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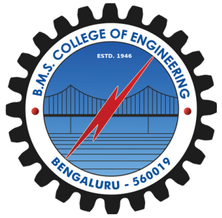

Open Source Finder

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Agenda

- Introduction
- Abstract
- Initial Architecture
- APIs - Libraries.io
- Implementation of Backend API using Flask
- Elastic Search - Fuzzy Logic
- Demo
- Learnings
- Next steps - (Novel Idea)

Introduction

- Open source software is chosen because it can be easily modified or customized to meet a business problem, and it is highly stable.
- Using OSS is considerably cheaper than building software from scratch.
- Choosing an OSS from a considerably large pool of OSS available in the market, we need to look into various factors that takes up lot of time and effort.
- Our project is a solution to this problem. The system designed will present the appropriate OSS required based on one's needs

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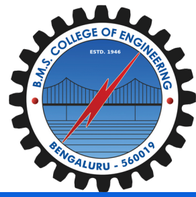

Abstract

- Open Source Finder is an open-source application that allows users to search for open-source components for their projects.
- It provides a user-friendly interface to discover and explore various open-source repositories based on specific criteria such as license and platform.
- With Open Source Finder, developers can easily find and integrate open-source components into their projects, saving time and effort.

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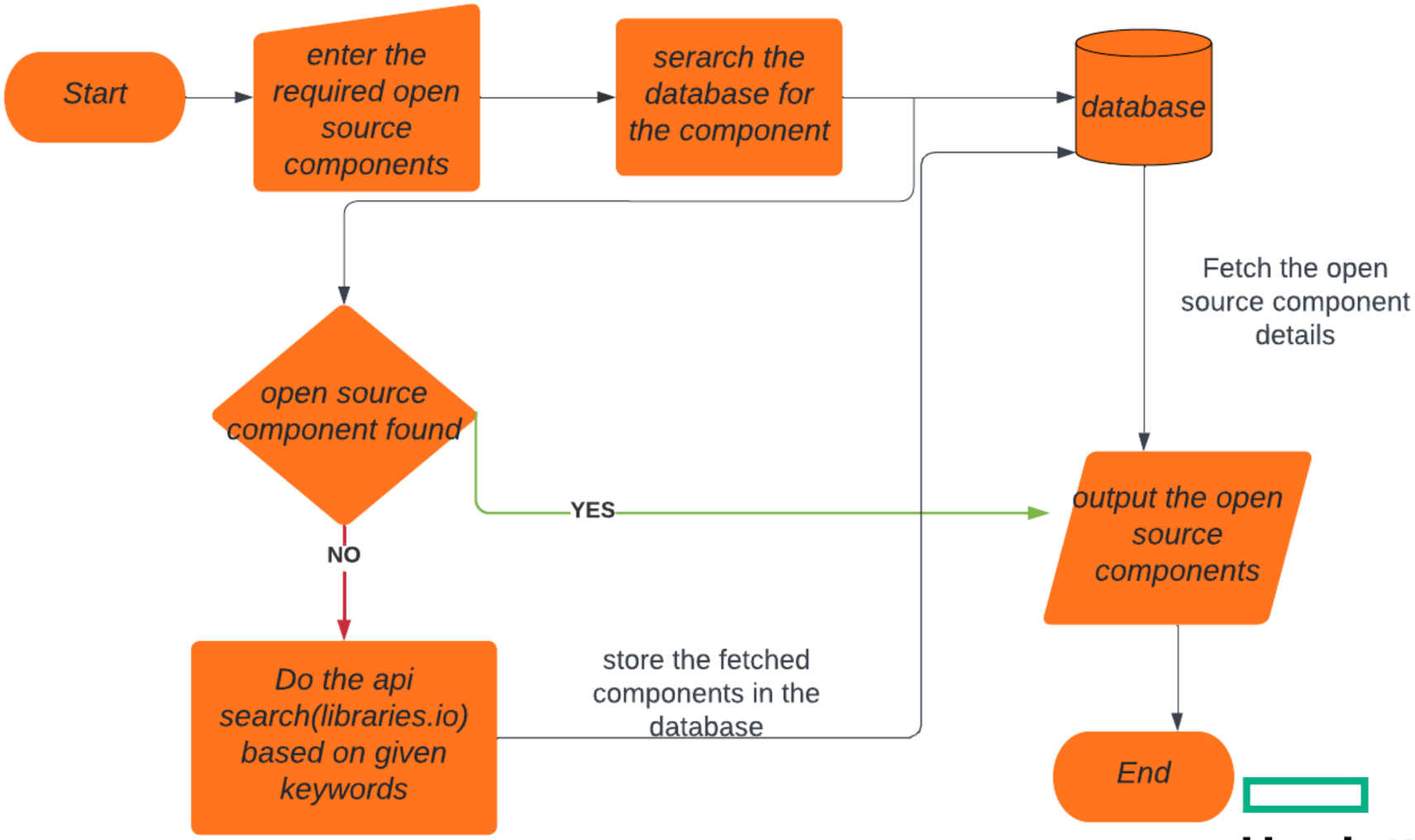
Initial architecture



