



# Codebase

Seth Hanusik, Matthew Schlager, and James Wilfong

Advisor: Yizong Cheng



# Goals

Abstract: Codebase is a web application designed for storing code snippets to be shared and discussed online. It implements advanced searching techniques that allow users to find desired code and reusable code faster than current options.

Goals:

1. Implementation of a modern user interface
2. Implementation of modern user management and account security
3. Employ elasticsearch to filter and search content
4. Provide online compiling for a subset of languages



# Intellectual Merits

CodeBase provides users an online repository designed for storing code blocks and facilitating conversation.

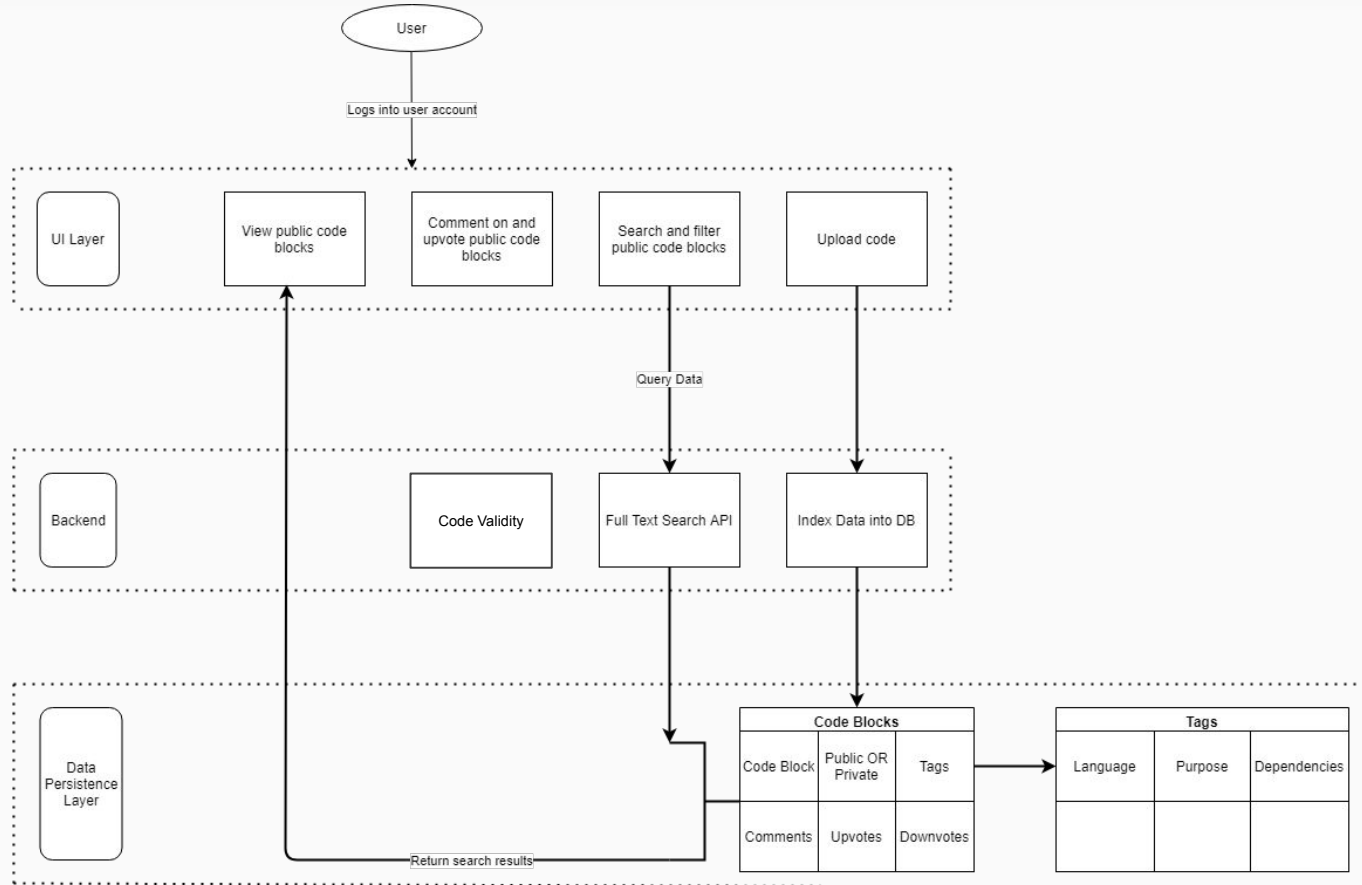
1. Simple UI that allows users to interact and explore code blocks
2. Implementation of ElasticSearch and Docker
3. Online code compilation for multiple languages



# Broader Impacts

1. Allows easier and more straightforward sharing of knowledge among users.
2. Promotes growth and learning as users can interact with each other and suggest improvements to existing code.
3. Development of common code will become easier and more efficient.

