Claim Processing Module for UTP

by

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Supervised by

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Dissertation submitted in partial fulfillment of
the requirements for the
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CERTIFICATION OF APPROVAL

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A project dissertation submitted to the
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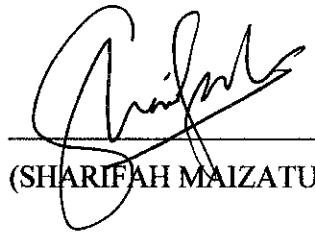
June 2006

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgement , and that the original work contaied herein have not been undertaken or done by unspecified sources or persons



(SHARIFAH MAIZATUL AKMA SYED AZIMUDDIN)

ABSTRACT

In this project paper, the Claim Module of Human Resource Management project is presented. The objective of this project is to develop an automated claim module, which can be integrated with other modules making up one integrated system of Human Resource Management system. The new module is created to overcome the problems occur in file-based system while giving benefits to the users and the organization as a whole. To develop the claim module, it was needed to do research and study on several areas that was to understand current business flow of the claim module and also on the methodology used to develop the module. In order to achieve the aim of developing this module, the method that was being used is Project Development Life Cycle (PDLC). However, this project did not include all of the five phases in PDLC but only several of them were involved which consists of planning phase, analysis and design phase and development phase. In each phase, there were several steps taken according to few methodologies to achieve the objectives of the phase. The result of this project is a working automated claim module that has functionalities according to the new business flow, which meet the objectives of the project and solve the problems in the existing system as well.

ACKNOWLEDGEMENT

Alhamdulillah, after almost 1 year doing this Final Year Project, the project and Final Report are finally done. There were many people involved during the development of the project, which has contributed immeasurable amount of guidance, advice and assistance. My heartfelt thanks go to all of them for their commitment and supports in realizing the goals and the successful completion of the project.

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ABBREVIATIONS

UTP	Universiti Teknologi PETRONAS
HRM	Human Resource Management

CHAPTER 1

INTRODUCTION

1.1 Background of Study

The product of this project is a module of Human Resource Management system, which is the claim module for Universiti Teknologi PETRONAS (UTP). The Claim Module has functionalities according to the real standard procedure from UTP and the department of HRM will be using this claim module in order to replace the old file based claim module. Currently, the HRM system of UTP has Leave Processing module and E-mail application and the Claim Module is planned to be integrated with the other modules in the aim of producing a complete Human Resource Management system. By having these modules integrated in one system, it will be more systematic and easier to be maintained as any changes to the module can be done easily in the system and any problems will be easy to track and solve. Thus, the module is developed using the same tools and environment as current system that have other modules to enable it to be integrated later.

1.2 Problem Statement

Currently, UTP has the system that consists of several Human Resource Management modules that are Leave Processing module and E-mail application. However, the system is still lacking with other important modules and one of them is the claim module thus making claim procedure need to be done manually or can be easily said as using files. It is known that file based system has many disadvantages such as data redundancy, data loss because of the hard copy or paper might be missing, extra storage space as there must be a place to store all the paper used, take extra time to search the data because it is needed to search the data that are stored in improper way manually,

paper consuming for claim forms and etc. Other than that, current claim module procedure requires a lot of tedious steps in order to complete one procedure of claiming because there is a need to get approval from person of different department and level of position to approve for the claim application. This will lead to a lot of manpower usage to complete the steps and this will take quite a long time, which is an ineffective process.

1.3 Objective & Scope of Study

1.3.1 Objectives

There are several objectives to be achieved in developing this claim module as following:

- To achieve the aim of integrating the claim module into HRM system.
- To develop an automated claim module in order to simplify the procedure and overcome flaws in file based system.
- To provide benefits and business value to the organization that will be deploying this system.

1.3.2 Scope

In order to develop the claim module, a number of scopes need to be focused on which are as below:

- The scope of this study is mainly on the Standard of Procedure for claim module that is being used by the organization. This means that the development of this project will involve the understanding of organization business flow.
- The implementation of the project requires understanding on the importance of developing the automated module for HRM and what are the benefits that the organization will gain by using the automated system rather than stick to file-based system.

- The development of this module will be using the language and environment similar to the current HRM system that is being used by the organization. So, it is needed to understand the technology, architecture and design of the system in order to develop one module that will be integrated into the whole system.
- In developing the module, it is needed to understand the phases that are involve in Project Life Cycle, which are planning, analysis and design, development, testing, implementation and what need to be done in each phase.

1.4 Relevancy of the Project

The project that is developed is relevant to the course taken, as this project requires skills and knowledge that have been learnt by an IT student in UTP such as in subjects related to database, software development, programming subjects and etc. Besides that, this project also utilized the author's experience of developing system during industrial internship training. The author also gained much more experience in the IT field that is software engineering by developing the module of the system individually that gave a lot of challenges and problems. Apart from technical skills, this project also enhanced other skills such as communication, time management and decision-making skills, as the development of the module need to follow the schedule, communicate with others and also to make decisions related to the project which was a very beneficial experience.

1.5 Feasibility of the project

From research that has been done before developing the project, it is proved that this project it feasible to be implemented by the author. This is so as the project is done for UTP and it was an advantage in terms of data gathering as it could be done easily by setting up appointments with person involve and this lead to cost and time saving. For this project, the schedule was according to the time given and as there were two semesters being allocated to complete this project it was sufficient to go through each project cycle phase. Besides that, the knowledge and skills needed for this project is according to the author ability, which means that the author understands the flow and

what is needed in developing the system. Although the programming language that was used is different, it was a process of learning new knowledge in developing a system.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

The main objective of developing the automated claim module is to overcome the flaws of file-based system in current system and the module can be integrated into UTP Human Resource Management system that has other modules. As a result, everyone in the organization can use the system for any purposes related to Human Resource Management and this will give much benefits to the staff and the organization itself. In order to achieve all of the objectives, this project require two major areas of study which are about the new system developed for Human Resource Management to replace the old system and also the approach taken in the process of developing the project itself.

2.1 Virtual HR

Nowadays, there are many systems being developed in various areas to replace the old system, which is the file-based system. It is the era of computerizing all the system as everyone especially companies and organizations have realized the efficiency and advantages of the computerized system. For HRM system, it can be also called as Virtual HR. Virtual HR is typically defined as the use of computer systems, interactive electronic media, and telecommunication networks to carry out the functions of the human resources department [1]. There are several reasons why are most Human Resource departments are eager to migrate their old system into computerized system. It is because Virtual HR lowers costs and improves efficiency by reducing paperwork and streamlining work flow, automating redundant HR tasks, empowering employees to

embrace a self-service HR delivery system, speeding up the response time of HR systems and also improving time management [3].

Other than the efficiency of the Virtual HR, there are also six driving forces that bring most companies to the change of their Human Resource Management system into computerized system, which are as following:

- Information technology

Information technology element means that the world is growing with new computer software and hardware, networking technology and the telephony service that are essential to the Virtual HR movement. With all these technologies that can be obtained with lower costs, Virtual HR is going to be the norm for every organization in the near future.

- Process reengineering

For process reengineering, it is how the top management of the organization looks on ways to improve core business processes to make them more efficient. Processes in HR department are seen to be the processes that can be reengineered and improved through the high quality application of information technology.

- High-speed management

For high-speed management element that has been stated, it is all about competition among companies to work smarter and faster and Virtual HR is a form of service that is smarter and quicker.

- Networked organizations

For an organization to become less bureaucratic and more efficient and turn to a networked organization, Virtual HR is one of the ways as it has local area networks, e-mail and corporate Intranets, which are the trademarks of a flatter, networked organization [4].

- Knowledge workers

Employees in most companies are self-directed, and computer-savvy, knowledge workers and these are the reasons why it is needed to empower the knowledge workers with Virtual HR [7].

- Globalization

The last driving element is globalization, which means that companies need to compete to have global business strategy.

2.2 Reengineering Process

The development of the project by migrating from file based-system into computerized system can be said as reengineering process [6]. Reengineering is typically defined as the fundamental rethinking and radical redesign of human resource processes to bring about dramatic improvements in overall service quality while also reducing costs [5]. In order to achieve the real meaning of reengineering, the project is being developed according to the Project Development Life Cycle phases. One of the most important elements in developing the project is to specify the requirements of the system. In the process of getting the requirement specifications, there are number of elements to be taken into account to get what the developer really needs and address all major factors that crucial to the project success [2].

The first element is the introduction and background which contains the business perspective for the project that are the purpose of the system, necessary approvals of the requirements specification, audience and end users of the system, definitions of acronyms and terminology and references to existing policies, procedures and documentation.

The second element will be the scope, which is where the developer put in writing what is in the scope of particular project and what is out of scope. Once everything has been

written, internal customers need to read and agree to the definition of scope so that everyone is clear about what will be delivered at the completion of the project [2].

Daly stated that the third element will be the system overview where it gives an overview of what the system is, why it needs to exist (business perspective), what it does (functions), and who the users are [2].

The fourth element is functional requirements that will produce the answer if what the system will and will not do and also it addresses all the functions the system must be able to perform and how it should be performed. This requirement will be the reference to write test plan for the system.

The fifth element is interface requirements that are to gain information on the system dependencies, with what system does the developed system need to interface and the details about the required interfaces. The other element is data requirements that consist of information about data needed by the system, where will be the data reside, what is the database technology will be used and who will provide and maintain the data. The next element is the system attribute that is to know what will be the platform for the system and hardware and software required by the end users.

Apart from that, the performance, availability, stability, constraints and security are also the elements that needed to be focused on too. These elements are for concentrating on what will be the required response time, how long would the system need to be available and what happens is the application is unavailable, what is the disaster recovery and backup procedures to ensure the stability and recoverability of the system, are there any constraints that dictated by existing organization technology that will impact the system and what are the security elements that are embedded in the system.

Finally, the last element that is needed is appendices of supporting documentation that is where all documents that are used to better understand the business and technology that surrounds and impacts the system that is built are being put. In overall, requirements specification will be successful if the stated elements are being considered in the process of specifying requirements for the project to be developed.

Apart from the requirements specification for reengineering process, there is also a need to understand that although the system is already exist, it does not mean that much time saving will occur during redevelopment process compared to creating new system from scratch. However, according to Finney, time saving in system redevelopment depends on five main elements, which are the complexity of the system, the familiarity of the developer with the system, the required modifications, the time needed to specify the modifications and the time needed to understand the system itself [8]. From here, it can be seen that in order to save time in migrating old manual system into automated system, it comprises the developer to take into account the elements so that everything will be progressing smoothly and will not take too much time than what has been provided. In his white paper, Finney also stated that planning for a complete analysis, design and construction based approach is needed in order to redevelop a system and business clients probably need to be involved to assist in identifying any required business functionality changes during analysis phase.

2.2.1 Designing the System

In designing the technical system for human use, selection and design of an information technology system involve many technical issues but it must also meet user and organizational requirements. Demands from human and organizations need to be translated into design criteria in order to ensure that the system developed will be technically good and will fit the organizational context as well. Eason stated in his book that the design criteria can be discussed under four broad areas, which are functionality, usability, user acceptability and organizational acceptability. These areas are relevant for any kinds of system to be developed in order to achieve the target of providing good system and accepted by organization.

Functionality means that the technical specification must cover the functions the system will have to be able to perform in order that it can support the required range of organizational tasks. If a system does not provide this criterion, other things will be irrelevant and therefore it is said to be the primary consideration. One way of fulfilling this requirement is from task analysis by providing facility that has exact match with the

task need to be performed or can be easily said as the system does exactly as what is required, no more no less [9]. However, this is only suitable with well structures tasks and it will be difficult when tasks are varying from one user to another and from one occasion to another. Because of there are variety of users with different needs, it lead to the creation of more flexible systems. These kinds of system have wider range of available functionality that can be matched more exactly to the specific needs at the time but this will cause the system to be more complex and difficult for user to use it. The system that has too many functions normally will be having the phenomenon of under-utilization thus making user to choose system that has more functionalities is not the best way [10]. It is better to do task analysis to identify required range of functionality and also provide flexibility to use it and ensure that what the system offers has a high probability of usefulness. Besides that, it is important that the potential exists in the system for it to be elaborated so that it will grow as the user's needs grow.

Second criterion that should be focused on is the usability of the system. Usability means that the system must offer its services in a way that planned users will be able to master it without undue strain on their capacities and skills. This criterion goes much more on the human computer interaction studies. Meaning that how developer presents the system to the user and how the user perceives it. The first area that can be discussed on is the requirement for user to get inputs into the system and to be able to receive outputs. For these purposes, the system has to match the motor skills' capabilities of a human being such as the way human use hands, feet and others to communicate and act on the world and also the perceptual characteristics that include the way human use eyes, ears and other senses to capture information [11]. The most common requirement is that the new system provides ability for the user to use the skills that they already have which means that the new system operates according to the same rules as other current system and at the same time minimizing the need for new learning.

The third criterion is user acceptability which means the system must offer its services in a way which its users will perceive, as minimum, as not threatening aspects of their work they hold to be important, and ideally, they will perceive it as positively facilitating goals they wish to pursue [9]. Eason stated that there are two groups of

factors, which contribute to user acceptability of a system that comprises of control and discretion and growth. The control group consists of issues that can lead to non-acceptance of a system while discretion and growth are ways of positively promoting acceptability.

In control group, it includes access, reliability, confidentiality, monitoring, pacing, health and stress and social contract that relate to the user's need to feel in control of events when using a system. This means that in order to make a system to be accepted by users, each factor in control group should be fulfilled according to the user requirements.

Other than that, discretion and growth group includes servant or master, levels of choice, intuition and informality, assuming knowledge, supporting learning and co-operative work. Servant or master means that user should be master and not slave to the system while levels of choice means that user should be given choices on how to operate the system rather than they follow the choice of the system. Normally, system will have predefined logical procedures that do not encourage informality and intuition. Henderson suggested that systems should contain facilities to support features of human behavior so that user will have opportunity for experiment and development [12]. A system should assume knowledge on the part of the user which means that user should be allow to use their own knowledge during interaction with the system. Support learning facilities should be provided in a system so that user can become progressively more knowledgeable about its facilities and how to use them. Other than that, a system should provide the facility of co-operative work in which a group of people share the workload. Users in a defined group are able to exchange information between them without any barrier and at the same time preventing access by users outside the group.

Last criterion that must be focused on is the organizational acceptability. The organization has it own goals, policies and structures and the system must only serve immediate task needs but must not impede other aspects of organizational functioning. Ideally, it will serve as a vehicle to promote wider organizational goals; as a minimum it must provide and organizational match [9]. Two major components included in this

criterion are the organizational objectives and organizational match. Organizational objectives means that the system will reduce the use of resources, increase productivity of organization, enhance individual user by making them fulfilling their task efficiently and also enhance organization performance by providing new opportunities for communication and integration between parts of the organization. While for organizational match, it goes beyond the planned objectives of the system to examine whether the technical system being developed will have wider implications. It includes dependency of the system, flexibility, control and coordination and culture and values. All of these elements must be included in the system in order to be accepted not only by single user but also by the organization as a whole.

2.3 Lotus Notes and Domino

Lotus has been divided into two separate programs, which are Notes and Domino. Notes acts as the client side while Domino acts as server side. However, Notes does not necessary to work only with Domino because it can also work with other servers and the same goes to Domino as it can work with non-Notes clients. The Notes Client is not an application, but it is an application platform [13]. This means that it can be used by developer to create applications for users on Notes.

