BOOK FINDER APPLICATION

High-Level Design Document

Document Version Control

Date Issued	Version	Description	Author
25-02-2023	1.0	Initial HLD	Ashish Kr Jha
28-02-2023	1.1	Final HLD	Ashish Kr Jha
01-03-2023	1.2	Final Version	Ashish Kr Jha

Contents

Document Version Control ……2
Abstract ……4
1. Introduction ……5
1.1 Why this High-Level Design Document? ……5
1.2 Scope ……5
1.3 Definitions ……5
2. General Descriptions ……6
2.1 Product Perspective ……6
2.2 Problem Statement ……6
2.3 Proposed Solution ……6
2.4 Further Improvements ……6
2.5 Project Requirements ……6
2.6 Tools Used ……6
2.7 Constraints ……7
2.8 Assumptions ……7
3. Design Details ……8
3.1 Process Flow ……8
3.2 Development Process ……8
3.3 Error Handling ……9
4. Performance and Accessibility ……10
4.1 Resuability ……10
4.2 Application Compatibility ……10
4.3 Resource Utilisation ……10
4.4 Deployment ……10
5. Conclusion ……11

Abstract

The book finder application is a web app where users can find book summaries and browse through it to find the next book they read. They can also search for the books and view detailed information about the books. This application uses the Google Books API to fetch the meta-data of the books. Using this application users can the books by title, author, and keywords in the descriptions of the books.

1. Introduction

1.1 Why this High-Level Design Document?

The purpose of this High-Level Design (HLD) Document is to add the necessary detail to the current project description to represent a suitable model for coding. This document is also intended to help detect contradictions prior to coding and can be used as a reference manual for how the modules interact at a high level.

The HLD will:

- Present all of the design aspects and define them in detail
- Describe the user interface being implemented
- Describe the hardware and software interfaces
- Describe the performance requirements
- Include the design features and the architecture of the project
- List and describe the non-functional attributes like
  - Security
  - Reliability
  - Maintainability
  - Portability
  - Reusability
  - Application compatibility
  - Resource utilization
  - Serviceability

1.2 Scope

The HLD documentation presents the structure of the system, such as the database architecture, application architecture (layers), application flow (Navigation), and technology architecture. The HLD uses non-technical to mildly-technical terms which should be understandable to the administrators of the system.

1.3 Definitions

Term	Description
API	Application Programming Interface
CRA	Create React App
TS	Typescript
CSS	Cascading Style Sheet
HTML	Hyper Text Markup Language

2. General Description

2.1 Product Perspective

The Book Finder Application will help the users to find the next book they want to read by showing them the books in the space and also helps them to find details of books they want to read

2.2 Problem Statement

- To create a book meta-search site. The books are aggregated in one place and when a user searches for a book then the application will search for the book and if found then return it
- To design a page where users can search for the book. After the search is initiated check the book and if found display the books on the front end
-

2.3 Proposed Solution

The solution proposed here is a web application that uses Google Books API to fetch the metadata of the books. And Explore the book details

2.4 Further Improvements

This project can be improved by allowing users to check out the summary or short description of the book to give them a better idea if the book is to their liking

2.5 Project Requirements

In this project we need Meta data of books which is fetched from the Google API. We can also display the Books details along with a description.

2.6 Tools Used

In this project we are using React Library along with Typescript to build this application. To prevent excessive use of external dependencies we have used Context API as a state management tool

- VS Code as Code Editor
- Google Chrome as a web browser
- React with Typescript to build Frontend of the App
- Tailwind CSS to handle the Styling of the elements on our website
- Google Books API to fetch metadata of the books
- Github as Version Control System

Figure 1:- Technologies Used

2.7 Constraints

The book finder application is a user-friendly web application which helps the user to find metadata of the books they wanted to search without any distractions.

