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## WEB PAGE RANKING

SEO SUGGESTION SEARCH ENGINE PROJECT

*(Software Design Report)*

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## Preface

The purpose of a preface is to persuade your readers that they should read the rest of your written work. Keep it short. Describe your background and credentials. Discuss what inspired the project described in this report. Explain who your target audience is, and tell the reader why this project is important to them.

## Abstract

*A strong abstract sums up your work in very few sentences: (i) state the problem you are addressing; (ii) say why it's an interesting problem, and which issues are hard to tackle; (iii) give your approach towards solving the problem; (iv) say why and how well your approach solves the problem.*

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## 1. Introduction

Your introduction briefly explains the problem you address, and what you've achieved towards solving the problem. It's an edited and updated version of your context and objectives from your topic outline document.

## 2. User Stories

Our system has two main actors: Administrator and User.

### 2.1. Administrator Login

Table 1: User Story 1

User Story ID	US1
Name	Administrator login
Statement	As an administrator, I want to login into the system, So that I can enter the admin area.
Priority	HIGH
Estimation	3 pts
Direct actors	Administrator
Pre-Conditions	<ol style="list-style-type: none"><li>Has internet access.</li><li>Has a browser.</li><li>Opens the login page in the browser.</li></ol>
Post-Conditions	<ol style="list-style-type: none"><li>Feeds the database website URLs and their metadata.</li><li>Views the page ranking.</li></ol>
Scenario	<ol style="list-style-type: none"><li>The administrator fills in username and password fields.</li><li>The administrator clicks on the admin login button.</li><li>The system will validate the username and password. If correct, log in; otherwise, stay on the current login page.</li><li>The system logs both correct and wrong login.</li></ol>

## 2.2. Website URLs

Table 2: User Story 2

User Story ID	US2
Name	Website URLs
Statement	As an administrator, I want to feed the database website URLs and their metadata, So that the system can use them to search the user query.
Priority	HIGH
Direct actors	Administrator
Pre-Conditions	<ol style="list-style-type: none"> <li>1. US1.</li> <li>2. Opens the Feed URLs page.</li> </ol>
Post-Conditions	-
Scenario	<ol style="list-style-type: none"> <li>1. The administrator feeds the database website URLs and its metadata.</li> <li>2. The administrator clicks on add new website button.</li> <li>3. The system saves the data in a new row in the database.</li> </ol>

## 2.3. Page Ranking

Table 3: User Story 3

User Story ID	US3
Name	Page Ranking
Statement	As an administrator, I want to view the page rank, So that I can optimize the search functionality.
Priority	REGULAR
Direct actors	Administrator
Pre-Conditions	<ol style="list-style-type: none"> <li>1. US1.</li> <li>2. Opens the Page Ranking page.</li> </ol>
Post-Conditions	-
Scenario	<ol style="list-style-type: none"> <li>1. The administrator clicks the page ranking anchor in the tab menu.</li> <li>2. The system lists the website URLs in the database sorted based on their number of visits and points.</li> </ol>

## 2.4. User Login

Table 4: User Story 4

User Story ID	US4
Name	User login
Statement	As a user, I want to login into the system, So that I can search for specific topics.
Priority	HIGH
Direct actors	User
Pre-Conditions	<ul style="list-style-type: none"> <li>1. Has internet access.</li> <li>2. Has a browser.</li> <li>3. Opens the login page in the browser.</li> </ul>
Post-Conditions	<ul style="list-style-type: none"> <li>1. Searches for a specific topic.</li> <li>2. Searches for website keywords and meta-description.</li> </ul>
Scenario	<ul style="list-style-type: none"> <li>1. The user fills in username and password fields.</li> <li>2. The user clicks on the login button.</li> <li>3. The system will validate the username and password. If correct, log in; otherwise, stay on the current login page.</li> <li>4. The system logs both correct and wrong login.</li> </ul>

## 2.5. Search Page

Table 5: User Story 5

User Story ID	US5
Name	Search Page
Statement	As a user, I want to open the search page, So that I can use the search box.
Priority	HIGH
Direct actors	User
Pre-Conditions	<ul style="list-style-type: none"> <li>1. US4.</li> <li>2. Opens the search page page.</li> </ul>
Post-Conditions	<ul style="list-style-type: none"> <li>1. Searches for a specific topic.</li> </ul>
Scenario	<ul style="list-style-type: none"> <li>1. The user clicks the search page anchor in the tab menu.</li> <li>2. The system opens the page of the search.</li> </ul>

