

**DESIGNING AND IMPLEMENTING AN INSTANT MESSAGING MANAGEMENT
SYSTEM FOR UNIVERSITY STAFF WITH RESPECT TO KASBAH SYSTEMS
SOFTWARE, COIMBATORE**

By

MS.K.SUBHALAKSHMI

Roll No.: 0701MBA0065

Reg. No.: 68107101917

A PROJECT REPORT

FACULTY OF MANAGEMENT SCIENCES

in partial fulfillment for the award of the degree

of

MASTER OF BUSINESS ADMINISTRATION



**CENTRE FOR DISTANCE EDUCATION
ANNA UNIVERSITY CHENNAI
CHENNAI 600 025**

April, 2009

CERTIFICATE

BONAFIDE CERTIFICATE

Certified that the Project report titled "**Designing and Implementing an Instant Messaging Management System for University Staff with respect to Kasbah Systems Software, Coimbatore**" is the bonafide work of **Ms.K.Subhalakshmi** who carried out the work under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

K. Subhalakshmi
Signature of student

[Handwritten Signature]
Signature of Guide

Name : K.SUBHALAKSHMI
Roll No. : 0701MBA0065
Reg. No. : 68107101917

Name : Dr.S.V.DEVANATHAN
Designation : Professor & Director
Address : KCT Business School,
Coimbatore, 641 006,
Tamilnadu.

[Handwritten Signature]
Signature of Project-in-charge

Name : Dr.S.V.DEVANATHAN
Designation: Professor & Director

**DIRECTOR
KCT BUSINESS SCHOOL
KUMARAGURU COLLEGE OF TECHNOLOGY
COIMBATORE - 641 006**



8 April 2009

To whom it may concern

This is to certify that Ms K SUBHALAKSHMI (0701MBA0065), a final year student of the course, Master of Business Administration(MBA), Centre for Distance Education, Anna University, Chennai has completed her project titled "DESIGNING AND IMPLEMENTING AN INSTANT MESSAGING MANAGEMENT SYSTEM FOR UNIVERSITY STAFF WITH RESPECT TO KASBAH SYSTEMS SOFTWARE". The project duration was from Nov 2008 to April 10th 2009

For Kasbah Systems Software

A handwritten signature in black ink, appearing to read "P. Sivakumar".

P.Sivakumar
Manager – Systems

Managing Director

Dr. S.R.K. Prasad D. Sc. (USA)

Registered Office :

239, Anna Salai, Chennai - 600 006, India
Tel : - 91 44 28523065 Fax : +91 44 28527978

Certificate of Viva-voce-Examination

This is to certify that Ms. **K. Subhalakshmi** (Roll No.: **0701MBA0065**; Register No. **68107101917**) has been subjected to Viva-voce-Examination on **10/05/09** at **11:00** at the Kumaraguru College of Technology, Saravanampatti, Coimbatore-641 006, Tamilnadu.

Internal Examiner

Name : Dr.S.V.DEVANATHAN
 Designation: Professor & Director
 Address : KCT Business School,
 Coimbatore-641 006,
 Tamilnadu.

External Examiner

Name : Dr. K. RAMAMBORTHY
 Designation : PROF & HEAD, DEPT OF MBA
 Address : COIMBATORE INST. OF MANAGEMENT

Coordinator Study centre

Name : Dr.S.SADASIVAM
 Designation : Dean (Academic)
 Address : Kumaraguru College of Technology,
 Coimbatore-641 006,
 Tamilnadu.

**CO-ORDINATOR.
 KCT STUDY CENTRE.
 CDE ANNA UNIVERSITY CHENNAI
 KUMARAGURU COLLEGE OF TECHNOLOGY.
 COIMBATORE 641 006.**

Date : 09/04/2009

ACKNOWLEDGEMENT

Acknowledgement

Apart from the efforts of me, the success of this project depends largely on the encouragement and guidelines of many others. I take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of this project.

I would like to thank Dr.S.SADASIVAM, Dean (Academic), Kumaraguru College of Technology, Coimbatore and Coordinator, KCT Study Centre, Coimbatore and Mr.A.SENTHIL KUMAR, Faculty-Finance, KCT Business School, Kumaragur College of Technology, Coimbatore and Counselor - MBA Programme, KCT Study Centre, Coimbatore for their support and coordination.

I would like to show my greatest appreciation to Prof. S.V.DEVANATHAN, Ph.D. Director, KCT Business School, Kumaraguru College of Technology, Coimbatore, for his tremendous support and help. I feel motivated and encouraged every time I attend his meeting. I would also like to thank Mr.M.NAGESWARA GUPTHA, M.E for his guidance.

I would like to thank Mr.P.SIVA KUMAR, Project Manager, Kasbah Systems Software for giving me an opportunity to do this project. I also thank Mr. S. SARAVANAN, Project Leader, Kasbah Systems Software for giving me guidance and Support.

Without the encouragement and guidance of all the members this project would not have materialized.

The guidance and support received from all the members who contributed to this project, was vital for the success of the project. I am grateful for their constant support and help.

ABSTRACT

Abstract

Instant Messaging has changed the way of how people communicate and exchange information. Enduringly, more and more individuals are getting familiar with Internet and the offered capabilities. Universities are interconnected, making use of Internet, forming internal information networks. Users in a university exchange information with the help of some means of communication inside the University. A very common way of communication is the electronic email. In the market, various applications for communication can be found. Some of them are web based and others are stand-alone applications. In this project instant messaging system is proposed as a communication gateway, for effective communication in the University.

The proposed IMS is able to handle communication in a more effective way and the information stored in The IM-Information Management system helps individual users as well as management to carry on their work easily. While one of the characteristics of instant messaging is the ability to exchange real-time communication, what truly distinguishes instant messaging from other widely adopted forms of mediated communication is the integration of presence technology, which allows the users to detect if others are online and available to communicate. In this project, an Information System based on IM is proposed which is more secured and is of very high usage to all users and management inside the university.

CONTENTS

TABLE OF CONTENTS

CHAPTER 1	1
INTRODUCTION.....	1
1.1 INEFFECTUAL COMMUNICATION IN UNIVERSITY ENVIRONMENT	2
1.2 VARIOUS FUNCTIONS IN A UNIVERSITY.....	2
1.3 BACKGROUND OF IM.....	4
1.4 IM – HISTORY	5
1.4 OBJECTIVE OF THE PROJECT	5
1.5 SCOPE.....	5
1.6 WHAT IS A MESSAGING SYSTEM?.....	6
1.6 WHY IM?	7
CHAPTER 2	8
LITERATURE SURVEY.....	8
2.1 REFERENCES.....	12
CHAPTER 3	13
METHODOLOGY.....	13
3.1 TYPE OF PROJECT	13
3.2 IM – A PHENOMENON	13
3.3 FEATURES CONSIDERED	14
3.4 CONCEPT OF INFORMATION MANAGEMENT IN IM.....	14
3.5 HOW INFORMATION IN AN IM BE MANAGED?	15
3.6 KINDS OF INFORMATION MANAGED	16
3.7 SECURITY LEVELS IN IMS	16
3.8 INFORMATION HANDLING IN IM MANAGEMENT SYSTEM	16
3.9 BASIC REQUIREMENTS AND ANALYSIS.....	18

CHAPTER 4	25
FEATURE AND FUNCTIONALITY ANALYSIS OF IMS	25
4.1 FEATURES OF IMS.....	25
4.2 ROLE OF IM MANAGEMENT SYSTEM IN A UNIVERSITY	26
CHAPTER 5	30
CONCLUSION	30
5.1 ADVANTAGES TO MANAGEMENT	30
5.2 ADVANTAGES TO ADMINISTRATORS	30
5.3 ADVANTAGES TO USERS	31
5.4 FUTURE RESEARCH	31
5.5 CONCLUSION	32
REFERENCES	33
WEBSITES	35

LIST OF FIGURES

1.1 MESSAGE SYSTEM IN UNIVERSITY	6
3.1 MESSAGING BETWEEN TWO PERSONS IN ONLINE.....	14
3.2 MESSAGE QUEUING.....	19
3.3 ARCHITECTURE	20
3.4 DATABASE INFORMATION	21
3.5 DB – OVER VIEW (SAMPLE).....	22
3.6 USER CREATION	23
3.7 PASSWORD CHANGE.....	23
3.8 INSTANT MESSAGE SCREEN	24
3.9 LOGGING INFORMATION SCREEN	24
4.1 CONTACT LIST.....	28

INTRODUCTION

CHAPTER 1

INTRODUCTION

Good communication is an essential ingredient to any successful relationship. Effective communication conveys our messages to other people clearly and unambiguously. It's also about receiving information that others are sending to us, with as little distortion as possible. In any Organization, way of communication is very important. Communication can occur via various processes and methods and depending on the channel used and the style of communication there can be various types of communication.