One of the advantages provides by Notes and Domino is that it is operating system independence. Other than that, there are many applications embedded with Notes and Domino. The applications include group calendaring, email, directory services and others while for server application for Domino; it includes email, Web serving, database replication and others. From the applications that have been provided, developer can use them together with their customized applications.

CHAPTER 3

METHODOLOGY

3.1 Project Development Life Cycle

The project development complied with the common project development life cycle. However, not all of the phases were gone through for this project but only three of them were implemented and each phase was defined according to project requirements and conditions.

3.1.1 Planning Phase

During planning phase there were quite a number of steps taken to plan the development of the project. These steps were done to ensure that the project is well planned so that the correct path in developing the project would be clearly seen and implemented. Below are the steps in the planning phase:

- The author involved in the process of redefining the topic given which was to narrow down the scope and specify the requirements for the project.
- The project timeline was developed in order to schedule appropriately the time to complete each task and process. The Gantt chart of the project is shown in Appendix A.
- When the requirements and scope of the topic has been set, the author started to plan on the data gathering process that involve identification of users to be consulted for obtaining requirements of the project and the flow of the module to be developed.
- At this stage, the author also planned on various tools to be used that suit and can be integrated with the current system.

- During the planning phase, the author also did the outlining of the documentation that will be generated throughout the project development.

3.1.2 Analysis and Design Phase

After planning phase was completed second phase started and the author did many other task for the project. Basically, this phase involves the process of analyzing several items such as the tool to be used, flow of the current system and what are the requirements needed for developing the new claim module and start to design the interface, project architecture and database structure for the project. Below are the steps involve in analysis and design phase:

- The author went through the process of data gathering that required interviews with users to understand the overall flow of the module to be developed and getting users requirements. The flowcharts of the claim module used by the organization are as shown in Appendix B.
- Based on analysis obtained from data gathering process, the process of specifying user requirements was done.
- The author also redesigned the flow of the system that reflects the new automated system.
- There was also process of analyzing various types of tools to be used in this phase done by the author. This was done to choose the most suitable and appropriate tools for the project.
- After completing the analysis of tools to be used, the author started specifying the system requirements.
- When all analysis needed have been completed, the author designed the project architecture that involves process of choosing technology for the project, designing database structure for the project and also designing interface according to the flow of the module.

3.1.3 Development Phase

Development phase was the last phase being implemented in this project development. During this phase, the author involved with several steps that consume much of the time in developing the project and in this phase final product was produced and tested.

- In order to start the development process, the author set up the development environment.
- When the development environment had been set up properly which include the installation of the tool to be used, the author went through the process of developing the interface.
- Other than developing the interface, the author also involved in setting up the database for the module.
- After interface design and database had been developed and set up, the author started to develop codes based on functionalities and requirements that have been specified in the previous phase.
- Finally, the codes that had been completed were tested to ensure that all functionalities are working as intended according to the requirements and specification. The author involved with the testing process, which is called the internal testing. Any bugs and errors discovered are fixed at this stage.

3.2 System Requirements

3.2.1 Development Environment

The project was developed using a personal computer that has several specifications in terms of its hardware and software. For development environment, as the architecture of the project is client- server architecture, the personal computer was the client as well as the server meaning that network is not required for client server connection. Below are the specification needed in developing the project:

Table 3.1: Development Environment Specifications

Tools	Specification
Operating System	Microsoft Windows XP Professional
Processor	Pentium 4, 2.40 GHz
Disk Space	20 GB
Memory	240MB of RAM
Peripheral	Printer, Scanner, Keyboard, Mouse, Monitor
Application platform	Lotus Notes R6
Server	Domino server R6

3.2.2 Implementation Environment

The product of the project is to be implemented in a specified environment to ensure that it is functioning well without problems. In implementing the product, it requires a machine that works as server and machine that works as client. This is so because client only need the application and will not be the administrator thus does not need the server to be on the client machine. Below are the specification needed in order to implement the product of the project:

Table 3.2: Implementation Environment Specifications

Tools	**Specification**
Operating System	Microsoft Windows XP Professional
Processor	Pentium 4, 2.40 GHz
Disk Space	20 GB
Memory	240MB of RAM
Peripheral	Printer, Scanner, Keyboard, Mouse, Monitor
Client application	Lotus Notes R6
Server	Domino server R6
Intranet network	LAN (Local Area Network)

CHAPTER 4

RESULT AND DISCUSSION

4.0 Introduction

The project development life cycle had completed and the author managed to obtain results on what had been done. The result of the system can be divided into two major components, which are result of the redesign of the system in terms of the system flow and the outcome of the product that is the software itself.

4.1 System Flow

As the system was developed based on the manual system that is currently being used, the existing flow need to be redesigned in order to modify it so that it reflects the new automated system. However, the new automated system is still maintaining the same procedure but might be different in terms of the operation of the procedure. As being planned, the system consist two types of claim, which include UTP-Academic Staff claim and Medical/Dental claim. Below are the flows of the two claim procedures.

4.1.1 UTP-Academic Staff Claim

The first flow is the flow diagram for UTP-Academic Staff Claim processing. This flow is adapted from the original system flow that the author obtained during the interview session in the process of requirements gathering. The procedure done is similar to the existing system but the major differences are the way the procedure is being done in terms of mechanism used and the time taken to complete the whole procedure will be shorten. It started with the applicant filling the form in the Claim Module system that has been created as one of Notes application. The form will be filled with validate data

together with relevant documents being attached. After completing the filling process, then applicant will submit the form via email to ACS clerk and then the clerk will route the form via email to the respective department, which is responsible or in charged for the claim that will endorse the claim application. Then, if the respective department has endorsed the application, the form then will be routed to the Program Head of the department of the person who makes the claim through email. The application then needs to be endorsed by Program Head and finally it will be routed to HRM department by email to be approved. After getting approval, the application will be sent to the Finance department and cheque will be prepared and notification mail will be sent to the applicant who makes the claim. However, if there is any problem encounter at any stages of approval or endorsement, the application will be sent back to the claim applicant through email. In the email, the applicant will be able to see the original application form together with the reason why the application is being rejected. Applicant needs to submit new claim application form if the original application is rejected. The flowchart is shown in Figure 4.1.

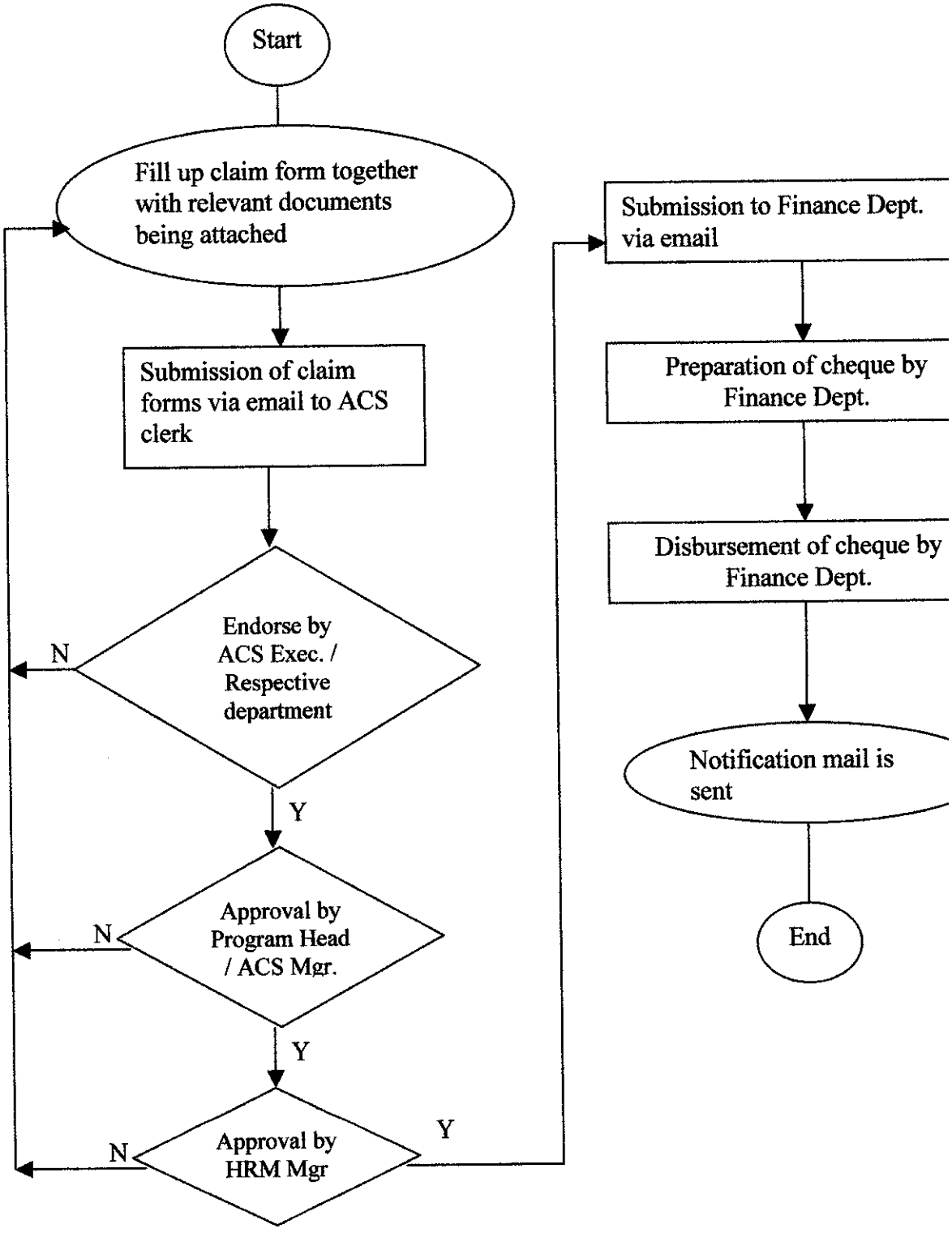


Figure 4.1: UTP-Academic Staff Claim flowchart

4.1.2 Medical/Dental Claim

The second flow is the Medical Claim. As previous type of claim, the procedure is still the same but the way it is being operated is different. The procedure starts with the user filling in the form with correct particulars. After that, the form that is attached with relevant documents will be sent through email to the ACS clerk in order for him to route the form to respective person. When the form has been routed to the ACS Executive, he will do the checking and verification to ensure that all needed information is given. If ACS Executive does not encounter any problem with the claim application submitted, the application will now be routed to the HRM department for approval purpose and once the application is being approved by HRM, it will be sent to the Finance department and cheque will be prepared and notification mail will be sent to the applicant who makes the claim. However, according to the manual system for this type of claim, it has three more stages to go in the Finance department. So, in this automated system, it will still maintain the same procedure that is to include the three stages of checking and verification in the Finance department. In the flow of this Medical claim, if there is any problem encounter at any stages of approval or endorsement, the application will be sent back to the applicant. Applicant will receive notification email saying that his/her claim application is rejected and applicant needs to fill in new form to make the claim. The flowchart is shown in Figure 4.2.

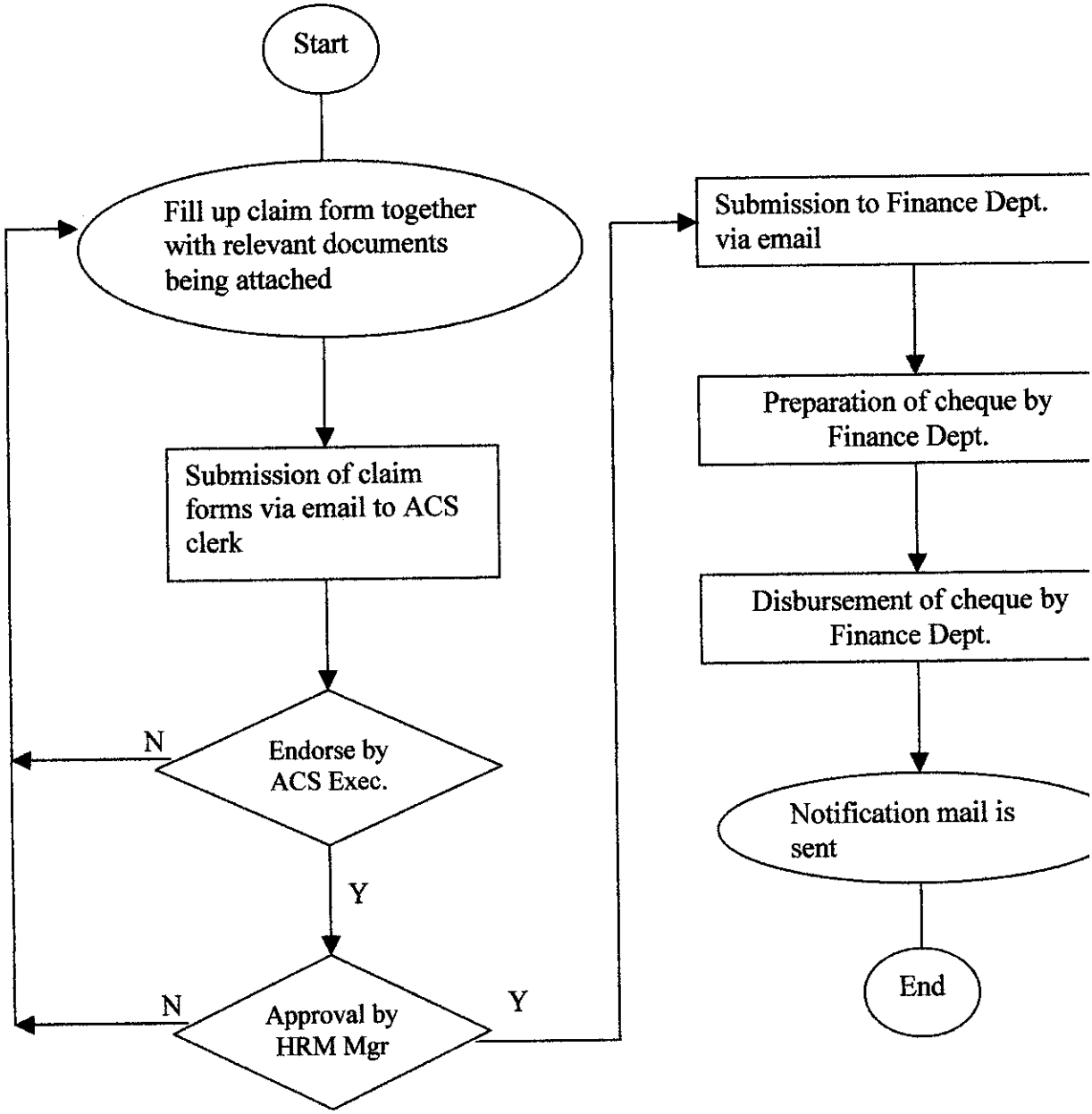


Figure 4.2: Medical/Dental Claim flowchart

4.2 Functionalities of Claim Module

The new automated claim module is developed for applicant that will use it in the Intranet site. So, applicant will be able to fill in their claim particulars in a form that is created as Notes application and will be sent through email to be verified, endorsed and finally approved by respective person. The verification, endorsement and approval processes will be made by different level of people according to the type of claim application. All of these processes are made through the email where a link of the claim form application is provided and respective person who needs to verify, endorse or approve can access to the form and make decision about it.

