

# Modelling The Intra-Enterprise Mail Management System Using A Procedural Approach

## (Case Study Of University Of Uyo Intra-Mail Management Process)

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**Abstract—** The paper presented modelling of intra-enterprise mail management system using a procedural approach with case study of University of Uyo intra-mail management process. The intra-mail management process entails the sequence of activities used in initiating, treating, dispatching, receiving, filing and tracking mails and documents within an enterprise. The general structure of the Enterprise Intra Mail Management System (EIMMS) is presented and the detail description of EIMMS as it applies to the University of Uyo (UNIUYO) is presented. According to the system architectural structure and functional decomposition, there are about eight different module that make up the entire system for UNIUYO. Also, the requisite enterprise intra mail management system procedure, actors and data for the implementation of the various modules that make up the system are presented. In all, the system is designed to combine some manual and offline processes with a web-based automated processes. The system is therefore, designed to accommodate the existing manual and hardcopy document dominated process while presenting the web-based solution that will later be adopted a the sole intra-enterprise mail management system in the institution.

**Keywords—** Mail Management System, Procedural Model, Functional Decomposition, File Index, Mail Tracking

### 1. Introduction

Nowadays, the use of information and communication technologies (ICTs) has facilitated timely delivery of documents in enterprises [1,2,3,4,5,6,7,8,9,10]. This has prompted wide application of off the shelf mail management software platforms [11,12,13,14,15,16,17,18,19]. The challenge with such systems is that they may not capture the peculiarities of the mail management processes in the institution. As such, customized software solution is required. More so, some enterprises are still adopting manual documents and mail

handling mechanisms [20,21,22,23,24,25,26]. In that case, mail management becomes an issue and transition to the automated system that is based on ICT requires a system that can accommodate the existing manual approach.

Accordingly, in this paper, the modelling of intra-enterprise mail management system using a procedural approach with case study of University of Uyo intra-mail management process is presented. The intra-mail management process entails the sequence of activities used in initiating, treating, dispatching, receiving, filing and tracking mails and documents within an enterprise. In all, the system is designed to combine some manual and offline processes with a web-based automated processes [27,28,29,30]. The system is therefore, designed to accommodate the existing manual and hardcopy document dominated process while presenting the web-based solution that will later be adopted a the sole intra-enterprise mail management system in the institution.

### 2. Methodology

#### 2.1 About the case study enterprise mail management procedure and the functional decomposition of the proposed system

Presently, the case study institution runs a manual mail documentation and tracking procedure which is very inefficient. In this work, first the current fully manual mail management process was studied. The manual mailing management system has physical hardcopy mails and physical hardcopy mail documentation logbook for received mails and another book for dispatched mails. Mail tracking in this system is done manually by going from office to office to check on the received mail logbooks and the dispatched mail logbooks.

Alternatively, in this work a hybrid (physical hardcopy mail) with partial manual physical hardcopy book documentation and detailed computerised documentation procedure is developed. The manual approach is still included to accommodate the old system as many of the operations of the case study enterprise still require the manual approach of signing and filing documents. However, the computerized

components facilitates speedy tracking of mails from anywhere as long as the person has access to the web-based Intra-enterprise Mail Management System (EIMMS) for University of Uyo (UNIUYO).

Notably, the study focused on modelling the University of Uyo intra-mail management process with emphases on the activities performed by the unit/departmental head and the mail reception, documentation and dispatch staff in the unit or the department. Also, the study presented a process which has mails in hard copies, uses a hardcopy book to record minimal information about the mail but also uses the Intra-enterprise Mail Management System (EIMMS) software for detailed documentation and management of the hardcopy mails. It can make provision for scanned copy of the mails but present study did not consider such approach. Furthermore, the Intra-enterprise Mail Management System (EIMMS) is an enterprise-wide application that is accessible via the Internet or enterprise-wide intranet and the database is hosted centrally for the entire

enterprise. The various actors in the file management system have access to the EIMMS software.

