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Seeking a Summer Internship Opportunity that will keep me out of my comfort zone and push me to make useful contributions, think innovatively and solve challenging problems.

I hope you enjoy the "main.go" code which is in this folder src\github.com\user\main, and the HTML templates in src\github.com\user\main\templates

Introduction

Although I have programmed extensively before, I had no experience in Go coming into this project. It has been an exciting couple of days learning this new language and building a simple web app.

Project Outline

The project is based on India's Unique Identification System, where each citizen of the country is assigned a unique identification number (UID) for various government benefit distribution programs and mechanisms.

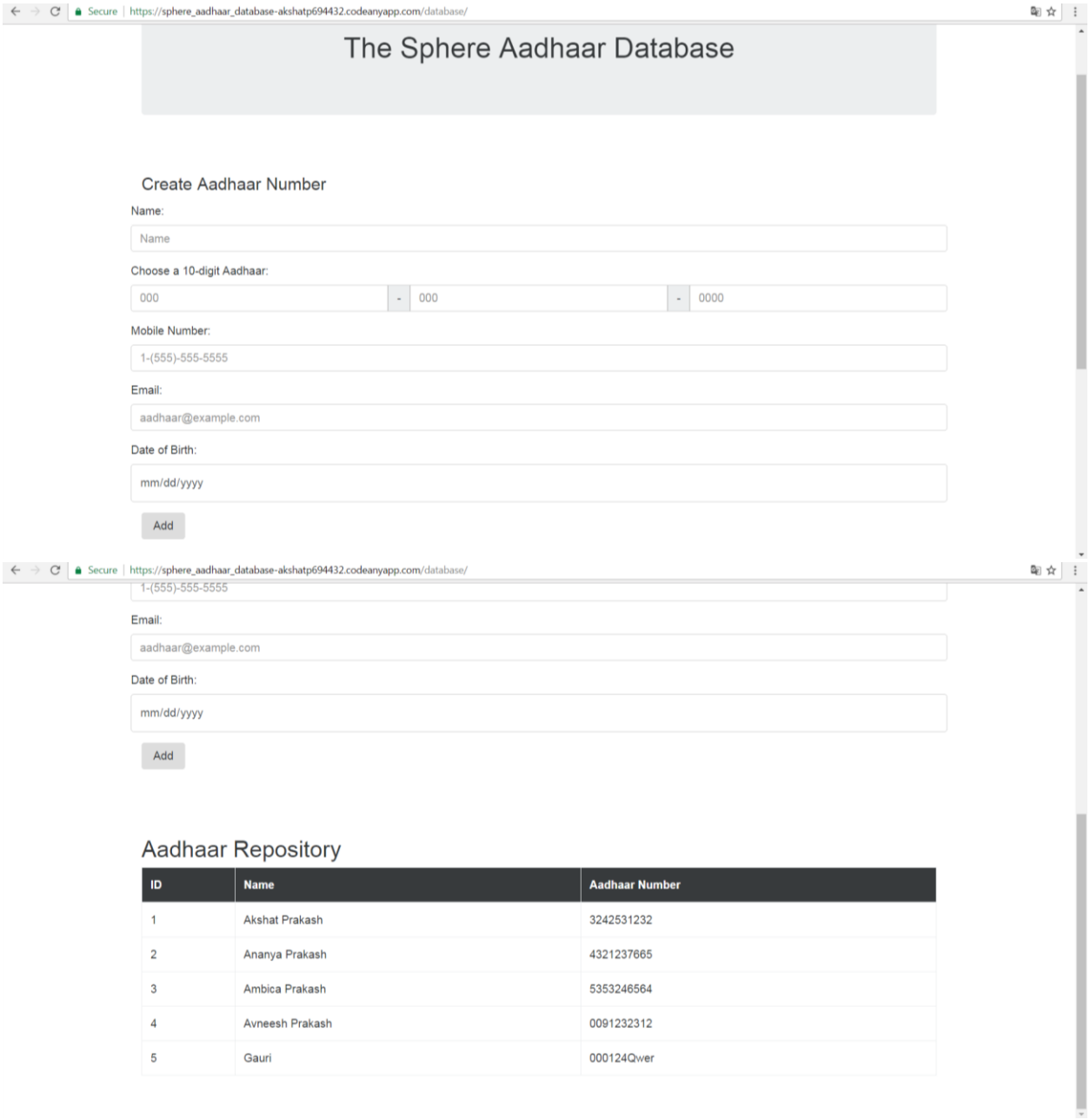
I created a simple web app that:

- Allows a user to sign up for a unique ID,
- Add himself/herself instantaneously to the server side database,
- Display the tabular database on the webpage in response.
- In addition, I created a simple json format API, that can allow one to query information of a user in a database and retrieve his/her info
- Also, I created a page where one can see all such API query calls made to date

Project Components

- **Aadhaar Sign up**
  At "localhost:3000/database/" (I set the port to be 3000 due to codeanywhere.com), one can fill in a form to add himself to the sql serverside database. The form does simple checks, constraints for user to fill in adequate information, however, the key feature of Aadhaar is that identity should be **unique.** For this purpose, I created a simple algorithm that can throw an error at a new user if he/she attempts to choose an Aadhaar UID number that already exists.
  Once a user fills the form and clicks add, the user is added to the database and the table is dynamically updated to show all the records in the database.

