KNOWLEDGE MANAGEMENT

PROJECT WORK DONE AT

BPL MOBILE, COIMBATORE

PROJECT REPORT

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE AWARD OF THE DEGREE OF

MASTER OF COMPUTER APPLICATIONS

OF BHARATHIAR UNIVERSITY, COIMBATORE.

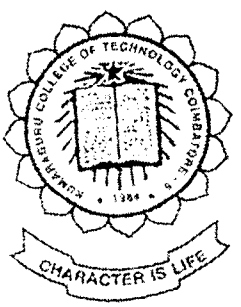
SUBMITTED BY

K. SASIKUMAR
9938M0634

GUIDED BY

Mr. K.R. Baskaran B.E., M.S.,

Assistant Professor
Dept. of Computer Science and Engineering,
Kumaraguru College of Technology, CBE.



Department of Computer Science & Engineering

KUMARAGURU COLLEGE OF TECHNOLOGY

Coimbatore –641 006

Department of Computer Science & Engineering

Kumaraguru College of Technology

(Affiliated to the Bharathiar University)

Coimbatore – 641 006

CERTIFICATE

This is to certify that the project work entitled

KNOWLEDGEMENT MANAGEMENT

Done by

K. Sasi Kumar
9938MO634

Submitted in partial fulfillment of the requirements for the award of the degree of

Master of Computer Applications of Bharathiar University.

Professor and Head

Internal Guide

Submitted for the University Examination held on 10.5.2002

Internal Examiner

External Examiner

BPL Mobile Cellular Limited

BPL Centre
1045-1046, Avanashi Road
Coimbatore 641 018
Phone 91 0422 213005
Fax 91 0422 201388

INNOVISION BUSINESS GROUP

April 19.2002

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. K. Sasikumar[9938M0634] Master of Computer Application (MCA) of Kumaraguru College of Technology has successfully completed the project Work at our concern in IT(Information Technology) department from December 2001 to March 2002.

for BPL Mobile Cellular Limited,

Mr. Lakshmanan.B,
Manager – Systems.

DECLARATION

I here by declare that the project entitled '**KNOWLDEGE MANAGEMENT**' submitted to **Bharathiar University** as the project Work of Master of Computer Application Degree, is a record of original work done by me under the supervision and guidance of **M/s. K. Sumathi,** Group Leader, BPL Mobile and **Mr. K.R. Baskaran, B.E., M.S.,** Assistant Professor, Department of Computer Science and Engineering, Kumaraguru College of Technology and this project work has not found the basis for any award of any Degree/Diploma/Associateship/Fellowship or similar title to any candidate of any university.

Place: Coimbatore

Signature of the Student

Date: 30.4.2002

Countersigned by

Mr. K.R.Baskaran B.E., M.S.,
(Internal Guide)

Acknowledgement

I wish to express my deep sense of gratitude to all those people who have given me a helping hand in completing my project.

With most pride and privilege I would like to thank our Principal, **Dr. K.K. Padmanabhan, B.Sc., (Engg), M.Tech., Ph.D.**, Kumaraguru College of Technology, Coimbatore.

I would like to extend my gratitude to **Dr. S. Thangaswamy, B.E., (Hons)., Ph.D.**, Professor, Head of the Department of Computer Science and Engineering for his valuable guidance.

My heartfelt thanks to my guide **Mr. K.R. Baskaran, B.E., M.S.**, Assistant Professor, Department of Computer science and Engineering, for his able guidance and encouragement throughout the course of the project.

I would like to thank **M/s. K. Sumathi, Group Leader**, BPL Mobile Pvt. Limited, Coimbatore for her valuable guidance and ideas in completing the project. I would like to thank **Mr. R.S. Praveen**, System Engineer, BPL Mobile Pvt. Limited, Coimbatore for his guidance in the project.

Finally i express my heartfelt thanks to Mr. B. Lakshmanan, Manager-Systems, BPL Mobile Pvt. Limited, Coimbatore for allowing me to undertake this project in BPL Mobile, Coimbatore

Last but not the least, I would like to thank all my friends who have helped me a great deal to complete this work.

K. SasiKumar

Synopsis

This project involves computerization of the existing manual system. Some of the processes involved in this system are

- Online examination processing for the user (online processing)
- Division of work to the administrator for examination preparation.
- Detail analysis on the status of the examination.
- Migrating the data from the existing format to current system format.

When the user takes on the examination based on the category, system has to check for the time until the examination process is over and also the system has to produce the detail report on the examination. The administrator has to take care of the details needed for the examination based on his roles or functions.

The main reason for computerization is that in the manual system it was difficult for the administrator to keep track of whole examination process, and takes long time for the preparation of question and correction. The users are able to check their performances then and there.

This system is developed mainly to reduce the work overhead in correction, question preparation and also to reduce the time required to conduct the examination.

TABLE OF CONTENTS

INTRODUCTION

1.1 Project Overview

The project "**Knowledge Management**" is a examination process system, which involves conducting examination to the employees of the organization, analysis of the results, and also for administrative process, which will guide the administrator in preparation towards the examination process.

The objective of the project is to reduce the overhead in examination process and administrative process by creating a electronic platform for automating the time limits, category selection, reports and functions for the administrator.

The main objective is to reduce the time to conduct and prepare for the examination, and also other problems that may arise while in the current system are

- Location of the branch office (geographically far away).
- Cannot have individual towards the employee.

The existing system information needs to be transferred to the proposed system without any loss.

The roles for the administrator are created, so as to increase their performance and also to provide security to the data. Another main thing in it is to divide work between the administrators so as to minimize the work overhead.

1.2 Company Profile

The BPL group has over 4500 dealers spread out all over India and brings this enormous distribution reach and dealer loyalty to their business. BPL has a customer base of more than 6.5 million, making it one of the largest business houses in India.

BPL also has proved its expertise in the telecommunication field, which is nearing 30 years, thus making it one of the leading equipment manufacturer and service providers in the country.

BPL Mobile the leader of the wire free world and India's No. 1 mobile phone service with over 8,00,000 wire free citizens spread across 192 cities covering Mumbai, Maharashtra, Kerala, Tamil Nadu (except Chennai), Pondicherry and Goa. BPL Mobile has revolutionized the mobile telephone industry in India. Its philosophy of using the very latest technology, give its subscribers products that touch them and make things easier in their day-to-day lives, taking them ever closer to a wire free world.

With a community soon approaching a million wire free citizens, the BPL Mobile Network has over Rs.4000 crores of investment in world-class technologies like Qualnet, Intelligent Network (IN) & Wireless Application Protocol (WAP) and General Packet Radio System (GPRS).

The BPL Mobile community is the first wire free community to experience Mobile Internet through GPRS technology. BPL Mobile, Mumbai has a tie up with France Telecom Of France, Which holds 26.5% equity with the rest of the equity being held by the BPL group. BPL became the first operator in India to become a member of the GSM MoU and the second operator to get the Telecom Evaluation Certificate (TEC) clearance.

Quality Process

At BPL Mobile, we define quality as getting it right, every time. Delivery of superior quality to wire free citizens through products, value, delivery systems and use of appropriate technology is the cornerstone of our business philosophy.

This superior quality is delivered to wire free citizens through an empowered Team Mobile who continually re-evaluate and re-engineer processes to meet the goal of having a satisfied wire free citizen. A work environment, which encourages constant learning, teamwork, respect for the individual and merit, supports our quality programmers.

Team Mobile members are required and encouraged to deliver superior quality because of a fundamental understanding that the wire free citizen has a choice. Quality is everybody's responsibility, ensuring that the wire free citizen and employee satisfaction is enhanced, thereby improving business performance.

GPRS From BPL Mobile

BPL Mobile, India's No. 1 mobile phone service, has sparked off yet another revolution in the field of mobile communication. GPRS, General Packet Radio Service. A technology that combines the extensive reach of mobile telephony and power of the Internet is to give one uninterrupted access to the world. One can now connect to the Internet 24 hours a day by just plugging your mobilephone into your home PC, Laptop, or Pocket PC/PDA.

GPRS is a quantum leap in technology as opposed to the CSD (Circuit Switched Data) option that today's fixed line and mobilephones work on, accentuating ones MobileInternet experience to make it far more realistic than in the past. GPRS uses packet switching technology, this means that data is broken up into smaller related packets, transmitted separately and reassembled at the other end, exactly as in the IP environment. Hence GPRS is ideal for IP/ Internet communication.

With GPRS, dialing up to connect to the Internet is now history. Breaking free from fixed-point connectivity, one can connect his GPRS phone to his home PC, Laptop, or Pocket PC/PDA and get online anywhere in the city. GPRS allows you high-speed data transmission of up to 30 Kbps, way higher than those available over traditional GSM networks and comparable to dial up ISP's. He is neither restricted to limited Internet content and low data access speed (data access speed on CSD: 9.6 kbps) as was the case with WAP, nor the limitation of characters per message as one faced with sms-based applications. So now one can browse the web, chat and download favourite music etc. using his mobilephone.

What's even more unique about GPRS is that it allows one to shuttle between his regular calls and access data simultaneously. One can do all of this and lots more with GPRS without even having to incur the associated dial up PSTN charges. In addition to this, for the corporate segment, BPL Mobile also has customized mobile access solutions.

System Study & Analysis

2.1 EXISTING SYSTEM

In the existing system, all the operations are carried out manually (i.e.). Examination is conducted in particular time, user's are not able to choose the category of the which they are familiar, otherwise they will be informed about the examination in advance and the category details, and also correction are made manually by the administrator or the selected person.

In case of the administrator work, there are no functions according to their position; they themselves have to manage everything. These have lead to lot of time being wasted in both question preparation and examination process. It also becomes tedious to maintain such an amount of data for long period of time, for the purpose of analysis.

Limitations of the Existing System

- Existing system all operations has to be done manually, which needs allocation of place and time of the examination.
- Existing system there is no allocation of work to the user which some time becomes leads to confusion.
- There is no record to keep track of the performance of the user, which can be used for analysis purpose regarding placement of the staff for right job.
- There is no up-to-date report on user performance on examination.
- There is no security to the data in the existing system.

2.2 PROBLEM DESCRIPTION

A system should be developed that enables the users (employees), to take on the examination when they are free and are given freedom to choose the subject or category, which they are familiar, they can also see the result of the examination as soon as they complete the examination.

The system should enable the administrator to view the status of the examination and also provide functions to the administrator according to their position (User Type).

2.3 Proposed System

'**KNOWLEDGE MANAGEMENT**' is basically an intelligent quotient system, which provides online examination process and also provides functions to administrator, which enables the user to know his depth of the knowledge in particular category or subject. The user can also view the status of the examination one's he completes the examination. It also provides for division of work between the administrators for effective management.

2.4 Requirement of New System

The new system has to computerise the existing manual system. The place where we need the requirements of the new system are

- Online examination process
- Migration of data
- Administrative role creation
- Login process
- Allocation of roles to administrator

The new system has to do examination process in **On-line** and has to display the result or status of the examination then and there to the user. It need to do validation Process, through user Id and password. It has to make sure that user must logout once he finishes the processing the system and also it has to check that user cannot login more than once at a time with their user id and password.

In on-line examination processing the system has to check whether user completes the processing within the time or not, if not has to produce the alert message.

In case of the administrative processing the system must make sure the roles are allocated to the administrator based on the user type. It also involves the Login process based on the user type, name and password. The existing system datum which are stored in excel sheets need to be transferred to the existing system database.

2.5 User Characteristics

The system is divided into several components called modules that are integrated to satisfy the problem requirements. The system is divided into following two modules, so there are two different types of user:

- User
- Administrator

User:

Here user is the employee of the organization who has to take On-line examination. He has to validate his login Id and password before he take on the examination and whose position is decided by scores in the examination.

Administrator:

He is also an employee who does the administrative part in the System, and he analysis the performance of the employee, prepare questions based on the category and also analysis the examination process.

3.1 Hardware Configuration

Processor	:	**Pentium III**
Clock Speed	:	**500 MHZ**
RAM	:	**64MB**
Hard Disk Drive	:	**4 GB**
Floppy Disk Drive	:	**1.44 Samsung floppy drive**
Monitor	:	**Samsung Monitor**
Key Board	:	**Samsung 101 Std. Keys**
Mouse	:	**Logitec Mouse**

3.2 Software Tools Used

Front End	**: Visual Basic 6.0, ASP 3.0**
Web Desgin Tools	**: HTML, VBScript**
Database	**: Oracle 8.0**
Operating System	**: Windows 98**

Software Tool	Purpose	Reason
Visual Basic 6.0	Administrative Work	Administrative work is mainly Placed in some branch office. Just becomes complicated when combined with user use. It is also used to GUI application.
ASP 3.0	To work with Browsers and for creating dynamic web pages.	Since it is used by every employee in the organisation and also to built GUI application.
Oracle 8.0	To Store data and to create roles.	It is used mainly for security purpose (i.e.) to provide security both at client and server level.
HTML	To work with Browsers	It is used mainly as a designing tool for the purpose to define and describe the layouts of the web page.
VB Script	For Client side work	VBScript is used to control content and objects in HTML pages designed for the World Wide Web and corporate intranets.

3.3 Software Features

Visual Basic:

Visual Basic 6.0 has many powerful features that are required in today's programming environment, which include features from the previous versions. Some of these features are:

- **Based on the Basic Language.**

- **Programming Objects and Events**: The Visual Forms and objects like list boxes and radio buttons that you use on the forms, helps you to interact with the application in order to find out the flow of the program. The forms and objects perform a specified action when an event occurs. This is known as event-driven programming.

- **A common programming platform across all Microsoft Office applications:** Almost all Microsoft Office applications support visual Basic by sharing and reusing code across applications.

- **Application Performance Explorer**: This tool enables you to testing the run-time performance and resource load characteristics of various enterprise application design scenarios you are considering.

- **Native Code compilation**: One of the most significant features of the Visual Basic is the native code compilation. This compilation produces code almost 20 times faster than pseudocode compilation.

- **32-bit support**: Visual Basic supports 32-bit applications.

- **Object types:** New object types, called File System Objects or FSO, have been added to Visual Basic 6.0. These objects enable you to work faster and more easily with files and directories.

- **Database enhancements:** Earlier versions of Visual Basic used Data Access Objects (DAO) and Remote Data Objects (RDO).Visual Basic 6.0 includes ActiveX Data Objects (ADO) as the visual data access tool.

- **SDI/MDI/Explorer-Style Interface Options**: Visual Basic has the functionality to create single, multiple, or windows Explorer-style document interface applications.

- **Quick editing, testing and debugging**: The visual Basic development environment includes extensive editing and debugging tools.

- **Internet features**: Server-side applications, responding to user requests from a browser, can be written with the help of IIS applications. The methods, properties, and events of every element on a Web Page can be exposed using the Dynamic HTML Technology.

- **Package and deployment Wizard:** The Package and Deployment Wizard, previously called Setup Wizard, has been enhanced to include a wider range of data access formats like ADO, DAO, ODBC and RDO. A Visual Basic project is compressed into a .cab file or an executable setup program.

ASP (Active Server Page):

ASP enables us to tailor our web pages to the specific requirements of our users and their browser type, as well as our own needs. It allows interacting with the user, which helps to keep our site interesting and up-to-date. Although it is not the first technology in dynamic page creation, it is one of the fastest and most powerful. It is indicative of the impact that ASP has made that it has now got its own imitators. Features of ASP are:

- Scriptless ASP: ASP is now much faster as processing .asp pages that don't contain any script.

- Flow Control Capabilities: 'Response. Redirect' this sent an instruction to the client browser to load an alternative page.

- Error Handling and the New ASPError Object: Configurable error handling is now available, by providing a single custom ASP page that is automatically called if an error occurs with the Server. Transfer method.

- COM Object Security: IIS uses the new cloaking feature provided by COM+ so that local server applications instantiated from ASP can run in the security context of the originating client.

- Server-Side Include File Security: Server-Side include files are often used for sensitive information, such as database connection strings or other access details.

- Encoded ASP scripts: ASP script and client-side script can now be encoded using Base64 encryption for future releases of ASP.

VB Script

There are too many important facets about the language of the World Wide Web to say that any one is the most important. That language is called HTML. In the years since its inception, the HTML specification has been fairly dynamic. So far, each feature added to the standard has made HTML better. Succeeding specifications make pages more attractive, more informative, and richer in content-so much so that Web pages are quickly becoming the interface of choice for retrieving information from computer screens.

VBScript is used to control content and objects in HTML pages designed for the World Wide Web and corporate intranets. VBScript is not about creating applications, it's about creating active HTML. If your pages look and work like applications, that's fine. The most important thing that you're doing when you're using VBScript in your Web pages is bringing the pages to life. Dead, static pages on the Web are about as exciting as slides on television. In the future, pages will be designed on the fly, tailored to the profile of the individual user.

VBScript is a member of Microsoft's Visual Basic family of development products. Other members include Visual Basic (Professional and Standard Editions) and Visual Basic for Applications, which is the scripting language for Microsoft Excel. VBScript is a scripting language for HTML pages on the World Wide Web and corporate intranets.

HTML

HTML stands for HyperText Markup Language, which is an application of standard Generalized Markup Language (SGML). It is a simple language used to define and describe the layouts of a web Page. HTML also supports Multimedia and document links.

Standard Generalized Markup Language (SGML)

SGML stands for standard Generalized Markup Language. SGML is a general-purpose tool for developing documents of any kind. It originated in the 1960s. It was developed to overcome problems while moving documents across hardware platforms and operating systems. Thus, SGML is an international standard used for formal definition of system and platform independent text.

