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Database system Design and the web

A Generic Multi-Dimensional Database Search Engine (MDB)

This project contains front-end, back-end, and middleware. Both Srilatha and gowthami worked on the whole project, with full-stack components in both systems up and running.

In Report, Gowthami decided to include the front end part and Srilatha giving a detail on the backend part.

Files included: app.py, gettables.py and index.html.

Front End: used JavaScript and entire code is embedded in HTML along with CSS.

Some of the functions used in JavaScript:

element.setAttribute and **element.getAttribute** method: used to set dynamic id and other attributes in JavaScript.

querySelector: To get the first element that matches with first element in javascript. (used for calling select).

addEventListener: This allows us to handle multiple events dynamically via javascript.

Ajax :

Fetch: Using fetch interface for making an ajax JavaScript request. We can perform CRUD operations with GET, POST methods, by setting CORS mode.

And then using then key word, which gets the response data id status code is 200.

Functionalities Performed:

Select a domain and getting questions:

Adding event listener to get the selected value and then requesting questions and displaying them.

Search and Results:

Getting all the selected and checked values from question and sending the request object of Json format.

Response is getting iterated in the results section.

Reset:

The form is getting reset here.

Adding user and getting bookmarks:

Whenever user enters his name then already existing bookmarks of that particular get displayed in bookmarks section.

His user id is sending as a request and response of bookmarks are displayed.

Adding and Deleting bookmarks:

Now based on the domain selected and user name of his bookmarks.

We can call mutations from GraphQL for deleting the bookmark and populating the bookmark.
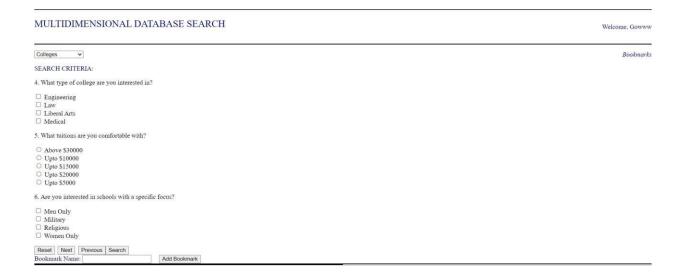
Add bookmark section is used to add additional or new bookmark after user login.

Pagination:

Initially pagination is working, but states of current elements are not populating after clicking on next and prev buttons. So, we removed pagination at last, to get correct search results. (displayed 3 questions per page)

Example:

Colleges ⌄

SEARCH CRITERIA:

4. What type of college are you interested in?

☐ Engineering
☐ Law
☐ Liberal Arts
☐ Medical

5. What tuitions are you comfortable with?

○ Above $30000
○ Upto $10000
○ Upto $15000
○ Upto $20000
○ Upto $5000

6. Are you interested in schools with a specific focus?

☐ Men Only
☐ Military
☐ Religious
☐ Women Only

Reset | Next | Previous | Search
Bookmark Name: [_____] | Add Bookmark

Bookmarks

Back End:

The Backend database used is MYSQL Workbench. Wes used the colleges and automobiles provided to us. We used python 3 to write our programs.

- Files:

app.py – This file adds the URL for server and it imports GRAPHQL schema from the file gettables.py.

gettables.py – This file contains all the GRAPHQL queries (to retrieve data from tables) and mutations (to modify data of tables)

- We can run the listener app.py file first and then the Front-end html file can be run. Then all queries can be executed.
- Using the queries, we are to display questions, options and results and Mutations are used to create and delete bookmarks and user records. ◻ Initial Page

MULTIDIMENSIONAL DATABASE SEARCH

userid [_____]

Select a Domain ⌄

SEARCH CRITERIA:

RESULTS

Bookmarks

- Page After User login with bookmarks and ability to perform add and delete on bookmarks.

