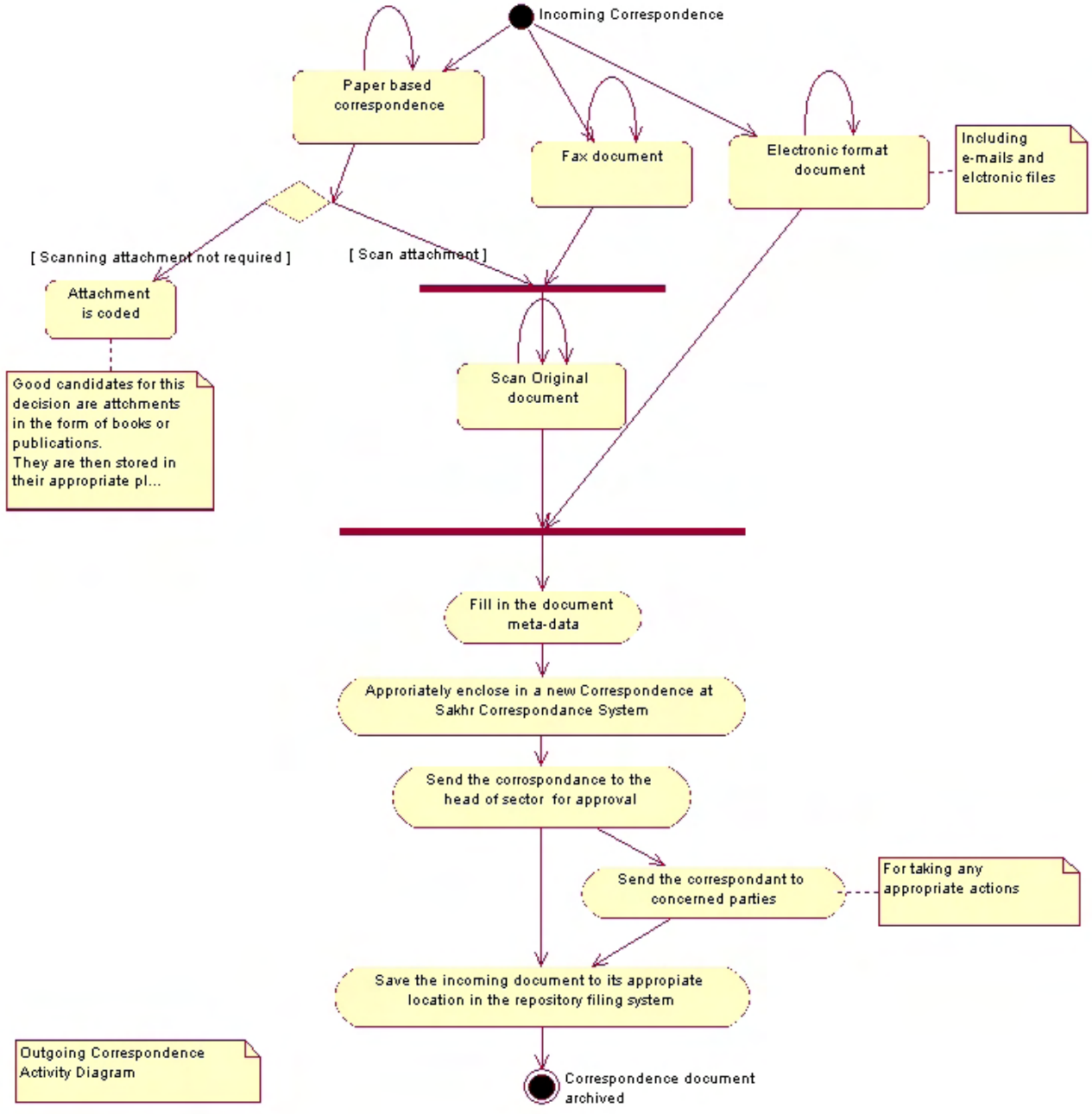

Technical Office Employee
Electronically approve correspondance
Head of Sector
Manipulate My Incoming\Outgoing correspondnace + Filling Facilities
Docket Office Agent
Scan correspondance documents
CD Manager
Search functionality
Manager
Reporting & Followup services
Administration Employee
Sakhr Correspondance System Use Case Diagram Conceptual Perspective
Investigator

1.4.9 ACTIVITY DIAGRAMS:

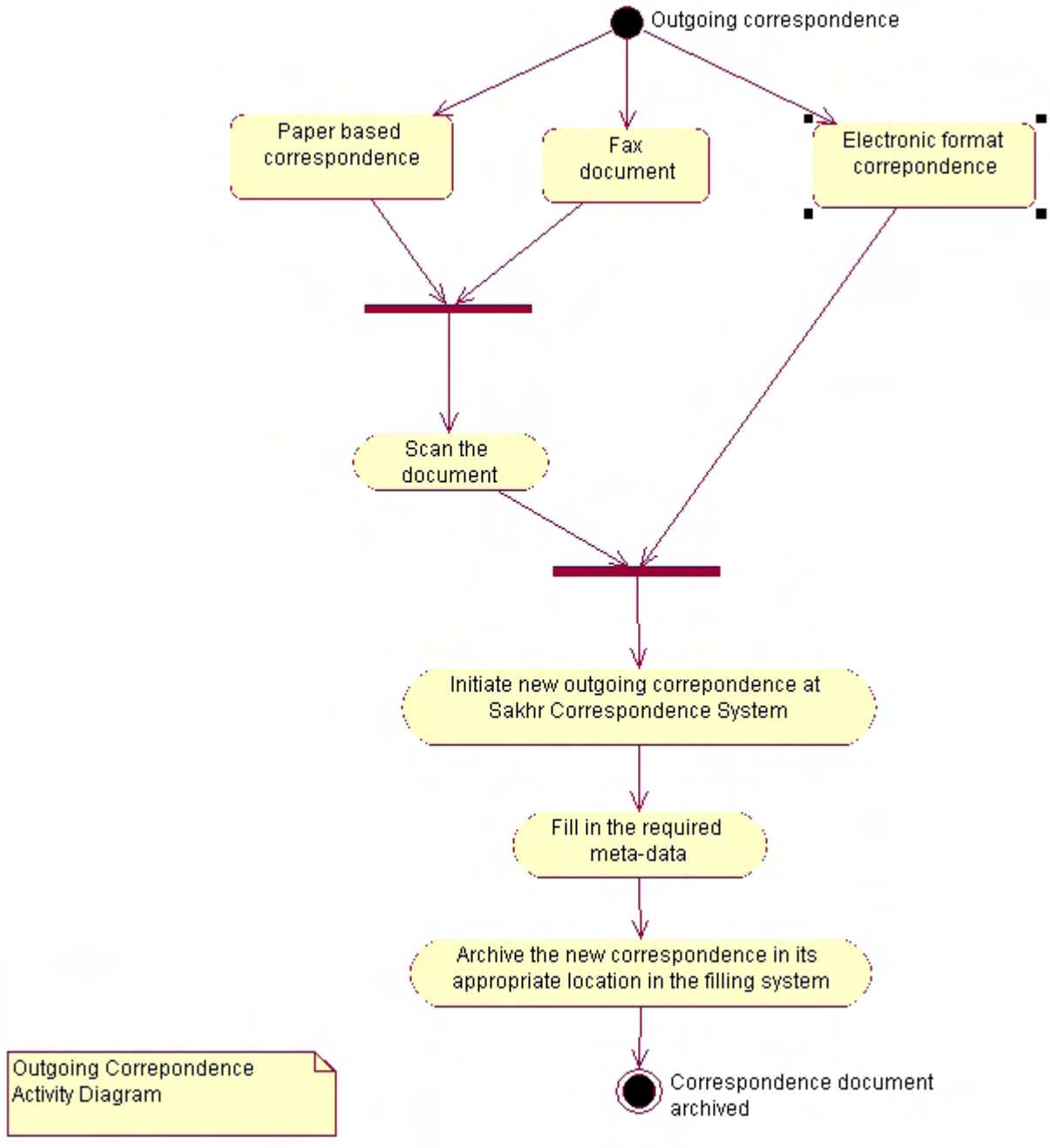
Activity diagrams are typically used for business process modeling, for modeling the logic captured by a single use case or usage scenario, or for modeling the detailed logic of a business rule. In many ways UML activity diagrams are the object-oriented equivalent of flow charts and DFDs (Data Flow Diagrams) from structured development.

This section is not intended to be exhaustive. It only discusses scenarios which require more elaboration. This helps in shedding more light on them, in addition to, facilitating the process of designing an adequate data model or implementing their business logic.

1.4.10 ACTIVITY DIAGRAM FOR THE INCOMING CORRESPONDENCE:



1.4.11 ACTIVITY DIAGRAM FOR THE OUTGOING CORRESPONDENCE:



1.4.12 General Electronic Archiving and Correspondence System Benefits:

Although transforming the current manual correspondence procedures into an automated processes implies many advantages through the newly introduced features, this transformation is also packed with a number of benefits inherent from the usage of an electronic system.

- Faster work processing.
- Able to process more work.
- Space reduced and growth controlled.
- Workers are more effective with immediate access to information.
- No lost files or missing documents.
- Improved records management and security.
- Directing relevant information and documents to the right people when they need it.
- Reducing time spent on unproductive activities, mainly searching for information.
- money savings come from reduced:
    - Photocopying costs
    - File cabinets, folders.

1.4.13 FUNCTIONAL REQUIREMENTS:

In general, requirements are partitioned into functional requirements and non-functional requirements. With respect to the functional requirements, they are associated with specific functions, tasks or behaviors the system must support.

	Description
Correspondence Management	
	Web-based correspondence management solution with central data repository. The system provides you with secured access that enables authorized users to access the system via a Web Browser.
	Manage and track incoming and outgoing correspondence, tracking will be done with several ways by: Correspondence Number, Date, Status, Action, …etc.
	Ability to capture data about the correspondence/document in electronic form in various formats (i.e. word, Excel, PowerPoint, TIF, PDF).
	Controls the issue and receipt of all organization correspondence, whether the item is a letter, a fax, email or any other type of communication.
	Manage the creation, approval, the sending, and receipt of all outgoing and incoming correspondence types.
	Responses to Incoming correspondence are generally managed by actions.
	Responses to outgoing correspondence are normally controlled via the Respond By and Responded fields.
	Receiving Correspondence Notifications through Microsoft Outlook, the system shall notify any user with the new correspondence comes.
	Generation of outgoing correspondence using Microsoft Word.
	The system shall provides fast search and simple retrieval of any correspondence information, with high search capabilities using our search engine (Sakhr IDRISI)
	Web-Based Search tool for Registrar person to easily find and locate paper-based documents.
	Head of Sectors and CD Managers, have the ability to approve documents and to recommend certain actions electronically (using the Light pen).
	Linking correspondence to its related documents, and duplicate documents.
Reporting	
	The system shall provide many standard reports, and the status of all tracked correspondence.
	The system shall enable reports both standards and user-defined

The system shall provide periodic reports (daily, weekly, monthly, yearly)
Integration
Full Integration with AWFS - Case Management System.
Full Integration capabilities with ArabDox Document Management System
Ability to integrate with ArabDox Workflow system
High Outlook Integration, for correspondence received by email, the system has an e-Correspondence module to facilitate importing these mail items directly into the correspondence system, including file attachments.
ArabDox Document Management System Features
ArabDox Explorer is used to manage the repository in a similar way to windows explorer.
Search in document properties and content in one query
Automatic extraction of index fields using OCR
Highlighting search results, in document attachments, and content text
Integration with Third-party Applications
Email Notifications

1.4.14 NON-FUNCTIONAL REQUIREMENTS:

In addition to covering the way in which the system should behave with respect to compliance to the external requirements, there exists another type of requirements which are the set of non- functional requirements. The following list includes some of these requirements.

1- Security:
The application belongs to a suite of applications where any breaches to the security considerations means a risk of violating the laws. This implies the urgent need to develop this application with security patterns and best practices in mind.

2- Reliability:
This application is going to have user interfaces to be utilized by almost all the ministry employees to carry on their day-to-day tasks. The level of availability to be achieved must take into account the number of concurrent users, as well as, the expected workload.

3- Usability:
This is a basic non-functional requirement in any piece of software which means that it is indispensable, especially, when the expected users are most probably not computer expects.

4- Efficiency:
The application must effectively provide clear and easy steps to perform all the actions from creating the documents, manipulating them, to archiving them in an appropriate filing structure. Due to the repetitive nature of these operations, this requirement must be highly considered and thoroughly tested.

5- Performance:
There is nothing worse than a frustrated user who spends minutes in doing which was expected to be performed in seconds. Consequently, different sections should be tested for the least acceptable turn around times taking into consideration the amount of the documents to be handled.

6- Interoperability:

This actually represents a challenge in the world of the Internet browsers vast releases; however, according to market surveys, full support for the most popular browser must, at least, be guaranteed.

1.5 CONCLUSION

This document is the outcome of the analysis phase carried out at the MOFT premises and involved a number of key persons in different departments. An analysis methodology has been well defined with a set of prospected goals defined before starting this task.

This work also involved an exploration of the current correspondence and filing system, so that were defined and are going to be considered in the new System.

Some recommendations have been concluded in the form of a list of requirements that are ready to be translated into specifications for the new Sakhr Correspondence System. Moreover, UML artifacts have been utilized as appropriate to facilitate understanding the expected system features and behaviors.

2. Task 2 Deliverables

Deliverable Name: Policy and Procedures Manual

Deliverable Description:

- Develop coherent policies, standards and procedures governing the correspondence filing process (paper-based and electronic) that can be implemented by TAS / FTS.
- The contractor, working with TAS and FTS counterparts, should define comprehensive policies and procedures that define roles and responsibilities of human resources that will maintain and monitor the correspondence filing system, as well as a retention schedule that should be specifically defined for all existing categories of correspondence and specific procedures to dispose that no longer are needed.
- The polices and procedures will serve as a training guide for new staff and a reference tool for current staff and provide uniform standards that will increase the efficiency of managing correspondence files.

RECORDS MANAGEMENT POLICY

2.1 INTRODUCTION

Records management is a process of ensuring the proper creation, maintenance, use and disposal of records throughout their life cycle to achieve efficient, transparent and accountable governance.

An organization keeps information resources to support its operations, as well as to fulfill legal and other obligations. A records management policy will satisfy the following three criteria:

- It should be flexible;
- It should be implementable; and
- It should be cost effective.

2.1.1 PURPOSE

The purpose of this policy is to establish a framework for the creation and management of records - paper, and electronic records and enable records mangers to compile their own comprehensive records management policy using the guidelines as a basis to work from.

2.2.2 DEFINITION OF RECORD

According to ARMA International (Association for Records Managers and Administrators, is the guiding industry group for records management in the U.S.) in their publication “Developing and Operating a Records Retention Program”, a record is defined as any information on any media, either an original or copy, made or received by an organization that is useful in the operation of the organization.

A vital record is a record that is regularly referenced or required for the day-to-day operation of the business or organization.

A records management program is the systematic control of all records from creation, receipt through distribution, processing, maintenance, retrieval and ultimately, destruction.

A record captures and preserves content, structure and context through time:

- Content: What – the data included (minutes of a board meeting, findings of a technical study, personnel evaluation information)
- Structure: How recorded, format (correspondence on letterhead, a bound report with title page, index, or a pre-printed form)
- Context: Who, when and why (data document created, author, organization, address).

2.1.3 RECORDS AS EVIDENCE

In addition to retention and record keeping requirements relating to paper-based information, there are also issues concerning legal documentation criteria that must be considered.

The general rules governing whether or not records are admissible and will be allowed into evidence in legal matters as follows:

- Records must be made at or near the time of the event
- Records must be made by or from a person with knowledge of the event
- Records must be kept in the regular course of business
- Records must be kept because it's the regular practice of the business to keep these records.

The custodian of the records or other qualified witness must provide testimony showing the above requirements have been met.

2.1.4 COST OF RECORDS

Keeping records when there is no reason will have a cost associated with it. There are tactical costs of keeping up with file cabinets, folders, materials, and labor to keep them all organized. The more files you have, the longer it will take to find any particular document – a cost in productivity.

This last cost is even more pronounced during legal discovery processes where the organization might be required to produce

2.1.6 PUBLIC RECORDS DEFINED

The term "public records" applies to any paper, correspondence, form, magnetic record, drawing, or other document (regardless of media), that has been created or received by any governmental agency.

2.2 RECORDS RETENTION VALUES

2.2.1 ADMINISTRATIVE VALUE

Records have administrative value as long as they provide information needed for an agency's current or future operations. Generally, eighty percent of the references made to a record occur within one year from the date it is created. The administrative value of most records is exhausted within two years. However, a few records provide information about an agency's origin, organization, policies and functions, which has long-term administrative value.

2.2.2 LEGAL VALUE

Records have legal value as long as they provide enforceable documentation of the agency's rights and obligations. Ordinances, resolutions, contracts, and agreements are examples of records of primary legal value. Some records, such as governing council minutes, ordinances and resolutions, have permanent legal value. The legal value of other records, such as contracts and agreements is limited by the time they remain in effect plus the statute of limitations on the agency's liability for the terms and conditions that they document. Thus, the standard retention period for contracts and agreements is termination plus six years.