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API's Libraries.io

The Libraries.io API allows you to search for open source components and retrieve information about them. Here is a breakdown of how to use the Libraries.io API:-

- Registration: Create an account and obtain an API key from Libraries.io. The API key will be used to authenticate your requests.

- Search for components: Use the search endpoint to find open source components based on various parameters such as keywords,licenses,languages and platform.

- Retrieve required information: Once we obtain the required component, we make a request to the API endpoint for retrieving various components information. This may include details like the component's name, description, version, license, repository URL and maintainers.

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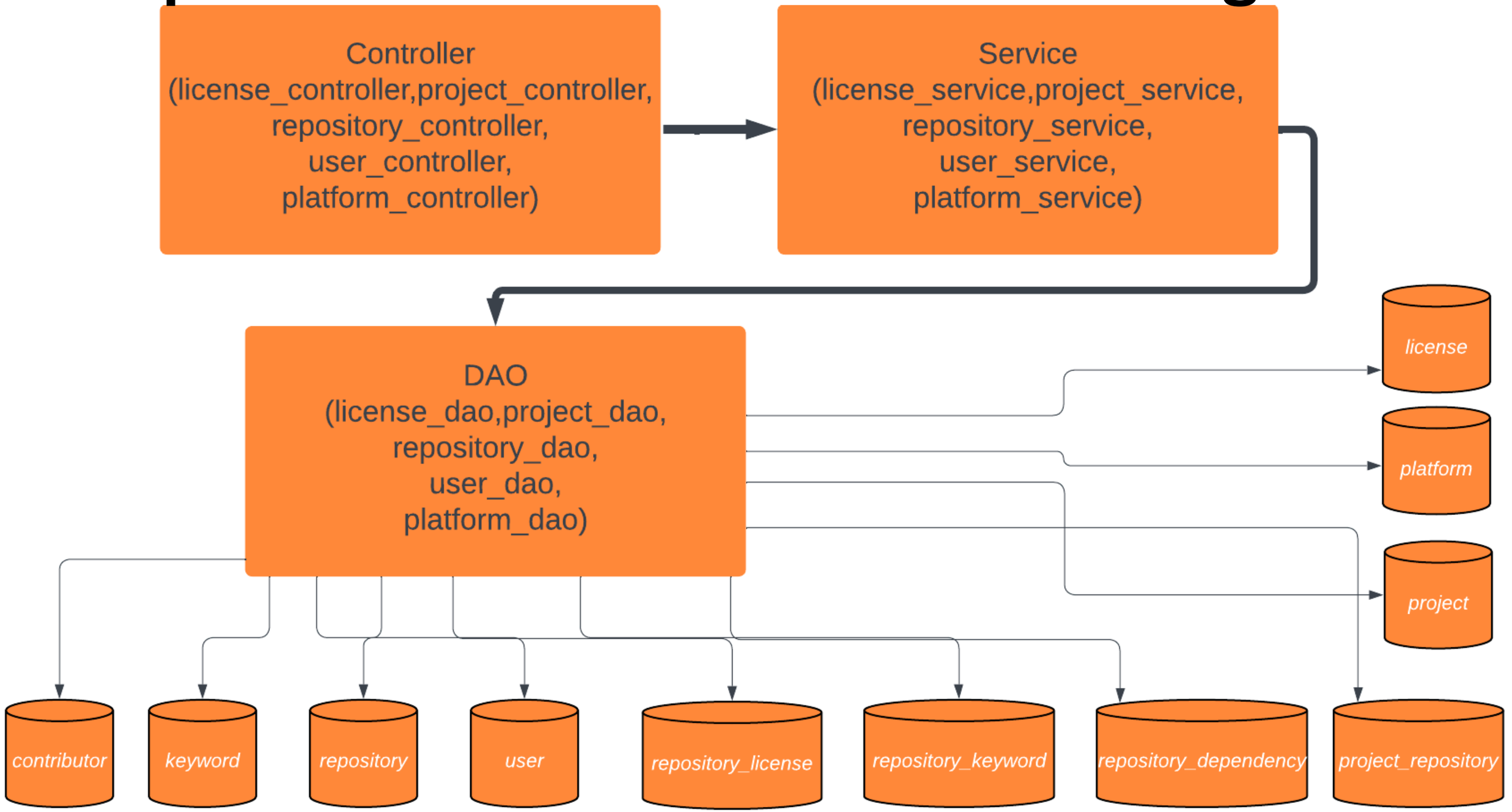
Implementation of backend API using Flask



Elastic Search - Fuzzy Logic

Fuzzy logic is a technique used in information retrieval to account for approximate matches and handle typographical errors or variations in search queries.