Types of Communication Based on Communication Channels are Verbal Communication and Nonverbal Communication. Verbal communication is further divided into written and oral communication. The oral communication refers to the spoken words in the communication process. Written communication can be either via snail mail, or email. Non-verbal communication includes the overall body language of the person.

Types of Communication Based on Style and Purpose are Formal Communication and Informal Communication. Formal communication includes all the instances where communication has to occur in a set formal format. Informal communication requires two people to have a similar wavelength and hence occurs between friends and family. Informal conversations include friendly chats with our loved ones can simply go on and on.

A university is an institution of higher education and research, which grants academic degrees in a variety of subjects. Over the past decades the role of universities has changed in the most fundamental ways. Growing awareness in knowledge-societies or, better, knowledge economies, universities would become key-actors in knowledge-production, in the preservation of knowledge as well as in the education of the generations of knowledge-workers. Thus innovation and economic competitiveness are seen as being linked to the universities' capacity to react quickly and efficiently to the demands placed on them by society. Every University has its own deliberate Management and Strategic Planning for strengthening the integrative functions of the University which is the basic need resulting from higher quality integration of the University educational system.

In a University there will be many departments to carry on and monitor the functions like Admissions, Student Affairs, accounts, etc. The functionalities of these departments will be interlinked and there is a need of better communication between the staff of these departments.

1.1 Ineffectual Communication in University Environment

As University involves a very huge campus there will be delay in communication and also information that are passed through some means of communication may not be effective.

So there should be a proper system to develop an effective internal communications approach and to effectively carry on the internal communications within the university which covers an extensive range of internal departments including administration, finance, marketing, Human Resource and academic, on the most effective methods of achieving their communications goals.

This Project suggests the usage of an Instant Messaging management System in a University environment for better communication, which also helps the University Management in a better way.

1.2 Various Functions in a University

There are many functions performed by the university and university departmental activities. Some of them are the following

1.2.1 Administration

The Administration department involves in many activities aiming at the day-to-day management of university and departmental offices. Activities aiming at the promotion of the university, its mission, departments and programs; includes alumni relations and fund-raising.

1.2.2 Committees

There will be various committees performing activities relating to the deliberations and work of university, faculty and departmental committees.

1.2.3 Communications

Communication department indulge itself in activities aiming at the collection, analysis and dissemination of information about the university, its departments and activities; includes

statistical analysis, public and media relations, publications, presentations, workshops and conferences.

1.2.4 Facilities

Activities aiming at the management of university and departmental facilities and properties; includes space planning, construction and maintenance, rents and leases, and emergency preparedness. It also involves in activities aiming at the management of university and department equipment and supply resources; includes provision, service, and maintenance.

1.2.5 Finances

Activities aiming at the management of university and departmental financial resources; includes budget planning, investment, income and expenditure, and audits.

1.2.6 Governance

Includes activities aiming at the self-governance of the university and its departments as organizations; includes establishing departments and programs, policy development, audit, dispute adjudication and investigation.

1.2.7 Human Resources

Involves in activities aiming at the management of university faculty, staff and contractors; includes hiring, supervising, managing employee job classifications, labour relations, occupational health and safety, professional development and management of pensions and benefits.

1.2.8 Liaison and Cooperation

Involves in activities aiming at work with other individuals, departments, universities, associations and external organizations to promote common goals and objectives; includes correspondence, projects, and events.

1.2.9 Records and Information Management

Involves in activities aiming at the management of the university's information resources; includes management of information technology, records management, access and privacy administration, and provision of archival services.

1.2.10 Research

Involves in activities aiming at furthering the growth of knowledge in its various branches; includes undertaking research and administering research resources.

1.2.11 Student Services and Records

Involves in activities aiming at the provision of support services to students and at the documentation of students' academic progress. Includes student financial assistance, advising, housing, recreational services; and recording of student grades, accomplishments, disciplinary matters, and other academic-relating activities.

1.2.12 Teaching and Academic Programs

Involves in activities aiming at the provision of instruction in the various branches of knowledge; includes curriculum planning and development and teaching.

1.3 Background of IM

Instant messaging (sometimes called IM or IMing) is the ability to easily see whether a chosen user or co-worker is connected to the Internet and, if they are, to exchange messages with them. Instant messaging differs from ordinary e-mail in the immediacy of the message exchange and also makes a continued exchange simpler than sending e-mail back and forth. Most exchanges are text-only. However, some services allow attachments.

In order for IMing to work, both users must be online at the same time, and the intended recipient must be willing to accept instant messages. If the online software is set to accept IMs, it alerts the recipient with a distinctive sound, a window that indicates that an IM has arrived and allowing the recipient to accept or reject it, or a window containing the incoming message.

The origins of this technology traces back to the use of bulletin boards and online services. Bulletin boards systems (BBS) were extremely popular from the early 1980s to the mid 1990s because they permitted users to dial into the system and execute actions such as uploading and downloading data and exchanging messages with other users. Despite the fact that instant messaging did not flourish until the late 1990s, earlier messaging systems include the PLATO system in the early 1970s and the UNIX/LINUX “talk” messaging system in the 1980s and 1990s. ICQ – a program released by the company, Mirabilis – established itself as

the first general instant messenger in November 1996, and became known for merging the presence of on line contacts and the exchange of messages.

1.4 IM – History

In the early 1990s, people began to spend more and more time on the Internet. Creative software developers designed chat-room software and set up chat rooms on Web servers. In a chat room, a group of people can type in messages that are seen by everyone in the "room." Instant messages are basically a chat room for just two people.

Instant messaging really exploded on the Internet scene in November 1996. That's when Mirabilis introduced ICQ, a free instant-messaging utility that anyone could use. ICQ, shorthand for "I seek you," uses a software application, called a client that resides on our computer. The client communicates with an ICQ server whenever we are online and the client is running.

In 1997, AOL, considered the pioneer of the online community, gave its users the ability to talk in real time with each other through chat rooms and instant messages. In June 1998, AOL acquired Mirabilis and ICQ.

1.4 Objective of the Project

This project focuses on improving the communication better in a University Environment using an Instant messaging Management System.

1.5 Scope

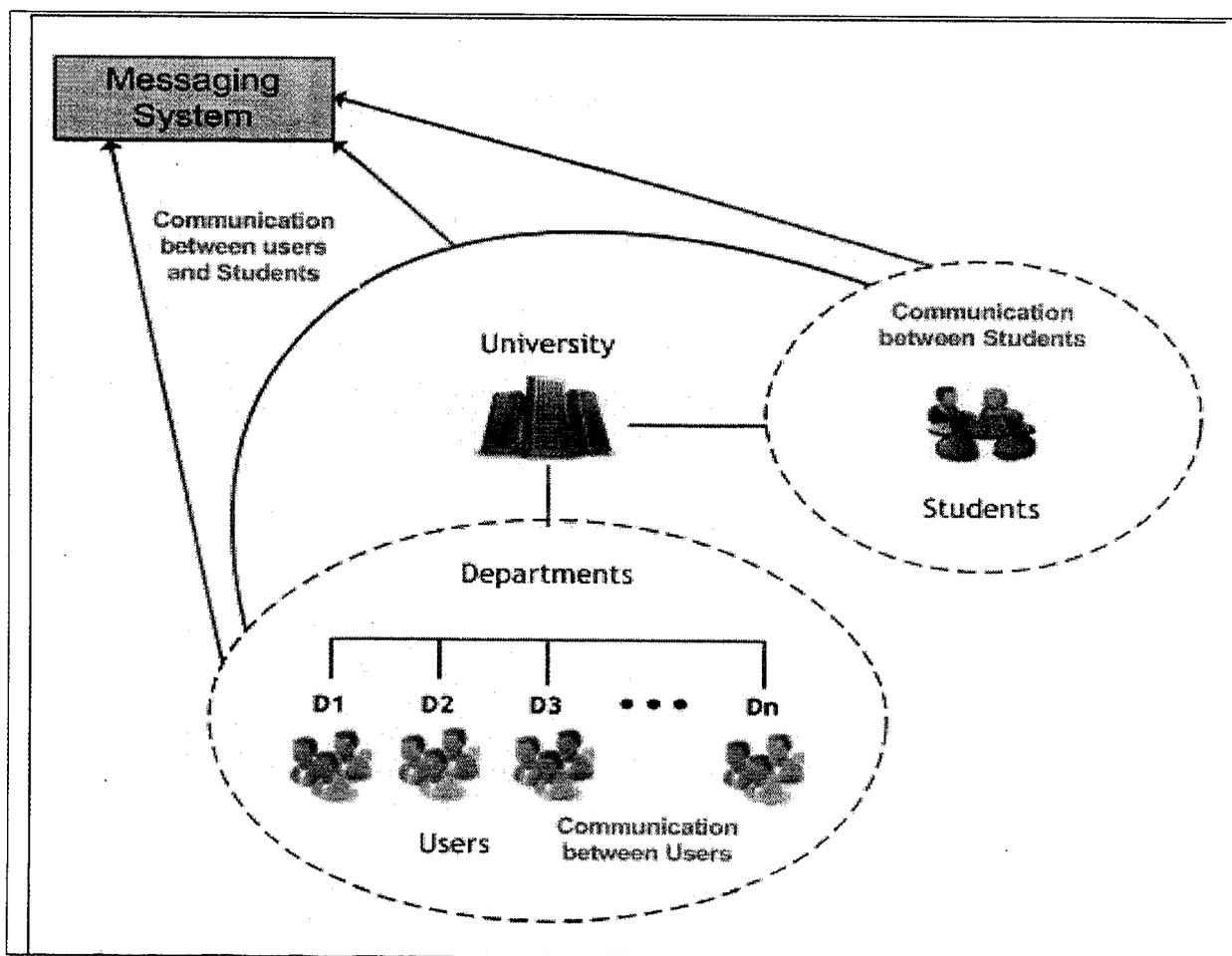
The Scope of the Project is to enables users to create a kind of private chat rooms with another individual in order to communicate in real time, analogous to a telephone conversation but using text-based communication with IM as a type of communication service. Typically, the instant messaging system alerts users whenever somebody on the list of contact is online and a session can be initiated with that particular user. It also aims at transfer of files in between users and storage of personal and contact list. Information stored can be retrieved in report format if necessary.