2.2.3 FISCAL VALUE

Records have fiscal value as long as they provide information needed to track agency revenue and expenditures or to document its financial transactions. Examples of records with primary fiscal value include budgets, allotments, ledgers, periodic accounting reports, vouchers, and warrants. Fiscal records that also have legal or official value, such as primary copies of budgets, ledgers, and vouchers have longer-term retention value than fiscal records with administrative value, such as periodic accounting reports.

2.2.4 RESEARCH/HISTORICAL (ARCHIVAL) VALUE

Some records have long-term research value because they provide significant documentation concerning the development of the agency's mission, policies, programs, and the area(s) it serves through time. Once the agency determines that the administrative, legal, and fiscal needs for such records have been exhausted the records should be transferred to the appropriate State Archives Regional Branch for long-term preservation and public research use.

2.2 ROLES AND RESPONSIBILITIES

2.2.1 THE DESIGNATION AND RESONSIBILITES OF A RECORDS MANAGER

Each head of sector TAS/FTS must designate a records manager, his/her responsibilites as follows:

- who will be responsible for the effective, efficient and accountable control of all the public records.
- The records manager should be an official in a relatively senior central position in the organization and must be able to commuincate easily with division heads and senior management.
- The records manager should have knowledge of the body organizational structure functions and records classification systems.
- The records manager and registry head should not be one and the same person.
- The records manager is required to attend training and courses provided to records managers.
- The position of the records manager is of a supervisory and managerial nature.
- The practical work connected to his/her responsibilities may be delegated to subordinates, like the registry head.
- The records manager is responsible for overall control over the compilation, implementation, maintenance and utilization of approved filing systems.
- The records manager should ensure that registry staff is trained in the allocation of reference numbers and in filing system maintenance procedures.
- The records manager should also ensure that all the users of the system are trained to allocate reference numbers to correspondence, to ensure that records are not misplaced.
- Supervision over the implementation and maintenance of the filing system must be ensured.
- The records manager should ensure that the disposal authority is applied at least once a year to ensure that archival records are transferred into archival custody and that non-archival records no longer needed are destroyed.
- The records manager should ensure a written disposal authority is issued in respect of all records before any records are disposed of. He/she should ensure that all staff are aware that records may not be disposed of without a written disposal authority having been issued by
- The records manager should also ensure that all staff is aware of the penalty for the unauthorized destruction or mismanagement of records.
- The destruction of non-archival records must occur in the presence of the records manager. He/she must before destroying non-archival records ensure that no work is outstanding.
- Records managers must ensure that all destruction actions are properly documented.
- The records manager should supervise the transfer of archival records to an appropriate archives repository when the time is right.
- The records manager is responsible for ensuring the safe custody and storage of all records in all formats.

- The records manager should conduct regular inspections.
- The records manager should develop a program whereby the building, temperature, humidity, air quality, and light in storage areas are monitored.
- The records manager should also inspect the records themselves to monitor for signs of deterioration.
- The records manager should ensure that a proper disaster management program is in place and communicated through the organization.
- The records manager should ensure that all staff are aware of the importance of security in the buildings and records storage areas.

Job Title	Number of staff	Name
TAS Records Manager	1	<Please nominate this person>
FTS Records Manager	1	<Please nominate this person>

2.2.2 THE DESIGNATION AND RESONSIBILITES OF REIGSTRY STAFF

- Registry staff is responsible of the allocation of reference numbers and in filing system maintenance procedures to ensure that records are not misplaced.
- Responsible for applying all policies and procedures governing compilation, implementation, maintenance and utilization of approved filing systems.
- Responsible for folders, and cabinets labelling
- Responsible for dealing with Web-Based system that requires entering paper physical location.

Job Title	Number of staff	Name
TAS Registry Staff	2	<Please nominate these persons>
FTS Registry Staff	2	<Please nominate these persons>

2.2.3 THE DESIGNATION AND RESONSIBILITES OF DOCKET OFFICE STAFF

- Responsible of using ArabDox DMS Capturing system to control on the documents starting from scanning, ending by releasing to storage subsystem
    - Scanning
    - Images' Quality Control
    - Rescanning
    - OCR
    - Indexing
    - Releasing

Docket Office Work

Scanning Station

The object of this station is to transfer the user's documents to the PC as scanned copies. This station supports all types of scanners.

QA Station

The object of this station is to get the best image for the paper document. This station ensures the quality of the scanned images. The station can reverse colors of the scanned images or adjust the slant image and other QA adjustment operations. You can rotate the image when needed or make horizontal or vertical orientation. You can also select adjust image and in the dialogue box adjust image you can perform various tasks like:

- Adjusting the slant images
- Removing black stains from white spots
- Removing the shaded spots
- Adjusting the image bottom margin
- Adjusting the image top margin
- Removing vertical lines
- Removing horizontal lines
- Removing horizontal stains
- Removing vertical stains
- Removing separate stains
- Adjusting all

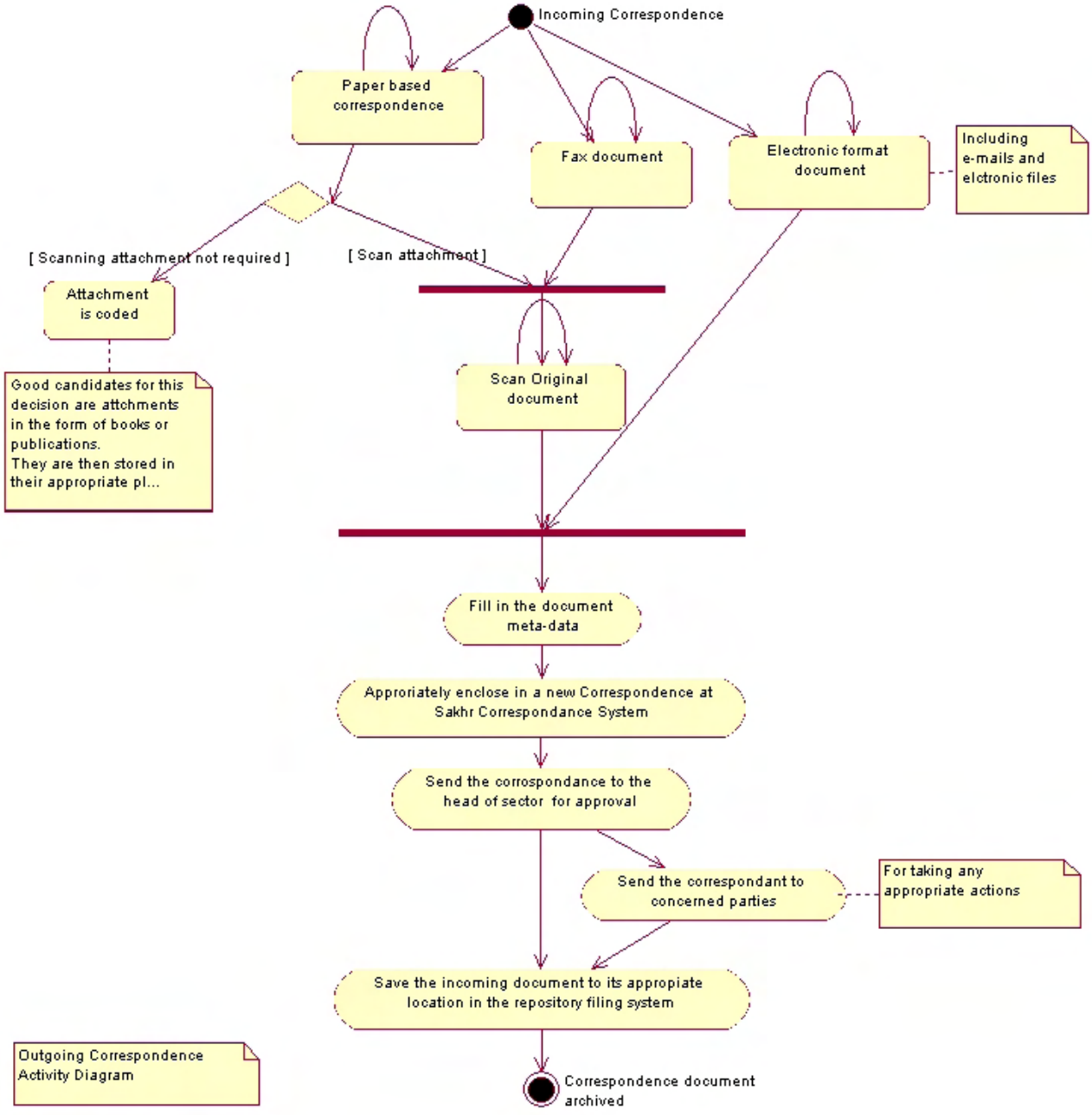
Indexing Station

The station enables the user to revise data (whether a free text or index field) easily.

The index fields are located in the left side of the document, whereas the scanned copy is to the right side and the free text below. It is noted that if the user is on the field Employee Name, for example, the program automatically displays this part of the scanned document to facilitate revision. The indexing station is characterized with many privileges that we will discuss later.

Job Title	Number of staff	Name
TAS Scanning	1	<Please nominate this persons>
TAS Quality Control	1	<Please nominate this persons>
TAS Re-Scanning	1	<Please nominate this persons>
TAS Indexing	1	<Please nominate this persons>
FTS Scanning	1	<Please nominate this persons>
FTS Quality Control	1	<Please nominate this persons>
FTS Re-Scanning	1	<Please nominate this persons>
FTS Indexing	1	<Please nominate this persons>

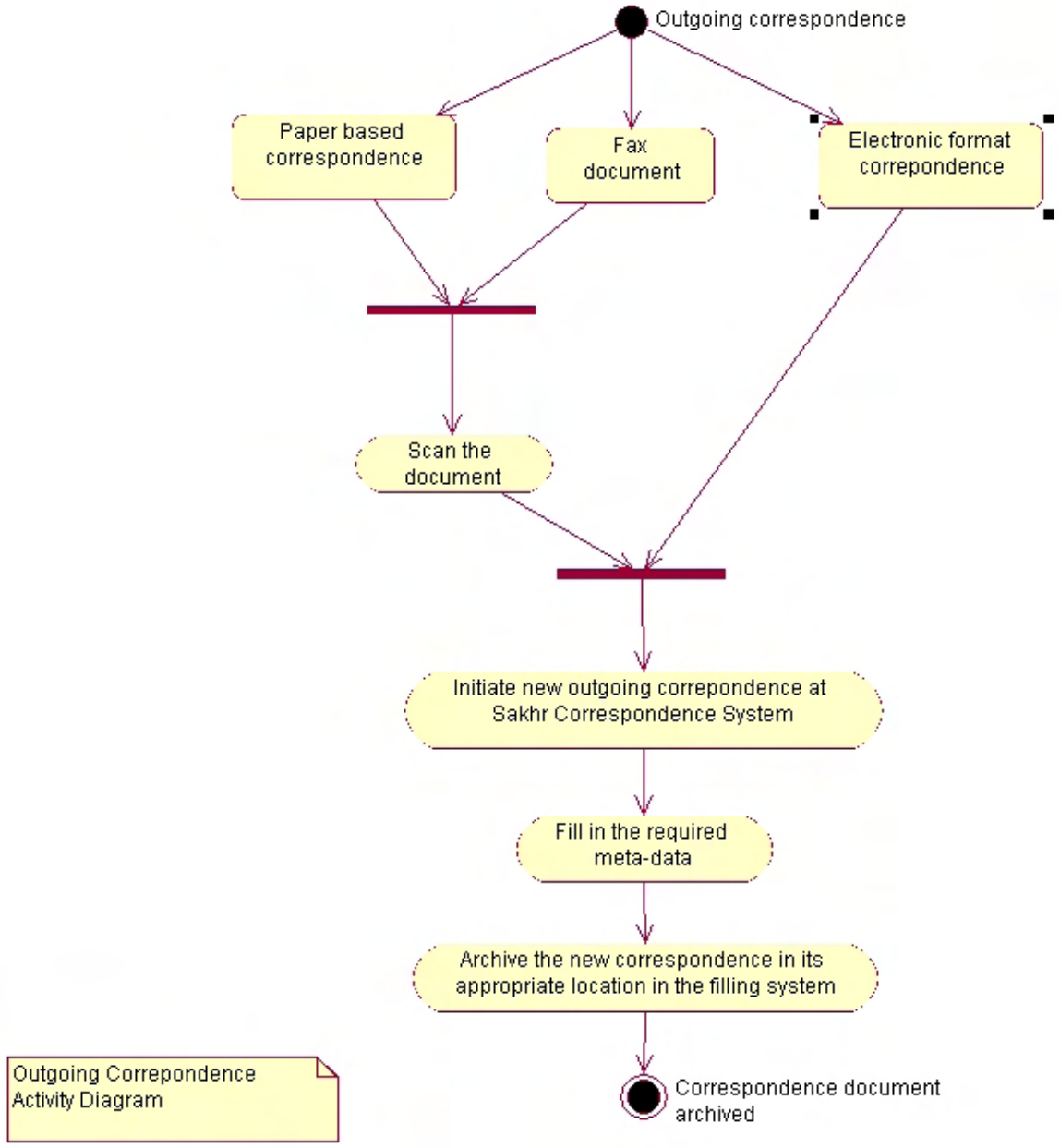
Incoming Correspondences Workflow



Incoming Correspondences Steps

1. An incoming correspondence (fax or letter) comes to the ministry.
2. The incoming correspondence will be direceted either to TAS or FTS.
3. The central correspodneces registrar issues a serial incoming correspondence number.
4. The incoming correspondence will be directed to the head of sector for distribution and action.
5. The technical office will receive the correspondence and send it to the Docket Office.
6. The Docket office will use the ArabDox DMS Capturing – Scanning Workstation.
7. The Docket office will use the ArabDox DMS Capturing Indexing Workstation to fill in the following document metadata:
    a. Sector Name اسم القطاع
    b. Central Department اسم الإدارة المركزية
    c. Sub Department اسم الإدارة الفرعية
    d. Registration Number رقم القيد
    e. Receiving Date تاريخ الورود
    f. Coming From الجهة الوارد منها الخطاب
    g. Incoming Number رقم الخطاب الوارد
    h. Number of Attachments عدد المرفقات
    i. Subject الموضوع
8. After that, these papers will be electronically saved and archived under the general correspondence In-folder in the ArabDox Document Management System.
9. The technical office will distribute to the relevant persons
10. After that the physical paper will returned back to central archives
11. The central registrar will place the physical paper in the right building, room, cabinet, shelve and folder based on the applied coding system.
12. There will be a label on each folder which contains the following:
    a. Number (The folder order inside the cabinet)
    b. Subject
    c. Subject Serial Number (In case each subject has more than one folder)
    d. Year
13. The Registrar person will use an electronic Web-Based System to do the following:
    e. Adding, and Editing paper location details
    f. Fast Search to get the physical location of requested paper.
14. The Registrar person will use an electronic web-based system to add the following information for each paper:
    a. Building Name
    b. Floor Number
    c. Room Number
    d. Cabinet Number
    e. Shelve Number
    f. Folder Number

Outgoing Correspondences Workflow



Outgoing Correspondences Steps

1. An employee wants to send a fax or letter outside the sector to a country or any party.
2. The employee can generate the letter from the system
3. And then print the document
4. Then sends it to the Head of Department, asking for approval.
5. The central correspodneces registrar issues a serial outgoing correspondence number.
6. The outgoing correspondence will be directed to the head of sector for distribution and action.
7. The technical office will receive the correspondence and send it to the Docket Office.
8. The Docket office will use the ArabDox DMS Capturing – Scanning Workstation.
9. The Docket office will use the ArabDox DMS Capturing Indexing Workstation to fill in the following document metadata:
    g. Sector Name اسم القطاع
    h. Central Department اسم الإدارة المركزية
    i. Sub Department اسم الإدارة الفرعية
    j. Outgoing Number رقم الخطاب الصادر
    k. Date التاريخ
    l. Directed To الجهة المرسلة إليها الخطاب
    m. Summary of Outgoing Letter ملخص الخطاب الصادر
    n. Sending Type نوع الإرسال
    o. POD Number
    p. Responsible Person
10. After that, these papers will be saved and archived under the general correspondence Out-folder
11. The technical office will distribute to the relevant persons
12. After that the physical paper will returned back to central archives
13. The central registrar will place the physical paper in the right building, room, cabinet, shelve and folder based on the applied coding system.
14. There will be a label on each folder which contains the following:
    g. Number (The folder order inside the cabinet)
    h. Subject
    i. Subject Serial Number (In case each subject has more than one folder)
    j. Year
15. The Registrar person will use an electronic Web-Based System to do the following:
    k. Adding, and Editing paper location details
    l. Fast Search to get the physical location of requested paper.
16. The Registrar person will use an electronic web-based system to add the following information for each paper:
    q. Building Name
    r. Floor Number
    s. Room Number
    t. Cabinet Number
    u. Shelve Number
    v. Folder Number
    w. Sector Name

Records Management and Care Policies and Procedures:

Records require storage conditions and handling processes that take into account their physical and chemical properties. Storage conditions and handling processes should be designed to protect records from unauthorized access, loss, damage, destruction, theft and disaster.