- Fuzzy Query: Elasticsearch provides a Fuzzy Query feature that allows you to search for terms that are similar to a specified term, taking into account variations like misspellings user can search for the components even if the keyword is incorrect.

- Edit Distance: Fuzzy matching in Elasticsearch is based on the concept of edit distance. Elasticsearch uses the Levenshtein distance algorithm to calculate the edit distance.

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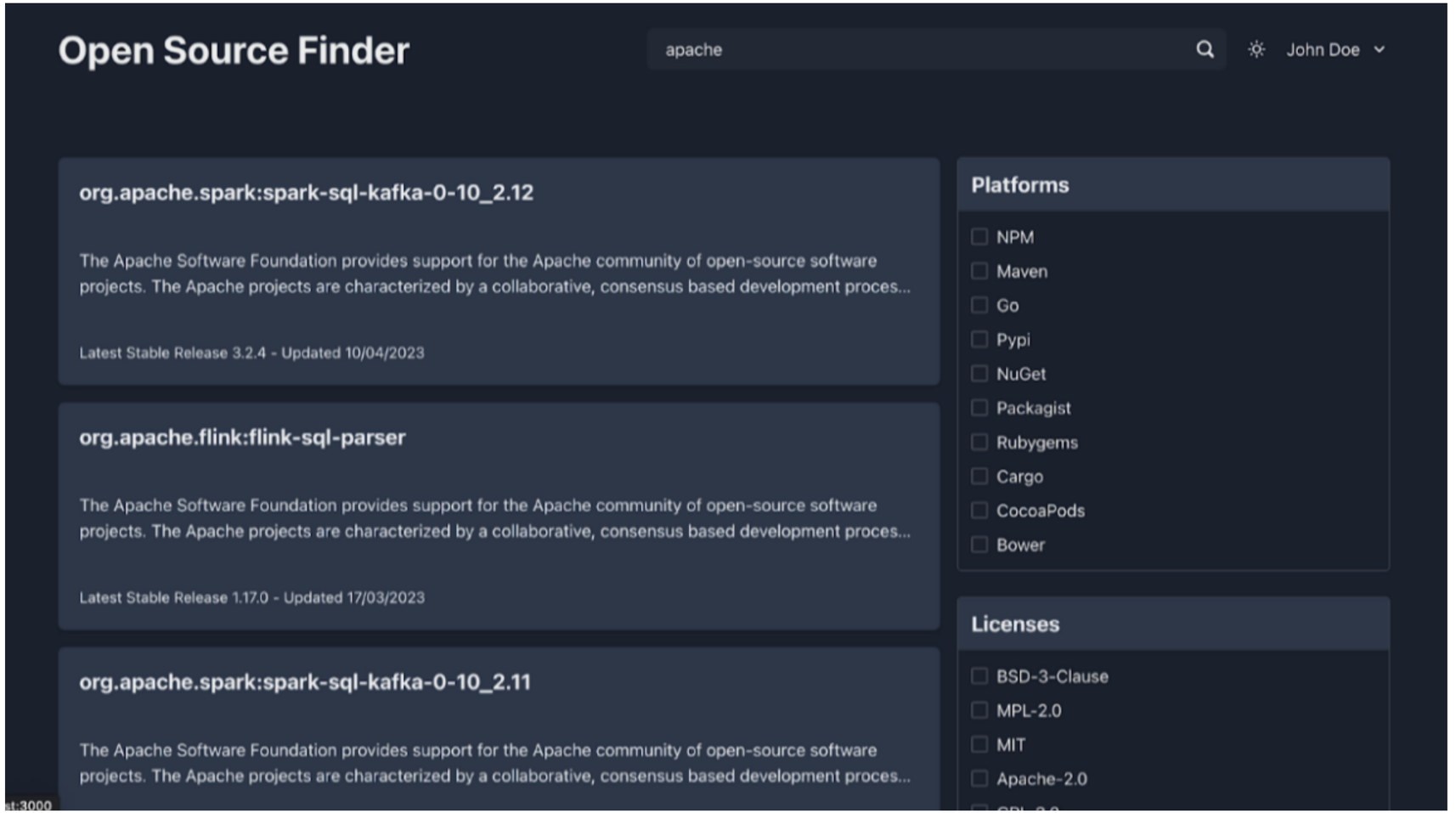
Demo