Document Type Definition (DTD)

Document Type Definition is a formal SGML specification for a document. It describes the elements and markup definitions used to create documents. Thus a DTD defines the syntax of the markup language by specifying formal specification for all markup conventions. At present, there are three HTML DTDs in use. They are

- IETF Level 2 HTML DTD
- IETF Level 3 HTML DTD
- Netscape's Mozilla DTD

Hyper Text Transfer Protocol (HTTP)

Http is the acronym for Hypertext Transfer protocol. It is the Internet protocol used to communicate between web clients and servers.

In another example, System is viewing the roles of the administrator meant for administrator. Testing the program whether the Functions of the administrator to be viewed by the administrator are only displayed after the administrator enters his user type along with user name and password can do this.

Internet Information Server

Internet Information Server is very important because it is extremely fast web server and it currently owns about 60 to 80 percent of the total web server market. IIS runs as a Microsoft Transaction Server (MTS) component. IIS is programmable. Given sufficient permissions, you can access, control, and modify IIS and its Web sites with COM – complaint languages including ASP Script. We can extend and customize IIS via Internet Server Application Programming Interface.

Following are the valuable features of IIS,

IIS Provides Integrated Security

On the Internet, some commercial sites require valid login name and password to access the resources of that site. Such sites are called secured sites and most of the sites allow free access. IIS supports both type of sites.

IIS Provides Access to Content

All web servers can deliver HTML files, but they differ widely in how they treat other types of content. Most servers let you add and modify Multi-purpose Internet Mail Extensions (MIME) types, but IIS integrates directly into the Windows registry. IIS natively understands how to treat most common Windows file formats.

IIS Provides an Interface for COM

We can control many parts of IIS using COM> IIS exposes many of the server's configuration settings via the IIS Admin objects. These objects are accessible from ASP and other languages. IIS 4 and higher store settings and Web information in a special database called the metabase.

Oracle 8

Databases and Information Management

A database server is the key to solving the problems of information management. In general, a server must reliably manage a large amount of data in a multi-user environment so that many users can concurrently access the same data. All this must be accomplished while delivering high performance. A database server must also prevent unauthorized access and provide efficient solutions for failure recovery.

The Oracle Server

The Oracle Server is an object-relational database management system that provides an open, comprehensive, and integrated approach to information management. An Oracle Server consists of an Oracle database and an Oracle Server instance. The following sections describe the relationship between the database and the instance.

Structured Query Language (SQL)

SQL (pronounced SEQUEL) is the programming language that defines and manipulates the database. SQL databases are relational databases; this means simply that data is stored in a set of simple relations.

A database can have one or more tables. And each table has columns and rows. A table that has an employee database, for example, might have a column called employee number and each row in that column would be an employee's employee number.

You can define and manipulate data in a table with SQL commands. You use data definition language (DDL) commands to set up the data. DDL commands include commands to creating and altering databases and tables.

You can update, delete, or retrieve data in a table with data manipulation commands (DML). DML commands include commands to alter and fetch data. The most common SQL command is the SELECT command, which allows you to retrieve data from the database.

In addition to SQL commands, the Oracle Server has a procedural language called PL/SQL. PL/SQL enables the programmer to program SQL statements. It allows you to control the flow of a SQL program, to use variables, and to write error-handling procedures

Database Structure

An Oracle database has both a physical and a logical structure. Because the physical and logical server structure is separate, the physical storage of data can be managed without affecting the access to logical storage structures.

Physical Database Structure

The operating system files that constitute the database determine an Oracle database's physical structure. Each Oracle database is made of three types of files: one or more data files, two or more redo log files, and one or more control files. The files of an Oracle database provide the actual physical storage for database information.

Logical Database Structure

An Oracle database's logical structure is determined by:

- One or more tablespaces. (A tablespace is a logical area of storage explained later in this chapter.)
- The database's schema objects. A *schema* is a collection of objects. *Schema objects* are the logical structures that directly refer to the database's data. Schema objects include such structures as tables, views, sequences, stored procedures, synonyms, indexes, clusters, and database links.

The logical storage structures, including tablespaces, segments, and extents, dictate how the physical space of a database is used. The schema objects and the relationships among them form the relational design of a database.

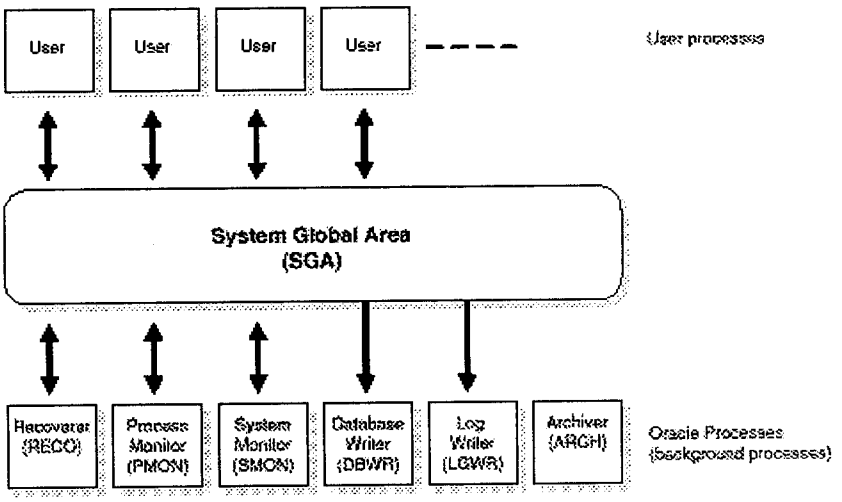
An Oracle Instance

Every time a database is started, a system global area (SGA) is allocated and Oracle background processes are started. The system global area is an area of memory used for database information shared by the

database users. The combination of the background processes and memory buffers is called an Oracle *instance*.

An Oracle instance has two types of processes: user processes and Oracle processes.

- A *user process* executes the code of an application program (such as an Oracle Forms application) or an Oracle Tool (such as Enterprise Manager).
- *Oracle processes* are server processes that perform work for the user processes and background processes that perform maintenance work for the Oracle Server.

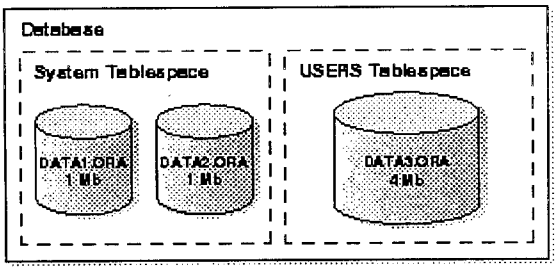


An Oracle Instance

Databases, Tablespaces, and Datafiles

The relationship among databases, tablespaces, and datafiles (datafiles are described in the next section) is

Databases, Tablespaces, and Datafiles



Online and Offline Tablespaces

A tablespace can be *online* (accessible) or *offline* (not accessible). A tablespace is normally online so that users can access the information within the tablespace. However, sometimes a tablespace may be taken offline to make a portion of the database unavailable while allowing normal access to the remainder of the database. This makes many administrative tasks easier to perform.

Memory Structures

Oracle creates and uses memory structures to complete several jobs. For example, memory is used to store program code being executed and data that is shared among users. Several basic memory structures are associated with Oracle: the system global area (which includes the database buffers, redo log buffers, and the shared pool) and the program global areas.

System Design & Development

4.1 Input Design

In this project the input screens are designed to be user friendly. Validation is done for all the screens, which is getting inputs from the user such that even if the user commits any mistake he will be alerted with the help of message boxes.

4.2 Output Design

In this project the reports are designed so that they are simple, efficient and provide a complete solution to the problem posed. The following reports are generated by the system.

- **Examination Status (Based on Employee and Exam)**

  This report provides details about the Exam he has currently taken up. This report displays the name, total marks obtained, successful completion of the exam and also other employee details.

- **Overall Examination Analysis (Based on Exam)**

  This report provides details about the Exam that has been taken by the users. This report displays users who have taken up the exam and status of their result in the exam.

- **Employee Analysis (Based on Employee)**

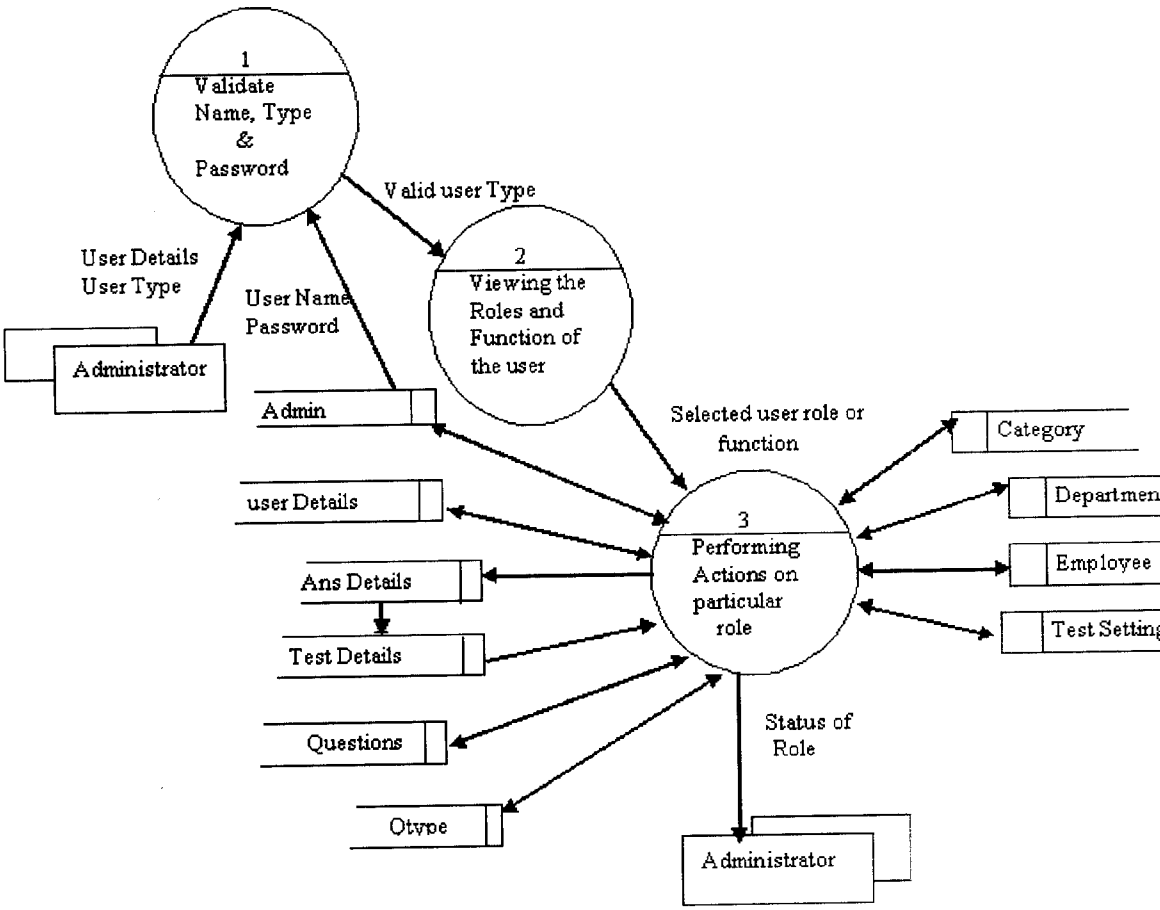
  This report provides details about the user's overall performance.

4.3 Database Design

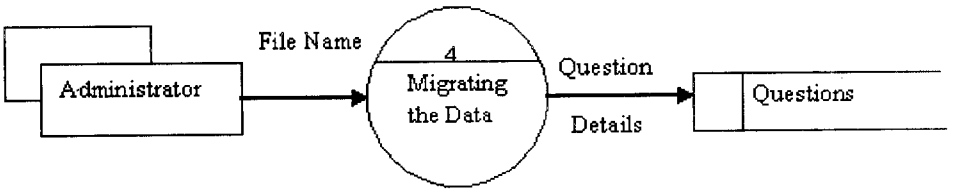
Table Name	Constraints	Type	Comments
Admin	Primary key(seqNo)	Master	Stores Administrative Details
Employeee	Primary key(empID) Foreign Key(DeptID)	Master	Stores Employee Details
Category	Primary key(Catid)	Master	Different types of ques. category
Questions	Primary key(Qno) Foreign Key(qtype)	Master	Details of the Questions
Qtype	Primary key(Q_ID)	Master	Type of Questions
Testsettings	Primary key(Depid)	Master	Timings for Examination
User Detail	Primary key(user type)	Master	Types of user or Administrator
Department	Primary key(Dept_id)	Master	Department Details
Test Details	Primary Key (Empid,Testno,SysNo)	Transaction	Details of the Examination
AnsDetails	Primary Key (Qno,Empid)	Transaction	Details of the Answer for the Particular Question

4.4 Data Flow Diagram

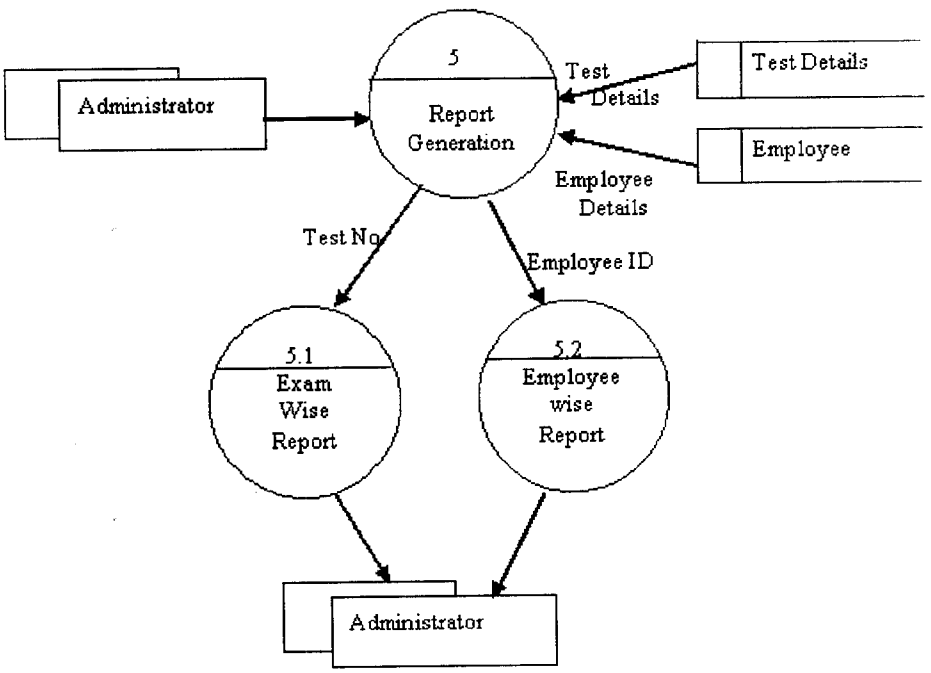
Administrative Process



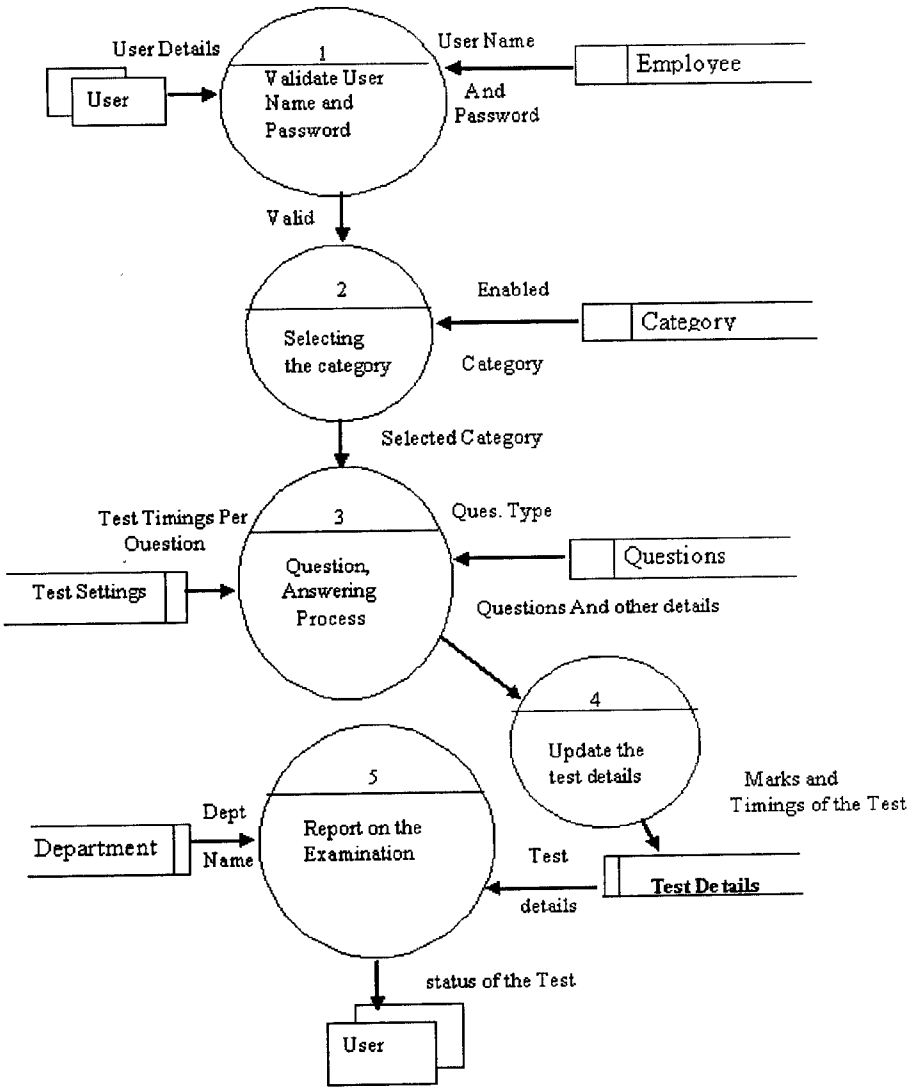
Migration of Data



Report Generation



Examination Process



4.5 System Sitemap

- **Home**
  - **System Information**
  - **User Login Page**
  - **Logout Page**
- **Login Page**
  - **User details**
- **Category Selection**
  - **Logout**
  - **Report**
- **Examination Process**
  - **Online Examination**
  - **Report**
- **Examination Status**
  - **Home**
- **Overall Analysis**
  - **Home**

System Testing, Implementation & Maintenance

5.1 Implementation

Implementation includes all those activities that take place to convert from the old system to the new. Conversion is the process of changing from the old system to the new one. The "Knowledge Management" is process of reviewing performance of the employee in the organization through online examination and allocation of the work among the administrators.

