

Multiple Internet Browser

For P-1108

Efficient Solution Providers.

Project Report

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

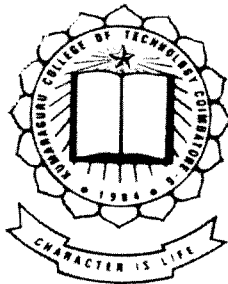
M.Sc. Applied Science (Software Engineering)
Bharathiar University,
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
KUMARAGURU COLLEGE OF TECHNOLOGY
COIMBATORE - 641 006

CERTIFICATE

This is to certify that this project work entitled

“Multiple Internet Browser”

Submitted to

KUMARAGURU COLLEGE OF TECHNOLOGY

In partial fulfillment of the requirements for the award of the degree

Of

M.Sc. APPLIED SCIENCE (Software Engineering)

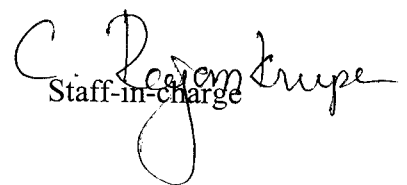
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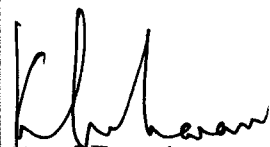
Reg. No. 9937S0074

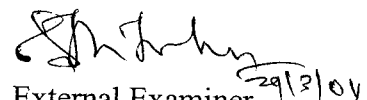
During his period of study in the Department of Computer Science and Engineering, Kumaraguru College of Technology, Coimbatore – 641 006, under my supervision and guidance and this project work has not formed the basis for the award of any guidance and this project work has not formed the basis for the award of any degree/ Diploma/ Associate ship/ Followed or similar title to any candidate of any university.


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Staff-in-charge

Submitted for University Examinations held on


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To Whomsoever It May Concern

This is to acknowledge that Mr. S . Deepak (99se05), final year student of Master of Science (Software Engineering) , Kumaraguru College of Technology, Coimbatore has successfully completed the project "Multiple Internet Browser " for the period 15th December 2003 to 6th March 2004.

During the period the conduct of the student was good.

Yours truly,

E. Praveen Kumar
9.3.04

E. Praveen Kumar,
Technical incharge

DECLARATION

I hereby declare that the project work entitled

Multiple Internet Browser

Done at

Efficient Solution Providers.

and submitted to

Kumaraguru College of Technology

In partial fulfillment of the requirements for the award of the degree

M.Sc. APPLIED SCIENCE (Software Engineering)

Is a report of work done by me during my period of study in Kumaraguru College of Technology, Coimbatore – 641 006

Under the supervision of

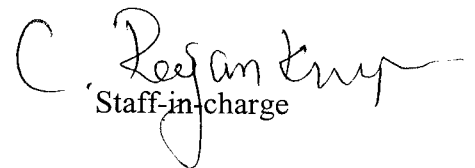
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ACKNOWLEDGEMENT

ACKNOWLEDGEMENT

To add meaning to the perception, it is my indebtedness to honor a few who had helped me in this endeavor, by placing them on record.

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-□ S. Deepak Naga Pandian

PROJECT ABSTRACT

Project Abstract

The project "Multiple Browser" is intended in developing an application that will be able to act as a browser with multiple browsing interface, the browser is developed using Visual Basic 6.0, Oracle is used to store, retrieve and manipulation purpose.

The project has four modules namely Administrator Module, User module, Group module and Browser module. The Administrator module is used to administer the whole browser it has the basic administrator facilities like controlling the whole browser. In User module each user is authenticated with a user id, login name and password. Each user can have his own permanent history holder and he is protected from other users viewing his history. The user can share the web page or communicate with the other registered users in the network. In Group module each members in the group is authenticated with a user id, group name and password. The group administrator is used to administer the basic group facilities of the group. The browser module has the facilities of Multiple Browsing Interface, Search Engine inbuilt, Favorites, Channels and Links. The browser also has a network communicator to communicate within the user and the group.

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INTRODUCTION

1 Introduction

1.1 Organization Profile – Efficient Solution Providers.

Efficient Solution Providers was started in the year 2001 by a team of IT Professionals and Engineers. The mission of the company is to provide IT Solutions, which can be applied in every day-to-day life and be used for the betterment of the mankind.

The organization has so far developed several application projects for clients in Tamilnadu and Kerala present. Other activities of the organization include web applications, networking solutions, total system integration solutions and customization.

The core field where the organization stands unique among other peers is that the organization has got electronics engineers also, thus providing solutions for interfacing the system with machines and other electronic equipments and gadgets in manufacturing units like Textile Mills, Paper Mills etc and also for other testing laboratories. Production Monitoring, Quality Control, Attendance and timing reports etc.. Are a few systems under development in this field.