The functional decomposition of the UNIUYO Intra-enterprise Mail Management System consists of eight different modules, namely;

- i. EIMMS Module 1: Setup file index
- ii. EIMMS Module 2: Generate/initiate, Submit and Receive Mail
- iii. EIMMS Module 3: Determine required action and destination of mail
- iv. EIMMS Module 4: Dispatch mail
- v. EIMMS Module 5: Treat mail
- vi. EIMMS Module 6: file mail , retrieve and refile mails
- vii. EIMMS Module 7: Track mail
- viii. EIMMS Module 8: Associate/link mails



Figure 1 The general structure of the EMMS

## 2.2 EIMMS Module 1: Setup file index

### 2.2.1 About the EIMMS Module 1: Setup file index

Specifically, the file index identifies the various categories of file folders that need to be created in the unit /department for filing of incoming and outgoing mails. Accordingly, in the Setup File Index module, the clerical staff in charge of file management will setup file index list and folders for the unit /department.

At the onset of the file management system, the file index list need to be generated and the file folders for each of the item/category listed in the file index list need to be created. The list may not be exhaustive at any given time but it can be updated as new files that require filing prompts the creation of new file folder category. Each file folder listed and created will be assigned a Unique File Index Number (UFIN) for references and for the file management application implementation of the file index module.

### 2.2.2 Actors required for EIMMS Module 1: Setup file index

The actors required for this module are as follows

- I. Staff\_MRD: Mail on transit and mail received from other units through mail reception/documentation staff
- II. Staff\_MDD: the unit/departmental staff for mail documentation and despatch
- III. EIMMS App: the Intra-enterprise Mail Management System (EIMMS) software

Note: the Staff\_MRD and Staff\_MDD can be a single person of more than one person. Hence, the two the Staff\_MRD and Staff\_MDD will be denoted as Staff\_MRD/MDD

### 2.2.3 Metadata required for EIMMS Module 1: Setup file index

The data required or generated in the course of file index setup include:

Unit/Department

- I. Staff name creating or updating the file index or login details of the staff (Staff\_MRD/MDD\_Name)
  - II. The file index name for the unit/department (FIndex\_NameUnitDpt)
  - III. File index version number (FIndex\_VerNum)
- Note: The first file index is version one and any update will have version number greater than 1. Also, the EIMMS will display the current version number and for update request, it will automatically increment the version number)
- IV. Date the file index is being created of updated (FIndex\_Date)
  - V. Time the file index is being created of updated (FIndex\_Time)
  - VI. List of the file folders containing the following
    - a) File folder name (FIndex\_FoldName)
    - b) File folder index number (FIndex\_FoldName)

- c) Date created (FIndex\_FoldDate)
- d) Time created (FIndex\_FoldTime)
- e) Name of Person that created it (FIndex\_Fold\_MRD/MDD\_Name)

## 2.3 EIMMS Module 2: Generate / initiate, Submit and Receive Mail

### 2.3.1 About the EIMMS Module 2: Generate / initiate, Submit and Receive Mail

This module is concerned with the creation of mail and the submission of the mail to the clerical staff (Staff\_MRD) that is in charge of mail reception/documentation in the unit or department, as well as the reception of the mail by the Staff\_MRD. There are two sub-modules in this module, namely;

- i. Module 2.1 : Generate or initiate mail
- ii. Module 2.2 : Submit / receive mail

### 2.3.2 Module 2.1 : Generate or initiate mail

The sub-module 2.1: generate or initiate mail is concerned with the creation of a mail which can be a new mail or a mail on transit from other unit/department. The source of mail are numerous but can be categorised under some finite groups. Once a mail is generated, there are a number of information (referred in this work as metadata) for the documentation and management for the mail using the intra-enterprise Mail Management System (EIMMS).