5.1.1 Conversion Method used

5.1.1.2 Direct Conversion Method:

In this method existing manual system is computerised and implemented in the organisation and existing data's are also transferred during the implementation. Once implemented, the organization fully relies on the new system.

5.2 Testing

A strategy for system testing integrates system test cases and design techniques into a well-planned serried of steps that results in the successful construction of software. The testing strategy must co-operate test planning, test case design, test execution and resultant data collection and evolution. A strategy for software testing must accommodate low level tests and that are necessary to verify that a small source code segment has been correctly implemented as well as high test that validate major system function against user requirements.

Software testing is a critical element of software quality assurance and represents the ultimate review of specification, design and coding. Testing represents the interesting for the software. Thus a series of

testing are performed for the proposed system before the system is ready for user acceptance testing.

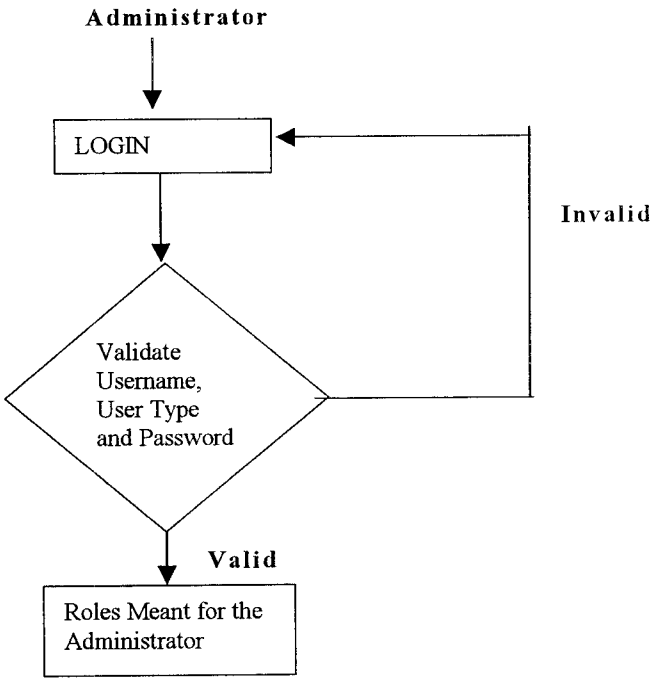
5.2.1 Code Testing

The code-testing strategy examines the logic of the program. To follow this testing method, the analyst develops test cases that result in executing every instruction in the program or module; that is, every path through the program is tested. A path is a specific combination of conditions that is handled by the program.

Test Case

For example, in this system, one path through the system is viewing the overall performance in the examination meant for user. Testing the program whether the status of the user performance to be viewed by the user are only displayed after the user enters his user name and password can do this.

Flow Diagram For the Test Case



5.2.2 Unit Testing

Unit testing forces verification effort on the smallest unit of software design i.e. the module. The unit testing is always white box oriented and the step can be conducted in parallel for modules.

Unit test procedures

Unit testing is considered an equivalent to the coding step. After the source level code has been developed, reviewed and verified for correct syntax, unit test case design begins since a module is not a stand alone program, 'driver' and/or 'stub' software must be developed for each unit test. In most applications, a driver is nothing more than a main program

that accepts test case data passes such data to the module to be tested, and prints the relevant results.

The examination process module in this project consists of the following units:

- **Category Selection**

  This unit is tested to ensure that the user can properly select the category, based on which questions will be appeared. If empty values are encountered an alert message is given.

- **View the Examination status**

  This unit is tested to ensure that the status of the problem is correctly displayed to the user.

- **Time Checking Process**

  This unit is tested to ensure the user completes the examination with in the time, which is being allocated to the user based on the department, if not alert message is given.

The Administrator module in the project consists of the following units:

- **User Details**

  This unit is tested to ensure the that the textboxes accept only the data types meant for them i.e., the textboxes accepting date type must accept only date format specified and textboxes accepting the characters must accept only characters. In this unit there are fields for accepting the password and date which must match the date format specified in order to proceed further.

- **View Status of the Examination**

  This unit is tested to ensure that the status of the examination is reported based on the employee id, test number and combination of the both.

5.2.3 Alpha and Beta testing

A User does the alpha test at the developer site. The software is used in a natural setting with the developer and recording errors and usage problems.

The beta test is conducted at one or more user areas by the end of the software. The User records all the problems that are encountered during beta testing and reports these to the developer at regular intervals.

5.2.4 Security Testing

During this testing, the tester plays the role of the individual who desires to penetrate the system. The tester may attempt to acquire passwords through external clerical means and may attack the system with custom software design to breakdown any defenses that have been constructed. The tester may also overwhelm the system thereby denying services to others and may purposely cause system errors to penetrate during recovery and may browse through insecure data, hoping to find the key to system entry.

For example, in this system, the security is provided in both server level and client level for the administrator.

5.3 System Maintenance

A system should be created whose design is comprehensive and farsighted enough to serve current and projected user needs for several years to come. Part of the analyst's expertise should be in projecting what those needs might be, and then building flexibility and adaptability into the system.

The better the system design, the easier it will be to maintain and the maintenance cost will be low. Reducing the maintenance costs is a major concern, since software maintenance can prove to be very expensive. It is important to detect software design errors early on, as it is less costly than if errors remain unnoticed until maintenance is necessary.

Maintenance is performed most often to improve the existing software rather than to respond to a crisis or system failure. As user requirements change, software and documentation should be changed as part of the maintenance work. Maintenance is also done to update software in response to the change made in an organization. This work is not as substantial as enhancing the software, but it must be done. The system could fall if the system is not properly maintained.

Conclusion

Thus a system has been developed that allows the users (employees) to test the IQ by taking on the online examination and allows the administrator to view the status of the examination. This system helps the user to some extent to gain knowledge about the particular area. This system allows the user to keep track of the performance, which will be later used by manager or administrator to review the performance of the user. This system basically divides the work among the administrators upon which they perform their action. The system allows administrator to allocate the roles to different users in the organization.

SCOPE FOR FUTURE DEVELOPMENT

Scope for future development

Providing options such queries for the user and the administrator. The administrator can also provide feedback to the user regarding his performance with the status of the examination and any promotion details will be with it.

The project can include the articles section in which the user can see the article to be posted. It can also include another section called schedule management section for the user to inform the user's daily schedule and to inform about the new examinations. The project can also include the other type of questions namely

- Graphical questions (Based on the diagram)
- Hints type of questions

The Current system has following types

- Multiple choice
- Fill up
- Decision making

BIBLIOGRAPHY

Bibliography

Reference Books

- Evangelos Petroutsos "Mastering Visual Basic 6.0", BPB Publications.

- Richard Anderson, Dan Denault, Brian Francis, Matthew Gibbs, Marco Gregoriant, Alex Homer, Craig MCQueen, Simon Robinson, John schenken, Kevin Williams "ASP 3.0 Programmer's Reference" Shroff Publishers & Distributors Pvt. Ltd.

- Willard Baird II, Oracle DBA "OCP Training Guide: Oracle DBA".

- Brain Johnson "VB Script Complete Reference"

Web Sites

- http://docs.rinet.ru/ as on dated 12.01.2002

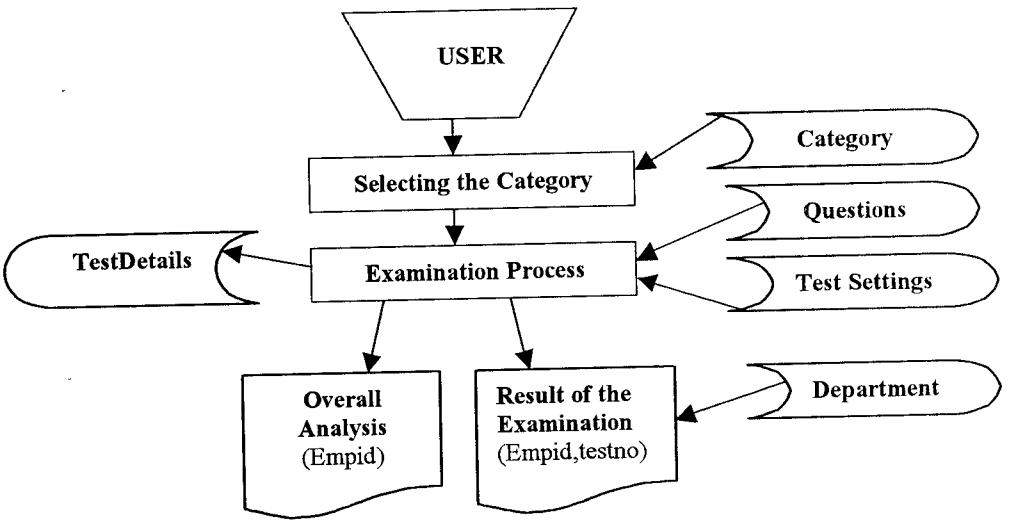
- www.aspguide.com as on dated 28.01.2002

- www.visualbasic101.com as on dated 10.02.2002

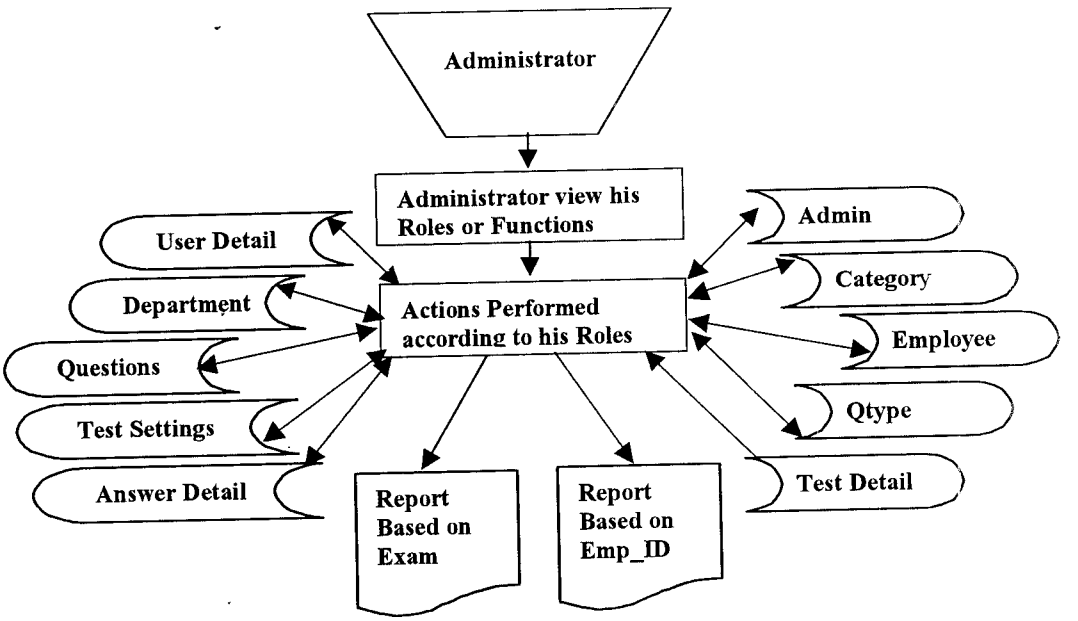
- www.oracle.com as on dated 15.03.2002

System Flow Diagram

Examination Process



Administrative Process



Name: Department
Constraints: Primary key(dept id)

Field Name	Type	Comments
Dept id	**Number**	**Department id**
Department	**Varchar2**	**Name of the department**

Name: Category
Constraints: Primary key(catid)

Field Name	Type	Comments
Cat id	Number	Category id
Catdesc	Varchar2	Description of the category
Status	Char	Status of the category

Name: QTYPE
Constraints: Primary key(Q_id)

Field Name	Type	Comments
Q_id	Varchar2	Question type
Q_desc	Varchar2	Description of the question type

Name: Testsettings
Constraints: Primary key(depid)

Field Name	Type	Comments
Depid	Number	Department id
Maxq	Number	Maximum question
Maxt	Number	Maximum time

Name: Uerdetail
Constraints: Primary key(usertype)

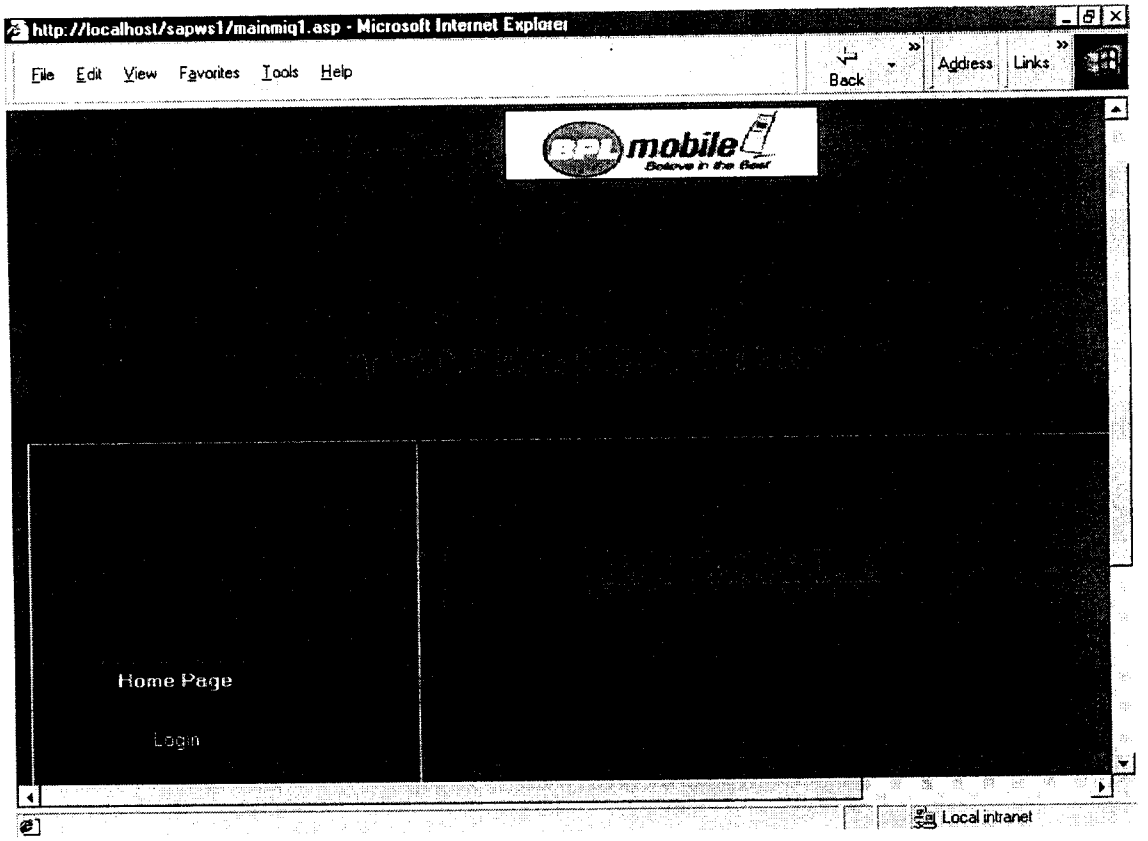
Field Name	Type	Comments
Usertype	Varchar2	type of the user
Userdesc	Varchar2	Description of the user type