Apart from customized solutions, the organization has currently planned to develop several ready to use software and market them, which the customers can use readily.

1.2 Project Overview – Multiple Internet Browser

The project "Multiple Internet Browser" is intended in developing an application that will be able to act as a browser with multiple browsing interface, the browser is developed using Visual Basic 6.0, Oracle is used to store, retrieve and manipulation purpose.

The project has four modules namely Administrator Module, User module, Group module and Browser module. The Administrator module is used to administer the whole browser it has the basic administrator facilities like controlling the whole browser. In User module each user is authenticated with a user id, login name and password. Each user can have his own permanent history holder and he is protected from other users viewing his history. The user can share the web page or communicate with the other registered users in the network. In Group module each members in the group is authenticated with a user id, group name and password. The group administrator is used to administer the basic group facilities of the group. The browser module has the facilities of Multiple Browsing Interface, Search Engine inbuilt, Favorites, Channels and Links. The browser also has a network communicator to communicate within the user and the group.

SYSTEM ANALYSIS

2 System Analysis

2.1 Existing System

There is more than a dozen of existing system, which has uniqueness of its own. Commonly used browsers are IE, Netscape Navigator, Opera, etc., which has certain drawbacks which has resulted in developing of the browser.

2.2 Need for The System

- The existing system does not provide with unique user features.
- No permanent history for user.
- No network communicator.
- Single user history.
- User authentication.

2.3 Proposed System

The system starts with the authentication process, the users are separated on the basis of General and registered. The non-registered users are taken as general users they are provided with the browser screen where the key options of history handler, group communicator web and web barrier are disabled.

The other registered users are filtered on the basis of group, user and admin. Which enables the special features of history handler, and communicator for all the three. Web barrier feature is enabled for the administrator.

DETAIL DESCRIPTION

The project “Multiple Internet Browser” is the result of the requirement specification given by the company. The project is intended in developing multiple internet browser with specific features relating to user authentication, permanent history folder, network share utility, favorites, channels, links and pornographic barrier.

User Authentication

The User Authentication is the main feature in which they type of user using the application is identified. The users are divided into three categories.

- i. Administrator Category
- ii. User Category
- iii. Group Category

Administrator Category

The Administrator category refers to the administrator who is responsible for the entire control of the application. The administrator can control the other users, groups, the access rights, history rights and other personalized features of the user.

User Category

The User category refers to the categories of the user, which is sub categorized into registered user and general user. The registered users refers to the users who have the privilege of having a separate login account which, features the permanent history

holder, web share utility and favorites. The general user refers to the user who is not a registered user and does not enjoy the special privileges.

Group Category

In the Group category the users register themselves as user who belongs to a specific group. The users of this category enjoy all the privileges enjoyed by the registered user along with a specific feature of network share facility.

Permanent History Holder

The Permanent History Holder holds the history that is the web addresses of the accessed web site by the user. This feature helps the user to add new URL's to the history or delete them. The user can also specify the time duration for the hold of the addresses. However the administrator remains the universal controller of them.

Favorites

The Favorites feature holds the addresses of website, which the user wants to view. This feature helps the user to add new URL's to the favorites or delete them.

Pornographic Barrier

The feature of the pornographic barrier is a special feature enjoyed by the administrator. Using this feature the administrator can have a check over the users in the control of web access. The administrator can specify the website which the administrator considers restrictive.

Network Share Utility

The administrator, registered user and the group enjoy the Network Share Utility feature. Using this feature the user can share the website which the user uses worth sharing. The user can specify the recipients user id and share the website but in case of group the sharing could be done only within the group. The user can manage the share website by deleting them he finds the inbox with more messages.

Search Engine

The Search Engine feature helps the users to find the web addresses and information about the topic they needed.

Links

The Links feature holds the link of website, which the user wants to view. This feature helps the user to add new URL's to the links or delete them.

SYSTEM ENVIRONMENT

3 System Environment

3.1 Computing Environment

Hardware Configuration

Processor	:	Intel Pentium III or higher
Clock Speed	:	300 MHz
RAM	:	128 MB
Hard Disk Space	:	20 GB

Software Configuration

Operating System	:	Windows 98 Windows NT Workstation
Database	:	Ms Access
Front End	:	Visual Basic 6.0

3.2 Technologies-Quick Reference

Visual basic is a powerful programming system for developing sophisticated, graphical and Internet applications for Microsoft windows environment. Its productivity has been enhanced by addition of a complete set of tools to specify rapid application development.

<<Visual>> refers to the method used to create the graphical user interface (GUI) that the users illustrations, rather than writing numerous lines of code to describe the appearance, function and location of interface elements. <<Basic>> refers to the BASIC programming language, a widely preferred language by many programmers for its simplicity. Visual Basic has evolved from the original BASIC language and now contains several hundred statements, functions and keywords, many of which relate directly to the Windows GUI.

