UNIVERSITY OF DAR ES SALAAM

COLLEGE OF INFORMATION AND COMMUNICATION TECHNOLOGY (COICT)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (CSE)

Final year project proposal for Bsc. Computer science

Project title: UDSM FILE TRACKING MANAGEMENT SYSTEM

Participants

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DATE……

ACKNOWLEDGMENT

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Also we would like to express our thankfulness to our project supervisor, **Ms. MAHADIA TUNGA** for her constant motivation and valuable help through the project work and we would like to express deep gratitude and respect to all those people behind the screen whose guided, inspired and assistance helped us for the completion this phase of our project work.

Again, we extend our gratitude to the registry office at university of dare s salaam administration and the secretary of college of information and communication technology especially department of computer science and engineering for their great contribution during the requirement collection and literature review of our final year project that made us achieve our project objectives.

Lastly, our fellow colleagues who contributed their ideas that helped us to accomplish this project work up to this step. May God bless you all.

Thanks.

ABSTRACT

Management of files in organizations is very important in daily routines because files are a key element in daily operations for storing information for future retrieval. When it comes to an effective and smooth running office environment, there are certain elements that must be implemented, despite the industry you are in. Many organizations including the university of dare s salaam registry center use manual system to request and record the movement of files. Other than that, when the files need to be stored, they are stored in physical standard way. In most cases the storing has to be done in alphabetical or numbering order. This system lead to misplacement of files and loss of documents since there is no a system to track the file location at that particular moment.

File Tracking Management System is a web-based application that tracks and manages all the files movement at any time from one office to another one and help in managing the flow of files efficiently. Any office can receive and send file request at any time. The system enables files management, file status monitoring, file movement tracking, etc

The purpose of File Tracking System which we want to develop for University of Dar es salaam Registry Centre is to help them to manage the files records. This system will also help office attendants to easily track the file location and files users.

The system will also track the file contents since we intend to include the scanned documents of a file so as to be able to replace it in a file when discovered missing, this will also assist the file users to access the file by crosschecking the scanned documents of particular file simultaneously while waiting for it. Again, the system intends to track the movement of employees' documents from the department level, college, administration to registry center where the documents are attached in a given file and stored for further references. This will enable employees to know exactly at what level a particular document is at that particular moment.

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CHAPTER ONE

1. INTRODUCTION

1.1 Background of the problem

When it comes to an effective and smooth running office environment, there are certain elements that must be implemented, despite the industry you are in. First and foremost, your files are the key to your operation and learning how to properly maintain a sufficient paper trail can make a world of difference when it comes to your daily operations. Many organizations use manual system to request and record the movement of files. Other than that, when the files need to be stored, they are stored in physical standard way. In most cases the storing has to be done in alphabetical or numbering order.

File Tracking Management System is a web-based application that tracks and manages all the files movement at any time from one office to another one and help in managing the flow of files efficiently. Any office can receive and send file request at any time. The system enables files management, file status monitoring, file movement tracking, etc.

Currently at University of Dar es Salaam Registry center, employees' files are stored in cabinets and shelves identified by their ID-numbers, thus when a file is needed , the file users need to write letters or send calls to request for a needed file. To track the movement of a file, office attendants use the movement card to record the history and details of the moved files in a given book manually.

The challenges encountered in the current system are increasing number of files due to the increasing number of employees which result to the shortage of storage space, there is no system to ensure track of any employee letters in the workflow but also no policies have been established to guide on storage and management of the files hence it is sometimes difficult for them to handle such huge cabinet that contain a lot of files in which some are no longer in use but with the system they will definitely switch into policies so that it would be easy for them to cope with the system for proper management. Another challenge is that there is no insurance that the returned file will contain all documents as it was taken, thus a document may go missing when the file is returned back since the file contents are not manually checked. Again the current

system consumes a lot of time and energy to search for a requested file since when the request is made, office attendants needs to search the file on the cabinets before crosschecking the movement record book.

The purpose of File Tracking System which we want to develop for University of Dar es salaam Registry Centre is to help them to manage the files records. The history of the movement of files are kept in this system so as to manage the file records by displaying the name, location, person responsible and confirmation, plus the date and time of initiation. This system will also help office attendants to easily track the file location, files users as well as the employee letters in the work flow. The system will also track the file contents since we intend to include the scanned documents of a file so as to be able to replace it in a file when discovered missing, this will also assist the file users to access the file by crosschecking the scanned documents of particular file simultaneously while waiting for it.

Again, the system intends to track the movement of employees' documents from the department level, college, administration to registry center where the documents are attached in a given file and stored for further references. This will enable employees to know exactly at what level a particular document is at that particular moment, thus a work flow of a document is included in this proposal document.

WORK FLOW DIAGRAM OF AN EMPLOYEE'S DOCUMENT

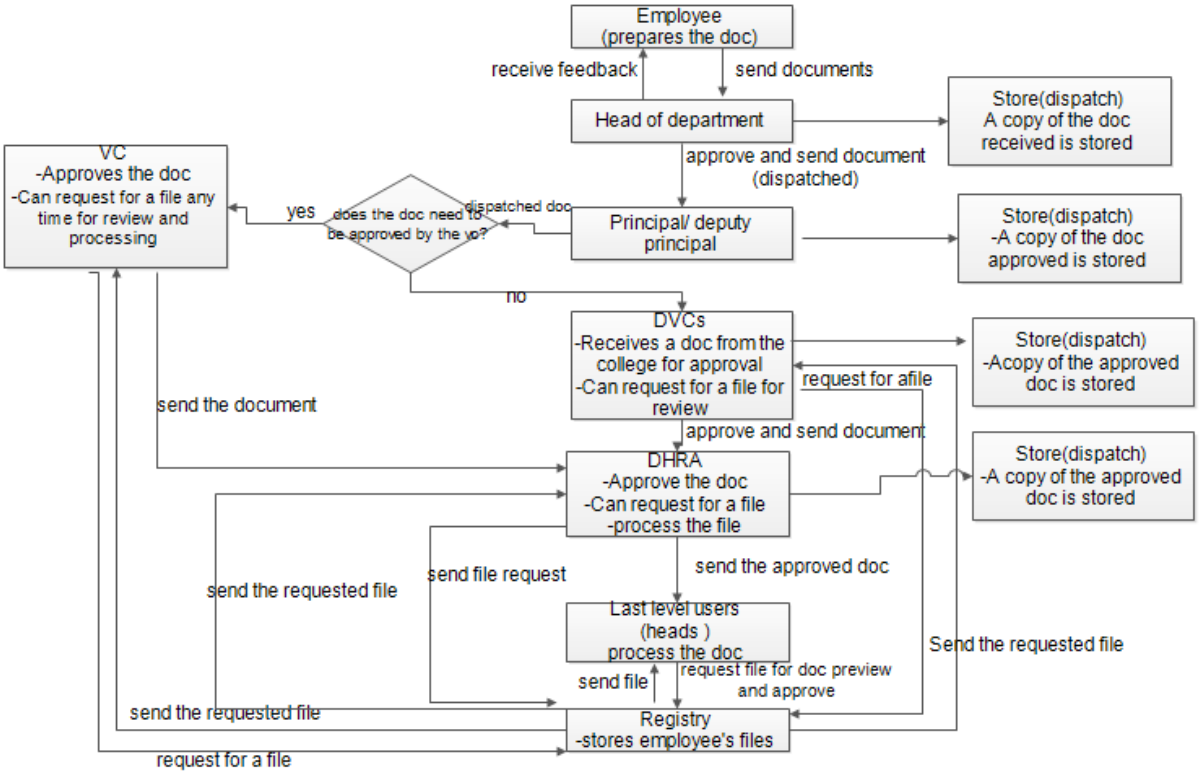

Figure 1-1: Employee's Document Work Flow diagram.

1.2 Problem Statement

The following are the problems arising due to the existing manual file management system in the university of Dar es salaam Registry center.

i. It takes much longer to search for a particular file in the achieve room in case the file is misplaced and this is because there is no proper system that could track the information of the lost file.

ii. It also takes much longer for a particular file user to keep asking for the file in the achieve room while the file is in use by other user in other office and this is because there is no proper way that the user in need of the file can see the details of needed file without asking the achieve room staffs.

iii. Paper works and records can easily be accessed by anyone with no authority this can result into loss of privacy and security in the achieve room so it is much more unsafe compared to what it could be with web secured file tracking management system.

iv. There is no proper system to ensure track of the employees documents (letters) in the work flow and availability of all documents contained in the file when the moved file is returned. in case the file is missing some documents there is no such a system that could track them all.

1.3 Project objectives

1.3.1 Main objective: The main objective of UFTMS is to manage and track the movement of employee files and its contained documents as well as the movements of employee documents (i.e employee letters) in the work flow at all levels.

1.3.2 Specific objectives

i. To study the workflow of the employee documents(letters) and files in the current registry system.
ii. To analyze the basic system requirements and identify corresponding methodology
iii. To develop system that will be able to ensure proper management of file records and create management report.
iv. To ensure fast and easy retrieving of documents and the files.

1.4 Significance:

The system will help in reducing time of searching for a particular file in offices and well organized structure of how files should be allocated through the system. It also helps staffs to work more efficient and systematic. The system intends to manage the information of files records for easy tracking. This system will also help staff to easier track the file location, currently files holder details and history of the file movements. The system will also help to track documents in a file and ensure availability of the file contents, also ensuring easy communication among file holders.

CHAPTER TWO

2. Literature Review

2.1 Issues related to problems we want to solve

Initially we had a collection of data as source of information about the processes in the current manual File Management system which is conducted within UDSM Registry centre. We had an oral interview with the Registry staff members on how they manage the files and also from the observation.

We went further through research as important source of our references because it helps to gather information for the system we want to develop. Other than that, the research can give assessment towards quality current system and we as developers can conclude as reference to develop a new system which is more quality and efficient though they might differ in some functionalities.

2.2 Fact and finding for Files Tracking System

There are several facts finding used to evaluate and develop a fulfillment system which is under customer's needs. The fact and finding includes Electronic Office Document Management System and Easy File Tracking System.

We did learn on how to manage and track documents when they are initialized from the college and the processes within the college which later directed to a specified file in the registry, we can extract much experience through Electronic Office Document Management system as part of our literature review also we did learn on how easily we can track and manage all the files which are associated in the registry through Easy file Tracking System. Most of the functionalities relate to our system as clear as elaborated from the case study below.

2.2.1 The Existing System

a) Case Study 1 –Electronic Office Document Management System

This is the system developed by the final year student 2014/2015 University of Dar es salaam College of information and communication technology. The system was developed for the purpose of managing document flow in the departments within the college of ICT. The problem was that the current system wasn’t really proper and flexible for managing documents flow within the college.

