

COLLEGE NET

P-726

A PROJECT REPORT

Submitted in partial fulfillment of the requirements for the award of the degree of
Master of Science [Applied Science-Computer Technology]
Of Bharathiar University, Coimbatore.

Submitted by

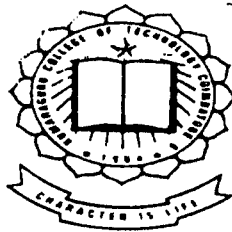
T.V.AARTHI

0037Q0025

Under the Guidance of

Mr. R.Dinesh, B.Tech.,M.S.,

Computer Science and Engineering Department,
Kumaraguru College of Technology,
Coimbatore.



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
KUMARAGURU COLLEGE OF TECHNOLOGY
(AFFILIATED TO BHARATHIAR UNIVERSITY)
COIMBATORE - 641 006
APRIL-2002**

CERTIFICATE

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
KUMARAGURU COLLEGE OF TECHNOLOGY
COIMBATORE-641006

CERTIFICATE

This is to certify that the project entitled
COLLEGE NET

Done by

T.V.AARTHI

0037Q0025

Submitted in partial fulfillment of the requirements for the Award of degree of
Master Of Science (Applied Sciences -Computer Technology)
of the Bharathiar University, Coimbatore.

S. Thangasamy 12/4/02

Prof.Dr.S.Thangasamy

Head of Department

Mr.R.Dinesh

Mr.R.Dinesh (12/4/02)

Internal Guide

Submitted to University Examination held on 25-4-2002

Mr.R.Dinesh
Internal Examiner (25/4/02)

M.W.
External Examiner 25/4/02



Logic Version
TECHNOLOGIES

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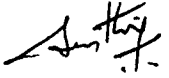
12th April 2002

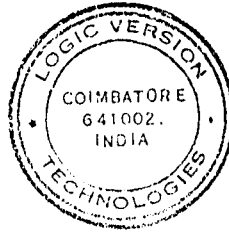
TO WHOMSOEVER IT MAY CONCERN

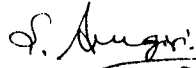
This is to certify that Ms. T.V. Aarthi has been working as a Programmer Trainee from 28th December 2001 to 12th April 2002, in our organization. During this period her conduct and character was good.

We wish her all success in future endeavors.

With regards,
For Logic Version Technologies


V.K. Senthil
(Chief Executive Officer)




for **Arumugam Thiagarajan**
(Project Manager)



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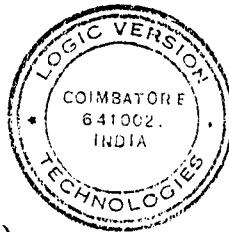
12th April 2002

TO WHOMSOEVER IT MAY CONCERN

This is to inform that our organization shall not reveal the source codes of the project work done by your student T.V. Aarthi final year M.Sc.,(Computer Technology) due to the confidentiality and business reasons.

With regards,
For Logic Version Technologies

V.K. Senthil
(Chief Executive Officer)



for **Arumugam Thiagarajan**
(Project Manager)

DECLARATION

DECLARATION

I here by declare that the project entitled 'College Net' submitted to Bharathiar University as the project work of M.Sc.[Applied Science-Computer Technology] degree is a record of original work done by me and the best of my knowledge a similar work has not been submitted earlier to the Bharathiar University or any other institutions, for fulfillment of the requirements of a course of study.

Name

Register Number

Signature

T.V.Aarthi

0037Q0025

T.V. Aarthi

Place: Coimbatore

Date: 17-4-2002

Signature of Guide

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ACKNOWLEDGMENT

ACKNOWLEDGEMENT

I express my profound gratitude to **Prof.K.Arumugam**, B.E(Hons), M.S(U.S.A), M.I.E, Correspondent, Kumaraguru College of Technology, Coimbatore, for providing me an opportunity to undertake the project.

I express my special thanks to **Dr.K.K.Padmanabhan**, B.sc.(Engg),M.Tech.,Ph.d., Principal, Kumaraguru College of Technology, Coimbatore and **Dr.S.Thangaswamy**,B.E.,Ph.D., Head Of Computer Science Department for his encouragement and continuous support for this project.

I am extremely thankful to my project guide, **Mr.R.Dinesh**,B.Tech.,M.S.(CompSci, U.s.a), for his timely advice and creative support.

I am grateful to all other staff members of my Department in helping me to complete this project.

I do owe a lot to **Mr. Arumugam Thiagarajan** M.Sc, Project leader, and to **Mr. Aruna Giri**,B.E, Logic Version Technologies, Coimbatore for providing support and guidance during the entire span of the project.

I would like to thank all, who have directly or indirectly assisted me in successfully completing this project.

SYNOPSIS

SYNOPSIS

College Net, an Intra Network Application that provides a complete Integrated College Management System. This Intranet plan includes an overview of the existing infrastructure of a College

College Net is a software package designed to meet and solve the issues related to the management of individual Departments, Office in a college of an integrated environment.

College Net's Components are News & Announcement Corner, File Transfer, Task Scheduling, Syllabus Chart, Search Engine, Result Publication, which provides interaction between Departments, Staffs and Students community of a college campus.

The language used to build up this software is Java. Java's features like Object Oriented approach, multi-threading capability, versatility, simplicity, and portability across different platforms support the modern day programmers to a great extent. It is also a very feasible language for network programming.

CONTENTS

INTRODUCTION

1. INTRODUCTION

1.1 ORGANIZATION PROFILE

Logic Version Technologies (LVT), a unit of Logic Version Computer Corporation established in 1989 to provide a wide range of services in Information Technologies (IT) for the clients around the world. Logic Version has earned a reputation for providing high quality solution and cost effective services to clients who need accurate detailed and timely IT information. Quality services and solution at a reasonable price and strong project management are the basis of its success. It is emerging as a full fledged, dynamic and reliable solution provider.

At Logic Version they believe Extensive Product Knowledge as well as Engineering expertise are essential to tailoring the solution to the customer's needs. Thus they provide strong project management, excellent support and effective guidance that always leave their customers in complete satisfaction. Specializing in high availability system and business continuance solution for medium to large clients, which are running huge data bases and other mission critical applications.

