



# GUI based WEB BROWSER

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## Overview of the Project

This project implements a basic web browser using the PyQt5 framework. It provides users with the functionality to navigate the web, including:

- **Displaying webpages:** The core functionality utilizes the QtWebEngineView component to render webpages based on URLs provided by the user.
- **Navigation controls:** A toolbar is included with buttons for essential navigation actions like back, refresh, and forward. Users can also navigate to a home page (Bing in this example) or bookmarked websites.
- **Address bar:** A URL bar allows users to enter website addresses and displays the current webpage URL for reference.
- **Bookmarking:** A secondary toolbar provides quick access to pre-defined bookmarks for popular websites like PythonGeeks, Facebook, and others.

This project serves as a foundation for building a more feature-rich web browser. Future development could include functionalities like:

- Tabbed browsing for managing multiple webpages simultaneously.
- Search functionality for locating information on the web.
- Download manager for saving files from webpages.
- User account management for personalized browsing experiences.

## Goals

1. **Provide a user interface for web browsing:** The code aims to create a user-friendly interface with functionalities essential for navigating the web.
2. **Display web content:** It utilizes the QtWebEngineView component to render webpages based on user-provided URLs.
3. **Enable navigation control:** The navigation toolbar allows users to return, refresh, or move forward in browsing history.
4. **Simplify URL access:** The address bar facilitates entering website addresses and displays the current URL for reference.
5. **Offer quick access to bookmarks:** The bookmarking toolbar provides one-click access to pre-defined websites the user frequents.

## Specifications

The code implements a basic web browser with the following specifications:

- **Framework:** PyQt5
- **Web Rendering:** QtWebEngineView component
- **Navigation:**
  - Back button - Navigates to the previously visited webpage.
  - Refresh button - Reloads the current webpage.
  - Forward button - Moves user to the next webpage in browsing history (if available).
  - Home button - Redirects to a predefined homepage (Bing in this example).
- **Address Bar:**
  - Displays the current webpage URL.
  - Allows users to enter website URLs and navigate to them upon pressing enter.
  - Automatically adds "https://" prefix if not provided in the entered URL.

- **Bookmarks:**

- A secondary toolbar provides buttons for quick access to a set of bookmarked websites (PythonGeeks, Facebook, etc.).

**Note:** This is a basic implementation and lacks functionalities like:

- Tabbed browsing
- Search bar
- Download manager
- User accounts

## Milestones

### Phase 1: Core Functionality

- Develop a user interface with a web view component for displaying webpages.
- Implement navigation controls (back, refresh, forward).
- Integrate an address bar for displaying and entering URLs.
- Create a home button to redirect to a predefined homepage.

### Phase 2: Enhanced Navigation (Next Steps)

- Milestone 1: Implement a history manager to track visited webpages and enable forward navigation after going back.
- Milestone 2: Integrate bookmarks functionality with the ability to add, edit, and remove bookmarks.

### Phase 3: User Experience Improvements

- Milestone 1: Design and implement a tabbed browsing interface for managing multiple web pages simultaneously.
- Milestone 2: Add a search bar to allow users to search the web directly from the browser.

### Phase 4: Advanced Features

- Milestone 1: Develop a download manager to enable users to save files from webpages.
- Milestone 2: Implement user account management for personalized browsing experiences (e.g., storing bookmarks and browsing history across sessions).

These milestones provide a roadmap for progressively building upon your web browser's functionalities. You can adjust the order and scope based on your project goals and available resources.