## 2.6. Search Box

Table 6: User Story 6

User Story ID	US6
Name	Search Box
Statement	As a user, I want a search box, So that I can write down my search query.
Priority	HIGH
Direct actors	User
Pre-Conditions	<ul style="list-style-type: none"> <li>1. US4.</li> <li>2. Opens the search page page.</li> </ul>
Post-Conditions	<ul style="list-style-type: none"> <li>1. Clicks on URLs.</li> </ul>
Scenario	<ul style="list-style-type: none"> <li>1. The user write down his/her search query in the search box.</li> <li>2. The user clicks the search button.</li> <li>3. The system uses this query and matches it with the content provided in URLs fed in the database.</li> <li>4. The system generates a list of related URLs.</li> <li>5. The user can then click on any URL in the generated list, and the URL will open the corresponding website.</li> <li>6. The system increases the number of visits to that URL in the database.</li> <li>7. The system goes to the web page URL to fetch its metadata and gives points according to page errors.</li> <li>8. The system updates the page's rank in the database according to the points the page gains and the number of visits.</li> </ul>

## 2.7. SEO Suggestions

Table 7: User Story 7

User Story ID	US7
Name	SEO Suggestions
Statement	As a user, I want to search a live URL, So that I can get suitable keywords and meta descriptions.
Priority	HIGH
Direct actors	User
Pre-Conditions	<ol style="list-style-type: none"><li>1. US4.</li><li>2. Opens the SEO Suggestions page.</li></ol>
Post-Conditions	-
Scenario	<ol style="list-style-type: none"><li>1. The user write down a live URL in the search box.</li><li>2. The user clicks the find keywords and meta-description button.</li><li>3. The system goes and scans the web page URL, extracts its meta-features.</li><li>4. The system then lists out suitable keywords related to the contents of the web page URL and a meta-description.</li></ol>