Visual Basic 6.0 introduces us to the new world of Active X technology, a unique way harness the Internet. Visual Basic offers many salient features to aid in the development of full – featured application including:

- Data access functionality allows creating of front-end applications that can work on most popular database systems.
- Active X technology allows usage of the functionalities provided by other applications, such as Microsoft Word, Microsoft Excel and
- Other Windows applications and their possible deployment on the web.
- Applications developed using Visual Basic provide a true .EXE file

that uses a runtime Dynamic Link Library (DLL), which can be freely distributed.

- Calling powerful API functions available in Visual Basic optimizes application performance.

If you target a Web browser as your container application, and you create more than one ActiveX document, you must use the Hyperlink object to navigate between the different documents.

The Hyperlink object gives your documents access to ActiveX hyperlinking functionality. Using the properties and methods of the Hyperlink object, your ActiveX document can request a hyperlink-aware container, such as Microsoft Internet Explorer, to jump to a given URL.

The NavigateTo Method

The NavigateTo method executes a hyperlink jump to the target specified in the URL argument. The URL can be set to an HTML, Word, or Excel document as well as a .vbd file. For example, the following code navigates to the www.microsoft.com Web page:

```
Private Sub cmdGoTo_Click()  
    UserDocument.Hyperlink.NavigateTo _  
        "http://www.microsoft.com"  
End Sub
```

To jump from one ActiveX document to another, you can use the same method, as shown.

```
Private GoNextDoc_Click()  
    ' Assuming the next ActiveX document is named
```

```

        ' MyDoc2.vbd
        UserDocument.Hyperlink.NavigateTo _
        "file://c:\ActXDocs\MyDoc2.vbd"
    End Sub

```

Dynamically Constructing an Absolute Path

When you compile an ActiveX project with multiple ActiveX documents, Visual Basic creates the .vbd files in the same directory as the ActiveX .dll or .exe. However, if you move the .vbd files into another directory, you must give the NavigateTo method a fully qualified path for every .vbd file. However, because you cannot determine where a user will place the .vbd files, you must be able to dynamically create the absolute path.

The following code dynamically constructs the path of a .vbd file by parsing the LocationName property of Internet Explorer, which returns the absolute path of the document currently, displayed by Internet Explorer. The code parses this path, and discards the name of the current .vbd file. The code then appends the name of a second ActiveX document to the remainder of the path.

```

    Dim strPath As String ' String to be parsed
    Dim strAbsPath As String ' Result of parsing
    Dim intI As Integer ' Character position counter
    ' Return the path of the current ActiveX document.
    strPath = Trim$(UserDocument.Parent.LocationName)
    ' Find the position of the last separator character.
    For intI = Len(strPath) To 1 Step -1
    If Mid$(StrPath, intI, 1) = "/" Or _
Mid$(StrPath, intI, 1) = "\" Then Exit For

```

```

Next intI
' Strip the name of the current .vbd file.
strAbsPath = Left$(StrPath, intI)
' Navigate to the second ActiveX document.
UserDocument.Hyperlink.NavigateTo _
strAbsPath & "MyDoc2.vbd"

```

Automatically Starting a Browser

If the `NavigateTo` method is invoked from an ActiveX document contained in an application that supports the `Hyperlink` object (such as Internet Explorer), the same application instance will be used to "go" to the target document. If the application does not support hyperlinking (Microsoft Binder, for example), then an application that does (determined by the registry) will be started to handle the request. In other words, if the method is invoked from within an application that doesn't support hyperlinking, another that does will be started.

Navigating Between ActiveX Documents

The `NavigateTo` method can be used to jump from one ActiveX document to another; in fact, it is the only way to start another document in a browser. Thus, if you create a suite of ActiveX documents, and your target container application is a browser that supports the `Hyperlink` object, you must use the `NavigateTo` method to open the next document. For example, the following code will cause the second (in a suite) document to appear in the Internet Explorer when the user clicks the `cmdGoNext` button on the first document:

```

Private Sub cmdGoNext_Click()
' The second ActiveX document's file is named _
"ActiveDoc2.vbd"

```



```
UserDocument.HyperLink.NavigateTo _  
"file:///c:\ActiveX\ActiveDoc2.vbd"  
End Sub
```

The `NavigateTo` method also includes a second argument, the `FrameName` argument that specifies a particular frame in the document to jump to.

The GoBack and GoForward Methods

The `GoBack` and `GoForward` methods execute a jump forward or backward to the next document in the browser's history list. These methods only work with hosts that are Hyperlink aware (such as Internet Explorer 3.0 and later).

