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JUDUL: **DESKTOP INSTANT MESSAGING APPLICATION (*i-Quick*)**

SESI PENGAJIAN: **2004/2005**

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DESKTOP INSTANT MESSAGING APPLICATION (*i-Quick*)

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This report is submitted in partial fulfilment of the requirements for the
Bachelor of Information and Communication Technology (Software Development)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
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DEDICATION

I am as ever, especially indebted to my parents, Tan Hooi @ Tan Ka Sin and Ng Swee Thay, as well as my beloved siblings, Tan Chin Hian, Tan Chin Tat and Jenny Tan for their love and support throughout my life.

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ABSTRAK

Laporan ini fokus kepada *Desktop Instant Messaging Application* (DIMA) pembangunan dan perlaksanaan. Aplikasi ini dibangunkan untuk mengatasi masalah yang dihadapi oleh pengguna ketika berkomunikasi. DIMA telah menggantikan cara komunikasi tradisional kerana ia membekalkan komunikasi yang cepat and segera. Di dunia yang serba cepat ini, semua orang tengah mencari komunikasi segera di mana komunikasi ini boleh menghubungkan dua atau lebih orang dari tempat and negara yang berlainan, dan berkomunikasi secara serentak. DIMA membekalkan kebolehan asas berkomunikasi secara segera seperti menghantar mesej, perbualan, dan menghantar fail. Integrasi dengan teknologi terkini, DIMA boleh menghantar SMS, MMS, konferensi secara berbunyi, dan konferensi secara bergambar, tetapi ciri-ciri ini tidak termasuk dalam DIMA yang dibangunkan. DIMA yang dibangunkan hanya membenarkan komunikasi segera yang asas. Dalam aplikasi ini, seorang pengguna mendapatkan ID pengguna melalui pendaftaran dari laman web. ID pengguna digunakan untuk memasuki rangkaian dan menggunakan kemudahan yang dibekalkan. Fungsi-fungsi lain yang terdapat dalam DIMA yang dibangunkan adalah seperti mendapatkan kata kunci yang hilang, mengemaskini profail, menguruskan senarai kawan, menukar status, dan mencari kawan. Aplikasi ini dikawal oleh seorang pentadbir yang bertugas untuk menyelaraskan server, menguruskan ahli, dan melihat laporan. Sistem pembangunan DIMA adalah berdasarkan Kitaran Hayat Sistem Pembangunan (SDLC) dengan *Prototyping Model*. DIMA yang dibangunkan akan diintegrasikan dengan teknologi terkini pada masa akan datang.

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ABSTRACT

This report focuses on the development and implementation of Desktop Instant Messaging Application (DIMA). This application is developed to overcome problems that faced by human beings during communication. DIMA has replaced the traditional methods of communication as it provides fast and instant communication. In the fast-paced world, everyone is looking for instant communication where the communication can connect two or more people from different places and countries, and communicate at the same time. DIMA provides capabilities of basic instant communication such as sending instant message, chatting, and file transferring. With the latest technology integrated, the current DIMA is able to SMS, MMS, voice conferencing, and video conferencing, but these features are not included in the developed DIMA. The developed DIM only allows for basic instant communication. In this application, a user obtained User ID through registration on website. The User ID is used to login into the developed network to enjoy all its facilities. Other features such as retrieve password, update profile, contact management, change status, and search contacts are available. The developed DIMA is managed and monitored by an administrator who in charge of configuring server connection, managing members, and viewing reports. The developed DIMA is based on SDLC with Prototyping Model as a guideline in its system development. Enhancement of latest technology integrating with developed DIMA would be done in future work.

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LIST OF ACRONYMS

Acronym		Definition
3D	–	3-Dimension
AIM	–	AOL Instant Messenger
AOL	–	America Online
ASP	–	Active Server Page
ASP.Net	–	Active Server Page .Net
CASE	–	Computer-Aided System Engineering
DBMS	–	Database Management System
DIMA	–	Desktop Instant Messaging Application
ERD	–	Entity Relationship Diagram
FTMK	–	*Fakulti Teknologi Maklumat dan Komunikasi*
HTML	–	Hyper Text Markup Language
ICQ	–	I Seek You
IDE	–	Integrated Development Environment
IIS	–	Internet Information Services
IM	–	Instant Messaging
IRC	–	Internet Relay Chat
KUTKM	–	*Kolej Universiti Teknikal Kebangsaan Malaysia*
LAN	–	Local Area Network
NIC	–	Network Interface Card
OMT	–	Object Modelling Technique
OOA	–	Object-Oriented Analysis
OOD	–	Object-Oriented Design
OOP	–	Object-Oriented Programming
PC	–	Personal Computer
PSM	–	*Projek Saujana Muda*
RAM	–	Random Access Memory

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Acronym		Definition
SDLC	–	System Development Life Cycle
SDM	–	System Development Method
SMS	–	Short Message Services
TCP/IP	–	Transmission Control Protocol/Internet Protocol
UML	–	Unified Modelling Language
VB.Net	–	Visual Basic .Net
WBS	–	Work Breakdown Structure
XML	–	Extensible Markup Language

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CHAPTER I

INTRODUCTION

1.1 Preamble/Overview

In the growing age, communication becomes very important. In the past few years, a DIMA has been introduced to replace the traditional communication tools. DIMA is the title of the developed project that will be discussed in detailed. This chapter briefly discusses about the introduction, problem statements, objectives, scopes, contributions, and expected output of the project.

1.1.1 Project Description

DIMA is the communication tool of the Internet-age. The community that is created by the awareness of other people online, and the real-time conversation IM enables, makes this type of communication essential for the global experience. It is a virtually free communication tool that is able to connect people instantly, creating interactive possibilities in a multitude of situations.

In order for IM to work, both users must be online at the same time, and the intended recipient must be willing to accept instant messages. An attempt to send an

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instant message to someone who is not online or who is not willing to accept will result in a notification that the transmission cannot be completed. It will alert the recipient by flashing window indicates that an instant message is arrived and allowing the recipient to accept or reject it.

Under most conditions, IM is truly instant. Even during peak Internet usage periods, the delay is rarely more than a second or two compare to e-mail. For e-mail, a few steps have to be taken. During peak Internet usage periods, some pages are unable to load and reloading page will cause delay. IM also enables two or more people to have a real-time online conversation in a single window.

1.1.2 Project Background

Before Internet became popular, a lot of people were already online through the use of bulletin boards and online services [howstuffworks.com, 15]. A bulletin board is comparable to a single, isolated web site that can be accessed using special communications software and a modem. Once connected to the board, normally a series of menus is used to navigate through the board's contents. To access another board, users have to disconnect from the first board and dial up to the other one.

In the early 1990s, as people began to spend increasing amounts of time on the Internet, creative software developers that could enhance the existence software of an online service. Chat-room software was developed and set up on web servers used by sites like TalkCity. IM really exploded on the Internet scene in November 1996 when Mirabilis, a company founded by four Israeli programmers, introduced ICQ, a free DIMA that anyone could use.

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1.2 Problem Statements

Rapid and dramatic changes are taking place in today's society. Not least is the evolution of the Information Age, in which the role of telecommunications, Internet computing and broadcast/media industries is expanding to unprecedented levels. Since in the ancient age, people already started to communicate with each other using any type of methods such as papyrus, carving on cave, and so forth. This is shown that how important and significance communication to human beings.

In the traditional communication system with a person who is at outstation, letters and telephone calls are used. In terms of letters, it might take a few days to a week to reach at recipient. While telephone calls always incur the high expense. Therefore, in the past few decades, people are normally lost contact when someone migrated to another place or country because letters are easy to be lost and take a long time to reach at recipients, while telephone calls are always causing high expense.

There is no doubt that the Internet has changed the way of human beings communicate. E-mail has virtually replaced the traditional letters and even telephone calls as the choice for correspondence. Everyday, billions of e-mail messages are sent out. E-mail has been the most rapidly adopted form of communication ever known. In less than two decades, it has gone from obscurity to mainstream dominance.

In the fast-paced world, sometimes even the rapid response of e-mail is not fast enough. There is no way of knowing if the person that is sent an e-mail is online at the same time or not. Besides, sending multiple e-mails back and forth with the same person normally will take longer time by performing a few steps such as read, reply and send the e-mail. This is why Instant Messaging has invented.

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1.3 Objectives

The main objective of DIMA is to provide an IM that promotes fast and efficient communication in real-time using desktop PC. A user can communicate with friends from the contact list once he/she is connected to the Internet. IM is a truly instant program that enables a user to send an instant message to the recipient in a very short time, approximately one or two seconds.

IM helps users to save time and money as questions or problems can be resolved immediately. This will eliminate the long distance phone charges. Phone charges are very expensive because each called to destinations are charged at different rates. For IM, only Internet rate is being charged. IM connects users around the world in one rate regardless of destination compared to phone that charged at different rate for different destination. A user does not need to leave his/her place to get a question answered. Quick answer will be received and not only from one person but more.

IM will eliminate the amount of e-mail sent back and forth because messages transmissions are fast enough in IM to allow for natural conversation. Many people want a quick answer but sending an e-mail will take long periods than an instant message. In addition, an instant message is just a single pop window compared to e-mail which has to take a few steps before it reaches its recipient.

IM provides another method of communication that enables users to stay in contact with multiple-people around the world. Internet connects the world into a network but IM connects people around the world to communicate quickly and efficiently in real-time. Messages can be transmitted to anyone in the contact list regardless of destination of the recipient and the sender.

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1.4 Scopes

The developed project will focus on the desktop application only. The developed DIMA is used on the Internet by registering to i-Quick server as a member. The overall architecture of the developed DIMA is based on Client/Server. The developed DIMA is divided into three sections which are web-based application for client, window-based application for client and server as well.

A web-based application is developed for users to register as a member. From the web-based application, the users can download the developed DIMA installer and get latest information. The web-based application includes information of introduction, features, requirements, frequently asked questions, and user manual of the developed DIMA. Lost password can be retrieved from web-based application as well.

For window-based application which is developed for client, it is used as an intermediary that connects users to server and indirectly connects users to other users in the same network. Window-based application client is named as i-Quick Instant Messenger. i-Quick Instant Messenger has the functions of login, remember password, contact list displayed, add contact, search contacts, remove contact, view contact's profile, send an instant message, send a file, start a chat session, update profile, and change status.

Login function required a user to enter User ID and password. At the same login window, there is a sub function called remember password. This is to enable the user to login without enter password when he/she sign in again using the same PC. When login is success, i-Quick Instant Messenger will display the contact list with the contact is located at the appropriate list which is divided into online list and offline list.

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