Logic Version adds value in following key areas:

- Enterprise Management
- System Integration
- Data Base and Application Management
- Network Management
- Internet/Intranet solutions

Their focus has evolved from 10 years of ongoing research and exploration into new technologies. Their mission is "To be successful and Information Technologies (IT) Solution provider ". Logic Version, a service

company create an environment that would foster creativity and innovation for its customers, vendors and employees. They recognize that they are a part of a conglomerate and their business objective is

“ Be Ethical and Moral Fashion to All ”.

1.2 ABOUT THE SYSTEM

College Net is a integrated college management system with intranet application. It comprise of standalone application and networking application. It is a software that is developed with several packages suitable for any college that is fully computerized.

It is a designed to meet and solve the issues related to the management of individual departments, office, hostel, Library.

Features Of College Net

- Internal Mailing System
- News and Announcements Corner
- Internal Chat System
- File Transfer System
- Messaging Service
- Attendance Scheduling
- Task Scheduling
- Search Engines
- Inter-Department Communication
- Online Conference
- Discussion Forums
- Result Publication

My contribution to this software is

- News and Announcement Corner
- File Transfer
- Task Scheduling
- Search Engine
- Result Publication

Intranet application becomes important as it improves the existing systems and infrastructure of a college. The weakness in the existing system becomes the focus for improvement. The College administration can have a paper less work environment. The Application reduces the cost of recruiting people and speeds up the work.

Inter-department communication becomes easy through mailing and announcement corner. Examination department does not have to take long to announce their exam schedules and results. Librarians can use the bulletin boards to display the new arrivals and magazines. The catering section of the hostel can display their menu card for the week.

Students who fear to join the conventional group discussions, can include themselves in the discussion forums offered by this application.

The staffs can maintain a good relationship with their sub-ordinates as there is a change in the working environment and their work is also speeded up. Overall, the application is user friendly. Compared with the existing system this is efficient.

Time taken to transfer the message from one point to the other in intranet application is very less. The functioning of process is carried out easily through intranet application.

1.3 NEED FOR COMPUTERISATION

Information Technology And Computerisation

Computer technology has been hailed as the gateway to a new 'information society' which, it is claimed, will liberate us from the oppressive and polluting smokestacks of old-fashioned industrialism. John Sculley, head of Apple Macintosh Computers, for example, envisages a National Information Structure, based on a nation-wide fibre optic network that 'will forever change the way we educate our children, train and retrain our workers, earn a living, manufacture products, deliver services of all kinds and interact with families and friends'

Even farmers will no longer have to go out into the fields, sitting instead in front of rows of computers, controlling all operations on the farm (where the genetic engineer will have ironed out all nature's imperfections). Apparently, shoppers soon will stay by their firesides, strolling through virtual reality images of superstores.

But this is only the beginning. Some American scientists apparently are trying to solve the irritating fact that our bodies tend to let us down-by decanting our minds into humanoid machines that will never wear out. Other scientists are working on 'artificial intelligence' systems, which it is suggested, will make our brains seem puny by comparison.

A Computer on Every Desk

Computers are flooding the education system yet it is doubtful whether there has been a commensurate leap in learning outcomes. The danger is that the new methods of education might trivialise rather enhance knowledge and skills, with things learned, as by rote, from the computer screen but with little deep understanding and even less diversity of thought.

Furthermore, the computer remodels information about reality to fit its own operating requirements. It might be this distorted framework of perception that will constitute the fundamental lesson learned from the computer.



SYSTEM STUDY

2. SYSTEM STUDY

2.1 Existing Systems

In existing systems, communication and messaging service is found to be less, and recruitment of people is more . This leads to a delay in completing the desired task . Moreover, if tasks are carried out manually like passing circulars, maintaining books in library then , time taken is more

Due to this system, students are also affected sometimes, as there is lack of communication. A person in the administration does not like students pestering them for details when they are working. Even students are also unaware of the activities taking place in other departments.

Existing systems involves recruiting more people to accomplish the task. Sometimes, people may be tempted to bribe the staffs to meet their requirements. Moreover many would not like the higher officials or sub-ordinates criticizing them or interfering in their work. As a result they cannot maintain a good relationship with their sub-ordinates and there is always a delay in the work. The Management also has to go for more space to maintain their records and reports.

Limitations Of Existing System :

In the Existing System manpower is found to be more. It is time consuming for search of particular file or to convey ant messages. Existing system involves recruitment of more people as it is carried out manually. Students also waste their time by checking for notice in different areas. As few authorities are maintained the data they are capable of knowing others details and this might lead to unnecessary complications and misunderstanding between the fellow beings. Communication between staffs and students is found to be less.

2.2 Proposed System

The proposed system facilitates everyone with the availability of a wide range of options. Some of the core features included in this application are:

- **Mailing Systems** for staffs and students to have fast communication.
- **Search Engines** to look for information.
- **News and Announcement Corners** helps everyone to receive the appropriate information without any delay
- **Course Details** helps students, to continue their studies and outsiders.
- **Attendance Reporting** allows work to be allotted to other staffs in the absence of any staffs
- **Hostel menu** complete menu card for a week is available for the students from catering section.
- **Transferring documents** important documents can be passed to other documents by higher officials
- **Project Details** Students can provide details about Their projects that helps the other students for their case studies.

- Online Conferencing The Heads of the department can have discussions from their own desk without assembling in a common place.

- Address Books maintains the mailing addresses of all staffs and students.

- Library new arrivals help librarians to display the new arrivals and magazines.

Need for Intranet Application :

Intranet Application becomes important as it improves the existing systems, communication and security. The weaknesses in the existing system become the focus for improvement. The College administration can have a paper less work environment. The Application reduces the cost of recruiting people and speeds up the work.

Inter-department communication becomes easy through mailing and announcement corner. Examination department does not have to take long to announce their exam schedules and results. Librarians can use the bulletins boards to display the new arrivals and Magazines. The catering section of the hostel can display their menu card for the week.

Students, who fear to join the conventional group discussions, can include themselves in the discussion forums offered by this application.