When implementing the `GoForward` or `GoBack` method, be sure to use error checking in case there is no document in the history list to jump to. An example is shown:

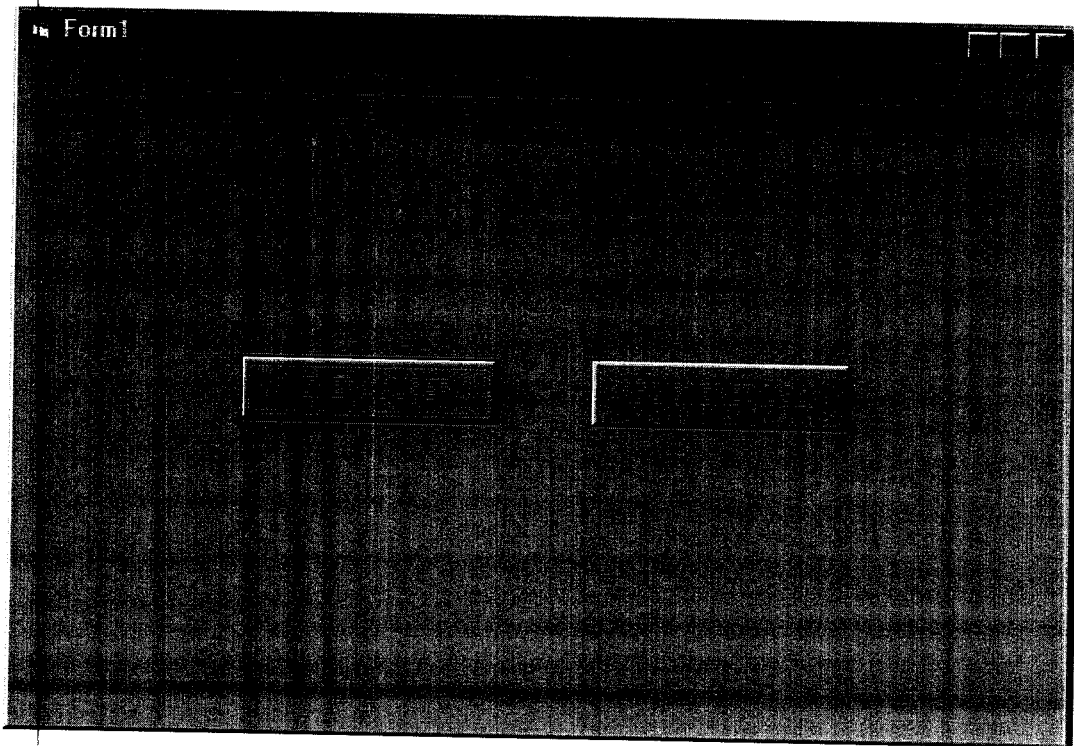
```
Private Sub cmdGoForward_Click ()  
    On Error GoTo noDocInHistory  
    UserDocument.Hyperlink.GoForward  
Exit Sub  
noDocInHistory:  
Resume Next  
End Sub
```