General

1. Records should be stored on media that ensure their usability, reliability, authenticity an preservation for as long as they are needed.
2. All records must be stored in areas where they are effecitvely protected against fire, and unauthorized access.
3. Records should not be exposed to conditions where rough handling, exposure to heat, damp or humid conditions, dust, pests or related hazards can damage them.
4. Care must be taken not to use hazardous cleaning materials in the rooms where records are kept. Files, boxes and any other packaging materials should be made of acid free archival materials.
5. Fluorecent tubes that are low in the ultraviolet light should be used wherever possible in storage areas.
6. Lights should be turned off whenever possible. Storage areas should preferably not to have windows. But if they do they should be covered with dark curtains or blinds to prevent damage that could be caused by direct light.
7. Insects and rodents once attracted to a records storage area may damage the records so
    a. Do not eat, drink or smoke in storage areas.
    b. Keep surfaces (floors, tops of shelves) clean.
    c. Bait regulary for rodents and fumigate annually for insects.
8. Shelves should be made of coated metal. Wooden shelving should be avoided, as it can release harmful vaporous, can contribute to the spread of fire and may harbour insects.

Caring for specific types of records (Paper-Based)

1. Corresondence files in current use should be accomodated in a spacious office area centrally located know as **storage room**
2. The office sapce allocated to a registry must be Able to accommodate the growth in documenation.
3. The registry area should be separated by a counter to prevent the entry of unauthorized persons and to protect the records.
4. Correspondence should b stored neatly in file covers. Do not fold items like maps, drawings and plans to fit them into the file covers. If an item must be folded to fit a file, copy it and fold the copy for the file, keeping the original elsewhere.
5. Bulky records such as reports, minutes of meetings and other bulky materials should be placed in an annexure cover.
6. Records placed on correspondence files should be arranged chronologically, according to the date on which they were received in the registry.
7. Original faxes made on thermal (heat sensitive) paper should not be placed on files as they fade over time.
8. photocopies of these faxes must be made and placed on the files.
9. The original thermal paper faxes can be destroyed.

10. Correspondence files should preferably be stored in acid free cardboard containrs in cabinets and shelves to provide physical protection against fire and dust. The way in which files are arranged in boxes is very important
    a. Files should preferably be stored upright with the spine to the back of the box.
    b. If thin items are stored on their edges, they must be supported to avoid curling and sagging of the paper.
    c. Boxes should not be too big or too small, and should not be too full or too empty, as easy retrieval means less damage through handling.
11. The greatest care should be exercised when handling the records, to ensure that they are not damaged.
12. paper records should be stored at temperature between 18-20°C and relative humidiites between 40-45%

Training Policies and Procedures:

The records management program should be staffed by personnel with appropriate skills and knowledge to ensure that it is effective, efficient, transparent and accountable.

1. Records management is a shared responsibility between users, records managers, and managers.
2. All creators of records should be equipped with the necessary skills to capture and manage reliable and authentic records.
3. The ministry may choose a third party supplier to provide records management training.

Compliance Monitoring Policies and Procedures:

The records management program should be regularly monitored to ensure that it is effective and that it meets the requirements.

1. Head of sectors should ensure that compliance monitoring is regulary undertaken to ensure that the records policies and procedures are properly implemented.
2. A record management checklist that can be used as a basis
    a. Policy
        i. Is the records management policy known to all members of staff?
        ii. Is the records management policy reviewed at regular intervals?
    b. Resources
        i. Has the records management program been allocated the appropriate resources (finanaces / staff / equipment) to enable it to be maintained?
    c. Responsibility
        i. Does the head of sector have a formally designated records manager?
    d. Disposal system
        i. Has a disposal authority been issued for it?
        ii. Are the disposal authorities carried out on a regular basis?
    e. Record keeping procedures
        i. Do all members of staff know how these records are to be identified, kept and used?
        ii. Are al members of staff capable of allocating the correct file reference numbers to all paper-based and electronic files?
    f. Physical custody and care
        i. Has the records manager approved all locations for records storage?
        ii. Are the storage areas dedicated to records storage?
        iii. Are paper-based correspondence files stored with the approved coding system.
        iv. Are all records protected against
            a. Careless and rough handling?
            b. Fire damage?
            c. Water damage?
            d. Excessive light?
            e. Unauthorized removal?
            f. Dust?
        v. Are all electronic records system protected against
            a. Tampering?
            b. Unauthorized alteration?
            c. Accidnetal damage or destruction?
            d. Intended damage or destruction?
        vi. Are the electronic storage media refreshed on a regular basis?
        vii. Does the ministry have a migration strategy for its electrnoic records?
3. The records manager should conduct regular inspections to ensure that their records management practices to the standards.
4. Systems compliance and monitoring should be documented an reports maintained.

Effective Filing Policies and procedures:

The implementation of an effective filing will improve records management and security and enables end-users to easily add, edit, and search I the location of any correspondemce paper.

1. Each building has a clear and defined name.
2. Each floor has a clear and defined number.
3. Each room has a label with defined number.
4. Each room has a key
5. Each cabinet is fully lockable.
6. Procured cabinets should have sliding doors to save more spaces.
7. Each cabinet has a big label contains the cabinet number.
8. Each shelve has a label contains the shelve number inside each cabinet.
9. Each folder has a number of the folder inside each cabinet.
10. There will be a label placed on each cabinet which contains the following:
    x. Cabinet Number
    y. Sector Name
    z. Central Department Name
    aa. Sub-Department Name
    bb. Year
11. There will be a label on each folder which contains the following:
    cc. Number (The folder order inside the cabinet)
    dd. Subject
    ee. Subject Serial Number (In case each subject has more than one folder)
    ff. Year
12. Each Folder will contain an index page with all documents. This index page will contains:
    gg. For Incoming correspondences:
        i. Serial Number
        ii. Incoming registration Number
        iii. Correspondence date
        iv. From where the correspondence came
        v. Incoming correspondence number
        vi. Number of attachments
        vii. Subject
        viii. Action
        ix. Status
        x. Comments
        xi. Names of persons have copies of the correspondence document
        xii. Borrower Name
    hh. For Outgoing correspondences:
        i. Serial Number
        ii. Outgoing registration number
        iii. Correspondence date
        iv. To whom directed the correspondence
        v. Number of attachments
        vi. Summary
        vii. Type of Sending

viii. POD Number
ix. Responsible Person

13. The Registrar person will use a Web-Based System to do the following:
    ii. Adding, and Editing paper location details
    jj. Fast Search to get the physical location of requested paper.
    kk. Printing Labels to be placed on cabinets
    ll. Printing Index paper for each folder
14. The Registrar person will add the following information for each paper:
    mm. Building Name
    nn. Floor Number
    oo. Room Number
    pp. Cabinet Number
    qq. Shelve Number
    rr. Folder Number
    ss. Sector Name
    tt. Central Department Name
    uu. Sub-Department Name
    vv. Subject

DISPOSAL OF RECORDS

The implementation of an effective disposal program enables an office to dispose its records regularly by transferring the archival records to an archives repository or by disposing of the non-archival records when they are no longer required for administrative, legal or other functional purposes.

1. No public records under the control of any sector may be transferred to an archival repository, destroyed, erased or otherwise disposed of without a written disposal authority issued by
2. A disposal authority issued by the Records Manager specifying records to be transferred into archival custody or specifying records to be disposed otherwise.
3. Heads of sectors should ensure that all records in their custody are issued with a disposal authority, and should ensure that retention periods are determined for all records that are marked for destruction.

2.2 METHODS OF DESTRUCTION

2.2.1 moving to Shoubra Building

When the TAS and FTS Head of sectors has authorized the destruction of public records, it could be moved to Shoubbra Building

2.2.2 records disposal – general

When the TAS and FTS Head of sectors has authorized the destruction of public records, it shall be the responsibility of the having received the authorization to cause such records to be disposed of promptly and effectively, after they have met their approved retention period.

2.2.3 disposal by recycling

Upon disposal authorization from the TAS and FTS Head of sectors, a

department may dispose of records by recycling.

2.3 SUBMITTING A RECORDS RETENTION SCHEDULE FOR APPROVAL

2.3.1 BASIC STEPS

1. *The head of the unit/division/office prepare the proposed records retention schedule using the Public Records Retention Schedule and Destruction Authorization form.*

2. *The head of the unit/division/office that is submitting the schedule must sign the completed Retention Schedule. The TAS and FTS Head of sectors will not accept records retention schedules that have not been signed.*

3. *Make a copy of the retention schedule for your records and send the **original signed copy** to the TAS and FTS Head of Sectors.*

2.3.2 TAS and FTS Head of sectors has two options

1. Approves the records retention schedule as proposed by any department
2. Does not approve the schedule as proposed by any department (the department is contacted with an explanation or request for further clarification

Within five working days after the TAS and FTS Head of sectors has approved the schedule, a signed copy is sent to the department and Records Manager. The original approved schedule is filed at the Division of Archives and Records Management.

2.6. ELECTRONIC MAIL Polices and Procedures

2.6.1 Need for a policy

The policies and procedures set down in this section attempt to address this issue and to provide suitable guidelines for the use and retention of electronic mail.

2.6.2 E-mail Messages

E-mail messages are electronic documents created and sent or received by a computer system. This definition applies equally to the contents of the communication and any attachments that they may convey. They are comprised of individual units of information divided into an “envelope” and the message contents. The envelope, also called the “message header,” contains the mailing address, routing instructions, transmission and receipt data, and other information the system needs to deliver a mail item correctly. Most e-mail systems allow senders to attach documents to messages, import text from word processing systems to e-mail applications, forward messages, and distribute information to individuals and groups.

2.6.3 Objectives of E-mail

1. To take advantage of a fast, efficient and convenient means of communication this can enhance and facilitate the dissemination of information.
2. To reduce the creation and handling of paper copy by shifting the creation, transmission and retention of short-term correspondence to electronic forms.

2.6.4 Significant E-mails

- Policies and directives
- Correspondence or memoranda related to official business
- Work schedules and assignments
- Agendas and minutes of meetings
- Drafts of documents that are circulated for comment or approval
- Any document that initiates, authorizes, or completes a business transaction
- Final reports or recommendations

THE RETENTION PERIOD FOR E-MAIL IS NO LONGER THAN 30 DAYS. Within 30 days, delete, transfer to another electronic file, or if the document requires long-term retention, print out in hard copy and delete the electronic file**.**

2.6.5 Transitory E-mails that typically have no retention value

- Personal messages and announcements not related to official business
- Information-only copies or extracts of documents distributed for convenience of reference
- Published reference materials
- Announcements of social events, such as retirement parties or holiday celebrations

RECORDS THAT FALL IN THIS CATEGORY SHOULD BE READ, DISCARDED AND NOT SAVED.

2.6.6 Appropriate use of e-mail

Essentially all e-mail users are responsible for appropriate use of e-mail and for certain aspects of the management of records in the e-mail systems. Users should be informed of their responsibilities to:

- Limit their use of the e-mail resources to official business
- Respond promptly to messages
- Protect e-mail messages, files, and records from unauthorized release to third parties
- Remove personal and transitory messages from personal in-boxes on a regular basis and regularly transfer public records to an organized, secure, and accessible filing system

- Protect e-mail messages from inadvertent loss or destruction by complying with backup requirements and procedures
- Coordinate disposition of public records to ensure that retention requirements are met

2.6.7 Employer's right to access policies

Users must be aware that e-mail messages sent or received in conjunction with official business:

- May be accessed and monitored in the normal course of business by system administrators, supervisors, and support staff
- May be releasable to the public
- May require special measures for privacy protection

2.6.8 Retention and scheduling requirements

E-mail itself is not considered a record series or category. It is a means of transmission of messages or information. Like paper or microfilm, e-mail is simply a medium through which this public record may be transmitted, received and processed. Under a single retention period, we cannot simply schedule e-mail as a record series. Rather, retention or disposition of e-mail messages must be related to the information they contain or the purpose they serve. The content, transactional information, and any attachments associated with the message are considered a record. The content of e-mail messages may vary considerably, and therefore, this content must be evaluated to determine the records series it should be filed under and the length of time it must be retained.

Generally speaking THE RETENTION PERIOD FOR E-MAIL IS NO LONGER THAN 30 DAYS. Within 30 days, delete, transfer to another electronic file, or if the document requires long-term retention, print out in hard copy and delete the electronic file.

2.6.9 Determine who holds the primary record copy

E-mail users should be aware that e-mail messages are often widely distributed to a number of various recipients. Determining which individual maintains the primary

record copy of the message, i.e. the original message that must be retained per the retention schedule, is vital to e-mail management. If the holder of the record copy is not identified and aware of his/her responsibility, the ministry may find that no one retains the message or that everyone retains the message. Neither of these scenarios is appropriate.
Example: Copies of documents are transmitted to multiple recipients. Each recipient need not retain the document beyond his or her immediate need for the information it contains. The responsibility for retaining and disposing of these documents as public records logically rests with the office from which it was issued. *Prompt deletion of duplicate copies of e-mail messages from an e-mail system makes the system much easier to manage and reduces disk space consumed by redundant information.*
`

Generally speaking, the individual who sends an e-mail message should maintain the record copy of the message. However, the varied uses and wide distribution of e-mail may result in exceptions to this rule.

2.6.10 Integrating E-mails with ArabDox Document Management System Policies and Procedures:

1. User must logged to ArabDox to be able to use the tool
2. User can change his login account like any other ArabDox workstation
3. User is able to choose any number of outlook folders to be imported to ArabDox.
4. User is only allowed to import entire folder not a single mail.
5. User can choose the ArabDox destination folder by browsing ArabDox repository.
6. Under the ArabDox destination folder tool will create a new folder with the same name as the source Outlook folder
7. If the destination folder already exists tool will use the existing folder
8. For each mail in the source folder
    i. Create a new ArabDox document
    ii. The document is created with a predefined document Class
        1. Tool will import this document Class if it doesn't exist in ArabDox system
        2. Tool will not continue if the DC import fails operation failed.
    iii. Document name is the mail subject truncated to 50 characters
    iv. Tool doesn't take into consideration that the imported mail exists before it always add a new one for each mail
    v. All mail attachments are added as ArabDox attachments
    vi. Mail body is added to the document as an attachment in HTML format
    vii. The following mail data are saved as index field values for the new document
        1. From
        2. To
        3. CC
        4. Sent date
        5. subject
    b. User can cancel the import operation if he wants
9. Using Microsoft Outlook Rules you can manage and integrate your e-mail messages by performing actions on messages that match a specific set of conditions.
10. After you create a rule, Microsoft Outlook applies the rule when a message arrives in your Inbox or when you send a message. For example, you can automatically:
    a. Forward to your manager all messages sent by "Specific Name" when they arrive in your Inbox.
    b. Assign the category "Minister" to all messages you send that have the word "Minister" in the Subject box.

3. TASK 3 DELIVERABLES

Create metadata by defining and analyzing sample of incoming and outgoing correspondence, which is representative of the universe of each sector, for both paper-based and electronic correspondence, and establish a coding schema for storing paper-based correspondence in physical locations.

Using the general guidelines for the filing requirements provided in the attachment A, the successful contractor should define a sample of documents representative of the universe of paper-based and electronic incoming and outgoing correspondence for both sectors, define the specific schema for incoming electronic correspondence and paper-based correspondence that will be scanned and for physical storage and be easily accessible and retrievable, and generate the metadata that will be used for the Document Management System. Once the DMS is installed (Task #4), the contractor will then scan the sample documents, associate image to metadata using the DMS, and store the document in the physical location.

The schema should be defined in consistency with the capabilities of the Document Management System to store the schema information. The physical location for paper-based documents should be also determined by the successful contractor based on available storage areas (to be shown to contractor by TAS/FTS officials), defining the appropriate code(s) that will allow officials to easily retrieve paper-based documents.

Deliverables

1. Sample showing number of documents by category and type.
2. Demo Correspondence filing schema for FTS/TAS
3. Classification schedule by type of documents handled by FTS/TAS
4. Physical location coding system
5. Procedures to define description of subject and summary of content for paper-based documents (metadata)

1 1. INTRODUCTION

Metadata is the term used for the data defining the data. In other words, metadata is the information augmented to or included within any document to describe it or some of its characteristics. Usually, it takes the form of element\value pairs. Examples of these fields include summary, title, description and creation date. An important aspect of metadata is that to be machine readable, that is in a form that an application can access and use without human intervention.

Metadata in Arabdox plays an essential role as a DMS (Document Management System). Not only does it represent a versatile mean to extend the document definition and utilization, but also it serves as searchable index fields for optimized searching and data retrieval.

The following document introduces an analysis to samples from the existing incoming\outgoing correspondence documents, as well as, that of the filing schema. Moreover, it includes the recommended metadata which is mainly related to the incoming\outgoing documents defining the correspondence system, besides laying out an appropriate filing structure. Finally, it closes with a relevant coding system to be applied to guarantee a smooth and quick retrieval of the physical documents from the different storage areas.

2. Introducing Arabdox DMS document structure

Arabdox is an Arabic/English/French Document Management System that offers enterprises an integrated solution to manage increasing amounts of non-structured information in documents. The process begins by capturing information from all sources (papers, microfilms, faxes, e-mails, text files, HTML documents, office documents, etc.) It then describes this information with database attributes, and finally makes it readily available and searchable through a Web browser.

Documents in Arabdox as a Document Management System play a major role. They represent the main entity to which objects of several types can be appended. Globally, each document can be located anywhere in a tree like filing structure, where each document is uniquely defined by different forms of metadata such as name, description and path. Paper-based documents are scanned to convert them into electronic images. Then, they are recognized using Sakhr Arabic OCR technology to extract the text into database fields.

As stated above, a document can confine some other objects such as:

1- Annotations.
2- Images.
3- Files.
4- Links to other existing documents.
5- Index fields.