From the system flow that has been discussed previously, it can be seen that the main mechanism being used is the email. Once the applicant clicks the button for submission, email will be created with the form attach to it and it will be sent immediately to the respective person. This means that the application will be received by the respective person immediately without any delay. Verification, certification, endorsement and approval is done by checking through the claim form and if every particular are correct according to terms and conditions being set, the person need to click on the correct button. Otherwise, the person who needs to endorse or approve the claim application can reject the application by clicking on the other button and it is compulsory to enter the reason for rejecting the application so that the applicants will notice their mistakes. If the application is being rejected at any stage, notification mail will be sent to the applicant to notify about it and applicant will be able to view the form that has been submitted together with the reason of why the application is being rejected. Applicant can always make the same claim by starting the process of making claim from beginning. However, if the claim application is approved, notification mail will be sent to the applicant to notify them that Finance department is currently processing cheque and applicant will be able to receive the cheque sooner.

In order to enter into this Claim Module system, applicant needs to have their own ID being created by administrators. This is so as the ID will be used in the process of filling the claim form; as once the applicant enters the system and select one of the claim type,

several personal particulars will be automatic populated in the form. This is done by extracting data about the applicant from registered ID that has been created previously. Apart from that, by having own ID, users will be notified as one unique entity in the claim system. Other information related to the claim particulars need to be filled by the applicant and before submitting the form, all particulars will be verified in order to ensure that correct information is given. Besides that, the applicant need to attach relevant documents related to the claim application in the claim form. All documents need to be scanned and it is assumed that scanner is provided for applicants in their own department. Relevant documents need to be scanned and attached with the form to ensure that none of them is lost throughout the claim process.

Apart from that, the user who owns ID to enter into the Claim Module system can always check on their claim status that have been made. Views are created for user to view their previous application. However, the applications that are recorded in the views are only the applications that have been completely finished.

4.3 Basic Navigation Procedure

In order to use the claim module, user needs to understand the basic navigation procedure which are as following:

- Firstly, user needs to have their own ID that is created by the administrators.
- After getting own ID, user can select the claim module and the welcome page will appear. The welcome page is as shown in Figure 4.3.
- Then, user will be able to enter the claim module and select the type of claim that they wanted to do which is either UTP-Academic Staff Claim or Medical/Dental Claim.
- After selecting the type of claim, user needs to fill in the form correctly and send it to the respective person.
- When an application is approved and cheque is in processing stage, the record of the particular claim application will be saved and user will be able to view it at the Personal Claim Information.

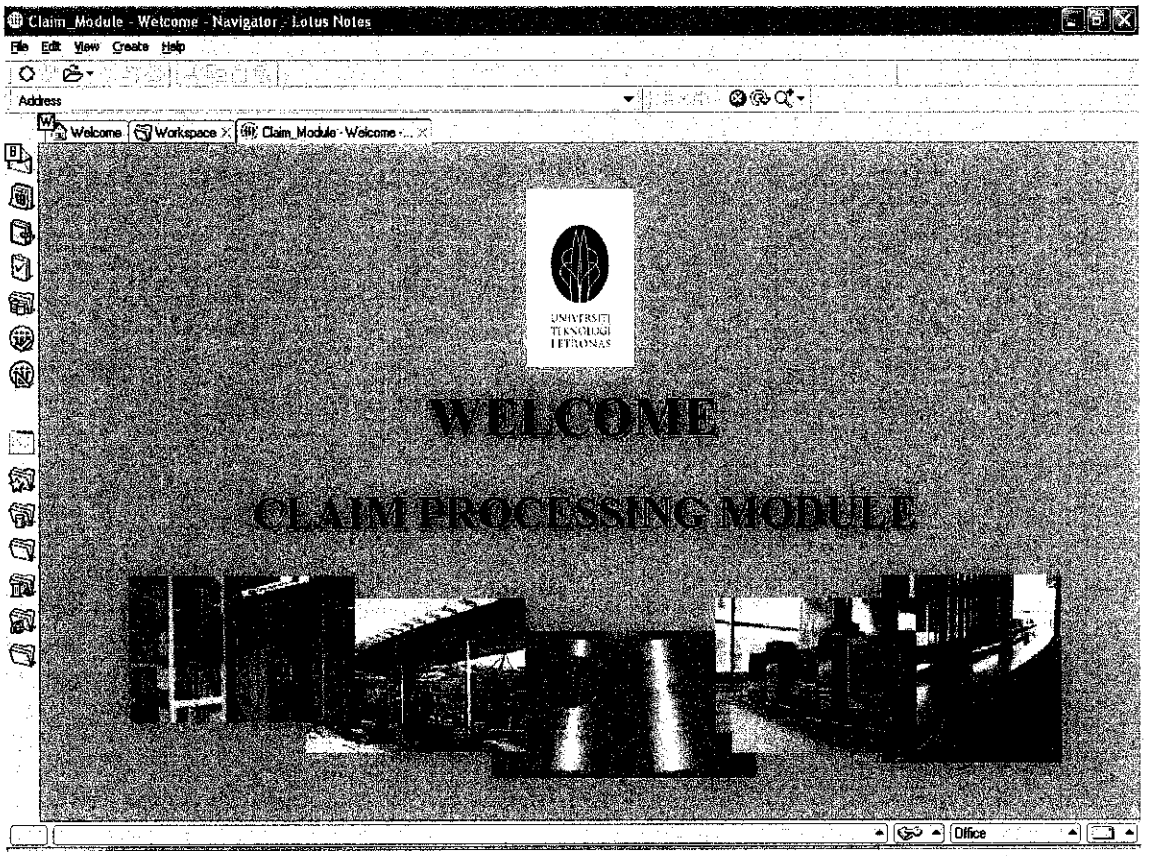


Figure 4.3: Welcome Page of Claim Module

4.4 Limitation of Claim Module

There are several limitations that have been identified with the developed Claim Module as below:

- The automated Claim Module has no connection with one of the important system that is Finance system to do checking for various purposes.
- The automated Claim Module still lacking of several functions for administrator.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

As a conclusion, the developed claim module meet the objectives and able to solve the problems that have been stated before as it has all the functionalities needed according to the requirements that have been gathered previously. Objective to simplify the claim procedure is achieved, as the new claim module complied new business flow as it has been changed from file-based system into automated system, which means that the approach use in the automated claim module is different from the existing system. Moreover, although the automated claim module maintain the same procedure as the existing flow, it still provide better service as it requires less time to accomplish any particular claim process. The objective of providing benefits and value to the organization and integrating the automated claim module into HRM system can be achieved once this module is deployed in the organization itself. Besides that, the problems of the existing claim module, which are disadvantage of file-based system implemented in current system, ineffective current claim module and lacking of important module in HRM system can also be solved by this automated claim module if this module is to be deployed in the organization.

Apart from all the functionalities that have been developed, the automated claim module still need certain enhancements in certain area. This is to improve the quality of the claim module so that it will give full benefit and value to the organization. However, from the author's point of view, the automated claim module is an important module to be deployed in the organization in order to improve the effectiveness of the existing procedure implementation and give the best service to all staffs.

5.2. Recommendations

In order to improve the quality and functionality of the developed Claim Module, here are two recommendations from the author based on the system limitation:

- The Claim Module needs to have connection with the Finance system in order to check how much claim have been made by a person especially. This is so as for Medical/Dental claim, there is limitation for a person to make the claim. Other than that, the connection with Finance system is needed in order to identify whether a person has received advanced cash, using corporate credit card or obtain contribution from any sponsors. If the system has the connection, it will be easier to ensure that every person obtain sufficient amount of claim according to their conditions.
- Other than that, the Claim Module needs to improve in terms of the functionalities for the administrators. Administrator should be able to troubleshoot problems regarding the Claim Module inside the system itself rather than going through tedious checking of the problems.

REFERENCES

[1] Jones, W. *Virtual HR: Human Resource Management in the Information Age.* United States: Crisp Publications Inc, 1998

[2] Daly, P.G. "Recipe for Successful Requirements." Intranet Journal July, 2004: 1-2

[3] Minneman, W.A. "Strategic Justification for an HRIS That Adds Value." HR Magazine December, 1996: 35-38

[4] Callaway, E. "Avoiding Those Costly Intranet Blunders." PC Week May,1997: 137-140

[5] Grenier, R. *Going Virtual: Moving Your Organization into the 21st Century.* Upper Saddle River, New Jersey: Prentice Hall, 1995

[6] Currid, C. *Computing Strategies for Reengineering Your Organization.* Rocklin, California: Prima Publishing, 1996

[7] Martin, J. *Cybercorp:The New Business Revolution.* New York: Amacom, 1996

[8] Finney, R. Reengineering an Existing System, http://www.methodology.org/essay025.htm. , 1999

[9] Eason, K. *Information Technology And Organizational Change.* Philadelphia, USA: Taylor & Francis, 1988

[10] Sutcliffe, A. "Do users know they have user models? Some experiences in the practice of user modeling." INTERACT '87, Human Computer Interaction, 1987: 35-41

[11] Damodaran, L. *Designing System for People.* Manchester, London: NCC, 1980

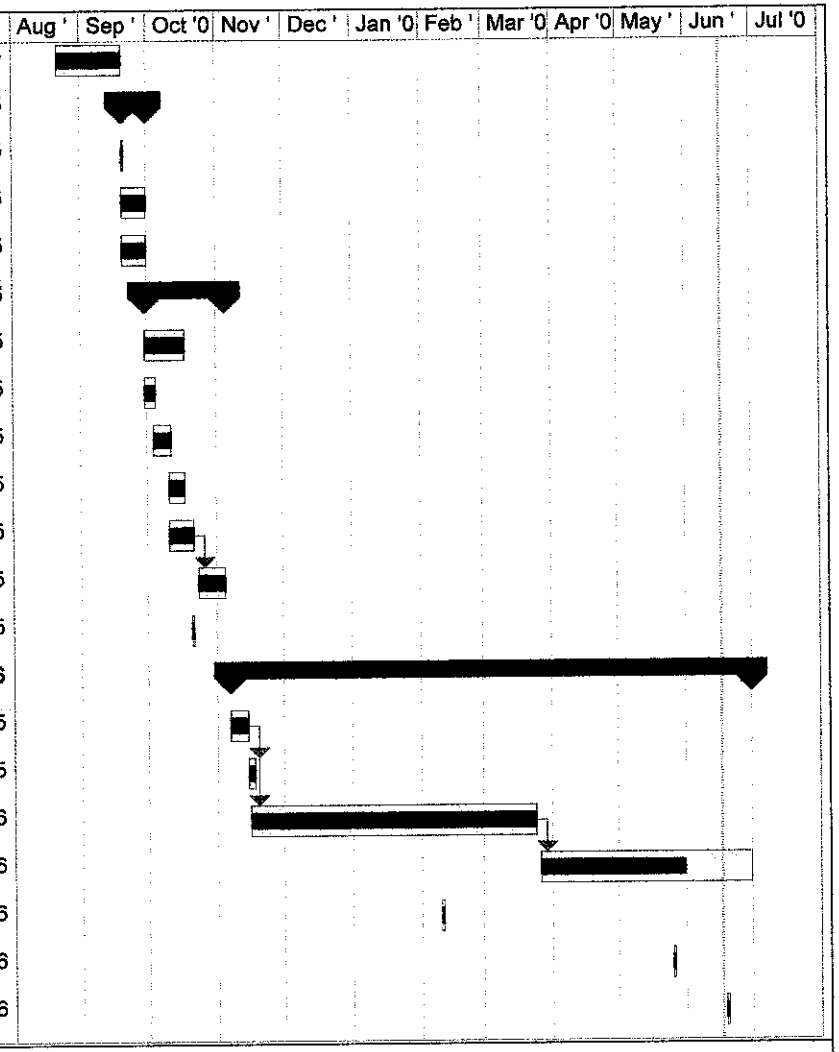
[12] Hendersen, D.A. *Ergonomics International 85.* London: Taylor & Francis, 1985

[13] Tamura, R. *Special Edition Using Lotus Notes and Domino R5.* Indianapolis, Indiana: QUE, 1994

APPENDICES

APPENDIX A:
GANTT Chart

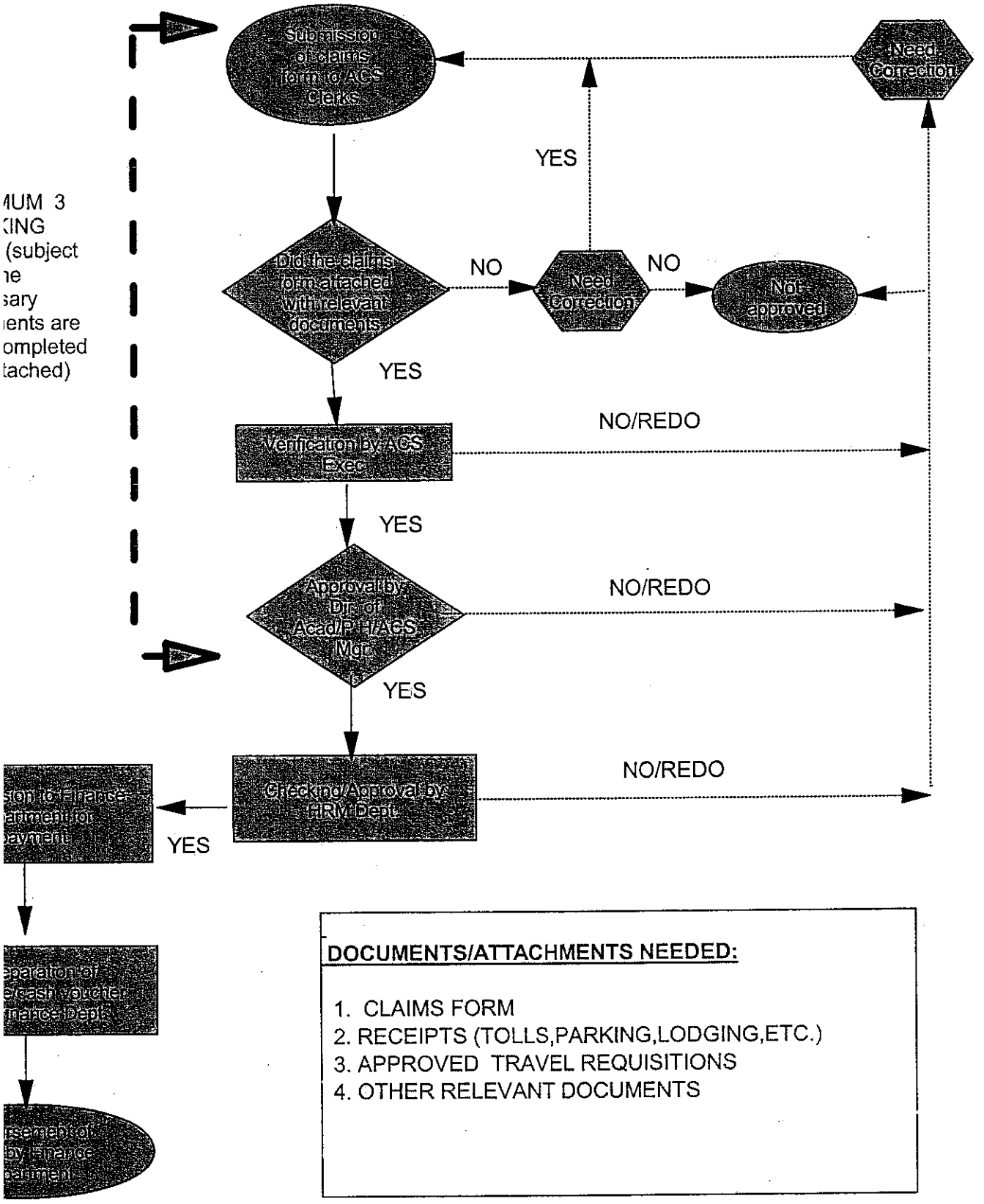
ID	Task Name	Duration	Start	Finish
1	Proposal submission and approval	21 days?	Mon 8/22/05	Mon 9/19/05
2	**Planning phase**	**9 days?**	**Tue 9/20/05**	**Fri 9/30/05**
3	Redefine topic	1 day?	Tue 9/20/05	Tue 9/20/05
4	Plan on the tool to be used	9 days?	Tue 9/20/05	Fri 9/30/05
5	Plan on data gathering process	9 days?	Tue 9/20/05	Fri 9/30/05
6	**Analysis and Design Phase**	**26 days?**	**Fri 9/30/05**	**Fri 11/4/05**
7	Data gathering process	12 days?	Fri 9/30/05	Mon 10/17/05
8	System requirements	3 days?	Fri 9/30/05	Tue 10/4/05
9	User requirements	6 days?	Tue 10/4/05	Tue 10/11/05
10	Project architecture design	5 days?	Tue 10/11/05	Mon 10/17/05
11	System flow design	9 days?	Tue 10/11/05	Fri 10/21/05
12	Interface design	10 days?	Mon 10/24/05	Fri 11/4/05
13	Preliminary Report submission	1 day?	Fri 10/21/05	Fri 10/21/05
14	**Development Phase**	**170 days?**	**Mon 11/7/05**	**Fri 6/30/06**
15	Developing system interface	6 days?	Mon 11/7/05	Mon 11/14/05
16	Developing system database	3 days?	Tue 11/15/05	Thu 11/17/05
17	Developing codes and functionali	93 days?	Wed 11/16/05	Fri 3/24/06
18	Codes testing and bugs fixing	70 days?	Mon 3/27/06	Fri 6/30/06
19	Progress Report submission	1 day?	Fri 2/10/06	Fri 2/10/06
20	Final Report Submission	1 day?	Fri 5/26/06	Fri 5/26/06
21	Oral Presentation	1 day?	Mon 6/19/06	Mon 6/19/06