### (A) Actors required for the sub-module 2.1: Generate or initiate mail

The actors required for this sub-module 2.1 (Generate or initiate mail) are as follows:

- i. Head\_UD: Head of Unit/Department
- ii. Student\_D: Student
- iii. Staff\_D: Staff
- iv. ParGuad\_D: Parent/guardian
- v. GenPub\_D: applicants, general public
- vi. Staff\_MDD: Mail on transit and mail received from other units through mail dispatch/documentation staff
- vii. File Folder
- viii. The EIMMS software
- ix. Others (specify)

Note; for the intra-enterprise Mail Management System (EIMMS) program development, the mail source is denoted generally as, MailSource

### (B) Metadata required for the sub-module 2.1: Generate or initiate mail

The data required or generated in the course of this sub-module 2.1 (Generate or initiate mail) are as follows;

- I. Mail routing information  
This is the routing information that specifies 'TO' and 'THROUGH' in the mail destination addresses. The metadata required includes:

- a) DestAddrTo : the final destination specified as the person the mail is addressed to (DestAddrTo)
  - b) DestAddrThro[k] : the intermediate destination specified as the person the mail need to go through before it gets to the final destination (DestAddrThro[k]); where k denotes the serial number assigned to the 'through' addresses, and the mail is routed from k = 1 to maximum k. That means the maximum value of k is assigned to the DestAddrTo address.
- II. Mail distribution information.  
(DestAddrCc[k])
- This is the cc or copy to list and this is denoted in this works as DestAddrCc[k] where k denotes the serial number assigned to the receiver in the cc list where k = 1 to maximum k. That means the maximum value of k is assigned to the last receiver on the cc list.
- III. Mail title (MailTitle)
  - IV. Mail tracking number (MailTN)
  - V. Mail source details required
    - a) Name or office of mail source (MailSName)
    - b) Registration number, applies to students (MailSRegNum)
    - c) phone number (MailSPhoneNum)
    - d) email (MailSEmail)
    - e) contact address (MailSAddr)

### 2.3.3 Module 2.2 : Submit and receive mail

The sub-module 2.2 (submit and receive mail) is concerned with the submission of the mail by the mail source (MailSource) from the destination unit/department or from other unit/department to the mail receiver (Staff\_MRD/MDD) in the destination unit/department.

#### (A) Actors Required for sub-module 2.2: submit and receive mail

The actors required for this sub-module 2.2 (submit and receive mail) are as follows

- i. The mail source (MailSource):  
The mail sources is as listed in the actors required for the sub-module 2.1: Generate or initiate mail. They are all denoted as the mail source (MailSource).
- ii. Mail Receiver (Staff\_MRD/MDD):  
The mail receiver is Staff\_MRD which is the staff for mail reception and documentation in the destination unit/department
- iii. The EIMMS software

#### (B) Metadata required for the sub-module 2.2 (submit and receive mail)

The data required or generated in the course of this sub-module 2.2 (submit and receive mail) are as follows;

- I. Mail title (MailTitle)
- II. Mail tracking number (MailTN) if available
- III. Received Date (MailRDate)
- IV. Received Time (MailRTime)
- V. Mail Receiver Name (MailRName)
- VI. Receiver phone (MailRPhone)
- VII. Receiver email (MailREmail)
- VIII. Mail source name or office of mail source (MailSName)
- IX. Mail source registration number, applies to students (MailSRegNum)
- X. Mail source phone number (MailSPhoneNum)
- XI. Mail source email (MailSEmail)
- XII. Mail source contact address (MailSAddr)

### 2.4 EIMMS Module 3: Determine required action and destination of mail

#### 2.4.1 About the EIMMS Module 3: Determine required action and destination of mail

In this module , the staff in charge of mail reception/dispatch and documentation denoted as Staff\_MRD/MDD will examine each of the received mail to determine the next action to be carried out and who will perform that action. For instance, a mail submitted form a student may be a course registration form in which case the action required is for the head of department to sign the course form. In this case, the course form need to be passed to the head of department. In another case, a mail from the head of department may be marked, 'file copy'. In this case, the Staff\_MRD/MDD is required to file the mail. In this second case, the destination of the mail is the file folder and the person to handle the filing process is the Staff\_MRD/MDD.