1.6 What is a Messaging System?

In an University, messages can be sent through

- E-mail
- Alerts
- SMS
- Instant Messaging

1.1 MESSAGE SYSTEM IN UNIVERSITY



E-Mail is a well-known form of communication. Alerts and SMS are other two forms in which for alerts users will be informed through system itself and SMS alerts needs a third party service providers to work with.

Instant messaging or IM is a form of real-time communication between two or more people based on typed text. The text is conveyed via computers connected over a network such as the Internet.

This project mainly focuses on Instant messaging.

1.6 Why IM?

While instant messaging can be a personal means of communicating, more and more businesses are harnessing the power of IM in their commerce activities.

Typically, the instant messaging system alerts whenever somebody on our private list is online. Then a chat session can be initiated with that particular individual. Instant messaging is a bit more private than a typical chat room, and it is a much faster and simpler way to communicate than using email. Since instant messaging allows users to communicate in real time, users can respond quickly to questions or comments.

Sometimes even e-mail isn't fast enough. We might not know if a person we want to e-mail is online at that moment. Also, if we are e-mailing back and forth with someone, we usually have to click through a few steps. This is why instant messaging (IM) has become so popular.

LITERATURE REVIEW

CHAPTER 2

LITERATURE SURVEY

Quan-Haase, A., Cothrel, J. and Wellman¹ explains the uses of instant messaging (IM) in a high-tech firm to illustrate how knowledge workers use this new work tool to collaborate with co-workers. The objectives are 1) to identify the collaborative practices of individuals in mediated work environments by looking at uses of IM; 2) to discern what social processes are reflected in employees' use of IM; and 3) to investigate how three factors proposed by Erickson and Kellogg (2000) to support social processes—visibility, awareness and accountability—are used in an IM system. Questionnaire and interview data show that while IM leads to higher connectivity and new forms of collaboration, it also creates distance: employees use the mediated environment as a shield, distancing themselves from superiors. We use Erickson & Kellogg's 'social translucence of technology' framework to discuss the social consequences of working in a computer-mediated work environment.

David Strom² describes that Instant Messaging (IM) has come of age and is close to becoming one of those protocols that offers something for everyone. Once the province of chatty teens looking to replace phone conversations with electronic ones, IM is now a corporate mainstay and part of a new breed of applications that are built around "presence detection," the ability to determine when someone—or something—is online and available to communicate.

Christophe Hug-Heuveneers³ describes that IM once viewed as only a casual chatting tool for students and home users, is now quickly making its case as a popular business communication tool. An International Data Center (IDC) study predicts that the number of corporate users of IM software will reach 350 million in 2005.¹ More and more corporate users are installing free IM software on their desktops to chat with their friends and colleagues, often without the knowledge (let alone the authorization) of the organization's IT or security departments. While IM is considered by some as a powerful business communication means, uncontrolled IM deployment in the enterprise raises a number of security and productivity concerns, which are presented in this article.

Leslie Walker⁴ states that Instant messaging software, for those few remaining uninitiated folks, allows people to send text messages over the Internet and have them appear almost instantly to friends and colleagues. Equally important, most IM software allows people to detect when their designated friends or colleagues are online with indicators that flash or play sounds when people sign on or off.

Wilkins⁵ states that IM can also be a tremendous boon to an organization. From enabling collaboration to easing the strain of the overloaded e-mail inbox, IM can significantly increase employee productivity - if it is managed effectively.

Drew Bird⁶ describes that with the exception of e-mail, few applications in computing history have become as popular as quickly as instant messaging (IM). Building on a base of IM use on home computers, IM now represents a revolution in corporate communications. Gartner Group forecasts 70 percent of all enterprises will use IM in 2003, and that by 2005 IM will represent 50 percent of all business-to-client communication.

Robert Mullins⁷ states that in recent weeks, businesses and other large computer users have been advised to go on an instant messaging diet. For liability reasons, they are being advised to monitor IM traffic just as they do e-mail messages. For security reasons, they are advised to ban it from the workplace altogether.

Carola Mamberto⁸ states that Instant messaging is invading and changing the workplace. Employees started to sneak instant messaging into the office in the late 1990s, but now more companies are endorsing it. Faster and more casual than email, instant messaging can foster broader collaboration among employees even as it further blurs the boundaries between work and life.

Instant-messaging programs allow users to organize contacts into "buddy lists" and see who is online and available to chat at any given moment, world-wide. With most IM programs, users can start real-time conversations with one or more contacts, including multiple participants simultaneously. Sending a message opens up small windows on the participants' screens where users can type their chats. Most programs also offer file-sharing, voice and video features.

Jennifer Pittman⁹ states that in March 2002 survey of U.S. companies, Osterman Research in Black Diamond, Wash., found that 40 percent of the 164 corporate respondents either were using, or planned to use, instant messaging.

It also states that Instant messaging however, is far more prevalent than that. According to the report, IM is being used, officially or unofficially, in 84 percent of the organizations surveyed. This percentage is expected to climb to 89 percent in the next 12 months. Mobile instant messaging is one of the industry segments clearly seeing growth

Cho, H.-K., Trier, M., and Kim¹⁰ examines how Instant Messaging (IM) systems help employees of a Korean organization improve their relationships with their coworkers within and across organizational boundaries—within departments, between departments, and outside the organization. It is a briefly review literature about IM in developing working relationships and build our research questions. It provides data analysis results based on a survey and structured interviews. Subsequently, in an exploratory case study of two individuals, it extends the analysis of departmental boundaries by including hierarchical levels, job profiles, and different communication purposes. Quantitative Social Network Analysis and visualization are used to analyze the communication pattern of the two.

Ohio University¹¹ examines that the employers seeking to decrease interruptions may want to have their workers use instant messaging software, a new study suggests. A recent study by researchers at Ohio State University and University of California, Irvine found that workers who used instant messaging on the job reported less interruption than colleagues who did not.

Anabel Quan-Haase¹² reviews the body of research on the use and role of instant messaging (IM) in campus life, and how IM is a key part of university students' communication. IM is a synchronous form of communication, and its speed, availability information, and support for multiple conversations have made it appealing for young people. With university students, in particular, showing a heavy reliance on IM, researchers have shown great interest in how university students use IM and how it is integrated in their social and academic life. While studies are emerging in various disciplines, no attempt has been made to integrate the disparate findings and approaches.

Christina M.Desai¹³ states the use of instant messaging (IM) technology for providing online reference services is increasing by leaps and bounds. This article compares a digital reference service, Morris Messenger, with traditional, face-to-face reference, using quantitative and qualitative data from experience with this service at Morris Library, Southern Illinois University. The article addresses differences arising from the medium itself, differences in the categories of reference questions received, using several different categorization schemes, and differences in factors affecting willingness to return, to determine strengths and weaknesses of this medium. Since many libraries are considering implementing such a service, it also describes what it is like for staff to provide reference service this way and suggests ways of addressing some of the challenges of this new medium.