Below are some screenshots for context. Please go ahead and rigorously check for errors if needed.

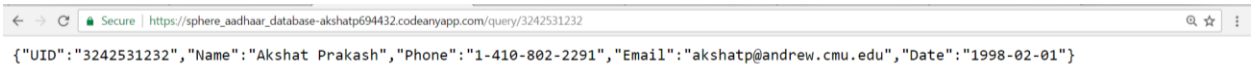


- **API**

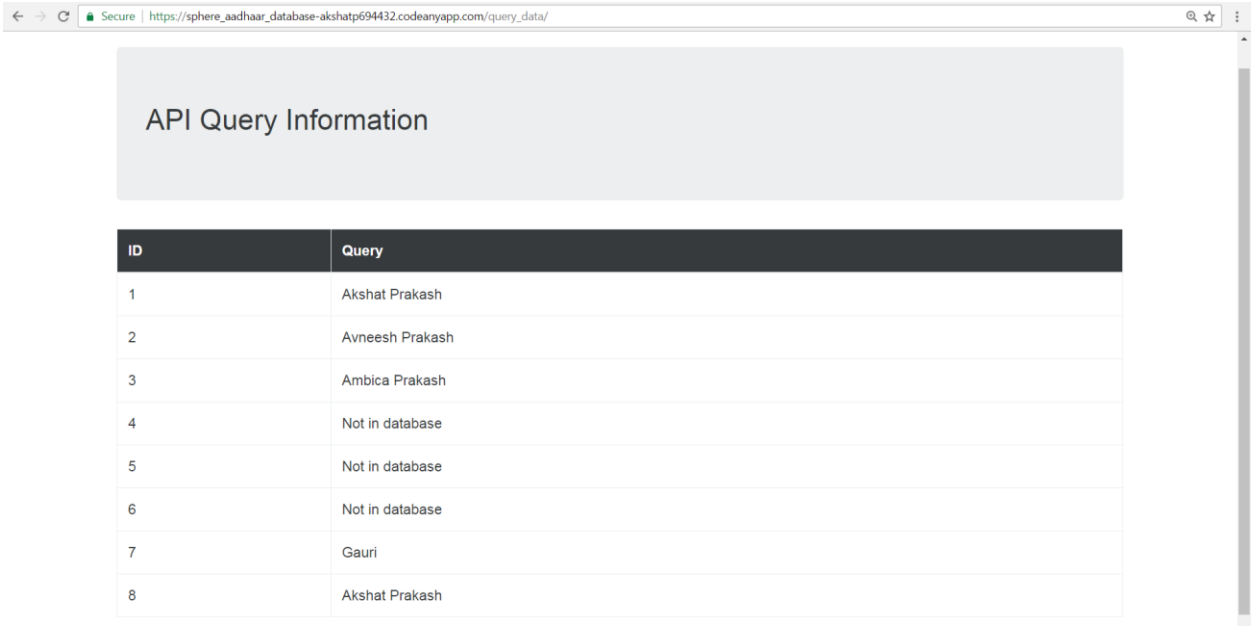
  At “localhost:3000/query/AADHAAR_NUMBER”, one can query information about a user in the database given the request holds the AADHAAR_NUMBER. I implemented this in the JSON format as a lot of APIs do. For example, given an Aadhaar number of 3242531232, localhost:3000/query/3242531232, gives back as JSON encoding of the information in the database linked to that number.

  Please go ahead and create a profile and try querying your Aadhaar ID. You can also check for edge cases as “what happens if I query a non-existent number etc”.

Throughout, the code I have handle as many edge cases as I could think of just to challenge myself to think more.
A screenshot is provided below for context



- **API Query Page**
  At "localhost:3000/query_data/", I also created dynamically updated table that tells one all API query calls made. This provides good information on how the API is being used and what queries are being made. Go ahead and keep shooting queries and check back to see if I caught you querying "xyz"! A screenshot is given below for context



Conclusion

Learing Go was great. After I had the basic assignment done, I wanted to challenge myself a bit more and make my project a bit more than what it was. Hence, I decided to create a simple API as well, multiple web pages, lots of edge cases handling, unique Aadhaar number identifier for deduplication etc.

I hope you enjoy the code which is in src\github.com\user\main, and the HTML templates are in src\github.com\user\main\templates

I look forward to your insights, suggestions and evaluation.