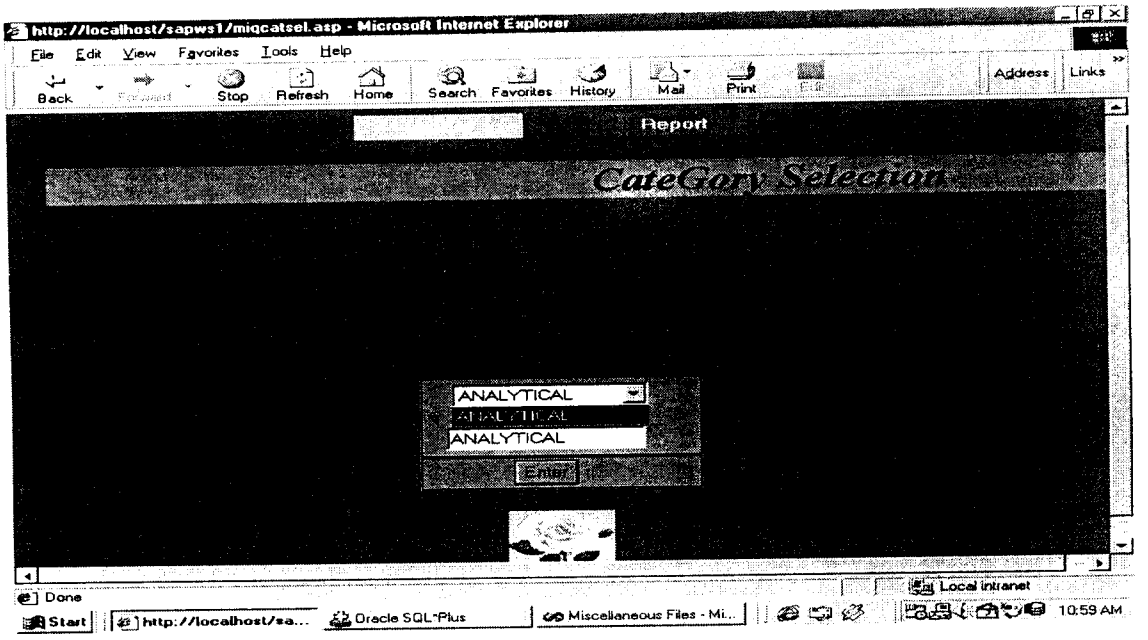
Name : Testdetails
Constraints: primary key(empid,testno,sys_no)

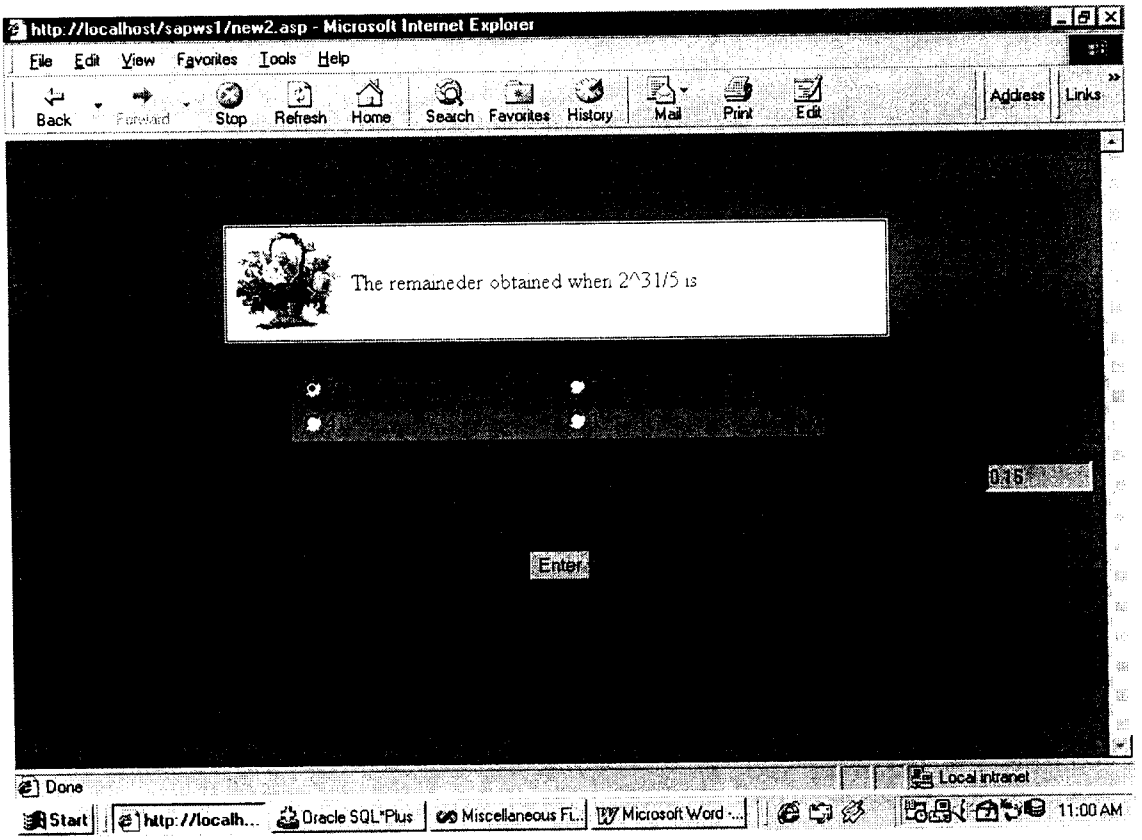
Field Name	Type	Comments
Empid	Varchar2	Used for identification
Testno	Number	Denotes the number of the test
Test date	Date	Date of the test
Starttime	Varchar2	Start time of test
Endtime	Varchar2	End time of test
Marks	Number	Marks scored
Qunans	Number	Unanswered question
Success	Char	To denote successful completion of the test
Sys_no	Varchar2	Name or number of the client system

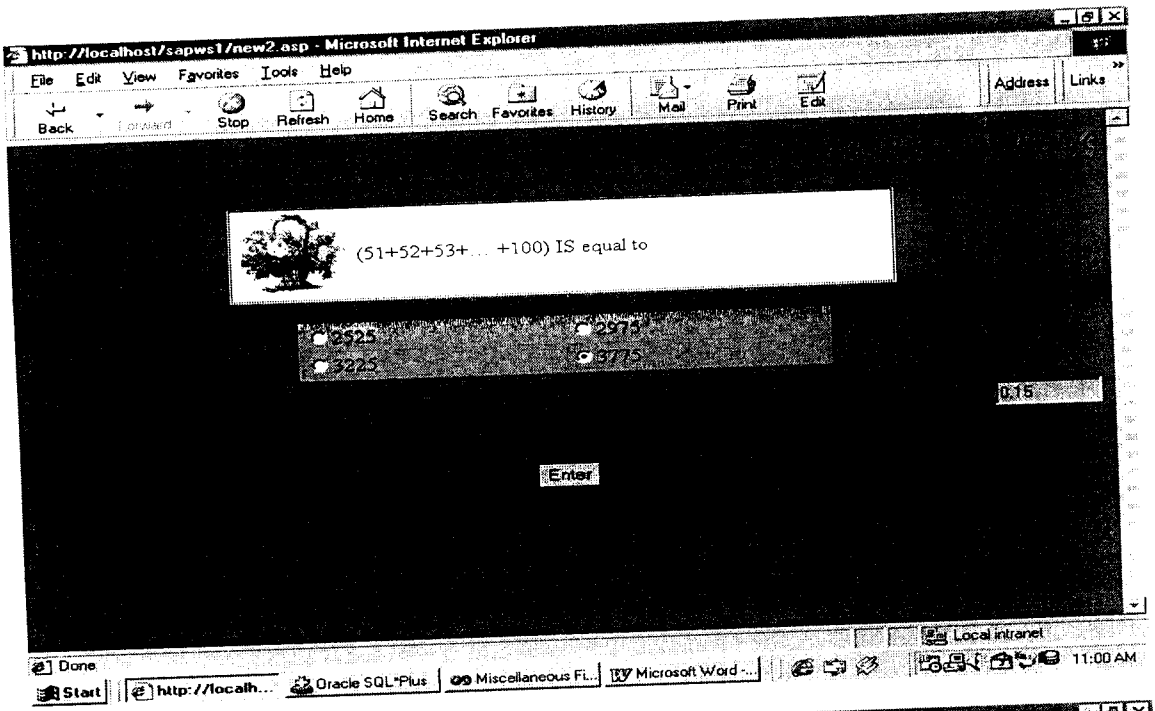
Name: Questions
Constraints: Primary key(Qno), Foreign key(qtype)

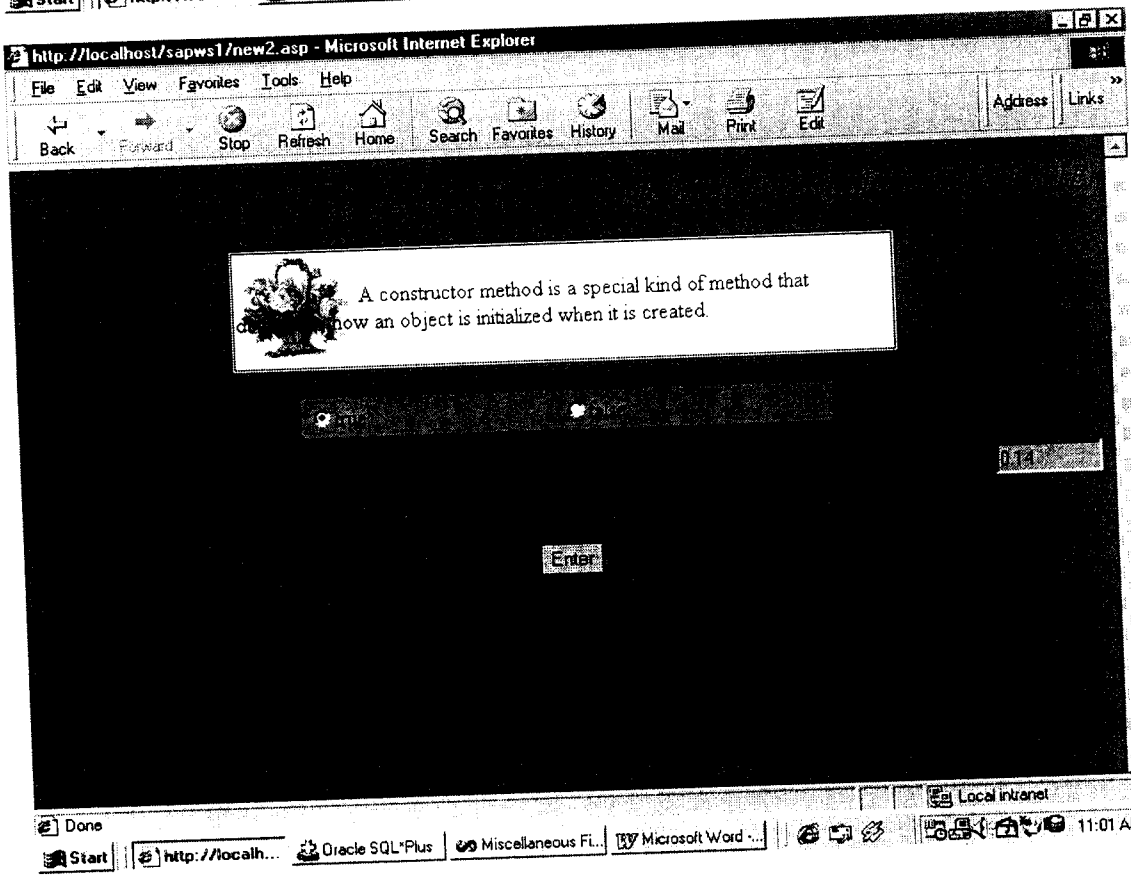
Field Name	Type	Comments
Qno	Number	Question number
Question	Varchar2	Description of question
Choice	Varchar2	Choice for the question
Answer	Varchar2	Answer for the question
Dans	Varchar2	Described answer
Qtype	Varchar2	Question type
Category	Varchar2	Category of question
Status	Char	Status of the question (i.e) enabled or disabled

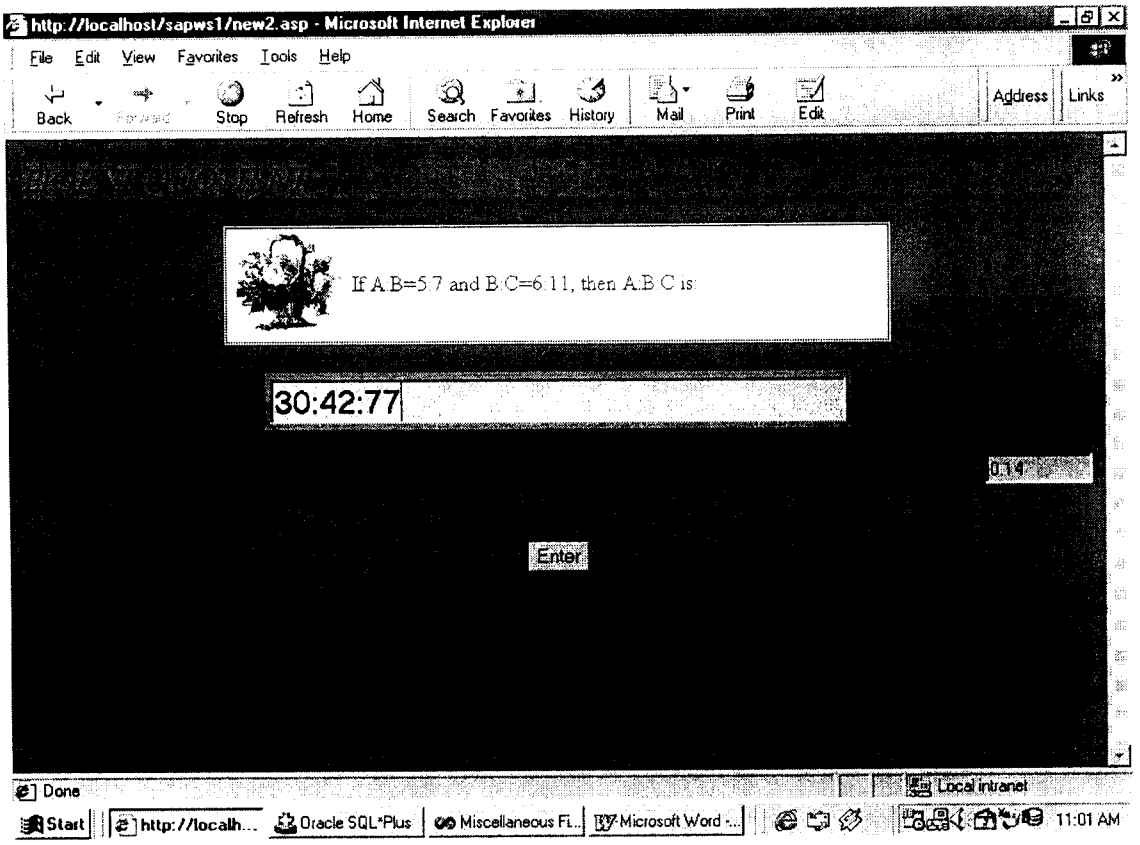

http://localhost/sapws1/mainmiq1.asp - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back
Address
Links
mobile
Home Page
Login
Local intranet

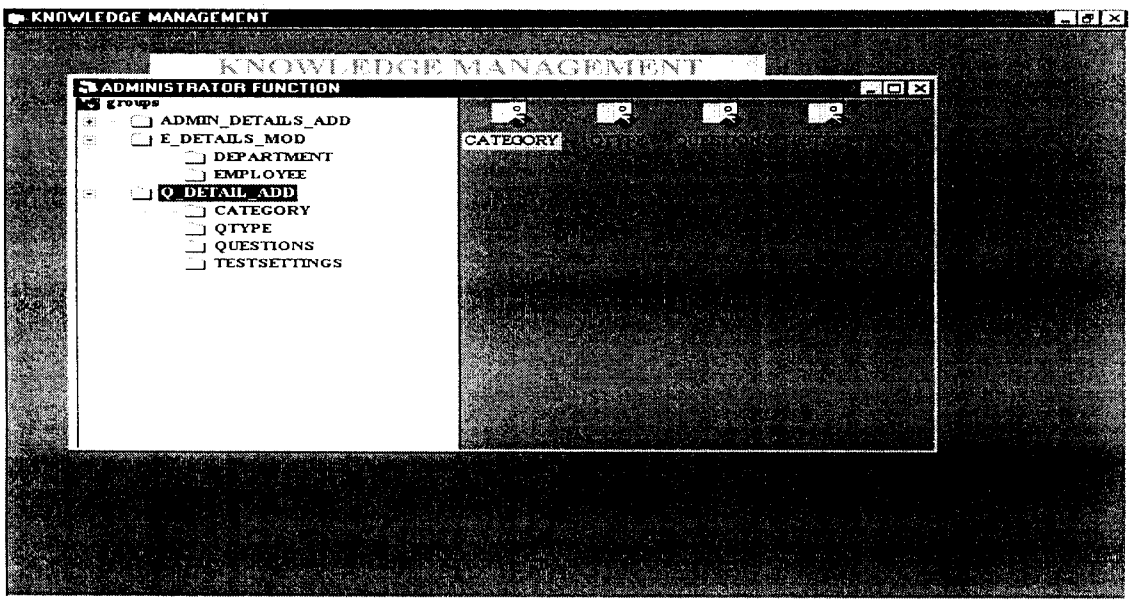

http://localhost/sapws1/miqcatsel.asp - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Stop Refresh Home Search Favorites History Mail Print
Address Links
Report
CateGory Selection
ANALYTICAL
ANALYTICAL
Enter
Done
Local intranet
Start
http://localhost/sa...
Oracle SQL*Plus
Miscellaneous Files - Mi...
10:59 AM