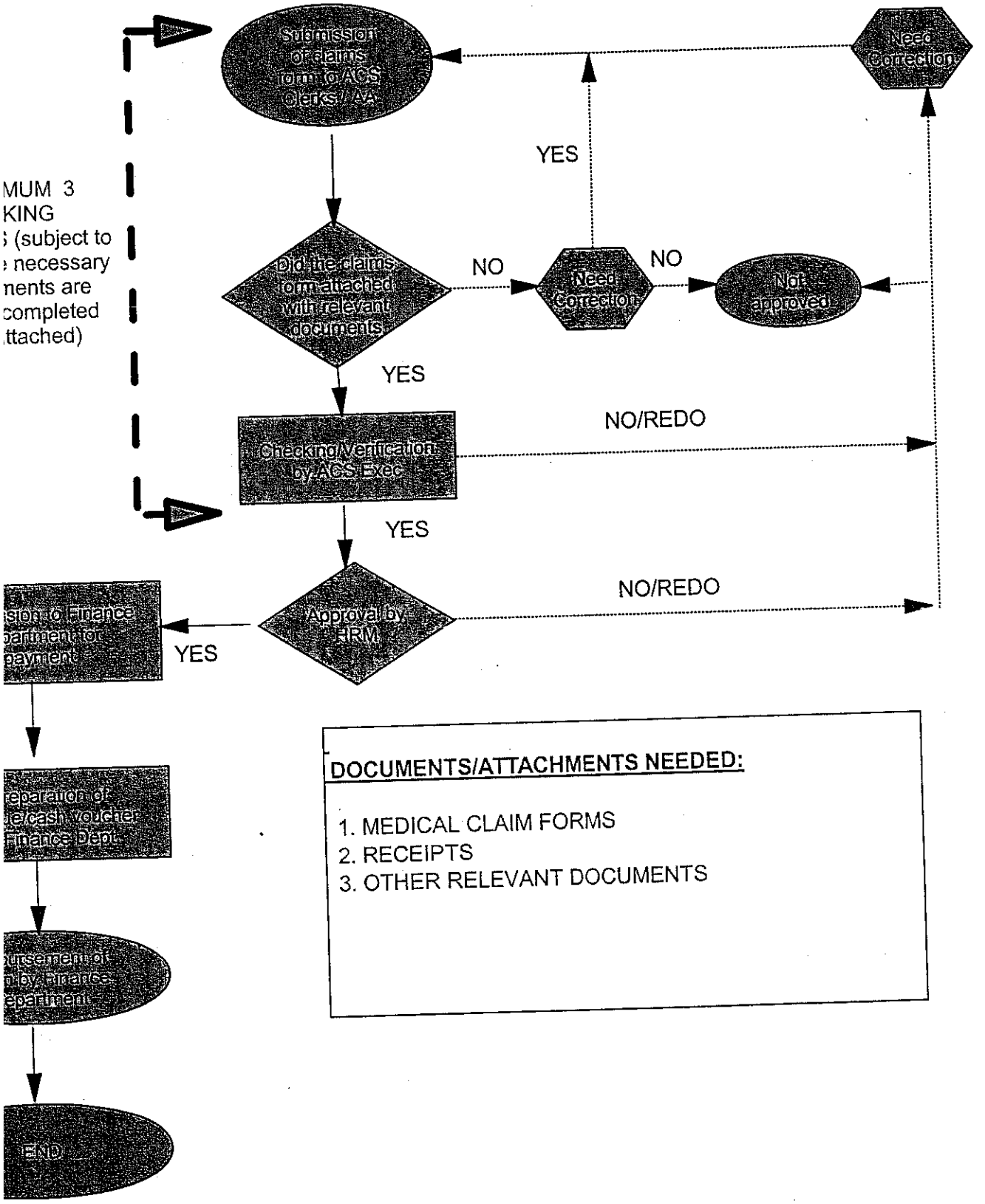
Project: timeline
Date: Sat 6/17/06

Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline

FLOWCHART ON UTP-ACADEMIC STAFF CLAIMS PROCESSING



FLOWCHART FOR MEDICAL CLAIMS PROCESSING FOR ACADEMIC STAFFS



DOCUMENTS/ATTACHMENTS NEEDED:

1. MEDICAL CLAIM FORMS
2. RECEIPTS
3. OTHER RELEVANT DOCUMENTS

APPENDIX B:

Existing Claim Flowcharts

APPENDIX C:

Existing Claim Forms

SITI
OGI
NAS

BORANG TUNTUTAN PERBELANJAAN
(EXPENSES CLAIM FORM)

TUNTUTAN BULAN (*MONTH CLAIM*)	RUJUKAN KEWANGAN : (*FINANCE REFERENCE*) : 29086
NAMA KAKITANGAN (*STAFF NAME*)	
NO. KAKITANGAN (*STAFF NO.*)	GRED (*GRADE*)
KOD JAB.K/TANGAN (*STAFF DEPT.CODE*)	KOD TANGGUNGAN JABATAN (*CHARGEABLE DEPARTMENT CODE*)
NO.AKAUN (*ACCOUNT NO.*)	LOKASI (*LOCATION*) / NO.TEL./SAMB. (*TEL./EXT.NO.*)

ARS)

AN / MAKLUMAT KERAIAN / PERJALANAN
LAIMS / ENTERTAINMENT INFORMATION / TRAVEL)

	TARIKH *[DATE]*	MASA *[TIME]*
1. Bertolak Dari Rumah Ke Destinasi [*Depart From Home to Destination*]		
2. Tiba Di Rumah Sekembali Dari Tugas Rasmi [*Arriving Home From Official Duties*]		

MAKLUMAT PERJALANAN DARI - KE NYATAKAN NAMA BANDAR ATAU TEMPAT BERMALAM) *(TRAVEL INFORMATION) (FROM - TO) (PLEASE STATE TOWN OR PLACE OF LODGING)*	KIRAAN PERJALANAN RASMI SEHARI *(OFFICIAL MILEAGE PER DAY)* KM	PERBELANJAAN KAPAL TERBANG/ KAPAL LAUT/ KERETAPI/ TEKSI *(FLIGHT / SHIP / TRAIN / TAXI EXPENSES)* RM	PERBELANJAAN / ELAUN PENGINAPAN / HOTEL *(HOTEL / LODGING EXPENSES / ALLOWANCES* RM	PERBELANJAAN / ELAUN MAKAN / LUAR KAWASAN *(MEAL / OUTSTATION EXPENSES / ALLOWANCES)* RM	PERBELANJAAN / KERAIAN *(EXPENSES / ENTERTAINMENT)* RM	LAIN-LAIN PERBELANJAAN *(OTHER EXPENSES)* RM
A	B	C	D	E	F	G
JUMLAH *(TOTAL)*						

MAKLUMAT PERTUKARAN MATAWANG ASING
(FOREIGN CURRENCY EXCHANGE RATE INFORMATION)

H	JENIS MATAWANG *[FOREIGN CURRENCY]*	KADAR JUALAN *[SELLING RATE] TT/OD*

JUMLAH RM (C + D + E + F + G) *[TOTAL IN RM (C + D + E + F + G)]*	
CAMPUR - TUNTUTAN KENDERAAN (RUJUK B) *[ADD - MILEAGE CLAIM (REFFER TO B)]*	
JUMLAH TUNTUTAN *[TOTAL CLAIM]*	
TOLAK - WANG PENDAHULUAN *[LESS - CASH ADVANCES]*	
TOLAK - BAYARAN DARI KAD KREDIT KORPORAT *[LESS - PAYMENT FROM CORPORATE CREDIT CARD]*	
TOLAK - SUMBANGAN DARI PENGANJUR *[LESS - CONTRIBUTION FROM SPONSORS]*	
BAKI TUNTUTAN / (BAYARAN BALIK) *[CLAIM BALANCE / (REFUND)]*	

DEKLARASI KAKITANGAN YANG MENUNTUT
(STAFF CLAIMS DECLARATION)

ı bahawa segala keterangan tuntutan ini adalah benar dan sejajar dengan segala
ıt-syarat yang telah ditetapkan.
ertake that all claims are true and in accordance with all relevant policies and

AN	TARIKH *[DATE]*

TINDAKAN OLEH JABATAN MASING-MASING
[ACTION BY RESPECTIVE DEPARTMENTS]

	DISEMAK OLEH JABATAN BERKENAAN *[CHECKED BY RESPECTIVE DEPARTMENT]*	DILULUS OLEH PENGURUS / KETUA JABATAN (PIHAK YANG DIBERI KUASA) *[APPROVED BY MANAGER / HEAD OF DEPARTMENT (APPROVING AUTHORITY)]*	DISAHKAN OLEH PSTM *[VERIFIED BY HRM*
TANDATANGAN *[SIGNATURE]*			
JAWATAN *[POSITION]*			
TARIKH *[DATE]*			

KITANGAN

Sila lihat syarat-syarat dan peraturan serta lain-lain di muka sebel
(Please refer to the terms and condition on next pa

Borang ITP - 11

UNIVERSITI TEKNOLOGI PETRONAS

ORANG TUNTUTAN PERUBATAN DAN PERGIGIAN

SYARAT-SYARAT DAN PERATURAN

Borang tuntutan Perubatan dan Pergigian yang dilampirkan bersama resit dan bil-bil hendaklah disahkan oleh Ketua Jabatan/Seksyen dan hendaklah dimajukan ke Jabatan PSTM & pentadbiran/Kewangan untuk diluluskan dalam dua (2) salinan.
Segala maklumat mengenai tuntutan ini seperti yang dinyatakan hendaklah mematuhi segala polisi dan syarat-syarat yang telah ditetapkan.

Nama:					Nama dan Alamat Bank				
No. tangan	Gred	No. Tel./Samb	Jabatan	Kod Jabatan					
					Jenis Akaun				No. A/c
					Simpanan		Semasa		

MAKLUMAT TUNTUTAN

'X' yang berkenaan	Panel		Bukan Panel		Hospital		
Klinik :							
at Klinik :							

No. Resit	Tarikh Resit	Jumlah Tuntutan	(Tanda X diruang berkenaan) Jenis Tuntutan	
			a. Perubatan	
			b. Pergigian	
angan Tanggungan (Nyatakan nama dan hubungan)			Tuntutan dibuat untuk	
			a. Sendiri	
b-sebab Tuntutan :			b. Tanggungan	

a mengaku bahawa segala keterangan perbelanjaan perubatan orang tuntutan adalah benar dan sejajar dengan segala polisi ta syarat-syarat yang telah ditetapkan.	Disahkan Oleh
	Tandatangan :
datangan	Tarikh :
ikh	

Bayaran Tuntutan			Pengesahan Kelulusan Untuk Bayaran			
erti Jumlah Tuntutan	Sebanyak RM	Tidak diluluskan	Tindakan	Disemak Oleh	Disahkan Oleh	Diluluskan Oleh
			T/tangan			
Lain-lain Catatan			Tarikh			

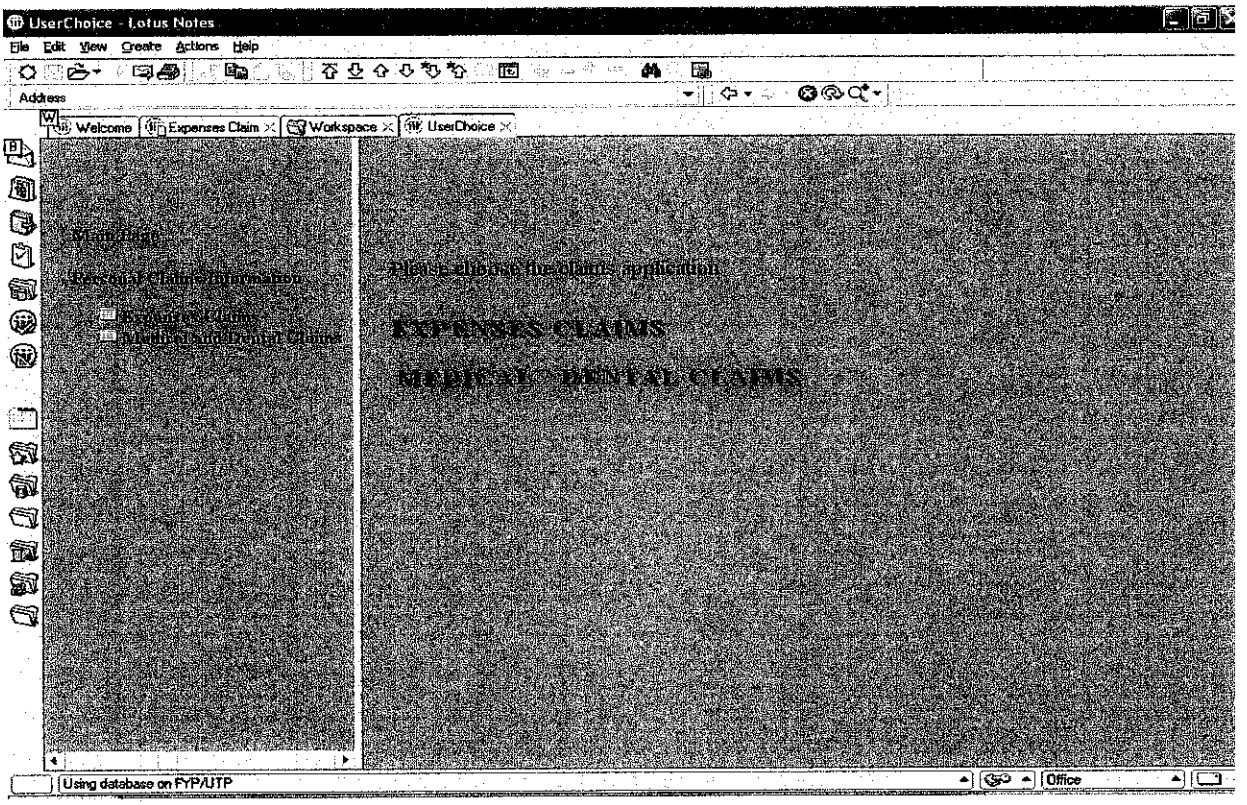
NGATAN : Jabatan PSTM & Pentadbiran/kewangan boleh menolak sebarang tuntutan yang tidak lengkap dan/atau tidak mematuhi segala polisi dan syarat-syarat yang telah ditetapkan.