Select a Domain ⌄

SEARCH CRITERIA:

RESULTS

- Search showing results

Automobiles ⌄

SEARCH CRITERIA:

1. Which cars are you interested in?

☐ Certified Cars
☐ New Cars
☐ Used Cars

2. Which body styles are you considering?

Convertible
Coupe
Hatchback
Sedan

3. Which manufacturer are you considering?

Acura
Audi
Bentley
BMW

4. What age cars are you considering?

○ Between 2 and 5 years old
○ Between 5 and 10 years old
○ Less than 2 years old
○ More than 10 years old

9. Do you need a Sunroof?

○ No
○ Yes

10. Do you need Luxury Seats?

○ No
○ Yes

11. What transmission do you prefer?

○ Automatic
● Manual

12. What fuel type do you prefer?

☐ Alternative
☐ Diesel
☐ Gasoline

[Reset] [Next] [Previous] [Search]

Bookmark Name: [_____] [Add Bookmark]

RESULTS

autoId	url
a140	https://www.carvana.com/vehicle/2169335
a202	https://www.carvana.com/vehicle/2169335
a207	https://www.carvana.com/vehicle/2169335
a34	https://www.carvana.com/vehicle/2169335
a58	https://www.carvana.com/vehicle/2169335
a77	https://www.carvana.com/vehicle/2169335

- If no records are available, this message will get displayed.

9. Do you need a Sunroof?

○ No
○ Yes

10. Do you need Luxury Seats?

○ No
● Yes

11. What transmission do you prefer?

○ Automatic
● Manual

12. What fuel type do you prefer?

☑ Alternative
☑ Diesel
☑ Gasoline

[Reset] [Next] [Previous] [Search]

Bookmark Name: [_____] [Add Bookmark]

RESULTS

No records are available for this search

- The below screenshot displays **a scenario where 5 bookmarks are already there** and the add bookmark section is disabled.

9. Do you need a Sunroof?

○ No
○ Yes

10. Do you need Luxury Seats?

○ No
○ Yes

11. What transmission do you prefer?

○ Automatic
● Manual

12. What fuel type do you prefer?

☐ Alternative
☐ Diesel
☐ Gasoline

[Reset] [Next] [Previous] [Search]

Bookmark Name: [fav1] [Add Bookmark]

RESULTS

autoId	url
a140	https://www.carvana.com/vehicle/2169335
a202	https://www.carvana.com/vehicle/2169335
a207	https://www.carvana.com/vehicle/2169335
a34	https://www.carvana.com/vehicle/2169335
a58	https://www.carvana.com/vehicle/2169335
a77	https://www.carvana.com/vehicle/2169335

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sftp://sjammigumpula1@tinman.cs.gsu.edu - FileZilla

File Edit View Transfer Server Bookmarks Help

Host: sftp://tinman.cs.gs   Username: sjammigumpula1   Password: ●●●●●●●●●●●●●●   Port: [   ]   [Quickconnect] ▼

Status: Directory listing of "/home/students/sjammigumpula1/Project1" successful
Status: Retrieving directory listing of "/home/students/sjammigumpula1"...
Status: Directory listing of "/home/students/sjammigumpula1" successful

Local site: C:\Users\srila\Desktop\DBW\Project2\
Remote site: /home/students/sjammigumpula1/Project1

- DBW
  - Project2
    - XQUERY
    - XSD
    - XSLT
  - mdb

- 2
  - XQUERY
  - XSD
  - XSLT
- Project1

Filename	Filesize	Filetype	Last modified
..			
XQUERY		File folder	2/17/2023 ...
XSD		File folder	2/17/2023 ...
XSLT		File folder	2/17/2023 ...
2.zip	55,656	Compresse...	2/17/2023 ...

Filename	Filesize	Filetype	Last mod...	Permis...	Owner/...
..					
__pycache__		File fol...	2/1/2023...	drwxr-...	sjammi...
DB		File fol...	2/1/2023...	drwxr-...	sjammi...
app.py	354	Python...	2/1/2023...	-rw-r--...	sjammi...
Databaseand...	797,7...	Micros...	2/1/2023...	-rw-r--...	sjammi...
db (1).json	15,139	JSON ...	2/1/2023...	-rw-r--...	sjammi...
gettables.py	18,374	Python...	2/1/2023...	-rw-r--...	sjammi...
index.html	40,986	Micros...	2/1/2023...	-rw-r--...	sjammi...

Selected 1 file. Total size: 55,656 bytes
5 files and 2 directories. Total size: 872,631 bytes

Server/Local file	Dire...	Remote file	Size	Prio...	Status

[Queued files] [Failed transfers] [Successful transfers (1)]

Queue: empty

41°F Mostly cloudy   Q Search   5:20 PM 2/17/2023

Project 1 submission is made in time into the server but I couldn't make handin. After discussing with professor in class today, he asked us to submit along with the screenshot of regular submission. Please consider this as regular submission.