## 3. Use-cases

### 3.1. Actors

#### 3.1.1. Administrator

#### 3.1.2. User

## 4. ERD Diagram

## 5. Testing Script

## 6. Conclusion

## A. Appendix

### A.1. UI/UX Design

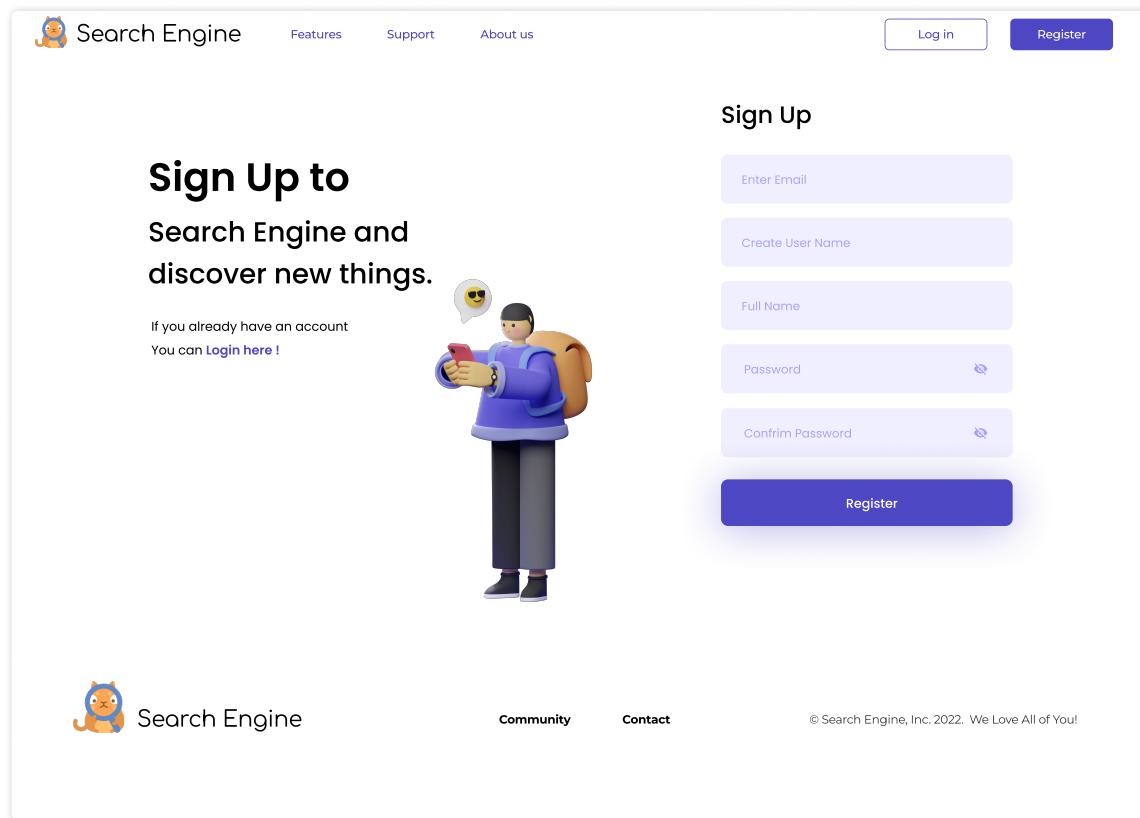


Figure 1: Register Page

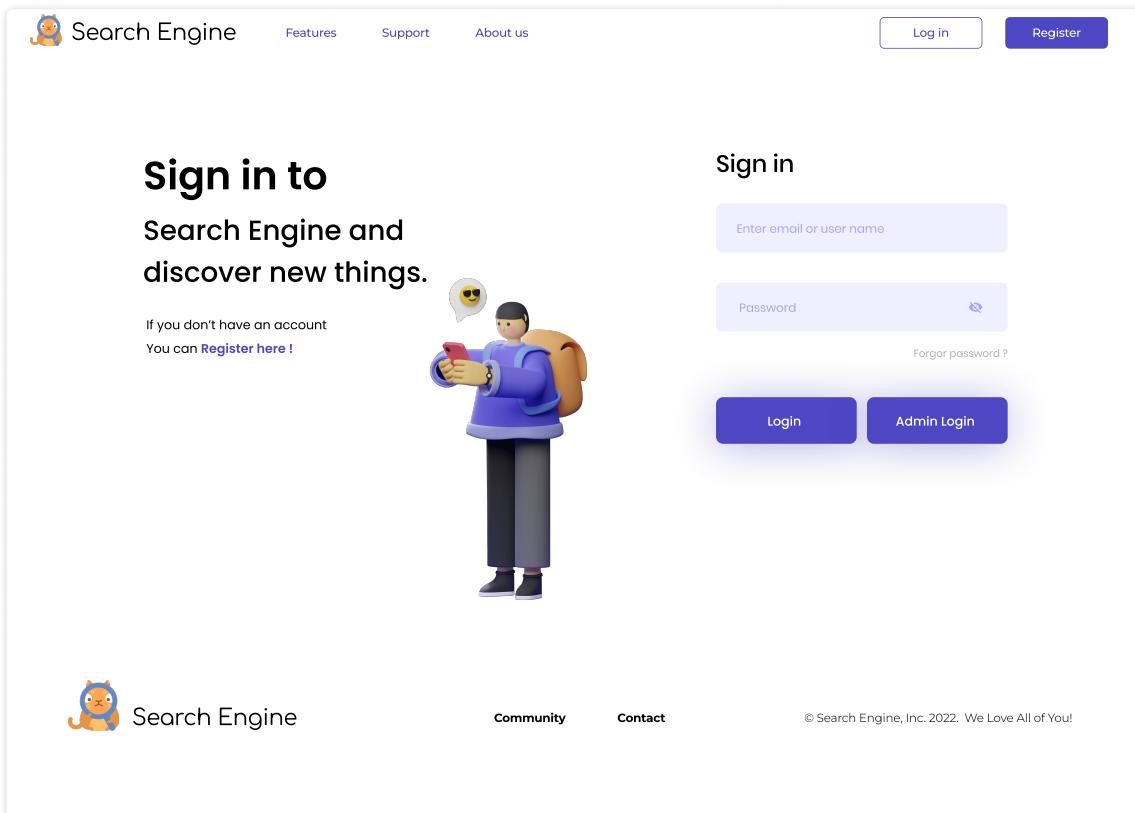


Figure 2: Login Page

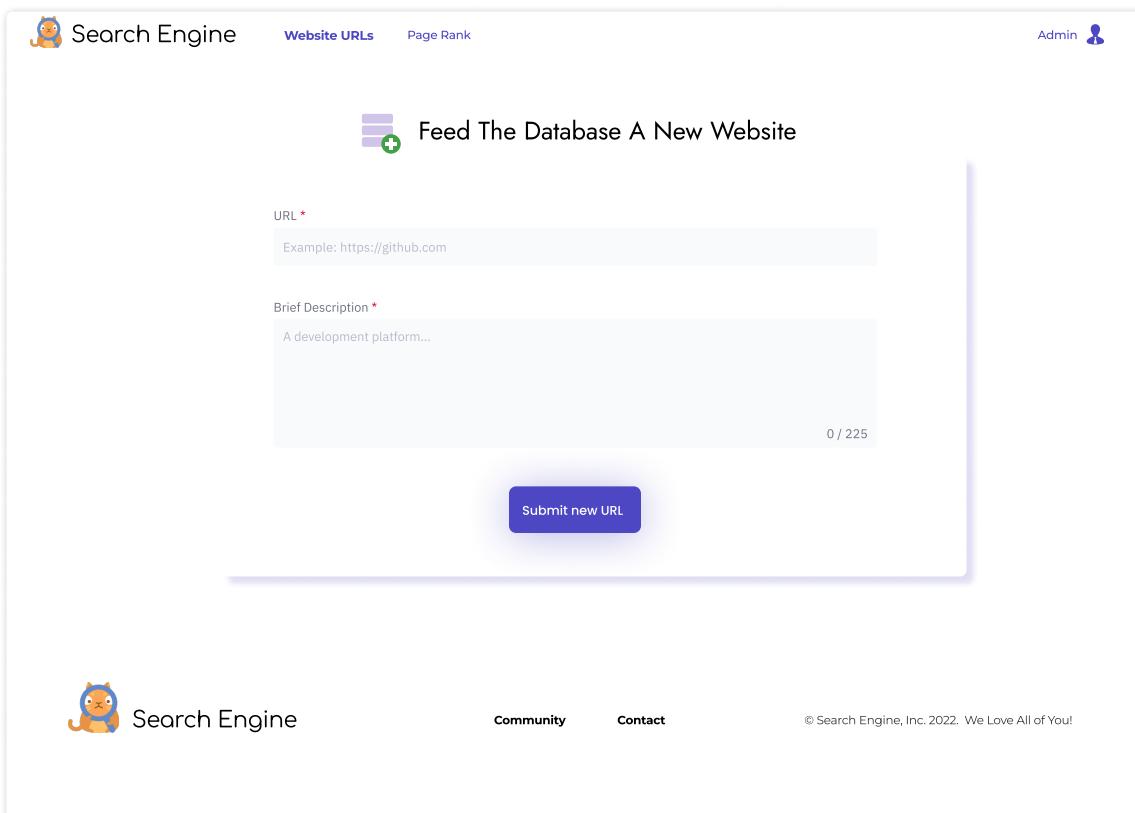


Figure 3: Website URLs

The screenshot shows a web application interface titled "Search Engine". At the top, there are navigation links for "Website URLs" and "Page Rank", and a user account icon labeled "Admin". Below the header, a title "Websites Sorted According To The Calculation Of Points And Visits" is displayed, accompanied by a blue square icon with two white vertical bars.

