

CS190 Spring 2003

Surf'n'talk
Specifications Documents

Sung Chul Kim (skim@cs.brown.edu)

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1. Introduction

Overview

According to a recent article in New York Times, the number of Americans who are using the Internet has exceeded 100 million. Nowadays using a computer means, virtually, surfing the Internet, and the Internet has become one of the core part of our lives. To surf the vast sea of the Internet, needless to say, one needs a web browser.

The users who are using Linux may not find surfing the Internet as pleasant as doing it on a Windows machine. Mozilla, the web browser used by most Linux users, is a good web browser but has a lot of room for improvement compared to MS Internet Explorer (IE) (e.g., Mozilla has poorer visual presentation of a web page than MS IE).

At this point, nobody can deny that MS IE on the Windows platform has become the standard Internet browsing environment. For this reason, these days most web developers are making their WebPages best viewed with MS IE. This kind of current trends made me to decide to develop a web browser in Linux platform which is fully compatible with MS IE's standard for HTML.

Other than web browser, another emerging popular technology is online chatting programs like MS Messenger. More and more computer users start using online chatting programs to communicate others for a casual talk or a serious business talk. If this online chatting functionality is built in a web browser, this will make a synergetic effect. The online chatting program to be developed should support the function of importing online buddies using MS Messenger accounts.

Linux has a lot of strengths over Windows: open development environment. But, the reality is that most users are unwilling to use Linux because Linux is hard to use and

moreover, Linux doesn't provide attractive and easy-to-use applications. Linux need a "killer" application like MS Office was the killer application to make what Windows System means to computer user. Surf'n'talk can be the "killer app".

Target Users

This project is targeted at Linux users who are using Mozilla or other web browsers to surf the web and using LICQ to chat online. And, this program is also targeting the potential Linux users who are using Windows or MacOS now. Locally, this project can target undergraduate and graduate students, faculty members and staffs of Brown University. If needed, those users can be used to gather information by surveying or interviewing.




2. Functional Specifications

2.1 Web Browser




Surf'n'talk should have the basic features as a Web browser, and as I mentioned before, Surf'n'talk will follow the MS IE conventions to view the pages designed to be viewed with MS IE.

<Basic functionality>

Viewing Web pages

-  Ability to show web documents written in HTML, DHTML, ASP, JSP and PHP
-  Ability to run JavaScript, CGI/Perl script
-  This is the core part of this project, so much of project development time and effort are assigned for this part.

Navigating

-  Basic navigational functions like back, forward, stop and reload
-  Address windows which takes URL's from users inputs
-  Auto completion for address inputs (If I type "www.ya" and I have visited the site "www.yahoo.com" before, the rest of the address will be completed automatically or if there are many possibilities (e.g., www.yahoo.com and www.yamaha.com) it will show all possible choices.)

Storing/Retrieving Web pages

- ✚ Ability to save/open web documents in files (This feature will need a function which will open up the local directories and show the contents of the directory)

Printing Web pages

- ✚ Ability to print out web documents and set up web page setting (This feature will need a function to access the local printer and printers on the network)
- ✚ Printing the webpage with a frame is a kind of tricky (We need to find a way to print out the framed page correctly or we can show a message saying that a user can print out the framed pages extensively by opening the framed page in a separate window.)

Copy, paste & select webpages

- ✚ Ability to copy and paste some or all portions of the given web page
- ✚ Ability to select all the items on a Web page

Searching

- ✚ Ability to find a string on the webpage (match whole word only, match case options)
- ✚ Google toolbar: put Google toolbar on the menu for Web searching

Viewing source code

- ✚ Ability to view the source code for a given web page (show the source HTML in a new window)

Bookmarking

- ✚ Ability to bookmark web pages (Add bookmark, and organize bookmark directory, delete the stored bookmark)

Configuration

- ✚ General: starting page, encoding, font, text size, color, caching, cookies
- ✚ Security: security level -- high, medium, low (with a understandable explanation)
- ✚ Detailed configurations: underlining hyperlink, color for visited/unvisited link, etc.

Miscellaneous

- ✚ Ability to open a new window
- ✚ Plug-in (When a Web page need a plug-in, Web browser should install the plug-in automatically)
- ✚ Help functions

<Optional functionality>

- ✚ Provide pop-up window blocker (Usually, unwanted pop-up windows are automatically generated. On the other hand, wanted pop-up windows are generated when a user does something (e.g., clicking a button). Using this fact, we can selectively block the unwanted pop-up windows)

2.2 Instant Messenger

<Basic functionality>

- ✚ Ability to add online buddies (also buddies with MS Messenger accounts)
- ✚ Ability to send and receive instant messages
- ✚ Ability to specify user's status (online/busy/be right back/away/on the phone/out to lunch/appear online)
- ✚ Ability to send a file
- ✚ Ability to configure settings: font, text size, etc

<Optional functionality>

- ✚ Option for a user to “appear offline” at the moment when the user log in (sometimes users need this feature when users don't want to be seen “online” to their buddies)
- ✚ Import buddy lists from files
- ✚ Voice conversation/Video conference
- ✚ Ability to add online buddies with AOL or ICQ accounts
- ✚ Emoticon – icons which can express the emotion of users (This feature needs extra graphic work)

3. User Interface Specifications

The primary metaphors that will be used in Surf'n'talk already exist in common Web browsers. Basically, I will follow the conventional looks of most Web browsers already used so that we don't give users any trouble of adapting themselves to new application

environment. The basic look of Surf'n'talk will be very similar to MS IE, but will not use as many icons for the simplicity.

<GUI interface>

The basic concept of my GUI design is that a user doesn't need a separate window for instant messenger. As a result, Web browser and instant messenger are fully integrated in one program so that a user doesn't need to switch between Web browser and messenger. I will make the menu bar as small as possible and try to omit the items that are unlikely used frequently and are potentially hard to understand for novice users.

File Edit View Bookmark Option Help						
Back▼ Forward▼ Stop Reload Home				Address		Go Up
My Status	Nickname	Login	buddies	Google		Find
Status Bar						

If you click on each menu, you will have the following top-down menus:

File
New window Open Save Save As Print

Edit
Copy Paste Select All

View
View Source

Bookmark
Add Bookmark Delete Bookmark Organize Bookmark Yahoo MSN

Option
General Security Plug-in

Help
Help Contents Web Browser Instant Messenger

My Status
Online Busy Out to Lunch Offline

Nickname
Change Nickname

If you click “Buddies” button, you have the following top down menu:

Buddies
Add a Buddy
Delete a Buddy
John
Cindy
Eugene
Guardian Angel
Guess who I am
...

If you right-click on a buddy, you can view the buddy’s profile/can send an E-mail. And, if you left-click on a buddy, you can send an instant message.

4. Non-functional Requirements

Hardware and OS Requirements of the project

The program should run on a Linux machine in the Sun Lab.

Testing

The functionality of Surf’n’talk as a web browser can be compared to the most popular web browser in Linux platform, Mozilla to evaluate how well Surf’n’talk performs. And the functionality as an online chatting program can be compared to LICQ. Surf’n’talk can be tested by Brown University students in the Sun lab.