A

**Project**

**on**

**INTRA COMMUNICATION SOFTWARE**

ABSRTACT:

**The main concept of Intra-communication s/w is developing the communication with all persons of the same organization on the net. We can compare the Intra-communication s/w with the Telephonic Communication. Normally in Telephone Conference there will be more than two users connected at a time and all the users are able to here word from any one of the users. So implementing the same concept on the Net is nothing but Intra- Communication Software.**

**Major operations involved in this project are:**

* **Conduct conferences with their employee. So they can get online decisions from employee from the different branches of the company.**
* **The advantage is that the company is having branches throughout the country. So this will help them to communicate business affairs of the company and live meetings and conferences between their directors. They can conduct board of directors meeting.**
* **It will give On-line solutions from the superiors to the employees.**

**The proposed system is to maintain the conferences, live meetings, general body meetings on the net. This system is to develop in a client/server environment. It aims to do the following.**

* **Grouping: Grouping of selected users**
* **Support of multi conference**
* **By selecting the single user from the list, Chat can be achieved**
* **By selecting all the users in the list, Chat can be achieved**

**CONTENTS**

**CHAPTER 1: INTRODUCTION** 7

1.1 Existing System – Its Drawbacks 8

1.2 Need For New System 8

1.3 Proposed System - Its Features

**CHAPTER 2: LITERATURE OVERVIEW 11**

2.1 Java - Servlets 11

2.2 HTML 13

2.3 JDBC 14

2.4 Oracle 14

**CHAPTER 3: THEORETICAL ANALYSIS 16**

3.1 Module Description

3.2 Requirement Specification & Feasibility Study 17

3.3 System Design 18

3.3.1 Uml Diagrams 19

3.3.2 Data Dictionary Designing 30

3.3.3 User Interface Designs(Screens) 36

3.4 Software Engineering Principles 43

**CHAPTER 4: TESTING 44**

4.1 Unit Testing 45

4.2 Link Testing 46

**CHAPTER 5:** **SUMMARY, CONCLUSION & RECOMMENDATION. 47**

* 1. Conclusion 47

**CHAPTER 1**

**INTRODUCTION**

**LITERATURE OVERVIEW**

**JAVA:**

**Java was conceived by James Gosling, Patrick Naughton, Chris Warth, Ed Frank, and Mike Sherdian at Sun Microsystems in 1991.**

**Features of Java:**

**Simple & Secure: Java was designed to be easy for the professional programmer to learn and use effectively. The ability to download java applets with confidence that no harm could be done and that no security will be breached is considered by many to be the single most important aspect of java.**

**Robust: The multiplatform environment of web places extraordinary demands on a program, because the program must execute reliably in a variety of systems. Thus, the ability to create robust programs was given priority in the design of Java. To gain reliability, Java restricts you in a few key areas, to force you to find mistakes early in the program development. At the same time, Java frees you in the form having to worry about many of the common causes of programming errors. Because java is a strictly typed language, it checks your code at compile time.**

**Multi-Threaded: Java was designed to meet the real-world requirement of creating interactive, networked programs. To accomplish this, Java supports multithreaded programming which allows you to write programs that do many things simultaneously.**

**Distributed: Java is designed for the distributed environment of the Internet, because it handles TCP/IP protocols. This feature brings an unparallel level of abstraction to client/server programming.**

**Dynamic: Java programs carry with them substantial amounts of runtime type information that is used to verify and resolve accesses to objects at run-time. This makes it possible to dynamically link code in a safe and expedient manner.**

**Encapsulation: Encapsulation is the mechanism that binds together code and the data it manipulates, and keep both safe from outside interference and misuse. It can be thought of as a protective wrapper that prevents the code and data from being arbitrarily accessed by other code defined outside the wrapper.**

**Inheritance: Inheritance is the process by which one object acquires the properties of the another object. This is important because it supports the concept of hierarchical classification without the use of hierarchies, each object would need to define all of its characteristics explicitly. However, by use of inheritance, an object need only define those qualities that make it unique within its class. It can inherit its general attributes from its parents.**

**Polymorphism: Polymorphism is a feature that allows one interface to be used for a general class of actions more generally, the concept of polymorphism is often expressed by the phrase “One Interface, Multiple Methods”.**

**SERVLETS:**

**The Java web server is Java Soft's own web Server. The Java web server is just a part of a larger framework, intended to provide you not just with a web server, but also with tools. To build customized network servers for any Internet or Intranet client/server system. Servlets are to a web server, how applets are to the browser.**

**Attractiveness of Servlets:**

**There are many features of Servlets that make them easy and attractive to use. These include:**

* **Easily configured using the GUI-based Admin tool**
* **Can be loaded and invoked from a local disk or remotely across the network.**
* **Can be linked together, or chained, so that one Servlets can call another Servlets, or several Servlets in sequence.**
* **Can be called dynamically from within HTML pages, using server-side include tags.**
* **Are secure - even when downloading across the network, the Servlets security model and Servlets sandbox protect your system from unfriendly behavior.**

# HTML:

**The Hypertext Markup Language (HTML) is a simple markup language used to create hypertext documents that are portable from one platform to another. HTML documents are SGML documents with the generic Semantics that are appropriate for representing the information from wide range of applications. Html version 3.2**

**A set of instruction embedded in a document is called the markup language. These instructions describe what the document text means and how it should look like in a display hyperlink specification language that define the syntax and placement of special embedded directories that are not displayed by a web browser, but it tell how to displays the content of the documents including text, images and other supported media.**

**Web site is a collection of pages, publications and documents that reside on the web server. While these page publications and a document as a formatted in any single format. You should use html for Home page and all primary pages and the site. This will enable the millions of web users to easily access and to take advantage of your web site. Html Documents are platform independent, if they created properly you can move home page to any server platform.**

**JDBC OVERVIEW:**

**Java database Connectivity is a java API for executing SQL statements. It consists of a set of classes and interfaces written in java programming language that makes it easy to send SQL statements to virtually any relational database, in other words, with the JDBC API. It is not necessary to access an Oracle database, another program to access an Informix database, and so on. One can write a single program using the JDBC API, and the program will be able to send SQL statements to appropriate database. With a program written in java, one also doesn’t have to worry about writing different programs to run on different platform. The combination of Java and JDBC lets a programmer to write it once and run it anywhere.**

**ODBC:**

**ODBC (Open Database Connection) is a way to connect any front-end tool to any back-end database engine .A front –end tool is one which is used to provide a user interface using which the user will be able to manipulate the data. Aback-end is responsible for the actual manipulation of the database on the request of the front –end.**

**ORACLE:**

**Oracle provides efficient and effective solution with the following features:**

**Client/Server (distributed Processing) environment: To take full advantage of a given network, oracle allows processing the database server and the client programs.**

**Large Databases and space Management: Oracle supports the large of data of terabytes in size. To make efficient hardware devices, t allows full uses.**

**Many concurrent database users: Oracle supports large numbers executing a variety of database on the same data.**

**Portability: Oracle software is ported to work with operating systems. Applications can be ported to any operating systems modifications.**

**Compatibility: Oracle software is compatible with standards, including most industrial operating systems. Applications can be used on virtually any systems modification.**

**Connect ability: Oracle software allows different environment and operating systems to share the network.**

**THEORETICAL ANALYSIS**

**This application mainly consist four modules**

1. **Admin Module**
2. **User Module**
3. **Conference Module**
4. **Report Module**

**MODULE DESCRIPTION:**

* + - 1. **Admin Module:**

**This module is purely for an administrator of an organization. By using this module administrator can control all operations like create employee ids, controlling employee by giving access permeations etc. Administrator can handle following functionalities.**

**Address:**

**By using this functionality administrator can add all other employee details to his/her address book.**

**Offline:**

**By using this functionality administrator can view status of any other user whether they are in online or offline, if they are in offline he/she can send messages to users and view messages from users also.**

**User related:**

**By using this functionality administrator can do some typical operations on all employee of organization like create, delete, ban and active employee.**

**Options:**

**By using this functionality administrator can view not only his/her profile details but also other employee profile details. In addition with this they can search for any employee details, they can view suggestions (messages) which are from employee, they can view status of an employee like whether they are in online or offline and also can change password of their account.**

**View Statistics:**

**By using this functionality administrator can view all statistics like all employee list, no of chat rooms, no. of online users and no. of offline users.**

* + - 1. **User Module:**

**This module is all about employee of an organization. By using this module employee can do some operations like create chat rooms, participating in employee conference using chat rooms etc. employee can handle following functionalities.**

**Address:**

**By using this functionality Employee can add all other employee details to his/her address book.**

**Offline:**

**By using this functionality employee can view status of any other user whether they are in online or offline, if they are in offline he/she can send messages to users and view messages from users also.**

**View Statistics:**

**By using this functionality employee can view all statistics like no of chat rooms, no. of online users and no. of offline users.**

**Options:**

**By using this functionality employee can view not only his/her profile details but also other employee profile details and also can change password of their account.**

**Search:**

**By using this functionality employee can search for other employee details either to chat with them or to add their details to his/her.**

**3. Conference Module:**

**By using this module administrator can create chat rooms, they can login in to chat rooms and also they can view all chat rooms which are available in this portal. By using this functionality employee can create chat rooms, they can login in to chat rooms and also they can view all chat rooms which are available in this portal.**

**4. Reports Module**

**In this module administrator will get different types of reports regarding employee like Number of employee of a portal, no. of online users and no. of offline users etc. And this module is controlled by administrator only**

**SOFTWARE REQUIREMENTS:**

**Operating System : Window**

**Technology : Java/J2EE (JDBC, Servlets, JSP)**

**Web Technologies : Html, JavaScript, CSS**

**IDE : MyEclipse**

**Web Server : Tomcat**

**Database : Oracle**

**Software’s : J2SDK1.5, Tomcat 5.5, Oracle 9i**

**HARDWARE REQUIREMENTS:**

**Hardware : Pentium based systems with a minimum of p4**

**RAM : 256MB (minimum)**

**Communication software is used to provide remote access to systems and is also used to exchange messages in text, audio and video format for the purpose of communication.**

**Importance of Effective Communication:-**

**An organization is a group of people associated for business, political, professional, religious, athletic, social, or other purposes. Its activities require human beings to interact and react, that is , to communicate. They exchange information, ideas, plans; order needed supplies; make decisions, rules, proposals, contracts, and agreements. Communication is the “lifeblood” of every organization. People in organizations typically spend over 75% of their time in an interpersonal situation; thus it is no surprise to find that at the root of a large number of organizational problems is poor communications. Effective communication is an essential component of organizational success whether it is at the interpersonal, intergroup, intra-group, organizational, or external levels.**

**Communication can be considered as a personal process that involves the transfer of information and also involves some behavioral input. Communication is something people do. It has all to do with relationships between people and consists of the transfer of information and understanding between parts and people in an organization, and the various modes and media involved in the communication. Another way of looking at communication is as ‘an interpersonal process of sending and receiving symbols with meanings attached to them’ resulting in the exchange of information and shared understanding between people. So a measure of the effective management of interpersonal communication is that information is passed, and relationships are built.**

**Effective Communication is therefore critical to the success of an organization because –**

* **Organisations today are becoming more complex both in structure and technology.**
* **Economic and market conditions are forcing greater efficiency and quality at minimum cost in manufacturing and services.**
* **Government legislation requires managers to interpret the changing implications for policies and practices in their own organization.**
* **People at work have high expectations from their employers – not just high wages, but also greater personal job satisfaction.**
* **Organizations are becoming more dependent on horizontal communication channels. With increased complexity, information needs to flow quickly between specialists rather than go up and back down the hierarchy, with its inevitable delay and message distortion.**

**So when we look at the changes that are taking place in organizations today, it is clear that managers, to be effective, require communication performance at high levels of excellence.**

**The Importance and Benefits of Effective Communication**

**Communication is the “lifeblood” of every organization. A vital means of attending to company concerns is through effective internal communication – downward, upward, and horizontal.**

**Communication is the medium through an organization accomplishes its goals-**

* **It leads to greater effectiveness**
* **It keeps people in the picture.**
* **It gets people involved with the organization and :**
  + **increases motivation to perform well;**
  + **increases commitment to the organization.**
* **It makes for better relationships and understanding between :**
  + **boss and sub-ordinates**
  + **colleagues**
* **People within the organization and outside it**
* **It helps people understand the need for change :**
  + **how they should manage it;**
* **how to reduce resistance to change.**

**An intranet is a private computer network that uses Internet Protocol technologies to securely share any part of an organization's information or operational systems within that organization. The term is used in contrast to internet, a network between organizations, and instead refers to a network within an organization. Sometimes the term refers only to the organization's internal website, but may be a more extensive part of the organization's information technology infrastructure. It may host multiple private websites and constitute an important component and focal point of internal communication and collaboration.**

**The Intranet is always about providing faster information and sharing in a cost effective manner in a private network. The organization is only successfully faster if it conveys the information in the right time and right place. It is only possible if a business organization has some important tools to share information with its employee effectively.**

**The coordination of intranet software is the backbone of any business organization among its employees and intranet software is providing the best collaboration between managers and employee throughout organization. Intranet software is the key solution to communicate and transfer information to the desired department on time. The core features of this type of software are to manage the documentation of a company in a systematic way so that the internal stake holders of the company get the information on time.**

**The main feature is to share information and documentation to the stake holder of the company and electronic sharing is always an effective medium to share information and process documentation. The information sharing is so powerful and faster that a new employee can adjust quickly as they can get easier access to all the documentation and information of the company.**

**The private network remains private for an organization as the information is circulated on this private network and people cannot take the important notes and pieces of information outside the organization. The administrator can easily set the parameters and tools that are provided to the employee to make use of it and all the employees of the organization can have easy access to the information placed on the intranet website. Security is the most important issue and the intranet is a private network and its range is not opened for any outside users; only company employees can access the information.**

**The group assignment and projects are handled much easier as the group can communicate and share information with the presentation of an idea on a website. The information flowing throughout the organization is watched and backed by experts who manage the information and process it with regular editing and updating.**

**The file and data can be transferred to the concerned employee or department by making it manually and filing it in one document. The navigation and searching of desired information is advanced up to the easiest availability level. The language and operating system are compatible with this product and it helps to process information for convenience.**

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# FEASIBILITY STUDY:

**Feasibility study is conducted once the problem is clearly understood. The feasibility study which is a high level capsule version of the entire system analysis and design process. The objective is to determine whether the proposed system is feasible or not and it helps us to the minimum expense of how to solve the problem and to determine, if the Problem is worth solving. The following are the three important tests that have been carried out for feasibility study.**

* **Technical Feasibility**
* **Economical Feasibility**
* **Operation Feasibility**

**Technical feasibility:**

**In the technical feasibility study, one has to test whether the proposed system can be developed using existing technology or not. It is planned to implement the proposed system in Servlets. The project entitled “Intranet Mailing System“ is technically feasible because of the following reasons.**

**• All necessary technology exists to develop the system.**

**• The existing system is so flexible that it can be developed further.**

**Economic feasiblility:**

**As a part of this, the costs and benefits associated with the proposed systems are to be compared. The project is economically feasible only if tangible and intangible benefits outweigh the cost. We can say the proposed system is feasible based on the following grounds.**

**• The cost of developing the full system is reasonable.**

**• The cost of hardware and software for the application is less.**

**Operational feasibility:**

**The project is operationally feasible because there is sufficient support from the project management and the users of the proposed system .Proposed system definitely does not harm and will not produce the bad results and no problem will arise after implementation of the system.**

**SYSTEM DESIGN**

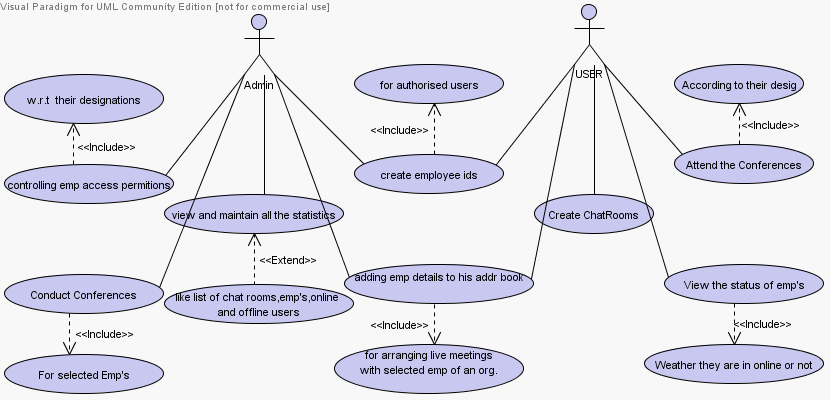
**The system design is a solution, a “how to” approach to the creation of a new system. This is composed of serial steps, it provides the understanding the procedural details necessary for implementing the system recommended in the feasibly study, design goes through a logical and physical stages of development, logical design reviews the present physical system, prepares input and output specifications, makes edit, security and control specifications, details the implementation plan; and prepares a logical design walkthrough.**

**\**

**UML DIAGRAMS:**

# Use case Diagrams:

**Use case diagrams are one of the five diagrams in the UML for modeling the dynamic aspects of the systems (activity diagrams, sequence diagram, state chart diagram, collaboration diagram are the four other kinds of diagrams in the UML for modeling the dynamic aspects of systems). Use case diagrams are central to modeling the behavior of the system, a sub-system, or a class. Each one shows a set of use cases and actors and relation.**

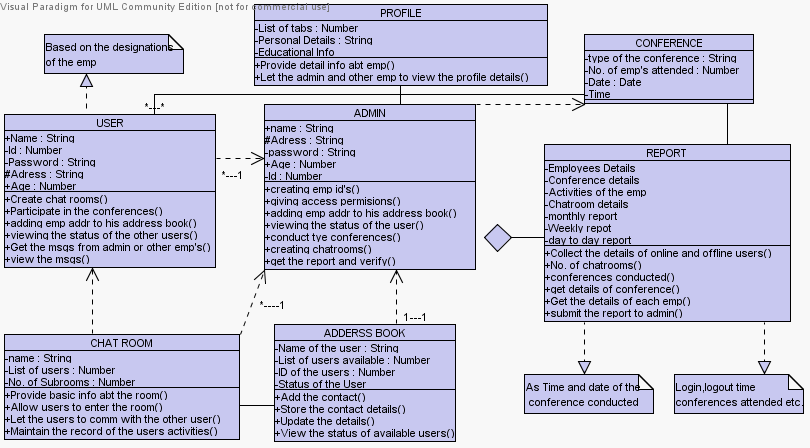
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**CLASS DIAGRAM:**

**A class is a set of objects that share a common structure and common behavior (the same attributes, operations, relationships and semantics). A class is an abstraction of real-world items.**

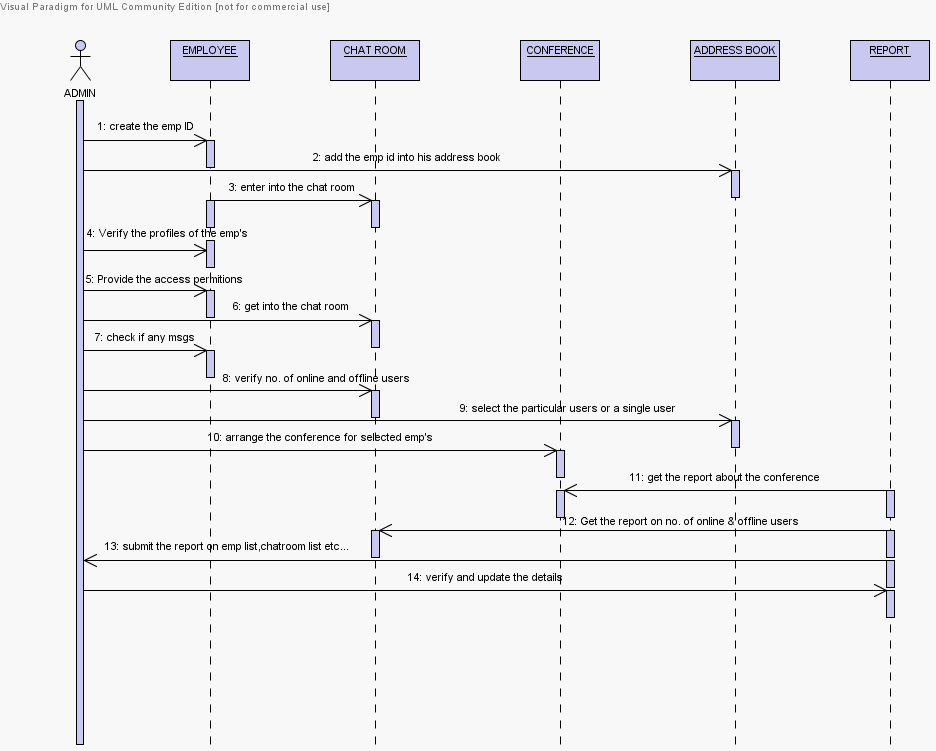
**There are 4 approaches for identifying classes:**

* **Noun phrase approach**
* **Common class pattern approach.**
* **Use case Driven Sequence or Collaboration approach.**
* **Classes , Responsibilities and collaborators Approach.**

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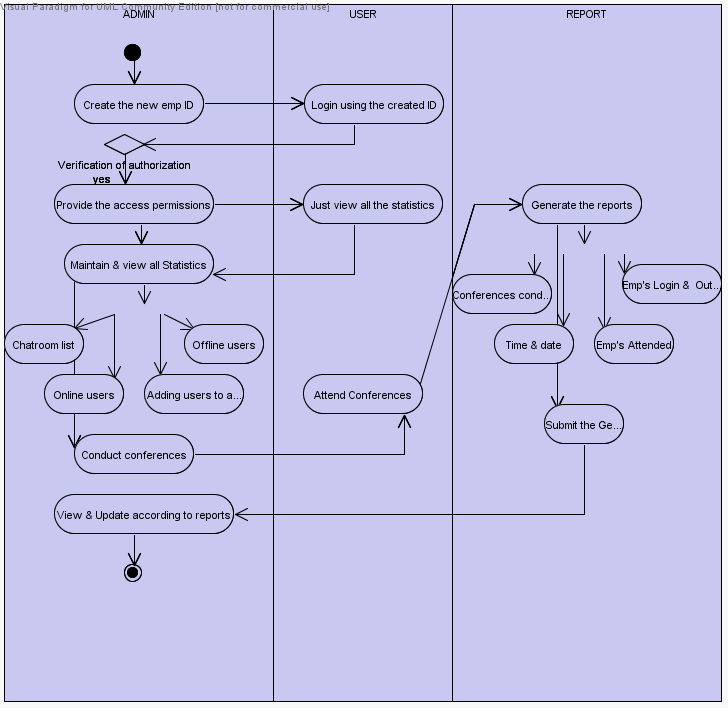
**SEQUENCE DIAGRAM:**

**A sequence diagram is a graphical view of a scenario that shows object interaction in a time-based sequence what happens first, what happens next. Sequence diagrams establish the roles of objects and help provide essential information to determine class responsibilities and interfaces.**

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**ACTIVITY DIAGRAM:**

**Activity diagrams provide a way to model the workflow of a business process, code-specific information such as a class operation. The transitions are implicitly triggered by completion of the actions in the source activities. The main difference between activity diagrams and statecharts is activity diagrams are activity centric, while statecharts are state centric. An activity diagram is typically used for modeling the sequence of activities in a process, whereas a statechart is better suited to model the discrete stages of an object’s. lifetime**

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**What is data dictionary?**

**A data dictionary is a repository of the elements in the system. As the name suggest, these elements center on data and the way they are structured to meet user requirements and organization needs. In a data dictionary we will find a list of all elements composing the data flowing through a system. The major elements are data flows, data stores and process. The data dictionary stores details and descriptions of these elements.**

**Features of data dictionary:**

**The volume of data in most information system applications is substantially more than a single user can easily keep track of data dictionaries are an integral component of structural analysis since dataflow diagrams by themselves donot fully describe the subject of the investigation. The data dictionary provides additional information about the system**

**Why is data dictionary important?**

**Analysis use data dictionaries for five important reasons**

* **To manage the details in large systems**
* **To communicate a common meaning for all elements**
* **To document the features of the system**
* **To facilitate analysis of details in order to evaluate characteristics and determine where system changes would be made.**
* **To locate errors and omissions in the system**

**ER DIAGRAM:**

**ADDEDTO**

**ADDRESS BOOK**

NEW USER

**ACCORDING TO**

**CHATROOM**

REPORT GENERATED

**New\_Users\_Details:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ATTRIBUTE** | **DATATYPES** | **SIZE** | **MANDATORY** | **CONSTRAINT** |
| **USERNAME** | **NUMBER** | **10** | **NOT NULL** | **PRIMARY KEY** |
| **USERPWD** | **VARCHAR2** | **20** | **NOT NULL** |  |
| **USER\_AGE** | **VARCHAR2** | **20** | **NOT NULL** |  |
| **USER\_SEX** | **NUMBER** | **40** | **NOT NULL** |  |
| **USER\_CITY** | **VARCHAR2** | **15** | **NOT NULL** |  |
| **USER\_STATE** | **VARCHAR2** | **20** |  |  |
| **USER\_NATION** | **VARCHAR2** | **30** | **NOT NULL** |  |

**Address\_Book:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ATTRIBUTES** | **DATATYPES** | **SIZE** | **MANDATORY** | **CONSTRAINT** |
| **USER\_NAME** | **VARCHAR2** | **10** | **NOT NULL** | **FOREIGN KEY** |
| **FR\_NAME** | **VARCHAR2** | **20** | **NOT NULL** |  |
| **FR\_MAILID** | **VARCHAR2** | **20** | **NOT NULL** |  |
| **FR\_ADDRESS** | **VARCHAR2** | **30** | **NOT NULL** |  |

**REPORT\_Details:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ATTRIBUTE** | **DATATYPES** | **SIZE** | **MANDATORY** | **CONSTRAINT** |
| **ONLINE EMPLOYEE LIST** | **VARCHAR2** | **20** | **NOT NULL** |  |
| **OFFLINE EMPLOYEE LIST** | **VARCHAR2** | **20** | **NOT NULL** |  |
| **CHATROOMS LIST** | **VARCHAR2** | **20** | **NOT NULL** |  |
| **USERS ENTERED CHATROOM** | **VARCHAR2** | **20** | **NOT NULL** |  |
| **EMPS ATTENDED CONF** | **VARCHAR2** |  | **NOT NULL** |  |
| **DATE** | **DATE** |  | **NOT NULL** |  |
| **TIME** |  |  | **NOT NULL** |  |

**Chat Room:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ATTRIBUTES** | **DATATYPES** | **SIZE** | **MANDATORY** | **CONSTRAINT** |
| **NAME** | **VARCHAR2** | **10** | **NOT NULL** |  |
| **EMP LIST** | **NUMBER** | **5** | **NOT NULL** |  |
| **EMP\_MAILID** | **VARCHAR2** | **20** | **NOT NULL** |  |
| **EMP\_ADDRESS** | **VARCHAR2** | **30** | **NOT NULL** |  |

**USER INTERFACE DESIGNS:**