#### 2.4.2 Actors required for the module 3: Determine required action and destination of mail

The actors required for the module 3 (determine required action and destination of mail) are as follows:

- i. Staff\_MRD/MDD: the staff in charge of mail reception/dispatch and documentation
- ii. Mail destination entity denoted in this work as MailNxtDestination, which is the same as MailSource as listed in the actors required for the sub-module 2.1 (Generate or initiate mail).
- iii. The EIMMS software

Some possible actions (MailNxtAction) on the mail include;



- i. Submit to the unit/departmental head to treat the mail
- ii. Dispatch mail to other persons, units , etc
- iii. Photo copy the mail
- iv. File or retrieve the mail
- v. Paste on notice board
- vi. Drop in the pigeonhole
- vii. Destroy/discard or put the mail in trash can

Some possible destinations of the mail (MailNxtDestination) and (DestAddrCc[k]) include:

- i. Head\_UD: Head of Unit/Department
- ii. Student\_D: Student
- iii. Staff\_D: Staff
- iv. ParGuad\_D: Parent/guardian
- v. GenPub\_D: applicants, general public
- vi. Staff\_MDD: Mail on transit and mail received from other units through mail dispatch/documentation staff
- vii. Others (specify)

## 2.5 EIMMS Module 4: Dispatch Mail

### 2.5.1 About the EIMMS Module 4: Dispatch Mail

In the module , the staff in charge of mail reception/dispatch and documentation at the dispatching unit /department (denoted as StaffD\_MRD/MDD) after determining the next destination of the mail dispatches the mail to that destination entity. At the dispatch point, some important dispatch information (dispatch metadata) are collected for the EIMMS software and dispatch book log information.

### 2.5.2 Actors required for the EIMMS Module 4 ( Dispatch Mail)

The actors required for the EIMMS Module 4 ( Dispatch Mail) include;

- i. StaffD\_MRD/MDD: the staff in charge of mail reception/dispatch and documentation at the dispatching unit /department
- ii. StaffR\_MRD/MDD: the staff in charge of mail reception/dispatch and documentation at the receiving unit /department
- iii. The EIMMS software

### 2.5.3 Metadata required for the EIMMS Module 4 ( Dispatch Mail)

The metadata required for the EIMMS Module 4 ( Dispatch Mail) include;

- i. Mail title (MailTitle)
- ii. Mail tracking number (MailTN) if available
- iii. Mail dispatching office name (MailSUName)
- iv. Dispatch date (MailDDate)
- v. Dispatch time (MailDTime)
- vi. Dispatcher Name (MailDName)
- vii. Dispatcher phone (MailDPhone)
- viii. Dispatcher email (MailDEmail)
- ix. Mail Receiver Name (MailRName)
- x. Receiver phone (MailRPhone)

- xi. Receiver email (MailREmail)

## 2.6. EIMMS Module 5: Treat mail

### 2.6. About the EIMMS Module 5: Treat mail

The focus in this work is not exhaustive modelling of the mail management procedure but rather the work seeks to capture the core procedures entailed in the intra-enterprise mail management system. This work captures the details of the actions of the head of a unit or head of a department along with the actions of Staff\_MRD/MDD, which is the staff in charge of mail reception/dispatch and documentation.

Notably, in this module , the Staff\_MRD/MDD send a file containing a batch of mails to the Head of Unit/Department (Head\_UD) through an in-coming file (FileInComing). Then, the Head\_UD attends to each mail in the file and signs and possibly specifies action to be performed. Then the Head\_UD sends some or all of the mails back to the Staff\_MRD/MDD through an outgoing file (FileOutGoing).

Some possible actions/state that may results from the Head of Unit/Department (Head\_UD) activity on the mail include;

- i. Submit to the unit/departmental head to treat the mail
- ii. Dispatch mail to other persons, units , etc
- iii. Photo copy the mail
- iv. File or retrieve the mail
- v. Paste on notice board
- vi. Drop in the pigeonhole
- vii. KIV: keep in view
- viii. Treated for dispatch (Comment or specify next action and ready for dispatch)
- ix. Pending: Mail is being processed (comment on a piece of paper for mail management documentation purpose)
- x. Not seen
- xi. Destroy/discard or put the mail in trash can
- xii. Other action (specify)

### 2.6.2 Actors required for the EIMMS Module 5 (Treat mail)

The actors required for the EIMMS Module 5 (Treat mail) include;