The main content is a data table with the following columns: Name, URL, Description, Visits, Points, Rank, and Action. The table lists five websites:

Name	URL	Description	Visits	Points	Rank	Action
Google Search	<a href="https://www.google.com/">https://www.google.com/</a>	A search engine provided by Google. Handling more than 3.5 billion searches per day.	9625	325	9950	⋮ ⚏
Github	<a href="https://github.com/">https://github.com/</a>	A provider of Internet hosting for software development and version control using Git.	1093	234	1327	⋮ ⚏
Codeforces	<a href="https://codeforces.com/">https://codeforces.com/</a>	A website that hosts competitive programming contests.	978	325	1273	⋮ ⚏
Figma	<a href="https://www.figma.com/">https://www.figma.com/</a>	A vector graphics editor and prototyping tool which is primarily web-based.	862	332	1194	⋮ ⚏
Facebook	<a href="https://www.facebook.com/">https://www.facebook.com/</a>	An online social media and social networking service owned by Meta Platforms.	762	425	1187	⋮ ⚏

At the bottom left, it says "Showing 1 to 6 of 430 entries". On the right, there are navigation buttons for page 1 of 1337. The footer contains the "Search Engine" logo, links for "Community" and "Contact", and the copyright notice "© Search Engine, Inc. 2022. We Love All of You!"

Figure 4: Page Rank

The screenshot shows the homepage of the "Search Engine" website. At the top, there is a navigation bar with the "Search Engine" logo, links for "Search Page" and "SEO Suggestions", and a user account icon labeled "Regular User".

The main area features a large graphic element consisting of a green padlock icon and a white star shape. The text "Search The Web Without Being Tracked" is overlaid on this graphic. Below the graphic is a search bar with the placeholder "Search any thing..." and a microphone icon. A large blue button with the word "Search" is positioned below the search bar.

At the bottom, there is a footer section with the "Search Engine" logo, links for "Community" and "Contact", and the copyright notice "© Search Engine, Inc. 2022. We Love All of You!"

