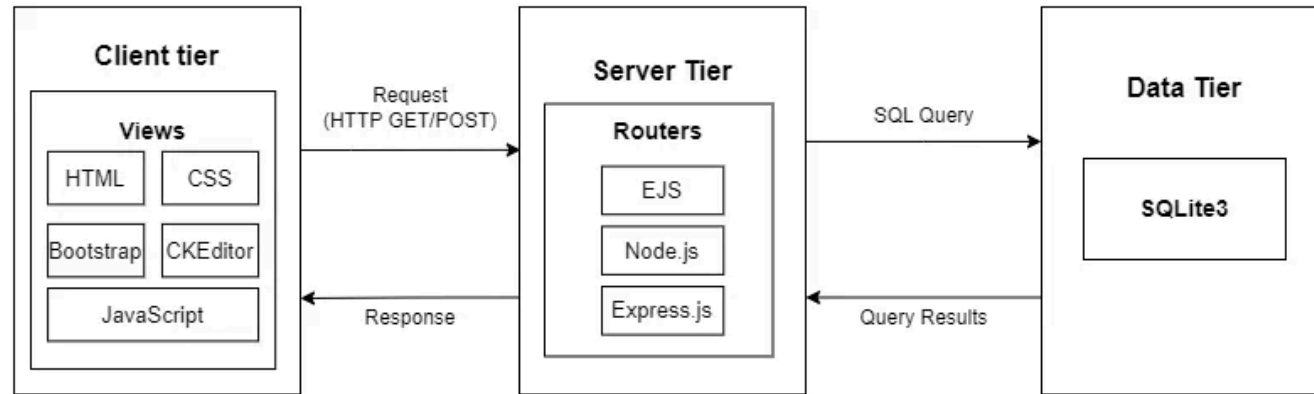


High Schematic Diagram



Extension Description

In the coursework extension, I focused on enhancing the user experience and functionality of the blogging tool. Firstly, I implemented the Bootstrap framework complemented by custom CSS, to modernize the visual aspect and improve the usability of the application. This approach allowed for a responsive and aesthetically pleasing design. Secondly, I introduced additional functionalities: a share button enabling users to easily copy and share article links, and integrated CKEditor, a rich text editor, to provide authors with advanced tools for crafting and styling their article content, enriching the overall content creation process.

1. Bootstrap's CSS and JavaScript files in each page 'head' section

```

4 <head>
5   <meta charset="UTF-8">
6   <meta name="viewport" content="width=device-width, initial-scale=1.0">
7
8   <title>Register</title>
9   <link href="/node_modules/bootstrap/dist/css/bootstrap.min.css" rel="stylesheet">
10  <link href="/node_modules/bootstrap/dist/css/bootstrap.min.css" rel="stylesheet">
11  <script src="/node_modules/bootstrap/dist/js/bootstrap.bundle.min.js"></script>
12  <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/6.0.0-beta3/css/all.min.css">
13
14  <link rel="stylesheet" href="/main.css">
15 </head>

```

2. Share article link

```

48 <!-- ... Article Content ... -->
49 <div class="article-content my-4">
50   <%= articleContent %>
51 </div>
52 <div class="d-flex align-items-center justify-content-start article-reaction">
53   <span class="fst-italic text-muted"><%= articleViews %> Views </span>
54   <a href="#" onclick="likeArticle('<%= articleId %>', event)"
55     class="btn btn-sm btn-dark mx-3 fa fa-thumbs-up" id="likeButton"></a>
56   <a href="#" onclick="shareArticle('<%= articleId %>', event)"
57     class="btn btn-sm btn-dark fa fa-share-alt" id="shareButton"></a>
58 </div>

```

Figure in 'views/article.ejs'

```

78  /**
79  * Function to handle the article share action.
80  * @param {number|string} articleId - The unique identifier of the article to be shared.
81  * @param {Event} event - The event object from the click event.
82  */
83  function shareArticle(articleId, event) {
84      event.preventDefault();
85
86      // Construct the URL for the article based on its ID
87      const articleUrl = window.location.origin + '/reader/article/' + articleId;
88
89      // Use the navigator.clipboard API to copy the link to the user's clipboard.
90      if (navigator.clipboard) {
91          navigator.clipboard.writeText(articleUrl)
92              .then(() => alert('Article link copied to clipboard! You can SHARE IT NOW!'))
93              .catch((error) => console.error('Copy failed', error));
94      } else {
95          // Fallback for browsers that do not support navigator.clipboard
96          // Display the URL in a prompt for the user to manually copy
97          window.prompt('Copy this link to share the article:', articleUrl);
98      }
99  }

```

Figure in '/main/script.js'

3. CKEditor integration

```

16  <script src="https://cdn.ckeditor.com/ckeditor5/40.2.0/classic/ckeditor.js"></script>
17

```

```

34 <!-- ... Edit Article Form ... -->
35 <h1 class="display-4 fw-bold">Edit Article</h1>
36 <i>Created On <%= articleCreationDate %> </i>
37 <form action="/author/edit/:articleId?" method="post">
38   <div class="form-outline my-5 edit-form">
39     <input type="hidden" name="article_id" value="<%= articleId %>" />
40     <label for="articletitle" class="form-label fs-5">Title:</label>
41     <input id="articletitle" class="form-control form-control-lg" type="text" name="article_title"
42       value="<%= articleTitle %>" /><br>
43     <label for="articlecontent" class="form-label fs-5">Text:</label>
44     <textarea id="articlecontent" class="form-control" name="article_content"><%= articleContent %></textarea><br>
45   </div>
46   <div class="d-flex align-items-center justify-content-end">
47     <span class="text-muted fst-italic px-3">Last modified: <%= articleModificationDate %> </span>
48     <button id="savedraft" class="btn btn-outline-warning btn-block btn-lg gradient-custom-4 text-body"
49       type="submit" name="action" value="Save Draft">Save Draft</button>
50     <button id="postdraft" class="btn btn-warning btn-block btn-lg gradient-custom-4 ms-2" type="submit"
51       name="action" value="Post">Post</button>
52   </div>
53 </form>
54 <!-- ... Edit Article Form ends ... -->

```

Figure in '/views/author-edit.ejs'

```

102 /**
103  * Initializes CKEditor on an element with the id 'articlecontent' and a custom toolbar.
104  * The toolbar includes text formatting options and list controls. Link options can be omitted.
105  * Sets editor height to 500px. Logs initialization success or error to the console.
106  *
107  * @returns {Promise<Editor>} A promise that resolves with the CKEditor instance or rejects with an error.
108  */
109 ClassicEditor
110   .create(document.querySelector('#articlecontent'), {
111     toolbar: {
112       items: ['heading', '|', 'bold', 'italic', 'link', 'bulletedList', 'numberedList',
113         '|', 'indent', 'outdent', '|', 'blockQuote', 'undo', 'redo']],
114       height: 500
115     })
116   .then(editor => {
117     console.log('CKEditor initialized:', editor);
118   })
119   .catch(error => {
120     console.error('Error initializing CKEditor:', error);
121   });

```

Figure in '/main/script.js'