

ONLINE EMPLOYMENT SYSTEM

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A PROJECT REPORT

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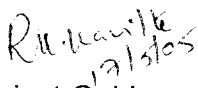
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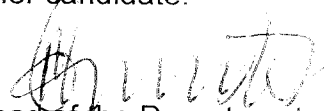
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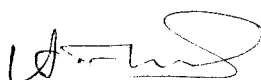
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who carried out the research under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.


Project Guide


Head of the Department

The Candidate with University Register No. 71202621005 was examined by us in the project Viva-Voce examination held on 24.6.2000


Internal Examiner


External Examiner

ABSTRACT

The Online Employment System is an application designed to bring together job seeker and the employer under a single roof. The employer can post their job openings in their firm and job seeker can apply to the job that interest them .The application is developed using ASP.NET as front end and SQL SERVER 2000 as its back end. This project is developed for Pearlsoft.

The major goal of Online Employment System is to develop a user friendly environment for posting job openings, organization profile, applying to the eligible job opening and provides search mechanism to search for jobs of users interest. The system keeps track of every users login information and displays the information whenever the user logins.

The resume service is a part of the system helps the job seeker build his resume in an effective way. The system gives email alerts to the qualified user when a job opening is posted. System allows employers to post their organization profile which contains all the information about the organization. The system provides effective way to update their information for it users especially to job seeker who keep improving their skills. System allows job seeker to upload their curriculum vitae to the system.

This project provides immense uses to employers as well as job seekers. For employers they have better talent pool to select from and for job seekers they have better means to search for jobs.

ACKNOWLEDGEMENT

At this pleasing moment of having successfully completed the project work, I wish to acknowledge my sincere gratitude and heartfelt thanks to our beloved Principal **Dr.K.K.Padmanabhan** for having given me the adequate support and opportunity for completing this project work successfully.

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LIST OF ABBREVIATIONS

SMTP	Simple Mail Transfer Protocol
CLR	Common Language Runtime
CTS	Common Type System
CLS	Common Language Specification
MSIL	Microsoft Intermediate Language
ADO	ActiveX Data Objects
ASP	Active Server Objects
TCP	Transmission Control Protocol
HTTP	Hyper Text Transfer Protocol

CHAPTER 1

INTRODUCTION

1.1 PROJECT OVERVIEW

1.1.1 Online Employment System

The Online Employment System is an application designed to bring together job seeker and the employer under a single roof. The employer can post their job openings in their firm and job seeker can apply to the job opening which interest them. Email notification alerts the job seeker about the new job openings posted by recruiters and Storing users details in their curriculum vitae or generating the curriculum vitae through resume service tool.

Major Modules of the system are

- Login Module
- Job Seeker Module
- Employer Module
- Email Alert Module

1.1.2 Project Scope

- Searching for jobs according to user preference
- Applying for job vacancies
- Signing up new users
- Displaying the details about the company
- Allowing employer to post new jobs

1.2 ORGANIZATION PROFILE

Pearlsoft is a worldwide provider of information technology services situated in Coimbatore. And Pearlsoft is a strategic partner of STC consultants Chennai.

Vision

To endure the challenges of evergreen Global demands.

Focus

- Web Technologies
- Windows Application Development
- Testing

Services

Pearlsoft is implementing software varying from real-time mission critical systems to scalable, interoperable and high availability web resulting solutions. The company has the expertise to comprehend the client needs to their utmost satisfaction. The company uses the best technologies practiced in the industry today.

They deal with advanced Microsoft technologies in Windows and web applications, Such as .Net Framework (VB.Net, ASP.Net, and C #.Net), XML web services.

CHAPTER 2

SYSTEM REQUIREMENT AND SPECIFICATION

The Software Requirements Specification is a technical specification of requirements for the software product. The goal of software requirements definition is to completely and consistently specify the technical requirements for the software products in a concise and unambiguous manner.

The Software Requirements Specification is based on the system definition of high-level requirements, which are specified during initial planning. Requirements are elaborated in order to characterize the features of that software product. The requirement specification is primarily concerned with functional and the performance aspect of the software product and emphasis is placed on specifying product characteristics without implying how the product will provide those characteristics.

Desirable properties of a Software Requirement Specification

- Correct
- Complete
- Consistent
- Unambiguous
- Functional
- Verifiable
- Traceable.

2.1 SERVER HARDWARE REQUIREMENTS

- Processor : Intel Pentium IV
- Processor Speed : 2GHz
- Memory : 512 MB RAM
- Hard Disk : 40 GB

2.2 SOFTWARE REQUIREMENTS

- Operating System : Windows 2000 Server/
NT Server/2003 Server
- Programming Language : ASP.NET, VB.NET, Jscript
,Java Script
- Web Server : IIS 5.0 or above
- Database Server : Microsoft SQL Server 2000

2.3 CLIENT REQUIREMENTS

A graphical web browser like IE 4.0 or above, Netscape 5.0 or above

2.4 SOFTWARE OVERVIEW

What Is Microsoft .NET?

Microsoft .NET is software that connects information, people, systems, and devices. It spans clients, servers, and developer tools, and consists of:

- The .NET Framework used for building and running all kinds of software, including Web-based applications, smart client applications, and XML Web services—components that facilitate integration by sharing data and functionality over a network through standard, platform-

independent protocols such as XML (Extensible Markup Language), SOAP, and HTTP.

- Developer tools, such as Microsoft Visual Studio® .NET 2003 which provides an integrated development environment (IDE) for maximizing developer productivity with the .NET Framework.
- A set of servers, including Microsoft Windows® Server 2003, Microsoft SQL Server™, and Microsoft BizTalk® Server, that integrates, runs, operates, and manages Web services and Web-based applications.
- Client software, such as Windows XP, Windows CE, and Microsoft Office XP, that helps developers deliver a deep and compelling user experience across a family of devices and existing products.

What is the .NET Framework?

The .NET Framework is a development and execution environment that allows different programming languages & libraries to work together seamlessly to create Windows-based applications that are easier to build, manage, deploy, and integrate with other networked systems.

The .NET Framework consists of:

- **The Common Language Runtime (CLR)**

The common language runtime (CLR) is responsible for run-time services such as language integration, security enforcement, and memory, process, and thread management. In addition, the CLR has a role at development time when features such as life-cycle management, strong type naming, cross-language exception handling, and dynamic binding reduce the amount of code that a developer must write to turn business logic part of the system into a usable component.

- **The Framework Class Libraries (FCL)**

A consistent, object-oriented library of prepackaged functionality. Base classes provide standard functionality such as input/output, string manipulation, security management, network communications, thread management, text management, and user interface design features.

The ADO.NET classes enable developers to interact with data accessed in the form of XML through the OLE DB, ODBC, Oracle, and SQL Server interfaces. XML classes enable XML manipulation, searching, and translations. The ASP.NET classes support the development of Web-based applications and Web services. The Windows Forms classes support the development of desktop-based smart client applications.

Together, the class libraries provide a common, consistent development interface across all languages supported by the .NET Framework.

Reasons for Using ASP.NET

- **Compatibility**

Microsoft has designed ASP+ (ASP.NET) to run along side regular ASP, so there's no need to worry that your existing applications will break with the next release of Internet Information Services (IIS). ASP.NET files come with a new extension (aspx), so you can easily separate the old from the new.