2.8 Assumptions

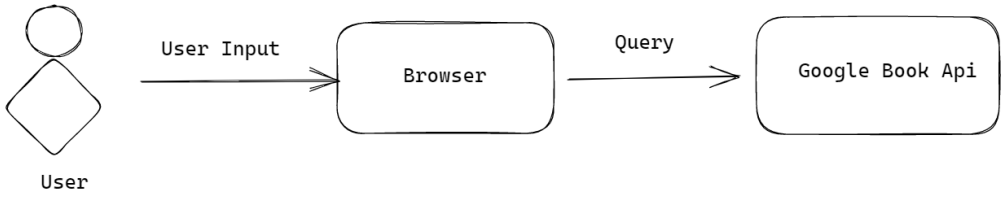
The main objective of the projects is to provide users with a distraction-free environment to search books(2.2 Problem Statement). The input search query comes from the user, we assume that the users are aware of the book titles or authors and want to find the metadata i.e., more information about the book they wanted to read

3. Design Details

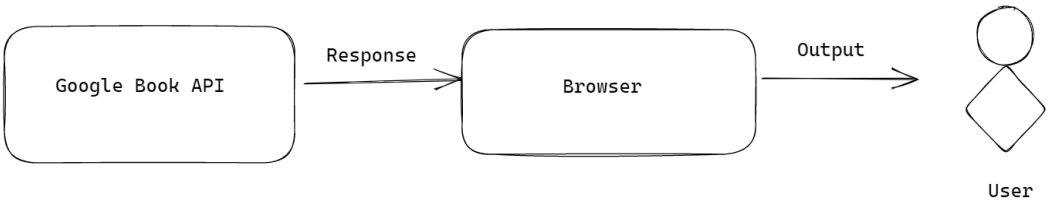
3.1 Process Flow

To fetch metadata of a book we take input from the client and request Google Books API then we show that response to the client in an intuitive way. The process flow diagram is shown below.

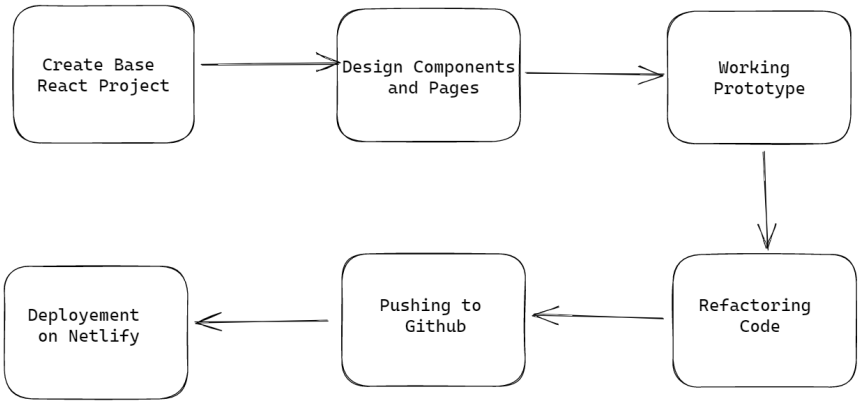
Client Requesting Data



Server Responding



Development Process



Error Handling:

The Project was made using Typescript with strict type checking prevent some of the usual bugs. An error is any unexpected behavior in the application and should it arise it will be displayed and as future versions are released the Application will become more optimized.

4. Performance and Accessibility

The Book Finder Application should be having high performance i.e., faster page loads and less payload in API calls. And it should be following good practices for accessibility and further accessibility options will be added.

4.1 Reusability

The code written and the components used, have the ability to be reused.

4.2 Application compatibility

This project is cross-platform supporting i.e., we should support mobile and desktops also.

4.3 Resource utilization

When any task is performed, it will likely use all the processing power available until that function is finished.

4.4 Deployment

For this application we choose **Netlify** for hosting our application because of its ease of use and it is comparatively cheaper when compared to its alternative

5. Conclusion

The Book Finder Application Provides a better way to search for the desired book and get some information on the book before purchasing it. It allows you to get all this information in a much more clutter-free environment with nice User interface.