SYSTEM DESIGN

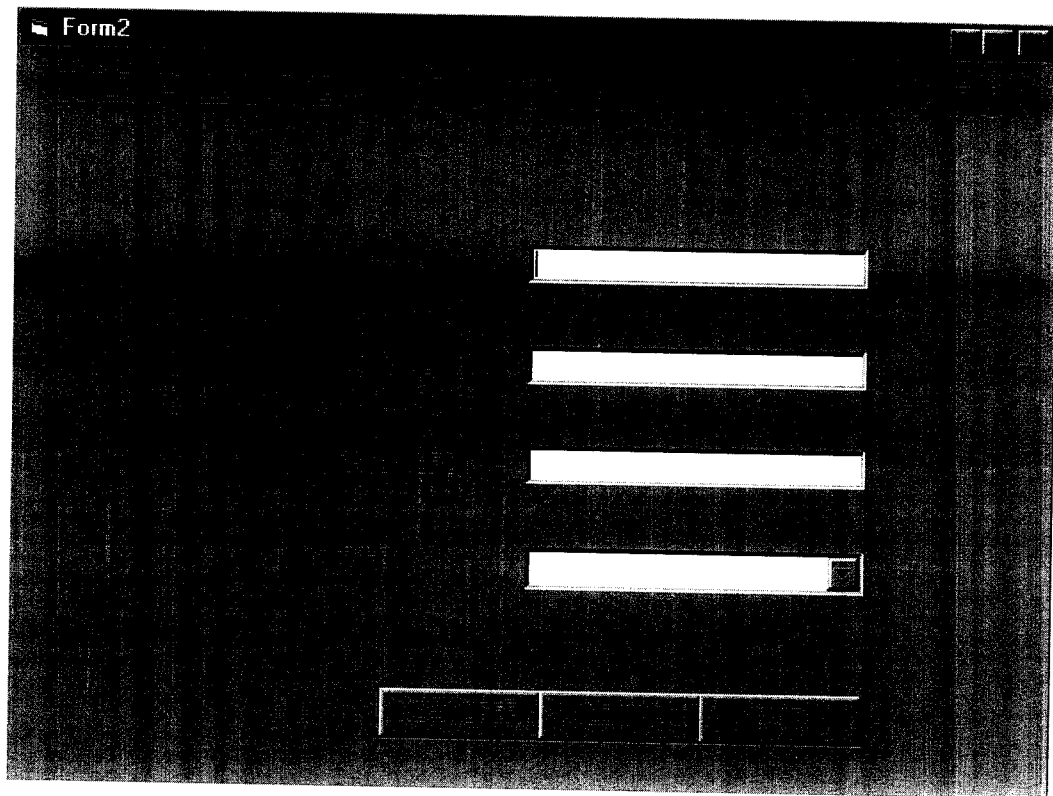
4 System Design

4.1 Screen Design

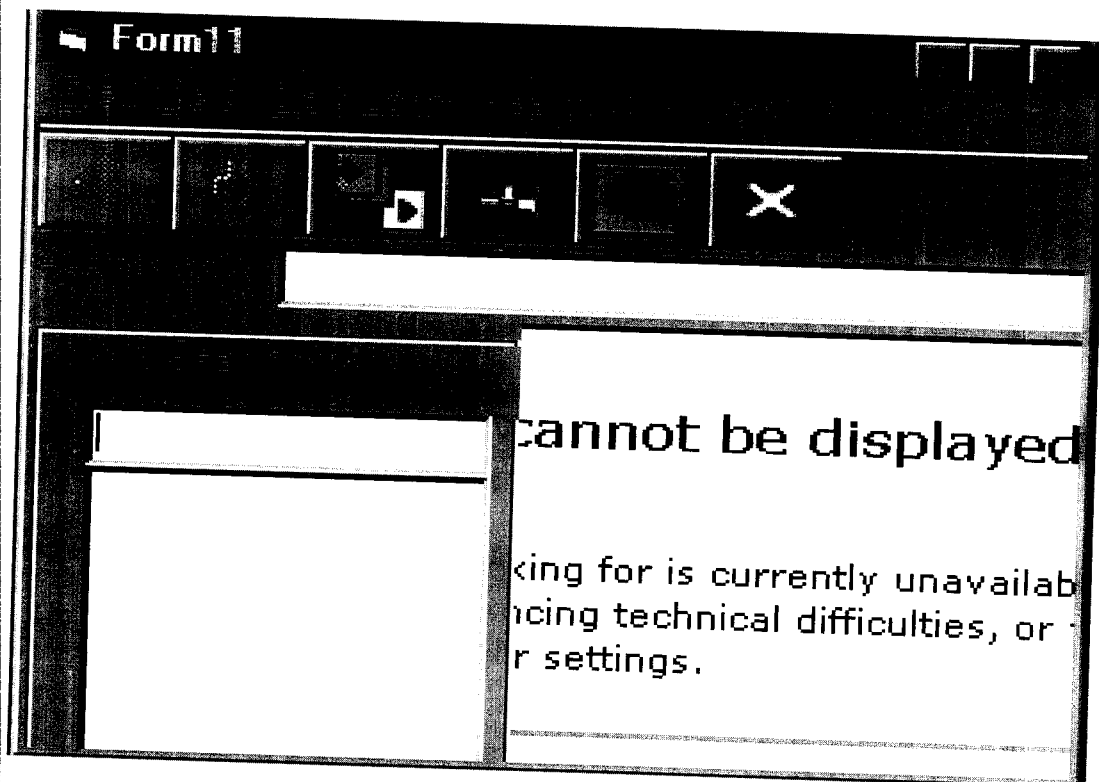
LOGIN FORM



AUTHENTICATION FORM



BROWSER FORM



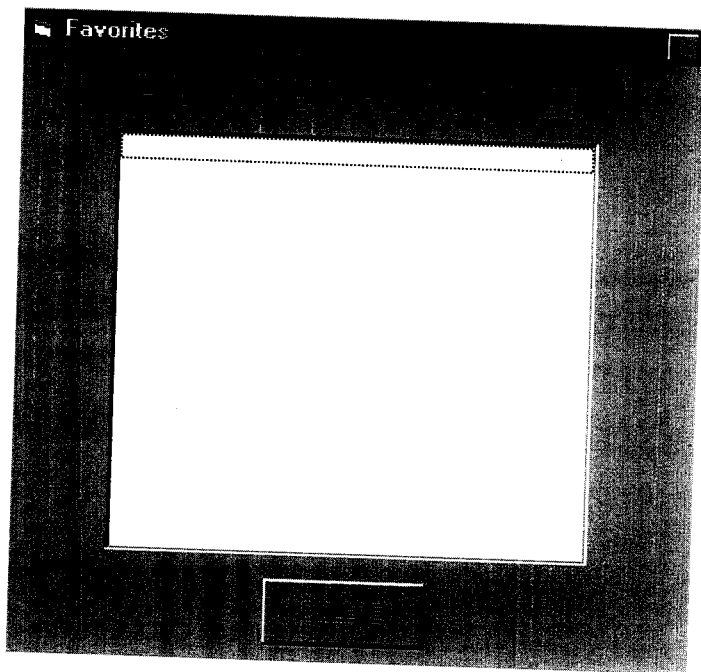
NETWORK SHARE FORM

The image shows a window titled "Share Form" with a dark background. At the top left, the text "Share Form" is visible. Below the title bar, there is a text input field containing the text "My id". Underneath this, there are two more text input fields, one above the other, both of which are empty. Below these fields is a small, empty rectangular box. At the bottom of the window, there is a table with two columns and one row. The table is currently empty.

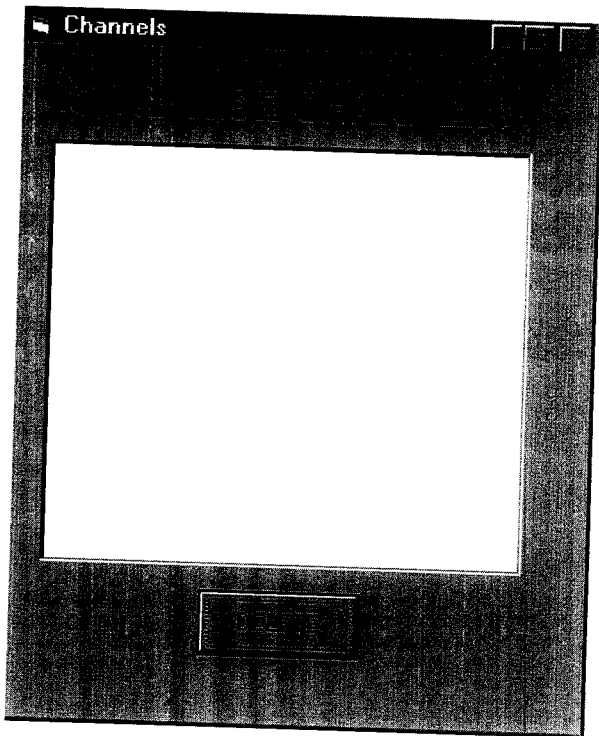
INBOX FORM

The image shows a screenshot of a web form titled "Inbox". At the top left, the word "Inbox" is displayed next to a small icon. Below the title, there are two horizontal input fields, each containing the text "My id". Below these fields is a table with a header row and two data rows. The first data row is empty. The second data row is split into two columns, both of which are empty. At the bottom of the form, there is a single input field.

FAVORTES FORM



CHANNEL FORM



GROUP HISTORY FORM

Group History

List1	List2

4.2 Design Constraints

- Group Feature enabled only on a LAN
- Search engines link to generic search engines
- Date and time are taken based on the system which the user uses
- History folder is deleted on individual basis
- The whole system is controlled by the administrator
- The administrator holds the key for group and user registration and deletion.

4.3 Detailed Design

Detailed design of a system includes developing prototypes, user interfaces and Backend databases. For this phase, Data Flow diagram (DFD), Entity Relationship diagrams (ERD) and System Flow Chart (SFC) is used.

Data Flow Diagrams depict how data interact with a system. DFDs are extremely useful in modeling many aspects of business function because they systematically subdivide a task into its basic parts, helping the Analyst understand the system, which they are trying to model.

A DFD models a system by using external entities from which data flows to a process which transforms the data and creates output data which goes to other processes or external files. Data in files may also flow to processes as inputs.

The main merit of data flow diagram is that it can provide an overview of what data a system would process, what information of data are done, what files are used and where the results flow. The graphical

representation of the system makes it a good communication tool between the user and an analyst, its difficult to represent the business process through verbal description alone. Here data flow diagram helps in illustrating the essential component of a process and the way they interact.

