

# Job Simulation: Book Explorer Application

**Project Title:** *Implementation of a Book Explorer*

**Role:** *Front-End Developer Intern – Dynamic Search & API Rendering*

**Technology Stack:** React, Material UI, useState, useEffect, useRef, Fetch API

## Objective:

To design and implement a **dynamic book search application** that allows users to search, view, and load books using data from the Open Library API. The project highlights **real-world API integration**, **debounced search**, and **infinite scroll** to enhance user experience.

## Features Implemented:

### 1. Live Search Functionality

- Users can search for books using keywords.
- Uses a `<TextField>` (Material UI) for a seamless UI.
- Debounced input using `useRef` and `setTimeout` prevents unnecessary API calls.

### 2. Book Grid Display

- Books are displayed in a card-based layout using Material UI's `<Grid>` and `<Card>` components.
- Each book card displays the **title**, **author**, and **cover image** (if available).

### 3. Infinite Scroll with Pagination

- More books are fetched as the user scrolls down.
- Scroll detection is implemented using `window.onscroll` and `IntersectionObserver`.

## 4. Loading Indicators

- Circular loaders (<CircularProgress>) show up while books are being fetched.

### Project Structure:

#### App.jsx

- Handles main layout, search term state, book data state, fetch logic, and infinite scroll.
- Uses useEffect for API fetching and useRef for debounce control.
- Appends new results to the existing list on scroll (pagination).

#### BookCard.jsx

- Reusable component to render individual book data.
- Accepts props like title, author, and cover\_id.

#### api.js

- Contains the fetch logic for retrieving book data using fetch().

### Learning Outcomes:


By completing this Book Explorer app, I gained:

- Experience integrating third-party APIs (Open Library).
- Knowledge of **React hooks** (useState, useEffect, useRef).
- Understanding of **debounce patterns** and performance optimization.
- Skills in **responsive UI design** using only Material UI components.
- Ability to build reusable components and manage application state efficiently.


## Project:

localhost:3000

☆ | 📄 | 🌐 | Error

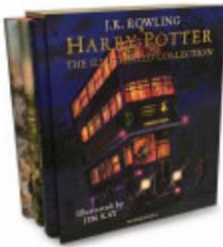


# Book Explorer



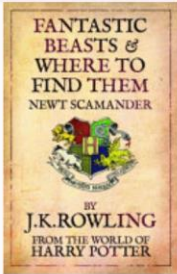
Harry Potter and the Cursed Child: The Official Script Book of the Original West  
J-K Rowling, Jack Thorne, John Tiffany

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Harry Potter - The Illustrated Collection  
J. K. Rowling

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Fantastic Beasts and where to Find Them  
J. K. Rowling

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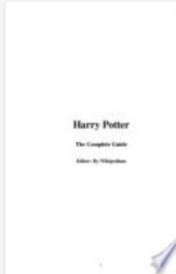
Harry Potter and the Deathly Hallows  
J. K. Rowling

[PREVIEW](#)




Harry Potter  
S. Gunelius

[PREVIEW](#)



Harry Potter  
Unknown Author

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101 Amazing Harry Potter Facts  
Jack Goldstein, Frankie Taylor

[PREVIEW](#)

## Project Preview:

The screenshot shows a web browser with multiple tabs open, including 'Intertribe', 'GitHub', 'Job Simulation: Bo', 'React Book Explor', 'Book Explorer', 'Harry Potter and th', and 'Harry Potter - the'. The address bar shows the URL: `books.google.co.in/books?id=GZAoAQAAIAAJ&q=harry+potter&dq=harry+potter&hl=&cd=7&source=gbs_api`. The Google search bar contains the text 'harry potter'. Below the search bar, the 'Books' section is visible, with a button to 'Add to my library'. A banner for 'Try the new Google Books' is present, with a 'Try it now' button and a 'No thanks' link. The main content area displays the search results for 'Harry Potter and the Deathly Hallows, Book 7' by J. K. Rowling. The book cover is shown, along with the author's name and a brief description. The description states: 'Harry Potter is preparing to leave the Dursleys and Privet Drive for the last time. But the future that awaits him is full of danger, not only for him, but for anyone close to him - and Harry has already lost so much. Only by destroying Voldemort's remaining Horcruxes can Harry free himself and overcome the Dark Lord's forces of evil. In this dramatic conclusion to the Harry Potter series, Harry must leave his most loyal friends behind, and in a final perilous journey find the strength and the will to face his terrifying destiny: a deadly confrontation that is his alone to fight.' A 'More »' link is provided. Below the book cover, there is a section titled 'From inside the book' with a search bar containing the text 'harry potter' and a 'Search' button. The search results show '81 pages matching harry potter in this book'.

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### Harry Potter and the Deathly Hallows, Book 7

J. K. Rowling  
Arthur A. Levine Books, 2007 - *Juvenile Fiction* - 759 pages

Harry Potter is preparing to leave the Dursleys and Privet Drive for the last time. But the future that awaits him is full of danger, not only for him, but for anyone close to him - and Harry has already lost so much. Only by destroying Voldemort's remaining Horcruxes can Harry free himself and overcome the Dark Lord's forces of evil. In this dramatic conclusion to the Harry Potter series, Harry must leave his most loyal friends behind, and in a final perilous journey find the strength and the will to face his terrifying destiny: a deadly confrontation that is his alone to fight.

More »

#### From inside the book

harry potter Search

81 pages matching harry potter in this book