The staffs can maintain a good relationship with their sub-ordinates as there is a change in the working environment and their work is also speeded up. Overall, the application is user-friendly. Compared with the existing system this is efficient.

2.3 SYSTEM DESCRIPTION OVERVIEW

Application Domain :

College Net is a integrated college management system. It is an intranet application which deals with the infra structure of college. College Net comprise of a standalone application and a network application.

Project Purpose :

College Net is a software designed to meet and solve the issues related to the management of individual departments, office, hostel, Library etc. of a college in an integrated environment. It fulfills the needs of college, students, and staff communities in sharing resources and by providing information through cross communication. Time, energy, and money are comparatively reduced from the presently followed system.

Project Scope :

College Net covers all functionality.

College Net is multi-user ended.

College Net is international standardized.

College Net is completely customizable.

College Net has full range of options.

College Net is interactive which basically improves the knowledge of students and other users.

Project Overview :

College Net is a easy means of transferring data to improve the various aspects of communication. College Net comprise of several features like

Internal Mailing System
News and Announcements Corner
Internal Chat System
File Transfer System
Messaging Service
Attendance Scheduling
Task Scheduling
Search Engines
Inter-Department Communication
Online Conference
Discussion Forums
Result Publication

College Net is applied and maintained by the end users like

- Principal
- Vice-Principal
- Head Of Departments
- Teaching Staffs
- Non-Teaching Staffs
- Students
- Librarians
- Hostel Administrator
- Canteen Administrator

Product Perspective :

College Net is a completely integrated college management system for the college governing bodies, staffs and students. It is a very useful interactive measure to be implemented in a college premises where the entire functioning is made easier. It is user friendly and applicable to all users.

User Characteristics :

- Easy Navigation and Communication System.
- Easy means of scheduling Task.
- Easy means of Conveying Message service.
- Easy means of Storage Space For Information.
- Easy Search of Data.

General Constraints :

- If the Information System Department that manages and runs the Intranet does not possess necessary skills and resources to setup and run Intranet, then it is a failure.
- Any disruption in network reduces the efficiency of the Application.
- Staff Training is crucial. This may take one or two weeks.
- If the staffs cannot adopt themselves to the application, then it may lead to irritation. This affects the Objective of the product.
- An unplanned Intranet within an Organization has often found to be unfocused and unmanageable.

Information Processing Required :

Requirement of various modules like chat, mail, message, attendance, conference, task scheduling and inter-department communication interacts with various inputs provided and analysis their requirements and process according to the inputs obtained. Required information's are been sent to the respective modules and are been processed.

2.4 Hardware Specifications

The system has been developed in the following hardware environment

PROCESSOR	:	PENTIUM- III
RAM	:	128 MB
HARD DISK	:	40 GB
CLOCK SPEED	:	99 MHz
FLOPPY DRIVE	:	1.44 MB
DISPLAY TYPE	:	SVGA
KEYBOARD	:	Standard 101/02-key or Microsoft Natural
MOUSE	:	Microsoft compatible mouse
MONITOR	:	VGA color

2.5 Software Specification

The system has been developed using the following software:

OPERATING SYSTEM	:	Windows 98/Windows NT
FRONT END	:	JAVA / SWING
BACK END	:	SQL server

2.6 FEASIBILITY STUDY

A feasibility study is a test of a system proposal according to its workability impact on the organization, ability to meet user needs and effective use of resources. The objective of a feasibility study is not to solve the problem but to acquire a sense of its scope. During the study problem definition is crystallized and aspects of the problem to be included in the system are determined. Consequently, costs and benefits are estimated with greater accuracy at this stage.

2.6.1 ECONOMIC FEASIBILITY

Economic analysis is the most frequently used method for evaluating the effectiveness of a tool. A system that can be developed technically and that will be used if installed must still be a good investment for the organization. Financial benefits must equal or exceed the cost. The cost for overall system investigation was fair. The cost of software and hardware for the class application was not too high. Considering the economical factors it is cheaper, the cost of server space and maintenance is the only economical factor and that is becoming decreasing nowadays.

2.6.2 TECHNICAL FEASIBILITY

Technical feasibility centers on the computer system and to what extent it can support the proposed addition. The suggested project is developed with JDK1.3, JAVA SWING, MS-ACCESS. The important advantage of the system is that it is platform independent. Technical capacity for holding the data required using of new system is approximately 2MB of space only. It will utilize only 1% of the network performance. The system can be expanded if developed to certain extent

SYSTEM DESIGN

3. SYSTEM DESIGN

3.1 INPUT

College Net comprise of components like

- File Transfer
- News and Announcement
- Task Scheduling
- Search Engine
- Result Publication

Each component is developed with an input form, where the user can enter the data on the client machine. The software developed is user-friendly and can be understood by any one who is new to this field. All the input form comprise of userid, member number, category, department . Entry of the user is allowed only with valid userid and password. All necessary measures for authentication of password is provided is the main Login form. Entry of all the fields in the form is a must as it leads to error in access to the database. Registration form is accessed and the entry of category, department, member number is generated automatically once the user sign's in.

File Transfer

In File Transfer is used to access the file from one department to another. Any file that is requested is sent with sender's id and receiver's id with department details. Attachment of the file is made in the attachment input form, which comprise of the browse where the path of the file is selected and added to the list .On adding the file it is sent to the particular destination with the receiver's id.

News and Announcement

In News and Announcement separate input forms are developed for news and announcement. News form comprise of the news of the college, birthday dates with reference made to the Registration form and any events that is occur in college. News form also has the publisher of the news and the reference of the news put up. In the announcement form Sender's id, department, category and receiver's id , department, category is found with the notice message that has to be sent.

Task Scheduling

Task Scheduling comprise of features like

- Personal Engagement
- Record Of Work
- Syllabus
- Time Table

In personal engagement deals with the users activities and other necessary things that he has to do like conducting seminar's and test, attending conference and other thing's of his own. In Record of Work his schedule for a week and for a day for separate department, class can be maintained. In syllabus based on the department , class and semester the units for each paper to be handled with the reference book can be maintained. In Time Table according to the user's entry of id and password ,the class to be handled and the department details are listed.

Search Engine

Search Engine is of basic and advanced search. In basic search only the details about the keywords are listed and in advanced search the entire profile of the required person is listed

Result Publication

In result publication the entire marks record of the student can be fetched. Staffs are capable of editing the data but students cannot do. Staffs can view the entire class details and students can view only his details about the marks secured.

Submit :

Input forms are designed with a submit button where the details that are entered by the user on the client is sent to the server machine and the data is fed into the database. As a result the next consecutive steps are performed .

Clear :

Clear is used to clear the information that is fed wrong in the input screen.

3.2 PROCESS

In the process the evaluation of the steps to be followed next to the entry of data is performed.

File Transfer :

In File Transfer on entering the details about the sender and receiver attachment of the file is made in the attachment form by viewing the browse to located the file path and the file is added and given finish to add the file in the content of input form.

News and Announcement :

In News and Announcement , on posting the news with publisher and reference in a separate news form and on giving the notice in the announcement form . Both the input forms are been put as a single form. The entry of data is stored in database for verification to be made later when necessary.

Task Scheduling :

Personal Engagement, Syllabus, Record of work, Time table are all entered and stored in the database for verification to be made later when necessary.

Search Engine :

On selecting the basic or advanced search access to the database is made for retrieval of data.

Result Publication :

On selecting the department, class , semester and student name the marks secured is got from the database.

3.3 OUTPUT

Users on the client machine are capable of viewing this form on the entry of a request from the client to the server. Changes cannot be made on this form, already existing details from the database are listed out in this output form.

File Transfer :

In the File Transfer it is the download form , which is displayed on the clients machine. The user can view and download the file.

News and Announcement :

News and Announcement of separate input forms are put together as one output form and is displayed on a single screen.

Task Scheduling :

Retrieval of data from the database is made and posted on the screen as output for the user to view his tasks that has to be performed.

Search Engine:

Search as a result displays the information about the search made. If no related exists the search gives an intimation about the failure of search made.

Result Publication :

User on selecting the department, class and semester the details about the marks secured is displayed on the screen. Students can view only his/her details, but staffs can view the entire detail about the class selected.

3.4 DATABASE

Projection On Tables :

Selection:

The data stored in various tables are connected to increase its usefulness and to avoid duplication. Selection is the process of producing a new table consisting of a set of rows from another table that match certain specified criteria.

Projection :

Projection is the process of creating a table from a set of columns from another table that match certain specified criteria.

Connection :

A join produces a new table that is the union of all rows in two tables less any duplicate rows.

SQL Primer :

SQL is the interface language between the user and the server. The American National Standards Institute(ANSI) has accepted SQL as the standard access language for relational database management systems, and all of SQL access tools are based on this standards.

Types of SQL statements :

SQL statements are grouped into three categories:

Data Definition Language (DDL)

Data Manipulation Language (DML)

Data Control Language (DCL)

Data Definition Language(DDL) :

Comprise all the statements used to define schemata and objects within them. Used for creating, altering, dropping the tables. Altering the structure of existing objects, or completely removes objects from the system.

Using The Database

Data Manipulation Language (DML) :

Once a database is established, data manipulation statements are the most frequently used of three kinds of SQL statements. The user can use them to extract records from a database or alter it in some way. Select statement is used to query the database and to retrieve and display rows from one or more tables. Update, Insert and Delete statements alter existing database, or remove one or more records from the database.

Securing The Database

Data Control Language (DCL) :

Comprise of all the statements that control what users may or may not do with the objects in the database. Statements such as Grant, Revoke, Commit and Rollback access control to database and affirm or revoke database transaction.

SYSTEM DEVELOPMENT

4. SYSTEM DEVELOPMENT

4.1 CLIENT/ SERVER

Client/Server Architecture

In a client/server architecture, multiple computers are connected over a network. The computers are grouped into clients and servers. Users directly interact with clients to perform most of the front-end user interface functions. Server performs various intensive tasks in response to request from clients.

Client/server orientation

Standard SQL is designed around the concepts of client/server or of multi-tiered architectures. It enables you to manage connections, recognizing that a very common database configuration is one in which front-end software on one computer, called the client, attempts to extract information from a back-end DBMS located on another computer, called the server. Many of the new features regarding standardized connection procedures, locking, and error diagnostics were motivated by the desire to enable clients to communicate with a variety of servers, in the same way.

Client/Server programming is also called distributed application processing and co-operative application processing. It has three distinct components; they are Database Server, Client application, network for connecting the first two components.

4.2 JAVA / SWING :

JAVA :

Java is completely different from other languages because none of the present language is platform independent. Java programs can be run on any operating system and any type of processor. That is why the whole Internet community is attracted towards Java. Java fulfills needs for developing software's that can run on any of these Machines especially for Internet. Programming in Java is very easier than in any other, Its automated garbage collector enables the user to neglect the tidy memory management. On the other hand its object oriented ness enables the developers to write Modular and well-structured programs.

JAVA DEVELOPMENT KIT

The java Development kit (JDK 2) lead the way to write applets and applications that conform to the Java Core API .Its compiler and other tools run from a shell and have no GUI interface. The java platform 1.2.2 offers new capabilities. Internalization, signed applets, JAR file format, AWT (window toolkit) enhancements, Java Beans Component model, networking enhancements, Math package, large numbers, Remote Method Invocation (RMI), Java Foundation Class (JFC) Reflection, Java Database Connectivity (JDBC), new java Native Interface, Object Serialization, Inner classes and performance enhancements.

Java is a combination of high-level programming languages run time environment, and a class library that allows a programmer to write an active document and a browser to run it. It can also be used a stand-alone program without using browse. However java is mostly used to create an applet (a small application program)

FEATURES OF JAVA

- Platform independent

Java enables the programmer to create the cross platform programs by compiling into an intermediate representation called bytecode. This bytecode is interpreted by the Java Virtual Machine(JVM) which is installed with java. Java was designed to perform well on very low CPU's. World wide web works on different type of platforms and CPU's. Java has the ability to run on all type of platform s and so it is platform independent.

- Distributed

An application becomes distributed when it can be accessed from remote place and could not be detect the way it function. Java includes the features for intra-address -messaging. This allows objects on different computer to computer to execute procedures remotely.

- Secure

The viruses do not affect secure program while downloading from the net and java does not allow the malicious programs. Thus it is secure.

- Robust

Knowing that what is written will behave in a predictable way under diverse condition is a key feature of java. Java eliminates the problems, which are caused by memory management mistakes mishandled exceptional condition.

- Object Oriented

Java was not designed to be source-code compatible with any other language. Java team gave a clean, usable, realistic approach to object model in java is simple types, such as integers, are kept as high-performance non-objects.

JAVA SWING

Swing is the main component of JFC swings extends AWT by supplying many more types of GUI COMPONENTS. Swing also comes with a great demo program named swing set. Swing components do not depend on native window implementation to support them that is access all platforms. Swing is compatible with AWT and can be used interchangeably with AWT components. Swing as a rich collection and user-friendly set of interface elements. Swing has the capability of making sun micro system dream of "WRITE ONCE RUN ANYWHERE" COME TO REALITY".

Swing is a set of classes that provides more powerful and flexible components than are possible with the AWT. In addition to the familiar components such as buttons, check boxes, and labels, swing supplies several exiting additions, including tabbed panes, scroll panes, trees, and tables. Even familiar components such as buttons have more capabilities in swing like it can have both an image and a text string associated with it. Swing components are entirely written in java and therefore they are platform independent.

The swing component classes are:

- AbstractButton** - Abstract super class for swing buttons.
- ButtonGroup** - Encapsulates a mutually exclusive set of buttons.
- ImageIcon** - Encapsulates an icon.
- Japplet** - The Swing version of Applet.
- Jbutton** - The swing push button class.
- JcheckBox** - The swing check box class.
- Jcombobox** - Encapsulates combo box.
- Jlabel** - The swing version of a label.
- JradioButton** - The swing version of the radio button.
- Jscrollpane** - Encapsulates a scrollable window.
- Jtabbedpane** - Encapsulates a scrollable window.
- Jtable** - Encapsulates a table-based control.

- JtextField - The swing version of text field.
- Jtree - Encapsulates a tree-based control.

SWING FEATURES

- **Look and Feel**

The look and feel of the program consists of the way the program presents itself to the user and the way the user (look) interfaces with it (feel). The slight differences in the controls used with windows, the way menus are displayed and the way button behaves when clicked that enables us to make decision the capability to easily change the look and feel also allows custom look and feel to be developed. One of the most exciting aspects of the swing classes is the ability to dictate the Look and Feel (L&F) of each components, even resetting the Look and Feel at runtime.

- **Lightweight component**

Swing component are Lightweight. The means that component are not dependent on native peers to render themselves. Instead they use simplified graphics primitives to paint themselves on the screen and can ever allow portion to be transparent.

- A wide Varsity of new component, such as tables, tree, slider, progress bars, internal frames and text component.
- Swing component contain support for replacing their insets with an arbitrary numbers of concentric borders.

JDBC TECHNICAL OVERVIEW

JDBC is a java Database Connectivity API that is a part of the Java Enterprise APIs from Sun Microsystems, Inc. from a developer's point of view, JDBC is the first standardized effort to integrate relational database wit.

HOW DOES JDBC WORK?

Java database connectivity is a relational database objects and methods for interacting with SQL data sources. A java program first opens a connection to a database, makes a statement objects, passes SQL statements to the underlying DBMS through the statement object and retrieves the results as well as information about the result sets.

JDBC-ODBC BRIDGE

As a part of JDBC, Sun also delivers a driver to access ODBC data sources from JDBC. This driver is jointly developed with inter solve and is called the JDBC-ODBC bridge, because JDBC is close to ODBC in design , the ODBC Bridge is a thin layer over JDBC . Internally, this drivers maps JDBC methods to ODBC calls and, thus, interacts with any available ODBC driver. The advantages of that now

JDBC have the capability to access almost all databases, as ODBC drivers are widely available.

JDBC DRIVERS

To access a database via JDBC, we need a software driver. There are four types of drivers.

- Type 1 drivers use a bridge to connect to the relational database. We must generally install the bridge on each, client machine, making that use Type 1 drivers cumbersome to maintain. Sun's JDK includes the JDBC-ODBC

bridge, which allow to access database via ODBC, a Microsoft-designed standard way of accessing databases. Because most databases support ODBC, we can access them using the JDBC-ODBC Bridge. However, ODBC drivers generally provide access to only a fraction of a database's API, are sometimes inefficient, and often are not thread-safe. Consequently, using the JDBC-ODBC Bridge is a great way to learn about JDBC but not a great to write application.

- Type 2 drivers are native API drivers written mainly in C or C++ that use a proprietary protocol to access the database. They provide efficient access to the full database API. However we need a different version of a Type 2 driver for every platform. Each database vendor provides its own Type 2 driver, therefore we need a separate driver for each type of engine our application access.
- Type 3 drivers are native API drivers that use a network protocol to communicate with a middle ware server that medicates access to a database. Because Type 3 drivers are not vendor specific, we need only a single Type 3 driver no matter how many types of database engines our application accesses. However, we need a different version of the driver for every client platform.

4.3 FORTE(TM) FOR JAVA(TM), RELEASE 2.0,

Release 2.0 incorporates many new features and several bug fixes since Forte for Java, (Update Release 1.0.2 [Build 849], Community Edition and Forte for Java, release 2.0 (Builds 1067 and 1099j), Community Edition Beta.

Features Of Forte

- Existing Forte for Java and NetBeans projects can be imported using Projects | Import Project function.
- The Fastjavac compiler is now the default compiler.
- Compiler settings are saved when shutting down the IDE.
- JAR Packager module has been added.
- Properties (resource bundles) and Internationalization modules have been added.
- Menus have been rearranged and many items renamed; mnemonics added
- The Search Filesystems have been enhanced and now include new criteria for object type and CVS status, listing of details of full-text search results, and sorting of results.
- The New from Template wizard for Java classes has been changed.
- The File | Add File system menu item and dialog box have been added.
- The JavaHelp viewer now uses the standard viewer implementation, which enables printing of help pages.
- Override Methods tool has been added to the class node's context menu.
- Variables tab added to the Debugger Window shows local/instance/static variables for current thread.
- To avoid conflicts with multiple JDK versions, Forte for Java no longer reads the CLASSPATH variable. You can run Forte for Java with the

CLASSPATH variable by using the -cp switch at startup. (for example, \$
runide.sh -cp)

Extensibility and APIs

Forte for Java is easily customizable by end users. The IDE includes full capabilities for extension by add-in modules. Forte for Java is also designed to support multiple databases, application servers, and other parts of an integrated development system.

Most of the user functionality of the IDE is already implemented by modules that employ a rich set of APIs to interact with the core IDE and with other modules. These APIs are openly published, making it possible to develop your own modules to extend and enhance the IDE in every direction. This applies to vendors with existing applications that should be bridged to the IDE; organizations with specialized development needs; and even interested power users.

Standard Forte-supplied modules that interface to external development systems are also designed to support systems from multiple vendors at once. This applies to databases, application servers, version-control systems, and more. Sun will work with interested vendors to make sure their products are supported.

Finally, the IDE architecture is open enough to allow it to be treated as a tools platform providing users with a familiar UI and developers with a rich infrastructure.

4.4 SQL SERVER

About SQL Server:

SQL Server is integrated with security system and it allows a single user name and password for access to SQL server and encryption features. SQL Server supports the symmetric multiprocessor capabilities and automatically takes advantage of any additional processors. It runs as a service on Windows NT allowing the user to start and stop SQL Server remotely.

Higher availability's and better manageability of data and applications. The Microsoft SQL Server provides 3 - tier architecture. It also better supports for very large databases. By taking advantages of the parallel architecture.

Reduces input for many development and maintenance tasks.

A library of OLE distributed management objects (DMO) is available in the distributed management framework.

Features of SQL Server:

- Scalable and Higher performance relational database management systems.
- Integrated with Microsoft windows NT
- SQL Server provides replication of data throughout the enterprise.
- It allows centralized management of servers.
- It provides parallel architecture.
- It supports very large database.
- Tightly integrated with OLE object technology.
- It Maintains the better data integrity.

4.5 SYSTEM SECURITY :

Security cannot be found in an article or a box on the shelf. Security is policy and process -- constantly revised, reviewed, and implemented. It is of the utmost importance for any company to have a policy and process in place to protect their information and employees from hackers and general Cyber Crime. So get protected and take a look at some of our featured titles below.

College Net is developed in such a way that all necessary measures for authentication is been carried out in an advanced means that no hackers can break the code and enter into the login to view the information. It is processed in a hierarchical order for others to know the details about the higher authorities.

4.6 SYSTEM TESTING AND IMPLEMENTATION

Object Oriented Testing is followed to incorporate correctness, completeness and consistency within the context of the tool's syntax, semantics, and pragmatics.

The test plan follows subsequently:

Test cases for each class is identified and associated with the respective class. The purpose of the test is stated

The test plan involves the below steps

1. Testing the states of the object
2. Excising a list of messages and operations as a consequence of test
3. Stating a list of exception that may occur as the object is tested
4. Stating a list of external conditions
5. Supplementary information that will aid in understanding or implementing the test.

4.6.1 TESTING METHODS

a) Unit Testing

The smallest testable unit in Object Oriented Software is the encapsulated class or object. Hence Class testing for OO software is performed which is equivalent to unit testing for conventional software Class testing is driven by the operations encapsulated by the class and the state behaviors of the class

b) Integration Testing

The following Integration Testing are followed

Thread-based Testing: Integrates the set of classes required to respond to one input or event for the system. Each thread is integrated and tested individually.

Use-based Testing: Integration and testing of classes (independent classes) that use very few of server classes. After the independent classes are tested, the next layer of classes namely the dependent classes are tested

Cluster Testing: clusters of collaborating classes are exercised by designing test cases that attempt to uncover errors in the collaborations

c) Validation Testing

Validation test uncovers any deviations in functional and performance characteristics of the software. Configuration Review and Alpha-Beta testing are performed

d) System Testing

System Testing is performed to verify proper functioning of the system elements. System testing involves

Recovery Testing: This test forces the system to fail in a variety of ways and verifies that recovery is properly performed. If recovery requires human intervention, the time to repair is evaluated to determine whether it is within acceptable limits.

Stress Testing: This test was performed by generating 10 interrupts at a time, increasing data rates, increasing memory requirements and other resources, and generating heavy traffic in the network. The performance of the software is evaluated at run-time using this test.

IMPLEMENTATION

Implementation forms an important phase in the system development cycle. It is a stage of the project work that transforms the design in to a working model. The implementation phase commences with the installation and system setup. After the system was tested successfully, the implementation was done.



2-726

CONCLUSION

5. CONCLUSION

The work of converting the manual processing of College Net to a computerized one had been finished successfully. This work deals with some of the main process of college. The computerization does not depend on the type of work, but it depends upon the perfection of the work. This system involves easier completion of these works, which are done manually. This process may be improved much for all the processes of a college environment, which mainly deals with easy transaction between end users. As this Network Application provides a complete Integrated College Management System. This Intranet plan includes an overview of the existing infrastructure of a College.

With these things, I conclude this system is a sufficient work done by fulfilling the college needs

ANNEXURE

TABLE STRUCTURE

Login

Column_name	Type
userid	varchar
password	varchar

Member Details

Column_name	Type
memberno	varchar
fname	varchar
name	varchar
dob	datetime
sex	varchar
religion	varchar
fathersname	varchar
occupation	varchar
deptcode	varchar
usercategorytype	varchar
_street	varchar
_city	varchar
_state	varchar
_country	varchar
_pincode	int
_phoneno	int
_street	varchar
_city	varchar
_state	varchar
_country	varchar
_pincode	int
_phoneno	int

User Category

Column_name	Type
-----	-----
usercontenttype	varchar
usercontentname	varchar

Department Information

Column_name	Type
-----	-----
deptcode	varchar
deptname	varchar

User Information

Column_name	Type
-----	-----
userid	varchar
pwd	varchar
confpwd	varchar
memberno	varchar

Announcement Input

Column_name	Type
-----	-----
sysdate	datetime
senid	varchar
senname	varchar
sendept	varchar
sencat	varchar
recid	varchar
recname	varchar
recdept	varchar
reccat	varchar
notice	varchar

News Input

Column_name	Type
-----	-----
newsdate	datetime
userid	varchar
flash	varchar
ref	varchar

File Transfer

Column_name	Type
sysdate	datetime
senid	varchar
senname	varchar
sendept	varchar
sencat	varchar
recid	varchar
recname	varchar
recdept	varchar
reccat	varchar
subject	varchar
content	varchar

Record Of Work

Column_name	Type
stafname	varchar
dept	varchar
memberno	varchar
classes	varchar
semester	varchar
category	varchar
activity	varchar
topics	varchar
subtopics	varchar
monday	varchar
tuesday	varchar
wednesday	varchar
thursday	varchar

friday	varchar
saturday	varchar
sunday	varchar

Syllabus

Column_name	Type
-----	-----
sylldate	datetime
stafname	varchar
category	varchar
memno	varchar
dept	varchar
semester	varchar
classes	varchar
units	varchar
presbook	varchar

Personal Engagement

Column_name	Type
-----	-----
perdate	datetime
username	varchar
dept	varchar
memno	varchar
category	varchar
subject	varchar
time	int
things	varchar

LOGIN

User ID:

Password:

REGISTER FORM

User Id: Password: Confirm Password:

First Name: Last Name:

Date Of Birth: / / (dd/mm/yyyy)

Religion / Community: Gender: Male Female

Father's Name: Father's Occupation:

Department Details

Department: Member No: Category:

Temporary Address

Street:
City:
State:
Country:
Pin Code:
Phone No:

Permanenet Address

Street:
City:
State:
Country:
Pin Code:
Phone No:

FILE TRANSFER INPUT

Sender's id Receiver's id Date

Attachment

ADD / EDIT

Content



ATTACHMENT

HINTS: Step 1 Select the path by clicking browse
Step 2 (On selecting the path) click...

Path:

BROWSE

ADD

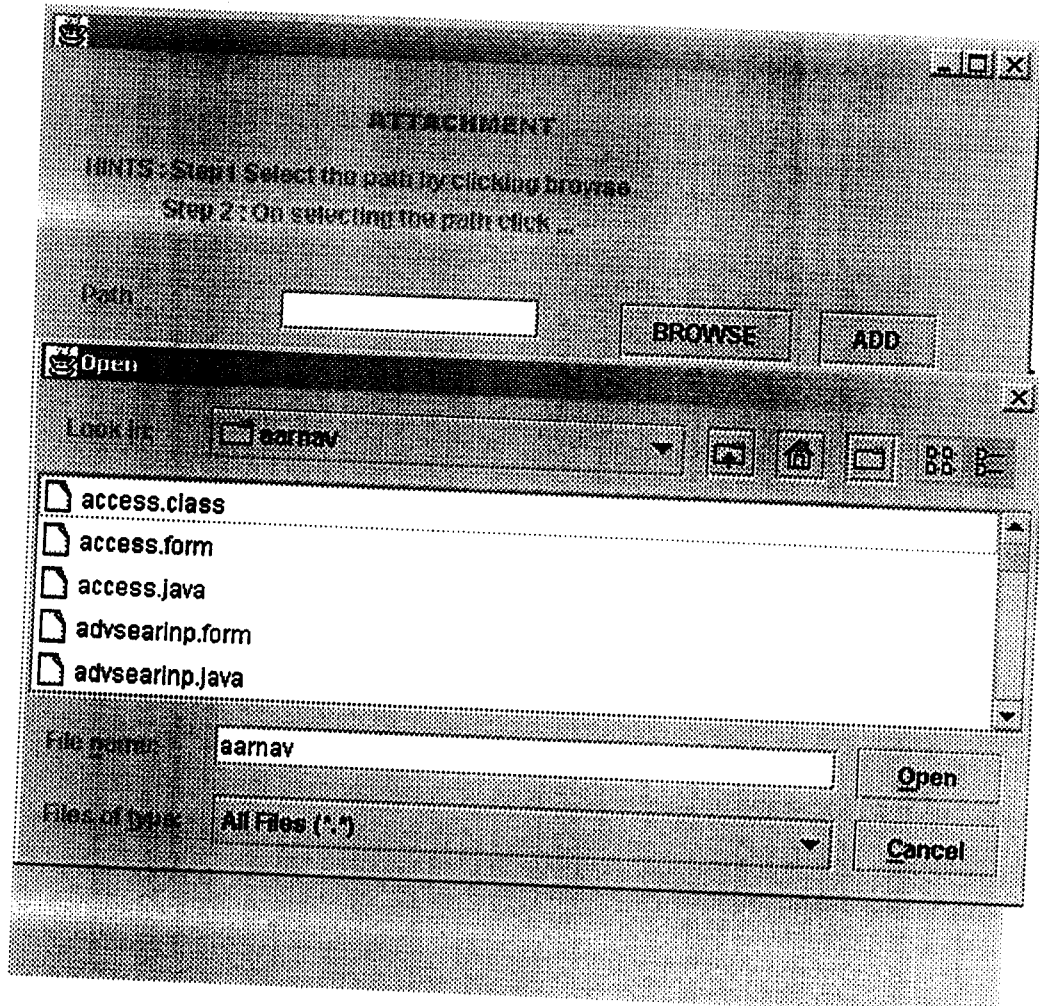
Step 3 selected files are removed by selecting remove

Attachment:

REMOVE

REMOVE ALL

FINISHED



FILE TRANSFER INPUT

Date:

Sender's Id: Receiver's Id:

Attachment:

Content:

FILE TRANSFER VIEW

DATE

Sender's Id	<input type="text"/>	Receiver's Id	<input type="text"/>
Sender's Name	<input type="text"/>	Receiver's Name	<input type="text"/>
Sender's Department	<input type="text"/>	Receiver's Department	<input type="text"/>
Sender's Category	<input type="text"/>	Receiver's Category	<input type="text"/>