Objectives

The general objectives of the Electronic Office Management System was to develop a web based system which will help to manage and track documents as well as storing information about document itself. Specific objectives are

i. To capture and analyse system functional and non-functional requirements and finally create a Requirement Specification Document (RSD).
ii. To design a database for storing information about the documents and related data.
iii. To design and implement a user interface for input and retrieval of data.
iv. To implement and test the prototype.

b) Case study 2- Easy File Tracking System

Easy File Tracking System was developed for Jabatan Imigresen Ipoh, one of the institution in Malaysia. The purpose of this system was to help staff at administration and financial department to manage the confidential files and records. It also helps staffs to work more efficient and systematic. This system helps staffs to arrange the department confidential files, correspondences and other documents.

Objectives

The main objective of EFTS is to manage all department file and reducing the problem in the current system. A properly designed EFTS is an interactive software-based system intended to help management staff to compile useful information from raw data, documents and business models to identify and solve problems. The objective of the system is;

i. To produce online files management
ii. To facilitate staff to manage the department files.
iii. To give action for new contents of files
iv. To generate files management database
v. To procure and update files record
vi. To generate report for files management
vii. Reducing administrative costs.

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CHAPTER THREE

3. METHODOLOGY

3.1 Project development model

In this progressive report we wish to have active cooperation with our supervisor during the whole process of developing the system. Also we need to have active interaction with the different people whom we expect to have technical support from them as well as interacting with the people whom we expect to be the users of the system and for our case we will consult UDSM registry centre. The system will be developed by interleaving the following phases which are basically under the prototype model that initially start with well understood requirements and then later add more features as proposed.

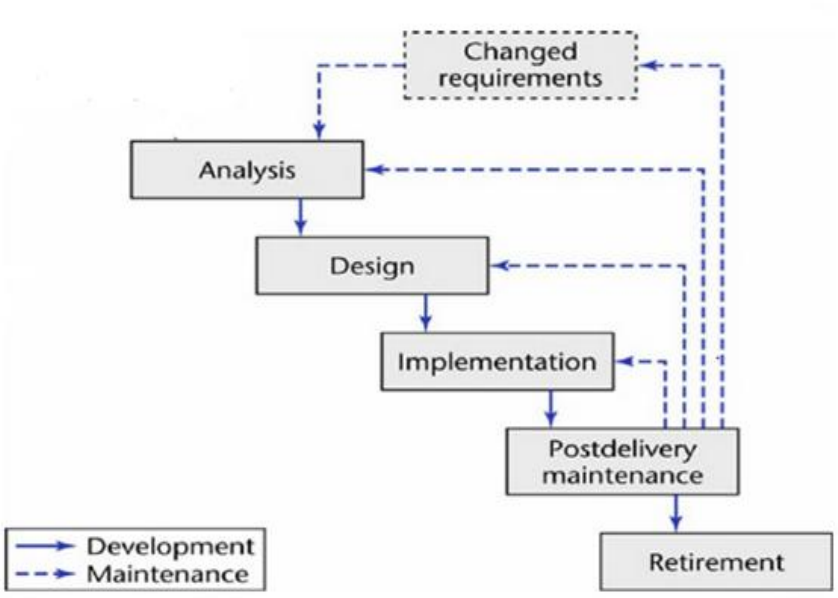


Figure 3-1: prototype model

3.1.2 Specification

i. Requirement determination

In the initial phase system requirements will be gathered direct from the registry centre which is our case study as well as through different mentioned research in the literature review.

ii. Requirement Structuring

Our project team will transform gathered requirements into physical design of the system; in this section is where we shall define the scope of the project and resources for our project plan.

3.1.3 Development

The bulk of the project will be carried out in this phase which is steady state phase sub-system will be implemented from the logical design and integrated based on system specification, so different versions will be developed until the final stage when the specified requirements are met.

3.1.4 Validation

In the steady state phase we will also be required to test the prototype as the process of validating our software product in order to check if the requirements and all functionalities needed have been considered and are working properly.

3.1.5 System release.

This is the project termination phase where our software product which is an actual system will be delivered to the customer

3.2 Technology expected to use

3.2.1 System architecture

Our software development project team will use technique which will be implemented based on three tier architecture which is comprised of the presentation tier, the logic tier and the data tier.

Three-tier architecture is a client-server architecture in which the functional process logic, data access, computer data storage and user interface are developed and maintained as independent modules on separate platforms. Three-tier architecture is a software design pattern and well-established software architecture.

Three-tier architecture allows any one of the three tiers to be upgraded or replaced independently. The user interface is implemented on a desktop PC and uses a standard graphical user interface with different modules running on the application server. The relational database management system on the database server contains the computer data storage logic. The middle tiers are usually multitier.

i) Presentation Tier

This is the topmost level of the application. The presentation layer provides the application's user interface (UI). Typically, this involves the use of Graphical User Interface for smart client interaction, and Web based technologies for browser based interactions. The presentation tier displays information related to such services as the browsing merchandise, purchasing and shopping cart contents. It communicates with other tier by outputting results to the browser or client tier and all the tiers in the network. Therefore we shall base on the use of Dynamic HTML and other client-side programming languages such as JavaScript and Cascading Style Sheet (CSS) for controlling system behavior. The tier will work under standard web browsers such as Google chrome, Microsoft Internet Explorer, Opera and Mozilla Firefox. We shall use designing tools such as Adobe photo-shop adobe illustrator etc.

ii) Logic Tier

Logic tier is also called the middle tier, application tier or business logic, this tier is pulled from the presentation tier. It controls application functionality by performing detailed processing. This section of the system architecture will represent all the system logic and algorithm that will be used to meet the specification. To support this layer project team will use Apache web server. PHP in co-ordination with MYSQL as server communication language. The layer will be object oriented with classes, objects, instances variables, polymorphism, encapsulation, inheritance, etc.

We choose OOP techniques because it provides clear modular structure, it is easier to maintain and modify existing codes. It also provide good framework for code libraries where supplied software components can be easily adapted and modified.

iii) Data tier

The data tier houses database servers where information is stored and retrieved. Data in this tier is kept independent of application servers or business logic. MySQL database server technology will be deployed for the system. We have chosen the MySQL database because it is more applicable to complex database design, it is more reliable on transaction. It is open source software that supports relational databases.

3.4 Project resources needed

Table 3-1: Resources required by the team to accomplish the project goal.

S/N	Resource category	Descriptions
1.	Hardware	Laptop computers, mobile phones, servers, 3G modems
2.	Software	IDE development tools such as NETBEANS, MySQL server, Apache web server, sublime, notepad++ and Dreamweaver
3.	Project manpower	3 people

3.5 Project work plan

The system we plan to develop will be divided into the following development activities: Requirement specification, analysis and structuring, requirement specification, designing data flow diagram, physical and graphical user interface designing, purchasing and installation of software and hardware, implementation of the system and system testing and documentation. Different activities are to be assigned to group members under specific period of time in order to meet the goal of our working plan.

3.6 Project time schedule with target

Table 3-2: Project time scheduling

Activity number	Activity name	Descriptions	Duration in weeks	Deliverable (s)	Participants
1.	Requirement Collection	Collection of the all system requirements needed to accomplish a project.	2	Collected system requirements	All team members
2.	Requirement Analysis and Structuring	Detailing specification of user requirements and agreeing with user the level of service and performance required	2	Well-structured and analyzed	All team members
3.	Requirement Specifications	Identifying the system needs and tools thus can be used in the all process of development.	2	New system tools and needs	All team members
4.	Designing data flow diagram	Graphical representation of the flow of the data within a system's processes, source/sink and data store. Drawing entities relationship diagram.	1	Complete dataflow diagram and UML diagram with well specified processes, source of data.	All team members
5.	Physical and graphical user interface design	Creating the visual appearance of the system to help the programmer	1	Physical design and User Interface	All team members
6.	Purchasing	Purchasing of the	2	Tangible hardware	All team

	and Installation of Hardware and Software	required facilities for system development that includes Hardware and third party software e.g. Oracle database and authentication API's.		and software files	members
7.	Implementation of the system	Implement subsystems code that forms the whole system	5	Complete working modules	All team members
8.	System Testing	Conducting a coding inspection of sub-systems and overall system testing functionalities	3	Well function system or Identification of defects and errors	All team members

CHAPTER FOUR

4. REQUIREMENT CAPTURE AND ANALYSIS

4.1 Requirements Analysis

This chapter aim to identify the requirements progressively. Firstly stakeholder in the system is identified with respect to their functionalities. Secondly, the requirements from user are gathered. Thirdly, functional and non-functional requirements are identified from the users' requirement. Finally, the technologies used are analyzed in detail.

Requirements analysis encompasses those tasks that go into determining the need or condition to meet for a new altered product taking account of possibly conflicting requirements of various stakeholders, analyzing, documenting, validating and managing software or system requirement. Requirement analysis is critical to the success of systems or software projects. The requirements should be documented, actionable, measurable, testable, traceable, related to identified business needs or opportunity and defined to a level of details sufficient for system design (Kotonya, 1998)

4.2 Functional, non-functional and domain requirements

4.2.1 Functional requirement

Functional requirements explain statements of services that the system should provide, how the system should react to particular inputs and how the system should behave in particular situations. With respect to our project File Tracking Management system functional requirements are:

Document:

i. The requirements regards to document are the manipulation and publish of the document.
ii. The employee include all higher level users can search for a document and through the system search functionality. A copy of the document will be retained on the server with the updated version of the document.

iii. The user/Attendants at Registry can upload document on the server through the system.

iv. The user can view and edit the document and save it.
v. The document can be shared to public or a selected group of user or through password protection.
vi. New document processing unit can be easily installed and uninstalled. The system can be easily customized by adding or deleting process units.

User and User group:

i. Users are graded using user group. Each user is assigned a user space according to policy in user group.
ii. Users may be grouped. Each user group has a level and permission on document and file access.
iii. The Admin can manage the all user group in all level.
iv. User can be created(added) and also can be deleted and edited by the administrator. If a user is deleted, the user space associated with the user will be deleted.
v. A user can only have one user group. If a user needs to be in two user group, then a new user group combine the settings of those two groups need to be created first.
vi. A user group has a default user space size, and a space exceeding policy.
vii. The default size is determined by the user group policy. This size can be changed by administrator.
viii. If the size of user space is exceeded, the default policy will apply. The policy can warn user only or strictly forbid any exceeding of space size.
ix. User can search all documents available to him by title, content, date, or owner.

File :

i. Files are basic elements of file system. Each file can have a permission setting that associated with user group, and these setting can be inherited.
ii. Every file must exist in a file store. A file store can have many files.
iii. Each file has a permission setting for every user group. The setting can be specific or inherited. z User can only perform File manipulation with permission.
iv. User can manipulate the file by accepting the file and process it but no editing, creating or deleting any information on it unless has the permission to do so.

v. Every time a manipulation request is made, the permission setting is checked against the user.

vi. Admin can set permissions for a specific file on a user group if permitted.

vii. File details can be accessed at anytime so as to ensure easy communication among file users, therefore before user request for a file should know exactly where the current file location is.

viii. Only the people with access permission and valid password can access the file details.