APPENDIX D:

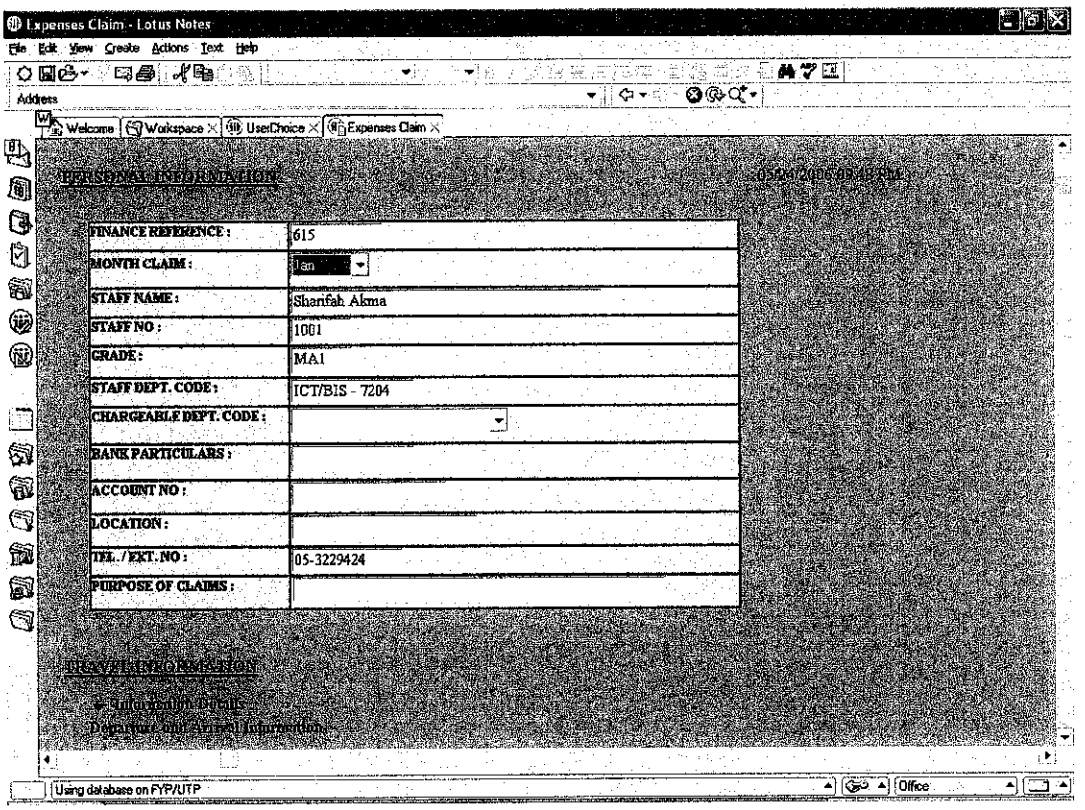
Expenses Claim screen,
Medical / Dental Claim screen,
Expenses Claim Personal Record View,
Medical / Dental Personal Record View