- **Compiled Code**

ASP+ has the benefit of access to compiled languages, such as Visual Basic, C++, and even MS's new C#. You can now program Active Server Pages in any language you wish, as all code is now compiled when requested. Even VBScript and JavaScript are now compiled.

- **COM Objects**

We are all aware of the problems with COM when using typical ASP. Registering components, restarting servers, are always makes problem. Now with the Next Generation Windows Services (NGWS), you don't have to worry about this anymore. You can simply copy the source files for your component, paste them wherever you want, and it will work. No DLL registering, no headaches.

- **XML Configuration**

With the NGWS framework, all metabase and configuration information is stored in XML files. This means you no longer have to fool around with IIS to change the settings. In fact, you could change the XML file from anywhere, and ftp the changes to the server. No need for any type of remote PC control.

- **Web Forms and Web Controls**

ASP+ (ASP.NET) introduces the ability for forms to be linked to the server, so you can process requests more easily. Web controls offer similar functionality, and provide a web developer with additional functionality versus the regular HTML controls.

- **Caching**

ASP+ allows objects and output to be cached, which should increase speed, since subsequent users won't have to make more requests to the server. The ASP+ caching system is very advanced, allowing you to specify what needs to be cached and what doesn't, and when to recall the cached information versus performing a new request.

- **Scalability**

ASP+ has some great scalability features built into it, including maintaining session state across servers, and multi-processor balancing. The ASP+ runtime also monitors processes, so when one goes haywire, ASP+ will shut it down and restart it for you, and send old requests to the new process.

Database Design

Online Employment System uses Microsoft SQL Server 2000 as its Backend. Microsoft Extends the Performance, reliability, quality and ease-of-use of Microsoft SQL Server version 7.0. Microsoft SQL Server 2000 includes several new features that make it an excellent database platform for large-scale online transactional processing (OLTP), data warehousing, and e-commerce Application.

Fundamentals of SQL Server 2000 Architecture

- Online Transaction Processing (OLTP) systems must be capable of handling thousands of orders placed at the same time.
- Increasing numbers of corporations are implementing large Web sites as a mechanism for their customers to enter orders, contact the service department, get information about products, and for many other tasks that previously required contact with employees. These sites require data storage that is secure, yet tightly integrated with the Web.

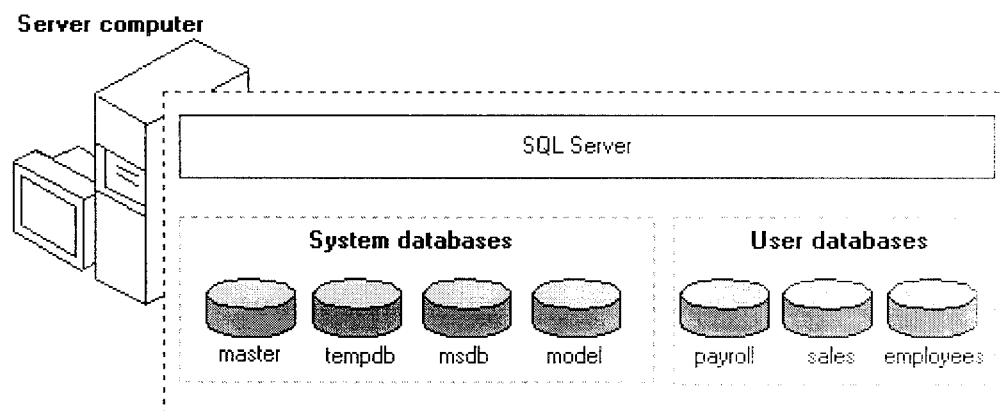
- Organizations are implementing off-the-shelf software packages for critical services such as human resources planning, manufacturing resources planning, and inventory control. These systems require databases capable of storing large amounts of data and supporting large numbers of users.
- Managers and marketing personnel need increasingly sophisticated analysis of trends recorded in corporate data. They need robust Online Analytical Processing (OLAP) systems easily built from OLTP data and support sophisticated data analysis.
- Independent Software Vendors (ISVs) must be able to distribute data storage capabilities with applications targeted at individuals or small workgroups. This means the data storage mechanism must be transparent to the users who purchase the application. This requires a data storage system that can be configured by the application and then tune itself automatically so that the users do not need to dedicate database administrators to constantly monitor and tune the application.

Database Architecture

Microsoft® SQL Server™ 2000 data is stored in databases. The data in a database is organized into the logical components visible to users. A database is also physically implemented as two or more files on disk.

When using a database, you work primarily with the logical components such as tables, views, procedures, and users. The physical implementation of files is largely transparent. Typically, only the database administrator needs to work with the physical Implementation.

Each instance of SQL Server has four system databases (**master**, **model**, **tempdb**, and **msdb**) and one or more user databases. Some organizations have only one user database, containing all the data for their organization. Some organizations have different databases for each group in their organization, and sometimes a database used by a single application. For example, an organization could have one database for sales, one for payroll, one for a document management application, and so on. Sometimes an application uses only one database; other applications may access several databases.



It is not necessary to run multiple copies of the SQL Server database engine to allow multiple users to access the databases on a server. An instance of the SQL Server Standard or Enterprise Edition is capable of handling thousands of users working in multiple databases at the same time.

When connecting to an instance of SQL Server, your connection is associated with a particular database on the server. This database is called the current database. You are usually connected to a database defined as your default database by the system administrator, although you can use connection options in the database APIs to specify another database. You can switch from one database to another using either the Transact-SQL USE database name statement, or an API function that changes your current database context.

SQL Server 2000 allows you to detach databases from an instance of SQL Server, then reattach them to another instance, or even attach the database back to the same instance. If you have a SQL Server database file, you can tell SQL Server when you connect to attach that database file with a specific database name.

Features of SQL Server 2000

- **Internet Integration.**



The SQL Server 2000 database engine includes integrated XML support. It also has the scalability, availability, and security features required to operate as the data storage component of the largest Web sites. The SQL Server 2000 programming model is integrated with the Windows DNA architecture for developing Web applications, and SQL Server 2000 supports features such as English Query and the Microsoft Search Service to incorporate user-friendly queries and powerful search capabilities in Web applications.

- **Scalability and Availability.**

The same database engine can be used across platforms ranging from laptop computers running Microsoft Windows® 98 through large, multiprocessor servers running Microsoft Windows 2000 Data Center Edition. SQL Server 2000 Enterprise Edition supports features such as federated servers, indexed views, and large memory support that allow it to scale to the performance levels required by the largest Web sites.

- **Enterprise-Level Database Features.**

The SQL Server 2000 relational database engine supports the features required to support demanding data processing environments. The database engine protects data integrity while minimizing the overhead of managing thousands of users concurrently modifying the database. SQL Server 2000 distributed queries allow you to reference data from multiple sources as if it were a part of a SQL Server 2000 database, while at the same time, the distributed transaction support protects the integrity of any updates of the distributed data. Replication allows you to also maintain multiple copies of data, while ensuring that the separate copies remain synchronized. You can replicate a set of data to multiple, mobile, disconnected users, have them work autonomously, and then merge their modifications back to the publisher.