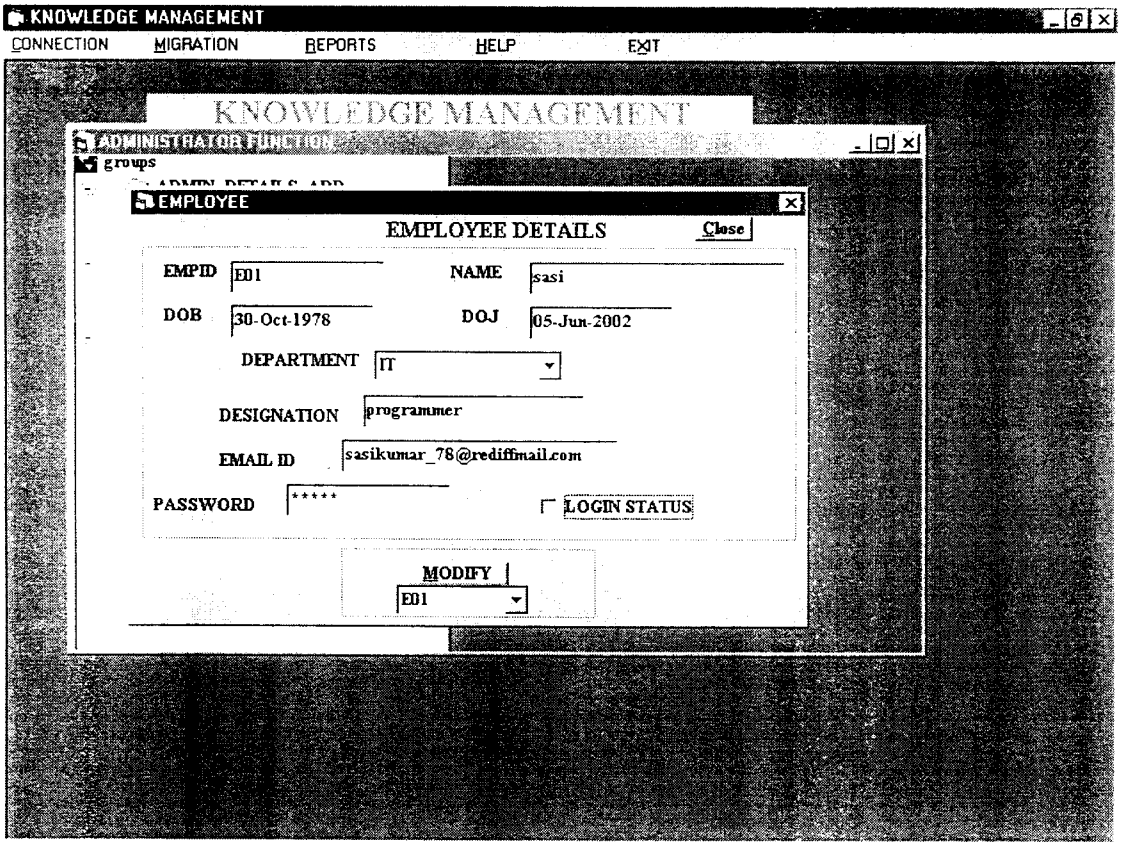

http://localhost/sapws1/new2.asp - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites History Mail Print Edit
Address Links
The remaineder obtained when 2^31/5 is
0.15
Enter
Done
Local intranet
Start
http://localh...
Oracle SQL*Plus
Miscellaneous Fi...
Microsoft Word -...
11:00 AM

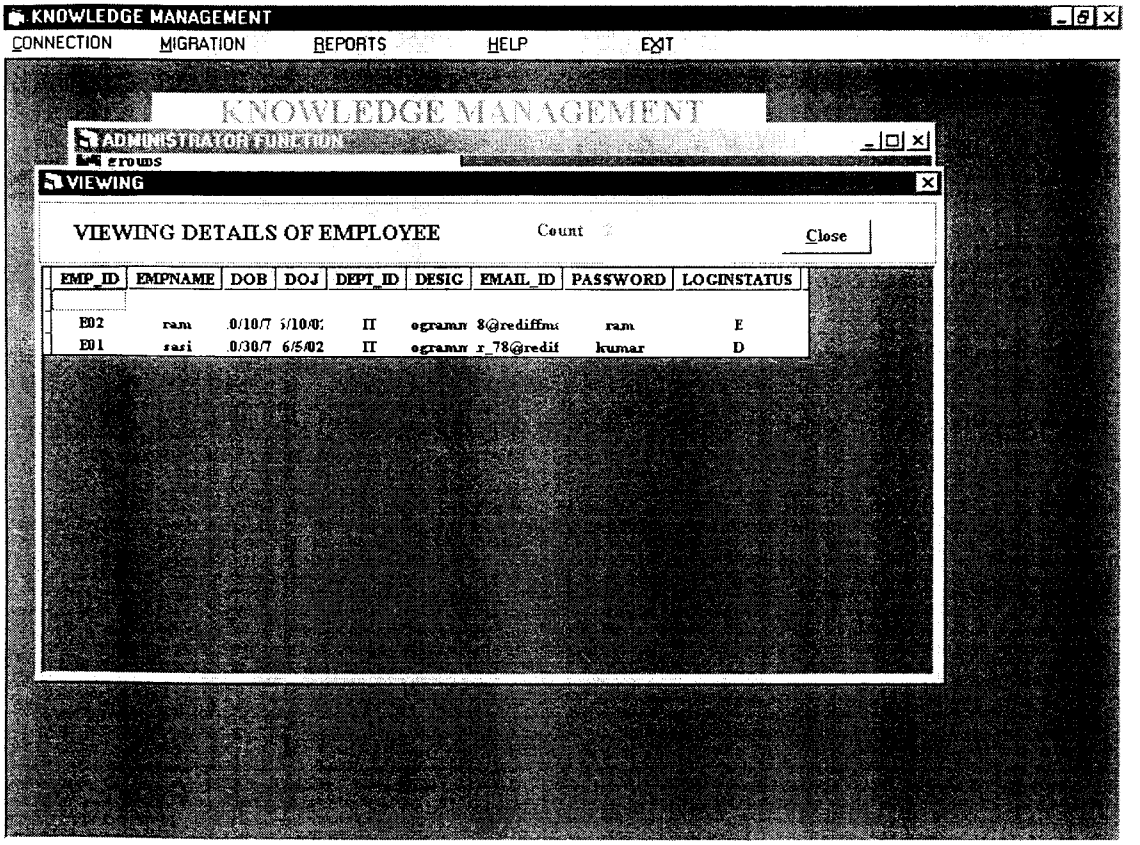

http://localhost/sapws1/new2.asp - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites History Mail Print Edit
Address Links
(51+52+53+... +100) IS equal to
2525
2975
3225
3775
0:15
Enter
Done
Local intranet
Start
http://localh...
Oracle SQL*Plus
Miscellaneous Fi...
Microsoft Word -...
11:00 AM

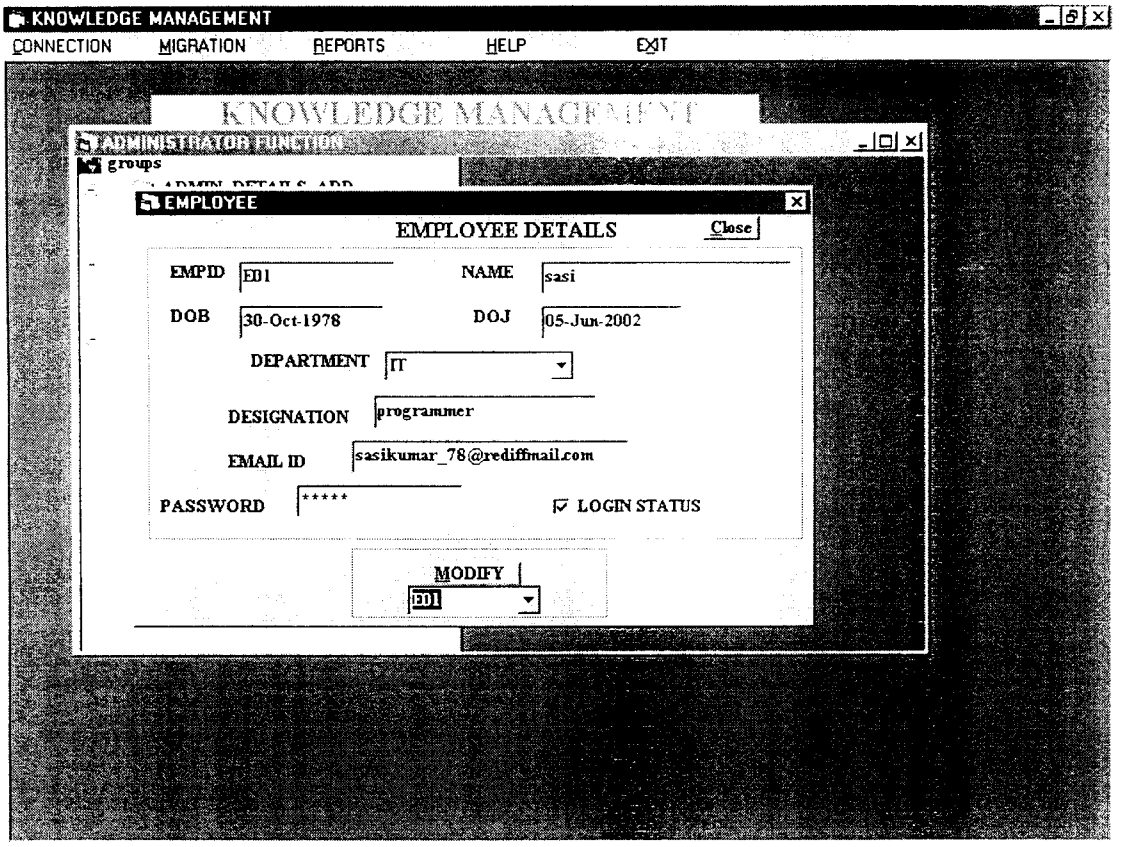

http://localhost/sapws1/new2.asp - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites History Mail Print Edit
Address Links
A constructor method is a special kind of method that
how an object is initialized when it is created.
0:14
Enter
Done
Local intranet
Start
http://localh...
Oracle SQL*Plus
Miscellaneous Fi...
Microsoft Word -...
11:01 AM

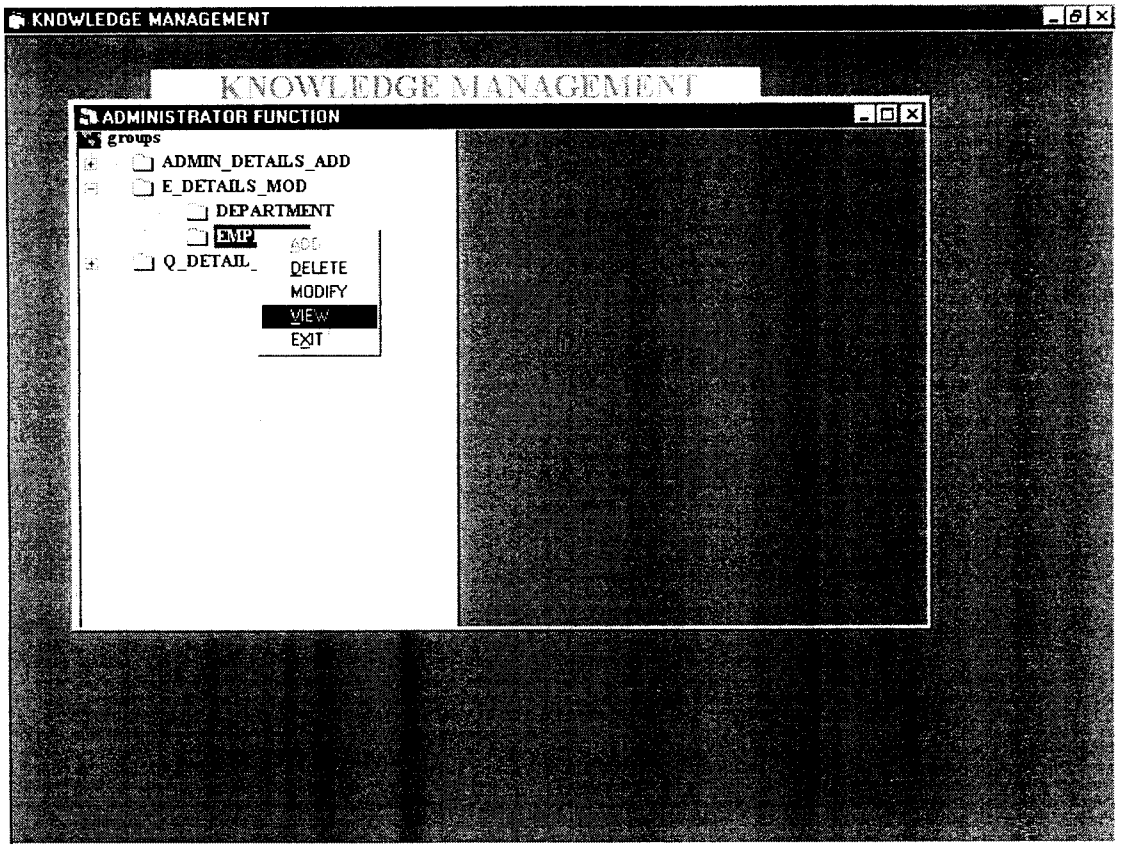

http://localhost/sapws1/new2.asp - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Stop Refresh Home Search Favorites History Mail Print Edit
Address Links
If A B=5 7 and B C=6 11, then A B C is
30:42:77
0:14
Enter
Done
Local intranet
Start
http://localh...
Oracle SQL*Plus
Miscellaneous Fi...
Microsoft Word -...
11:01 AM

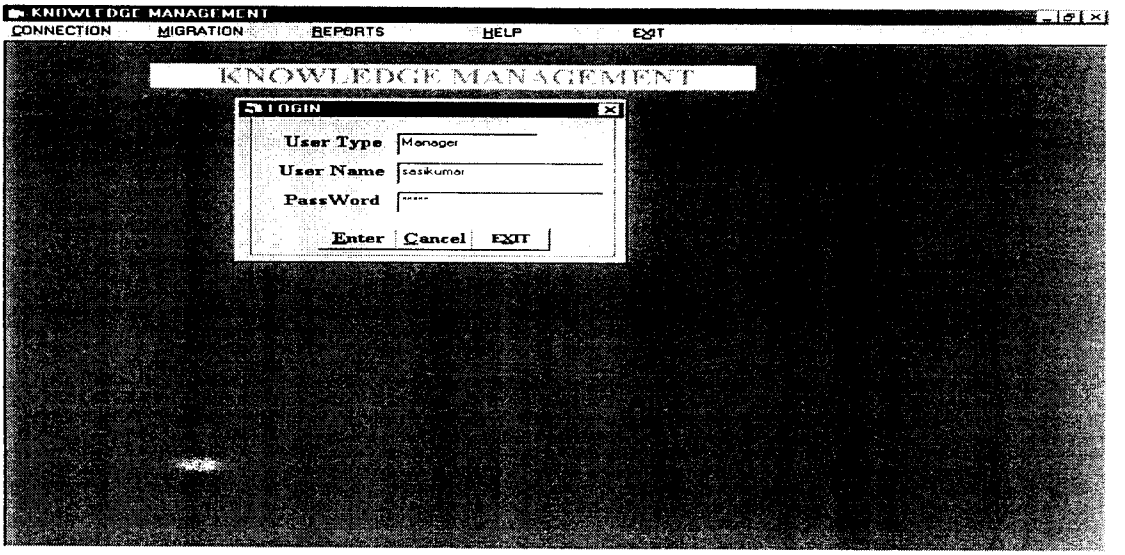

KNOWLEDGE MANAGEMENT
KNOWLEDGE MANAGEMENT
ADMINISTRATOR FUNCTION
groups
ADMIN_DETAILS_ADD
E_DETAILS_MOD
DEPARTMENT
EMPLOYEE
Q_DETAIL_ADD
CATEGORY
QTYPE
QUESTIONS
TESTSETTINGS
CATEGORY