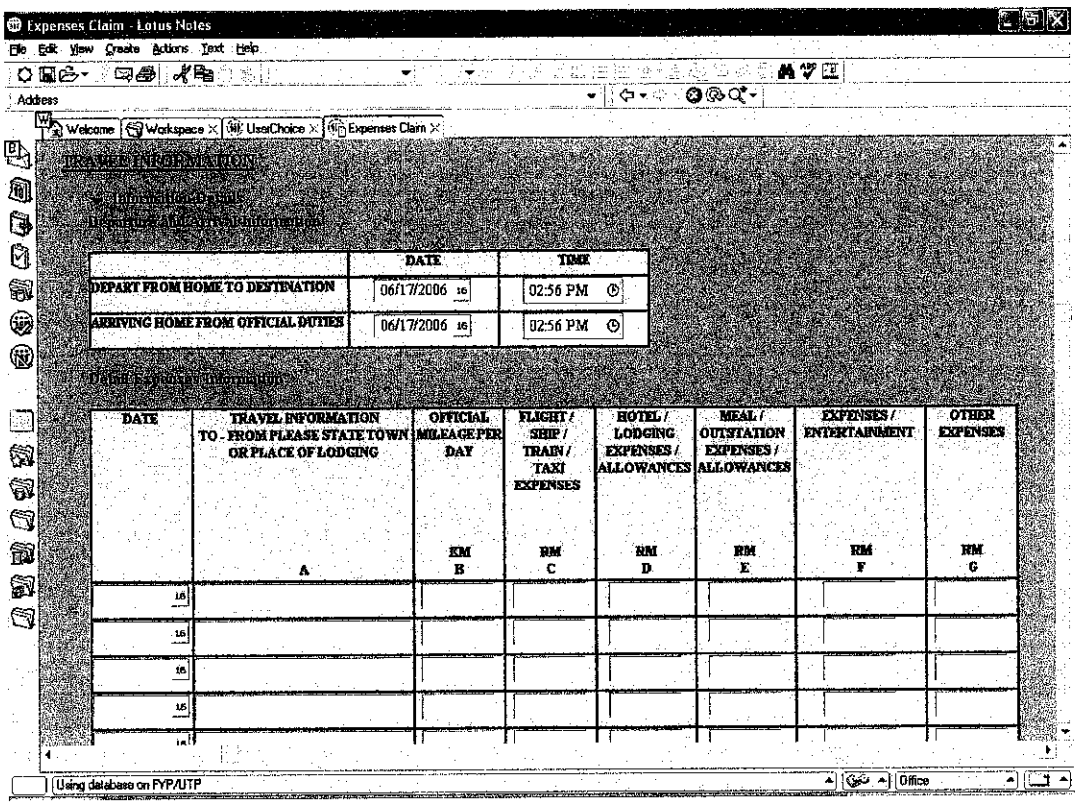
Welcome Page

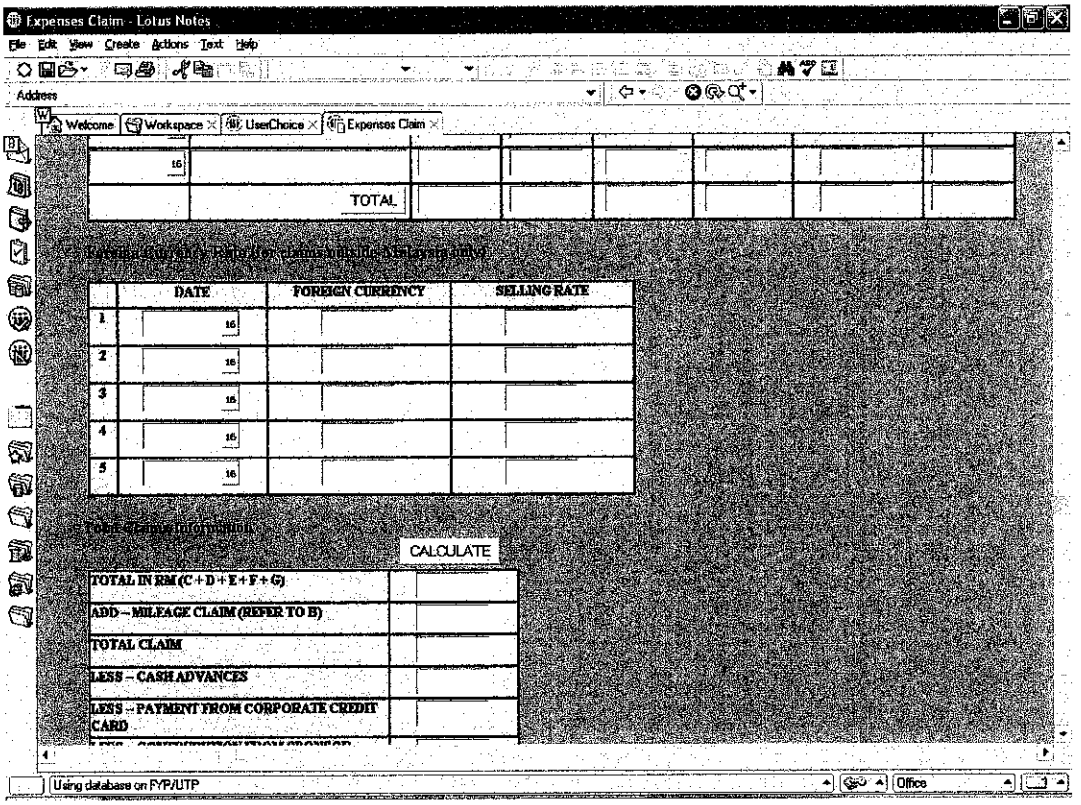
Main Page

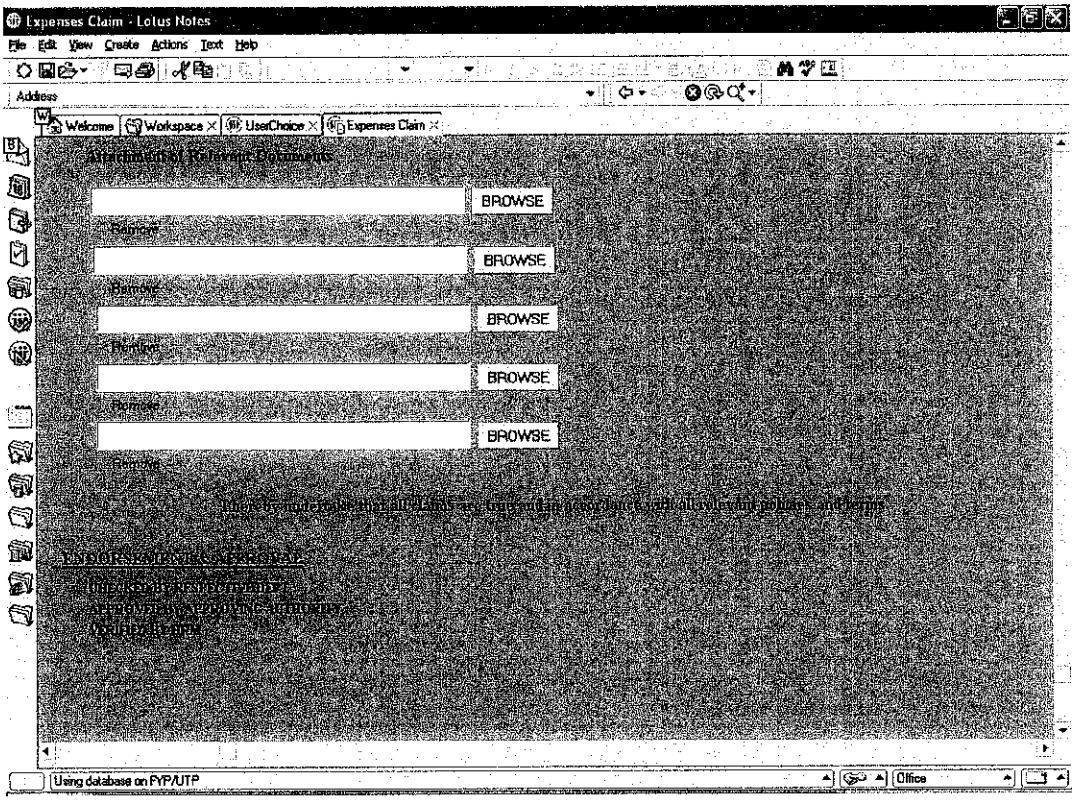


Expenses Claim screen

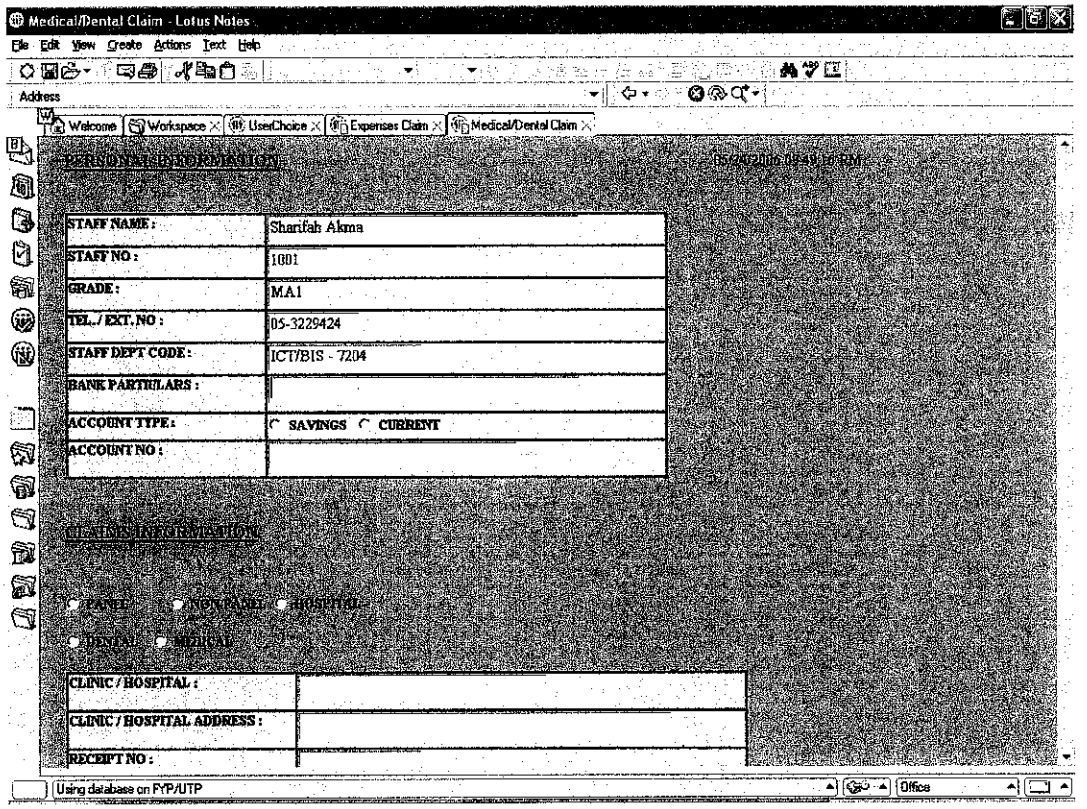


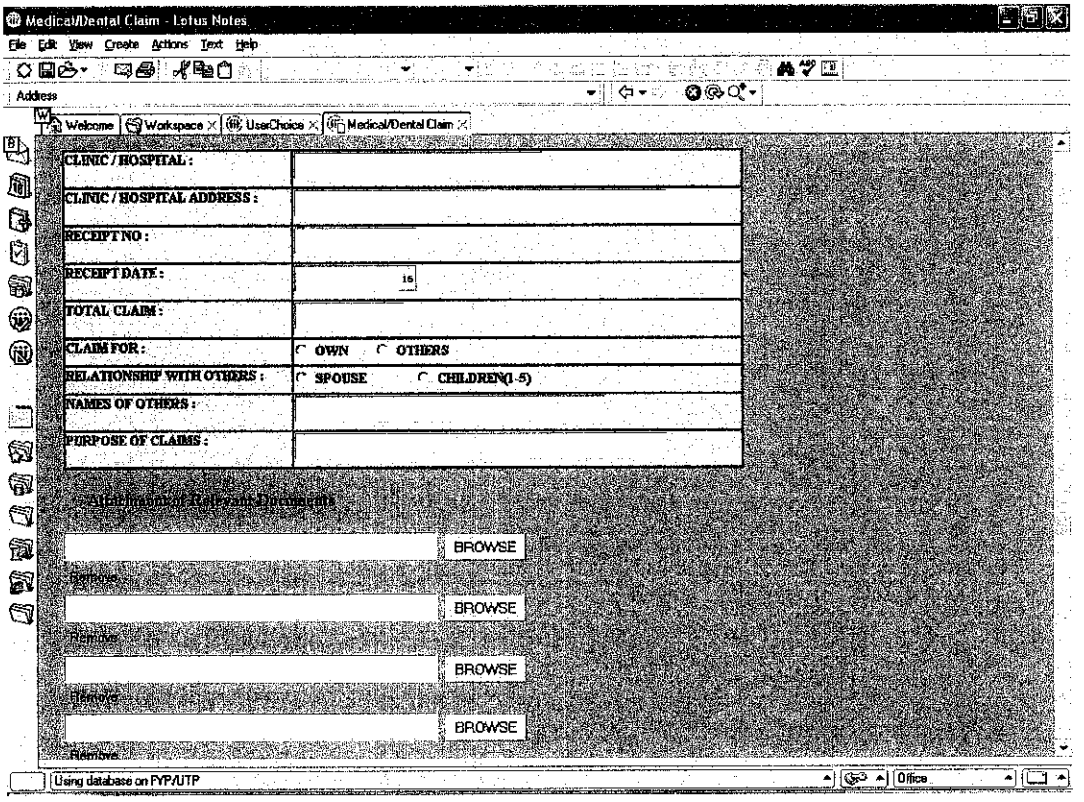


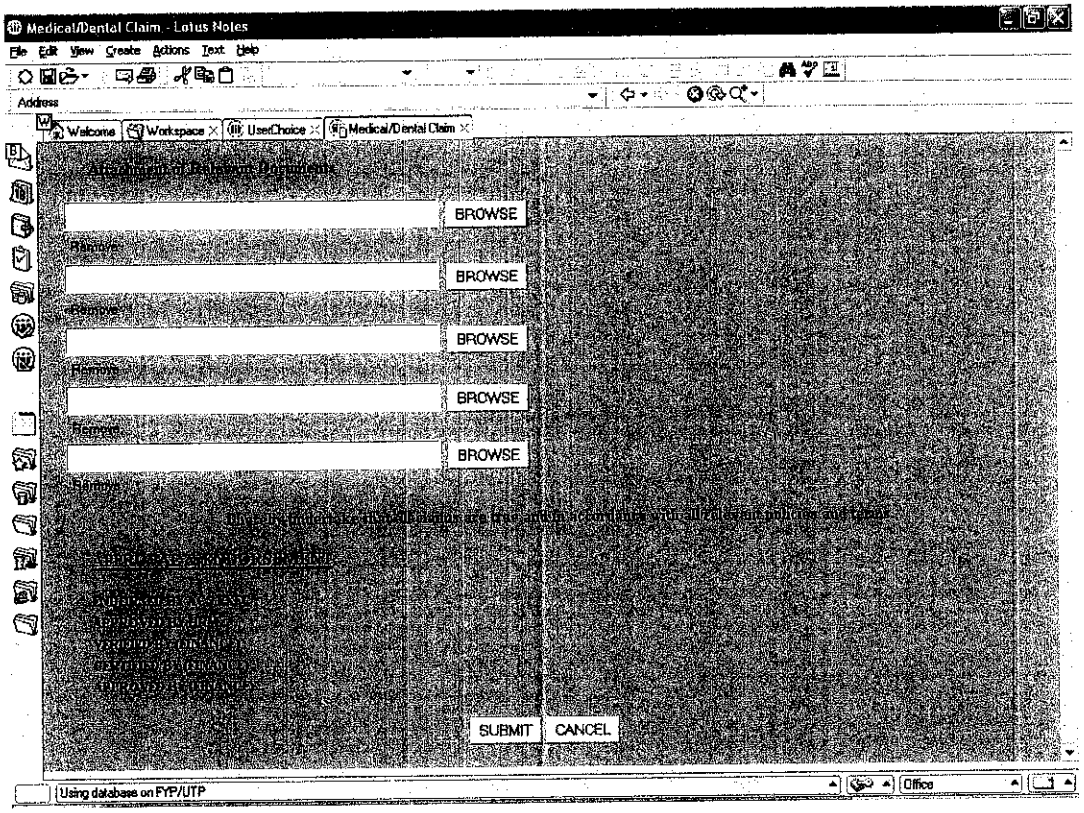

Expenses Claim - Lotus Notes
File Edit View Create Actions Text Help
Address
Welcome
Workspace
UserChoice
Expenses Claim
TOTAL
DATE
FOREIGN CURRENCY
SELLING RATE
CALCULATE
TOTAL IN RM (C+D+E+F+G)
ADD – MILEAGE CLAIM (REFER TO B)
TOTAL CLAIM
LESS – CASH ADVANCES
LESS – PAYMENT FROM CORPORATE CREDIT CARD
Using database on FYP/UTP
Office


Expenses Claim - Lotus Notes
File Edit View Create Actions Text Help
Address
Welcome
Workspace
UserChoice
Expenses Claim
Attachment of Relevant Documents
BROWSE
Remove
Using database on FYP/UTP
Office

Medical / Dental Claim screen






Medical/Dental Claim - Lotus Notes
File Edit View Create Actions Text Help
Address
Welcome
Workspace
UseChoice
Medical/Dental Claim
Attachment of Relevant Documents
BROWSE
Remove
BROWSE
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BROWSE
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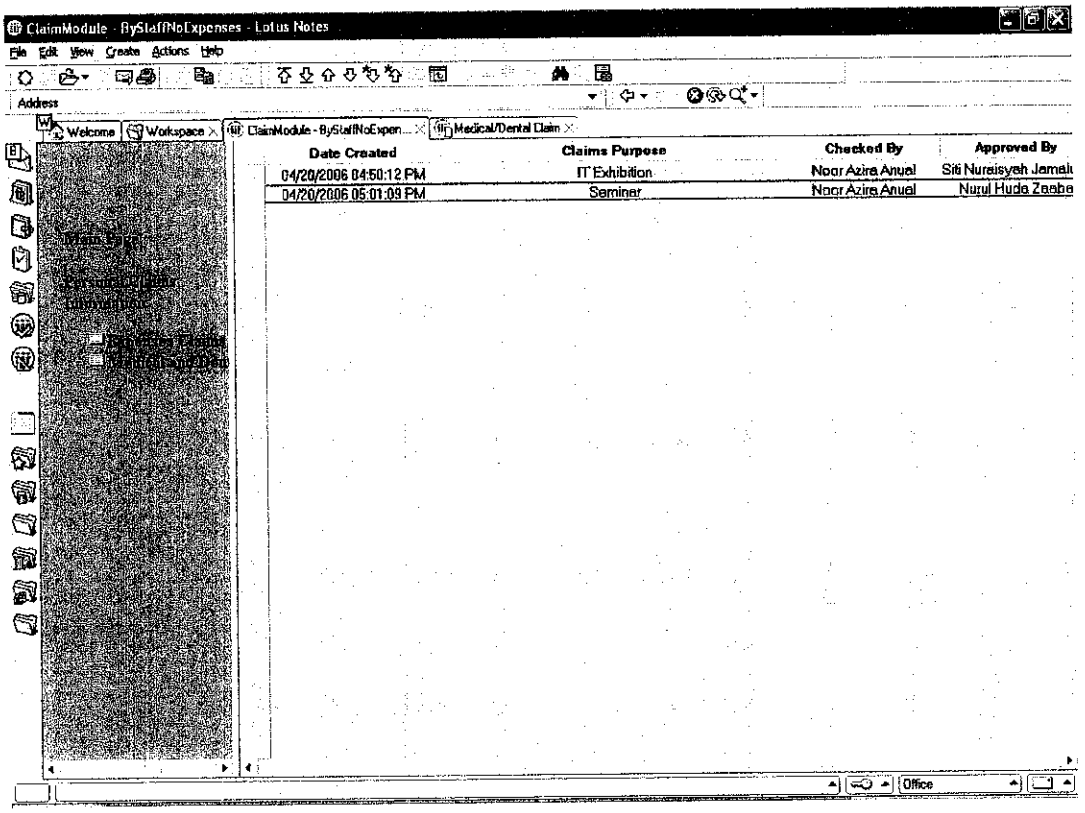
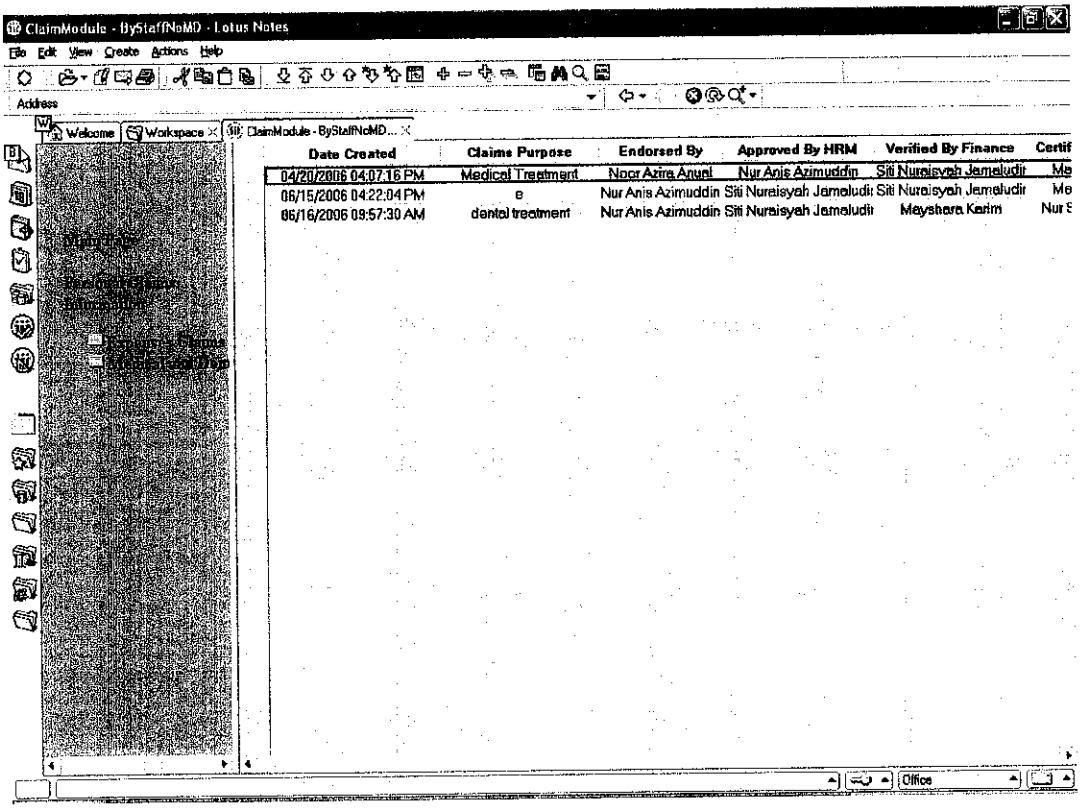
BROWSE
Remove
SUBMIT
CANCEL
Using database on FYP/UTP
Office

Expenses Claim Personal Record View



Medical / Dental Claim Personal Record View

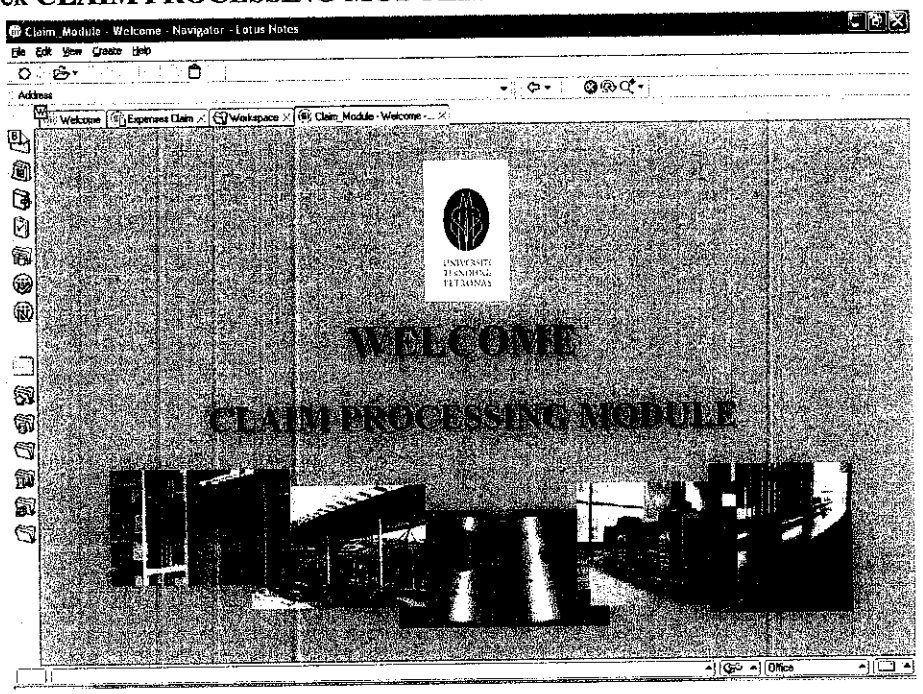
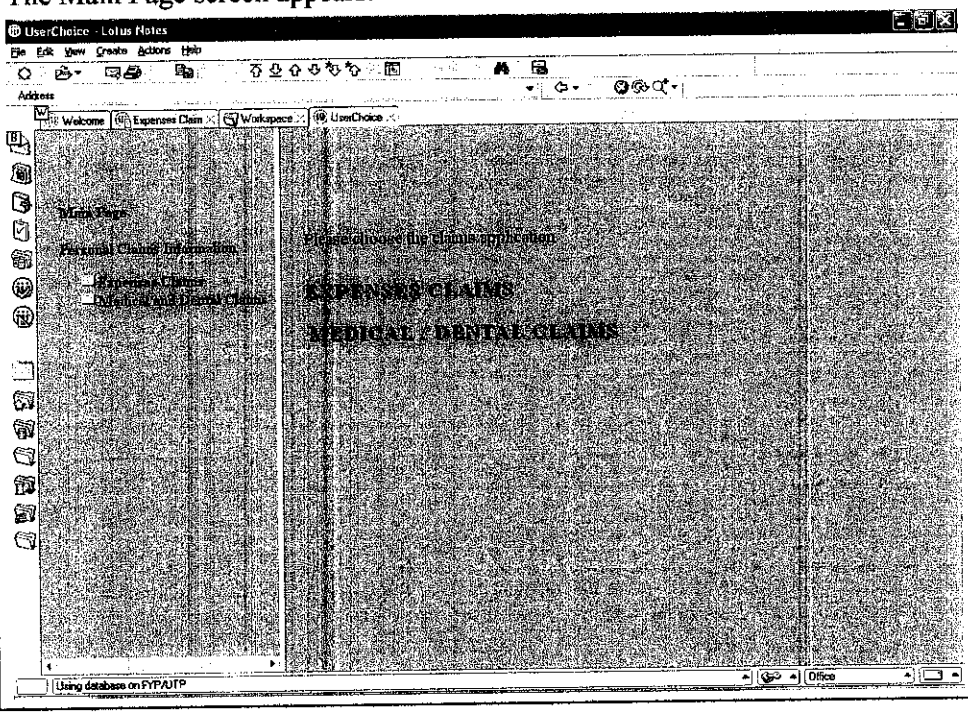