2.1 References

1. Quan-Haase, A., Cothrel, J., and Wellman, B. (2005), Instant messaging for collaboration: A case study of a high-tech firm. *Journal of Computer-Mediated Communication*, 10(4), article 13.
2. David Strom (2003), How Instant Messaging Is Transforming the Enterprise Network, *The Internet Protocol Journal - Volume 9, Number 2*.
3. Christophe Hug-Heuveneers (2005), Enterprise Instant Messaging: Taking Control, *Information Audit and control association article*.
4. Leslie Walker (2004), Instant Messaging Is Growing Up, Going to Work, *The Washington post*, Page E01
5. Wilkins, Jesse Mayd (2007), RU ready for IM? To take advantage of instant messaging's benefits and overcome its challenges, organizations must implement processes and technologies to manage it effectively, *Information Management Journal*.
6. Drew Bird (2003), Instant Messaging, Part I: Corporate Productivity Tool or Cool Toy?
7. Robert Mullins (2002) Companies warned to keep tabs on instant messages, *Silicon Valley / San Jose Business Journal*
8. CAROLA MAMBERTO (2007), Instant Messaging Invades the Office, *The Wall Street Journal*
9. Jennifer Pittman (2002), Mobile e-mail, instant messaging segments experiencing market growth, *Silicon Valley / San Jose Business Journal*
10. Cho, H.-K., Trier, M., and Kim, E. (2005), The use of instant messaging in working relationship development: A case study. *Journal of Computer-Mediated Communication*, 10(4), article 17.
11. Ohio State University (2008,), Instant Messaging Proves Useful In Reducing Workplace Interruption. *Science Daily*. Retrieved April 6, 2009, from <http://www.sciencedaily.com/releases/2008/06/080603120251.htm>
12. Anabel Quan-Haase (2008), Instant Messaging on Campus: Use and Integration in University Students' Everyday Communication Source, *The Information Society archive Volume 24 , Issue 2 Taylor & Francis, Inc. Bristol, PA, USA*.
13. Instant messaging reference: how does it compare? *The Electronic Library*, MCB UP Ltd (Christina M. Desai 2003)

METHODOLOGY

CHAPTER 3

METHODOLOGY

3.1 Type of Project

This is a technical related project, which includes technology in a creative way to manage the functions in a university. The entirely concept of this project is to use an Instant management system within the university campus to share information as well as data enabling users to be manage their functions effectively. Creativity can be defined in the sense of introducing an existing technology in an environment as that of university.

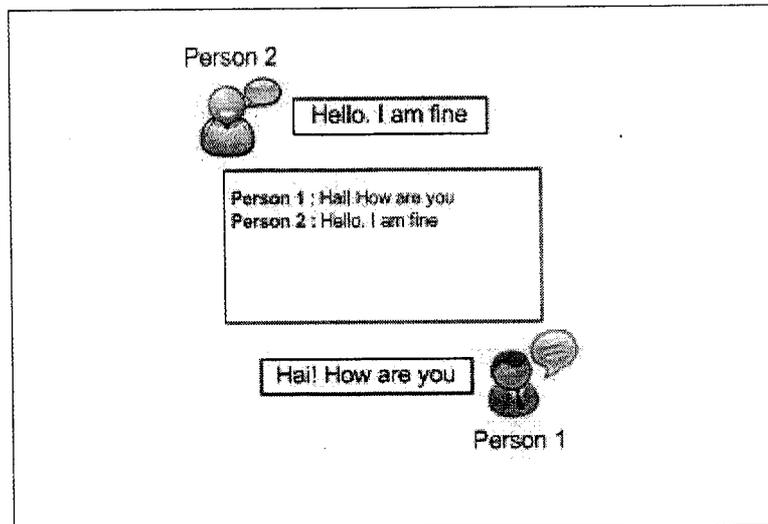
3.2 IM – A Phenomenon

Messaging software is software programs that allow for two written and oral communications between two parties using the power of the Internet. The tool allows users to connect with other parties who also use messaging software, so that they may communicate in real time situations by sending messages that resemble emails back and forth. In addition, some messaging software also makes it possible to establish a two-way voice communication with another party.

Messaging software allows for the online phenomenon that is known as instant messaging. a user loads the messaging software on his or her hard drive. After installation is complete, the user has access to the range of features provided by the messaging software program. These often include the ability to create multiple friends or buddy lists, send and receive instant messages from other parties using the same messaging platform, and in some cases make use of an audio feature to communicate with loved ones around the world.

Because of its unique setup, instant messaging allows users to control how and when they communicate with coworkers. The technology gives people the ability to flag their availability or postpone responses to a more convenient time, and because it is socially acceptable to ignore or dismiss a message, many use the technology to put off more disruptive conversations.

3.1 MESSAGING BETWEEN TWO PERSONS IN ONLINE



3.3 Features Considered

- Instant messaging with LAN chat ability
- Secure LAN messaging - Save privacy
- Offline messaging
- File transmission
- User grouping
- Users rights limitation management
- Message logging
- Very easy installation
- Export messaging details

3.4 Concept of Information Management in IM

Information Management System (IMS) based on IM is a stand-alone module that enables administrators to control IM traffic based on an approved list of contacts. It gives administrators the option to decide if a user or group of users will be allowed to participate in IM sessions with users outside of their network. These controls can be adjusted to meet certain time periods so that IM usage can be confined to specific hours. This highly flexible module archives all IM content and provides basic reporting so that administrators can maintain a log of Instant Messaging tasks and its all activities. Information Management

System provides user-level monitoring and IM access policies in a client-server, server-centric and peer-to-peer computing environment. It accommodates users who are concerned about the continuity of their IM usage policies extending beyond the University's internal network.

In IM information related to user activities and login details can be collected and managed in an effective and efficient way. Here Information Management means the organization and control over the structure, processing and delivery of information.

Information management in IM entails organizing, retrieving, acquiring and maintaining information.

A decision maker in a University is expected to make decision which has a positive effect on its future. Information Management systems should support their activities. Databases and web-based resources, accessed through effective communications, make information rapidly available. To project the future the decision maker either has to use intuition or employ other tools, and initialize them with information obtained from an information system to such tools. An effective information system should also support tracing information on the activities done in the communication system. Thus a system must also support the comparative assessment of the effects of alternate decisions. So it is recommend the use of an SQL-like interface language, to access IM tool to assess the future. Making results of simulations as accessible as other resources of integrated information systems has the potential of greatly augmenting their effectiveness and really supports decision-making.

Information Management System based on IM provides network administrators with an efficient means to manage staff IM usage. IM usage permissions can be set at the group and user level to restrict IM activity based on specific protocols, time controls, keyword triggers and trusted contacts.

3.5 How information in an IM be managed?

In IM-IMS information can be personalized or other information can also be stored. Once the user logs in the actions done by him/her like sending messages, files, etc will be stored. Actions can be tracked by the system. User will have individual Ids and based on that ID all the information related to his activities will be stored. Details Stored in the System can be generated as reports for the Management Reporting purposes.

As there will be large amount in the data that reduces the performance of the system, a period can be set after which the files that are stored in dates greater than the allowed period will be deleted from the System with a feature to delete those data.

3.6 Kinds of information managed

The database used for the IM System will be the Relational Database.

Information can be stored in different formats like Text and others in the database.

Information can be stored in

- Format (text, HTML, XML)
- Data in Database
- Files
- Files and database

Check In/Check Out information of User accounts will be stored and tracked.

3.7 Security levels in IMS

Authorization can be given in two different levels for Users. They are the following

- Access for a group of User like Admin, Guest, etc.
- Access to certain activities for Users

As Login/ Logout information are captured, it will be easy to trace the users.

Audit Trials can be given where all the activities done by the users will be captured with date and time.

3.8 Information handling in IM management system

IM – Information Manager can act as an information organizer. It has specially designed features that are the following

- Organize
- Automate
- Associate
- Enhance

3.8.1 Organize

In the application user can organize their information by the creation of many folders. For example if an User in Finance department will have two contacts, one in Marketing and one in Admissions means the Finance user can have two separate folders for both his/her contact. File or the information from corresponding contacts will be stored in their respective folders.

Also in the Database data will be segmented based on the Organization and Categorization of the user in the application correspondingly.

3.8.2 Automate

Automation includes organization of information with rules. Rules will help to automate many kinds of tasks. For example, incoming messages can be filed into specified Folders/ categories, and/or marked with a Flag.

It also consists of Notification of alerts. Alerts can be given for new messages received or for any new emails. They can be of highlights in different colour or by different sounds.

Views can be created to categorize the information based on durations like as last week, last month, etc.

3.8.3 Associate

IM – Information manager has a number of features that enable you to quickly set up meaningful relationships and associations between different user information.

3.8.4 Enhance

Appearance of the IM application can be enhanced by changing the fonts, colours, pre-defined symbols and User defined signs.

3.9 Basic Requirements and Analysis

The design of Instant Messaging Management System include following steps.

- Requirement Study
- Database Analysis and design
- Screen Design

3.9.1 Requirement Study

Source: Requirement document from the company

Requirements study was done in following aspects

- Functionality requirements
- Design requirements
- Architecture requirements

Studied the functionality of different departments in the university and their operations. Studied in which cases the messaging system can be introduced. Analyzed the data need to be maintained and how the system should be designed. Analyzed the architecture and the networks for the implementation of the system.

3.9.2 Database Analysis

Database for the storage of information from IM and the structure of Database for supporting organization of data into different segments were analyzed.

3.9.3 Architecture of IM

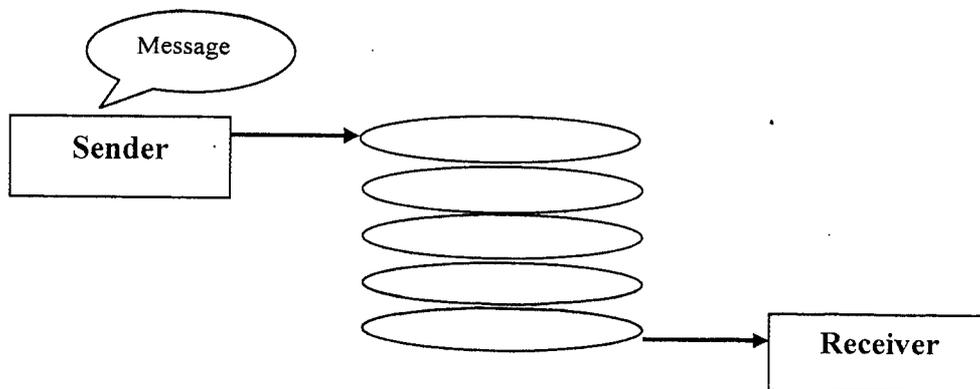
The concept of messaging Queuing can to be used.

Message Queuing:

Message Queuing (MSMQ) technology enables applications running at different times to communicate across heterogeneous networks and systems that may be temporarily offline. Message queuing concept used in the system provides guaranteed message delivery, efficient routing, security, and priority-based messaging. It can be used to implement solutions for both asynchronous and synchronous messaging scenarios.

A queue is a temporary storage location from which messages can be sent when conditions permit. This enables communication across heterogeneous networks and between computers, which may not always be connected. It is responsible for reliably delivering messages between applications inside and outside the enterprise. Message queuing ensures reliable delivery by placing messages that fail to reach their intended destination in a queue and then resending them once the destination is reachable. It also supports security and priority based messaging. Dead letter queues can be created for looking at messages, which timed out or failed for other reasons. Message queuing also supports transactions.

3.2 MESSAGE QUEUING



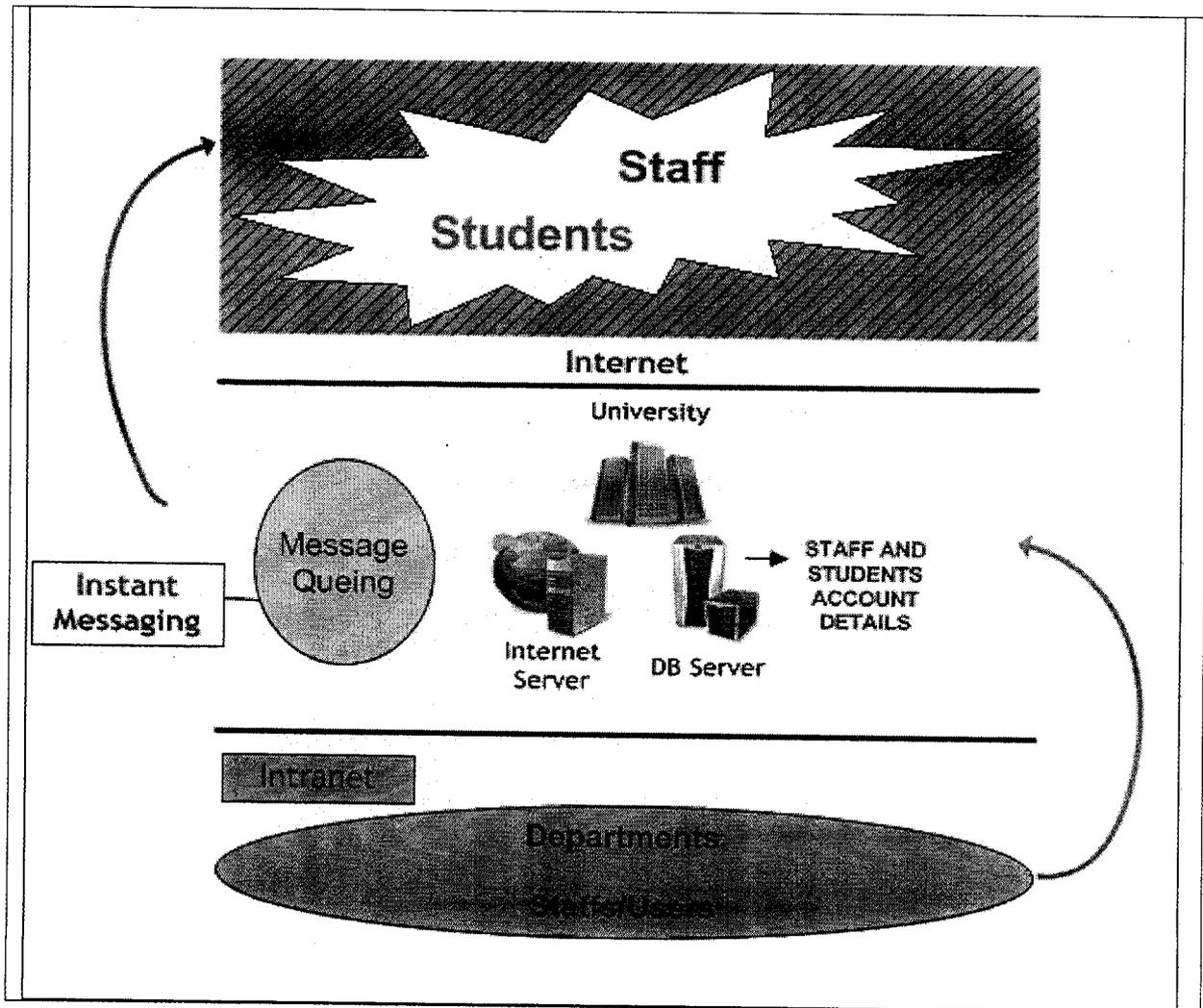
Every staff and student should have their own user accounts with privileges to access those accounts. Different user groups should be created like Admin, staff, guest and admin should have the privilege to set rights for other users. Separate password will be given to each user to access the account. For students they should have online accounts for communication. User Id and Password will be stored in the database and whenever the user tries to login into his/her account the password will be checked. Only if it matches then the user will be allowed to enter into the IM System or he/she will be denied.

It includes servers and client systems and also includes a separate DB server. The architecture consists of an Internet server for messaging system. The users and contacts list will be stored in the Database, which will be in the database server. There will be a centralized database containing all the information of the University, departments both academic and management ones.

In a University there will be N number of users. For the communication between staff of different departments Intranet can be used. From the front end user details and login details will be captured. It will be stored in the database server. For accessing IM different server will be used. Based on the communication between staff within same branch or in between branches Intranet or Internet will be used in the university.

The architecture of IM system is shown.

3.3 ARCHITECTURE



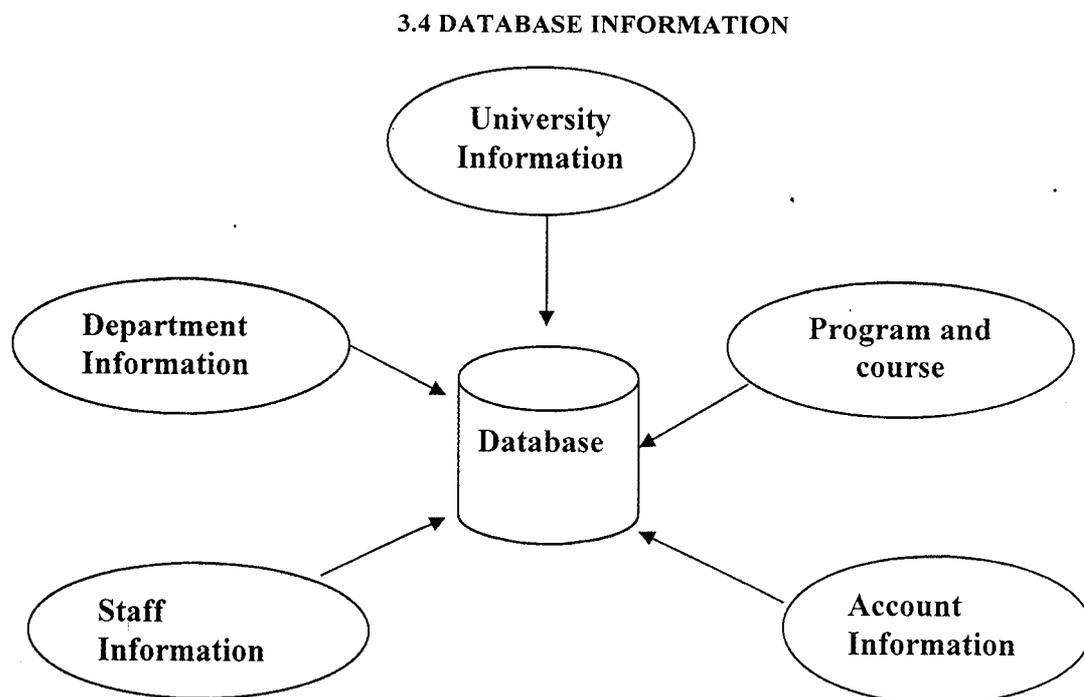
User as well as the staff information of departments will be maintained with their designation and privileges of each user to access the application will be maintained separately. In the following lets discuss about the database details.

3.9.4 Database design

Database should include following details.

- University Information
- Department information (Non-academic and Academic)
- Staff information based on departments (Non-academic and Academic)
- Program and course information

Database used will be SQL Server 2005.



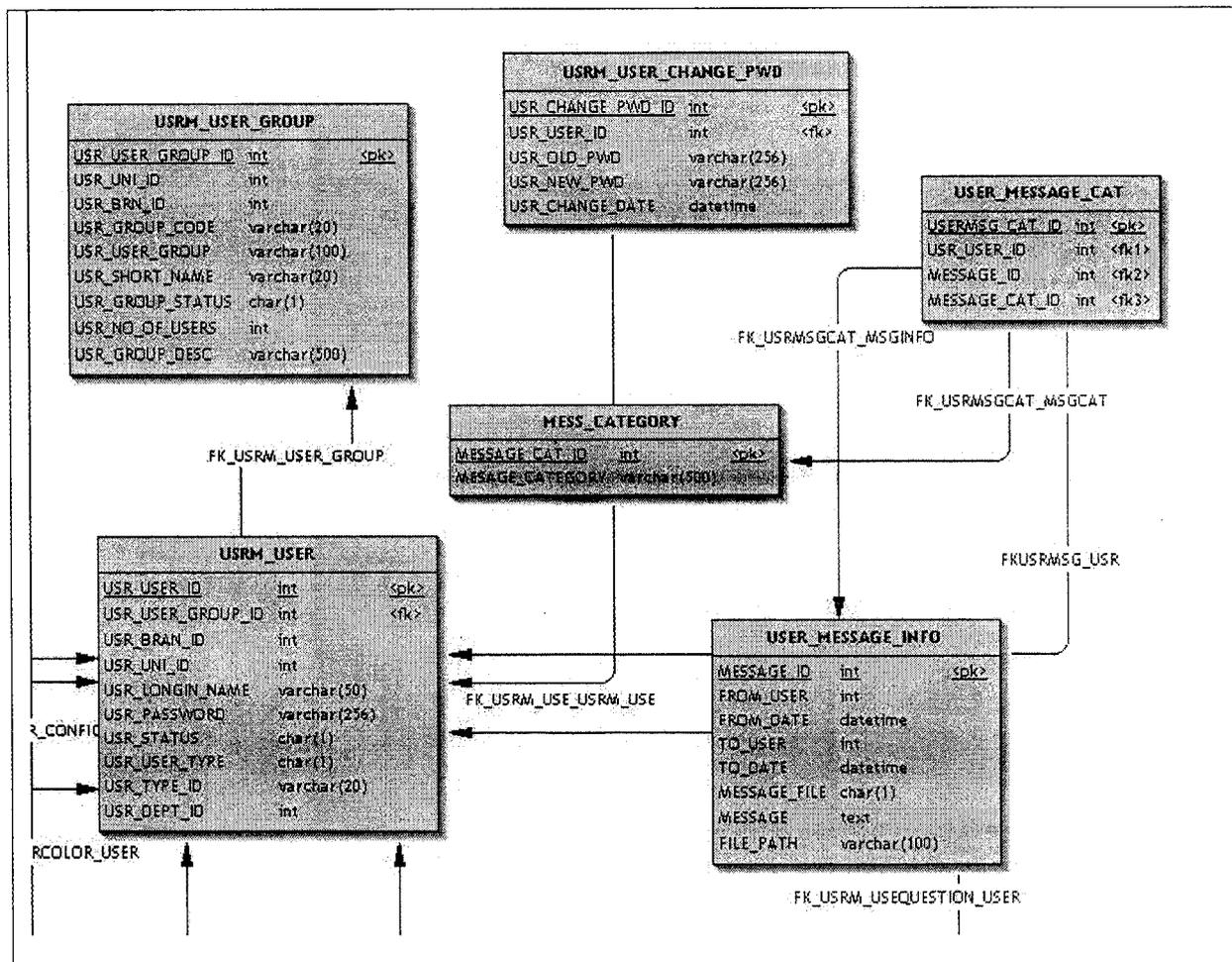
IMS database is used to register all the users who are interested in using IM and to store information for each user, such as his name, his contact information, and so on. Importantly this IM database is also used to generate and maintain a list of all the registered users who are active, i.e., online. The IM database will be in a separate database server.

If a user accesses the instant messaging system, a window is displayed on his/her screen showing an active list which is a subset of the active users in the IM database. That

user can then initiate an instant messaging session with one or more users on this list and exchange messages and other data.

Once all the information are captured. Messages can be categorized by users. For that a sample of Database portion is shown here.

3.5 DB – OVER VIEW (SAMPLE)



The above figure shows the overall view of the database which consists of tables to store user details, user login details. Message categories can be created and if a message is sent to a user that message will be maintained based on the created message category.

3.9.5 Screen design

Designed the screens of the application starting from user creation.

In the user creation screen, users can be created for user groups and privileges can be set in the Privilege Screen for the created users.

3.6 USER CREATION

The screenshot shows a window titled "User Creation" with a menu bar containing "add", "Edit", "Delete", "Print", and "Exit". The main content area contains a form with the following fields and buttons:

User Group	<input type="text" value="Admin"/>	View Group Users
UserID	<input type="text" value="UAS"/>	View All Users
Password	<input type="password" value="*****"/>	

Once the record is saved in the database an account will be created for the user. User can also be able to change his password.

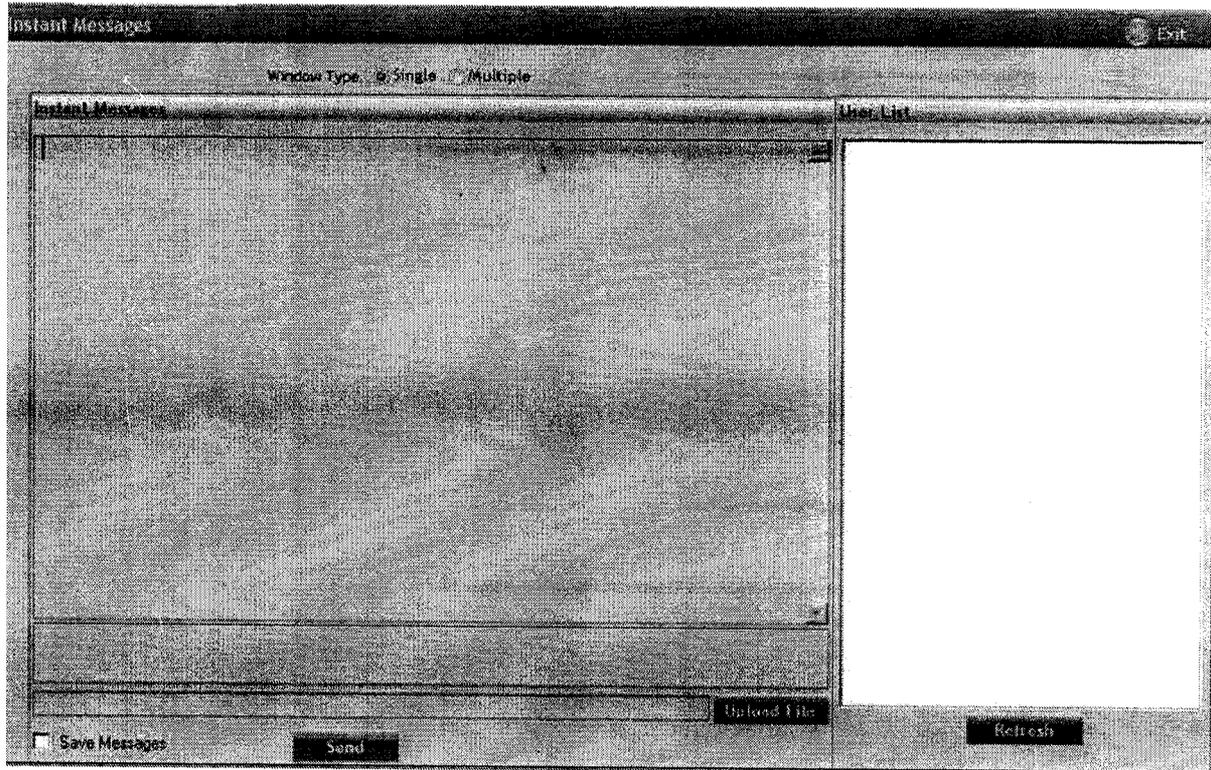
3.7 PASSWORD CHANGE

The screenshot shows a form for changing a password with the following fields:

User	<input type="text" value="User Name"/>
Old Password	<input type="password" value="*****"/> *
New Password	<input type="password" value="*****"/> *
Re-Type New Password	<input type="password" value="*****"/> *

Instant Messages can be sent in a separate screen.

3.8 INSTANT MESSAGE SCREEN



In the user lists portion, the staff names will be listed. The user can select the message receiver from the list and will send the message to that receiver. If receiver is in online he/she will respond and the reply will be displayed in the screen. Whole conversation between the user and the receiver will be displayed in the instant message screen.

The login detail information can be tracked in a separate screen.

3.9 LOGGING INFORMATION SCREEN

Group	Machine name	Log In	Log Out
<input checked="" type="checkbox"/> Click here to filter data...			
Admin	BLUE	28/03/2009 03:54 PM	28/03/2009 03:58 PM
Admin	BLUE	28/03/2009 03:59 PM	28/03/2009 04:01 PM
Admin	BLUE	28/03/2009 04:02 PM	28/03/2009 04:03 PM
Admin	BLUE	28/03/2009 04:12 PM	28/03/2009 12:00 AM

FEATURE AND FUNCTIONAL ANALYSIS

CHAPTER 4

FEATURE AND FUNCTIONALITY ANALYSIS OF IMS

4.1 Features of IMS

4.1.1 Authentication

In an IMS the user logging on to the IM system is an authorised person. There will a mechanism that will ensure a user's authenticity, when he/she is logging in.

4.1.2 Security

With IM becoming such a popular communications tool, it's reasonable to assume that conversations conducted via IM will, at some point, contain information that is university confidential information For this reason, IM system that provides security for messages as they are transmitted, even if all such transmissions will be within university network.

4.1.3 Logging

Admin or the supervisor can view logs or generate reports to provide visibility within university. IMS shall provide information on IM conversations, IM access, file transfers, presence, and a lot.

4.1.4 Messaging

Instant messaging Management system provides convenient communication between people who in online or in active status and allows computer-to-computer instant text messaging, file transfer process, etc. The capability for users to connect with other people, and for other people to connect with them, is what makes instant messaging the most direct, efficient form of communication available for a wide variety of interactive tasks. Messages can be categorised.

4.1.5 Reporting

IMS includes a comprehensive reporting module that allows the generation of standard. Standard Reports include User Reports, Login Reports, Messaging Reports, Accounting Reports, and Audit Log Reports.

4.1.6 Alerts

Alerts can be sent as instant messages to alert an User.

4.2 Role of IM Management System in a University

IMS can play the following roles in a university environment.

- Integrated Information Manager
- Integrated Information Manager
- Contact Information Manager
- Instant Messaging History Manager
- Report Manager

4.2.1 Information Manager

Information management is a general terms that refers to managing any kind of information. This information that is managed varies according to the industry. Document management is also considered as information management since you are managing the information that is contained in the documents. IM – Information manager organizes and automate the information in the IMS. There are specialized servers for such information management. The information that is passed between departments is also stored in the server for later retrieval.

Some of the characteristics that can be found in IMS as Information Manager as below

- Subject indexing
- Cataloguing and indexing by names, places, and events
- Information audits
- History management of information
- Storage of files records, in electronic form

4.2.2 Personal Information Manager

A personal information manager (often referred to as a PIM tool or, more simply, a PIM) is a type of application software that functions as a personal organizer. The acronym PIM is now more commonly used in reference to Personal information management as a field of study.

As an information management tool, PIM applications are primarily used to facilitate the recording, tracking, and management of certain types of "personal information".

- Address Book
- Alerts
- Personal Notes
- Instant Message Archives
- Calendar Dates, like Birth Dates, Anniversaries, Meetings and Appointments
- Reminders

IMS collects personal information to operate an authentication service and to improve security. IMS stores secret questions and answers. User has to select a question from a select list and enter the personal answer to that question. If user forget the password, then it can be retained using this question. Contact details e-mail address can be captured in IMS. Personal account information can be created and stored in an efficient way.

4.2.3 Contact Information Manager

IMS plays the role of Contact Manager, which allows the institution to manage their contacts in one simple location. Some of the features are listed here.

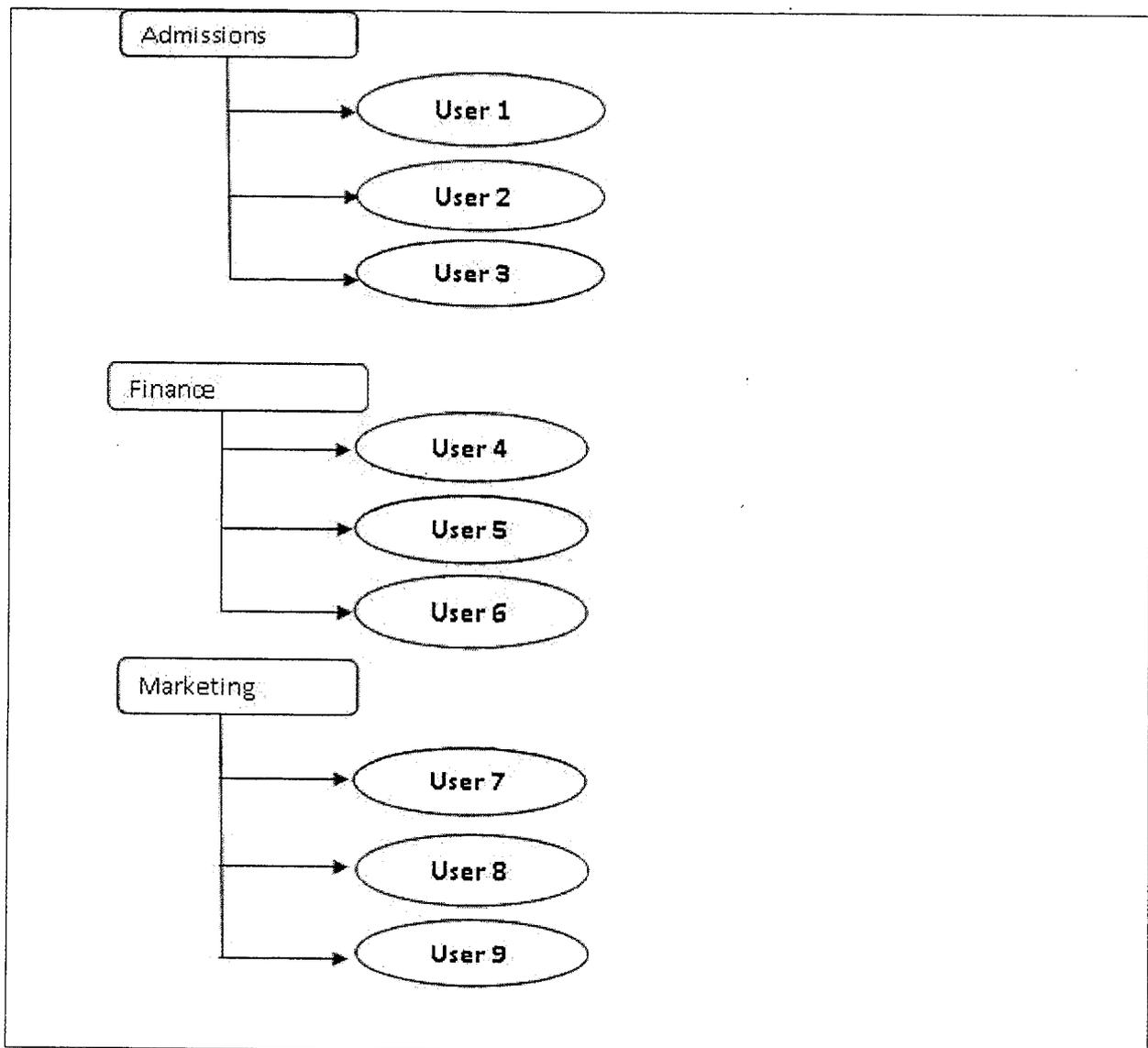
- Organize and find contact addresses and phone numbers.
- Intuitive layout enables finding contacts fast.
- Create mailing addresses and mailing labels.
- Send contact information and reminders
- Send IM messages to contacts
- Export your contact lists for backup.

- Automatically keeps a record each time you correspond with a contact.
- Create reports for select contacts.
- Add specific notes to each individual contact.
- Search through thousands of contacts on any criteria.
- Automatically keeps a record each time you correspond with a contact.
- Setup numerous reminders for each contact.

Contact list can be maintained in the IM system and they can be personalized and organized.

Messages from those individuals can be made to store in their respective folders.

4.1 CONTACT LIST



In this Admission, Finance and Marketing are the departments.

If the Logged is user belongs to HR department, then he can categorize his/her contacts based on other departments. First three users belong to Admission, second three users belongs to Finance and last set of users are Marketing department users. Thus they are categorized based on the department they belong.

4.2.4 Instant History manager

As with other types of resource, we can use the full range of organizing and search features with instant message conversations.

IMS in a University enables you to read message histories and automatically groups IM messages into conversations according to options that you specify. IM-HISTORY is the service to save the chat history. It is service of managing history of almost any instant message.

If the conversation is ever interrupted and want to catch up later, the user will have access to what was previously conversed, making it easy to restart a conversation from where it stopped. User can access it by the built-in conversation history features of IMS.

4.2.5 Report Manager

Information stored can be generated as reports with templates that are pre-defined or with a new template. It creates Reports quickly and easily. Columns can be customized efficiently.

CONCLUSION

CHAPTER 5

CONCLUSION

IMS features are mapped with the functions of the university and finally found that the use of IMS provides many advantages in University for administrators, management and the users of various departments

5.1 Advantages to Management

- Enables the management to set the standard approach for communication
- Daily Reports can be sent to any email address specified by the administrator. Reports can be used to track the most prolific IM users on University network.
- Schedules summary reports of system activity to be sent via email.
- More Flexible way of communication
- Saves money for communication in the University
- Real Time – Fast – Instant Response for the decision making process

5.2 Advantages to Administrators

- Account View - Displays a list of internal IM users with accounts
- Enables administrators to control users and groups.
- Content Filtering give administrators the option to be alerted when certain key words, phrases, or regular expressions are used in an IM conversation by their users.
Notifications can be sent to any email or IM address specified by the administrator.
- System administrators can also send broadcast IM messages to all connected users from this screen.
- Lists an entry for each IM message and enables administrators to filter messages by sender, recipient and message contents.
- Lists an entry for each internal IM message exchanged in conference rooms and enables administrators to filter messages by sender, conference room and message contents.

5.3 Advantages to Users

- User reports can be generated to display a detailed picture of employee IM use and presence
- Generates reports for an individual user's activity.

5.4 Future Research

Frاند (2000) suggests that today's "Information Age" students have come to look forward to constant connectivity and real-time dialogue from anywhere, and that they are used to multi-tasking (performing multiple tasks simultaneously), particularly multi-tasking involving chat or instant messaging (IM) sessions. As the information age mindset becomes the norm among students, need to adapt our teaching and learning methods to fit students' characteristics and help to encourage an active society of learners. The connectivity and real-time discussion facilitated by Chat or IM sessions and the multi-tasking capabilities of students contribute to new learning opportunities in the classroom.

In the typical college classroom, lecture prevails as an instructional medium. Class discussions encourage thoughtful reflection and deeper student processing. In larger classes, separate "discussion sections" meet to achieve at least part of this task. With the opening of on-line learning technologies, some of these discussions are moving to asynchronous venues such as threaded discussion boards, and even to synchronous chat-based discussions. A downside to these discussions, at least those that are intended to build on a classroom lecture, demonstration, or other activity, is that they are generally removed in time and place from the classroom events. Concepts, topics, and questions that students might want to explore can be lost in the process. Synchronous interactions while still in the learning environment have clear appeal for students. For instance, Guernsey (2003) describes college students at the University of Maryland who requested IM access during lectures. More than a dozen students participated at a time, and they used the opportunity to ask questions. Thus IMS can also be used as a Learning System.

5.5 Conclusion

IM facility can be extended even to communicate with parents if they have the access, so that the information regarding their son/daughter can be informed to them immediately.

Thus implementation of an Instant Messaging Tool and the use of IMS system in a University improve the communication between Students/Staff and avoid disruptions effectively and efficiently and helps management in information storage and retrieval.

REFERENCE

References

1. Daniel G. Kipnis, MSI, Gary Kaplan, MS , (2007) Broaden your Reach: Instant Messaging from the Reference Desk—It's Worth it!
2. Amanda Etches-Johnson , McMaster University , (2006) , OLA Super Conference, Instant Messaging: the New Virtual Reference?
3. Quan-Haase, A., Cothrel, J., and Wellman, B. (2005), Instant messaging for collaboration: A case study of a high-tech firm. *Journal of Computer-Mediated Communication*, 10(4), article 13.
4. David Strom (2003), How Instant Messaging Is Transforming the Enterprise Network, *The Internet Protocol Journal* - Volume 9, Number 2.
5. Christophe Hug-Heuveneers (2005), Enterprise Instant Messaging: Taking Control, *Information Audit and control association article*.
6. Leslie Walker (2004), Instant Messaging Is Growing Up, *Going to Work*, The Washington post, Page E01
7. Wilkins, Jesse Mayd (2007), RU ready for IM? To take advantage of instant messaging's benefits and overcome its challenges, organizations must implement processes and technologies to manage it effectively, *Information Management Journal*.
8. Drew Bird (2003), Instant Messaging, Part I: Corporate Productivity Tool or Cool Toy?
9. Robert Mullins (2002) Companies warned to keep tabs on instant messages, *Silicon Valley / San Jose Business Journal*
10. CAROLA MAMBERTO (2007), Instant Messaging Invades the Office, *The Wall Street Journal*
11. Jennifer Pittman (2002), Mobile e-mail, instant messaging segments experiencing market growth, *Silicon Valley / San Jose Business Journal*
12. Cho, H.-K., Trier, M., and Kim, E. (2005), The use of instant messaging in working relationship development: A case study. *Journal of Computer-Mediated Communication*, 10(4), article 17.
13. Ohio State University (2008,.) Instant Messaging Proves Useful In Reducing Workplace Interruption. *Science Daily*. Retrieved April 6, 2009, from <http://www.sciencedaily.com/releases/2008/06/080603120251.htm>

14. Anabel Quan-Haase (2008), Instant Messaging on Campus: Use and Integration in University Students' Everyday Communication Source, The Information Society archive Volume 24 , Issue 2 Taylor & Francis, Inc. Bristol, PA, USA.
15. Instant messaging reference: how does it compare? The Electronic Library, MCB UP Ltd (Christina M. Desai 2003)

Websites

1. www.library.northwestern.edu
2. <http://middleware.internet2.edu/i2im/>
3. http://en.wikipedia.org/wiki/Instant_messaging
4. <http://online.wsj.com>
5. <http://www.sciencedaily.com>
6. <http://www.emeraldinsight.com>
7. <http://portal.acm.org>
8. www.archives.gov
9. www.isaca.org
10. <http://www.highbeam.com>