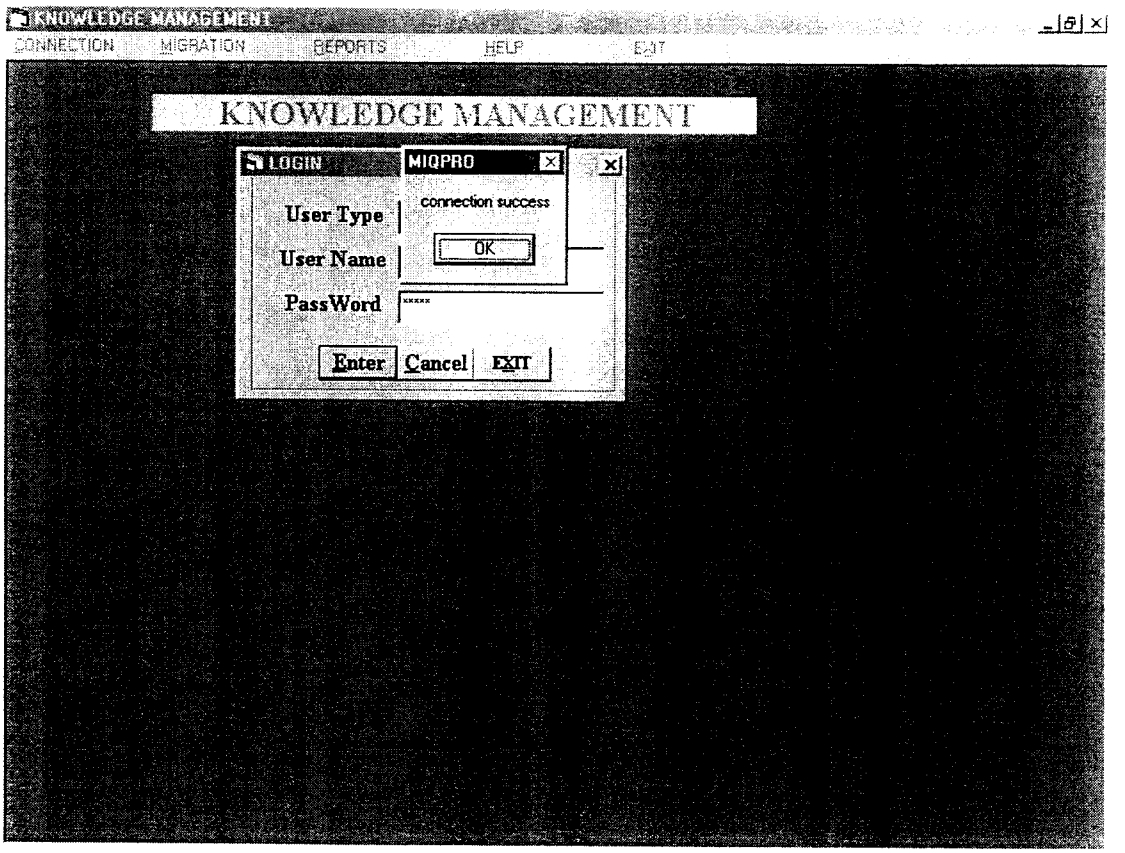

KNOWLEDGE MANAGEMENT
CONNECTION
MIGRATION
REPORTS
HELP
EXIT
KNOWLEDGE MANAGEMENT
ADMINISTRATOR FUNCTION
groups
EMPLOYEE
EMPLOYEE DETAILS
Close
EMPID
E01
NAME
sasi
DOB
30-Oct-1978
DOJ
05-Jun-2002
DEPARTMENT
IT
DESIGNATION
programmer
EMAIL ID
sasikumar_78@rediffmail.com
PASSWORD
*****
LOGIN STATUS
MODIFY
E01

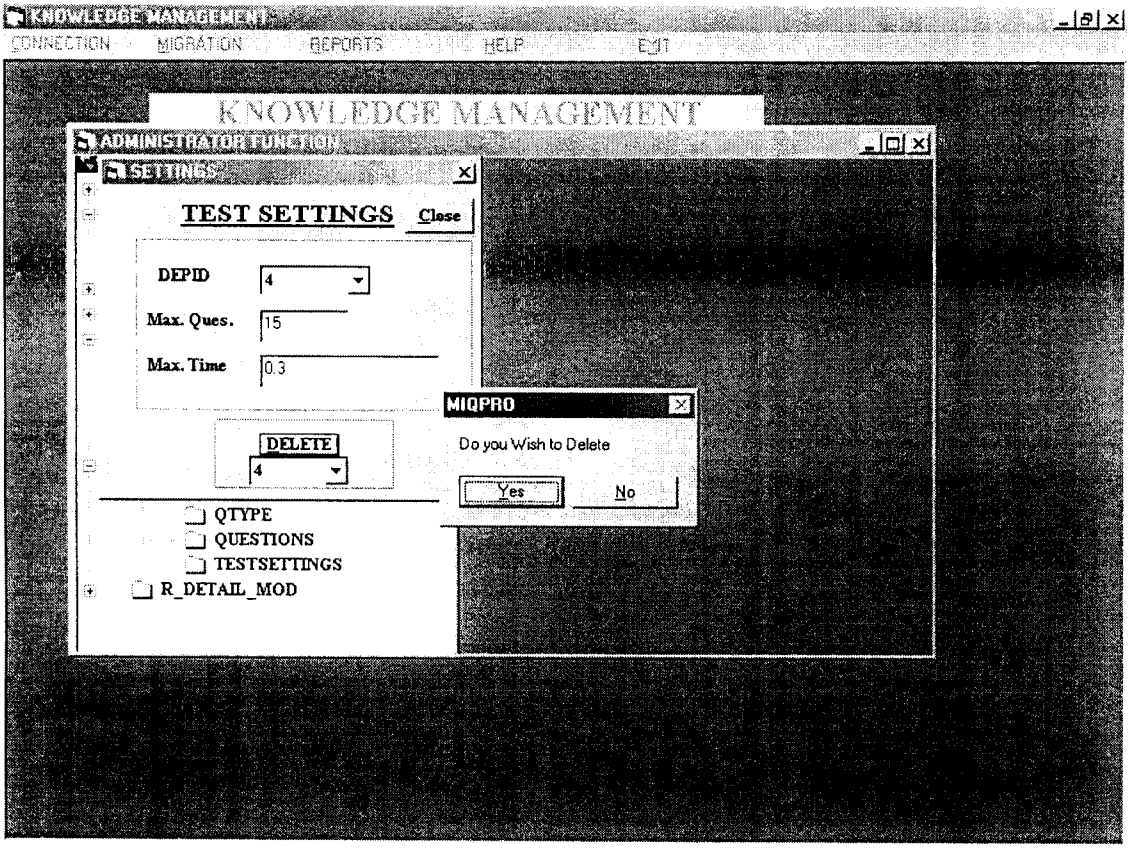

KNOWLEDGE MANAGEMENT
CONNECTION
MIGRATION
REPORTS
HELP
EXIT
KNOWLEDGE MANAGEMENT
ADMINISTRATOR FUNCTION
groups
VIEWING
VIEWING DETAILS OF EMPLOYEE
Count
Close
EMP_ID
EMPNAME
DOB
DOJ
DEPT_ID
DESIG
EMAIL_ID
PASSWORD
LOGINSTATUS
E02
ram
E01
rasi
IT
IT
kumar
D

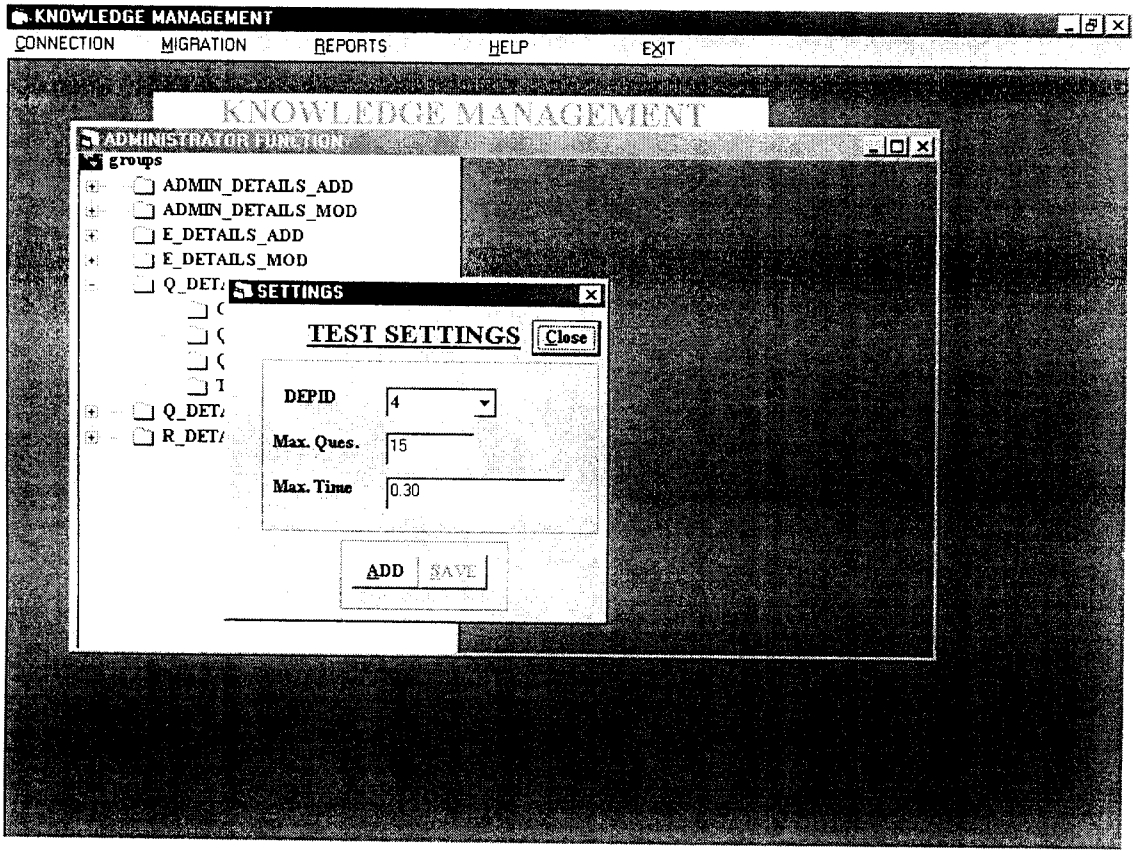

KNOWLEDGE MANAGEMENT
CONNECTION
MIGRATION
REPORTS
HELP
EXIT
KNOWLEDGE MANAGEMENT
ADMINISTRATOR FUNCTION
groups
EMPLOYEE
EMPLOYEE DETAILS
Close
EMPID
ED1
NAME
sasi
DOB
30-Oct-1978
DOJ
05-Jun-2002
DEPARTMENT
IT
DESIGNATION
programmer
EMAIL ID
sasikumar_78@rediffmail.com
PASSWORD
*****
LOGIN STATUS
MODIFY
ED1

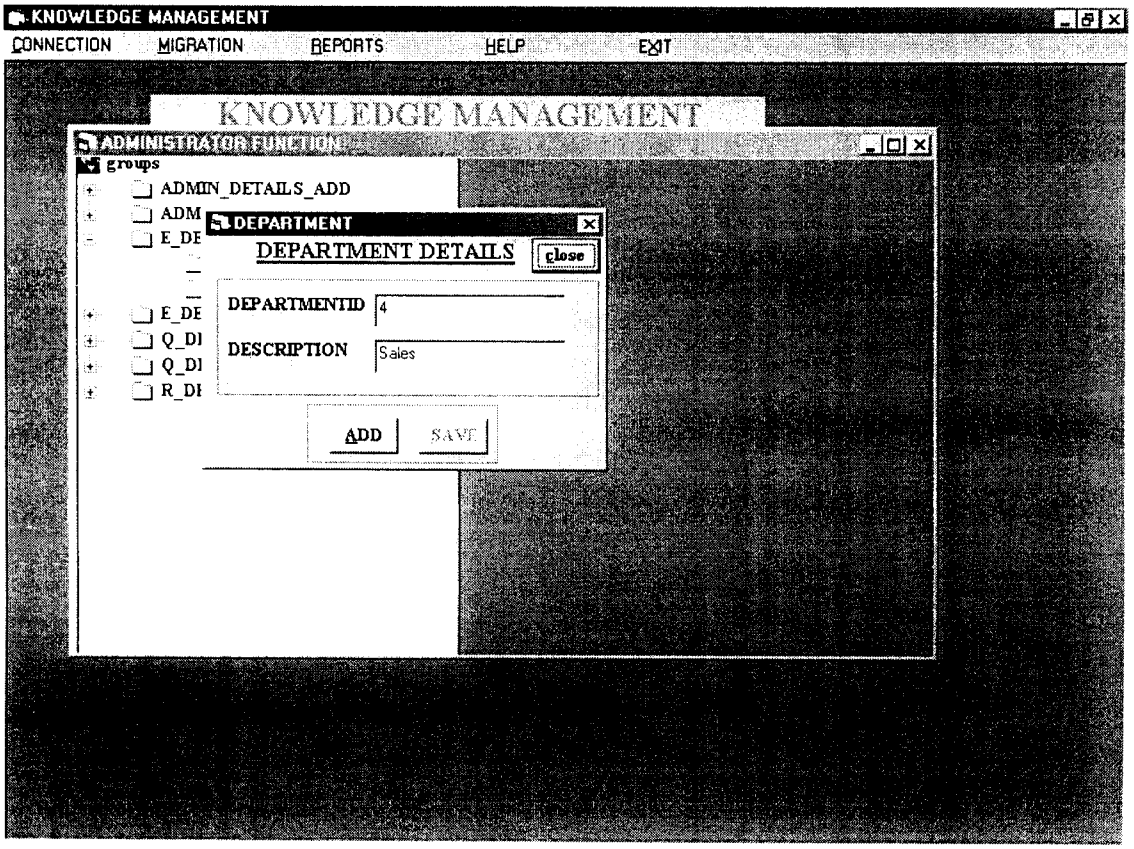

KNOWLEDGE MANAGEMENT
KNOWLEDGE MANAGEMENT
ADMINISTRATOR FUNCTION
groups
ADMIN_DETAILS_ADD
E_DETAILS_MOD
DEPARTMENT
EMP
Q_DETAIL_
DELETE
MODIFY
VIEW
EXIT

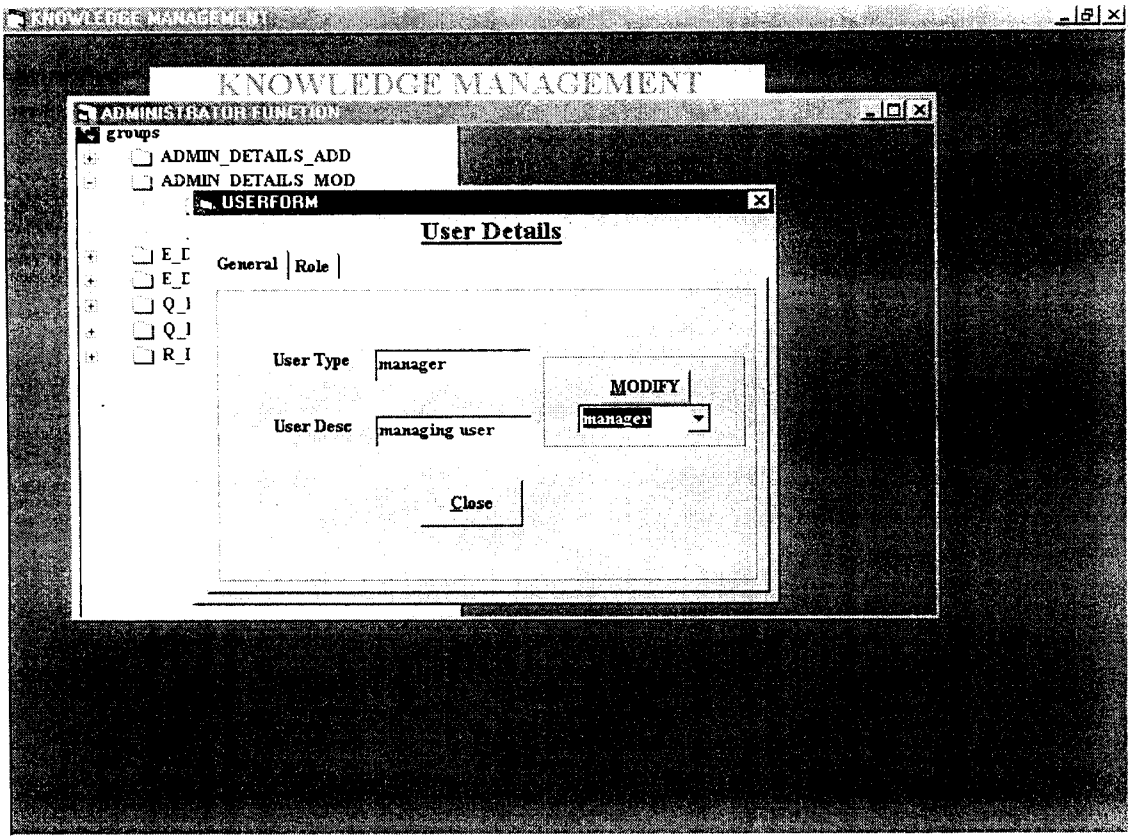

KNOWLEDGE MANAGEMENT
CONNECTION
MIGRATION
REPORTS
HELP
EXIT
KNOWLEDGE MANAGEMENT
LOGIN
User Type
Manager
User Name
sasikumar
PassWord
Enter
Cancel
EXIT