3. Sample correspondence documents

Correspondence documents are those documents which are involved in any incoming\outgoing transaction between any sector and the outside world. In only special cases, correspondence can take place internally, within the same sector, between different departments, or, even, between different sectors; however, even in those cases, they are handled similar to those of external correspondence.

3.1. Incoming correspondence

This form of correspondence represents the incoming correspondence to any department. Incoming correspondence can be broadly classified into either paper-based incoming documents or electronic incoming documents.

3.1.1. Sample incoming document

This is a typical form of an incoming correspondence document:

شركة النيل للكبريت

السيد الأستاذ / رئيس قطاع سياسات التجارة الخارجية

تحية طيبة وبعد ...

أرجو التكرم بتكليف من يقوم بمراجعة القرار الصادر بتاريخ 12/7/2006 الخاص بتقرير هيئة الجمارك عن واردات أعواد الثقاب الصيني لعام 2005.

وتفضلوا بقبول فائق الاحترام ،،،

رئيس مجلس الادارة

" السيد محمد أحمد "

تحريراً في : 2006/8 /23

3.2. Outgoing correspondence

This form of correspondence represents the outgoing correspondence from any department. Also, outgoing correspondence can be broadly classified into either paper-based outgoing documents or electronic outgoing documents.

3.2.1. Sample outgoing document

This is a typical form of an outgoing correspondence document, initiated from the Foreign Trade Sector and addressing the minister:

جمهورية مصر العربية

وزارة التجارة الخارجية
قطاع سياسات التجارة الخارجية

السيدة الأستاذة / منال حسين

مدير مكتب السيد الأستاذ الدكتور الوزير

تحية طيبة وبعد ...

أتشرف بأن أرفق لسيادتكم المذكرة التي أعدها القطاع بشأن كتاب السيد الدكتور/ وزير قطاع الاعمال العام والخاص بفرض رسوم مكافحة الإغراق ضد الواردات المغرقة من صنف ثقاب الكبريت (درج) المصدرة من أو ذات منشأ باكستان وايضا مشروع الكتاب المعد في هذا الشأن للسيد الاستاذ الدكتور وزير قطاع الاعمال العام.

وتفضلوا بقبول فائق الاحترام ،،،

وكيل أول الوزارة

رئيس قطاع سياسات التجارة الخارجية

" السيد محمد أبو القمصان "

تحريراً في : 2006/3 /23

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4. Correspondence documents metadata definition

According to the analysis held at the MOFT premises, from our side, and in accordance with the sample incoming\outgoing documents, which have just been laid out, we have reached the conclusion that the best practice in defining those documents, without regard to the differences in their types is unification. In other words, that is to design a single document class to define all the incoming documents, without regard to the communication media utilized, and similarly to have another document class to define all the outgoing documents.

A list of the types of documents expected is listed below, followed by our recommendations for the document classes to define each of the incoming and outgoing correspondence. Moreover, a recommendation for the places to enclose any other metadata such as the summary and content is included.

4.1 Documents type classification

Typically documents involved in the information flow throughout the MOFT can be broadly classified according to their type into the following two basic types:

Paper-based:

Such as
- Paper documents
- Attachments in the form of publications or books
- Fax documents

Electronic:

Such as
- E-mail
- Different formats of computer files

4.2. Incoming documents document class

The following is a table, which lists the proposed index fields that are to be included in the document class, which represents the incoming documents:

Field	Description	Field Type
Sector Name	إسم القطاع	Text
Central Department	إسم الإدارة الرئيسية	Text
Sub Department	إسم الإدارة الفرعية	Text
Incoming ID	رقم القيد	Number
Incoming Date	تاريخ الورود	Date
Incoming From	الجهة الوارد منها الخطاب	Text
Incoming Number	رقم الخطاب الوارد من الجهة المرسلة	Integer
Number of attachments	عدد المرفقات	Integer
Transferred From	الجهة المحال منها الخطاب	
With Number	برقم	
Subject	الموضوع	Text
Minister Action	مضمون تأشيرة الوزير	Text
Action	مضمون التأشيرة	Text
Transferred To	الجهة التي أحيل اليها	
Directed To Dept.	تحول إلى إدارة	
Responsible Person	الشخص المسئول	Text
Status	In Progress / Hold / Completed	Text
Comment	تعليق	Text

4.3. Outgoing documents document class

The following is a table, which lists the proposed index fields that are to be included in the document class, which represents the outgoing documents:

Field	Description	Field Type
Sector Name	إسم القطاع	Text
Central Department	إسم الإدارة الرئيسية	Text
Sub Department	إسم الإدارة الفرعية	Text
Outgoing ID	رقم الخطاب الصادر	Number
Outgoing Date	التاريخ	Date
Sent To	الجهة المرسل إليها الخطاب	Text
Number of attachments	عدد المرفقات	Integer
Summary	ملخص الخطاب الصادر (الموضوع)	Text
Comment	تعليق	Text
Sent Type	نوع الإرسال فاكس باليد	Text
POD Number	Prove Of Delivery	Text

4.4. Enclosing extra information

Arabdox provides the facilities required to store even more data beyond that which have been defined in the document classes describing the documents.

For example:

1- Each document possesses a content area to which the overall content of the document can be stored.
2- All the documents can be extended by defining more “Generated Text Files”, those are fields added to documents in the form of file like structure and which can be used to store any type of textual information about the documents such as the document summary or notes about the content of this document.
3- A single document in Arabdox can have a number of files from any file format as attachments to that document.

5. Documents tracking metadata definition

It is mandatory that some sort of a tracking system to coexist with any correspondence system being the procedures to maintain the involved documents manual or automated.

5.1. Manual correspondence system

The analysis held at the MOFT has reached the conclusion that the tracking carried out within the current correspondence system is mainly dependent on registry files. Registry files are any form of document that is typically tabular and possess a number of fields, each of them corresponds to a piece of information about the incoming\outgoing correspondence document. These files are filled whenever the documents move interdepartmentally, between sectors, or outside of the ministry as an outgoing document.

5.2. Automated system documents tracking

By introducing the new Sakhr correspondence system, based on the DMS Arabdox, tracking features take two forms, either they are introduced in the new correspondence system or they inherently exist in Arabdox.

5.2.1. Sakhr Correspondence Management system

Sakhr Correspondence Management system provides a mean to track the flow of the incoming\outgoing documents whenever a document is transferred Inwards\Outwards to\from users Inbox\Outbox folders. On each transfer operations the major significant correspondence information about the documents are stored. Moreover, this information is available for later use such as for analysis or reports generation.

The following are the index fields representing the metadata that is stored about each correspondence document when a transfer operation is carried out.

Field	Description	Field Type
Incoming/Outgoing ID		Text
Correspondence Name		Text
Creation Date		Text
Disposal Date		Text

5.2.2. Arabdox DMS documents tracking

Arabdox, as a DMS, inherently possesses a very valuable feature of tracking documents changes and operations carried out. This feature is called “Document History”. It represents a log of those operations appended with the change date and the user responsible for any change.

6. Introducing Arabdox DMS filing structure

The storage structure of Arabdox mainly consists of a repository as a global container where documents can be arranged in a hierarchical tree structure of folders working as sub-containers. The creation\deletion and all the management of these folders and documents are user defined. This introduces adequate versatility for archiving different forms of documents structures in whatever tree structure that fits the organizational and business needs.

7. Correspondence filing schema

The following section introduces the filing schema that is recommended from our side and for which Sakhr correspondence system provides full support. Our recommendation is to adopt the tree-structure filing paradigm for organizing the documents. This concept organized the folders in

This recommendation is based on the following points:

1- Our analysis at the MOFT premises to the current incoming\outgoing documents classification and storage requirements.
2- Our experience with documents management and best practices of documents storage and archival.
3- A similar successful project has been completed for case management that was utilizing that same tree-structure and it was proved to be very effective, versatile and scalable storage structure.

7.1 Sample filing structure

The following filing structure provides an adequate organization to store all documents, being either in a paper-based or in an electronic format.

7.1 Correspondence filing structure

المراسلات

الصادر

خطاب إلى السفارة الفرنسية بخصوص استيراد ألبان الأطفال

خطاب إلى الوزير بخصوص قضية الحديد

....

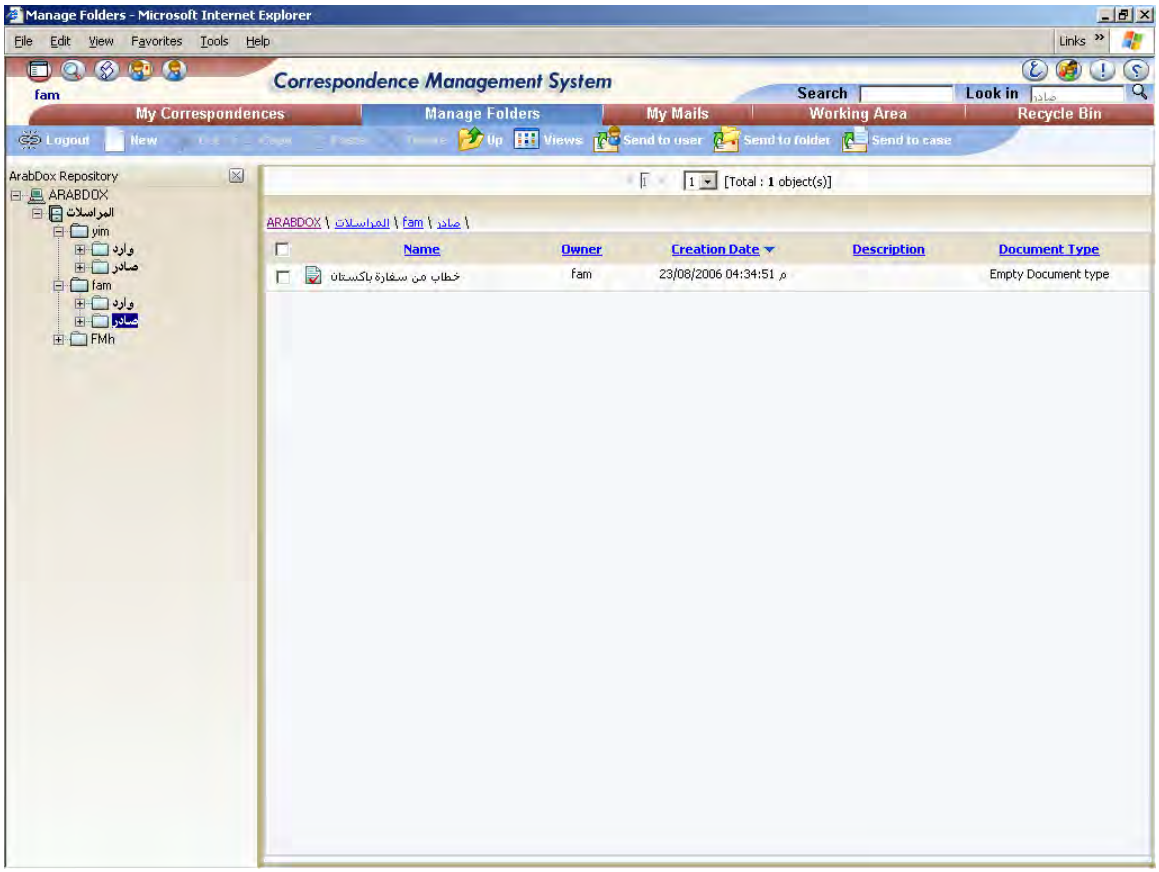
الوارد

خطاب من سفارة باكستان بخصوص شحنة الكبريت

خطاب من شركة العز بخصوص قضية الحديد

...

7.1 Archival filing structure



Sample #1:

- مكاتبات الوزير (قد يحتوي على مذكرات دراسة الموضوع)
- المكاتبات الخارجية
- مكاتبات اللجنة القومية
- دراسات بشكل عام

Sample #2:

- تراخيص الاستيراد
- ملف المكاتبات
- ملف اخطارات

قاعدة الحفظ المركزي

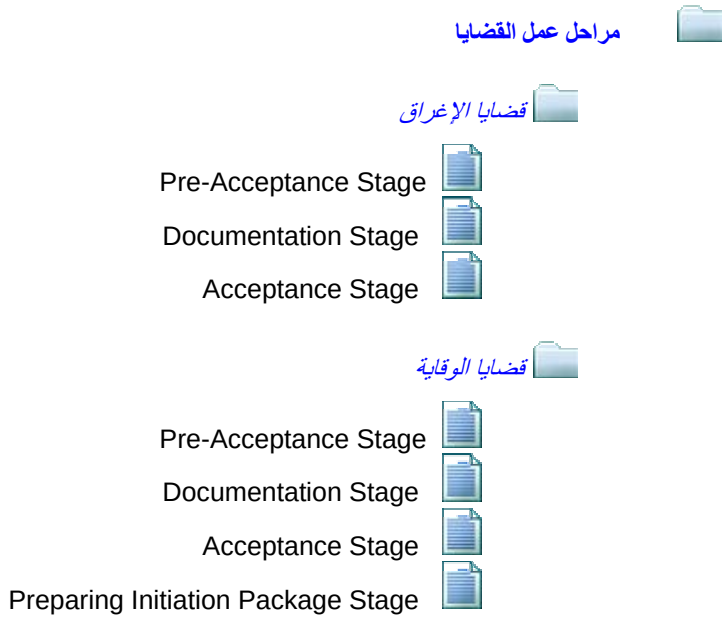
قطاع الاتفاقات التجارية

ملف خاص بمفاوضات النفاذ للأسواق

ملف خاص بمفاوضات النفاذ للأسواق

قطاع الاتفاقات التجارية

قطاع التجارة الخارجية



8. Coding Schema for storing paper-based correspondence in physical locations

This section introduces a recommendation for the coding system to be applied to conclude with consistent procedures for effective storage, archival and retrieval of paper-based documents in their corresponding storage areas.

8.1. Objectives

There are some reasons, which prove the necessity for creating a consolidated coding system for all the paper documents and to be applied throughout the storage areas and in consistence with the automated system.

The objectives of proposing effective coding system include:

1. Faster work processing.
2. Workers are more effective with immediate access to information.
3. No lost files or missing documents.
4. Improved records management and security.
5. Reducing time spent on unproductive activities, mainly searching for information.
6. Allowing the uses to easily add, edit, and search in the location of any correspondence paper.

8.2. Coding system policies and procedures

The following are our recommendations for the policies that manage our coding system, as well as, the procedures that govern any action involving document in or out from the

storage areas. Taking into account that these procedures apply well to electronic documents which have been transformed into paper form and which require storage, similar to, originally paper-based documents.

17. Each building has a clear and defined name.
18. Each floor has a clear and defined number.
19. Each room has a label with defined number.
20. Each room has a key
21. Each cabinet are fully lockable.
22. Procured cabinets should have sliding doors to save more spaces.
23. Each cabinet has a big label contains the cabinet number.
24. Each shelve has a label contains the shelve number inside each cabinet.
25. Each folder has a number of the folder inside each cabinet.
26. There will be a label placed on each cabinet which contains the following:
    - ww. Cabinet Number
    - xx. Sector Name
    - yy. Central Department Name
    - zz. Sub-Department Name
    - aaa. Year
27. There will be a label on each folder which contains the following:
    - bbb. Number (The folder order inside the cabinet)
    - ccc. Subject
    - ddd. Subject Serial Number (In case each subject has more than one folder)
    - eee. Year
28. Each Folder will contain an index page with all documents. This index page will contains:
    - fff. For Incoming correspondences:
        - i. Serial Number
        - ii. Incoming registration Number
        - iii. Correspondence date
        - iv. From where the correspondence came
        - v. Incoming correspondence number
        - vi. Number of attachments
        - vii. Subject
        - viii. Action
        - ix. Status
        - x. Comments
        - xi. Names of persons have copies of the correspondence document
        - xii. Borrower Name
    - ggg. For Outgoing correspondences:
        - i. Serial Number
        - ii. Outgoing registration number
        - iii. Correspondence date
        - iv. To whom directed the correspondence
        - v. Number of attachments
        - vi. Summary
        - vii. Type of Sending
        - viii. POD Number
        - ix. Responsible Person
29. The Registrar person will use a Web-Based System to do the following:

hhh. Adding, and Editing paper location details
iii. Fast Search to get the physical location of requested paper.
jjj. Printing Labels to be placed on cabinets
kkk. Printing Index paper for each folder

30. The Registrar person will add the following information for each paper:
    lll. Building Name
    mmm. Floor Number
    nnn. Room Number
    ooo. Cabinet Number
    ppp. Shelve Number
    qqq. Folder Number
    rrr. Sector Name
    sss. Central Department Name
    ttt. Sub-Department Name
    uuu. Subject

9. Conclusion

This document has started with introducing the filing and documents structure for Arabdox DMS, so that to recommend the most appropriate filing schema and metadata definition for the correspondence system. Moreover, Samples of the corresponding system incoming\outgoing documents have been laid out. Finally the document closes with detailed procedures to apply the recommended coding system for storing and maintaining the organization of the physically stored documents in consistence with the automated system.

4. TASK 4 DELIVERABLES

Deliverable Title: Operational DMS that can meet the specific requirements defined by the new policies and procedures and ready to receive images and metadata.

Deliverable Description:
Install and customize DMS. The successful contractor should install the DMS on hardware already procured to support the correspondence filing system. After installation the DMS should be tailored per defined policies and procedures, which will include the explicit needs of FTS/TAS.