4.2.2 Non-functional requirements

Non-functional requirements are the constraints on the services or functions offered by the system such as timing constraints, constraints on the development process, standards, etc. Here are functional requirements for our File Tracking Management System:

i. Performance/Time:

Processing Time: The document processing time taken should be within 5 seconds. Since document processing unit can be various, the processing time is different. A progress bar will be shown for the document processing.

ii. Response time: This system need a much quicker response time than typical web application. As simulation of traditional web processor is required, user needs an instant response like offline system.

iii. Usability: Usability is a crucial point in the system. As most users don't have experience of system like this, users are expecting to use the system in a way like a traditional word processor. The system should simulate the traditional operating system and word processor. Usability requirements include:

- Well-structured user manuals
- Informative error messages ‹
- Help facilities ‹

- Well-formed graphical user interfaces

iv. Security: All input need to be encoded and validated to prevent SQL injection. User can only perform operation under the permission. Some user groups can be configured that they can never have certain permission. For example, a user group can be set to only have read permission, eg. employee.

v. Portability The system needs to be portable on all major platforms. This system should not be restricted by any specific technology such as database, web server, and operating system. There should always be alternative environment. Also system must be able to handle multiple user at the same time.

vi. Record Capture.

- The system must capture a record for all defined functions and activities.
- The system should capture records through an automated process.
- The system must ensure that records are associated with a classification scheme,
- and are associated with one or more electronic files.
- The system must maintain a logical relationship between the record and the transaction it documents
- The system must allow a compound document to be captured as a single record.
- The system must ensure the reliability of the capture process.
- The system must register the record by assigning it a unique identifier and documenting the date and time when the record entered the recordkeeping system.

vii. Reliability:

is the ability of a system to perform its required functions under stated conditions for a specific period of time z Constraints on the run-time behavior of the system

Can be considered under two separate headings:

• Availability - is the system should be available for service when requested by end-users.

• Failure rate – The system should control how often does the system fail, to deliver the service as expected by end-users.

CHAPTER FIVE

5. SYSTEM DESIGN

5.1 Introduction:

Systems design is the process of defining the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements. System design could be seen as as the application of systems theory to product development (Karl, 2003).

5.2 Identification of use case

In software and system engineering, a use case is a list of steps typically defining interaction between a role known as actor and a system to archive a specific goal. The actor can be human being or an external system which can interact with the system.

The use cases and respective actors are identified in table 5-1,

Table 5-1: Identification of use case

Use case	**Actors**
Login	Employee, administration level, college level, attendant, administrator.
Check document status	Employee, administration level, college level, administrator.
Check file status	Attendant, administration level.
Search for document	Administration level.
Search for file	Attendant,.
Add user	Administrator.
Delete user	Administrator.
Change password	Employee, administration level, college level, Registry attendant, administrator.

General report	Registry attendant.
Set document status	Administration level, college level.
Set file status	Attendant.
View file details	Administration level, Registry attendant.
View document details	Employee, administration level, college level.
Upload the document	Registry attendant.
Update file details	Registry attendant.
Logout	Employee, administration level, college level, Registry attendant, administrator.

5.2.1 Use case diagrams

Use case diagram is a representation of a user's interaction with the system and depicting the specifications of a use case. A use case diagram can portray the different types of users of a system and the various ways that they interact with the system. This type of diagram is typically used in conjunction with the textual use case and will often be accompanied by other types of diagrams as well (Vidgen, 2003).

Use case diagrams are presented in figures:-

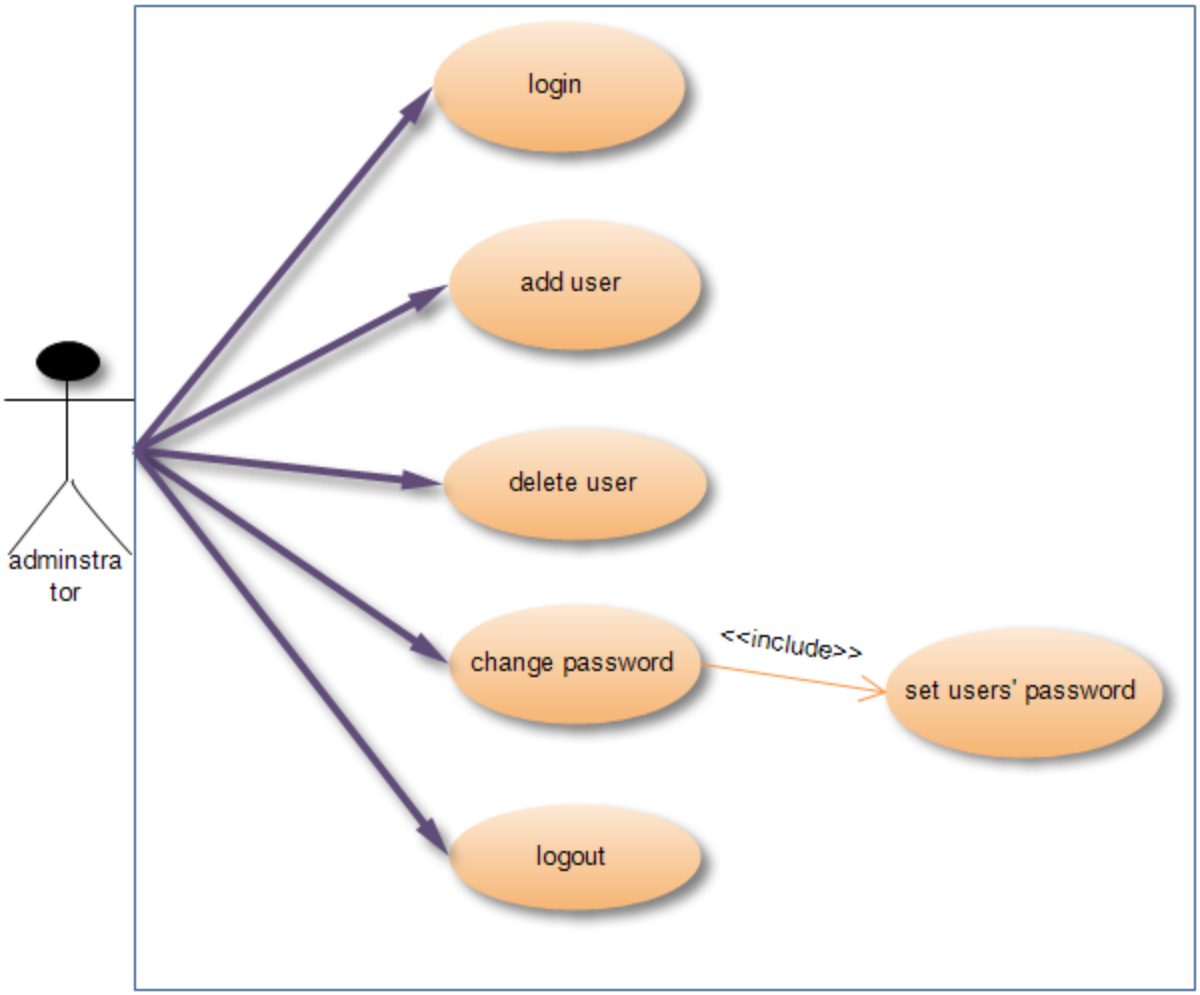


Figure 5-1: use case diagram for administrator

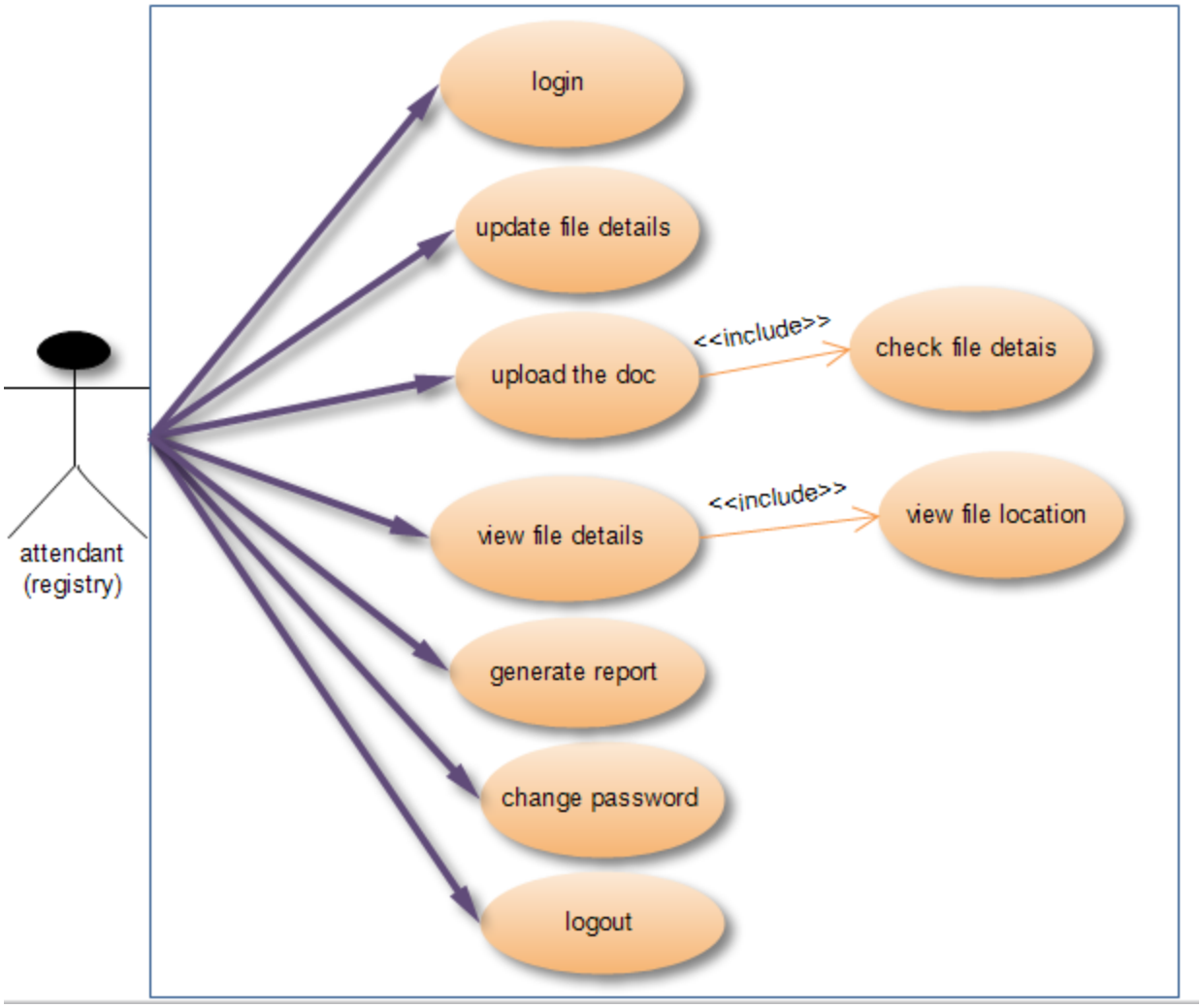


Figure 5-2: use case diagram for registry attendant.