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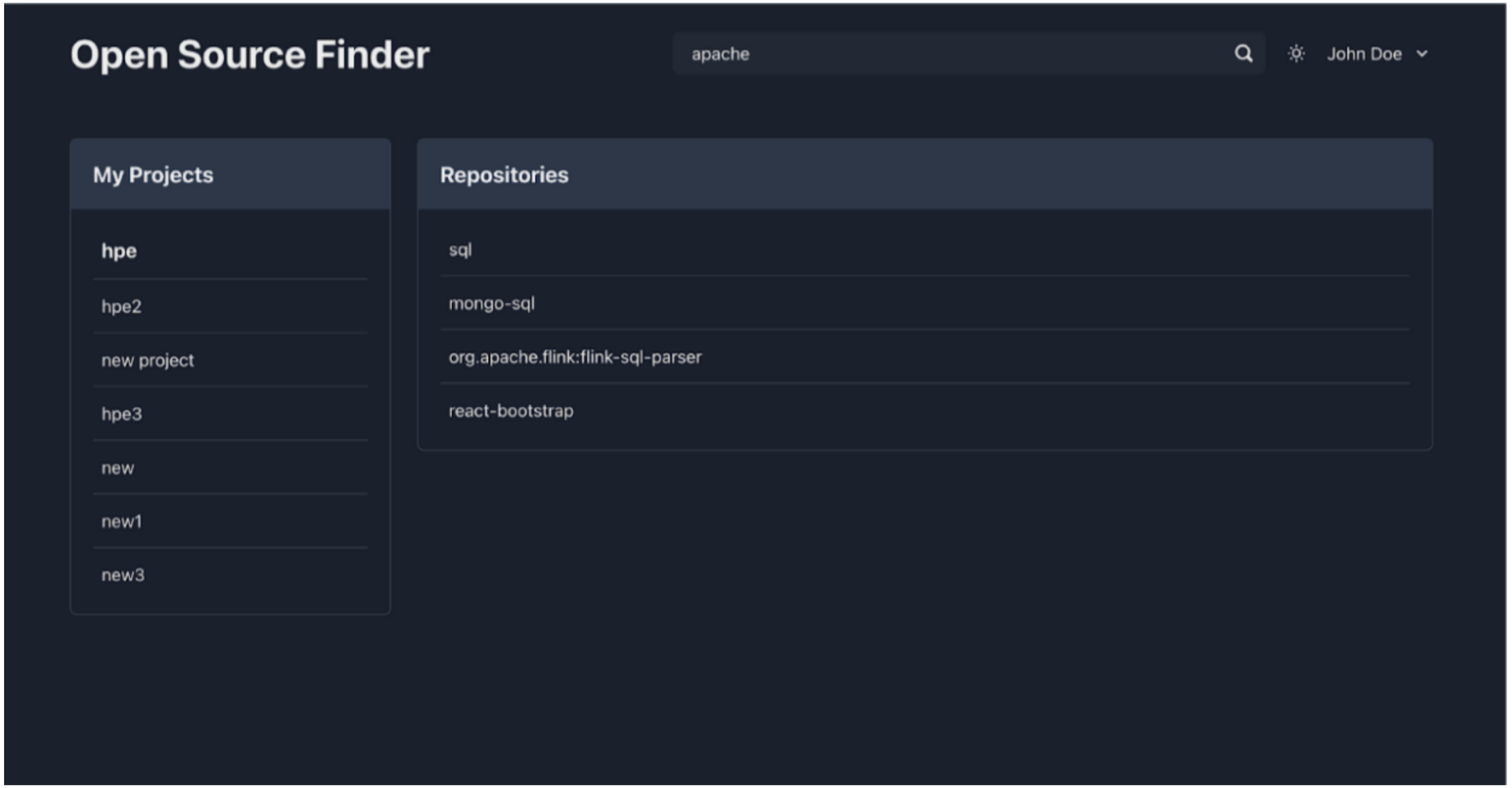