- i. Head of Unit/Department (Head\_UD)
- ii. the staff in charge of mail reception/dispatch and documentation (Staff\_MRD/MDD)
- iii. The EIMMS software

## 2.7 EIMMS Module 6: file mail , retrieve and refile mails

### 2.7.1 About the EIMMS Module 6: file mail , retrieve and refile mails

In the EIMMS Module 6 which is file mail , retrieve and refile mails, the staff in charge of mail reception/dispatch and documentation (Staff\_MRD/MDD) puts the mails that are for file copy to the appropriate file folder listed on the file index. In

the case where such file folder does not yet exist in the file index list, then the Staff\_MRD/MDD will create such a folder and include it in the index file list.

Also, in this module, the Staff\_MRD/MDD can retrieve file from a file folder listed in the file index and also refile a mail that was previously retrieved from the file folder.

### 2.7.2 Actors required for the EIMMS Module 6 (file mail, retrieve and refile mail)

The actor required for the EIMMS Module 6 (file mail, retrieve and refile mails) are

- i. the staff in charge of mail reception/dispatch and documentation (Staff\_MRD/MDD)
- ii. The EIMMS software

## 2.8 EIMMS Module 7: Track mail

### 2.8 About the EIMMS Module 7: Track mail

The tracking mechanism use the time-stamped information on actions listed on the mail with the specified tracking number to assemble and display chronologically the location and actions associated with a mail from the time it was submitted to the current time of enquiry (tracking request). The tracking request response/output specify chronologically, the date, time, and action performed at various points on the mail. As such, any action performed on the mail documents will make an entry in the mail tracking number

### 2.8.2 Actors required for the EIMMS Module 7: Track mail

The actors required for the EIMMS Module 7 (Track mail) include;

- i. An person with login details to the Intra-enterprise Mail Management System (EIMMS) software
- ii. The EIMMS software

## 2.9 EIMMS Module 8: Associate Mails

### 2.9.1 About the EIMMS Module 8: Associate Mails Associate File copy

Some mails are dispatched but a file copy is filed in the file folder as listed in the file index. As such, the mail with a filed copy can be associated with the file tracking number and hence, EIMMS has a provision to indicate whether a mail has a file copy and to which file folder the file copy is located.

### Associate Referenced Mails

Some mails make reference to other mails using their reference number. So, each mail tracking number should be listed along with the tracking number of all other mails it referenced.

### Associate Mails Citation

Since some mails make reference to other mails, the referenced mail is said to be cited mail. So, for each mail, the EIMMS software extracts the tracking numbers of every other mail that cited it and the list is the citation list for the mail. In essence, the EIMMS associates mail by citation also.

### 2.9.2 Actors required for the EIMMS Module 7: Track mail

The actors required for the EIMMS Module 8 (Associate Mails) include;

- i. An person with login details to the Intra-enterprise Mail Management System (EIMMS) software
- ii. The EIMMS software

## 3. The procedural model for the Intra-enterprise Mail Management System

This section presents the procedure or logical sequence of actions that are performed in each module by the various actors listed in the enterprise mail management process. The various modules that make up the system are as presented in section 2 along with their description, actors involved in the process and the metadata required for the computerised documentation and management of the mail process.

### 3.1 The procedural model for the EIMMS Module 1: setup file index module

The procedure or logical sequence of actions to be performed in the EIMMS setup file index module is as follows:

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## PROCEDURE 1: Logical sequence of actions for the setup file index module

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**Step 1:** Staff\_MRD/MDD Login to the EIMMS App with the Staff\_MRD/MDD login details

**Step 2:** Staff\_MRD/MDD create file index name for the unit/department (FIndex\_NameUnitDpt) in the EIMMS App , and at the same timesupply the following required metadata for the FIndex\_NameUnitDpt:

**Step 2.1:** File index version number (FIndex\_VerNum)

**Step 2.2:** Date the file index is being created of updated (FIndex\_Date)

**Step 2.3:** Time the file index is being created of updated (FIndex\_Time)

**Step 2.4:** List of the file folders containing the following

**Step 2.4.1:** File folder name (FIndex\_FoldName)

**Step 2.4.2:** File folder index number (FIndex\_Foldum)

**Step 2.4.2:** Date created (FIndex\_FoldDate)

**Step 2.4.3:** Time created (FIndex\_FoldTime)

**Step 2.4.5:** Name of Person that created it (FIndex\_Fold\_MRD/MDD\_Name)

**Step 3:** Save the file index and print the list

**Step 4:** Create a physical file folder for each of the file folders (FIndex\_FoldName) listed

**Step 5:** Fill the title page of each of the create physical file folder with the information listed **Step 2.4**

### 3.2 The procedural model for EIMMS Module 2: Generate / initiate, Submit and Receive Mail

#### 3.2.1 Logical sequence of actions for the generate or initiate mail sub-module

The procedure or logical sequence of actions to be performed in the EIMMS sub-module 2.1 is as follows:

#### PROCEDURE 2.1: Logical sequence of actions for the generate or initiate mail sub-module

**Step 1:** The mail source (MailSource) generates a new mail (NewMail) or bring the mail on transit (TransitMail) from other unit.

**Step 2:** The mail source (MailSource) supply the required metadata required for the sub-module 2.1: Generate or initiate mail

### 3.2.1 Logical sequence of actions for the submit and receive mail module

The procedure or logical sequence of actions to be performed in the EIMMS submit and receive mail sub-module is as follows:

#### PROCEDURE 2.2: Logical sequence of actions for the submit and receive mail module

**Step 2.2.1: Conduct** preliminary check on the mail and then identify missing required mail management information on the mail, as well as wrong route, etc. At this point mail can be rejected

**Step 2.2.2:** Assign tracking number

**Step 2.2.3:** Stamp the mail

**Step 2.2.4:** Record mail on the received mail book, the information entered includes;

**Step 2.2.5:** Mail title (MailTitle)

**Step 2.2.6:** Mail tracking number (MailTN) if available

**Step 2.2.7:** Received Date (MailRDate)

**Step 2.2.8:** Received Time (MailRTime)

**Step 2.2.9:** Mail source name or office of mail source (MailSName)

**Step 2.2.10:** Update the EIMMS App with the complete metadata required for sub-module 2.2 (submit and receive mail)

### 3.3 The procedural model for EIMMS Module 3: Determine required action and destination of mail

The procedure or logical sequence of actions to be performed in the EIMMS Module 3: Determine required action and destination of mail is as follows:

#### PROCEDURE 3: Logical sequence of actions for module 3: determine required action and destination of mail



**Step 3.1:** Determine the next action and who is to perform the next action in the mail processing line of action.

The information that guide in this decision are

- ✓ the mail routing information
- ✓ the action required before routing and the person or entity that will perform that action

Some possible actions (MailNxtAction) on the mail include;

- i. Submit to the unit/departmental head to treat the mail
- ii. Dispatch mail to other persons, units , etc
- iii. Photo copy the mail
- iv. File or retrieve the mail
- v. Paste on notice board
- vi. Drop in the pigeonhole
- vii. Destroy/discard or put the mail in trash can

Some possible destinations of the mail (MailNxtDestination) and (DestAddrCc[k]) include:

- i. Head\_UD: Head of Unit/Department
- ii. Student\_D: Student
- iii. Staff\_D: Staff
- iv. ParGuad\_D: Parent/guardian
- v. GenPub\_D: applicants, general public
- vi. Staff\_MDD: Mail on transit and mail received from other units through mail dispatch/documentation staff
- vii. Others (specify)

### 3.4 The procedural model for the EIMMS Module 4 ( Dispatch Mail)

The procedure or logical sequence of actions to be performed in the EIMMS Module 4 ( Dispatch Mail) is as follows:

#### PROCEDURE 4: Logical sequence of actions for the EIMMS module 4 (Dispatch Mail)

**Step 4.1:** StaffD\_MRD/MDD and Action by Staff\_MRD

**Step 4.2:** StaffD\_MRD/MDD determine from the routing information the mail next destination (MailNxtDestination)

**Step 4.3:** StaffD\_MRD/MDD determine from the distribution (cc) information the different entities that should receive a copy of the mail , denoted as DestAddrCc[k]