APPENDIX E:

User Manual

User Manual

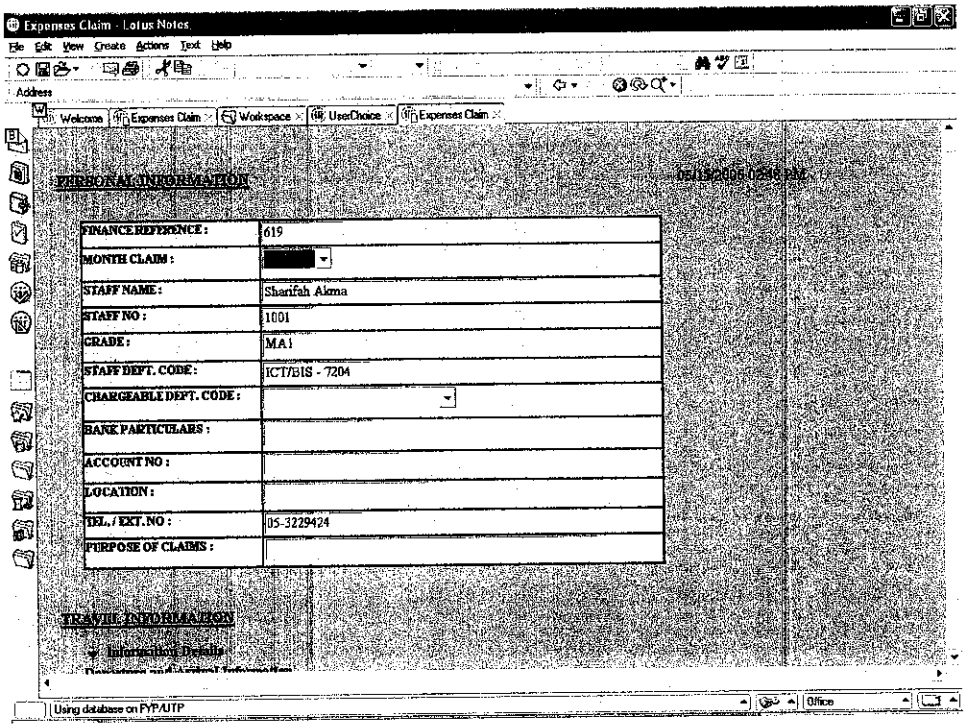
Welcome Page

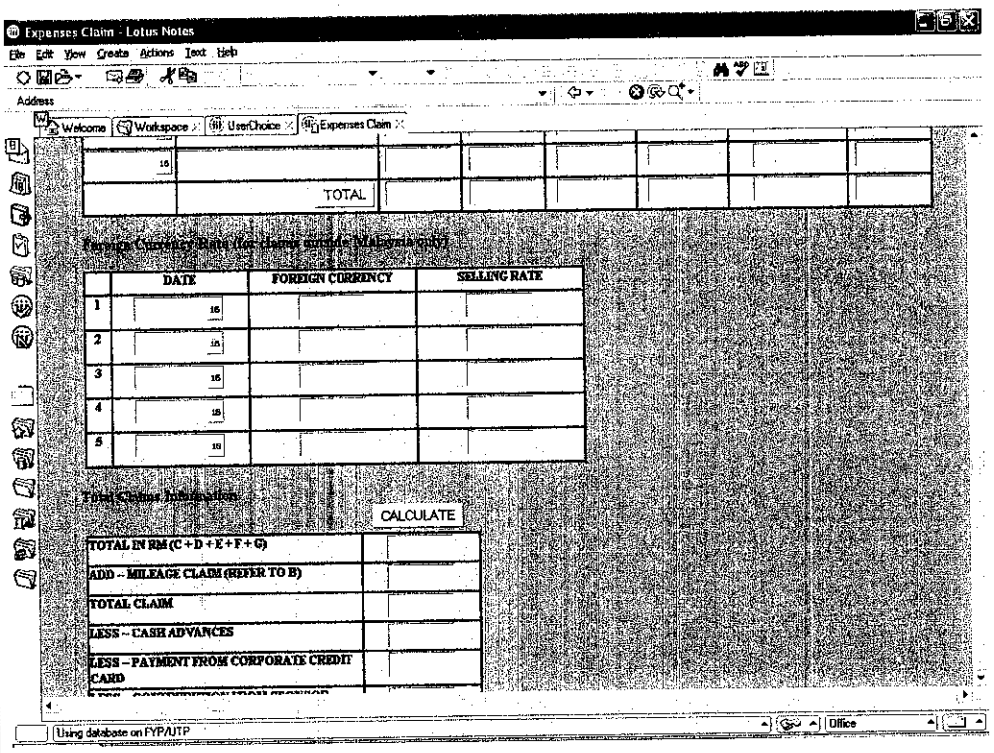
Step	Action
1	Click **CLAIM PROCESSING MODULE.**  The Main Page screen appears. 

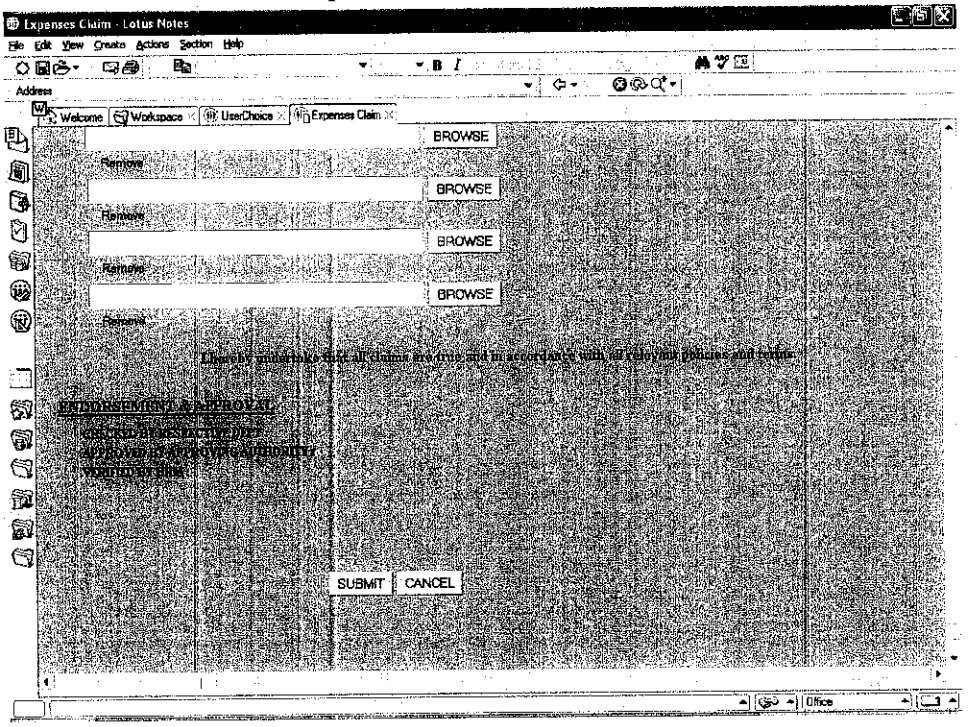
Step	Action
2	From the options on the right frame, select one of the following: **EXPENSES CLAIMS** **MEDICAL / DENTAL CLAIMS** To make Expenses Claim, click **EXPENSES CLAIMS.** To make Medical / Dental Claim, click **MEDICAL / DENTAL CLAIMS.**
3	From the options on the left frame, select one of the following: **Expenses Claims** **Medical and Dental Claims** To view personal record of Expenses Claim, click **Expenses Claims.** To view personal record of Medical / Dental Claim, click **Medical and Dental Claims.**

Procedure in Expenses Claim (APPLICANT).

Complete these steps to submit the Expenses Claim application.

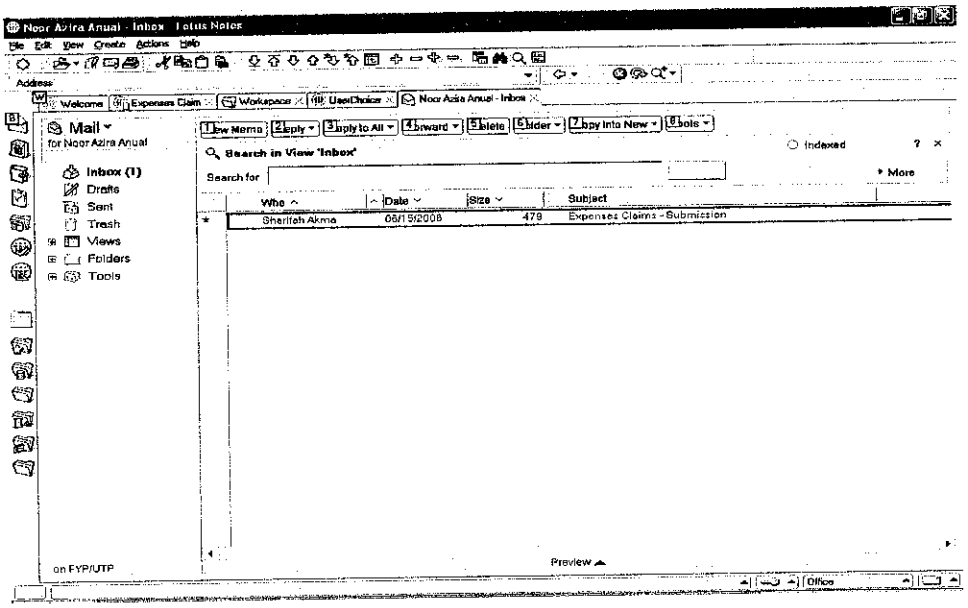
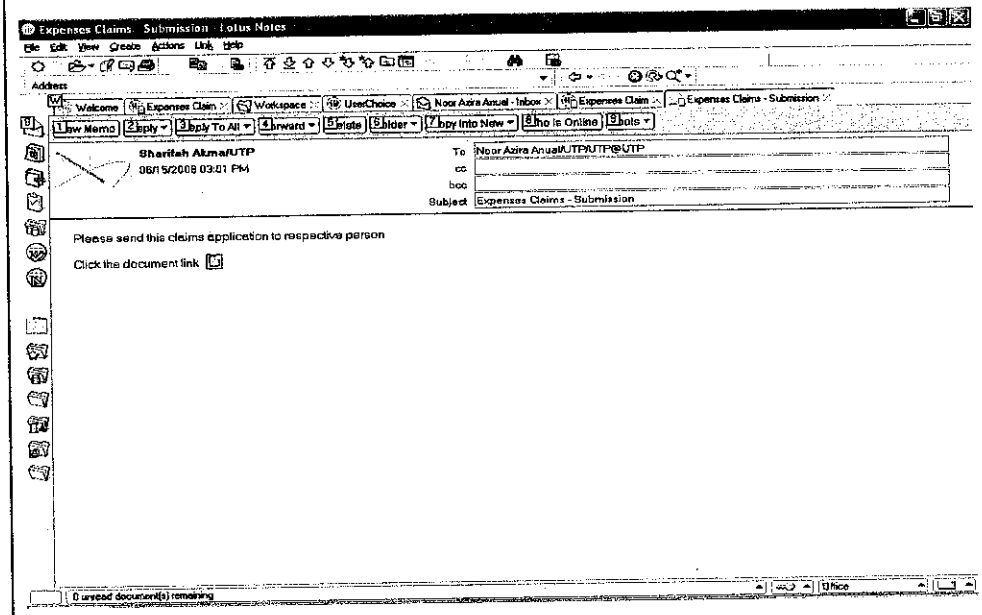
Step	Action
1	Information for the followings are be auto populated: **- FINANCE REFERENCE** **- SATFF NAME** **- STAFF NO** **- GRADE** **- STAFF DEPT CODE** **- TEL. / EXT. NO**  Enter other necessary information needed in the textboxes provided.

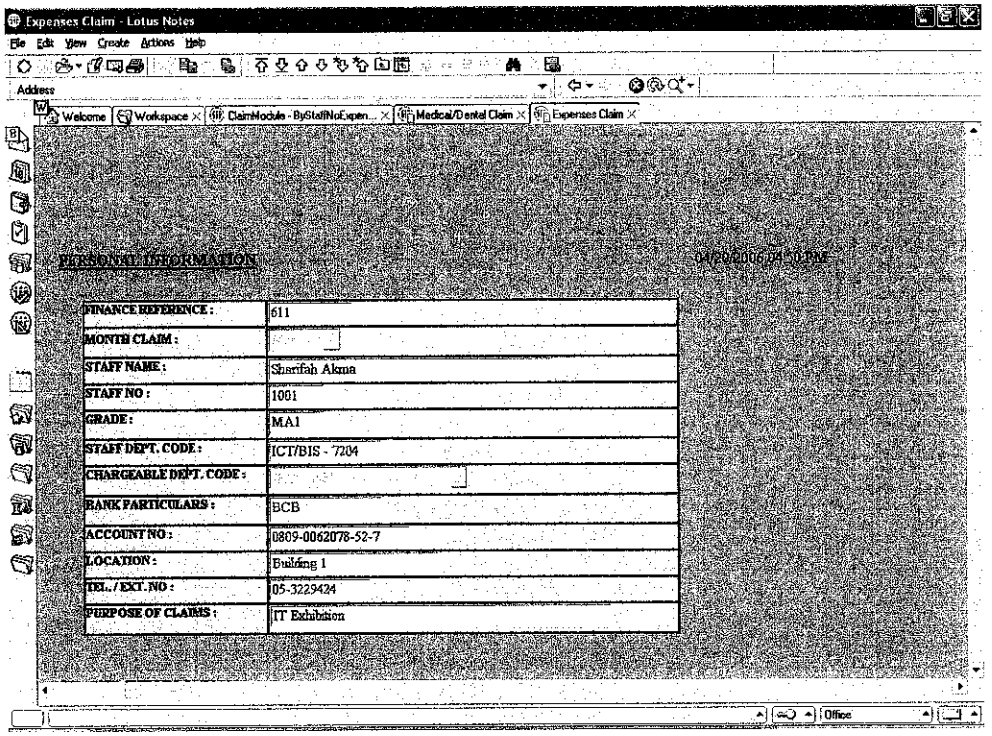
Step	Action
2	- Click on the TOTAL button to calculate expenses for every category of expenses. - Click on the CALCULATE button to calculate total expenses. 