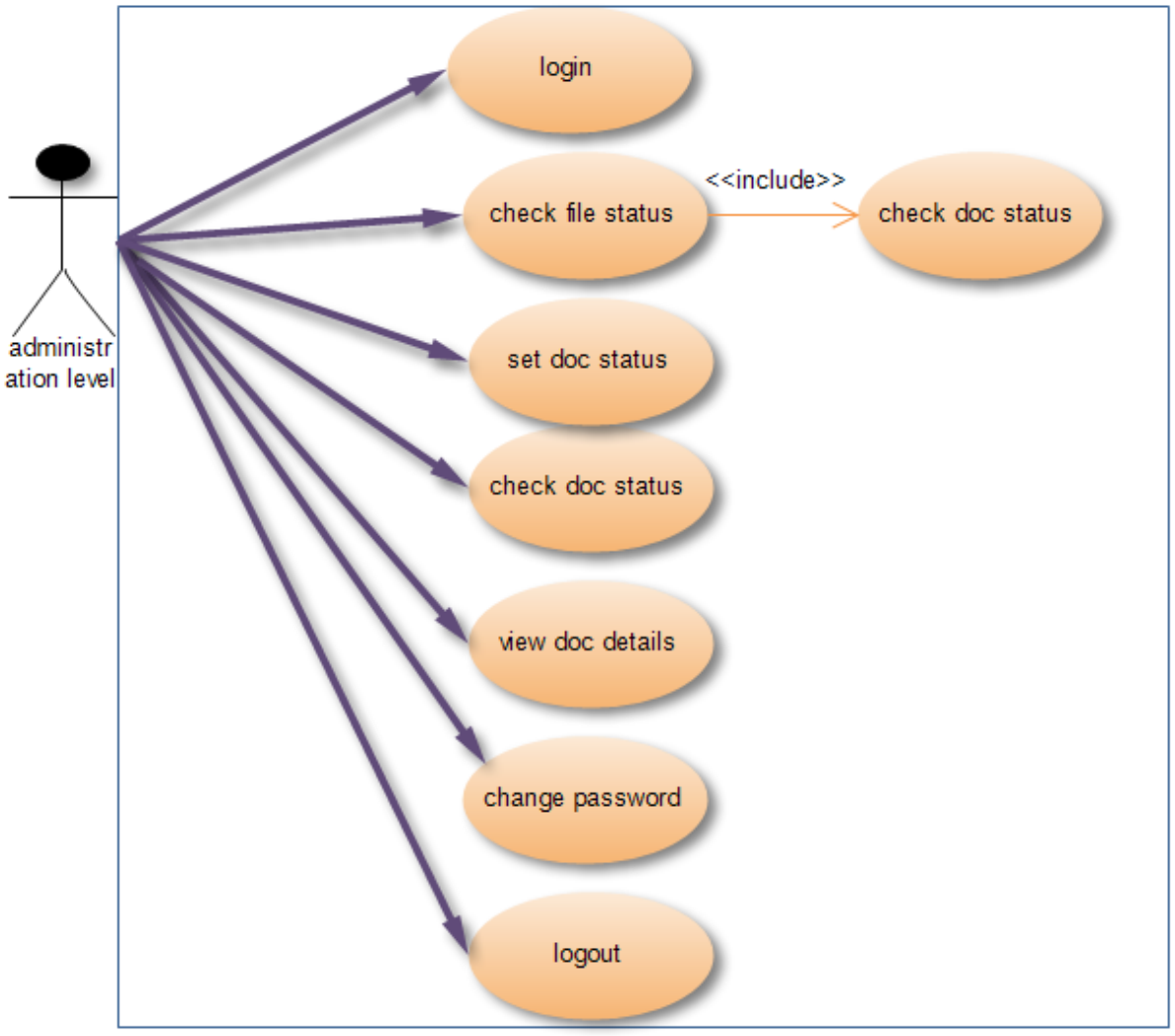


Figure 5-3: use case diagram for administration level.

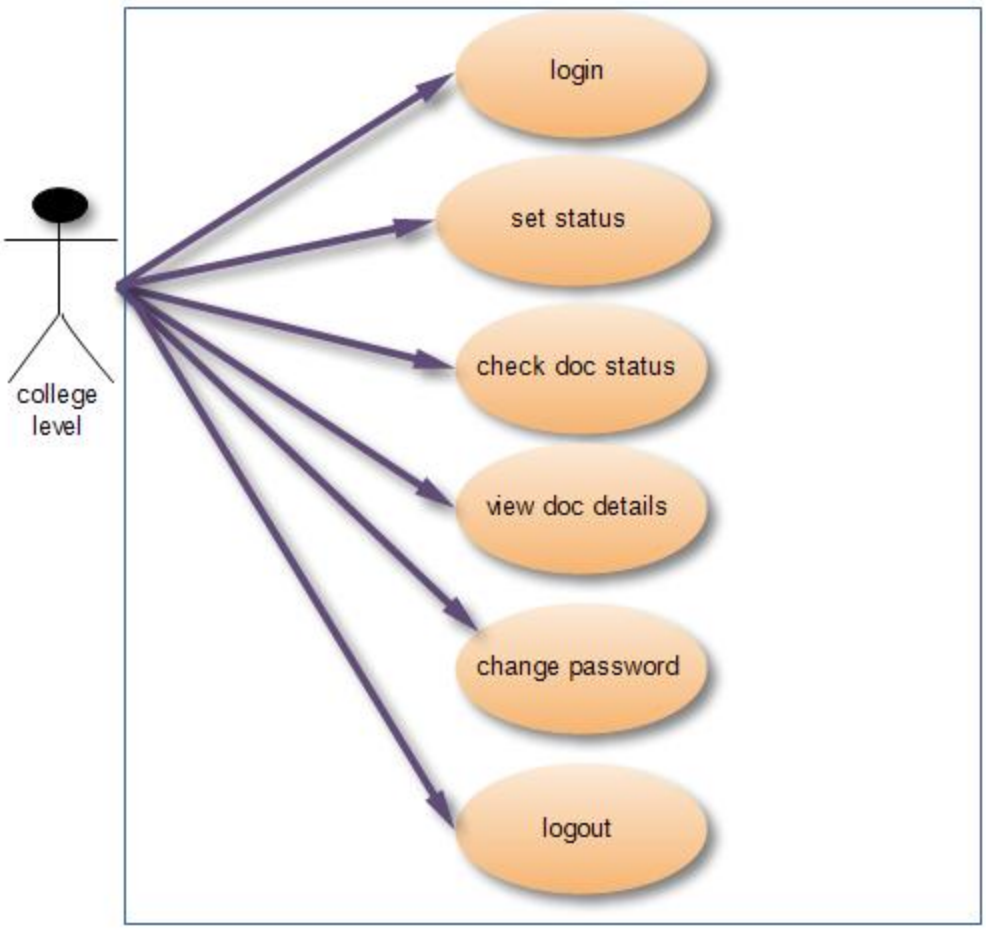


Figure 5-4: use case diagram for college level

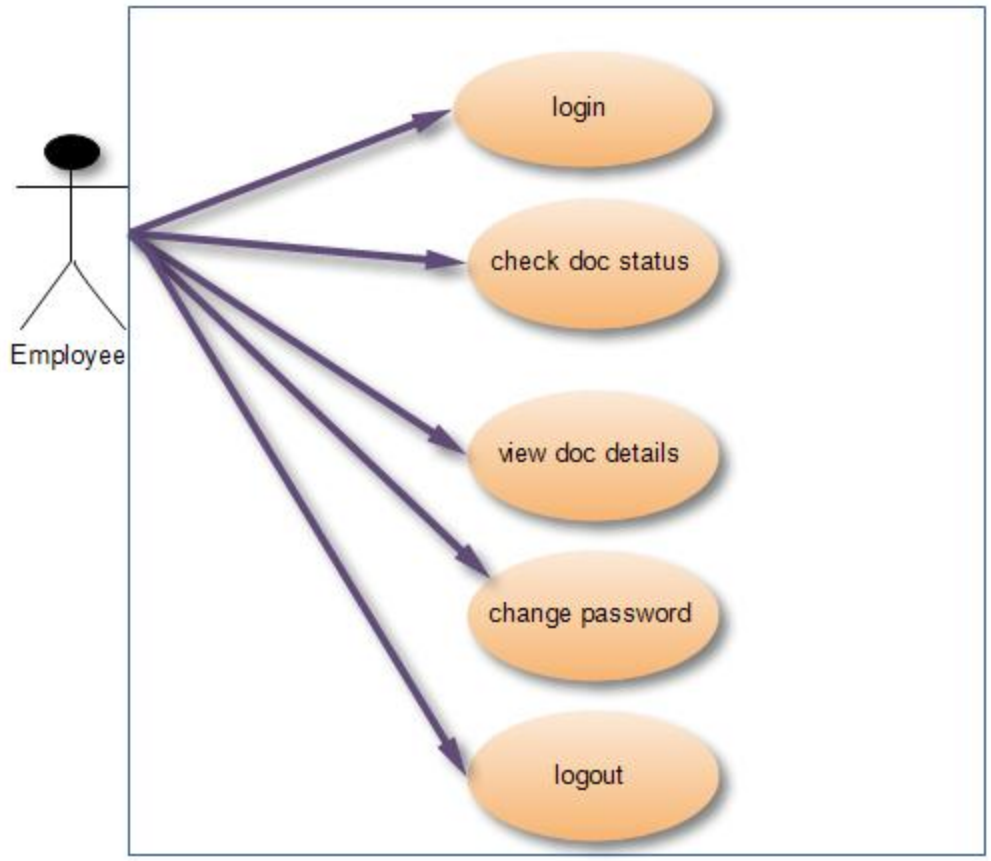


Figure 5-5: use case diagram for employee

5.3 System sequence diagram

System sequence diagram is the sequence diagram that shows, for a particular scenario of the use case, the event that actor generates, their order and possible inter-system events. Sequence diagrams model the flow of logic within your system in a visual manner, enabling you both to document and validate your logic, and are commonly used for both analysis and design purposes. Sequence diagrams for the UDSM file tracking management system we are going to develop are presented in figures:-

