

Class Name: c2w_WebBrowser

Description: This class represents a basic multi-window web browser. It is responsible for creating new windows and maintaining a list of currently open windows. The program ends when all windows have been closed. The windows are of type c2w_BrowserWindow. The class also requires the SimpleDialogs class. The first window, which opens when the program starts, goes to "<https://www.core2web.in/privacypolicy.html>".

Attributes:

- c2w_openWindows: An ArrayList of c2w_BrowserWindow objects, representing the list of currently open web browser windows.
- c2w_screenRect: A Rectangle2D object representing the usable area of the primary screen.
- c2w_locationX, c2w_locationY: Doubles representing the location for the next window to be opened.
- c2w_windowWidth, c2w_windowHeight: Doubles representing the window size, computed from c2w_screenRect.
- c2w_untiltedCount: An integer representing how many "Untitled" window titles have been used.

Methods:

- main(String[] c2w_args): The main method of the application. It launches the JavaFX application by calling the launch method.
- start(Stage stage): The start method is called when the JavaFX application is launched. It initializes the application by setting up the first window and opening it.
- getOpenWindowList(): A package-private method that returns the list of currently open windows.
- c2w_getNextUntiltedCount(): A package-private method that returns the number of window titles of the form "Untitled XX" that have been used.
- c2w_newBrowserWindow(String c2w_url): A package-private method that opens a new browser window. If c2w_url is non-null, the window will load that URL. It manages the locations for newly opened windows.

Class Name: c2w_BrowserWindow

Description: This class represents a browser window for use with the c2w_WebBrowser class. It can load and display one web page at a time. It provides controls for the user to input a URL and load it. It also contains a window menu for managing multiple windows.

Attributes:

- c2w_owner: A c2w_WebBrowser object representing the owner WebBrowser application.
- c2w_webEngine: A WebEngine object responsible for loading and managing web pages.
- c2w_windowMenu: A Menu object representing the window-related commands menu.

Methods:

- c2w_BrowserWindow(c2w_WebBrowser c2w_browser, String c2w_initialURL): The constructor of the class. It sets up the window and starts loading the initial web page location if given.

- `doLoad(String url)`: Loads a specified URL. If the URL is null or empty, nothing is done. If the URL is not a valid URL, "http://" is prepended to the string. The web page is loaded in the web engine.
- `makeMenuBar()`: Creates a menu bar for the window. The only menu is the "Window" menu, which contains commands for opening new windows, closing the current window, and opening other open windows.

Test Procedure:

To test the above code, you can follow the steps below:

1. Create a new Java project in your preferred development environment.
2. Set up the JavaFX environment in your project.
3. Copy the provided code into your main Java class file.
4. Make sure you have the necessary JavaFX libraries and dependencies configured in your project.
5. Run the application.

Here is a sample test procedure:

1. Launch the application.
2. The first browser window will open automatically and load the webpage "<https://www.core2web.in/privacypolicy.html>".
3. You can interact with the browser window and navigate to different web pages by entering the URL in the text field at the bottom and clicking the "Load" button.
4. The web page will load, and the location and status information will be displayed in the bottom bar of the browser window.
5. You can open additional browser windows by selecting the "Window" menu and choosing "New". This will open a new browser window with an empty page.
6. To open a specific URL in a new window, select the "Window" menu, choose "Open", and enter the URL in the provided dialog box.
7. The "Window" menu also displays a list of currently open windows. You can bring a window to the front by selecting it from the menu.
8. Closing a window will remove it from the list of open windows. If all windows are closed, the program will end automatically.

During the test, make sure the web pages are loading correctly, the window management functionality is working as expected, and the status and location information is updated accurately.

Note: Ensure that you have JavaFX properly configured in your development environment, as the provided code relies on JavaFX components and features.