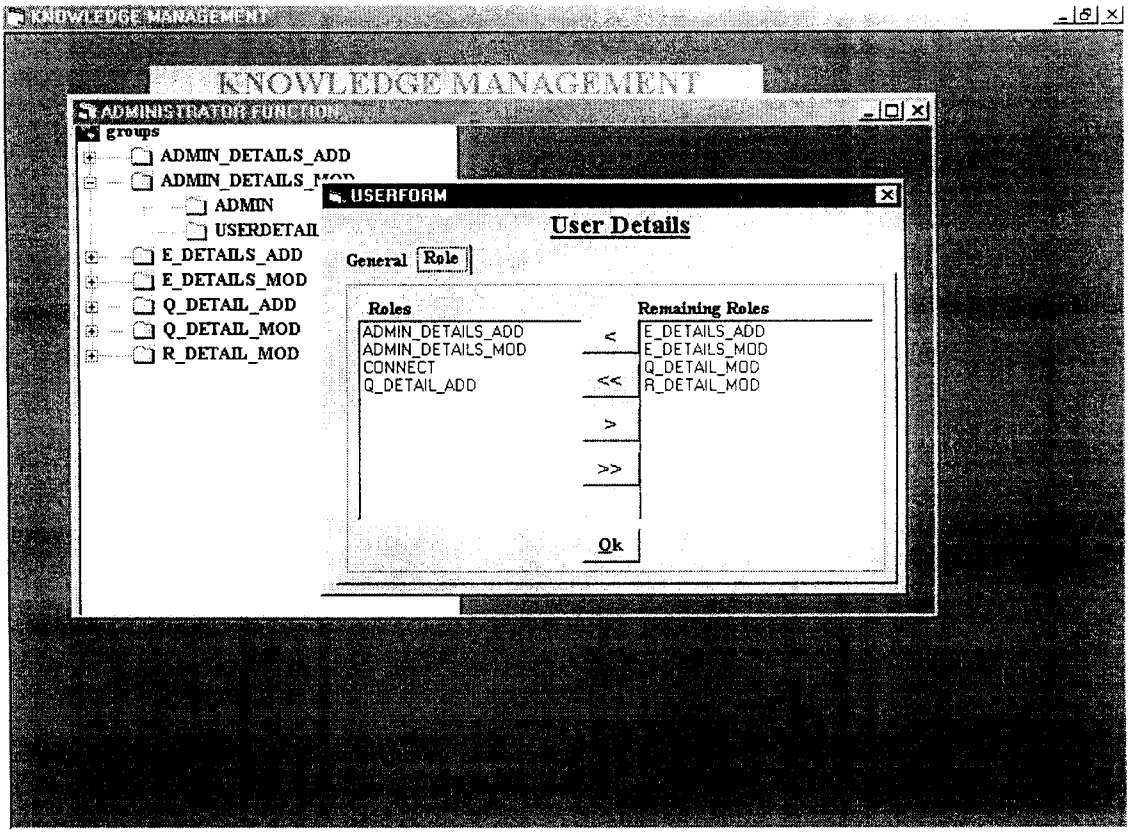

KNOWLEDGE MANAGEMENT
CONNECTION
MIGRATION
REPORTS
HELP
EXIT
KNOWLEDGE MANAGEMENT
LOGIN
MIQPRO
connection success
OK
User Type
User Name
PassWord
Enter
Cancel
EXIT

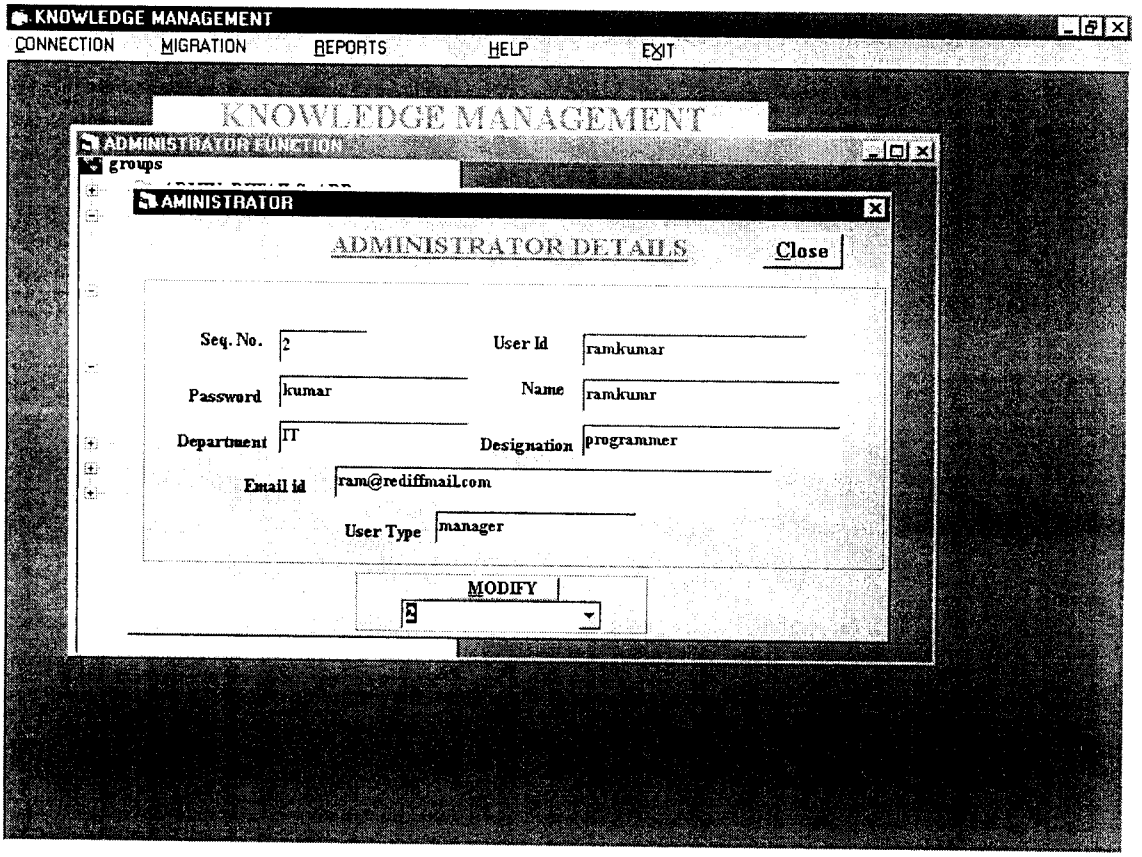

KNOWLEDGE MANAGEMENT
CONNECTION
MIGRATION
REPORTS
HELP
EXIT
KNOWLEDGE MANAGEMENT
ADMINISTRATOR FUNCTION
SETTINGS
TEST SETTINGS
Close
DEPID
4
Max. Ques.
15
Max. Time
0.3
DELETE
4
QTYPE
QUESTIONS
TESTSETTINGS
R_DETAIL_MOD
MIQPRO
Do you Wish to Delete
Yes
No

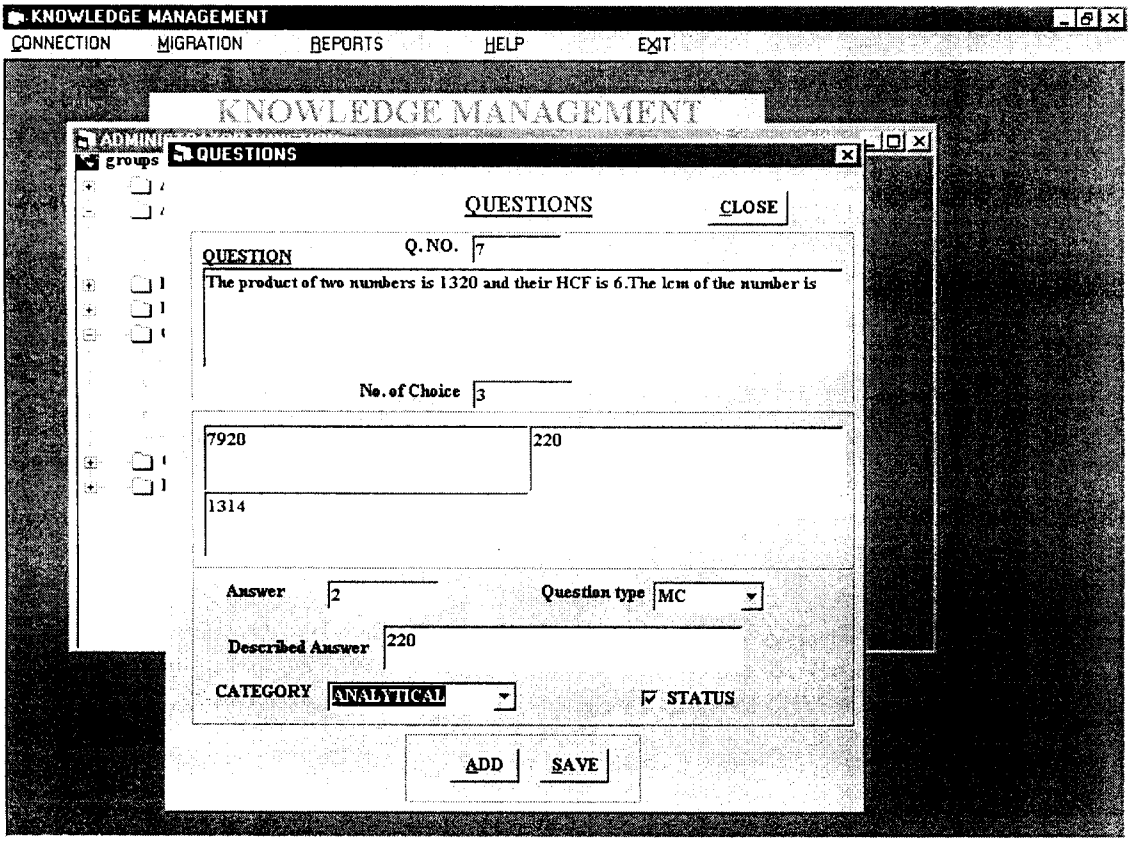

KNOWLEDGE MANAGEMENT
CONNECTION
MIGRATION
REPORTS
HELP
EXIT
KNOWLEDGE MANAGEMENT
ADMINISTRATOR FUNCTION
groups
ADMIN_DETAILS_ADD
ADMIN_DETAILS_MOD
E_DETAILS_ADD
E_DETAILS_MOD
SETTINGS
TEST SETTINGS
Close
DEPID
4
Max. Ques.
15
Max. Time
0.30
ADD
SAVE

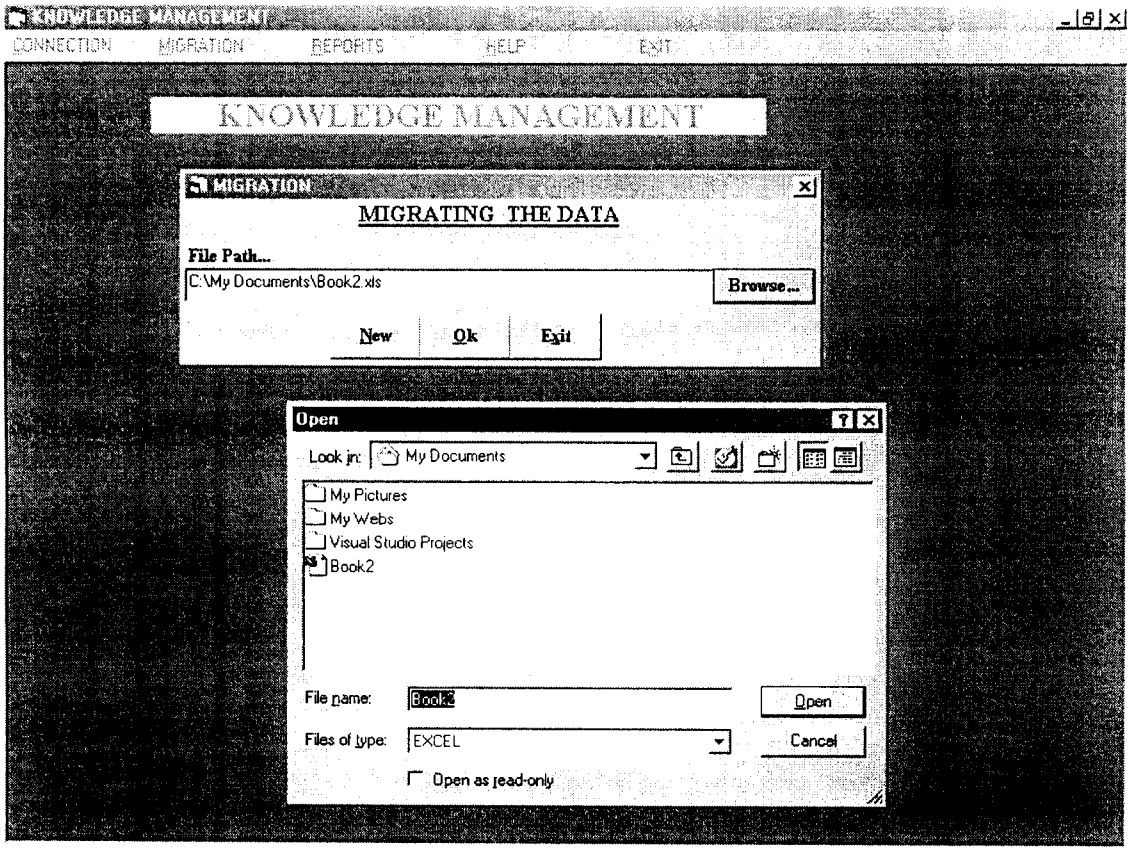

KNOWLEDGE MANAGEMENT
CONNECTION
MIGRATION
REPORTS
HELP
EXIT
KNOWLEDGE MANAGEMENT
ADMINISTRATOR FUNCTIONS
groups
ADMIN_DETAILS_ADD
DEPARTMENT
DEPARTMENT DETAILS
close
DEPARTMENTID
4
DESCRIPTION
Sales
ADD
SAVE

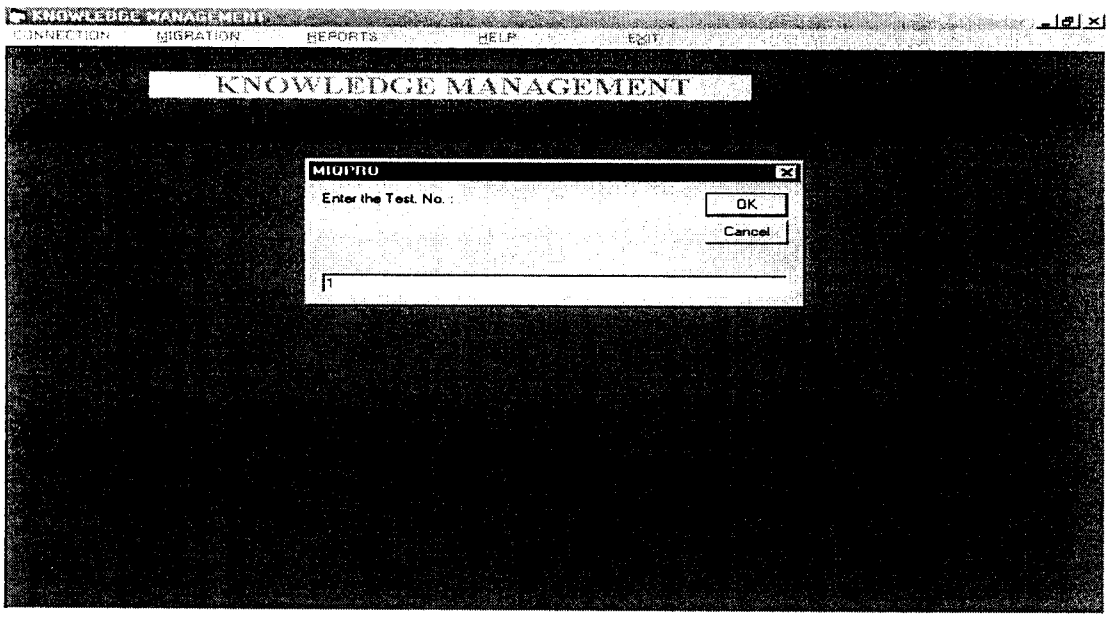

KNOWLEDGE MANAGEMENT
KNOWLEDGE MANAGEMENT
ADMINISTRATOR FUNCTION
groups
ADMIN_DETAILS_ADD
ADMIN_DETAILS_MOD
USERFORM
User Details
General
Role
User Type
manager
MODIFY
User Desc
managing user
manager
Close


KNOWLEDGE MANAGEMENT
KNOWLEDGE MANAGEMENT
ADMINISTRATOR FUNCTION
groups
ADMIN_DETAILS_ADD
ADMIN_DETAILS_MOD
ADMIN
USERDETAIL
E_DETAILS_ADD
E_DETAILS_MOD
Q_DETAIL_ADD
Q_DETAIL_MOD
R_DETAIL_MOD
USERFORM
User Details
General
Role
Roles
ADMIN_DETAILS_ADD
ADMIN_DETAILS_MOD
CONNECT
Q_DETAIL_ADD
<
<<
>
>>
Remaining Roles
E_DETAILS_ADD
E_DETAILS_MOD
Q_DETAIL_MOD
R_DETAIL_MOD
Ok

