End-user search queries on datasets (NoSQL)

SUBMITTED BY:

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Tech stack

Front end - HTML CSS JS
Back end - Python, and for web tech, we will use Flask
Database - MongoDB (NoSQL db)

Deliverables

We will deliver an end-to-end system with the proper front end/ dashboard, which will give some search options, through which the queries will be taken from the user. Then these queries will be processed on the NoSQL database, and the result will be shown to the user. Our aim will be to optimize the searching in large-scale databases.

Groups that can be linked

4. Privacy-enabled analytics on datasets - since we are trying to optimize the database, it would be great if it can be combined with privacy on the database.
5. User Authentication service - We will try to authenticate the user who executes queries in the database.

Detailed Requirement Specification

INPUT –
- Different databases containing different tables will be provided as input to the application.
- The user will be provided with 2 interfaces: the simple query UI & the complex query UI
- The simple query UI will provide real time searching from databases to provide the answer. The user will be given drop down menus which will change according to the previous choice. This will be a simplified interface version of simple queries.
- The complex query UI will directly provide the query and the output will be provided.

High Level Design
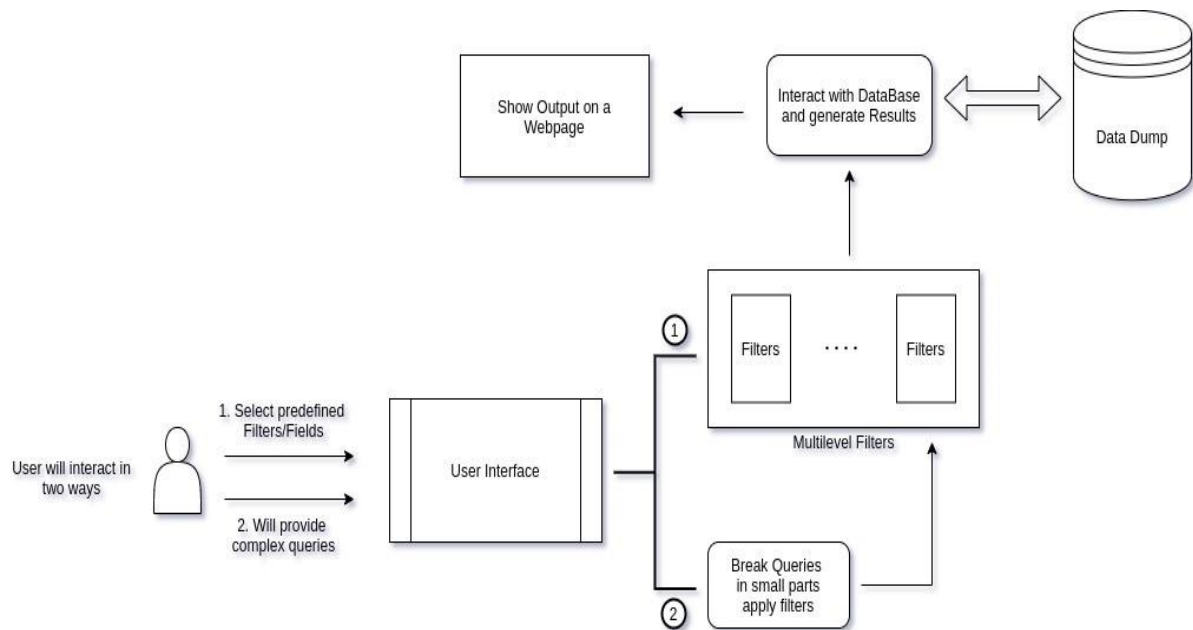
Functional & Non-Functional Requirements

Functional Requirements

- Back-end of the application: Different databases containing different tables will be provided as input to the application.
- Front-end of the application: The user will be provided with 2 interfaces: the simple query UI & the complex query UI
  - The simple query UI will provide real time searching from databases to provide the answer. The user will be given drop down menus which will change according to the previous choice. This will be a simplified interface version of simple queries.
  - The complex query UI will directly provide the query and the output will be provided.
- The queries provided by the user will be simplified and processed in the backend on the dataset provided. Then the filtered data from the query i.e., the output will be displayed to the user.

Non-Functional Requirements

The non-functional requirements are: -

a. Performance: The aim of the project will be to minimize the response time & the query processing time.
b. Compatibility: We will try to make the web application compatible for different operating systems and different browsers.