- **Data warehousing.**

SQL Server 2000 includes tools for extracting and analyzing summary data for online analytical processing. SQL Server also includes tools for visually designing databases and analyzing data using English-based questions.

Tables can be created in two ways.

1. **SQL Query Analyzer.**
2. **SQL Enterprise Manager.**

Microsoft SQL Server 2000 SQL Query Analyzer is a graphical tool that allows you to:

- Create queries and other SQL scripts and execute them against SQL server databases.
- Quickly create commonly used database object from predefined scripts.
- Quickly copy existing database objects.
- Debug and Execute stored procedures.
- Debug query performance problems.
- Quickly insert, update, or delete rows in a table.(Open Table Window)

Microsoft SQL Server Enterprise Manager is the primary administrative tool for Microsoft SQL Server 2000 and provides a Microsoft management

Console (MMC)-Compliant user interface that allows user to:

- Define groups of servers running SQL Server.
- Register Individual servers in a group.
- Configure all SQL Server options for each registered server.
- Create and administer all Server databases, objects, logins, users and permissions in each registered server.
- Define and execute all SQL Server administrative tasks on each registered server.

Design and test SQL statements, batches and scripts interactively by invoking Query Analyzer.

2.5 SPECIFICATION

Platform Specification

Server - Software

Internet Information Services (IIS) for Microsoft Windows server family brings the power of Web computing to Windows. With IIS, you can easily share files and printers and create applications to securely publish information to improve the way your organization works. IIS is a secure platform for building and deploying e-Commerce solutions. IIS also makes it easy to bring mission-critical business applications to the Web.

Operating System

An Operating System is a Collection of Computer program that control, how the computer works. It can also be defined as the software, which acts as a traffic cop, directing requests and information to add from the various devices within a single PC. The OS handles disk requests (read and write) keyboard translations, memory accesses, peripheral accesses and much other function.

Windows NT

This is a network operating system. This is based on the Client-Server architecture. Benefits of Windows NT are;

- More intuitive interface.
- Better multitasking and multithreading.
- Clients can be attached to workstations.
- Higher level of security.
- NTFS-a powerful NT File System.

Windows 2000 Server/NT Server/2003 Server

Microsoft Windows 2000 Server/NT server/2003 Server is a multipurpose server operating system. A multipurpose operating system integrates a variety of network services. The services it provides are designed to address customer requirements and are managed in a single way. It offers a complete end-to-end solution. It gives the ability to exploit the popularity of compatible third party products and such application as Active Server Pages, for dynamic content web pages or server specialized database tasks and web server for web services.

CHAPTER 3

SYSTEM ANALYSIS

3.1 EXISTING SYSTEM

There is no existing system and the whole process is done manually. They feel uneasy to maintain records manually.

Disadvantages

- ❑ There is no support for notification of new vacancies to the users.
- ❑ Users cannot view the complete profile of the employers.
- ❑ Takes a lot of time as the whole process is manual.

3.2 PROPOSED SYSTEM

The proposed system online employment system is developed using ASP.NET for server side coding and Jscript for client side validations. HTML for design and MICROSOFT SQL SERVER 2000 as the backend database.

Advantages of proposed system

- Search facility enables user to search various opportunity of his interest.
- Enables user to upload their curriculum vitae.
- Generate curriculum vitae according to user preferences.
- Mailing facility that allows user to know about vacancies as soon as employer post a job opening.

3.3 PROTOTYPING

Planning the software development process involves several important considerations. The most important consideration is to define a product life cycle.

The software life cycle encompasses all activities required to define, develop, test, deliver, operate, and maintain a software product. Different models emphasize different aspect of the life cycle, and no single life-cycle model is appropriate for all software products. Life-cycle models used are the phased model, the cost model, the prototype model and the successive versions model.

The Prototype Life-cycle Model

Prototype is a model of a software product. A prototype of the online employment system incorporates all the components of the actual product. Typically, a prototype of the online employment system exhibits limited function capabilities, low reliability, based on the feedback from this prototype of the system the actual system is modified

Reasons for developing a prototype:

- To explore technical issues in the proposed system and finding alternatives.
- To cost effectively identify the problem in the system like maximum number of requests the online employment system can handle simultaneously

The nature and extent of prototype to be performed on particular software is dependent on the nature of the product. Development of a totally new product will probably involve some prototyping during the planning and analysis phase.

CHAPTER 4

SYSTEM DESIGN

4.1 DESIGN PRINCIPLES

The process of design involves “conceiving and planning out in mind” and “making a drawing, pattern, or sketch of”. In software design, there are three distinct types of activities: external design, architectural design and detailed design. Architectural design and detailed design are collectively called internal design.

External design of software involves conceiving, planning out, and specifying the externally observable characteristics of a software product. These characteristics include user displays and report formats, external data sources and data sinks, and the functional characteristics, performance requirements and high-level process structure for the product. External design begins during the analysis phase and continues into the design phase. Requirements definition is concerned with specifying the external, functional and performance requirements for a system. External design is concerned with refining those requirements and establishing the high level structural view of the system.

Internal design involves conceiving, planning out and specifying the internal structure and processing details of the software product. The goals of internal design are to specify internal structure and processing details, to record design decisions and indicate why certain alternatives and trade-offs were chosen, to elaborate the test plan, and to provide a blueprint for implementation, testing and maintenance activities. The work products of

internal design include a specification of architectural structure, the details of algorithms and data structures, and data structures, and the test plan.

Requirements Definition

What is Online Employment System?

Online Employment System provides a simple and an effective to enable people to search and apply to the various job opportunities. It also helps the employers by allowing access to larger talent pool. Employer are also allowed to modify the job opening after it is posted.

Online employment system can considered for

- Job seeker with various qualification and experience levels.
- Employer who are looking for candidates for the job.

4.2 ARCHITECTURAL DESIGN

Architectural Design is concerned with refining the conceptual design of the system, identifying internal processing functions, decomposing high level functions into sub functions, defining internal data streams and data stores and establishing relationships and interconnections among functions, data streams and data stores.

4.2.1 Online Employment System – Module Overview

Online Employment System consists following modules

- User Login Module
- Employer Module
- Job Seeker Module
- Email Alert Module

User Login Module

User Login module implements the functionality to authenticate the user and identify their type whether they are employers or job seekers. The major activities of the user login module are listed below

- Authenticating Users
- Signing Up new users
- Password Recovery

The process of authenticating users involves getting the username and password from the user and encoding the password using **MD5** 128bit algorithm and checking for the username and the encoded password in the database. Identifying the user is also done here (whether employer or job seeker).

The process of signing up users involves two different signup forms one for employers and job seekers respectively. The signup process involves validating the user input , checking for the availability of the user name and inserting records in the database.

The process of password recovery involves resetting the forget password by the new password. A secret question is revealed on giving correct answer to it user is allowed to update his password.

Employer Module

Employer module implements various activities like posting for a vacancy in his organization. Updating the company profile, updating his personnel details and also updating the current job opening information.

Posting a job opening involves giving various information regarding the job like job designation, job description, type of employment or skill set required.

Company profile contains many information regarding the company, this profile will the job seeker know more about the company and could also inspire him to be the part of the team. The company profile can also be updated as per the need of the employer.