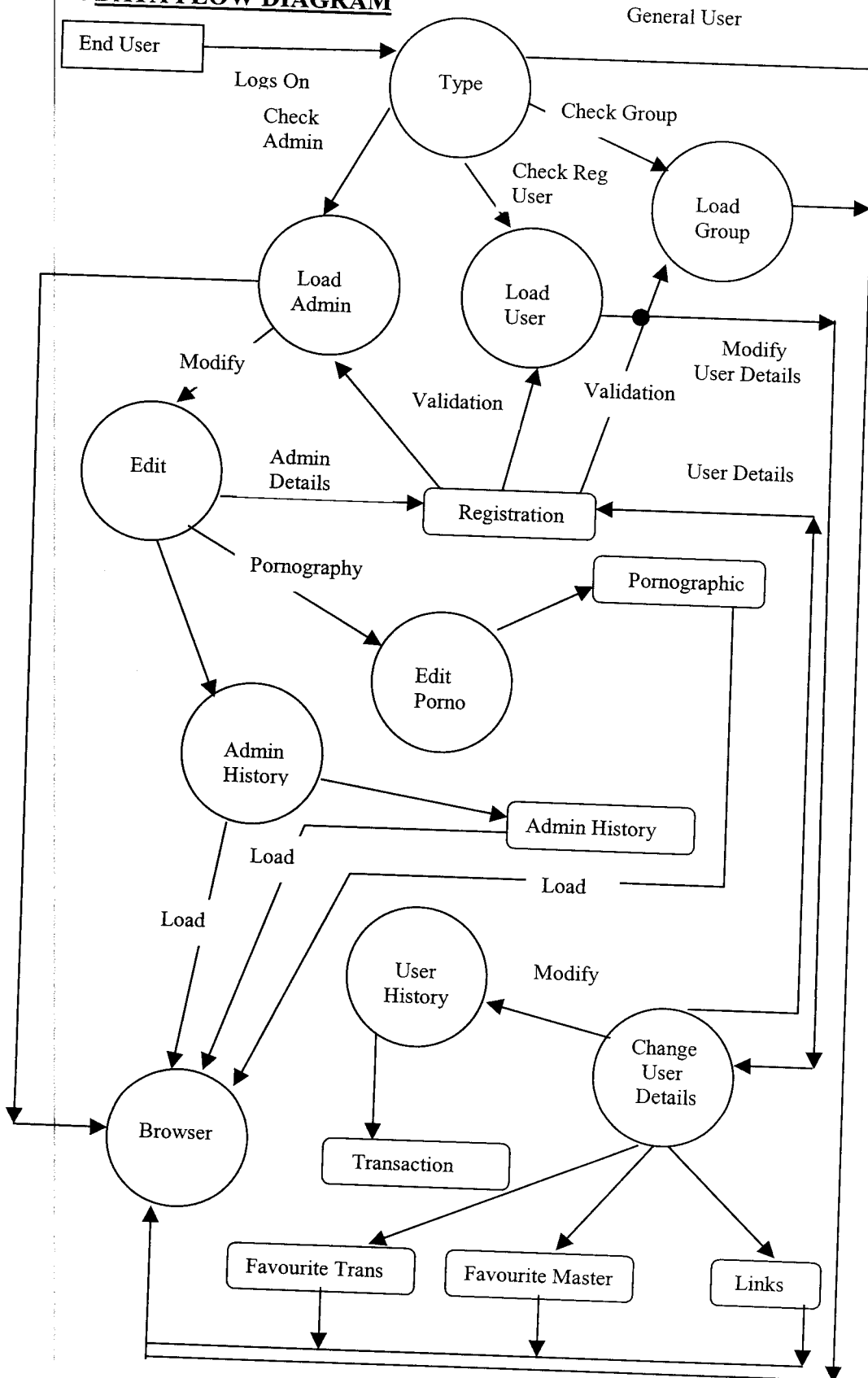
DFD Components

DFDs are constructed using four major components: (a) External entities (b) Data store (c) Processes and (d) Data flows.

External entities represent the sources of data that enter the system or the recipients of Data that leaves the system. Data store represent stores of data within the system. It may be a databases or individual files. Processes represent activities in which data is manipulated by being stored or retrieved or transformed in some way. Data flows represent the movement of data between other components, for example a report produced by a process and sent to an external entity.

A circle is used to depict a process. Both input and output are data flows. An arrow represents the data flows. External entities are represented by rectangles. Entities supplying data are known as sources and those that consume data are called as sinks.

4.4 DATA FLOW DIAGRAM



4.4 Table Design

Table Name: Registration Table

Description: Stores Details of the user

Primary Key: User ID

Userid	Text
Uname	Text
Password	Text
Conpassword	Number
Type	Number
Groupname	Text
Address	Text
Phoneno	Number
emailid	Text

Table Name: Adminhistory Table

Description: Stores Details of the Administrator history.

Primary Key: hisid

Field Name	Field Type
Hisid	Text
Webname	Text
Userid	Text
Date	Date
days	Number

Table Name: Userhistory Table

Description: Stores Details of the user history.

Primary Key: uhisid

Field Name	Field Type
Uhisid	Text
Userid	Text
Webname	Text
Date	Date
Days	Number

Table Name: Grouphistory

Description: Stores Details of the group details.

Primary Key: ghisid

Grouphistory	
Ghisid	Text
userid	Text
Webname	Text
Date	Date
Days	Number

Table Name: Pornographic table

Description: Stores Details of the prohibited websites

Primary Key: pornid

Pornographic table	
Pornid	Text
Webname	Text

Table Name: Favoritemaster Table

Description: Stores Details of the favorite websites.