**Step 4.4:** StaffD\_MRD/MDD dispatch the mail to the MailNxtDestination as well as to DestAddrCc[k]

**Step 4.5:** MailNxtDestination / DestAddrCc[k] receives the mail and supplies the requisite metadata required for the EIMMS module 4 ( Dispatch Mail)

**Step 4.6:** StaffD\_MRD/MDD updates his/her dispatch book

**Step 4.7:** MailNxtDestination / DestAddrCc[k] updates his/her receive book

**Step 4.8:** StaffD\_MRD/MDD and MailNxtDestination / DestAddrCc[k] update the EIMMS software with the required metadata required for the EIMMS module ( Dispatch Mail)

### 3.5 The procedural model for the EIMMS Module 4 ( Dispatch Mail)

#### 3.5.1 The procedural model for the actions by the staff in charge of mail reception/dispatch and documentation (Staff\_MRD/MDD)

The procedure or logical sequence of actions to be performed in EIMMS Module 5 (Treat mail) by the staff in charge of mail reception/dispatch and documentation (Staff\_MRD/MDD) is as follows:

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**PROCEDURE 5.1: Logical sequence of actions for the EIMMS module 5 (Treat mail) by the Staff MRD/MDD**

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**Step 5.1.1** Create current (in-coming) batch file number for mail submission

**Step 5.1.2** List mail tracking numbers to be submitted in the current (in-coming) batch file with the batch number

**Step 5.1.3** Submit the (in-coming) batch file along with the batch metadata record with the following information:

- i. Submission Batch file number or in-coming file batch number (FileInComingBNum).
- ii. Submission Batch file date or in-coming file batch date (FileInComingBDate)
- iii. Submission Batch file time or in-coming file batch time (FileInComingBTime).
- iv. Number of mails in the Submission Batch file (FileInComingMN)
- v. The list containing the mails title (MailTitle) in the Submission Batch file and their tracking number (MailTN)

**3.5.2 The procedural model for the actions by the unit head (Head\_UD)**

The procedure or logical sequence of actions to be performed in EIMMS Module 5 (Treat mail) by the unit head (Head\_UD) is as follows:

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**PROCEDURE 5.2: Logical sequence of actions for the EIMMS module 5 (Treat mail) by the unit head (Head\_UD)**

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- Step 5.2.1** Note the Batch number and the tracking number of a mail
- Step 5.2.2** Treat a mail and indicate the category of action performed or required to be performed as listed in the possible actions/state that may result from the Head of Unit/Department (Head\_UD) activity on the mail
- Step 5.2.3** Compile the list of treated mail, particularly, their in-coming file Batch number and the tracking number
- Step 5.2.4** Assign a dispatch (out-going) batch file number and include the out-going mails treated in the list of mails for the dispatch (out-going) batch file
- Step 5.2.5** Send the dispatch (out-going) batch file of treated mails to the Staff\_MRD/MDD
- Step 5.2.6** Release the out-going batch file along with the batch metadata record with the following dispatch batch file number
- i. dispatch Batch file number or out-going file batch number (FileOutGoingBNum).
  - ii. dispatch Batch file date or out-going file batch date (FileOutGoingBDate)
  - iii. dispatch Batch file time or out-going file batch time (FileOutGoingBTime).
  - iv. Number of mails in the dispatch Batch file (FileOutGoingMN)
  - v. The list containing the mails title (MailTitle) in the dispatch Batch file and their tracking number (MailTN)

### 3.6 The procedural model for the EIMMS Module 6 (File Mail , Retrieve and Refile Mails)

#### 3.6.1 Procedure of action in the Part I of the EIMMS Module 6 (FILE MAIL AND REFILE MAIL)

The procedure or logical sequence of actions to be performed in the Part I of the EIMMS Module 6 (FILE MAIL AND REFILE MAIL) which is performed by the staff in charge of mail reception/dispatch and documentation (Staff\_MRD/MDD) is as follows:

#### PROCEDURE 6.1: Logical sequence of actions in the Part I of the EIMMS module 6 (FILE MAIL AND REFILE MAIL) by the Staff\_MRD/MDD

- Step 6.1.1** If the required file folder is not in the current version of the file index list, then create the folder and update the file index list
- Step 6.1.2** Identify the destination file folder index name (FIndex\_FoldName)
- Step 6.1.3** Identify the destination file folder index number (FIndex\_FoldNum)
- Step 6.1.4** Put the mail in the file folder
- Step 6.1.5** Record the mail tracking number (MailTN)
- Step 6.1.6** Record the filing date (FIndex\_FileDate)
- Step 6.1.7** Record the filing time (FIndex\_FileTime)
- Step 6.1.8** Record on that mail tracking number columns , action performed (FilingAct or RetrivAct or RefilAct) , the FIndex\_FoldName, FIndex\_FileDate and FIndex\_FileTime
- Step 6.1.9** Record the name of the person that did the filing (Staff\_MRD/MDD\_Name)
- Step 6.1.10** Record the phone number of the person that did the filing (Staff\_MRD/MDD\_Phone)

#### 3.6.2 Procedure of action in the Part II of the EIMMS Module 6 (RETRIEVE MAIL FROM FILE FOLDER)

The procedure or logical sequence of actions to be performed in the Part II of the EIMMS Module 6 (RETRIEVE MAIL FROM FILE FOLDER) which is performed by the staff in charge of mail reception/dispatch and documentation (Staff\_MRD/MDD) is as follows:

### PROCEDURE 6.2: Logical sequence of actions in the Part I of the EIMMS module 6 (RETRIEVE MAIL FROM FILE FOLDER) by the Staff\_MRD/MDD

- Step 6.2.1** Identify the destination file folder index name (FIndex\_FoldName)
- Step 6.2.2** Identify the destination file folder index number (FIndex\_FoldNum)
- Step 6.2.3** Retrieve the mail from the file folder
- Step 6.2.4** Record the mail tracking number (MailTN)
- Step 6.2.5** Record the file retrieval date (FIndex\_FileDate)
- Step 6.2.6** Record the file retrieval time (FIndex\_FileTime)
- Step 6.2.7** Record on that mail tracking number columns , action performed (FilingAct or RetrivAct or RefilAct) , the FIndex\_FoldName, FIndex\_FileDate and FIndex\_FileTime
- Step 6.2.8** Name of the person that did the file retrieval (Staff\_MRD/MDD\_Name)
- Step 6.2.9** Phone number of the person that did the file retrieval (Staff\_MRD/MDD\_Phone)

#### 3.7 The procedural model for the EIMMS Module 7 (Track mail)

The procedure or logical sequence of actions to be performed in the EIMMS Module 7 (Track mail) is as follows:

### PROCEDURE 7: Logical sequence of actions in the EIMMS module 7 (Track mail)

- Step 7.1** Enter the login detail
- Step 7.2** Enter the mail tracking number
- Step 7.3** View the mail tracking details
- Step 7.4** Print or save the mail tracking details

#### 3.8 The procedural model for the EIMMS Module 8 (Associate Mails)

The procedure or logical sequence of actions to be performed in the EIMMS Module 8 (Associate Mails) is as follows:

### PROCEDURE 8: Logical sequence of actions in the EIMMS module 8 (Associate Mails)

- Step 8.1** Enter the login detail
- Step 8.2** Enter the mail tracking number
- Step 8.3** Select view FILE COPY mails
- Step 8.4** Print or save the FILE COPY list
- Step 8.5** Select view mail references
- Step 8.6** Print or save the mail references list
- Step 8.7** Select view mail citation
- Step 8.8** Print or save the mail citation list
- Step 8.9** Print or save the mail tracking details

#### 4. Conclusion

The detail description of an Intra-enterprise Mail Management System for University of Uyo is presented. According to the system architectural structure and functional decomposition of the system presented, there are about eight different module that make up the entire system. Also, the requisite procedure and data for the

implementation of the various modules that make up the system are presented. In all, the system is designed to combine some manual processes with the automated processes provided in the computerised EIMMS which is a web application.

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