Step	Action
3	- Click on the BROWSE button to obtain the relevant documents to be attached. - Click on the Remove hotspot to remove any documents that has been attached. 
4	Click on the SUBMIT button to send the claim application to respective person.
5	Click on the CANCEL button to return to Main Page.

Procedure in Expenses Claim(ENDORSER, APPROVER)

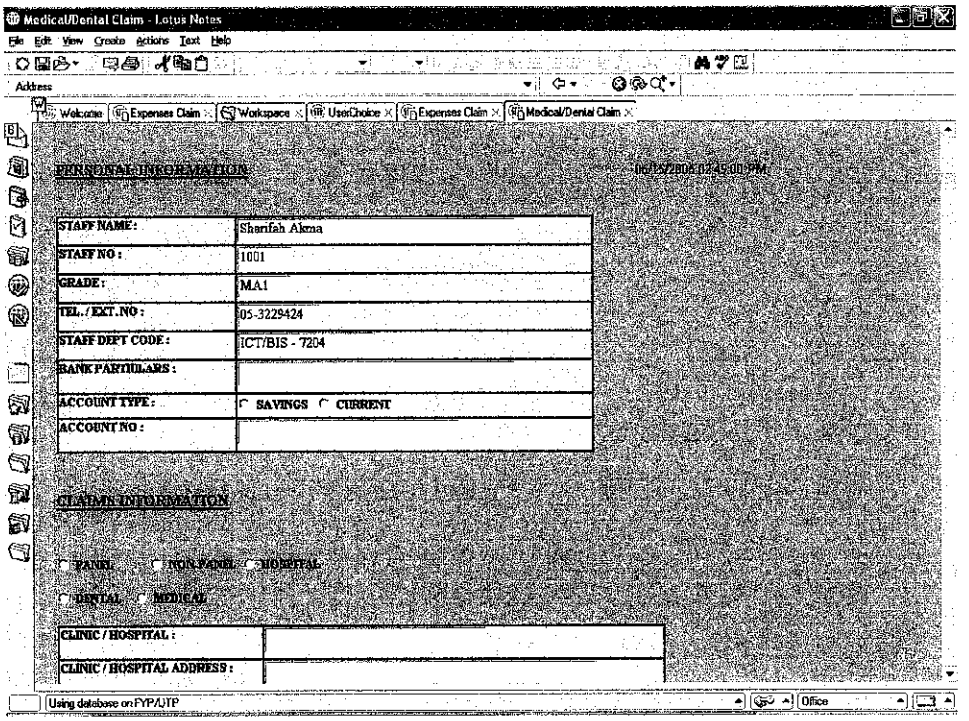
Complete these steps to endorse and approve the Expenses Claim application.

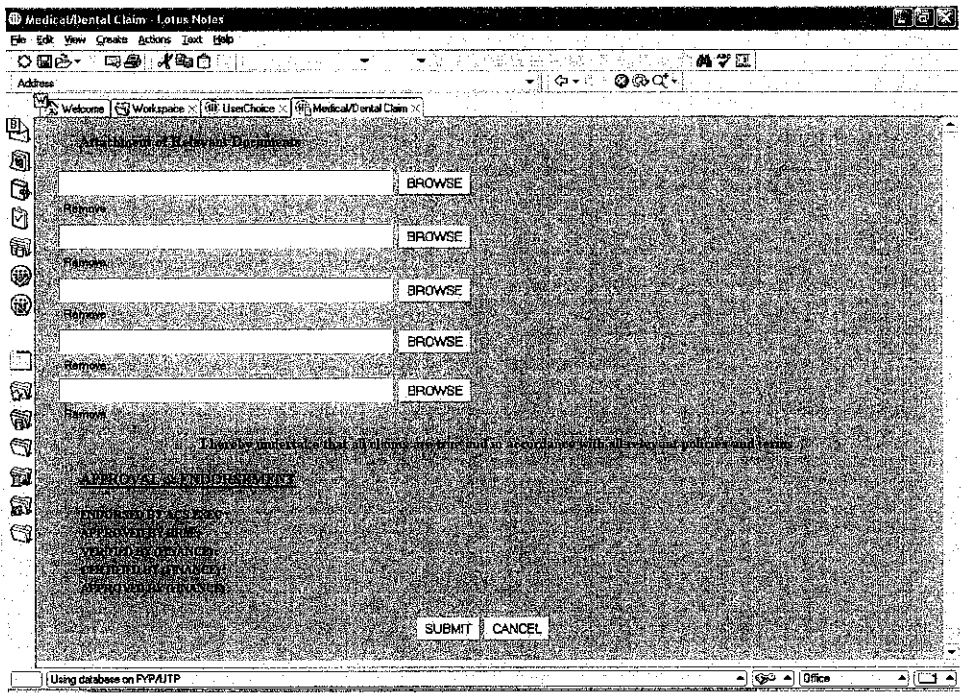
Step	Action
1	Click on the email that has been received. 
2	Click on the form link to view the claim application. 

Step	Action
3	- The Expenses Claim form appears.  - Click on the SEND TO button to send the claim application form to respective person. - Click ENDORSE/ APPROVE/ HRM APPROVAL/ FINANCE APPROVAL buttons to endorse and approve the claim application. - Click REJECT/ NOT APPROVE/ REFUSAL/ FINANCE REFUSAL buttons to reject the claim application.

Procedure in Medical / Dental Claim (APPLICANT).

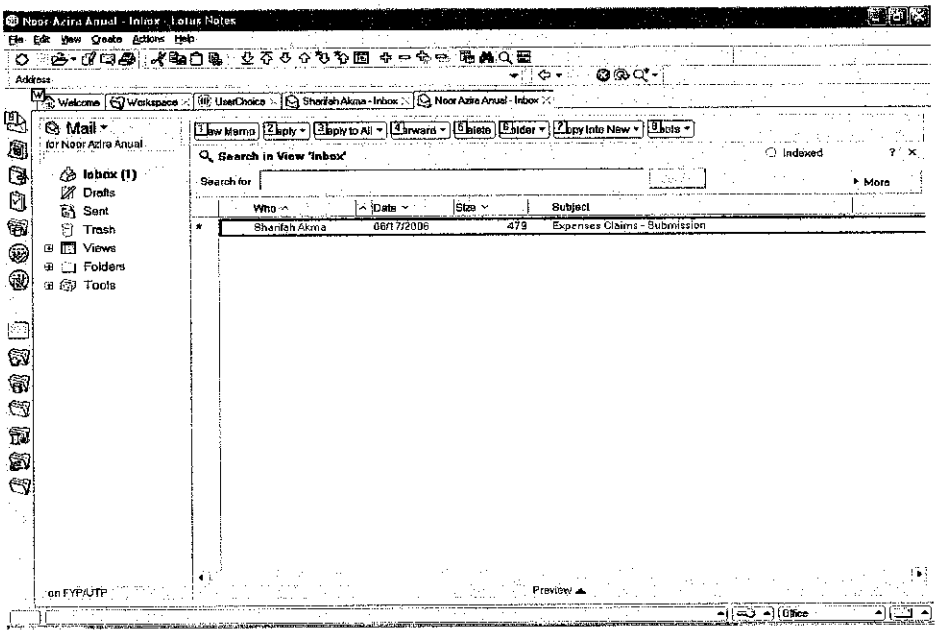
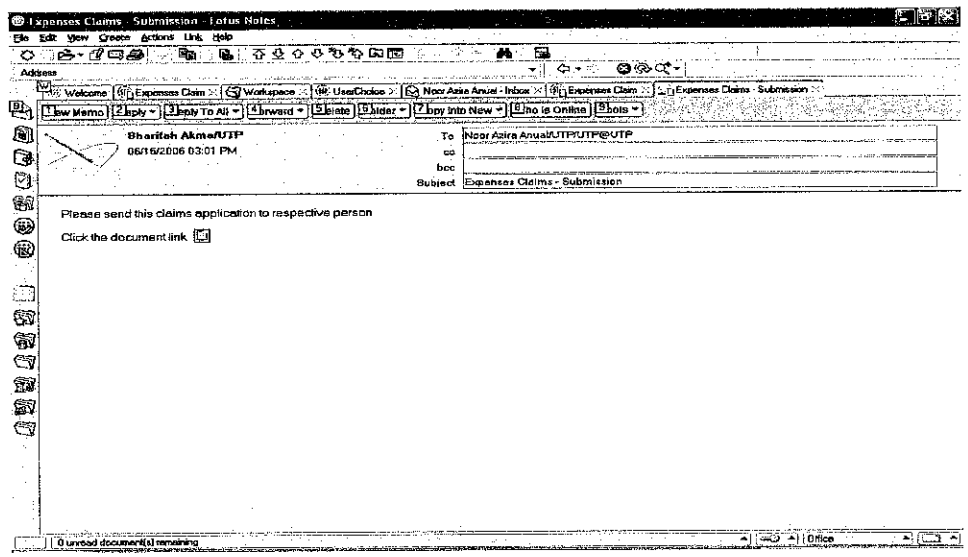
Complete these steps to submit the Medical / Dental Claim application.

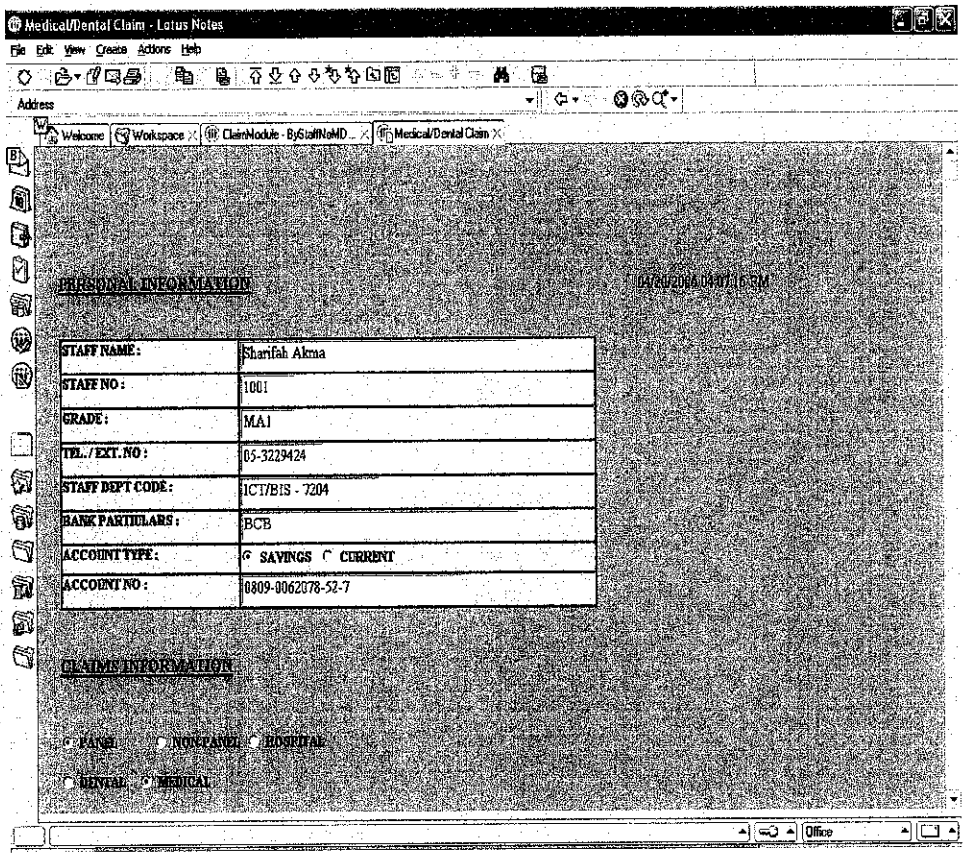
Step	Action
1	Information for the followings are be auto populated: **- SATFF NAME** **- STAFF NO** **- GRADE** **- STAFF DEPT CODE** **- TEL. / EXT. NO**  - Select PANEL / NON-PANEL / HOSPITAL from the options. - Select DENTAL / MEDICAL from type of claim options. - Enter other necessary information needed in the textboxes provided.

Step	Action
3	- Click on the BROWSE button to obtain the relevant documents to be attached. - Click on the Remove hotspot to remove any documents that has been attached. 
4	Click on the SUBMIT button to send the claim application to respective person.
5	Click on the CANCEL button to return to Main Page.

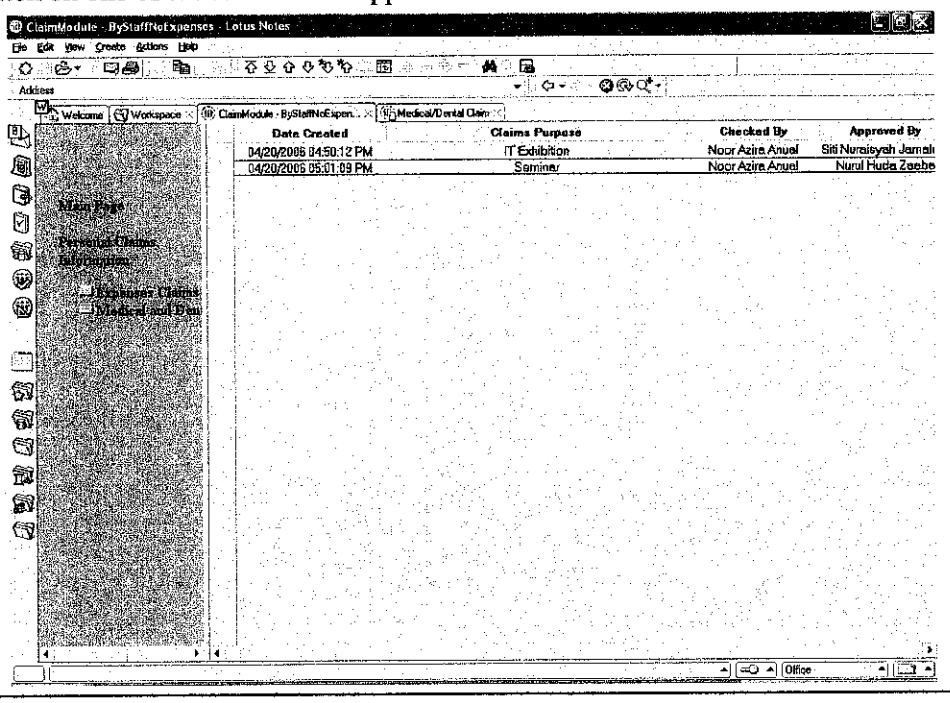
Procedure in Medical / Dental Expenses (ENDORSER, APPROVER)

Complete these steps to endorse and approve the Medical/Dental Claim application.

Step	Action
1	Click on the email that has been received. 
2	Click on the form link to view the claim application. 

Step	Action
3	- The Medical / Dental Claim form appears.  - Click on the SEND TO button to send the claim application form to respective person. - Click ENDORSE/ APPROVE/ VERIFY/ CERTIFY/ FINAL APPROVAL buttons to endorse and approve the claim application. - Click REJECT/ NOT APPROVE/ NOT VERIFY/ NOT CERTIFY/ REFUSAL buttons to reject the claim application.

Expenses Claim and Medical/ Dental Claim Personal Record View

Step	Action
1	Click on one of the records that appear. 
2	The original Expenses Claim form or original Medical / Dental Claim form appears.