Figure 5: Search Box

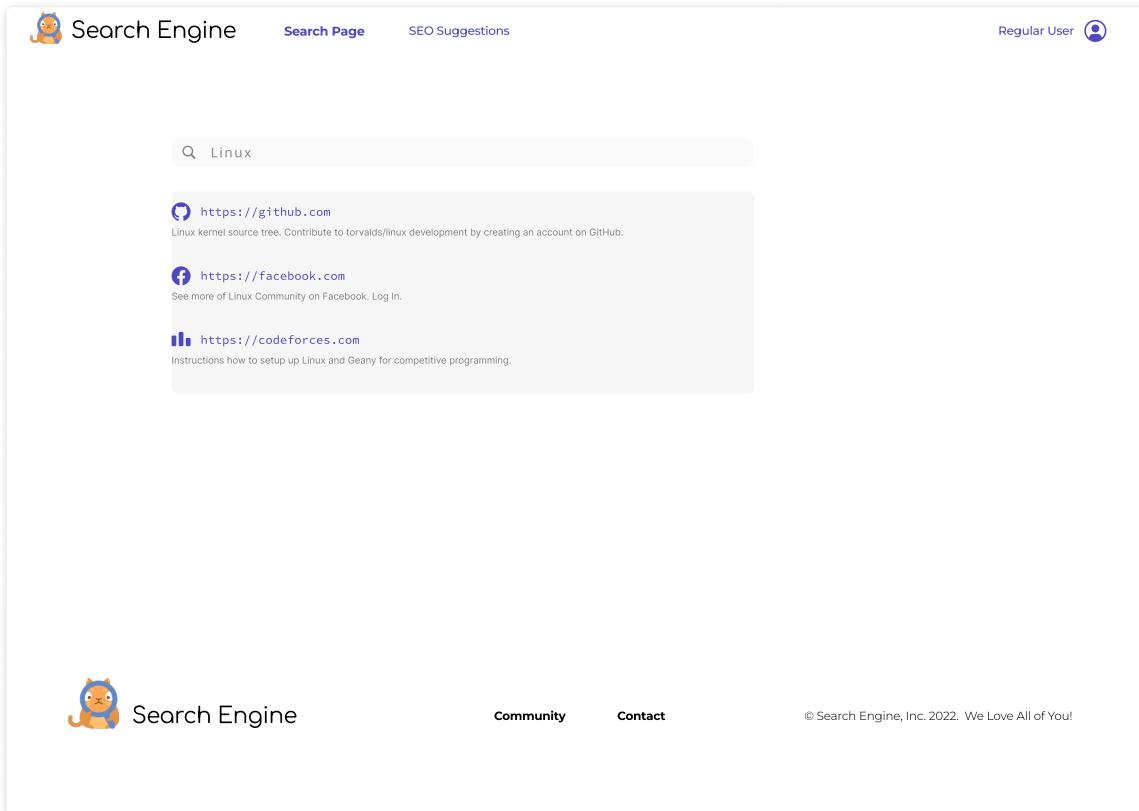


Figure 6: Search Result

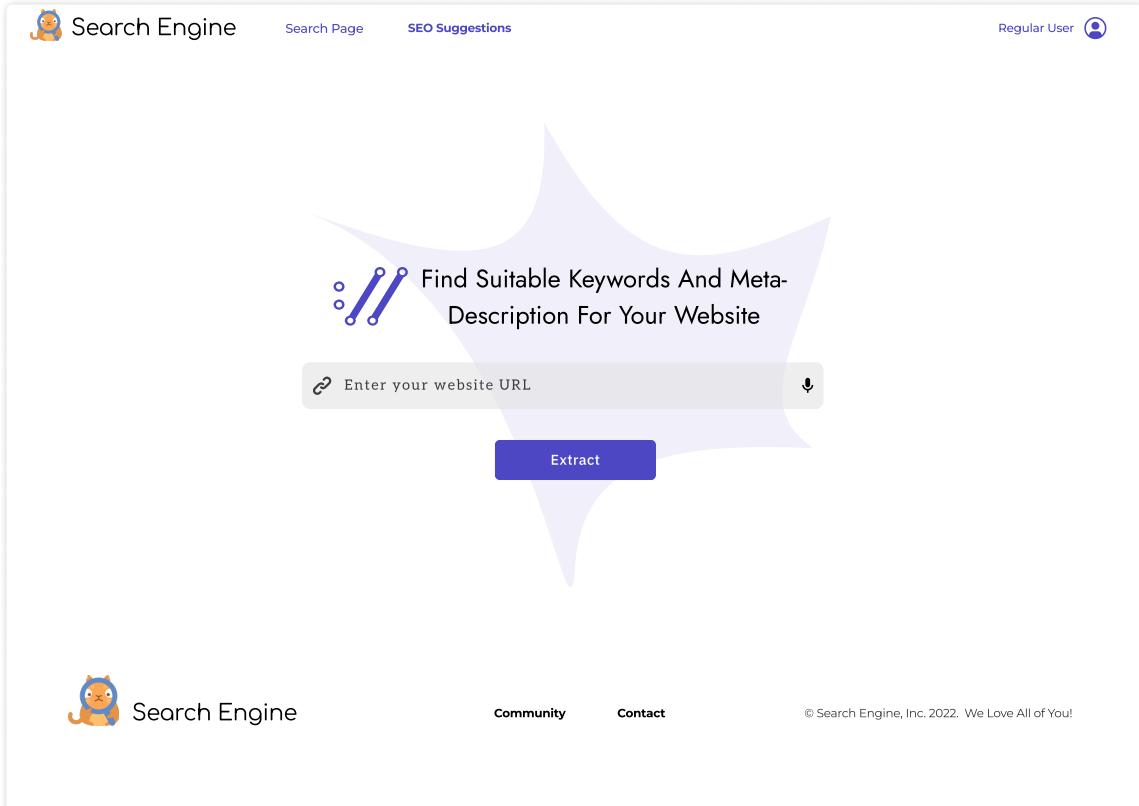


Figure 7: SEO Suggestions Search

The screenshot shows the "Search Engine" application interface. At the top, there is a navigation bar with a logo, the text "Search Engine", "Search Page", "SEO Suggestions", and a user profile icon labeled "Regular User". Below the navigation bar is a search bar containing the URL "https://github.com".

The main content area displays SEO suggestions for the query "https://github.com". It includes a section titled "Keywords:" with tags: "Code", "Open Source", "Pull Request", "Issue Tracking", "Bug fixes", "Git", "CI/CD", and "Project Documentation". Another section titled "Meta-Description:" contains the following text: "A provider of Internet hosting for software development and version control using Git. It offers the distributed version control and source code management (SCM) functionality of Git, plus its own features."

At the bottom of the page, there is a footer with the "Search Engine" logo, links to "Community" and "Contact", and a copyright notice: "© Search Engine, Inc. 2022. We Love All of You!"

Figure 8: SEO Suggestions Result