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# IT Project Proposal: <Book Researcher API>

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**Project Introduction**

The Book Researcher API is a dynamic tool designed to develop library experiences for librarians and readers. It simplifies finding books across multiple library branches, using book titles or author names as search parameters. This API not only streamlines library operations but also significantly improves accessibility for readers, providing more efficient library network.

**Project objectives/Goal(s):** (be brief)

Why do you like to undertake this project?

* Enable librarians and readers to search for books across library branches based on title or author.
* Design attractive and easy-to-use user interface to allow users to access and search for books.
* Make sure the accuracy of data.

Project target customers

* Librarians
* Readers.
* Library book organizers.

Project Features

Must Have

1. Database Design:

* Books: Title, Author, ISBN, etc.
* Authors: Name, Biography, etc.
* Library Branches: Location, Contact Details, etc.
* Book Availability: Which branch has which book.

A screenshot of a computer

Description automatically generated

1. HTTP Methods Implementation:

* GET: Retrieve all books or a single book by ID.
* POST: Add new book records to the database.
* PUT: Update existing book records.
* PATCH: Apply partial updates to book records.
* DELETE: Remove book records from the database.

1. Sample data:

* Book.csv from github: [Click here](https://gist.github.com/jaidevd/23aef12e9bf56c618c41)
* A screenshot of a computer

  Description automatically generated
* Library branches: Toronto public library

Should Have:

1. Search Capabilities: options for filtering and sorting results.

**Projected Project Tools & Resources**(outline what you know at this point in time)

|  |  |
| --- | --- |
|  | **Project Needs** |
| Hardware | Laptop and desktop |
| Software | * C# * AWS RDS * Public Library’s API * Apigee * Docker * WPF * React |
| Other (Please specify) | What is a REST API? Beginner's Guide |

**Project challenges**

1. Building database both in real time and local.
2. Test database changes and accuracy between client and API.
3. Setting Apigee.
4. Connect Apigee with WPF in order to allow access to database.
5. How to create the public library’s API.
6. How to design the database.
7. How to update the database in real-time to avoid error.

**Project Reflection:**

From the technical perspective, we have learned how the entire API system works, from building the structure to deploying it in the cloud, and then consuming the API itself as a client.

From another perspective, we learned that we shouldn't be overly ambitious in our project. The requirement was to make two controllers, but we made five. This meant we didn't manage our time well and missed some things we were supposed to do. Additionally, we learned is to share work time equally. We spent a lot of time on the API and forgot that using the API as a customer was also important.

We will take these lessons to heart and aim for better performance in future projects.