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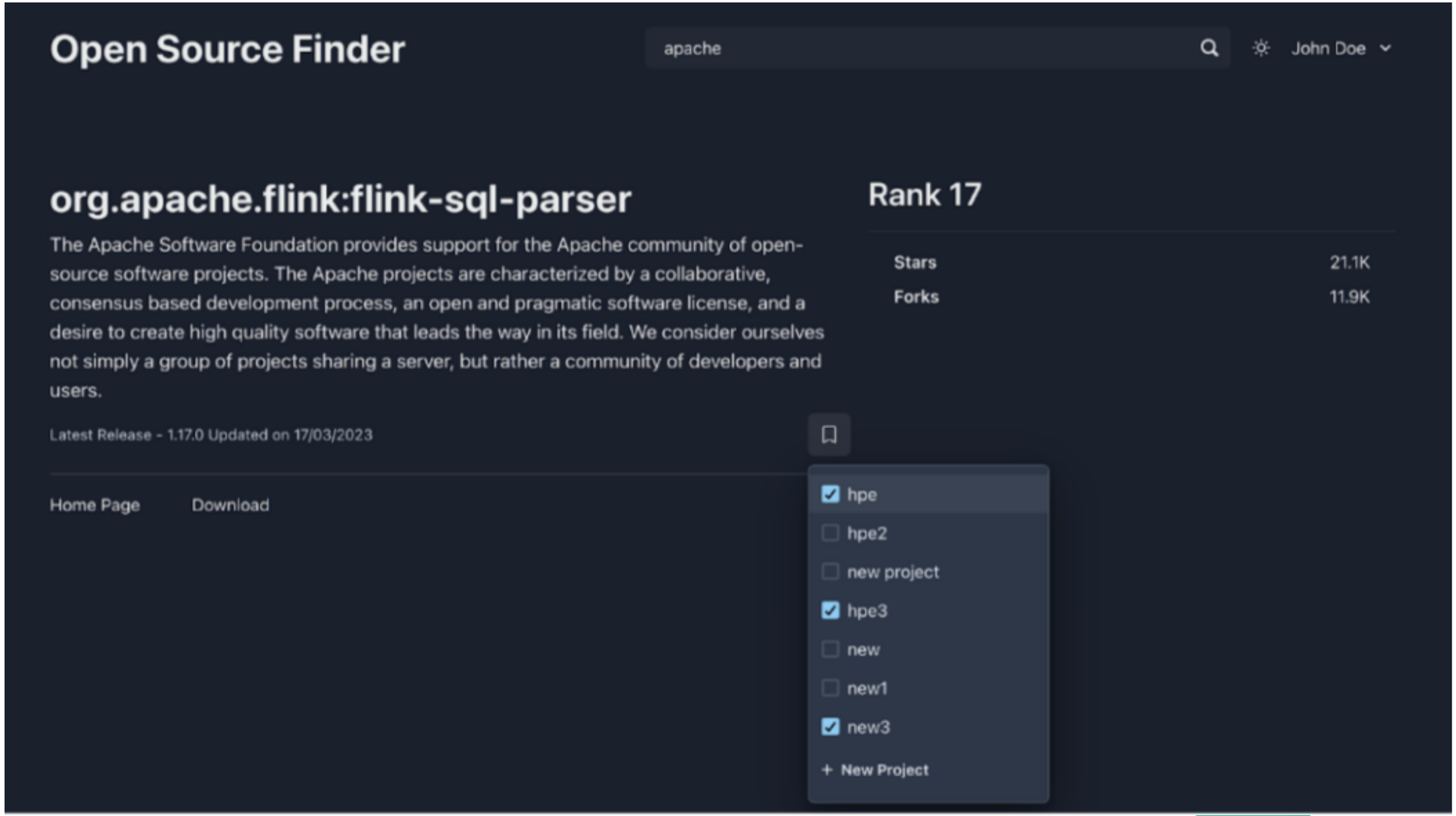

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Learnings

- Introduction to fuzzy logic using Elastic-search.
- Good understanding of mvc architecture.
- Introduction to openai and langchain to train a large language model for building a generative AI.

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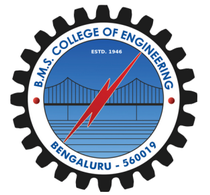

Next Step

- Build a generative AI chatbot by training a large language model with data extracted from the database.
- Integrate a user-friendly form that enables users to manually input and add open-source components to the system.
- Implement a validation mechanism to ensure the integrity and quality of the fetched open-source components.

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Any Questions?

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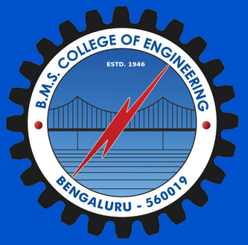

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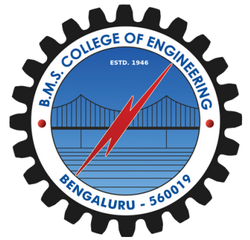

Thank You