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A Social Networking (Orkut) On Local Area Network with Client Server Architecture

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Abstract: To develop a live chatting module based on the group www.orkut.com. We studied the working of orkut in detail, and tried to extract important features in this system. Basically this system works on LAN while the real orkut works on internet. But the basic idea behind it is the same that is to provide the user with an enjoyable and good-to-look means of communication. The real orkut provide the users with lot of options such as add as a friend, write scraps, add to crush list, write testimonials, joining communities etc. but here plan to include only the basic options in this system, which deal with communication purpose or rather the chatting purpose. Hence this system will contain basic functions like add as friend, write scraps and uploading photo. Like in real orkut, user will create his own account containing a unique username and password, which he only can access. If the user is a new one then he has to fill application form containing his personal information. Then only the user can log on to the system. The user can write scrap to any member of (in this system) orkut at any point of time. He is also eligible to upload the photo of his choice, which can be viewed by all the members of (in this system) orkut. The album feature which is present in real orkut is not taken in to this system as there is no need of it. Also users are allowed to upload only one photo of his choice, which will be displayed on his homepage. The user, on finding his friend as member of (in this system) orkut can send a friend's request to him. Now it depends on user's friend whether to accept him as a friend or to reject him, this is totally in hands of the user's friend.

Key words-Social networking, Local area network, Client server architecture, Socket programming

1. INTRODUCTION

Most of the people now a day's use the internet. We have included only basic features that help the users to communicate with each other (for chatting purpose). Some of the constraints is listed below.

1. Time constraint
2. Restricted access
3. Inability to run on the internet.
4. Other Limitations (space and size.)
5. Choosing the appropriate GUI.

The above mentioned constraints are explained below. The major constraint was the time constraint. As we had to complete the project within the time available was less for us to include all the features in our project. Therefore we decided to include only necessary features like maintaining scrapbook, image display, uploading photos from computer, friends, add as friend and searching for friends options.

Our project works on LAN so it's available only too few people having a connection to their local network. The communicating parties should have the necessary software and hardware installed if they are interested to use it. As our project is done using Java language, the interested users should have proper version of JDK installed which may not be feasible for all the users. We can't put this module on the internet as this is not a website and it's not done using HTML (it's done using java programming language and applets are not used by us). Also putting anything on the internet requires legacy and license agreements (and lot of money). On the other hand the real orkut is more widely used as anybody having an internet connection can use it effectively. No particular hardware or software requirements are required for that, apart from a PC with internet connection. People leaving in any part of the world can communicate with each other if they have an orkut account, whereas our orkut is localized.

The group orkut has many features like communities, fans, add to crush list, emoticons, photo album, write testimonial etc. We haven't included these features because the code would become

too large and difficult to understand. As we used all the concepts of Java viz. file handling, multithreading, interfaces, string handling, Graphic User Interface, multimedia for images, JDBC to connect to database in MS Access, socket programming for networking where server application is run on one machine and clients on other machine, including all the features in our project Would have been difficult to handle and it would also require lot of disk space. Even though we have included only basic requirements because here extensive GUI is required where on the click of every button, a new frame opens. The code of each frame is itself quite big as there are many buttons, text fields, text areas, space for displaying image, radio buttons and scroll panes in some of the frames, action listener for each button and Java class library. Hence if the code becomes too large then it would take a lot of time to compile and execute. The server process would become slow and networking could be difficult. The features like writing testimonials, fan list crush list, bookmarks could not be added for the above reasons and also they are all special features which can be added later on as when required according to the user.

Another important factor was to decide between the use of applets and frames for the GUI part of this project. We decided to use frames because of the simplicity of working of frames(i.e. one frame calling one another is better than all operations done in applet itself) .Moreover as our orkut was not meant for internet since it works on LAN, we did not find the use of applets necessary.

1. EXISTING SYSTEM

In the existing system, there are so many social networking websites like orkut which are all web-based projects. There is not any such a social networking concept in LANs. People in LAN are so nearer to contact each other but when they want to chat and share their photos and sending scraps working form their systems they have to depend on internet connection which is very slow when compared to local network connections. So the people who are working in LAN are not able to use the fast data transfer system that is existing in LAN.

3. PROPOSED SYSTEM

In our proposed system, we are implementing an orkut like social networking application for LAN using java. Here we are just creating a “multi client-server application” which acts like a social networking website in the internet and also provides all the facilities that are existing in those networking sites. It can be so helpful for the people who are working in the LAN to communicate with others through scraps and chat and can also share the photos.

4. IMPLEMENTATION

To implement this system, sufficient knowledge of JAVA is needed. Along with that, knowledge of socket programming and JDBC is must.

- Socket programming is needed to connect PC's together and exchange information between them.
- The code of the project has to be done in JAVA hence knowledge of JAVA is must.
- Also all the information is to be stored in database, hence to connect the database with our source code, knowledge of JDBC is needed.

The proposed system is also divided into various modules

- 4.1 Orkut Module.
- 4.2 Login Module.
- 4.3 Profile Module.
- 4.4 Searching Module.
- 4.5 Server Module
- 4.6 Image Upload module
- 4.7 Scrap book Module.

4.1 Orkut module

When user will run our system ORKUT ,then the first frame he will encounter is the ‘orkut’ homepage .There are various features on this page such as two text field, two label field and two buttons.

The two text fields are of ‘username’ and ‘password’, where user can enter his username and password respectively. The two buttons are of ‘login’ and of ‘new user’. If the user is old one then he will type his username and password and hit the login button. If they match with the database values then the user’s homepage will be displayed .If they are not matching, then the frame ‘login failed’ will be called .If the user is a new one then he will hit the ‘new user’ button ,then another frame called ‘login’ will be displayed. On the left side of this page is the label field where the traditional orkut home page with the photos of creators of orkut is displayed.

4.2 Login Module

4.2.1 Login failed: If the username and password typed by the user are not matching with the database values, then this frame is called. This frame has only two features namely one is the text panel displaying the message “USERNAME OR PASSWORD ARE NOT MATHING.PLEASE TRY AGAIN”. Below that an ‘ok’ button is present. On hitting that button control is passed to the earlier frame, which is earlier frame will be displayed.

4.2.2 Login: On hitting a ‘new user’ button in orkut frame, the login frame will be displayed. A message ‘welcome to orkut’ is displayed on top of screen .Various options are provided in this frame for filling personal details of the user. Then below that a text field is provided to enter the gender of the user. Then comes

the city text field, where user enters which city he belongs to. Then user has to enter his date of birth. Here a combo box is provided so that user can choose birth year from 1900 to 2000, birth month from January to December and birth date from 1 to 31. Immediately below that, user has to fill his interest. Here options such as friends, activity partner, business networking are provided, user just has to tick on that option. Then comes the language and the religion field, where user has to fill required information. They can be kept blank, if user wishes so.

4.2.3 Welcome: This is simplest frame in all from our project. In this a message 'welcome to Orkut' will be displayed on the center of the screen. Then there is button 'log in' below it, which takes the user to his newly created homepage.

4.3 Profile Module:

4.3.1 View profile: When user hits the 'login' button from the orkut's frame, he will view this 'view profile' frame. This is homepage for the user. In the center, user's profile information is displayed. Beside that a birthday reminder is present. If any of the user's friend birthdays is on that day then his photo block will appear on the screen. The position of this block is just besides the profile information.

4.4 Searching Module:

4.4.1 Search name: When the user hits the 'search' button on the orkut frame, this frame gets called. On top leftmost corner of this frame is 'home' button. On clicking this button 'viewprofile' frame will be displayed. Just below that a text field and a 'search' button is present. User will type the 'username' of the person to be searched in the text field and on clicking the 'search' button all the database will be searched for that username value. Accordingly the result will be displayed below it.

4.4.2 Edit profile: In this frame all the fields which we discussed during 'login' frame are present. This frame will enable the user to change the earlier written personal information. The various text fields in this frame are sex, city, date of birth, interest, language, religion, humor. The user can change any information he wants. At the bottom there are two buttons 'image' and 'upload'. On clicking the 'image' button, control is transferred to the 'image upload' frame. Hitting on 'upload' will take the user 'editprofile2' frame.

4.5 Image Upload Module:

Image upload: 'image upload' frame will be called on clicking the 'image' button from 'edit profile' frame. There are two buttons leftmost top of the screen namely 'back' and 'refresh'. 'Back' button will take the user to the earlier frame. While the refresh button will incorporate the changes made to the database

and display this frame with updated database values concerning this frame. One text field allied as 'browse' is provided to give the file path of the image to be uploaded. After providing the file path when user will hit the upload button, the image will be uploaded to the database. Incorrect file path will lead to 'server down' frame. Also photo stored in database is always displayed on screen.

4.6 Server Module:

Server down: User will view this frame when any error occurs during execution of program. For example: If during image uploading no file path or wrong file path is specified then user encounters this frame. Two buttons are displayed on top leftmost part of the screen namely 'home' and 'friends'. The 'home' button will take the user to his homepage. While the 'friends' button will display all the friends of user. Below that a panel is present displaying the message "SORRY FOR INCONVENIENCE FACED BY YOU. SERVER IS DOWN FOR THE TIME-BEING. PLEASE TRY AGAIN LATER".

4.7 Scrap Book Module:

View scrapbook: This is the main and foremost feature provided by us. When a user hits the 'scrapbook' button on his homepage or also from another's profile, this frame is called. The basic layout of this frame is as follows. On topmost left are the four buttons namely 'home', 'friends', 'refresh', 'search'. On clicking the 'home' button user will view his homepage. Then on clicking 'Friends' button all the list of friends will be displayed. 'Refresh' button will update the changes made to the user's profile and will display the updated 'scrapbook' frame. The 'search' button will take the user to the search name frame. If the user has received more than three scraps then the 'next' button is made available at the bottom. It will take the person to the same frame, displaying next three scraps. It goes on till the end of scraps.

5. DATA FLOW DIAGRAMS

A graphical tool used to describe and analyze the moment of data through a system manual or automated including the process, stores of data, and delays in the system. Data Flow Diagrams are the central tool and the basis from which other components are developed. The transformation of data from input to output, through processes, may be described logically and independently of the physical components associated with the system. The DFD is also known as a data flow graph or a bubble chart.

Data Flow Diagrams:

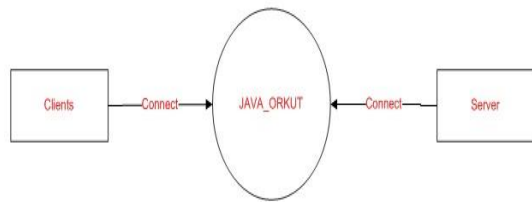


Figure 1: Context level data flow diagram

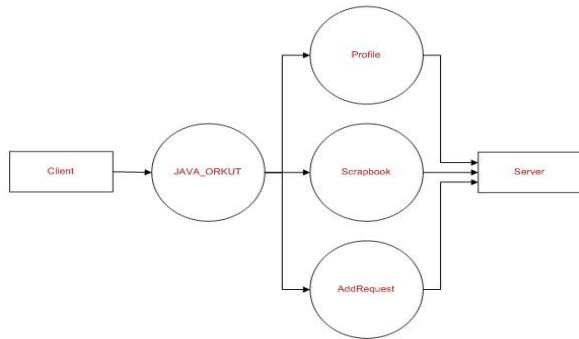


Figure 2: Level 1 data flow diagram

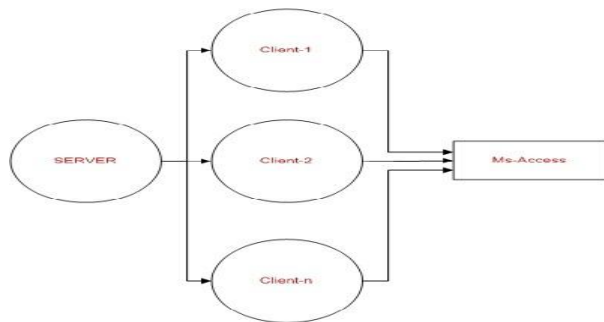


Figure 3: Level 2 data flow diagram

6. RESULTS



Figure 4: Home page with username and password



Figure 5: Entering username and password



Figure 6: User's profile



Figure 7: User's friends list

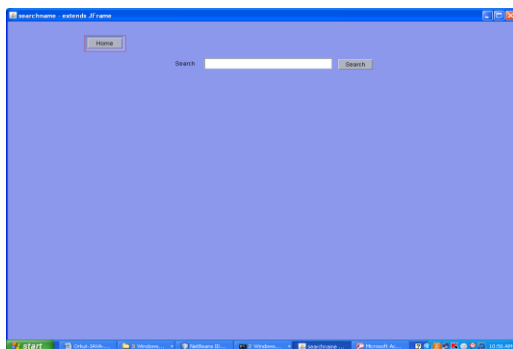


Figure 8: Search option

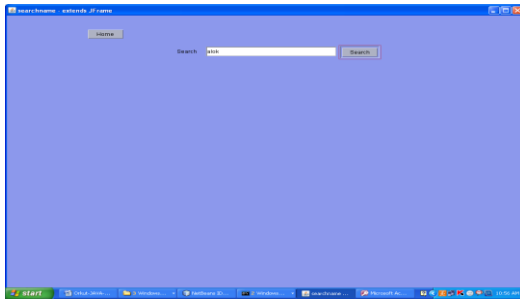


Figure 9: Search “alok”

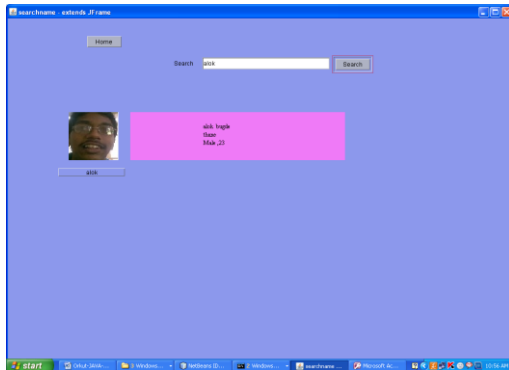


Figure 10: Identified the searching person



Figure 11: Person with his profile details

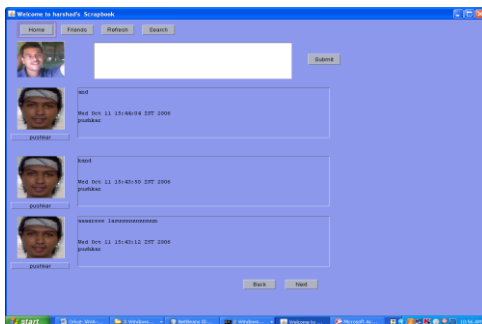


Figure 12: Person writes the scrap to his friend

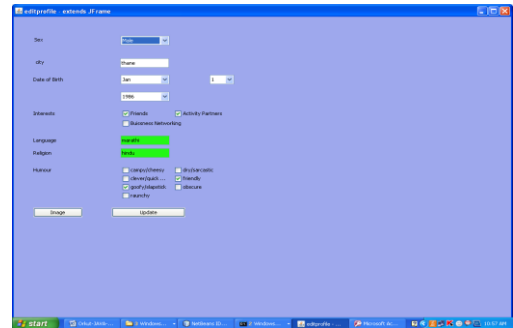


Figure 13: Person edits his profile

7. CONCLUSION

In this proposed system, we developed the social networking with local area network. Here we are just creating a “client-server application” which acts like a social networking module in the internet and also provides all the facilities that are existing in networking websites. It can be so helpful for the people who are working in the LAN to communicate with others through scraps and chat and can also share the photos. Here compared to WAN, accessing speed in LAN is more.

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