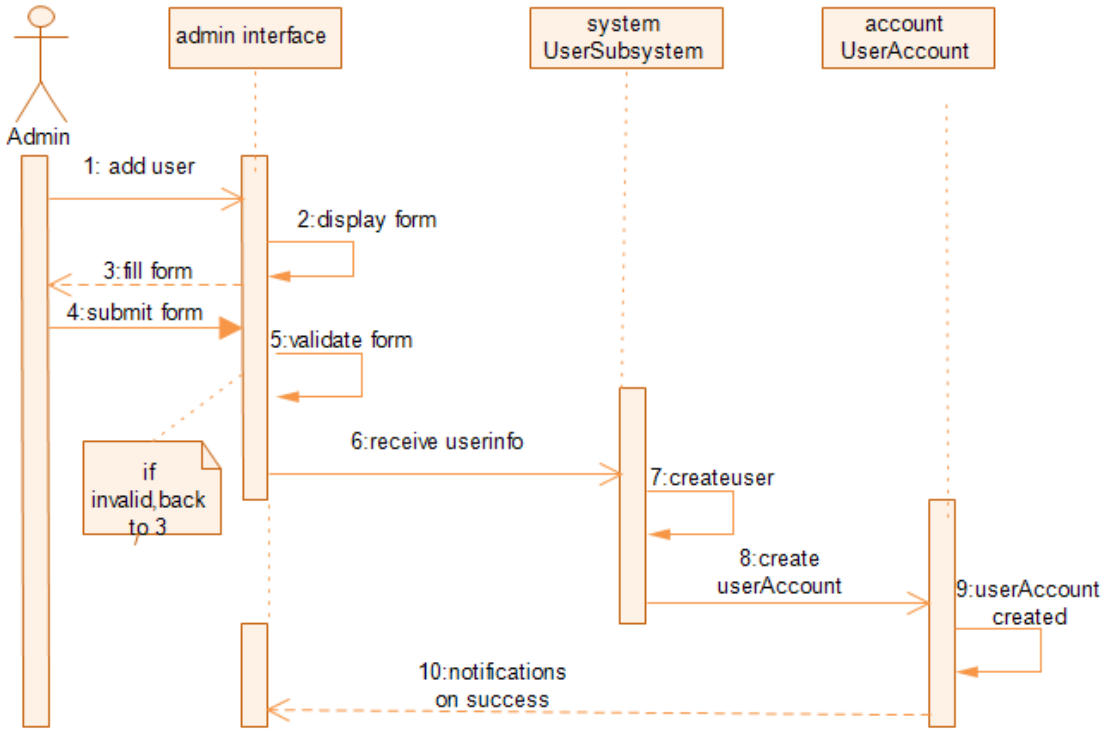


Figure 5-6: sequence diagram for 'admin adding user'

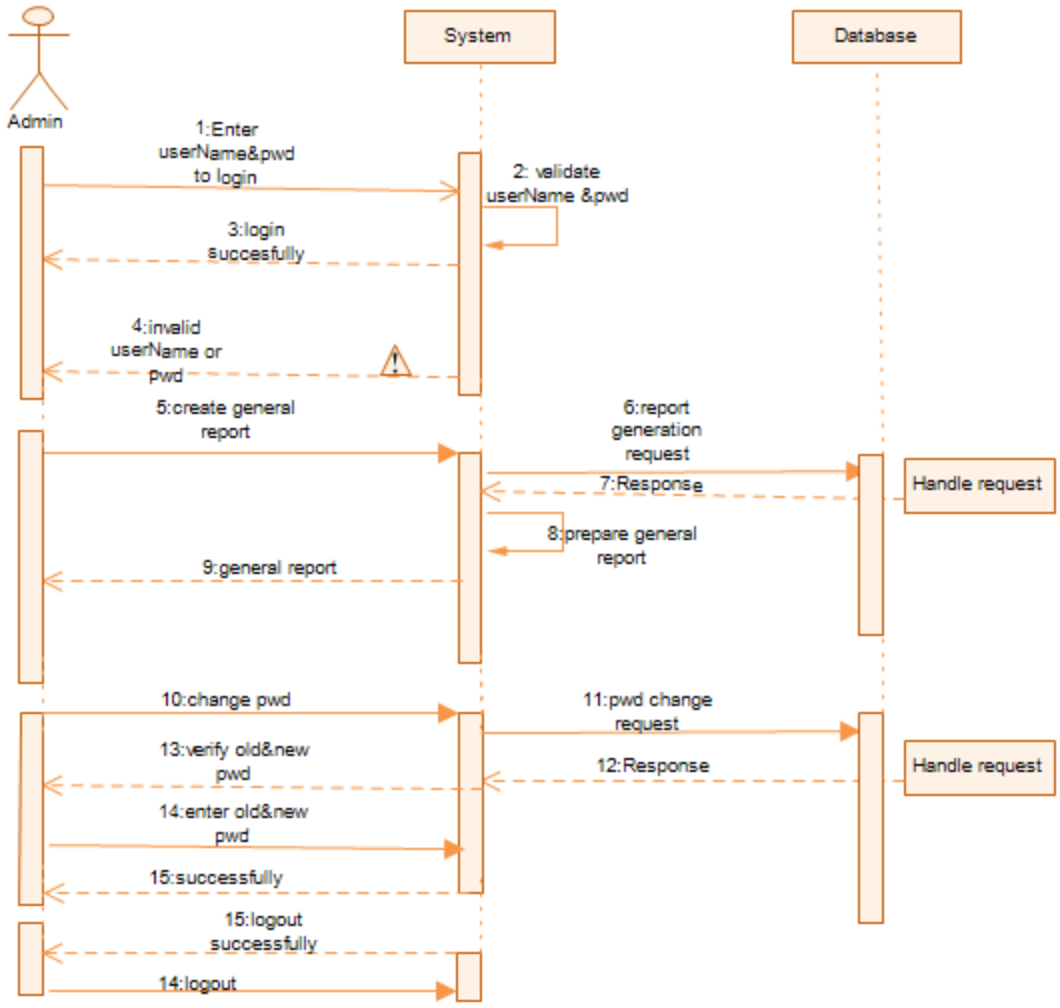


Figure 5-7: sequence diagram for 'admin generating report and changing password'

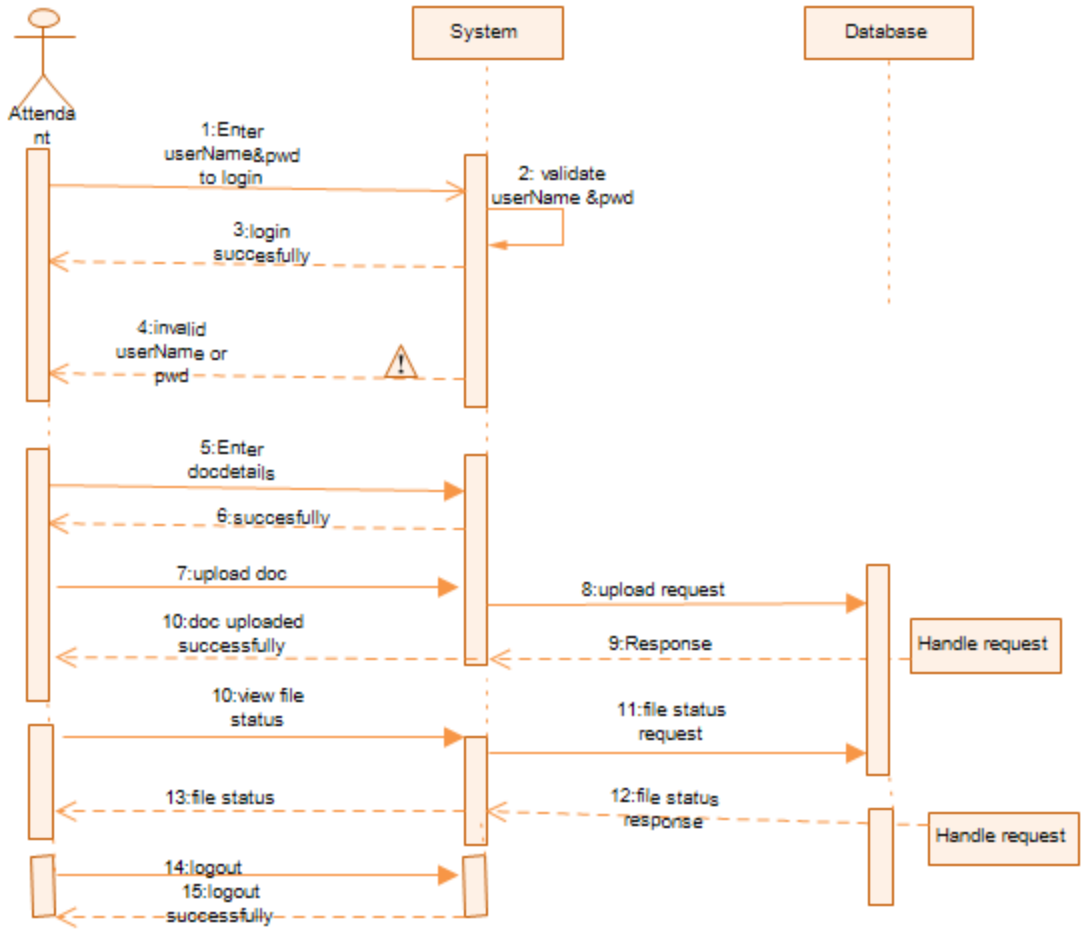


Figure 5-8: sequence diagram for 'attendant'

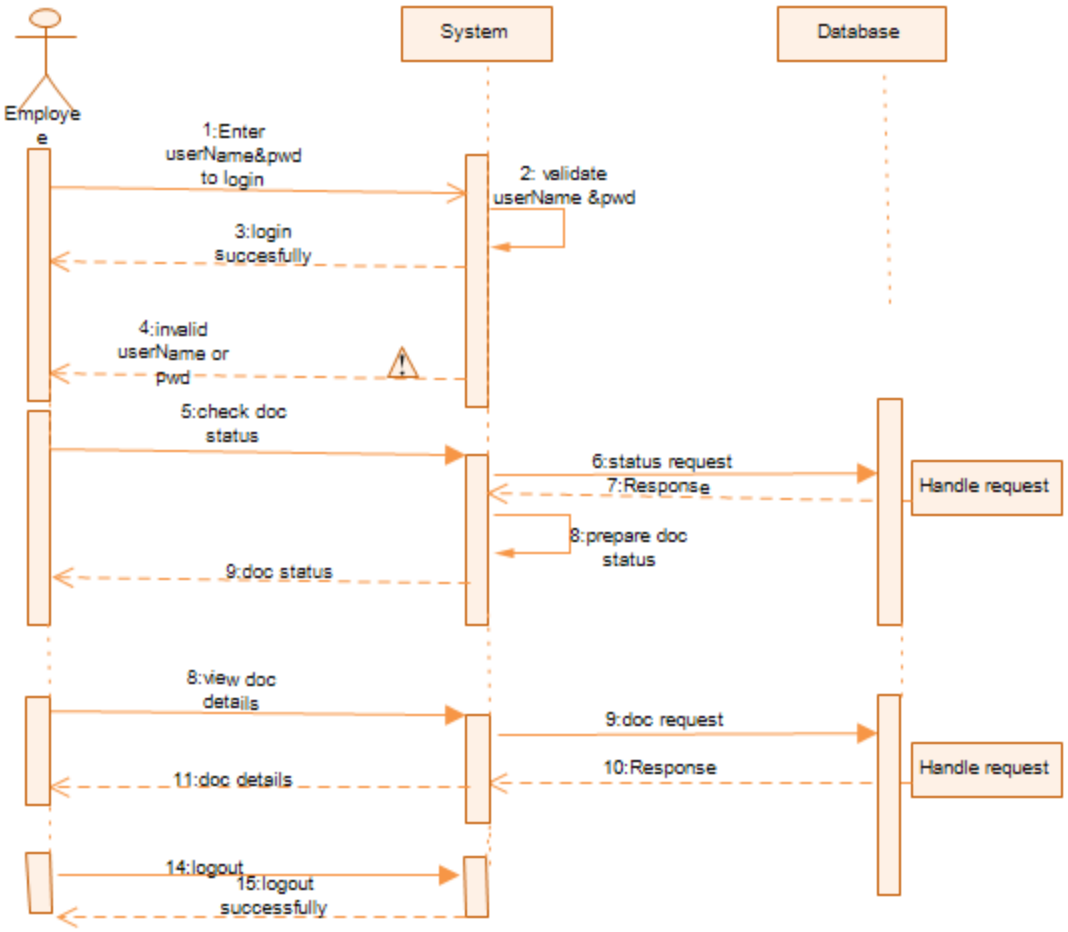


Figure 5-9: sequence diagram for 'employee'