Primary Key: favid

Favoritemaster Table	
Favid	Text
Webname	Text

Table Name: Favoritetransaction Table

Description: Stores transaction details of the favorite websites.

Foreign key: favid

Favoritetransaction Table	
Favid	Text
Days	Number

Table Name: Linkmaster Table

Description: Stores Details of the links of the websites.

Primary Key: linkid

Field Name	Field Type
Linkid	Text
Webname	Text

Table Name: Linktransaction Table

Description: Stores transaction details of the links.

Primary Key: linkid

Field Name	Field Type
linkid	Text
Webname	Text

SYSTEM DEVELOPMENT

5 System Development

5.1 Functional Specifications

Both registered and non-registered users can use the browser. The non-registered users are exempted from the access of certain special features. If a non-registered users wishes to use the special features the user can register him and become a registered user. However the registered user cannot perform any activities relating to web protect. The user can share information's with the registered users present and group users but the group users can share information's only with the members within the group.

5.2 System Features

The Multiple Internet Browser offers the following features:

Audit trial

The audit trial for the user login is available

Error Messages and Error Logs

The application will have proper error messages and user messages

Data Validation

As per the requirements the data validation is available

Intuitive Navigation and Screen flow

The system is user friendly with efficient functionality

5.3 External Interfaces

Security Shell

The users will log-on to Security Shell to access the Tool. The Security Shell will validate the user login. The security shell will allow wrong logins only for 3 times, after that the system will lock the user ID. Then the user has to apply to the administrative users to unlock his login ID.

5.4 Coding Standards

There are two main principal characteristics, which are standards to coding. (a) They force to maintain a methodical and disciplined approach to coding and (b) They constantly remained the internal quality of the code.

The very decision to use standards will affect the coding. By making it clear that the standards are mandatory rules, not mere guidelines, meeting standards is an integral part because standards are not guidelines, they should not be flexible.

Traditionally the coding standards are focused on the following topics: (a) Naming (b) Layout (c) Commenting and (d) Coding: Do's and Don'ts, such as error handling. The emphasis on writing code that's shareable, that's other programmers can also use it easily.

The proposed system is developed using the above-mentioned standards. Variables names are declared meaningful with respect to the information stored as well as the data type of the variable. Comments help the programmer what the module does or the set of statements do. Error handling is well taken care and error messages are meaningful and suggestive.

SYSTEM TESTING

6 System Testing

6.1 Testing Concepts

Software is only one element of a large computer based system. Ultimately Software is incorporated with other system elements (ex New hardware) and a series of system integration and validation tests are conducted. System testing is actually a series of different tests whose primary purpose is to fully exercise the computers based system.

Testing presents an interesting anomaly for the software development. The testing phase creates a series of test cases that are intended to 'Demolish' the software that has been built. A good test case is one that has a high probability of finding an as yet undiscovered error. A successful test is one that uncovers an as yet undiscovered error.

Testing process brakes application down in to two main parts:

Unit Testing

In Unit Testing the modules of the system are tested as individual unit. Each unit has definite input and output parameters and often a definite single function.

System Testing

In System testing the system is tested as a whole; that's inter communication among the individual units and functions of the complete system is tested.

Testing for this system was done in 3 steps.

- * Testing the function performance of each modular component.
- * Testing the interface of software and its function with live data.
- * Testing for user acceptance and to see if all user requirements have been met.

SYSTEM IMPLEMENTATION

7 System Implementation

This chapter gives a brief description of how the system is deployed in the actual environment. Since there is now any existing system for this application a separate care should be given to test that the end users have reached there needs. The system should also save memory by not allowing redundancy and it should help in easily querying.

7.1 System Implementation

Before implementing the system, it's forced in to many server-testing phases. After the system clears all the tests, it's released for implementation. After the data has been initially set, the system is ready for use. The implementation type or the change over technique from the existing system is a step by process.

First a module in the part of the system is implemented and checked for suitability and the efficiency. If the end user related to the particular module is satisfied, the next step of implementation is processed with. That's modules related to the previous module are implemented.

7.2 User Training

Training is given to all the particular users from the client side. The training varies from user to user depending upon the information needed pertaining to the user. For example the application users need help only on ad-hoc queries and how to take suggestions based upon the reports, whereas data entry operators need only information's on how to key in suitable data.

CONCLUSION

8 Conclusion

The project “Multiple Internet Browser” was designed developed and tested with the proper techniques. The browser was designed with the help of DFD’s and the databases were designed using ER diagrams.

The development was done on a real time environment with the specified front end and back end. Necessary animation was used in the development. The proper utilization of the code resulted in the excellent working of the system. The code was developed with the help of inbuilt and user defined functions. The top-down approach was followed.

After successful development of the system, the system was tested in a real-time environment with various testing techniques. Thus the system was developed and implemented successfully.

9 References

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