Already posted job opening can also be viewed by the employer and can also modify it or delete an opening. By default the online employment system deletes a job opening after a month from the day of posting. Employer can also update his own personnel details are contact address.

Job Seeker Module

Job seeker module implements various process like searching for job opening. uploading curriculum vitae to the system. The various activities of the job seeker module are given below

- Searching for job opening of user interest.
- Generating the curriculum vitae as per user directions.
- Updating user information.
- Uploading curriculum vitae to the system.
- Viewing company profiles.

Searching process involves giving various inputs like the kind of job, type of employment etc, the system retrieves available matches for the search criteria.

Resume Service tool helps the job seeker to generate his curriculum vitae as per the directions given by the users. Job seeker module allows user to modify and update the user profile. Users can also upload the curriculum vitae document into the system.

Company profile can also viewed by the user to know more about the company before applying for a job.

Email Alert Module

This module implements the emailing part of the system. The activities involved are like giving email notification to the eligible job seekers about the new job opening that they are qualified to apply. The other activity involves forwarding of curriculum vitae to the employer mailbox as an attachment. This email alert module is implemented using **smtpmail** class that is a part of the dot net framework. Email message will also be sent to the user when signed up with the system.

4.3 TABLE DESIGN

4.3.1 TAB_USER_LOGIN

FIELD NAME	KEY	DATATYPE	SIZE
Username_login	Primary key	Varchar	20
Password_login	Not null	Varchar	50
Sques_login	Not null	Varchar	30
Answer_login	Not null	Varchar	20
Usertype_login	Not null	Varchar	10
Lastlogin_login	Not null	Date	

4.3.2 TAB_ADDRESS_DETAILS

FIELD NAME	KEY	DATATYPE	SIZE
Username_address	Primary key	Varchar	20
name_address	Not null	Varchar	40
Address1_address	Not null	Varchar	20
Address2_address		Varchar	20
City_address	Not null	Varchar	20
Pincode_address	Not null	Number	6
Phno_address		Number	14
Email_address	Not null	Varchar	40

4.3.3 TAB_JOBSEEKER_DETAILS

FIELD NAME	KEY	DATATYPE	SIZE
Username_seeker	Primary key	Varchar	20
Qualification_seeker	Not null	Varchar	10
Degree_seeker		Varchar	10
Resumeid_seeker	Foreign Key	Varchar	25
Experience_seeker	Not null	Varchar	10

4.3.4 TAB_RESUME_DETAILS

FIELD NAME	KEY	DATATYPE	SIZE
Resumeid_resume	Primary key	Varchar	25
Resumepath_resume		Varchar	40
Username_resume	Foreign Key	Varchar	20

4.3.5 TAB_EMPLOYER_DETAILS

FIELD NAME	KEY	DATATYPE	SIZE
Username_employer	Primary key	Varchar	20
Desgination_employer	Not null	Varchar	20
Companyname_employer	Foreign Key	Varchar	20
Siteurl_employer		varchar	20

4.3.6 TAB_COMPANY_PROFILE

FIELD NAME	KEY	DATATYPE	SIZE
Compname_profile	Primary key	Varchar	20
Complogo_profile		Varchar	40
Compinfo_profile	Not null	Varchar	2000
Compfeature_profile	Not null	varchar	500
Compphoto_profile		Varchar	40
Compfuture_profile		Varchar	300

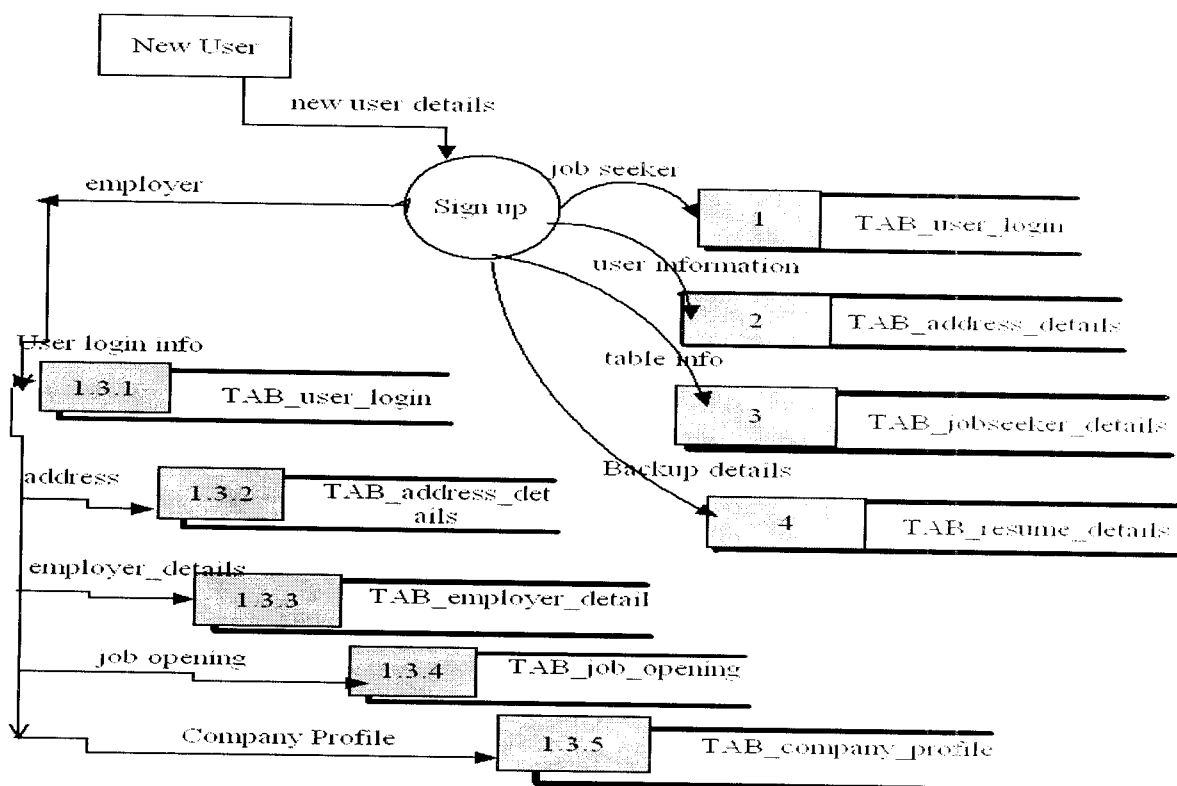
4.3.7 TAB_JOB_OPENING

FIELD NAME	KEY	DATATYPE	SIZE
Jobid_opening	Primary key	Varchar	30
Jobtitle_opening	Not null	Varchar	20
Jobdesc_opening	Not null	Varchar	300
Salpack_opening		varchar	20
Experience_opening		Varchar	20
Username_opening	Foreign key	Varchar	20
Emptype_opening		Varchar	10
Qualification_opening	Not null	Varchar	50

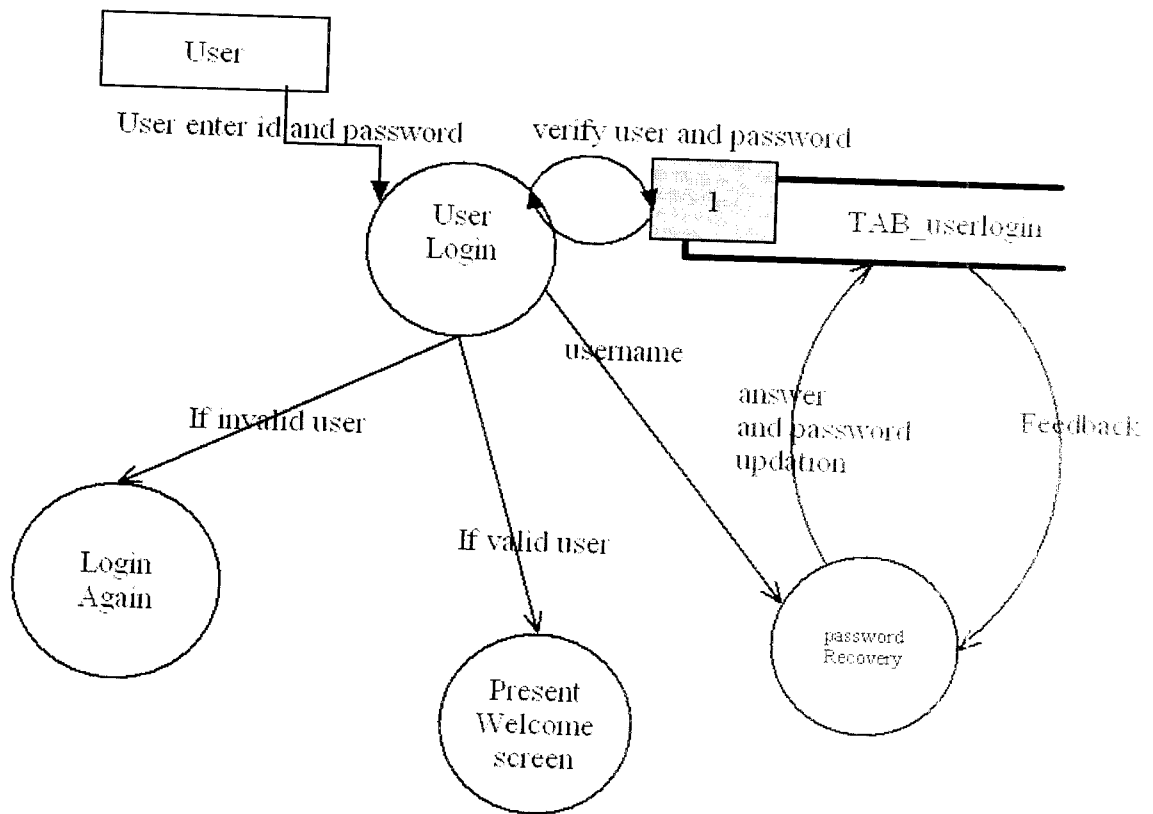
4.4 DATA FLOW DIAGRAM

DFD is commonly used during problem analysis and design. It views the system as a function that transforms the inputs into desired outputs. A DFD aims to capture the transformation that takes place within a system into output data so that eventually the output data is produced. The agent that performs the transformation of data from one state to another is called a process (Bubble). Named circles show the processes and dataflow are represented by named arrows. A square defines a source or destination of system data. An open rectangle is a data source.

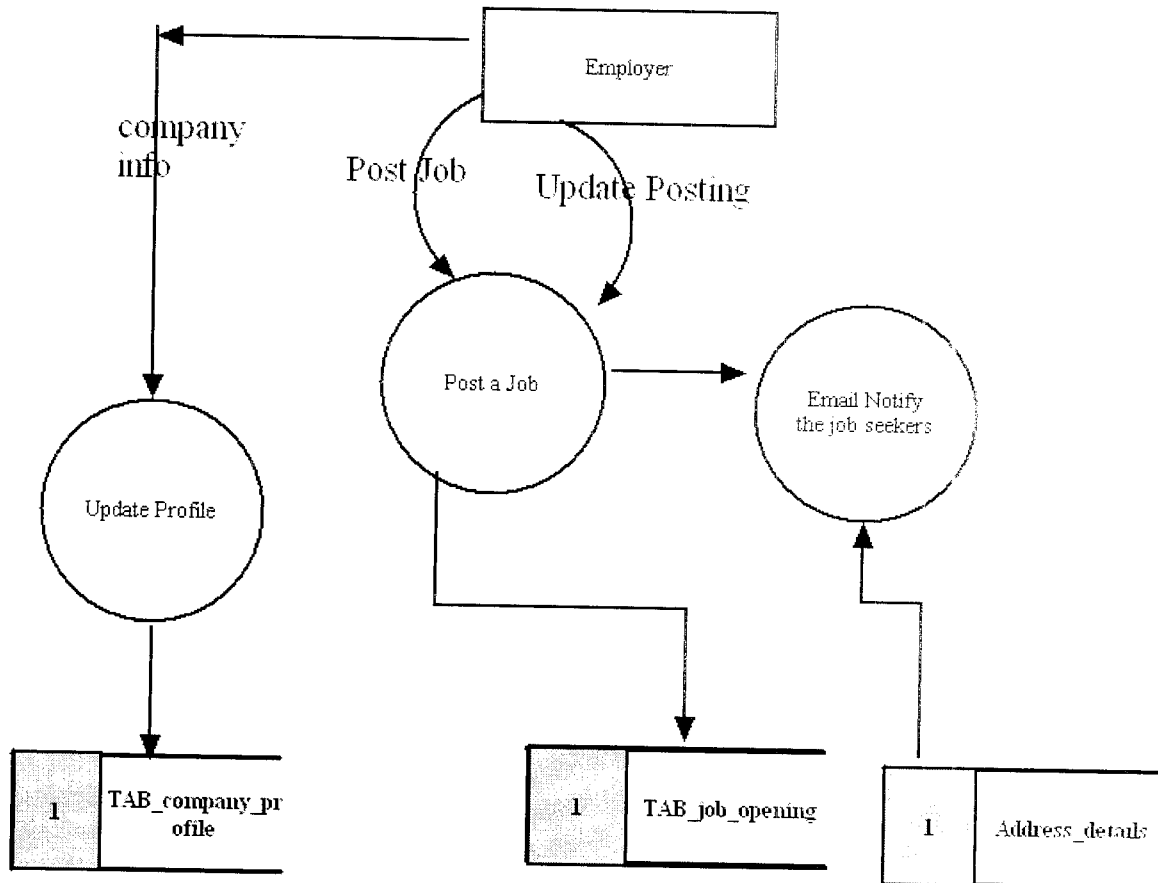
4.4.1 DFD - New User Signup



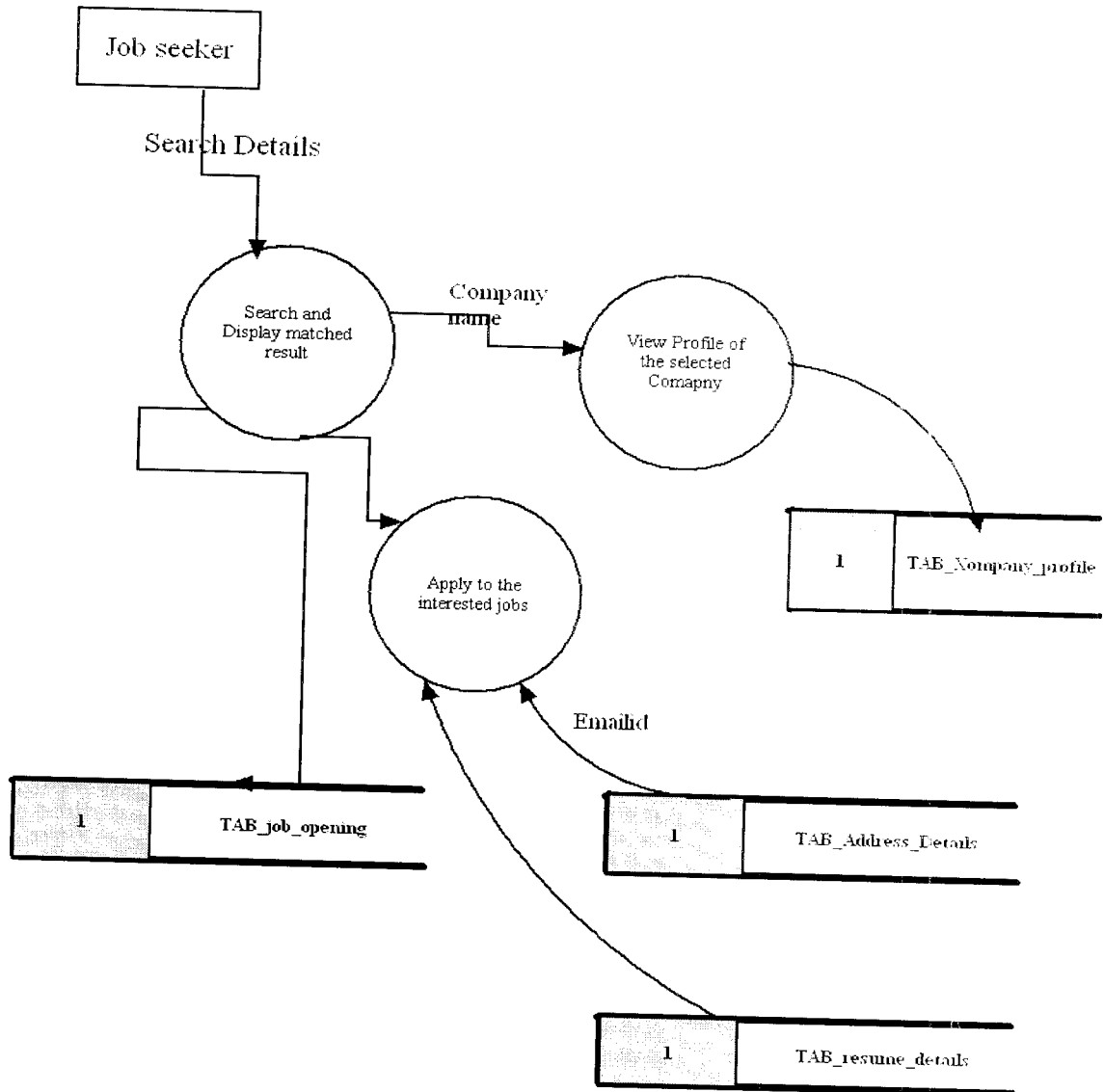
4.4.2 DFD - user login



4.4.3 DFD – Post a Job



4.4.4 DFD – Search



CHAPTER 5

SYSTEM TESTING AND IMPLEMENTATION

The system testing deals with the process of testing the system as a whole. This is done after the integration process. Moving through each module from top to bottom tests the entire system. The verification and validation processes are then carried out. The errors that occur at testing phase are eliminated and a well functioning system is developed.

Test case design focuses on a set of techniques, which meets all testing objectives, which are mentioned below.

1. Testing is a process of executing a program with the intent of finding an error.
2. A successful test is one that uncovers an as yet undiscovered error.

Testing demonstrates that software functions work according to specifications. In addition data collected from testing provides a good indication of software reliability and some indication of software quality as a whole.

Testing results are used for detecting errors. Critical modules are tested as early as possible. The following tests are carried out.

5.1 TESTING METHODS

5.1.1 Unit Testing

It focuses verification efforts on the smallest unit of software design, the module. This is also known as **Module Testing**. Each modules are tested separately. This testing is carried out during programming stage of each module.

5.1.2 Validation Testing

Validation testing succeeds when the software functions in a manner that can be reasonably expected by the users. In the implemented system, validation test has been conducted.

Validation testing helped developer of the system to

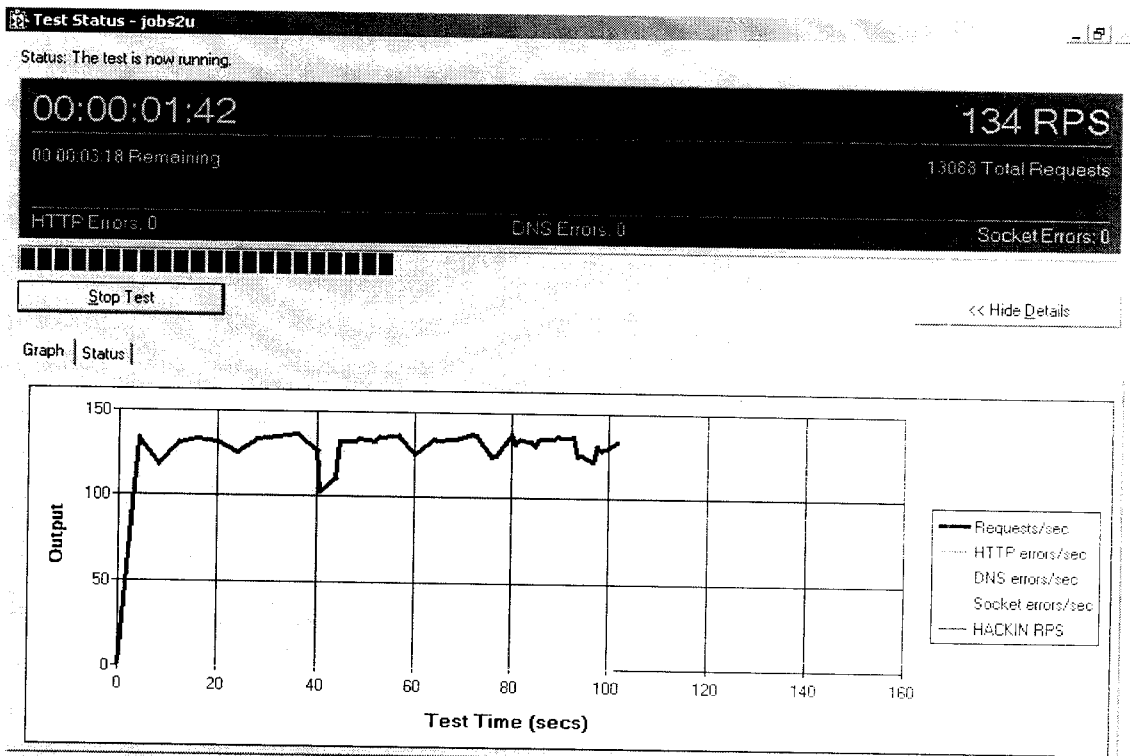
1. Testing whether target file is available for all the available links in a page
2. Testing whether Search results brings information the user is looking.

5.1.3 Output Testing

After performing the validation testing the next step is output testing of the proposed system since no system is useful if it does not produce the required output in the specific format.

Output testing is used in online employment system to

1. Notify user when they enter a wrong username or password
2. Other notification information like posting a job etc



5.1.4 Stress Testing and User Acceptance Testing

Stress testing is used to test how the system performs under critical conditions like more request with normal amount of resources or normal request with less amount of resources.

Updates made to the system as a result of stress testing are

1. Redirecting the request of the user to the mirror site when the system exceeds the threshold level for the number of connection.
2. Redirecting the users with expired session to a login page.

User acceptance of a system is a key factor for the success of any system. The system under consideration is tested for user acceptance by constantly keeping in touch with prospective system users or the virtual users at the time development and changes are made whenever required.

5.2 IMPLEMENTATION

The implementation phase of software development in Online Employment system is concerned with translating design specification into source code. The primary goal of implementation is to raise source code and internal documentation so that conformance of the code to its specification can be easily verified, and so that debugging, testing and modification are eased. The implementation of the system involves front end part as well as the server part. The client side part make sure that the whole system is implemented with self learning structure and easy to use nature.

Source code clarity is achieved by declaring the variables in Hungarian notation. Internal comments alongside of the source code helps in debugging or upgrading the system.

There will be two types of operations that will be used in the system, first being the client side validations performed to validate the correctness of the data entered by the user. Server operations will be coded in the 'code behind file' which resides in the server itself. This precompiled file will be executed by the server after validating the request from the client (web browser).

The goal of structured coding is to liberalize control flow through a computed program so that the execution sequence follows the sequence in which the code is written. The dynamic structure of a program as it executes then resembles the static structure of the written text. This enhances readability of code, which eases understanding, debugging, testing, documentation and modification of programs. It also facilitates formal verification of programs.

5.3 MAINTENANCE

Maintenance is the enigma of system development. It holds the software industry captive typing up programming resources. It could be described as the symmetric process of changing the software that is already in operation, in order to prevent system failures and to improve the performance. Software maintenance involves keeping software interfaces simple and standard, paying particular attention to troublesome modules, replacing faulty components and generally planning to replace components that are old, obsolete, faulty, or at risk for imminent failure.

There are several factors that require to be maintained. They are

- Hardware platforms change or become obsolete.
- Operating system change.
- Compiler change
- Language standard's change.
- Communication standard's change
- Graphical user interface change.
- Related application software package change.

Maintenance can be classified into

- Adaptive maintenance
- Perceptive maintenance
- Preventive maintenance
- Corrective maintenance

Adaptive Maintenance

It deals with adapting software change in the environment. It does not lead to changes in the system functionality.

Perceptive Maintenance

It mainly deals with accommodating new or changed users requirements. It also includes activities to increase the system performance or to enhance its user interface. The objective of perceptive maintenance should be to prevent failures and optimize the software.

Preventive Maintenance

Preventive maintenance concerns activities aimed at increasing the system's maintainability such as updating documentation adding comments, improving modular structure of the system.

Corrective Maintenance

This deals with the repair of faults found. Some of the major causes of maintenance problems are:

- Unstructured code
- Maintenance programmers having insufficient knowledge of the system and on application domain.

CHAPTER 6

CONCLUSION

Thus the system satisfies the needs of both the job seeker and employer, by allowing job seekers to search and apply for the vacancies according to their preference and helping employers to select their employees from a larger talent base by making their job opening viewed.

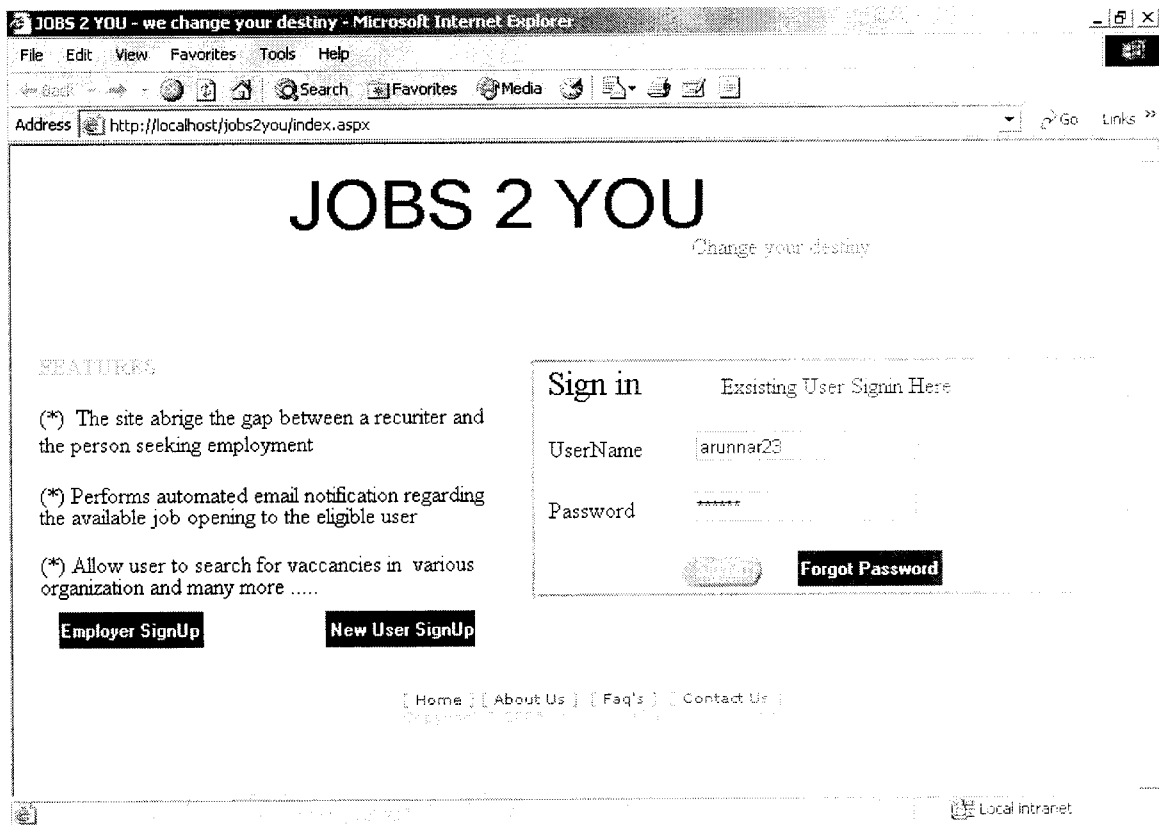
There is work yet to be done in this system. Online Employment system has to be made accessible to the mobile medium through WAP browsers used by any mobile device. Online Employment system should allow the users to customize the system to their preference like changing the font size, background color etc.

The system has to be updated in such that it helps users to store multiple version or copies of curriculum vitae.

Online Employment system is successful software with all the requirements being satisfied. it also provides a user friendly environment for the users to work with.

APPENDIX – SCREEN LAYOUT

LOGIN SCREEN



UPDATE JOB OPENING

postedopein - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media

Address http://localhost/jobs2you/postedopein.aspx?cname=ibm Go Links

Home View Profile Support

JOB TITLE	JOB DESCRIPTION	SALARY	EXPERIENCE	WORK TYPE	DEGREE	MODIFY	DELETE
project trainee	applicants should be skilled in C ,c++ and Shell programming and should have high problem solving skills	21000 per month	Fresher,	full time	BE-cse, BE-it, Bsc-it, MSc-cse, MCA,	Edit	Delete
ceo	applicants should have high profile career in managing difficult positions	500000 per month	Above 5 years Experience,	full time	MCA, Msc-software,	Edit	Delete
program analyst	the candidates should have excellent communication skills and skilled in .net technologies	23100 per month	Fresher,	full time	MCA,	Edit	Delete
	the applicant must possess working	10000 per					

Local intranet

UPDATE INFORMATION

Updateinfo - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print Mail

Address http://localhost/jobs2you/Updateinfo.aspx Go Links >>

Update Information

Address Information	
Address1	<input type="text" value="anna nager"/>
Address2	<input type="text" value="peelamedu"/>
City	<input type="text" value="cbe"/>
Pincode	<input type="text" value="631004"/>
Email	<input type="text" value="arun@gmail.com"/>
Phone No.	<input type="text" value="04222595644"/>
<input type="button" value="Update"/>	

Security Information	
Secret Question	<input type="text" value="what is the name of your pet aruna"/>

Done Local intranet

SEARCH SCREEN

jobpensearch - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media

Address http://localhost/jobs2you/jobpensearch.aspx Go Links

SEARCH

Keyword (Job Designation you are looking)

Company Name

Employment Type Full time
 Part Time

Qualification (Degree in the following format) e.g BE-it or MCA

(display jobs for the above mentioned search criteria)

No of Job openings are found 1

Job Designation	Description	Salary	Experience	Employment mode	
dba	we are looking for a dba with skill set involving recovery	20000month	1-2 years Experience	full time	<input type="button" value="Apply"/>

Done Local intranet

RESUME GENERATING SCREEN-1

RESUME GENERATING WIZARD - Microsoft Internet Explorer

Resume Generating Wizard

Objectives	Carrier Objective
Contact Info	* Provide a Headline that entices us to learn more about you.
Qualification	
Technical Skills	
Personnel Details	Personnel Skills
Work Experience	* summarize your skills
Achievements	
Finishing Up	

Generate and Display Resume

RESUME GENERATING SCREEN-2

RESUME GENERATING WIZARD - Microsoft Internet Explorer

Resume Generating Wizard

Objectives	Contact Information
Contact Info	Name <input type="text" value="arun lakshmi narayanan"/>
Qualification	Address1 <input type="text" value="37 anna nager"/>
Technical Skills	Address2 <input type="text" value="peelamedu"/>
Personnel Details	City <input type="text" value="coimbatore"/>
Work Experience	pincode <input type="text" value="651511"/>
Achievements	Phone Number <input type="text" value="2777123"/>
Finishing Up	Email <input type="text" value="arun@gmail.com"/>

POSTING A JOB SCREEN

Jobopening - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media Print

Address <http://localhost/jobs2you/jobopening.aspx?cname=ibm> Go Links

*** Required Fields**

*Job Title

*Job Description

*Employment type Full Time Part Time

Salary

Package * Monthly Annual

Experience *
 1-2 years Experience
 3-4 years Experience
 Above 5 years Experience

Qualification *
 PG Courses
 Diploma
 Certifications

Local intranet

UPDATING JOB OPENING SCREEN-1

postedopein - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print Mail News

Address http://localhost/jobs2you/postedopein.aspx?cname=ibm Go Links >>

profile Signout

SALARY	EXPERIENCE	WORK TYPE	DEGREE	MODIFY	DEL
21000 per month	Fresher,	full time	BE-cse,BE-it,Bsc-it,MSc-	Update Cancel	Del
500000 per month	Above 5 years Experience,	full time	MCA,Msc-software,	Edit	Del
23100 per month	Fresher,	full time	MCA,	Edit	Del
10000 per month	Fresher,	full time	Bsc-ct,Bsc-cse,	Edit	Del
13000 per month	3-4 years Experience,	full time	MSc-cse,MCA,Msc-software,	Edit	Del

1 2 3 4 5 6 7 8 9 10

Local intranet

UPDATING JOB OPENING SCREEN-2

postedopein - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media

Address <http://localhost/jobs2you/postedopein.aspx?cname=ibm> Go Links >>

[Home](#) [View Profile](#) [Logout](#)

JOB TITLE	JOB DESCRIPTION	SALARY	EXPERIENCE	WORK TYPE	DEGREE	MODIFY	DELETE
project trainee	applicants should be skilled in C ,c++ and Shell programmmingand sholud have high problem solving skills	21000 per month	Fresher,	full time	BE-cse,BE-it,Bsc-it,MSc-cse,MCA,	Edit	<input type="button" value="Delete"/>
ceo	applicants shpuld have high profile career in managing diffcuit postions	500000 per month	Above 5 years Experience,	full time	MCA,Msc-software,	Edit	<input type="button" value="Delete"/>
program analyst	the candidates should have excellent communication skills and skilled in .net technologies	23100 per month	Fresher,	full time	MCA,	Edit	<input type="button" value="Delete"/>

Local intranet

USER SIGNUP SCREEN - 1

The screenshot shows a Microsoft Internet Explorer browser window with the title "jssignup - Microsoft Internet Explorer". The address bar displays "http://localhost/jobs2you/jssignup.aspx". The main content area is titled "New User Sign up Form" and contains the following fields and controls:

- * Required fields.**
- * First Name:** Input field containing "arun".
- Middle Name:** Input field containing "lakshmi".
- * Last Name:** Input field containing "narayanan".
- * Username:** Input field containing "arunlaks". To the right of this field is a button labeled "Check Availability" and a tooltip that says "Use this Username".
- * Password:** Input field containing "*****".
- * Retype Password:** Input field containing "*****".
- * Secret Question:** A dropdown menu with the selected option "what is the name of your pet anim?".
- * Answer:** Input field containing "puppy".

The browser's status bar at the bottom shows "Done" and "Local intranet".

USER SIGNUP SCREEN – 2

The screenshot shows a Microsoft Internet Explorer browser window with the following details:

- Title Bar:** jssignup - Microsoft Internet Explorer
- Menu Bar:** File Edit View Favorites Tools Help
- Address Bar:** http://localhost/jobs2you/jssignup.aspx
- Form Title:** New User Sign up Form
- Form Fields:**
 - * Required fields
 - * First Name
 - Middle Name
 - * Last Name
 - * Username
 - * Password
 - * Retype Password
 - * Secret Question (dropdown menu)
 - * Answer
 - * Email
- Status Bar:** Done Local intranet

USER SIGNUP SCREEN – 3

jssignup - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media

Address <http://localhost/jobs2you/jssignup.aspx> Go Links >>

* Email

* Phone No

* Address 1

Address 2

* City

* Pincode

Upload Resume

Work experience

Degree/level Obtained

Degree Name (Degree name followed by Branch Name)

Done Local intranet

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