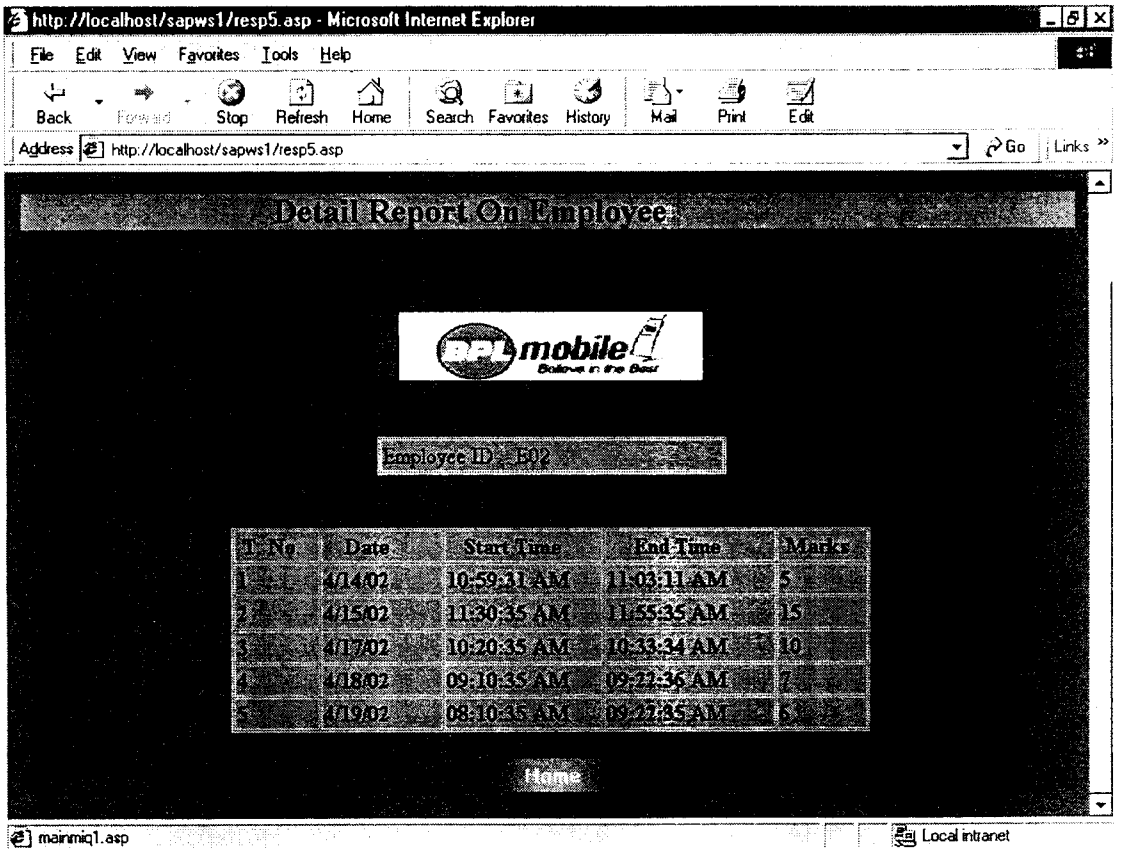

KNOWLEDGE MANAGEMENT
CONNECTION
MIGRATION
REPORTS
HELP
EXIT
KNOWLEDGE MANAGEMENT
ADMINISTRATOR FUNCTION
groups
AMINISTRATOR
ADMINISTRATOR DETAILS
Close
Seq. No.
2
User Id
ramkumar
Password
kumar
Name
ramkumr
Department
IT
Designation
programmer
Email id
ram@rediffmail.com
User Type
manager
MODIFY

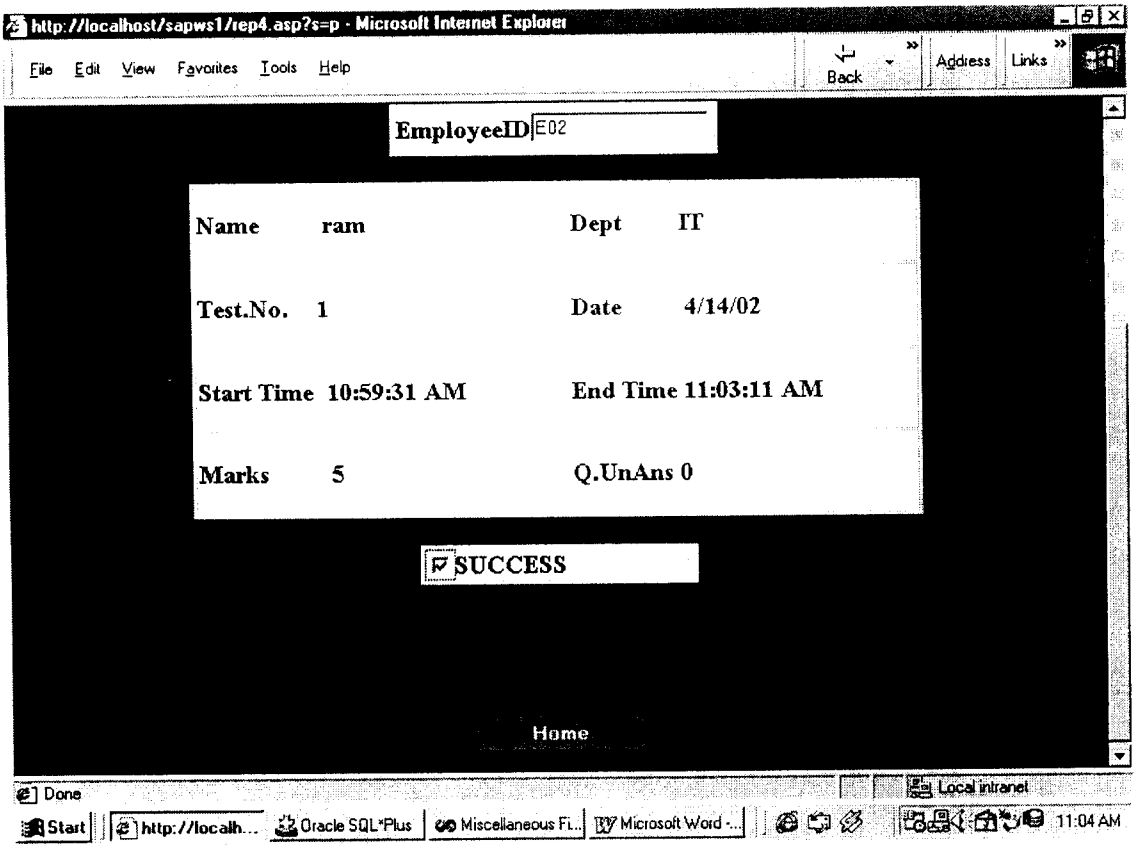

KNOWLEDGE MANAGEMENT
CONNECTION
MIGRATION
REPORTS
HELP
EXIT
KNOWLEDGE MANAGEMENT
groups
QUESTIONS
QUESTIONS
CLOSE
QUESTION
Q.NO. 7
The product of two numbers is 1320 and their HCF is 6.The lcm of the number is
No. of Choice 3
7920
220
1314
Answer 2
Question type MC
Described Answer 220
CATEGORY ANALYTICAL
STATUS
ADD
SAVE

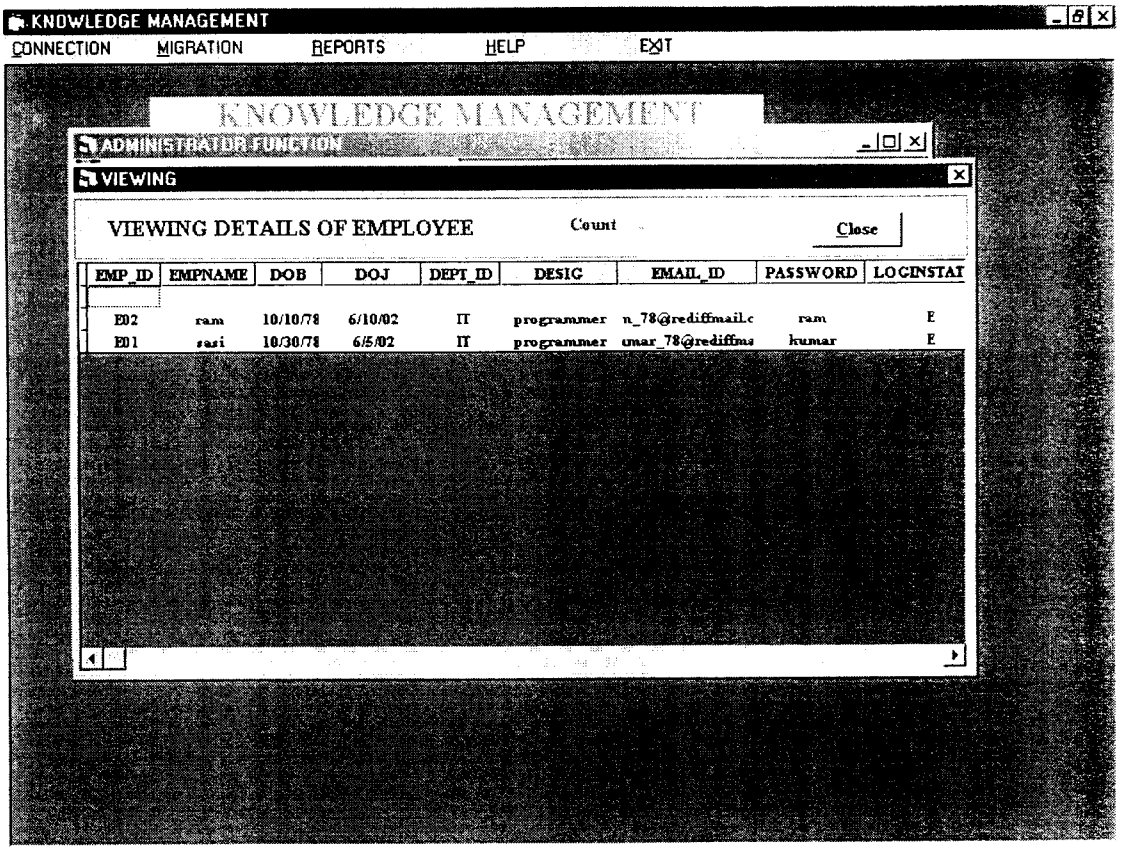

KNOWLEDGE MANAGEMENT
CONNECTION
MIGRATION
REPORTS
HELP
EXIT
KNOWLEDGE MANAGEMENT
MIGRATION
MIGRATING THE DATA
File Path...
C:\My Documents\Book2.xls
Browse...
New
Ok
Exit
Open
Look in:
My Documents
My Pictures
My Webs
Visual Studio Projects
Book2
File name:
Book2
Open
Files of type:
EXCEL
Cancel
Open as read-only

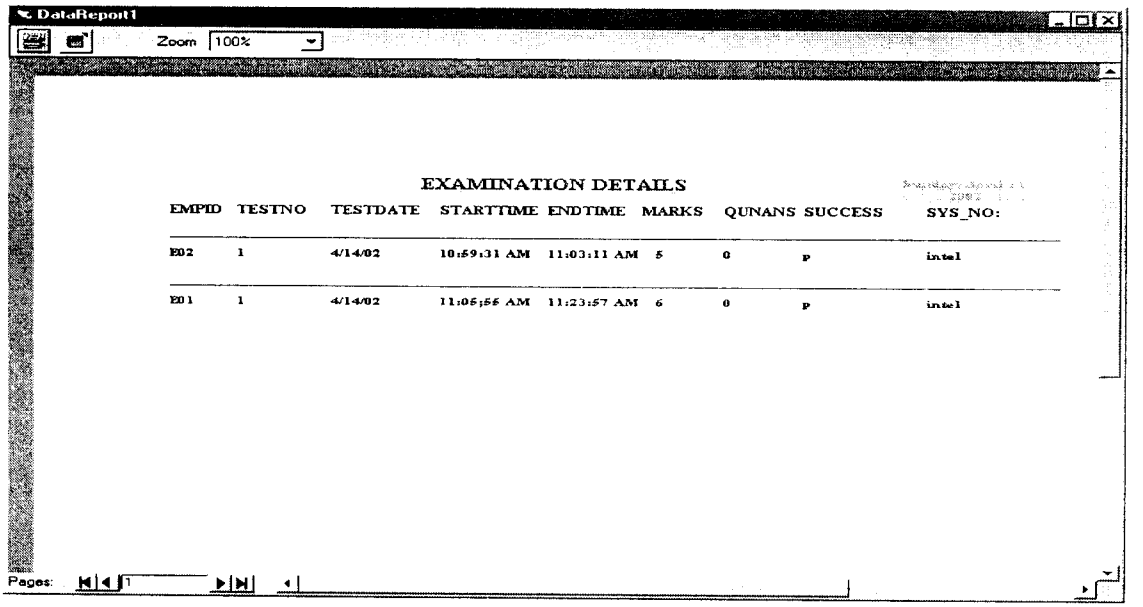

KNOWLEDGE MANAGEMENT
CONNECTION
MIGRATION
REPORTS
HELP
EXIT
KNOWLEDGE MANAGEMENT
MIGPRO
Enter the Test. No. :
OK
Cancel
1

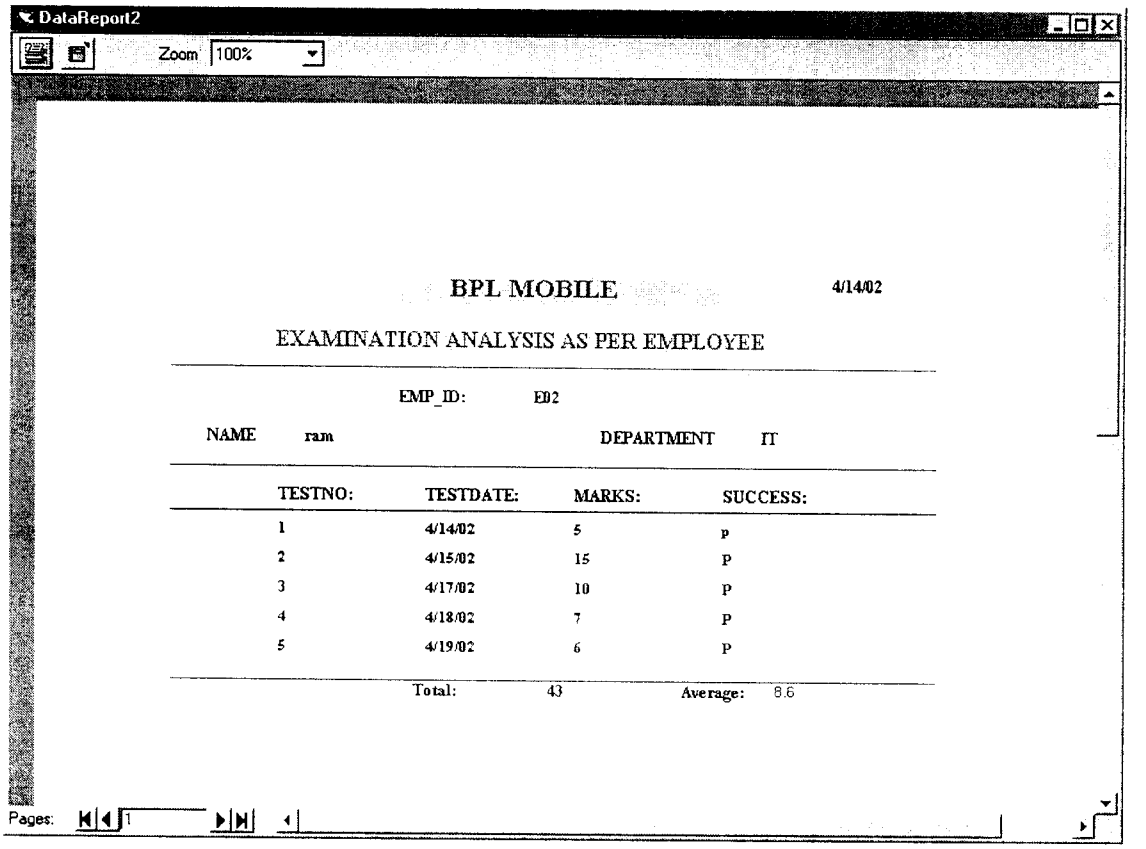
SAMPLE OUTPUT SCREENS


http://localhost/sapws1/resp5.asp - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites History Mail Print Edit
Address http://localhost/sapws1/resp5.asp
Go Links
Detail Report On Employee:
mobile
Believe in the Best
Employee ID : B02
Sl. No
Date
Start Time
End Time
Marks
1 4/14/02 10:59:31 AM 11:03:11 AM 5
2 4/15/02 11:30:35 AM 11:55:35 AM 15
3 4/17/02 10:20:35 AM 10:33:34 AM 10
4 4/18/02 09:10:35 AM 09:21:36 AM 7
5 4/19/02 08:10:35 AM 09:27:35 AM 5
Home
mainmiq1.asp
Local intranet


http://localhost/sapws1/rep4.asp?s=p - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back
Address
Links
EmployeeID E02
Name ram
Dept IT
Test.No. 1
Date 4/14/02
Start Time 10:59:31 AM
End Time 11:03:11 AM
Marks 5
Q.UnAns 0
SUCCESS
Home
Done
Local intranet
Start
http://localh...
Oracle SQL*Plus
Miscellaneous Fi...
Microsoft Word -...
11:04 AM


KNOWLEDGE MANAGEMENT
CONNECTION
MIGRATION
REPORTS
HELP
EXIT
KNOWLEDGE MANAGEMENT
ADMINISTRATOR FUNCTION
VIEWING
VIEWING DETAILS OF EMPLOYEE
Count
Close
EMP_ID
EMPNAME
DOB
DOJ
DEPT_ID
DESIG
EMAIL_ID
PASSWORD
LOGINSTAT
E02
ram
10/10/78
6/10/02
IT
programmer
n_78@rediffmail.c
ram
E
E01
sasi
10/30/78
6/5/02
IT
programmer
umar_78@rediffma
kumar
E


DataReport1
Zoom 100%
EXAMINATION DETAILS
EMPID TESTNO TESTDATE STARTTIME ENDTIME MARKS QUNANS SUCCESS SYS_NO:
E02 1 4/14/02 10:59:31 AM 11:03:11 AM 5 0 p intel
E01 1 4/14/02 11:05:56 AM 11:23:57 AM 6 0 p intel
Pages:


DataReport2
Zoom 100%
BPL MOBILE
4/14/02
EXAMINATION ANALYSIS AS PER EMPLOYEE
EMP_ID: E02
NAME ram
DEPARTMENT IT
TESTNO: TESTDATE: MARKS: SUCCESS:
1 4/14/02 5 p
2 4/15/02 15 p
3 4/17/02 10 p
4 4/18/02 7 p
5 4/19/02 6 p
Total: 43
Average: 8.6
Pages: