Ahsanullah University of Science & Technology

Department of Computer Science & Engineering

WEB BROWSER: SEARCHKIN BROWSER

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Course name: Software Development ll

Course No: CSE2100

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ABSTRACT

The web browser named "Searchkin Browser" is a software application for retrieving, presenting, and traversing information resources on the World Wide Web. An information resource is identified by a Uniform Resource Identifier (URI/URL) and may be a web page, image, video or other piece of content. Hyperlinks present in resources enable users easily to navigate their browsers to related resources. Although browsers are primarily intended to use the World Wide Web, they can also be used to access information provided by web servers in private networks or files in file systems. The browser's main functionality is to present the web resource the user chooses, by requesting it from the server and displaying it on the browser window. It helps retrieve the information from its vast reservoir viz. internet. It allows collaborators in remote sites to share their ideas and all aspects of a common project. Browser progressively renders the page onto the screen as specified by its HTML, Cascading Style Sheets (CSS), or other page composition languages. Any images and other resources are incorporated to produce the on-screen web page that the user sees. Browser provide common tools enabling users to interact with remote servers in secure fashion.
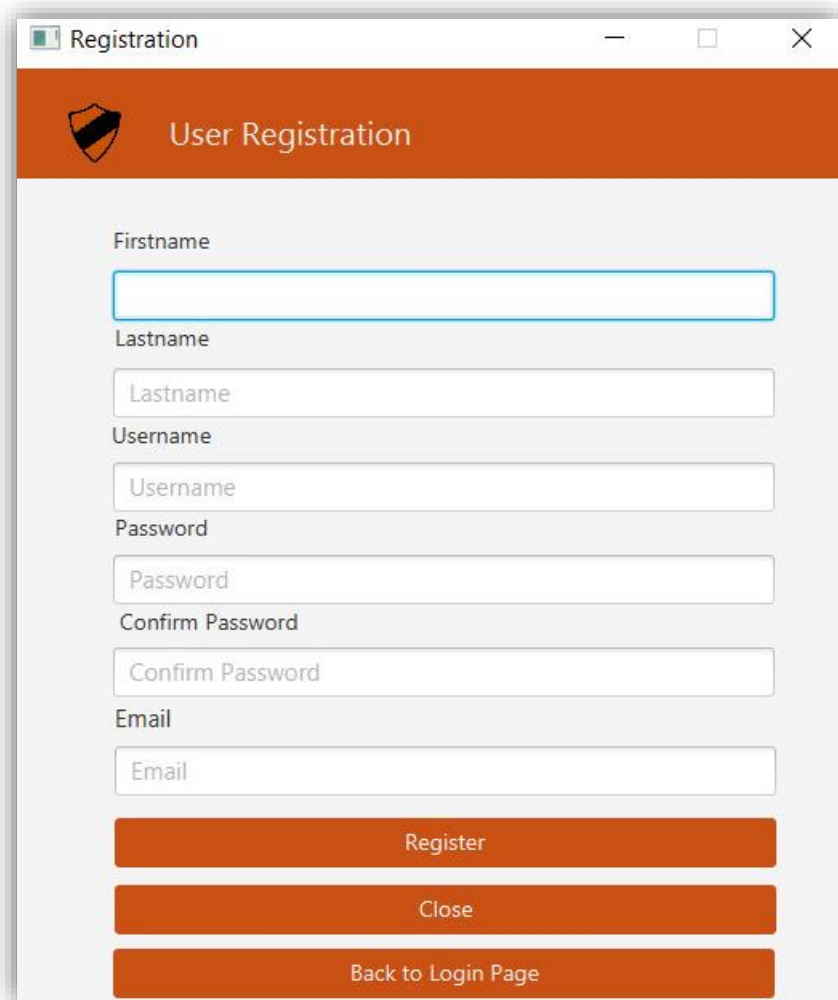
This project is developed in NetBeans IDE 8.2 using JavaFX and Derby Database. Using this software, companies and users can improve the efficiency of their services.

Software Platform

- ❖ NetBeans IDE 8.2
- ❖ JavaFX
- ❖ Derby Database

Identification of Functional Requirements

❖ **New User Registration:** This feature helps to register or sign in a new user. Here a user can sign in by providing First Name, Last Name, Username, Email, Password, Confirm Password etc. information. To register successfully a user has to provide a unique Username. If another user exists using the same Username the registration will not be successful and will show an error message.
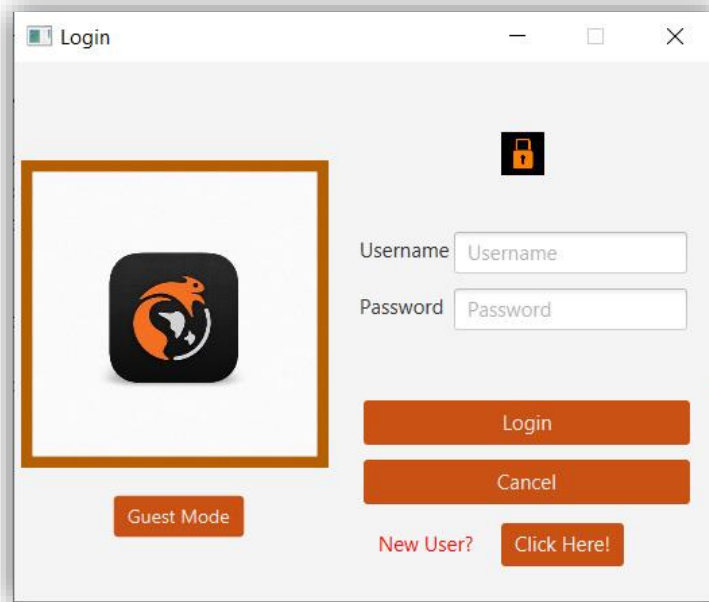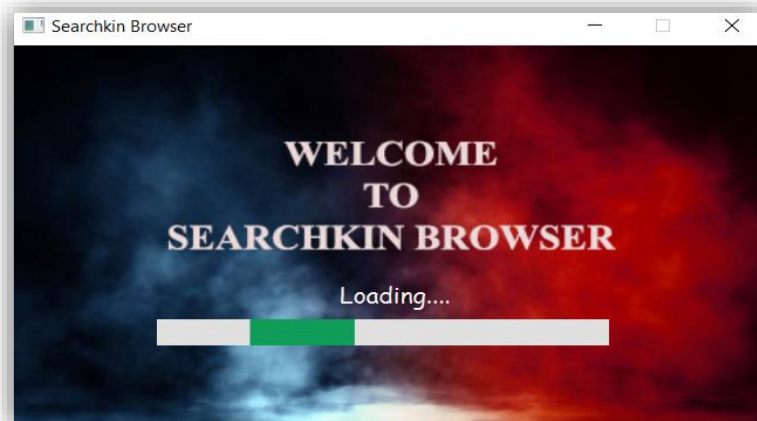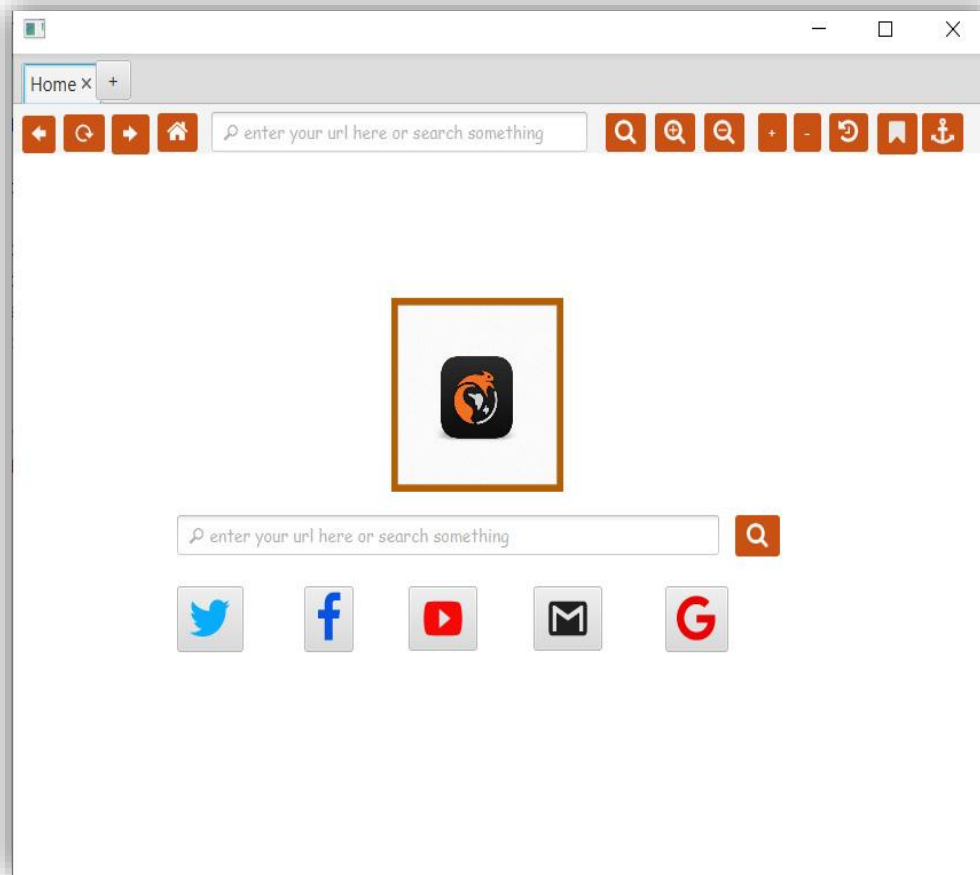
❖ **User Login:** Existing or registered users need to Login first to get access to the web browser. On the bellow screen user will put their unique Username and Password and make login attempts. If their identifications are valid, they will be logged in or else it will show an error message.
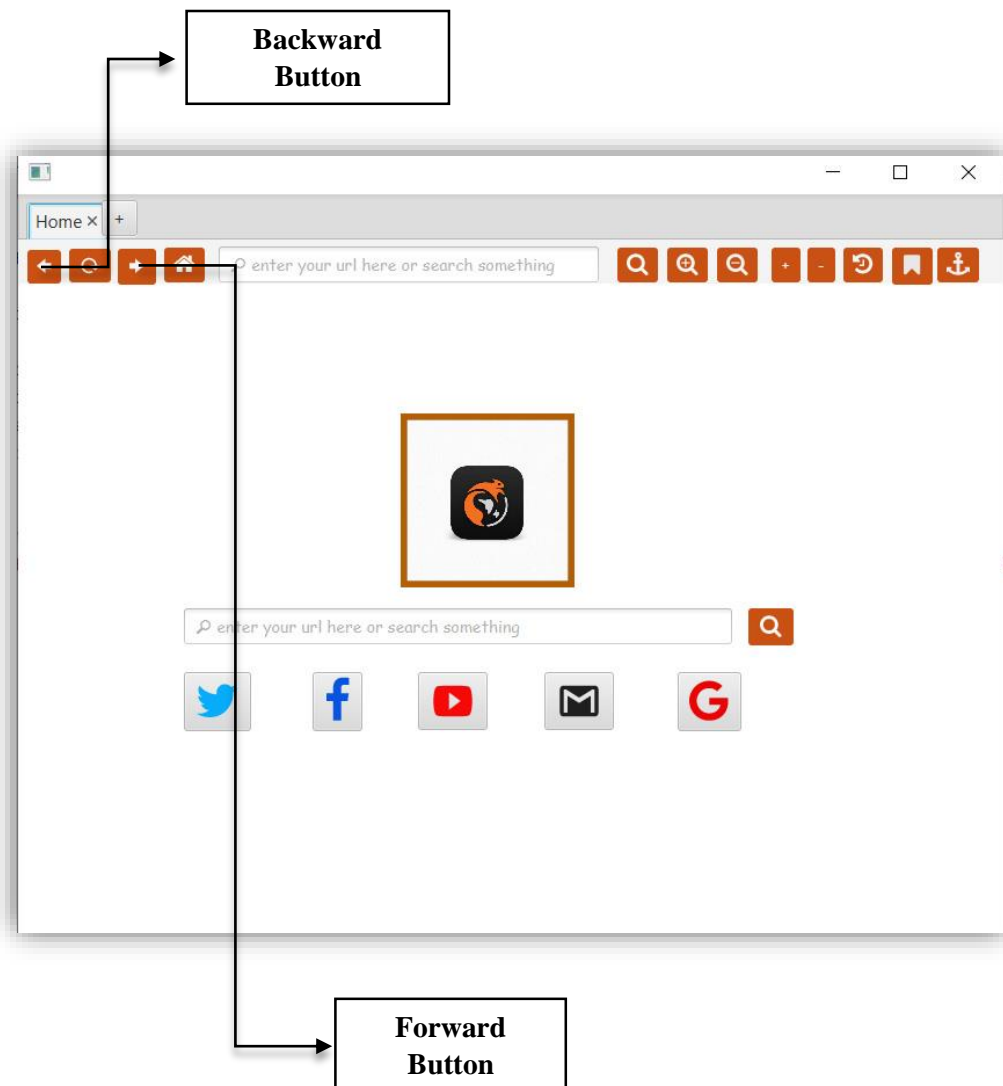

➢ **Guest Mode:** In the Login page there is a button called Guest Mode. By pressing this button user will be able to access the browser without having to register and login.

➢ **Splash Screen:** This splash screen is an introduction page that is displayed to show that the browser is loading or booting after logging in.
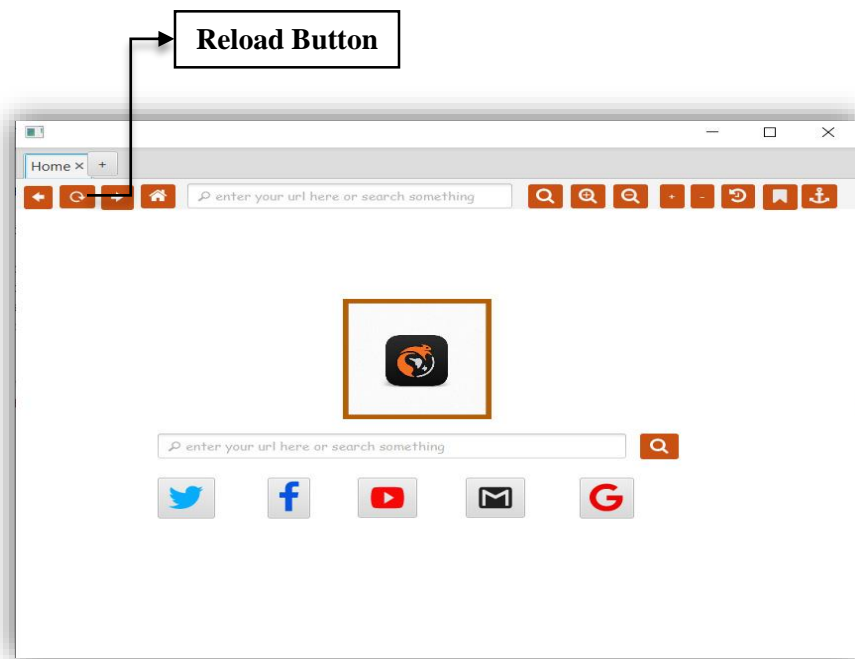
➢ **Home Page:** This page is the first page that is displayed after running the web browser. In this page there are two search bars available which will help the user to search the website they want to visit.

➢ **Arrow Buttons:** In this feature, there are two arrows which will navigate the browser back (the left arrow) to a previously viewed webpage or forward (the right arrow) to more currently viewed webpages. These buttons can be pushed more than once to cause the browser to go back or forward further to web pages rendered in a browser session's history.
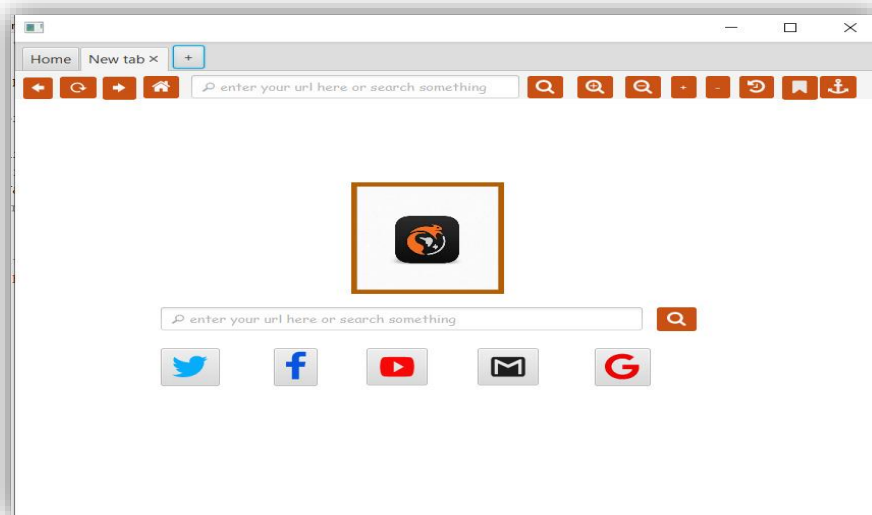
> **Reload Button:** This button reloads a webpage. Refreshing will update the information on a webpage if it has changed. If a webpage has not completely loaded, refreshing will reload the page so that it completely renders on the screen.

Reload Button

> **Home Button:** This button will help the user to go to the homepage of the web browser directly from any web site.
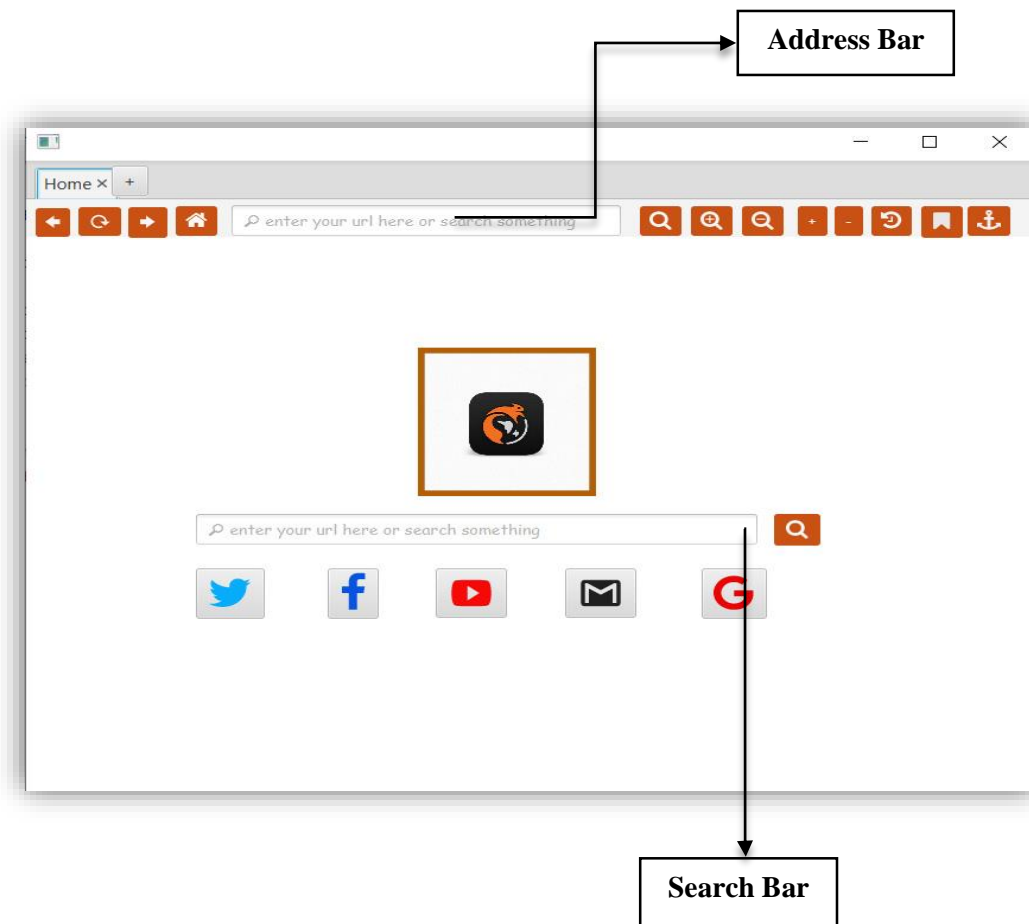

Home Button

➢ **New Tab Button:** This feature opens a new page in the same window when selected. This option will allow the user to open many websites but the websites will be contained within one main window frame. This will keep the desktop from being cluttered with too many open windows.
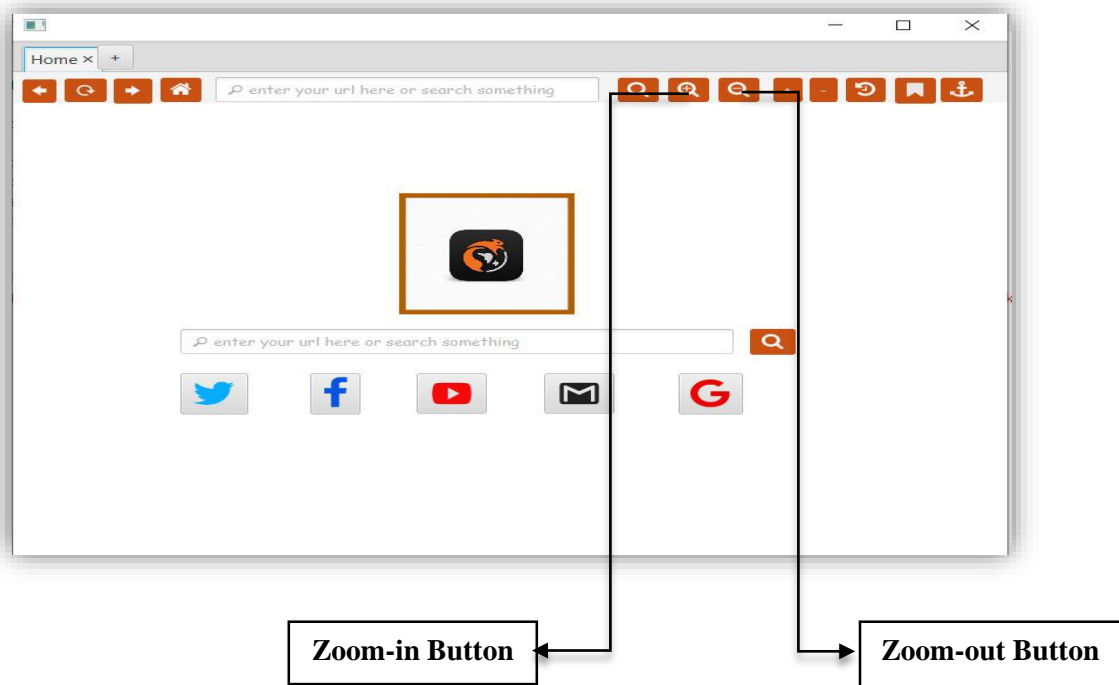

➢ **Address Bar:** This text field on the browser that identifies the webpage currently being viewed in a browser window. All address bars are located at the top of the browser window. A user can type in a new address to navigate to a new webpage. Each website on the internet is reached by a web address known as a URL (Uniform Resource Locator) that references a specific location on the internet. User can type a URL into the address bar of a browser, then press the Enter (Return) key on the keyboard to make the browser load the webpage associated with the URL. Also, there is another search bar available in the homepage of the browser. And it can also be used for searching any URL the user wants.
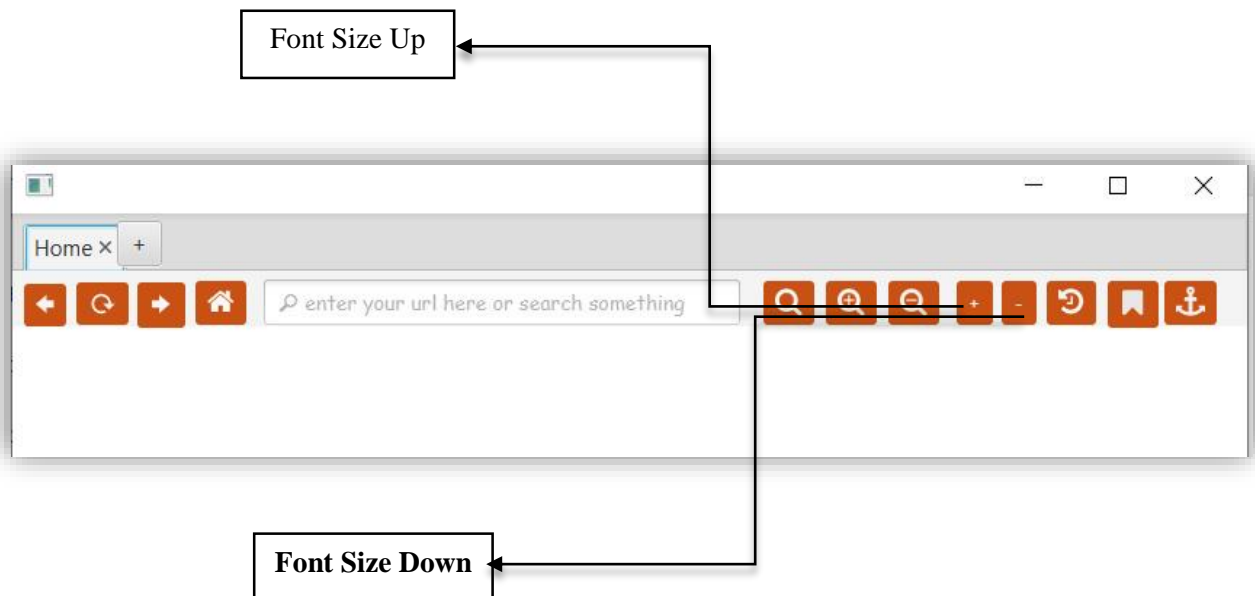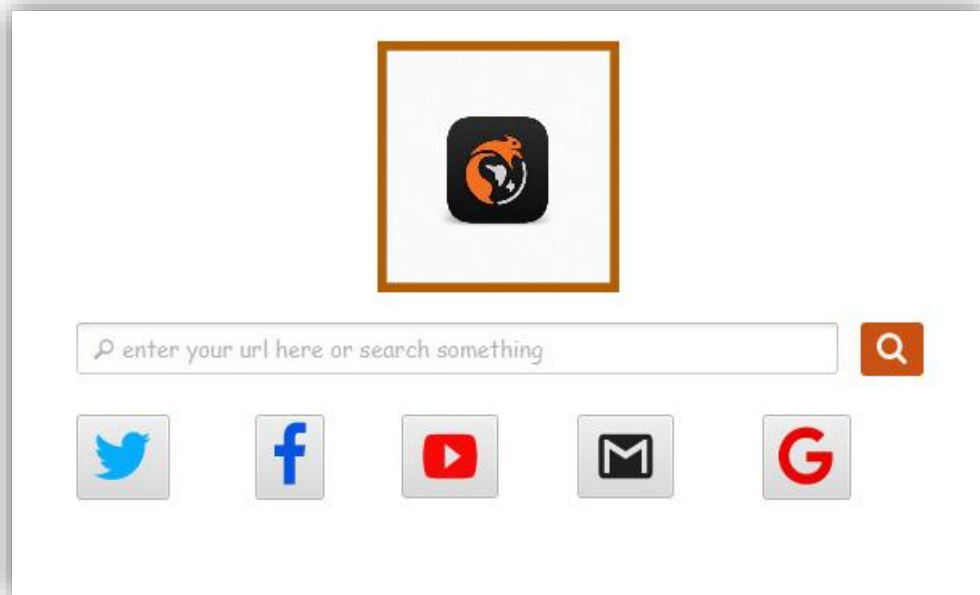
Address Bar

Search Bar

➢ **Zoom-in and Zoom-out Button:** This feature helps the user to zoom-in or zoom-out their web page view in their preferable size.
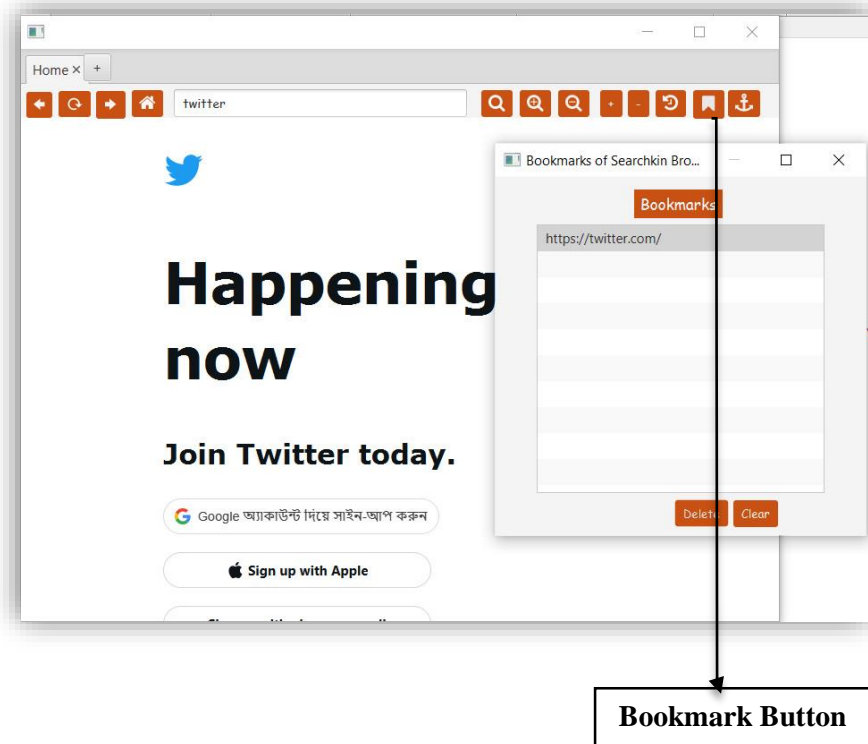
Zoom-in Button

Zoom-out Button

➢ **Font Size Changer Button:** This feature helps the user to customize the font size of their web browser.
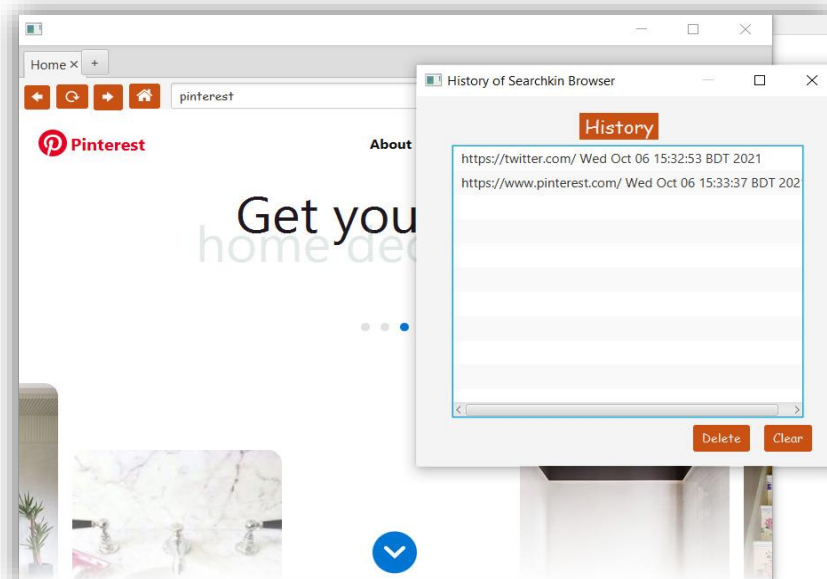
Font Size Up

Font Size Down

➢ **Shortcuts:** There are some shortcut buttons added in the homepage such as Facebook, Twitter, YouTube, Gmail and Google. By clicking these buttons user will be able to access these websites directly without having to search their URL in the search bar or the address bar.
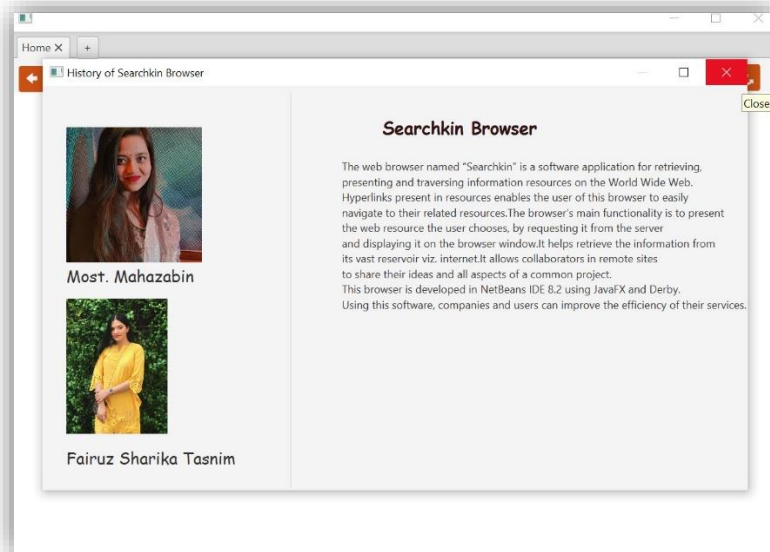

➢ **Bookmark Button:** This feature helps the user to save website addresses and visit them easily. Here the user can also delete the bookmarked URL from the by selecting the URL and pressing the delete button. And if the user wants to clear the full bookmark list, then they can just press the clear button and it will clear the whole list.

Bookmark Button

➢ **History Button:** To view the search history of the browser the user can press this button. Here the user can also delete any of the search history just by selecting the URL and pressing the delete button. And to clear out the whole search history the user has to press the clear button.

➤ **About Button:** The user can know about any technical information of the browser just by clicking this button.

Table 01: Identifier and priority for software requirements

#	Requirements	Priority
R1	New User Registration	High
R2	User Login	High
R3	Guest Mode	High
R4	Splash Screen	Medium
R5	Home Page	High
R6	Arrow Button	High
R7	Reload Button	High
R8	Home Button	High
R9	New Tab Button	High
R10	Address Bar	High
R11	Zoom-in and Zoom-out Button	Medium
R12	Font Size Changer Button	Medium
R13	Shortcuts	Medium
R14	Bookmark Button	High
R15	History Button	High
R16	About Button	Low

Problem Faced During Development

➢ Handling error while running derby query. We had difficulty catching the errors while executing the database query.
➢ While changing scenes we also faced some difficulties.

Possible Improvements

➢ We can add a download feature where the user will be able to download any kind of file such as images, videos, audios, pdf files etc. from this browser. Also, we can show the download History using a database.
➢ Also, we can add dark mode on the browser.

Work Done:

ID 190204091:

✓ New User Registration
✓ Splash Screen
✓ Address Bar
✓ History
✓ Bookmarks
✓ Shortcuts
✓ Web Design
✓ Zoom-in and Zoom-out Button

ID 190204102:

✓ User Login
✓ New Tab Button
✓ Arrow Button
✓ Reload Button
✓ Home Button
✓ About Button
✓ Font Size Changer Button
✓ Home Page