5. TASK5 DELIVERABLES

Deliverable Title: Effective coding system that will allow users to store, locate, and retrieve paper-based correspondence in storage rooms through the DMS.

Deliverable Description:

- Determine the volume of paper-based documents based on the defined retention schedule in Task 1, the report evaluating the overall TAS/FTS filing system, the review of the correspondence system.
- Estimate as soon as possible after contract award how many shelves and other supplies would be needed for the storage rooms.
- Design coding system that will allow users to store, locate, and retrieve paper-based correspondence in storage rooms through the DMS.

3.1 VOLUME OF PAPER-BASED DOCUMENTS AND DEFINING NUMBER OF CABINETS, FOLDERS, INDEX ADHESIVE SHEETS AND SEPARATOR SHEETS

THIS DOCUMENT CALCULATES THE NUMBER OF CABINETS AND SOME OTHER STATIONARY ITEMS THAT ARE REQUIRED TO BE PURCHASED, AS WELL AS, PROPOSING A RETENTION SCHEDULE ACCORDING TO OUR CONDUCTED ANALYSIS AT THE MOFT (MINISTRY OF FOREIGN TRADE) PREMISES.

The following table recapitulates our recommendations:

Recommendations for cabinets and other supplies procurement

Item	Number	Comments	Justification
New cabinets Recommended specifications should include among others: 1- Locking functionality. 2- Sliding doors.	**168** cabinets	To be distributed as the following: TAS central storage: **46** TAS CDs: **34** FTS central storage: **54** FTS CDs: **34**	1- Locking functionality maintains the minimum security measure to the saved documents. 2- According to the space limitations, it is much easier to manipulate a sliding door than a regular one.
Old cabinets	-	Those cabinets should be moved to the Shobbra premises	Those cabinets would serve as the temporary storage according to the proposed retention schedule.
Folders	1,449 folders	Annual procurement plan is included in the document	Folders are essential for the organization of documents in the cabinets.
Index adhesive sheets	10,513 sheets	Annual procurement plan is included in the document	They are required to print on them the index for each folder.
Separator sheets	132,108 sheets		1- Improve the organization of folder contents. 2- Contribute in increasing the folders utilizations
Other stationary items	Depends on day to day usage	Example includes paper dispenser machines, staplers, adhesive tapes and glue materials.	They facilitate the work of the store keeper and are very handy for disposing unwanted papers, as well as, fixing worn out documents.

3.1.1 INTRODUCTION

Documents in the governmental sector represent a major asset. They are both the input and the output of the workflow cycle. Initially, documents can be created somewhere else and get in as incoming correspondence, consequently, some processing is applied according to the content enclosed and, sometimes, it is even required to create a completely new set of documents in response to that correspondence. Both types of these documents flowing either as incoming or outgoing correspondence should end up in a safe storage area for at a least a certain period of time before disposal. Thus, guaranteeing relevant and adequate storage area for all these documents is an essential requirement for an effectively functional work area.

This document introduces an analysis for the storage requirements for both sectors of the MOFT (Ministry of Foreign Trade), which are the FTS (Foreign Trade Sector) and the TAS (Trade Agreement Sector). Initially, the document “Assessment of the Filing Requirements for The Trade Agreement sector (TAS) & The Foreign Trade Sector (FTS)” carried out by BIT (Business Information technology), has been thoroughly studied. Moreover, the calculations performed, herein, are based on their concluded number of documents and the estimated percentage of growth. With respect to the retention schedule, the proposal laid out is mainly relying on the analysis carried out at the MOFT premises with key persons from most of the departments.

This work starts by presenting the number of currently existing documents and the storage space utilized. Hence, a calculation has been performed to estimate the expected growth in the number of documents stored and their expected storage requirements. Furthermore, a retention schedule has been proposed according to the analysis conducted. Finally, a conclusion has been presented with the recommendations stemming from the overall calculations.

3.1.2 DOCUMENTS VOLUME

The total amount of the documents in the MOFT can be divided according to their source into:

1- Correspondence documents including incoming\outgoing.
2- Total documents currently existing in central storage areas, these documents are the archived documents, as well as, those previously moved from Shobbra premises.
3- Total documents currently existing in central departments, which are the documents used in the day-to-day operations like the reports in progress and the opened cases.
4- Average documents to be transferred from Shobbra. These documents are those that still exists in shobbra and are to be moved to Abbassia

In addition, it is required to take into account the expected volume of documents to be handled during the next five years. This calculation will make it feasible to calculate the storage requirements for five more functional years in advance.

This section starts by calculating the expected growth in the volume of the documents handled through correspondence, so that their impact on the storage capacity required would be anticipated. Moreover, the documents volume related to each of the two sectors TAS and FTS have been comprehensively arranged in separate tables.

Expected increase in the correspondence volume in five years for both sectors

Year	Growth (20%)	This year	Comments
Average correspondence per year (A4 sheets)	N/A	18,000	BIT assessment document estimation
First year (A4 sheets)	3,600	21,600	
Second year (A4 sheets)	4,320	25,920	
Third year (A4 sheets)	5,184	31,104	
Fourth year (A4 sheets)	6,221	37,325	
Fifth year (A4 sheets)	7,465	44,790	For both sectors

Therefore, the expected increase in the correspondence volume in five years for each sector is 44,790 / 2 = **22,395**

TAS documents volume

Item	Value	Comments
Total documents currently existing in central storage areas (A4 sheets)	174,000	BIT assessment document estimation
Total documents currently existing in central departments (A4 sheets)	180,000	BIT assessment document estimation
Total expected correspondence documents volume after 5 years (A4 sheets)	22,395	Calculated (Annual growth rate = 20%)
Average documents to be transferred from Shobbra	100,000	BIT assessment document estimation

FTS documents volume

Item	Value	Comments
Total documents currently existing in central storage areas (A4 sheets)	222,000	BIT assessment document estimation
Total documents currently existing in central departments (A4 sheets)	180,000	BIT assessment document estimation
Total expected correspondence documents volume after 5 years (A4 sheets)	22,395	Calculated (Annual growth rate = 20%)
Average documents to be transferred from Shobbra	100,000	BIT assessment document estimation

3.1.3 CURRENT EXISTING STORAGE CAPACITY

According to the separation of the MOFT into two major sectors: TAS and FTS; the documents storage area is divided into two separate locations in the form of central storage areas.

Based on our tour in the central storage areas and our examinations of sample folders, it was clear that the average utilization of folders is 40% - 60%, which implies that we can safely assume folders utilization of 50%. In other words, although the folder can hold up to 200 A4 sheets of paper, calculations will be based on the value of 100 A4 sheets in each folder.

Furthermore, according to the “BIT assessment document”, each central department possesses ten cabinets. These cabinets are mainly used for storing the on-going documents.

The following are two tables containing the total storage capacity available for each sector with all the details on how this capacity has been estimated.

TAS storage area

Item	Value	Comments
Cabinets	29 + 10	10 cabinets in central departments
Shelves per Cabinet	5	Assuming the shelve represents the storage space in each cabinet
Folders per shelve	12	
A4 sheets per folder	100	Average folder utilization is 50%
Total storage capacity in central storage area (A4 sheets)	174,000	(5 * 12 * 100) = 6,000 29 * 6,000
Total storage capacity in central departments (A4 sheets)	180,000	(5 * 12 * 100) = 6,000 There are 10 cabinets in each central department. 10 * 3 * 6,000

FTS storage area

Item	Value	Comments
Cabinets	37 + 10	37 cabinets consists of (22 cabinets + 15 cabinets) 10 cabinets in central departments
Shelves per Cabinet	5	Assuming the shelve represents the storage space in each cabinet
Folders per shelve	12	
A4 sheets per folder	100	Average folder utilization is 50%
Total storage capacity in central storage areas (A4 sheets)	222,000	(5 * 12 * 100) = 6000 37 * 6000
Total storage capacity in central departments (A4 sheets)	180,000	(5 * 12 * 100) = 6000 There are 10 cabinets in each central department. 3 * 10 * 6000

3.1.4 STORAGE AREA REQUIREMENTS

This section lays out a comparison between the difference between the available storage capacity under the disposal of each sector and the actual storage requirements for adequate storage of the current existing documents, in addition to, the expected number of documents to be generated in the upcoming five years.

The first table concerns the TAS sector and demonstrates the requirement to purchase an extra number of 17 cabinets of that same specification for the central storage, beside 4 more cabinets to be distributed among the various central departments.

The second table concerns the FTS sector and demonstrates the requirement to purchase an extra number of 17 cabinets of that same specification for the central storage, beside 4 more cabinets to be distributed among the various central departments.

These numbers total to a number of: 17 + 4 + 17 + 4 = 42 extra cabinets required to be purchased.

TAS storage area requirement

Item	Value	Comments
Total documents to be stored in TAS central storage areas (A4 sheets)	274,000	Total documents currently existing in central storage areas (174,000) + Average documents to be transferred from Shobbra (100,000)
Total documents to be stored in the central departments storage areas (A4 sheets)	202,395	Total documents currently existing in central departments (180,000) + Total expected correspondence documents volume after 5 years (22,395)
Evaluating capacity in central storage areas (# of cabinets)	17	274,000 / 6,000 ~ 46 Therefore, 46 – 29 = 17
Evaluating capacity in central departments (# of cabinets)	4	202,395 / 6,000 ~ 34 Currently, 10 cabinets in each central department Therefore, a total of 30 cabinets do exist Therefore, 34 – 30 = 4

FTS storage area requirement

Item	Value	Comments
Total documents to be stored in TAS central storage areas (A4 sheets)	322,000	Total documents currently existing in central storage areas (222,000) + Average documents to be transferred from Shobbra (100,000)
Total documents to be stored in the central departments storage areas (A4 sheets)	202,395	Total documents currently existing in central departments (180,000) + Total expected correspondence documents volume after 5 years (22,395)
Evaluating capacity in central storage areas (# of cabinets)	17	322,000 / 6,000 ~ 54 Therefore, 54 – 37 = 17
Evaluating capacity in central departments (# of cabinets)	4	202,395 / 6,000 ~ 34 Currently, 10 cabinets in each central department Therefore, a total of 30 cabinets do exist Therefore, 34 – 30 = 4

3.1.5 RETENTION SCHEDULE

During our analysis with most of the departments in both sectors, it has been apparent that no one does accept the notion of expiration date for the documents as a natural end for the paper cycle. Moreover, the pervading feedback was that they usually refer back to documents from a few years ago and a few informed us that they may, even, need to refer to documents as far as 1960, without regard to the media, what does count is the availability of the materials enclosed. This implies that we failed to get from them exact periods, after which we can safely dispose the documents. However, almost all of them agreed to another alternative to destructing the old documents, completely. This proposal can be recapitulated in the following steps:

1- The initial expiration date for any document is five years from its creation date.
2- Since any paper should reside in the storage area unless the original of it is requested, the document expiration date can be updated on each request for accessing the original document.
   N.B.:
   This can be applied on either the document level or the folder level for coarser granulites.
3- Annual checkup on expired documents can be conducted to exclude them from the storage areas.
4- The excluded documents are to be transferred to the Shobbra storage area.
5- Any access to documents from the Shobbra storage area should imply the transfer of these documents to the Abbassia premises with expiration date extension similar to new documents.
6- This way, most probably documents in Shobbra can be safely disposed in a plan to get rid from them in another five years for example, since any accessed document will typically reside in Abbassia.

N.B.:
Expiration date is assigned only when the cases are closed and placed in the central storage

3.1.6 OTHER RELATED STORAGE REQUIREMENTS

Cabinets are not the only requirement to guarantee a relevant storage workspace. Some other facilities will improve the efficiency and the time of access for the stored materials. This list is categorized according to their urgency into mandatory items and recommended items.

MANDATORY ITEMS

These items are mandatory for storing the paper sheets in the cabinets. This implies that they must be purchased or at least a suitable replacement has to be introduced.

FOLDERS

The total number of documents is divided into:

1- Documents which are already stored in the central storage and the department storage areas.
2- Documents which are to be transferred from Shobbra.
3- Documents which are expected to be created through the period of the next five years.

Accordingly, the following is the estimation for the number of folders which are occupied or which are to be occupied by each category.

TAS Folders requirements

Item	Value	Comments
Total folders currently existing in central storage areas	174,000 / 100 = 1,740	The documents in the central storage area are already saved in folders
Total documents currently existing in central departments	180,000 / 100 = 1,800	The documents in the central departments are already saved in folders
Total expected correspondence folders volume required in five years time	22,395 / 100 ~ 224	To be purchased
Average folders to be transferred from Shobbra	100,000 / 100 = 1,000	The documents in Shobbra premises are already saved in folders; however, the folders dimensions and status should be revised to fit in our new cabinets and appropriate replacements to be carried out as necessary.

FTS folders requirements

Item	Value	Comments
Total folders currently existing in central storage areas	222,000 / 100 = 2,220	The documents in the central storage area are already saved in folders
Total documents currently existing in central departments	180,000 / 100 = 1,800	The documents in the central departments are already saved in folders
Total expected correspondence folders volume required in five years time	22,395 / 100 ~ 224	To be purchased
Average folders to be transferred from Shobbra	100,000 / 100 = 1,000	The documents in Shobbra premises are already saved in folders; however, the folders dimensions and status should be revised to fit in our new cabinets and appropriate replacements to be carried out as necessary.

First, the documents in the Shobbra premises are going to be transferred from Shobbra inside their folders. Second, most of the folders in the central storage and the central departments' storage areas are in relatively good status and can be kept in use. Third, new folders should be purchased to accommodate any documents to be created, taking into account that the above plan gives estimation for the next five years. Finally, according to the nature of folders which might wear out due to frequent use or unexpectedly got defective, a small safe margin of 10% is adequate for any replacement. Moreover, this margin can be used to replace any defective folder which might turn out not to be in a good state for future use or might be defected due to the frequent use.

With regard to the total number of documents which are already stored, which are to be transferred from Shobbra and which are to be created in the following five years, the following is a calculation for the number of folders which are already existing, as well as, the number of folders which are to be purchased. A conclusion has been calculated in the last row for the total folders required.

TAS and FTS folders requirements

Item	Value	Comments
Total folders currently existing in central storage and central departments areas of both TAS and FTS	1,740 + 1,800+ 2,220 + 1,800 = 7,560	Already exists
Total required folders for the expected correspondence documents volume after 5 years	224 + 224 = 448	To be purchased
Average documents to be transferred from Shobbra	1,000 + 1,000 = 2,000	Already exists
Safe margin of all the required folders (10% of the total number of folders)	(7, 560 + 448 + 2,000) * 0.1 ~ 1,001	To be purchased
Total new folders to be purchased to satisfy the period of the next five years	448 + 1,001 = 1,449	Total

This can be translated to the following numbers:

1- 7,560 + 2,000 = **9,560 folders** already exist.

2- **448 folders** have to be purchased to suffice the requirements of documents growth of five years.

3- **1,449 folders** are the total folders requirements for the period of five years.

It is recommended that only a percentage of folders which suffices for example for only a single year be purchased in advance, due to the nature of the folders as an asset which is vulnerable to wearing out by time. So, a good practice is to schedule the purchases in an annual fashion. This gives the number of 1,449 / 5 ~ **290 folders/year**.

INDEX ADHESIVE SHEETS

Index adhesive sheets are blank sheets that are going to be used for each folder, so that the folder index would be printed on them. Therefore, the number of index adhesive sheets required equals the total number of all the folders, in addition to, a similar safety factor of 10%.

TAS and FTS adhesive sheets requirements

Item	Value
Total folders currently existing in central storage and central departments areas of both TAS and FTS	1,740 + 1,800+2,220 + 1,800 = 7,560
Total required folders for the expected correspondence documents volume after 5 years	224 + 224 = 448
Average documents to be transferred from Shobbra	1,000 + 1,000 = 2,000
Safe margin of all the required adhesive sheets (10% of the total number of folders)	(7,560 + 448 + 2,000) * 0.1 ~ 1,001
Total new adhesive sheets to be purchased to satisfy the period of the next five years (Total)	7,560 + 448 + 2,000 + 1,001 = 11,009

In the same manner, if the sheets are to be purchased annually, the adhesive sheets of the already existing folders are to be purchased in the first purchase order then only a value sufficient for a single year is to be purchased in the beginning of each year.

Estimated value to be purchased in the first order = 7,560 + 2,000 + 953 = **10,513 sheets**
The value to be purchased annually = (448 + 48) / 5 ~ **100 sheets/year**

RECOMMENDED ITEMS

Although these items are not mandatory for a successful storage area, they are highly recommended from our side to improve the process, decrease the access time for folders, increase the efficiency of the involved employee and, even, guarantee the security of the disposed documents.

SEPARATOR SHEETS

Separator sheets are used to divide a folder into a number of sections each can be utilized for a different topic. This renders the folder more organized, as well as, more efficiently utilized.

Separator sheets can even be used to separate the folder for a specific year into months; this means, at worst case, each folder will require 12 separator sheets.

Therefore, a total number of sheets to be purchased can be calculated as:

(7,560 + 448 + 2,000 + 1,001) * 12 = **132,108 sheets**

However, the following is an annual procurement plan:

Estimated value to be purchased in the first order = (7,560 + 2,000 + 953) * 12 = **126,156 sheets**
The value to be purchased annually = ((448 + 48) *12) / 5 ~ **1191 sheets/year**

MORE STORAGE AREA STATIONARY

There are other stationary which typically exist in any office such as staplers, paper dispenser machines which guarantee the security of documents because, although disposed documents are always unneeded documents, they can still possess important and sensitive information. Some other stationary which should be available are adhesive tapes, glue and sticky notes which are even handy as a temporary bookmarks.

CONCLUSION

This document highlights a deficiency in the amount of the cabinets available for storage for both sectors TAS and FTS. Separate analysis has been conducted for each sector based on the "BIT assessment document", the MOFT IT Manager provided information, in addition to our own analysis at their premises. Consequently, a recommendation has been reached that, to be able to efficiently store the current documents available, transfer the remaining documents in Shobbra, as well as, keeping up with the expected growth in the amount of on-going documents; it is required to possess an extra number of 42 cabinets of that same capacity as the existing ones, divided as the following:

1- 17 cabinets for the storage area of each sector.
2- 4 cabinets to be distributed to the central departments of each sector.

Our recommendation is to replace the current cabinets with new cabinets that are lockable and with sliding doors. This will maintain the least security measure required, as well as, an adequate level of usability. On the other hand, moving the current cabinets to Shobbra will give us the opportunity to utilize them for storing the retired documents according to our proposed retention schedule.

Furthermore, some estimation for some mandatory stationary such as the folders and index adhesive sheets has been carried out, as well as, introducing some recommendations regarding other items.

Finally, a survey has been conducted on the materials utilized to manufacture the required storage cabinets and some of the currently available brands in the market. The summarization of each has been appended in this document's two appendices

3.1.7 APPENDICES

APPENDIX A: CABINETS RECOMMENDED SPECIFICATIONS

(Adapted from the technical leaflet at "http://www.nedcc.org/plam3/tleaf42.htm")

The selection of storage furniture for library and archival materials requires careful investigation. Many of the currently available furniture choices contain materials that produce by-products that contribute to the deterioration of the collections they house. In addition, some construction features are damaging and also contribute to deterioration of collections. The information that follows is intended to serve as an introduction to the subject and as a guide to what to look for in selecting storage furniture.

Baked Enamel

Because of the concern about off-gassing, baked enamel furniture is no longer widely recommended unless it has been properly baked.

Wood

Storage furniture, especially shelving, made of wood has traditionally been popular for reasons of aesthetics, economy, and ease of construction. Harmful acids and other substances, however, are emitted by wood, wood composites, and some sealants and adhesives. Although the levels of emissions are highest initially, in most cases volatiles are present for the life of the materials. To avoid potential damage to collections, storage furniture made of wood or wood products should be avoided. If this is not possible and wood must be used, precautions are necessary. Certain woods and wood composites are more potentially damaging than others. For example, oak, which has been used extensively for the storage of library and archival materials, is considered the wood with the most volatile acidity and should not be used. Also, many wood composites that are advertised as formaldehyde-free may contain potentially damaging acids or other aldehydes. Current information should be obtained prior to selecting new furniture made of wood or a wood product so that the least damaging wood can be chosen. All wood and wood composites should be tested to determine their safety for use.

Coatings for wood

For wooden storage furniture that is already in use, safeguards should be taken. All wood should be sealed. It should be noted, though, that no coating or sealant

will completely block the emission of acids and harmful volatiles for prolonged periods of time, but it can be useful for short-term exposure. Also, some sealants are better than others at blocking damaging substances. Great care must be taken in selecting a sealant to make sure that the one chosen forms the most effective barrier and does not itself emit harmful substances. The most readily available sealant that is recommended at this time is a moisture-borne polyurethane. Many kinds of polyurethane are available. Oil-modified polyurethanes are the most common. However, oil-modified polyurethanes, oil-based paints, and other products that contain oil or alkyd resins should be avoided. Only moisture-borne polyurethanes are recommended. Unfortunately not all moisture-borne polyurethanes on the market are safe for use. Also, formulations often change without notice. For these reasons, the polyurethane selected should be tested prior to use to guarantee its acceptability. Contact a preservation professional for brand names of moisture-borne polyurethanes that are currently being recommended and begin testing with these. Because these urethanes do not completely prevent the escape of volatiles, choosing low-emission wood products is of critical importance.

Paints can also be used to seal wood if the natural appearance of the wood does not have to be retained. Oil-based paints and stains should not be used because of the potentially damaging effects of the acids in the drying oils. Two-part epoxy paints form an excellent barrier, but they are difficult to use. Latex and acrylic paints form a less effective barrier but are easier to use. All coatings should be tested prior to use. Contact a preservation professional for current information before making a decision. After furniture is sealed it should be allowed to air for three to four weeks. Because of the toxicity of various components of most sealants, the sealants should be used with caution and appropriate safety measures observed.

Construction Features

Regardless of the construction material chosen, storage furniture should have a smooth, non-abrasive finish. If steel furniture is painted or coated, the finish should be resistant to chipping since chips will leave steel exposed and susceptible to rust. The furniture should be free of sharp edges and protrusions. Exposed nuts and bolts are particularly hazardous. The furniture should be strong enough that it will not bend or warp when filled. Shelving should be bolted together as well as to the floor and perhaps ceiling so it will not wobble when collections are housed on it. Shelves should be adjustable to accommodate items of various sizes, particularly oversized ones. The lowest storage area in the furniture should be at least four to six inches off the floor to protect collections from water damage in the event of a flood. Cabinets with doors are often

preferred when security and protection from dust are special concerns. These are available with shelves or drawers. The use of piano hinges for the attachment of the doors is advisable if opening the doors flat will facilitate safe removal of items from the cabinet. Condensation can be a problem in closed steel cabinets when the relative humidity where the cabinets are stored fluctuates. Condensation can result in rusting or mold growth in cabinets. For this reason, conditions in closed cabinets should be monitored. This is most easily accomplished by the use of dial hygrometers or paper-based humidity indicator cards. These devices do not have a high degree of accuracy, but they are sufficient to indicate problematic conditions. If possible, the use of closed steel cabinets should be avoided unless the cabinets are well ventilated or the relative humidity is closely controlled and monitored.

Drawers in flat files should be no more than two inches deep (less if possible). The deeper the drawer the greater the weight on the items in it and the greater the stress on items when they are removed. Drawers should have dust covers or rear hoods to prevent items from being damaged at the back of the drawer. Drawers should have stops to prevent them from coming out of cabinets. Also, they should have ball bearings rather than slide in grooves because they will open and close more smoothly, causing less vibration to items, and the risk that they will fall out of the grooves and become stuck is eliminated. Drawers can be lined with foam core for cushioning as added protection from jarring and vibration.

High-Density storage Systems

High-density storage systems often referred to as compact or movable shelving, are used by many institutions with space limitations. These systems minimize the amount of space needed by compacting ranges of shelves or cabinets of drawers tightly together. The ranges slide along tracks so they can be moved apart for retrieval of items on a particular range and then moved back together again. Moving systems such as these can be damaging to items because of the vibrations to which they subject items. Also, items can be jostled off shelves causing further damage. If a high-density storage system must be used, a design should be chosen that minimizes these hazards. It is crucial with high-density storage systems that items do not extend beyond the edge of the shelves to avoid having the items on opposite shelves collide with them when the ranges are closed. When installing high-density systems, enough overall space should be allowed to insure that sufficiently wide aisles can be opened between the ranges for the safe removal of items, particularly oversized ones, from shelves and drawers. Floor loading is a serious concern and should be taken into account if many heavy items are stored in a confined space. This is quite important with

compact shelving for books. Weight estimates need to include floor treatment, furniture tracks and fittings, and shelf and drawer loads as well as the furniture. A structural engineer should be consulted. Fire detection and suppression are additional concerns. A space of a few inches always should be left between the ranges so that a fire between them can be detected and suppressed. Leaving a small space will also enhance air circulation, avoiding the build-up of pockets of damp or stagnant air. Another concern is the behavior of compact shelving during floods, fires, or earthquakes, and how to gain access to materials if the shelving fails to open because of increased weight, distortion of the tracks, or failure of electricity. Consult the manufacturer about this.

APPENDIX B: SAMPLE STORAGE HARDWARE

Side tambour cupboards with inset pull handle, fully lockable and accepts a range of internal fitments

12 year guarantee

Available in grey, coffee/cream, black, blue, red or silver

Self assembly sliding door cupboards 1800mm wide for extra capacity

Internal shelves are adjustable at 50mm intervals and also able to take lateral filing. Available in 2 heights in beige, graphite grey or light grey. All units come with central partition

Carcasses in Graphite (RAL 7021) Grey (RAL 7042) Metallic grey (RAL 9006) Blue (M09F2A) and Green (RAL5018)
Tambour doors in Graphite, Light Grey, Deep Grey, Metallic Grey, Pear wood Light wood, Purple Cherry, Translucent or Aluminium
Optional decorative tops in Light grey, Birch, Pear wood pr Purple Cherry
All cabinets 465mm deep

Exec series of metal cupboards

Swan handle
Fully lockable
Accepts all internal fitments
Supplied flat packed for easy assembly
12 year guarantee
Available in Grey, Coffee/Cream, Black, Blue or Red

Filing cabinets with 100% drawer extension and insert pull handle. Fully lockable with anti tilt.

7 year guarantee

Available in Grey, Coffee/Cream Black or Blue.

3.2 Coding System

3.2.1 Objectives

The objective of proposing effective coding system is:

7. Faster work processing.
8. Workers are more effective with immediate access to information.
9. No lost files or missing documents.
10. Improved records management and security.
11. Reducing time spent on unproductive activities, mainly searching for information.
12. Allowing the uses to easily add, edit, and search in the location of any correspondence paper.

3.2.2 Coding System Policies and Procedures

15. Each building has a clear and defined name.
16. Each floor has a clear and defined number.
17. Each room has a label with defined number.
18. Each room has a key
19. Each cabinet are fully lockable.
20. Procured cabinets should have sliding doors to save more spaces.
21. Each cabinet has a big label contains the cabinet number.
22. Each shelve has a label contains the shelve number inside each cabinet.
23. Each folder has a number of the folder inside each cabinet.
24. There will be a label placed on each cabinet which contains the following:
    vvv. Cabinet Number
    www. Sector Name
    xxx. Central Department Name
    yyy. Sub-Department Name
    zzz. Year
25. There will be a label on each folder which contains the following:
    aaaa. Number (The folder order inside the cabinet)
    bbbb. Subject
    cccc. Subject Serial Number (In case each subject has more than one folder)
    dddd. Year
26. Each Folder will contain an index page with all documents. This index page will contains:
    eeee. For Incoming correspondences:
        i. Serial Number
        ii. Incoming registration Number
        iii. Correspondence date
        iv. From where the correspondence came
        v. Incoming correspondence number
        vi. Number of attachments

vii. Subject
viii. Action
ix. Status
x. Comments
xi. Names of persons have copies of the correspondence document
xii. Borrower Name

ffff. For Outgoing correspondences:
i. Serial Number
ii. Outgoing registration number
iii. Correspondence date
iv. To whom directed the correspondence
v. Number of attachments
vi. Summary
vii. Type of Sending
viii. POD Number
ix. Responsible Person

27. The Registrar person will use a Web-Based System to do the following:
gggg. Adding, and Editing paper location details
hhhh. Fast Search to get the physical location of requested paper.
iiii. Printing Labels to be placed on cabinets
jjjj. Printing Index paper for each folder
28. The Registrar person will add the following information for each paper:
kkkk. Building Name
llll. Floor Number
mmmm. Room Number
nnnn. Cabinet Number
oooo. Shelve Number
pppp. Folder Number
qqqq. Sector Name
rrrr. Central Department Name
ssss. Sub-Department Name
tttt. Subject

6. Task 6 Deliverables

Deliverable Name:

- Quality Assurance Test Plan
- Conduct testing of correspondence and correspondence filing system for one week (or as agreed with TAS/FTS officials)
- Recommendations about steps to be taken to enter historical correspondence information.

Deliverable Description:

- Perform a thorough quality assurance review on all aspects of the implemented solution, including testing the system for a week (or as agreed with TAS/FTS officials) based on selected DMS, procedures, personnel, and physical locations and working out all problems in the system.

- Prepare and execute appropriate test plan and cases to verify DMS is defect free and those policies and procedures are complete and comprehensive. The testing process will ensure that the implementation of the DMS can handle both normal and abnormal situations. Both positive and negative test cases should be executed to ensure that the DMS is functioning effectively. A quality assurance review of the policy and procedures should also be conducted, making sure that any agreed-upon standards and procedures are followed, and ensuring that all work is performed in a manner consistent with internal controls.
- Also the contractor shall recommend how, after this consultancy, TAS/FTS can enter historical paper-based and electronic incoming and outgoing correspondence into the DMS and physical storage areas.

6.1 Quality Assurance Test Plan

TESTING STRATEGY

As SAKHR appreciates the importance of its projects, significant test efforts will be exerted in different possible test areas and in different types of testing for each one of those areas.

1 Test Areas

The test team will cover the following areas during testing:

- **User Interface testing:** These tests check form and consistency. Checks include those for screen appearance (font, size, colors, and appearance in general), as well as checks on the data validations for all of the fields in all of the forms in the application. Both of these tests should be based on the specification documents.
- **Business Logic testing:** The specification documents define the business logic that is expected in the implementation. Therefore, there should be a set of test cases for checking the business logic. This testing should include testing for different kinds of users and for different entry paths into the site.
- **Backend testing:** Ideally, back-end tests should be done in the database. The test team will use Server Objects to interact with the tables. The test team will write stubs to test Server Objects in an isolated environment, and then compare the results from the stub with the XML output that the code generates. Testing team could also perform this comparison at the user interface layer.

2 Test Types

The test team shall perform the following types of tests:

- **Functional testing** ensures that the system provides the functionality described in the specification document.
- **Regression testing** checks whether or not the identical actions performed using an earlier build of a product function the same on a new build of the product. This process determines whether a previously reported problem is still there, whether the problem has been completely resolved; and whether the resolution caused new problems or revealed related problems.
- **Security testing** guarantees that only users with the appropriate authority are able to use the applicable features of the system. Systems engineers establish different security settings for each user in the test environment.
- **Performance testing** ensures that the application responds in the time limit set by the user.

- **Stress testing** verifies that the application responds appropriately with many users and activities happening simultaneously. The number of users must be agreed upon beforehand, and the hardware environment for system testing must mirror production.
- **Automated testing** can be used for regression and functional testing. This can be very helpful as the system is stable and not changed often.
- **Platform testing** certifies that the application runs successfully on the operating system and browser combinations agreed upon in the master test plan, which is discussed in the "Testing Methodology" section later in this chapter.
- **Internet service provider (ISP)** smoke testing confirms that the application responds to requests made over an ISP connection.
- **End-to-end interface testing** checks all of the inputs and outputs as well as the system. This ensures that the application interacts properly with external systems as defined by the functional specifications.
- **Input and boundary testing** guarantees that the system allows only valid input. This includes testing to ensure that the maximum number of characters for a field cannot be exceeded and that boundary conditions function correctly (such as valid ranges and off-by-one, null, maximum, minimum, tab order from field to field on the screen, and so on).
- **Windows/Internet GUI standards testing** verifies that the application has a standardized look and feel.
- **Localization testing** guarantees that the application will work properly in both Arabic and English languages.
- **Conversion testing** checks any data that must be converted to ensure that the application works properly. This could be conversion from a legacy system or changes needed for the new schema.
- **Installation/upgrade testing** checks the setup/upgrade routine to ensure that the application can be installed over an existing copy. The test team shall test both full builds as well as incremental builds.
- **Usability testing** ensures that the application is easy to work with, limits keystrokes, and is easy to understand. The best way to perform this testing is to bring in experienced, medium, and novice users, and solicit their input on the usability of the application.
- **Ad hoc testing** is done to test the system with unstructured scenarios to ensure that it responds appropriately. To accomplish this, a testing team member will be asked to perform a function without telling him the steps for doing it.
- **Environment-security testing** guarantees that the applications install and run in the production environment. For this testing, the SQL Server and Internet Information Services (IIS) security settings must be identical to those used in production.
- **Network testing** determines what happens to the applications when different network latencies are applied.
- **Disaster recovery (backup/restore) testing** is done to ensure that adequate procedures are in place for restoring the applications and their data store in the event of a disaster.
- **Application-based failover functionality testing** ensures that application-based failover works in documented failure situations.
- **User acceptance testing** is typically performed by those who are similar in skill set and background to Our Customer's target audience. The purpose is to determine how well the application meets Our Customer's requirements and expectations (Our Customer's

requirements drive the test). Note that the test team doesn't actually perform this testing, but may supervise or design it.

- **Out of memory and memory leaks testing** ensure that the application runs in the amount of memory specified in the technical documentation. This testing also detects memory leaks associated with starting and stopping the applications many times.
- **Help testing** is done to ensure that the details provided in Help are relevant and provide a solution to the problem faced. The test team does not check the validity of the business rules while verifying the Help content.

The test team must decide on the level of testing that needs to be done in each of these areas, as follows:

- **High:** Very important to thoroughly test this area
- **Medium:** Perform standard testing
- **Low:** Test if time allows

3 Testing Methodology

The testing team will be assigned the task of performing functional testing, and an iterative cycle of application builds and tests should lead to the eventual release of the software.

Figure.1 shows a typical application development and test cycle. Refer to the appropriate subsection in this chapter for a description of each stage in the cycle.

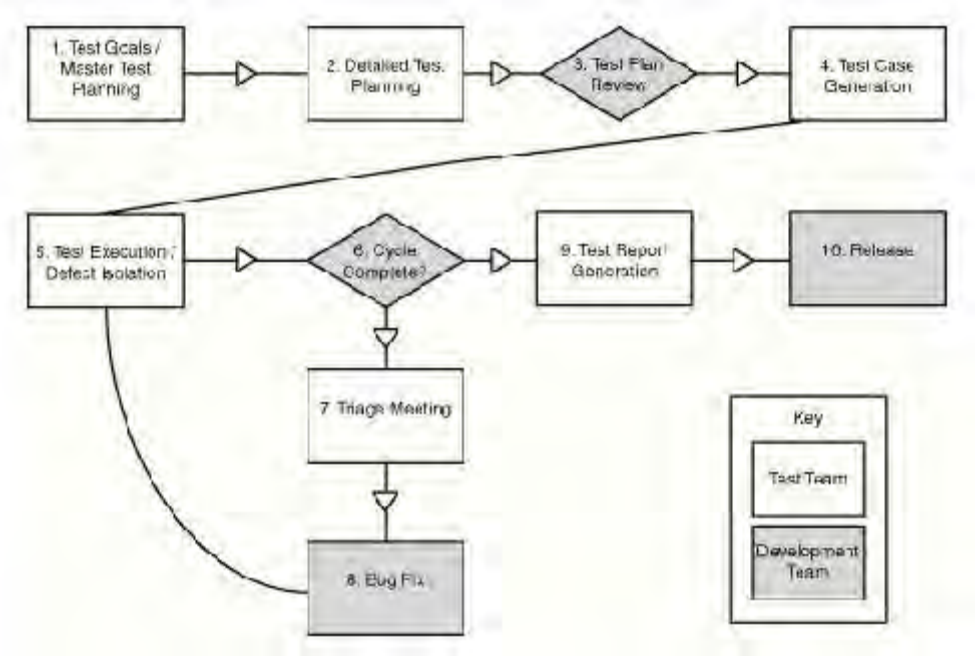


Figure.1 Typical test cycle

3.1 **Stage 1** Document the test goals and master plan
The testing effort begins with the documentation of the test goals and how these goals are to be achieved.

3.1.1 Assumptions and Requirements
This master test plan discusses the majority of user interactions that could occur on the Customer's Web site. This testing includes all Web pages that can be accessed by any user, along with a minimal set of developer scenarios and site download-related scenarios.

The test plan has the following assumptions and requirements:

- The tester should perform each test on a fresh build (from scratch).
- When possible, the test team should test every page with every supported browser and supported browser version.
- When possible, the tester should address the following common scenarios for each test:
    - Change the default fonts of the Microsoft Internet Explorer browser for each page and spot potential graphic and textual errors.
    - Resize the Internet Explorer browser for each page and spot potential graphic and textual errors.
    - For each page, check for bugs using different navigational techniques
    - in the Internet Explorer browser, such as Back, Forward, History, and Favorites.
    - Use different navigational techniques inside the application. For example, use the TAB key to change focus or move from one control to another within the application, and check for bugs.
    - Verify that a user can navigate from one page to any other common page.
    - Verify that all of the options and buttons present on any page are accessible to authenticated users.
    - Verify that a user can perform all available operations even if the graphical components are not available on the user interface.
    - Confirm that the Web site behaves and appears the same when different screen resolutions are used for the user agents.
- The test team will complete ad-hoc testing on the application initially, before executing the test cases that arise directly from the scenarios.
- To emulate an unregistered user accurately, the tester should begin his testing session using a fresh instance of the browser. This means that if the tester was previously testing an area of the site in which he was logged on as a registered user, the tester needs to close the browser and reopen it.
- The following generic test cases should be performed on all pages on the site:
    - Test all links.
    - Check the default cursor positions in all screens that the user can access.
    - Check the default button operations in all screens that the user can access.
    - Verify that the user can enter all types of valid data and confirm the maximum data length for each data entry field
    - Test all mandatory fields to ensure that only valid entries are accepted and that the null entries are not accepted.
    - Verify that the scenarios execute as expected after cookies are disabled.
    - Verify that the user can test for multiple copies of the same application.

- Verify that developer users can debug the code. Also, change the code for logout, and test the output results.
- Ensure that the user can install a new build over the existing installation, and can then test on the new installation.

3.1.2 Test Scenarios
Test scenarios will be provided within the detailed test plans.

3.2 **Stage 2** Prepare the detailed test plan
The detailed test plan describes the various usage scenarios and entry paths for all of the users or accounts. These test usage scenarios are based on the usage scenarios identified during the application design process. The detailed test plan also identifies the priority of each of the scenarios to be tested.
The detailed test plan will be delivered once the design completed milestone is reached.

3.3 **Stage 3** Review the detailed test plan
The development team must review the detailed test plan to ensure that it matches the functional testing requirements for the applications. After the testing plan is approved, testing can begin.

3.4 **Stage 4** Define the test cases
The approved detailed test plan is used to generate detailed test cases that define the action to be performed on the applications, as well as the input data, expected results, and the need to record the results in a prescribed format. During this stage, the development team will prioritize the detailed test cases based on the criticality of the function being tested. In addition, the development team will generate a test case sequencing document to reduce execution time.

3.5 **Stage 5** Test the application
During the actual testing stage, testing team will test all of the applications paths end-to-end to ensure that they conform to the functional specification. The test team uses a defect-tracking tool to report all of the defects uncovered during testing to project management. In addition, the test team may isolate the defects.

3.6 **Stage 6** Determine if the build/test cycle is complete
It is unlikely that a certain application will be ready for release after a single round of testing. The decision to perform another build and test iteration depends on many factors, including the severity of the remaining bugs, budgetary constraints, and milestone dates. The project plan is allowing for several build/test iterations before release.

3.7 **Stage 7** Hold triage meetings
The test team, project management team, and development team discuss the defects during triage meetings, and each defect is assigned to a development team member for resolution.

3.8 **Stage 8** Fix and resolve bugs
The development team will work together to resolve all of the bugs identified during the triage meeting. After resolving them, each bug is assigned back to the owner (the tester who raised the bug) for verification and closure, if verification is successful.
After a defect–or bug–is resolved, the defect is assigned back to the owner (the tester who identified the bug) for closure if it is fixed or for further action if issues are unresolved.

3.9 **Stage 9** Generate the test report
The test report contains status information about specific items listed in the test plan, along with defect information categorized by severity level.
This report is crucial for the Go/No Go meeting (discussed in the following subsection).

3.10 **Stage 10** Conduct the go/no go meeting
When testing is complete, the project management team conducts a Go/No Go meeting to decide whether or not the application is ready to be released. In addition to project management, the required attendees are the test team and the development team.
The key documents for this meeting are the release criteria (decided during the master test plan stage) and the test report.

4 Testing Checklists

4.1 Web Applications General Testing Checklist

4.1.1 **General**

Are all tests being run on —clean machines?
Does the system do what it is intended to do?
Does it provide the correct results?
Does the system provide all the functions and features expected?
Can the typical user run the system without aggravation?
Is it easy to learn and use?
Does the system provide or facilitate customer service. I.e. responsive, helpful, accurate?
Can the accuracy and trustworthiness of the system easily be confirmed?
Can the system easily be modified or fixed?
Are the developers able to deliver or modify the system within the timeframe when it is needed?
Do existing features, which have not been changed, perform the same way they did in earlier versions?
Does the system make efficient use of hardware, network, and human resources?
Does the system comply with the relevant technical standards?
Does the system comply with the appropriate regulatory requirements?

Can the system be validated to prove it works in an acceptable manner?
Can some of the components be re-used in other systems?
Can the system be quickly and easily installed on a variety of platforms by a variety of users?
Are there planned future upgrade paths as the use of the system grows?
Is information archived and easily retrievable?
Is the Web site searchable?

4.1.2 **Usability, Interface and Navigation**

Can the system work effectively for one user, ten users or a thousand.
Does the home page load quickly.
Are the instructions on how to use the site clear to the user.
If you follow each instruction does the expected result occur.
Is all terminology understandable for all of the site‘s intended users.
Is a navigational bar present on every screen.
Is the navigation bar consistently located.
Can a user navigate using text only.
Can a user navigate without the use of a mouse.
Does tabbing work consistently, in a uniform manner.
Is there a link to home on every single page.
Is page layout consistent from page to page.
Is each page organized in an intuitive manner.
Are graphics used consistently.
Are graphics optimized for quick downloads.
Do all the images add value to each page, or do they simply waste bandwidth.
Are graphics being used the most efficient use of file size.

Does text wrap properly around pictures/graphics.
Are all referenced web sites or email addresses hyper linked.

4.1.3 **Tables**

Does the user constantly have to scroll to the right to see items in a table.
Do tables print out properly.
Are the columns wide enough or does every row has to wrap around.
Are certain rows excessively high because of one entry.

4.1.4 **Frames**

Does your Web site handle browsers that do not support frames.
Do frames resize automatically and appropriately. Is the user able to manipulate frame size.
Does a scrollbar appear if required.
On framed pages have you verified that what is actually recognized by the Bookmark or Favorites are appropriate.
Can a search engine find content within the frames.
Do the frame borders look right.
Are there any issues related to refreshing within frames.

4.1.5 **Data Verification**

Is the site‘s intended use of data clearly depicted to the user.
Is the Privacy Policy clearly defined and available for user access.
Is the accuracy of stored data sustained.
Has data been verified at the workstation.
Has data been verified at the server.
Have you ensured that what the user is entering on the workstation is yielding the right information on the server.

Are you prevented from entering the same information multiple times (order forms, free samples, etc).
Is a unique identifier assigned to each user entering form data.
Is data that is requested of the user essential to the process for which it is requested. For example do you need a user‘s date of birth in order to process his book order or are you simply asking for too much user information.
Can text be entered in numeric fields.
Can wildcards be used in searches.
Can spaces and blank values be entered in fields.
Are long strings accepted.
Do fields allow for the maximum amount of text to be entered.
Are the initial values of checkboxes and radio buttons correct.
Are you restricted to only selecting one radio button in a group at one time.
Do check boxes trigger the desired event.
Are users prevented from entering HTML code in form fields.
Is intelligent error handling built into your data verification.

4.1.6 **External Interface**

Does the system interface correctly with related external systems.
Have all possible interfaces been identified.
Have all supported browsers been tested.
Have all error conditions related to external interfaces been tested when external application is unavailable or server inaccessible.
Has proxy caching been tested.
Have all external applications that may be launched from within the Web site been tested.

4.1.7 **Internal Interface**

Can the Web site support users who can not perform download.
Can the Web site work with firewalls.
If the site uses plug-ins, can the site still be used without them.
Can the site support all plug-ins that are needed for the Web site at various modem and PC speeds.
Will all versions of plug-ins work together.
Do all plug-ins work with all Browsers.
Does the site lose usability, if Java is not enabled.
Do all plug-ins load properly.
Are failures handled if there are errors in download.
Does the site function with the use of “non-standard” hardware (speakers, cable modems, etc)
Can you Download Signed ActiveX Controls.
Can you Download Unsigned ActiveX Controls.
Can you initialize and script ActiveX controls not marked as safe.
Can you Run ActiveX controls and plug-ins.
Can you Script ActiveX controls marked safe for scripting.
Does your solution require cookies.
Does your solution work even if users disable cookies.
Does your solution allow per-session cookies.
Does your solution require file downloads.
What if a user does not want to download files, can the site still be used.
Does your solution require special fonts.
Does your solution require users to access data sources across multiple sites/domains.
Can users apply drag and drop functionality.
Can users use copy/paste functionality.

Does your solution require the installation of any desktop items.
Does your solution require the launching or installation of any files that require frames.
Are you able to submit unencrypted form data.
Does the site allow paste operations via scripts.

4.1.8 **Cookies**

Has information stored in cookies been verified.
Is cookie information encrypted.
Is cookie information being incremented properly.
Have you prevented cookies from being editable by the user.
Have you checked to see what happens if a user deletes cookies while in site.
Have you checked to see what happens if a user deletes cookies after visiting a site.
Are cookies being stored in the proper directory.
Is cookie information correct and valid for the user accessing the site

4.1.9 **Load/Concurrent Usage**

Does the system meet its goals for response time, throughput, and availability.
Is the system able to handle extreme or stressful loads.
Is the system able to continue operating correctly over time without failure.
Does the system operate in the same way across different computer and network configurations, platforms and environments, with different mixes of other applications.
Have you monitored CPU usage, response time, disk space, memory utilization and leaks.
Have you defined standards for response time (i.e. all screens should paint within 10 seconds).
Have you verified Firewall, Certificate, Service Provider and Customer Network impact.
Is page loading performance acceptable over modems of different speeds.
Can the site sustain long periods of continuous usage by 1 user.

Can the site sustain long periods of usage by multiple users.
Can the site sustain short periods of usage at high volume.
Can the site sustain large transactions without crashing.
Will the site allow for large orders without locking out inventory if the transaction is invalid.

4.1.10 **Specific Field Test**

4.1.10.1 **Date Field Check**

Assure that leap years are validated correctly & do not cause errors/miscalculations
Assure that month code 00 and 13 are validated correctly & do not cause errors/miscalculations
Assure that 00 and 13 are reported as errors
Assure that day values 00 and 32 are validated correctly & do not cause errors/miscalculations
Assure that Feb. 28, 29, 30 are validated correctly & do not cause errors/ miscalculations
Assure that Feb. 30 is reported as an error
Assure that century change is validated correctly & does not cause errors/ miscalculations
Assure that out of cycle dates are validated correctly & do not cause errors/miscalculations

4.1.10.2 **Numeric Fields**

Assure that lowest and highest values are handled correctly
Assure that invalid values are logged and reported
Assure that valid values are handles by the correct procedure
Assure that numeric fields with a blank in position 1 are processed or reported as an error
Assure that fields with a blank in the last position are processed or reported as an error an error
Assure that both + and - values are correctly processed
Assure that division by zero does not occur

Include value zero in all calculations
Include at least one in-range value
Include maximum and minimum range values

4.1.10.3 **Alpha Fields Checks**

Use blank and non-blank data
Include lowest and highest values
Include invalid characters & symbols
Include valid characters
Include data items with first position blank
Include data items with last position blank

4.3 **Document Management Testing Checklist**

Assure that adding a document with average number of components works properly
Check adding empty and more than 10 images documents
Assure that documents added are retrieved properly with all document‘s components
Assure that adding a document is allowed only for authorized persons
Assure that document cannot be modified by anyone as long as it is checked-out for someone else
Assure that deleting a document is not allowed unless the business rule that links this document to electronic records is met
Assure that adding more components to an existing document is working properly
Assure that different image annotations work properly
Assure that different image annotations are saved and retrieved properly
Assure that image annotations comply with Access Control List assigned to each

Guidelines for testing
Paper-Based and Electronic Filing System

1) Arabdox Administrator Tasks

ArabDox Admin

- **Manage Users:**
  - Check that adding/Deleing users in ArabDox will properly reflect on MOFT system.
- **Manage ACL** (Cases & Correspondence) :
  - Check that ACLs are properly handled in MOFT system.
- **Document Types & Index Fields:**
  - Check Add/Del new document types/ index fields.
  - Check default document types installed with the system.
- **Manage Storage Area** (Cases & Correspondence)
  - Check multiple adding multiple storage areas for both Cases & Correspondence
  - Check system behavior while no storage area is defined (eg; importing tool, handling cases, …)
- **Backup & Restore**
  - Check that backup and restore does not neglect any of the system's data
  - Check the system behaves in a proper manner while backup and restore being performed.
- **Re-Indexing**
  - Check the system behaves in a proper manner while rendering is being performed.

Capturing workstation

- Check capture cycle to release documents from Capturing Workstation to be added to Correspondence

2) Correspondence and Filing Management System

Correspondence and Filing Management

- My Correspondence
  - Send to User
  - Send to Folder
- Manage Repository
  - Manage Cabinets
    - Create New cabinet
    - Delete an existing cabinet
    - Rename an existing cabinet
    - Define / Change Storage Area
    - Change cabinet Properties
    - Manage permissions and Access Control Lists
  - Create Folders
    - Create New folder
    - Delete an existing folder
    - Rename an existing folder
    - Check out folder
    - Check in folder
    - Undo check out folder
    - Change folder Properties
    - Manage permissions and Access Control Lists
  - Create Documents
    - Create New document
    - Delete an existing cabinet
    - Rename an existing cabinet
    - Check out document
    - Check in document
    - Undo check out
    - Document History Options
    - Versions History
    - Send to Mail
    - Change document Properties
    - Manage permissions and Access Control Lists
  - Document Objects
    - Images
      - Add Image
      - Rename Image
      - Delete Image
      - Change Image Properties
      - View Image
      - Annotations
      - Manage permissions and Access Control Lists
    - Contents
      - View Full Text
      - View / Edit / Delete Keywords

- View / Edit Summary
- View / Edit Full Text HTML

- Attachments
  - Add attachment
  - Rename Attachment
  - Delete attachment
  - Change attachment properties
  - View attachment
  - Manage permissions and Access Control Lists
- Linked Documents
  - Add Linked Document
  - Delete Linked Document
- Index Fields
  - Edit and Save Index Fields
- Physical Location
  - View the physical location of the paper
- History
  - Tracking the electronic correspondence file

- My Mails
  - Check composing new e-mails.
  - Check e-mail reception.
  - Check e-mails with attachments.
  - Check sending to group and multiple users.
- Working Area
  - View documents Working Area Folder
- Recycle Bin
  - View deleted objects
  - Restore
  - Delete
  - Empty Recycle Bin

Correspondence and Filing Management

- Simple Search
  - Search in Documents
  - Search in Folders
  - Search in Document Class
  - Search in Specific Folder
  - Search in document/folder name
  - Search in Free text
- Advanced Search
  - Create Duplicate queries By adding for each query the following:
    - Search Types
    - Object
    - Property
    - Condition
    - Value
    - Operator

Reports

Reports for correspondence

- Number of current correspondences per each user
- Check that the report layout is readable, even with large number of items in it.

Administration

- **Users**
  - Check Functions (Add to correspondence, Delete from correspondence)
- **Correspondences Document Classes**
  - Check that editing Index fields is properly reflected in (Incoming Index Fields , Outgoing Index Fields)
- **Buildings**
  - View, Add, Edit, Delete any building
- **Floors**
  - View, Add, Edit, Delete any floor
- **Rooms**
  - View, Add, Edit, Delete any room
- **Cabinets**
  - View, Add, Edit, Delete any cabinet
- **Shelves**
  - View, Add, Edit, Delete any shelve
- **Folders**
  - View, Add, Edit, Delete any folder

Personalization

- Check proper reflection of each item of personalization data (color scheme, working area, default case, search options)

Multiple Interfaces

- Check both English and Arabic interfaces, and proper layout of each.

Outlook Integration

- Import mail to ArabDox
- Import Entire folder to ArabDox
- Create any outlook rule to import any mail automatically to ArabDox

3) Paper-Based Correspondence and Filing Management System

- View Correspondences
  - View correspondences by correspondence number
  - View correspondences by correspondence type
  - View correspondences by
  - Edit physical location
- Search in Correspondences
  - Search by different criteria
- View list of expired correspondences

6.2 Conduct testing of correspondence and correspondence filing system for one week (or as agreed with TAS/FTS officials)

Based on the previous quality assurance test plan, TAS/FTS officials have to use it to make sure of the testing our system from your side.

6.3 Recommendations about steps to be taken to enter historical correspondence information

6.3.1 Conversion Strategy

One of the biggest obstacles to implementing DMS imaging is the challenge of conversion. As clear that TAS and FTS have a huge backlog of paper files that must be addressed to achieve the best business solution. This means a careful evaluation and analysis of what should be converted and how it is currently stored.
When determining or recommending a conversion strategy, we are recommending considering the following:

- How long is the "records retention" period?
- How long do the records remain active?
- What is the frequency of retrieval? The first thirty days? The first six months? The first year?
- Is there an on-going legal requirement?
- Will the new system be effective without converting existing files?

These are the questions that will in the end determining if the cost of conversion is worth the investment.

6.3.2 Conversion approaches

There are several conversion approaches that can be used as follows:

- **No conversion**
- **Day-Forward conversion**
  Leaves the old information in its original format. As new information comes in, it is captured into the new system.
- **Day-Forward with on-demand conversion (Recommended)**
  On-demand conversion is that each time a file is requested and retrieved; it will be scanned and entered into the system. This is a more economical approach than total conversion because you are converting only the files you need to retrieve.
- **Partial or complete back file conversion**
  Obviously the most costly approach is to convert all or selected file series. The cost might be justified by frequent retrieval, importance of preserving historic documents, and improved customer service.

6.3.3 Who should perform the conversion?

After determining the conversion approach to use, the next decision is who should do the actual conversion. Performing an in-house conversion might be seem more cost effective; however using an outside service can have its advantage.

Outside Service

An outside service often does large conversion projects because they have specialized hardware and software. They also have technical staff and typically run multiple shifts so projects are completed quickly. They are responsible for the quality of their work and will rescan and index if they have made errors, however the cost might be high.

When selecting an outside conversion service, the following things might be critical to the decision:

- Audit-ability – Does the vendor have a way to ensure all work was done appropriately? Do you have a way to validate it? Are you allowed to the vendor site as the conversion is taking place?
- Privacy – Are these documents are private organization documents and how will the vendor address this?
- Security – Are these documents secret or require a security clearance?
- Quality – How important is the quality of the images being returned? Will there be OCR performed on the documents – which makes quality all that more important?
- Access to data – Will the vendor be able to have a copy of your internal databases to validate the indexing they are providing?
- Cost – Conversion usually costs less if you do not require as much speed and/or quality
- Personnel skill sets – Do the individuals in the company who are providing the conversion service know the issues and problems typical with your document types?
- Experience – Does the company provide good service and quality according to their previous clients?

In-house conversion

Converting in-house appears to be more practical, but also has hidden costs:

- Labor used to do conversion cannot be used for something else
- Technical support person – equipment continually tends to require more attention
- Specialized equipment you might not need after conversion is completed
- Space for scanners, indexing workstations, and paper handling can be extensive
- Temporary operators must be trained on your documents
- Responsible for re-doing work to fix any errors (as opposed to an outside service)

6.3.4 Pre-conversion tasks

Most people who have lived through a conversion project find that it's the most difficult part of implementing a new system. Users must be involved in several conversion activities, mainly in purging files, identifying documents, and performing quality control after conversion. Imaging systems have no way other than indexes to identify duplicate image files, so purging is essential.

6.3.5 Preparing documents

Either the organization or the outside service must prepare documents that might include any of the following:

- Remove staples and paper clips
- Remove sticky notes (or attach them if you want to capture this information)
- Mount non-standard sheets on letter size paper
- Photocopy difficult to read pages, adjusting the background for readability
- Repair torn pages
- Straighten folded corners

6.3.6 Classify documents

In addition to preparing the documents for conversion, you can classify the documents before scanning to reduce manual routing. You can separate the documents into document types, forms, batches, and duplex/simplex ad so on.

6.3.7 Post-conversion tasks

After conversion, someone well acquainted with the documents should check for image readability and to ensure the index matches the document. At first someone should QC 100% of the images and indexes. As confidence grows, fewer and fewer can be checked. At the end of the project QC might be reduce to 5 – 10% or less.

6.3.8 Scanning Considerations

If there is a back file images to be converted, determine the overall volume of back file images (total # images) to be converted and divide it by he time frame (# month / days) in which the back file needs to be completed. Divide the total # images by the predetermined conversion timeframe # of days and this will give you the daily # of images that need to be scanned each day to complete the conversion as scheduled.
The condition of back file documents is important:

- Are the documents in files?

- Are there staples?
- Are there folded documents? Two sided? Colors?

This will determine how many people will be needed for document preparation.

Estimate scanner capacity with the following formula:

Pages per minute = Pages per day / Minutes per day * Throughput

For example:

Pages per minute = 10000 / 480(8 Hours) * .70 = 30 ppm

In this example, 30 ppm is the minimum capacity needed. You should factor in the cost of labor to the overall cost of the scanning operation to see if a faster, more expensive scanner will pay for itself in labor savings. You should also consider potential volume growth over the life of the scanner.

Since pre-scanning operations often take longer than the scanning itself, another approach to choosing the right scanner is to calculate this time factor first, then take the remaining time left from scanning to see how fast the scanners need to take the remaining time left for scanning to see how fast the scanners need to be. When the means are available, you should benchmark the actual production time your staff takes, rather than relying on estimates. Consider that inexperienced operators tend to reach their potential after the process becomes routine. This can take from several hours to days. In other words, don't rely on timing tests of inexperienced operators.

Use the following formula to calculate remaining time left to scan documents:

Hours for scanning = Labor hours per day – Pages per day / Pages per hour for total labor force

With sample data:

Hours for scanning = 8 – 5000 / 1000 = 3 Hours

Applying this data to the prior scanner selection formula with 70% scan station throughput. The formula estimates that 1 of the 3 hours is spent loading the scanner and setting up the batches.

Pages per minute = 5000 / 180 minutes * .70 = 40 ppm

Smaller operations might have one or more persons who do both scanning and indexing, so the amount of time spent in the scanning operation takes away time from the other document processing functions.

6.3.9 Indexing

In considering the transformation from paper-based information to digitized data or images, a paradigm shift must be accomplished. This can only be done successfully by first thoroughly understanding the existing parameters.

The key to effective indexing lies in the ability to provide as many index fields as needed for all the potential users and of the system to do this with a minimum amount of data entry. If indexing issues are not clearly defined an determined prior to system installation, the system is doomed to fail.

Indexing Considerations

The physical characteristics of electronic media are both severely and subtly different from existing paper currently in use. First, do a thorough survey of current indexing systems. This will give you an overview of the existing requirements.

- Are documents in file folders?
- What are the various sections in the file folder?
- How many fields will users be able to enter reasonably?
- Who is performing the retrievals?
- What records retention guidelines are in place?
- How long is the organization required to keep each of the document types?

Indexing scheme

We recommend laying out your indexing scheme in a written document. Identify the indexing fields and user procedures for retrieval. This appears to be a huge task, but is well worth the effort.

When registering new documents into the system, ArabDox DMS imaging/capture support a divided screen format that presents the scanned image on one side and the predetermined index fields on the other side, as shown in the following exhibit. The operator reads the scanned image to find the index data and keys into the template.


Indexing Workstation - Birth Documents
Batch Edit Document View Help
Attach
Detach
Accept
Reject
Spell Checker
Zoom
Refresh
Name
Person Name
Date of Birth
رقم مسلسل
الأسم :
مايكل جميل عزيز
المحافظة :
العنوان :
شارع لطفي — برج العرب — رقم ٦
محل الميلاد :
تاريخ الميلاد :
٢٤ فبراير
السنة :
المؤهل :
حاصل على بكالوريوس تجارة
إن الهدف الأساسي لصخر منذ إنشائها هو مساعدة المستخدمين العرب في الوصول إلى أهدافهم من خلال تكنولوجيا قائمة علي اللغة العربية. ولذلك فإن صخر حريصة دائماً على تطوير وتحسين برامجها باستمرار لكي تساير التغييرات المستمرة التي تحدث في مجال التكنولوجيا.
Batch Name
Priority
Users
Document...
Creator
Total N...
Avail...
In Progress
Accepted
Rejected
Birth Documents Normal 0 Birth Certif... administ... 3 2 0 0 0
Birth Documents Normal 1 Birth Certif... administ... 2 0 1 0 1
Documents Normal 1 Birth Certif... administ... 2 0 1 0 0
Document : 1 , [Accepted]
Arial Regular 16
1 / 1
1 : 1

7. Task 7 Deliverables

Deliverable Name:

- Training plan for the three categories of users.
- At least 25 users trained from the three categories above.
- End user and technical manual on the DMS and associated operational procedures.

Deliverable Description:

Train the Filing Section under the Administration and Organization General Department or whomever is agreed between the contractor and TAS/FTS officials.

After the above tasks have been successfully completed a comprehensive training plan should be defined and carried out to ensure that designated personnel learn how to analyze documents, prepare metadata, scan documents, store documents in the physical location, and retrieve them as needed. Also, the same personnel needs to learn how to use the DMS and ensure that all images are stored properly and effective backup procedures exist to preserve critical or vital documents. In summary, the successful contractor shall:

- Prepare the training plan for personnel from the filing section responsible for analyzing documents, creating metadata, operating the DMS, storing physical documents, retrieving documents, and tracking the check out of physical documents.
- Train end-users to retrieve images of documents based on metadata.
- Train the technical IT department on how to modify parameters in the DMS, backup procedures, store procedures, and general administration of the filing components.

7.1 Training plan for the three categories of users defined above

We are committed to design a system that is intuitive, easy-to-use, and provides similar functionality to tasks performed with paper. We take into our consideration that the simpler the system is for users to operate, the greater your chance of experiencing success and productivity gains.
We are committed to provide training in how to use the system; training must be tailored to match the different roles of the users.

1.1.1 Users Categories

We will classify types of users as follows:

Administrators - IT Department

Whose jobs revolve around administrating the whole system, will also require intensive training on how to modify parameters in DMS, Backup plans and procedures, and managing users and groups.

Capturing Users / Backlog Conversion Users

Scanning and indexing can be a tedious job. We recommend encouraging employees in these positions to take incentives to perform these routine tasks efficiently and proficiently. They need to know that the entire success of the project depends on their success with these tedious procedures.

System users / End Users / Managers

Whose jobs revolve around processes involving document creation and retrieval, will require intensive training and guidance on ways of doing their jobs.

7.2 At least 25 users trained from the three categories above

Training will be interactive and customized to fit the specific work environment. We will develop training to meet all objectives and functions for all users' categories:

Installing and Administrating ArabDox System

Participants: IT Managers, Administrators, IT Engineers, Technical Support Engineers
Duration: 2 days

Subject Overview

ArabDox Administration introduces all the administration-related functions either those related to documents like defining documents' types, specifying and organizing indexing fields, and specifying the types' workstations. In addition to processes related to users' administration like specifying their permissions.

Course Content

- **ArabDox Installation**
  - Server and Clients' hardware requirements
  - Server and Clients software requirements
  - Installing Arabdox on Server
  - Installing ArabDox on Client
  - Settings to be configured after installation
- **ArabDox Administration**
  - Defining Document Types
  - Adding Document Types
  - Exporting Document Types
  - Importing Document Types
  - Adding Index Fields
  - Sending Document Types as XML
  - Capturing Queues
  - Adding Generated Text Files
  - Adding Sequences
  - Specifying Workstations Settings
  - Adding New Users
  - Adding a New Users Group
  - Specifying the Access Control List
  - Specifying the Connected Users
  - Creating a Backup
  - Restoring a Backup
  - Specifying Fax Folder
  - Document Statistics
  - Document History
  - Re-Indexing
  - Organizing Indexing

Course Calendar

Date	Timing	Location
Sun 20/8/2006	10:00 AM to 04:00 AM	Ministry of Trade and Industry
Mon 21/8/2006	10:00 AM to 04:00 AM	Sakhr Building

Course Attendees

Sun 20/8/2006	Mon 21/8/2006
1- Khaled Ibrahim Abdalla	1-
2- Essam El-Said Aly	2-
3- Ahmed Fouad Selim	3-
4- Wahid Hamdy	4-
5- Essam Abdel-Fatah	5-
6-	6-
7-	7-
8-	8-
9-	9-
10-	10-

ArabDox Capturing System

Participants: Scanning, Quality Control and Indexing Operators
Duration: 1 day

Subject Overview

ArabDox Capturing System introduces how to capture data from printed or electronic documents and prepare the data in order to be sent to ArabDox database then to the indexing and search and retrieval workstations.

Course Content

- **Capturing Data Overview**
- **Scanning Workstation**
  - Scanning
  - Previewing Scanned Files
  - Deleting Batches
  - Adding New Document to an Existing Batch
  - Inserting Pages into Documents
  - Splitting Documents
  - Merging Documents
  - Setting the Scanner Protocol
- **Quality Control Workstation**
- **Rescan Workstation**
- **Zones Revision Workstation**
- **OCR Workstation**
- **Indexing Workstation**
- **Release Workstation**

Course Calendar

Date	Timing	Location
Tue 22/8/2006	10:00 AM to 04:00 AM	Sakhr Building

Course Attendees

Tue 22/8/2006
1-
2-
3-
4-
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8-
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24-
25-

Filing and Correspondence Management System

Participants: End Users (All users, Investigators, Managers)
Duration: 1 day

Subject Overview

In ArabDox Explorer You can perform all archiving operations on documents resulting from data capturing, in addition to search and retrieval. ArabDox enables you to handle documents, i.e. adding folders, attaching images, viewing attachments from within explorer. Moreover, you can use ArabDox to manage files and documents to help you retrieve them easily and edit the documents previously processed in the system workstations.

Course Content

- **ArabDox Explorer**
  - Creating Cabinets
  - Creating Folders
  - Creating Documents
  - Deleting cabinets, folders, and Documents
  - Documents Preview
- **Web-Based Electronic Filing and Correspondence System**
  - Manage Repository
    - Manage Cabinets
    - Manage Folders
    - Manage Documents
    - Images and Annotations
    - Attachments
    - Contents
    - Linked Documents
    - Index Fields
  - My Correspondence
    - Send to User
    - Send to Folder
    - Tracking Document Locations
    - Viewing paper physical Locations
  - My Mails
    - Send Mail
    - Forward Mail
  - Working Area
  - Recycle Bin
  - Administration
    - Add / Delete Correspondence Users
    - Add / Edit / Delete Correspondences Document Classes
    - Add /Edit / Delete Buildings
    - Add /Edit / Delete Floors
    - Add /Edit / Delete Rooms
    - Add /Edit / Delete Cabinets
    - Add /Edit / Delete Shelves

- Add /Edit / Delete Folders

- **Paper-Based Correspondence Management System**
  - View Correspondences by different
  - Search in Correspondences
- **Outlook Integration**
  - Import mail to ArabDox
  - Import Folder of mails to ArabDox
  - Create Rules to import mails to ArabDox automatically

Course Calendar

Date	Timing	Location
Wed 23/8/2006	10:00 AM to 04:00 AM	

Course Attendees

Wed 23/8/2006
1-
2-
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7.3 End user and technical manual on the DMS and associated operational procedures.

All manuals (ArabDox DMS setup guide, Administration Guide, and User Guide) Delivered with ArabDox CD (under the folder called manual), and supported in Tri-Lingual Interfaces (Arabic, English, and French).