Attachment

DELETE

DOWNLOAD

NEWS

User Id:

Date:

News:

Reference:

ANNOUNCEMENT

Date

Sender Name Receiver Name

Sender's Id Receiver's Id

Sender's Department Receiver's Department

Sender's Category Receiver's Category

Notice

NEWS AND ANNOUNCEMENT

DATE

News :	Published By	Reference
SENDER	<input type="text"/>	
RECEIVER	<input type="text"/>	
NOTICE	<input type="text"/>	

News

TASK SCHEDULING - STAFF

DATE

PERSONAL ENGAGEMENT'S

TIME TABLE

SYLLABUS

RECORD OF WORK

CLOSE

A screenshot of a software window titled "TASK SCHEDULING - STAFF". The window has a standard Windows-style title bar with minimize, maximize, and close buttons. Inside the window, there is a "DATE" label followed by a text input field. Below this, there are four stacked rectangular buttons labeled "PERSONAL ENGAGEMENT'S", "TIME TABLE", "SYLLABUS", and "RECORD OF WORK". At the bottom right of the window is a "CLOSE" button. The entire image has a halftone or dithered texture.

PERSONNEL ENGAGEMENT

Date

Name

Department

Member No

Category

Suggst

Time

ADD

Things To Do

DELETE

SYLLABUS Date

Name Category **staff** Member No

Department **corp** Semester Class

Units

Prescribed Books

SYLLABUS

Date

Name Category **staff** Member No

Department **computerscience** Semester Class

Units

Prescribed Book

CLOSE

RECORD OF WORK

Staff Name:

Member ID:

Category:

Department:

Class:

Semester:

Date

Week

Daily Task:

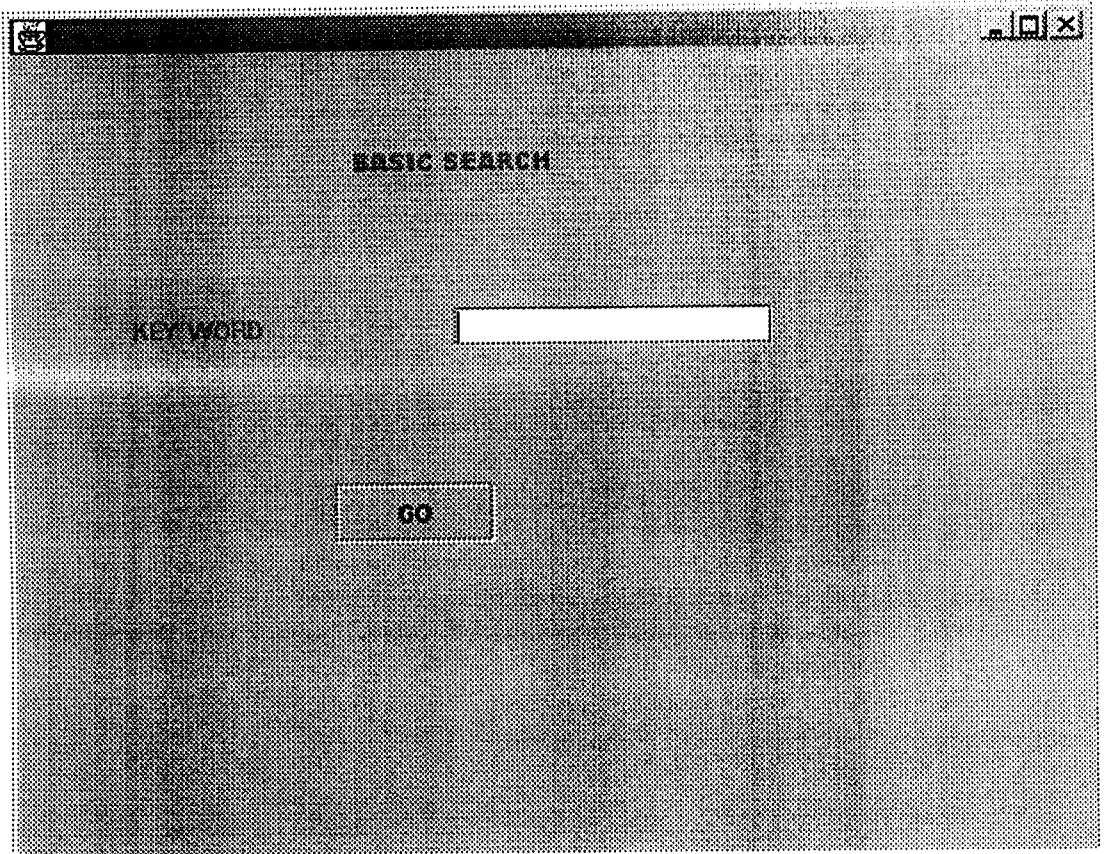
Activity:

Topics:

Subtopics:

Weekly Task

Monday	<input type="text"/>
Tuesday	<input type="text"/>
Wednesday	<input type="text"/>
Thursday	<input type="text"/>
Friday	<input type="text"/>
Saturday	<input type="text"/>
Sunday	<input type="text"/>



A screenshot of a web browser window displaying a search interface. The window title bar is visible at the top, showing a small icon on the left and standard maximize, minimize, and close buttons on the right. The main content area has a dark, textured background. At the top center, the text "BASIC SEARCH" is displayed in a bold, sans-serif font. Below this, on the left side, the text "KEY WORD" is followed by a white rectangular input field. Centered below the input field is a rectangular button with the text "GO" inside it.

BASIC SEARCH

KEY WORD

GO

ADVANCED SEARCH

Department	<input type="text"/>	Category	<input type="text"/>
Member N.	<input type="text"/>	Member No.	<input type="text"/>

RESULT PUBLICATION - STAFF

Name Department Category

Class Semester Member No

Name	Core / Allied	Session	University	Total	Result
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

RESULT PUBLICATION - STUDENT

Name Category Member No

Department Semester Class

Code / Allied	Session	University	Total	Result
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