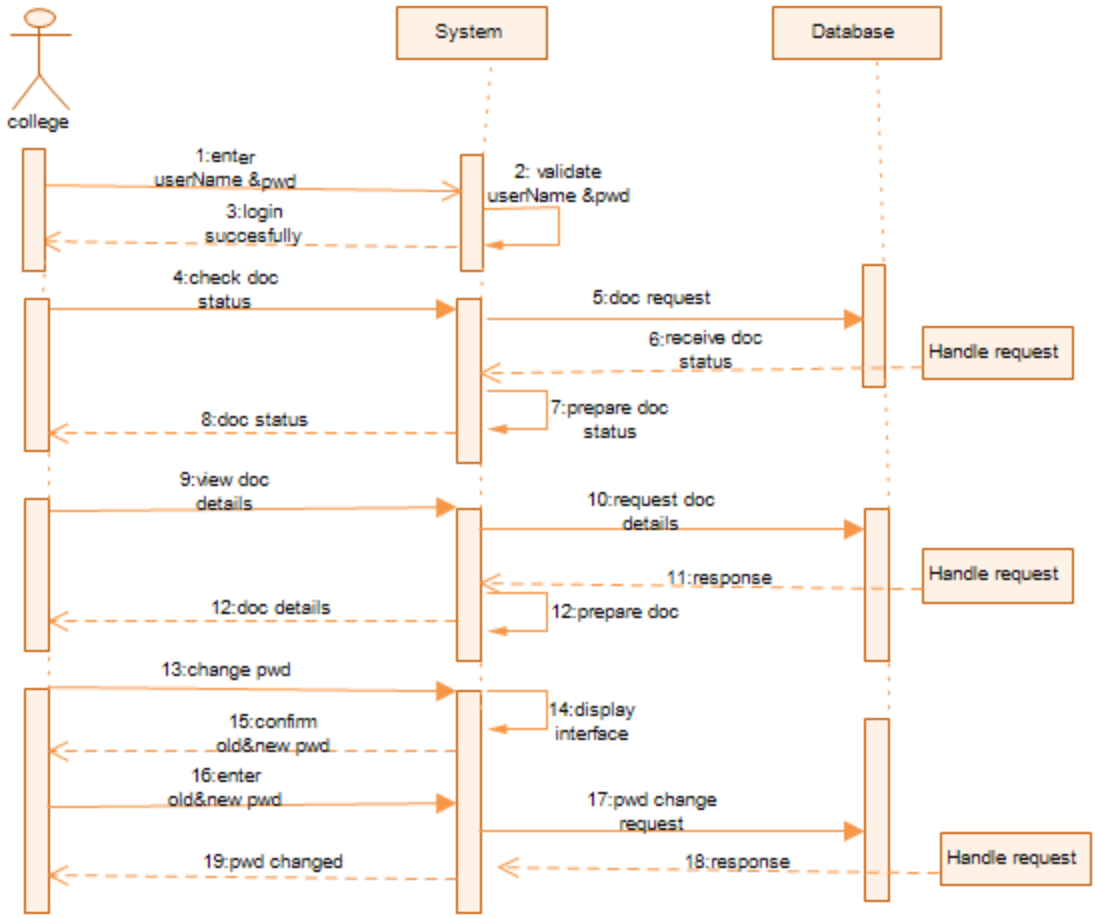


Figure 5-10: sequence diagram for 'college'

5.4 Design class diagram

The class diagram is a static diagram that represents the static view of an application. The class diagram describes the attributes and operations of a class and also the constraints imposed on the system. The purpose of the class diagram is to model the static view of an application. The class diagrams are the only diagrams which can be directly mapped with object oriented languages and thus widely used at the time of construction.

Design class diagram for the UDSM file tracking management system is shown in figure 5-11

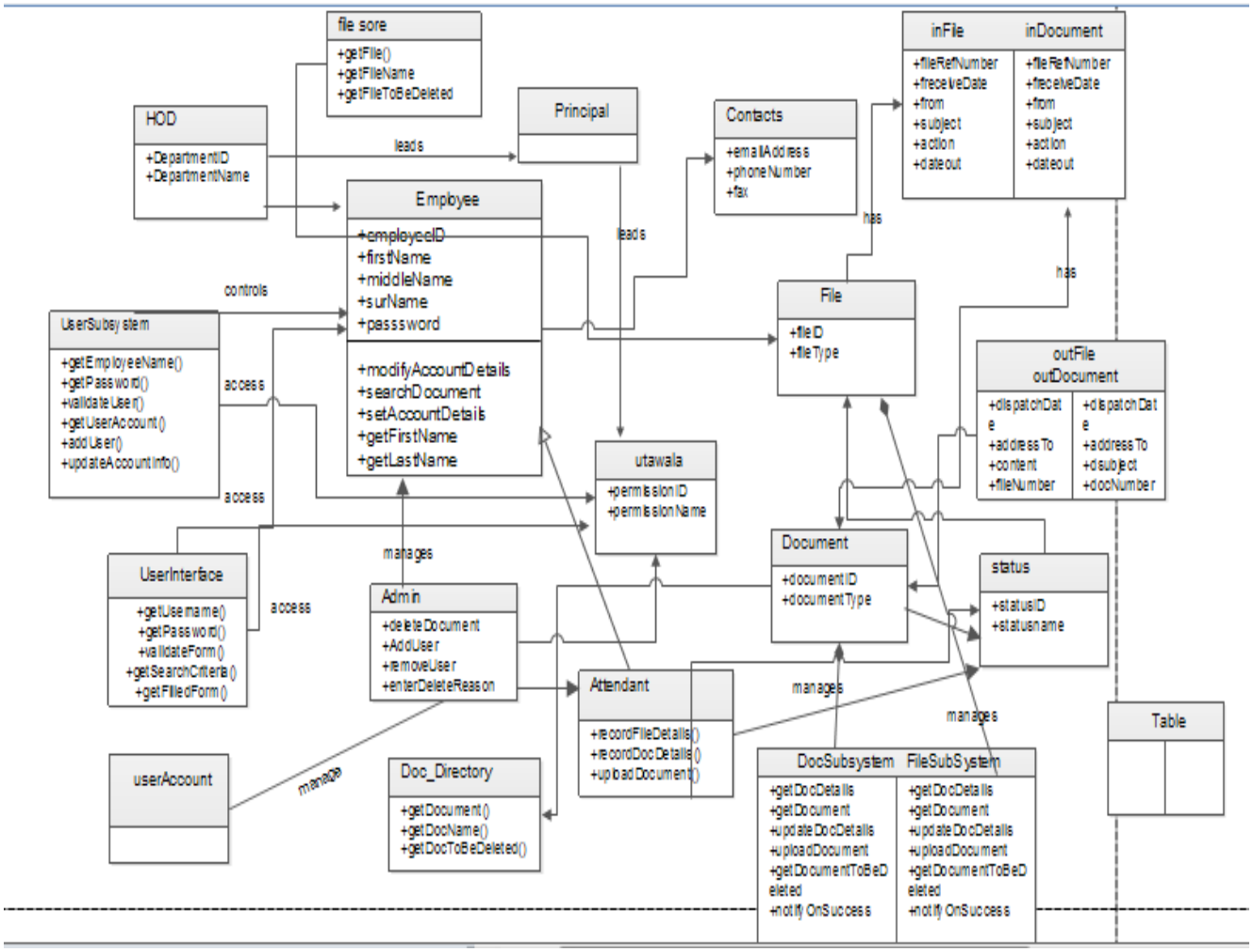


Figure 5-11: Design Class diagram

5.5 Entity Relationship diagram

An entity-relationship diagram, or ERD, is a chart that visually represents the relationship between database entities. ERDs model an organization's data storage requirements with entities, attributes, and relationships components. An entity relationship diagram (ERD) shows the

relationships of entity sets stored in a database whereby an entity in this context is a component of data. In other words, ER diagrams illustrate the logical structure of databases.

The entity relationship diagram for UDSM File Tracking Management System database is depicted in figure 5-12.

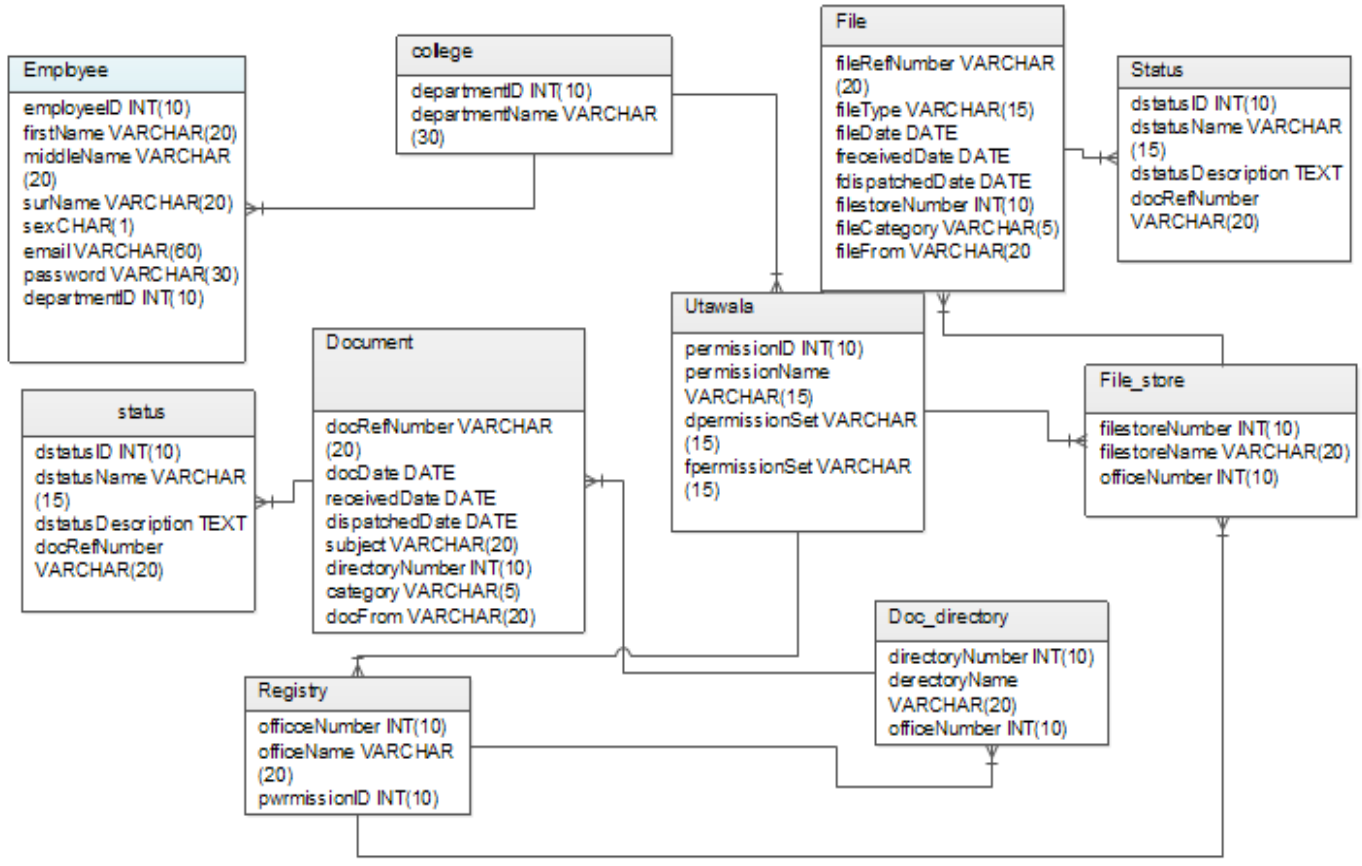


Figure 5-12: Entity Relationship diagram for UFTMS database

CHAPTER SIX

6. SYSTEM IMPLEMENTATION

Implementation is the carrying out, execution, or practice of a plan, a method, or any design, idea, model, specification, standard or policy for doing something. As such, implementation is the action that must follow any preliminary thinking in order for something to actually happen. The construction phase does two things: builds and tests a functional system that fulfills organizational design requirements, and implements the interface between the new system and the existing produced system.

The project team has constructed the database, application programs, user and system interfaces for the University of Dar es salaam File Tracking Management System and illustrated how the system works in this report using different figures .

The following figure presents the interface of UDSM file Tracking Management System, which is the home page. At this page, administrator and other users of the system can log in to the system using a username and password so as to perform other functions as required by the system.

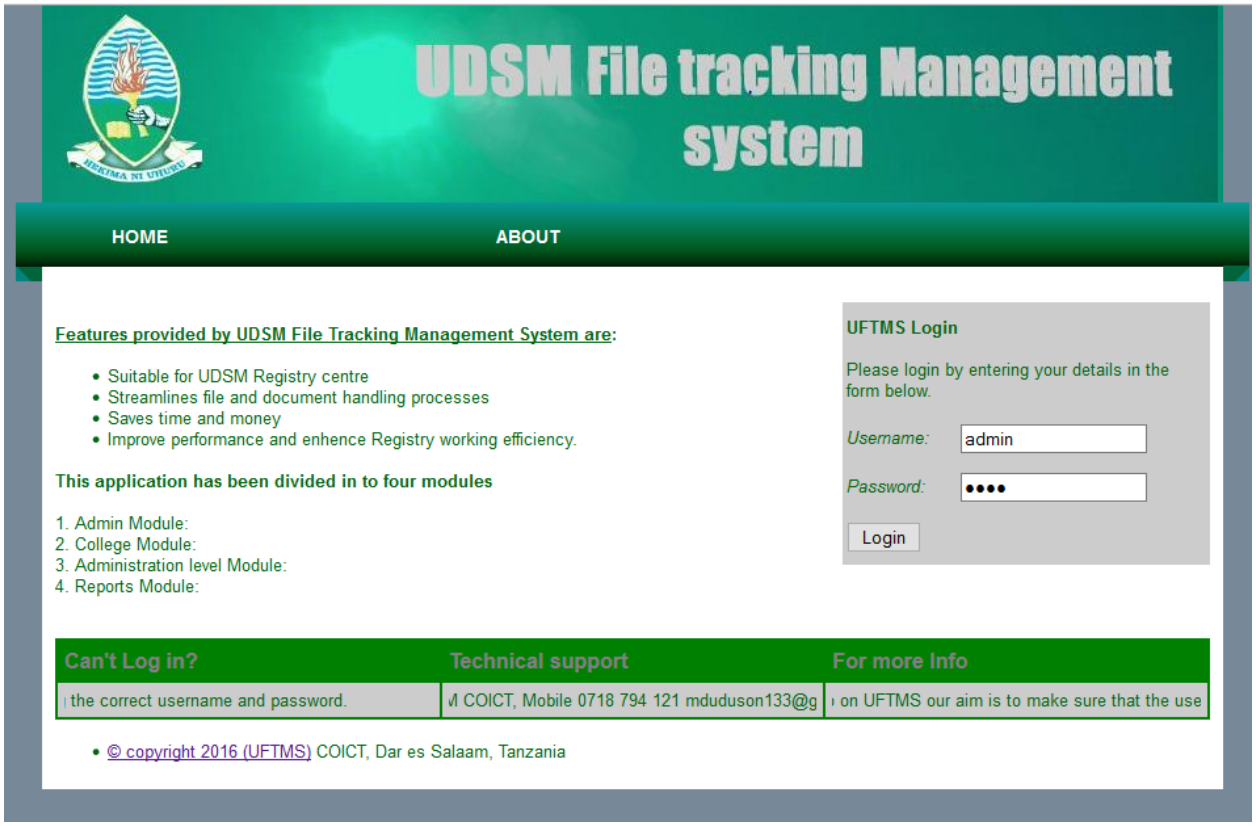


Figure 6-1: User interface

Admin's Module

Administrator in this system is the information technology expert and he works to control and maintain the system. After logging into the system, administrator is authorized to add all system users, their departments and their respective user types, such as employees, head of department, principal of the respective college, Director of human resource and registry officers from the registry level.

Administrator can also create and view the list of all system users active in the system and can activate or inactivate users when no longer use the system as well as changing his own password for security users.

Figure 6-2: Admin logged into the system

At the college level

The users are Employees, Head of Department (HoD) and Principal of the college. When an employee wants to request for a leave, he or she prepares the request letter and relevant documents to attach on a letter where necessary, sends the physical letter to the department, fills the form in the system describing the request in brief and upload attachments in the system then submit his or her details so that the letter and attachments will be processed at the college level as well as utawala level.

An employee can also track the movement of his or her document as well as to know the current location of his or her document and the remarks put on it as it moves in all levels for processing as well as changing their own password for security purposes.

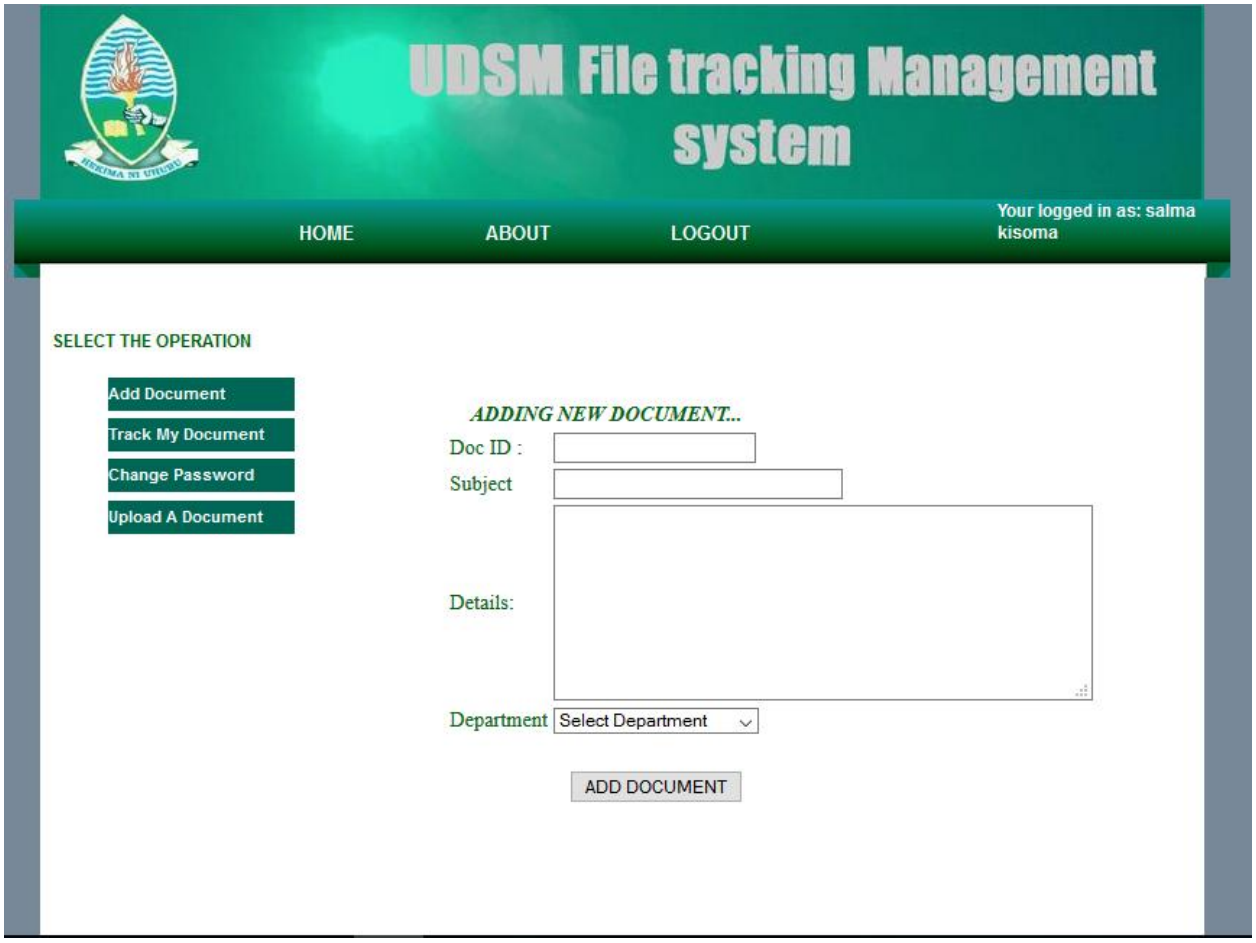


Figure 6-3: Employee logged in into the system

When the Head of a department log into the system, he or she will find employee's documents to process. He or she will accept the document, go through it, then approve or disapprove the document and writing remarks on the document if accepted or why the disapproval. The head of department will then forward the document to the higher level that is of the principal for further processing.

The head of department can also track the movement of his or her document as well as changing his or her own password.

Figure 6-4: Head of department after logged in into the system

When the Principal of the college log in to the system, he or she will find employee's documents to process that are already processed by head of department. He or she will accept the document, go through it, then approve or disapprove the document giving his remarks on the document if approved or why the disapproval. The Principal of the college will then forward the document to the higher level that is of the Director of human resource for further processing.

The principle of a college can also track the movement of his or her document, the current location of that document and view the generated reports on the document movements as well as changing his or her own password when necessary.

Figure 6-5:Principal logged into the system

At utawala level

In this system, the only user that is considered is the Director of human resource. He or she is the one at the highest level and thus he or she gives the final decision either to approve or disapprove the document received from the college level. When the Director of human resource log in to the system, he or she will find employee's documents to process that are already processed by head of department and the principal of the college. He or she will accept the document, go through it, then approve or disapprove the document giving his remarks on the document if approved then what is required or why the disapproval. The Director of human resource will then write a response to the employee and forward the response to the lower level that is of the college until it reaches the employee. The direct will then forward the document to the registry so as to be processed by registry officers.

At this level is where there is movements of employee's file in different offices for the purpose of making references before making a decision. When a file is needed for processing, it is asked from the registry, the current status of the file is set that is whether still on processing and when it is processed it is returned back in the registry where all records of file movements are kept.

The Director of human resource can also track the movement of a file and the current location of that file and the current status of a file as well as viewing the generated report on the file. The utawala user can also change his or her own password for security purposes when necessary.

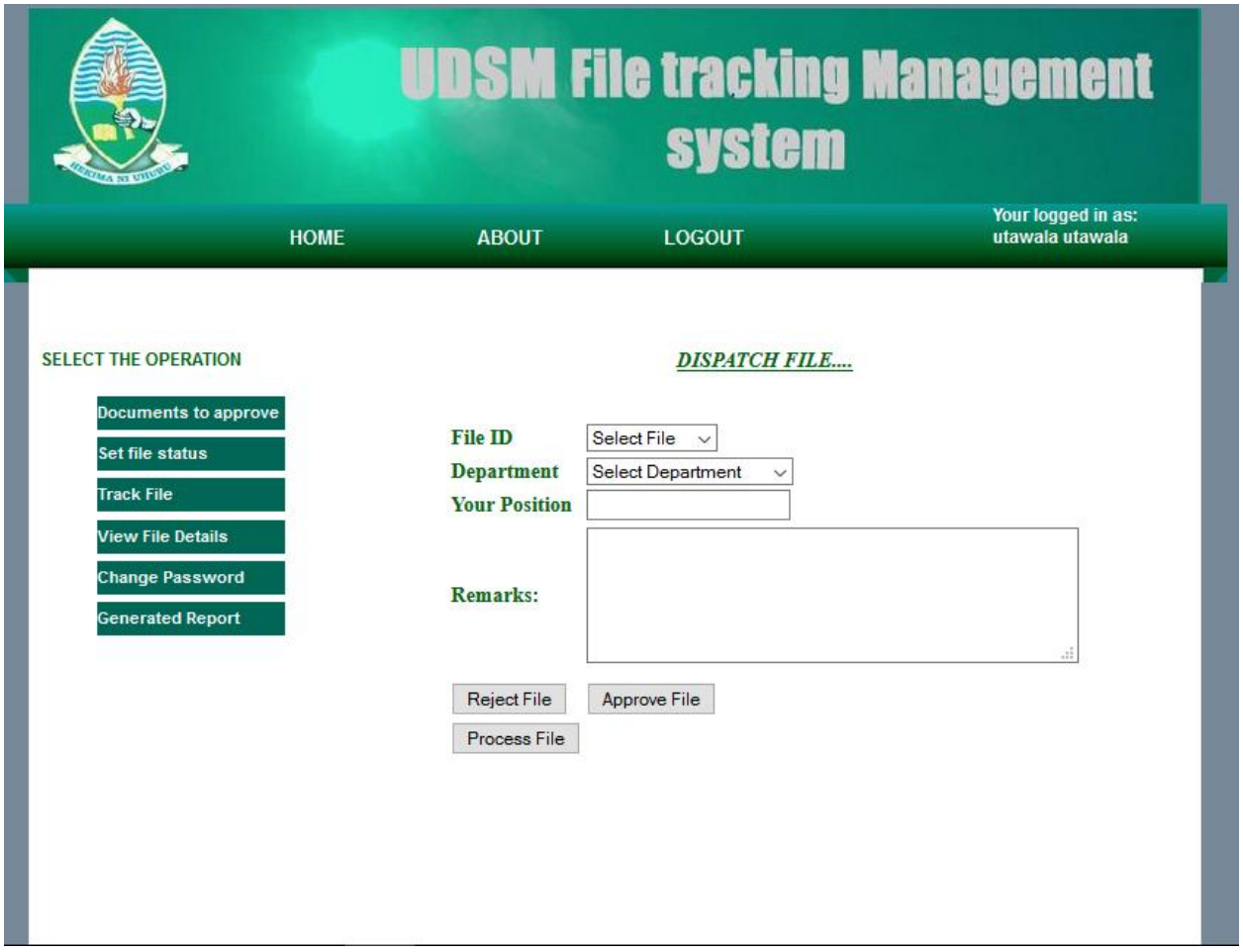


Figure 6-6: HR logged into the system

Registry users

Registry officers are the ones that keep all file and their records. When a registry officer log in to the system, he will find the documents received from the Director of human resource. He will then accept the documents, download the documents then attach them in an employee's file. Registry officer is also responsible to add all new employee's files and their corresponding departments in the system as well as scanning employee's file and upload the documents in the system so that they can be accessed easily by utawala users for making references and decisions.

He also keeps records of all taken and returned file including date and time, person responsible, movements of a file and current location of a file as well as activating and deactivating files when necessary. H e also generates report to show the list of active and inactive files, file

movements and the status of a file at a particular time and he can also change his password whenever necessary for security purposes.

Figure 6-7: Registry officer logged in to the system

CHAPTER 7

7. CONCLUSION AND RECOMMENDATIONS

Conclusion:

Development of this project is a long journey but a lot of knowledge and ideas has been gained especially during the case study at the University of Dar es salaam Registry centre. All these played a big role to understand the problem domain and to come up with this solution. It also supported much during the design and implementation of the system until this end which has been done to satisfactory stage.

With this system, it is the help them to manage the files records. The history of the movement of files are kept in this system so as to manage the file records by displaying the name, location, person responsible and confirmation, plus the date and time of initiation. Also office attendants can easily track the file location, files users as well as the employee letters have been tracked in this system.

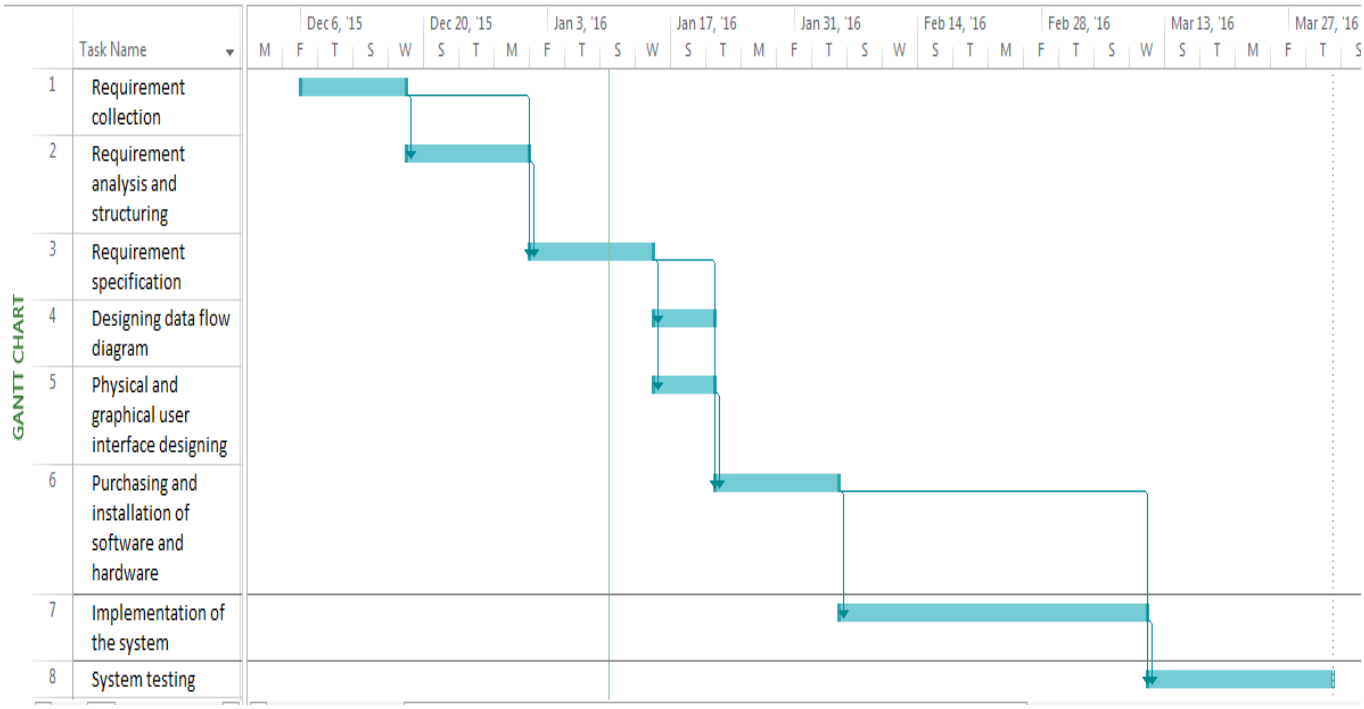
Recommendations:

Final year projects give students knowledge on the software and system developments which is a good start to provide students with knowledge and experiences in the project development field. We recommend that this should continue but students should be provided with enough time to conduct this, and also they should be given support from the staff members in terms of advises as how this is currently done.

APPENDICES

A1. Project Gantt chart

Table A-1: Gantt chart



A2. Budget needed

Resource	Cost (Tsh)
Hardware and software	600,000/=
Stationary	200,000/=
Transport and communication	90,000/=
System testing and installation	50,000/=
Total cost approximate	940,000/=

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