# Design Specifications



# Technologies

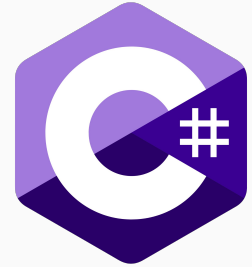


VueJS: JavaScript framework for building user interfaces built on top of standard HTML, CSS and JavaScript

Bootstrap: CSS Framework for developing responsive and mobile-first websites

ElasticSearch: a full-text search engine allowing us to quickly search for user queries without the need for SQL

JDoodle API: online API service to compile and execute Programs online via APIs (Java, C/C++, PHP, Perl, Python, Ruby and many more languages)





## Research

9/15 - 12/15/2021

1. Research options for database to determine the best option for storing our data
2. Research different JS frameworks
3. Research possible back-end frameworks

## Database & UI Design

12/15 - 1/15/2022

1. Design code snippet, comment section, and overall UI layer
2. Test and develop a schema for the database and how the data will be structured

## Development

1/15 - 3/1/2022

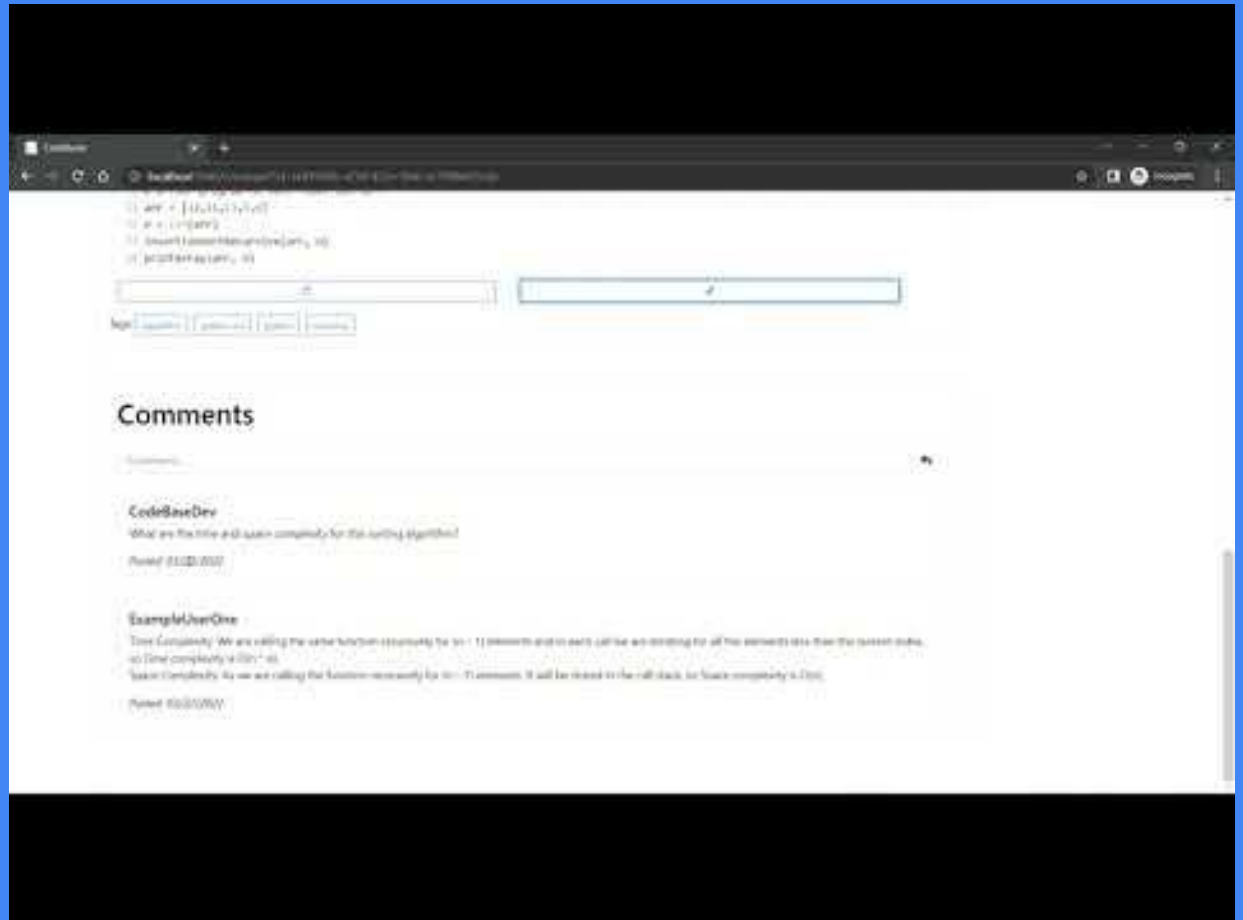
1. Write code to handle user registration, filtering of code snippets, sorting of code snippets.
2. Integrate the database into project architecture.
3. Develop and implement UI layer

## Integration

3/1 - 3/22/2022

1. Combining the front-end and back-end to create a fully functional web application meeting the standards defined

# Demo...







# Results

## Accomplishments:

- Creating a functioning web application capable of storing and compiling user code blocks
- Implementing full text search using elasticsearch
- Providing a space for discussion and voting on given code blocks

## To do:

- Implement user security and login
- Ensure security of code blocks and protect against the storage of volatile code
- Improve UI navigation and ease of use



# Challenges

Throughout the designing, implementation, and integration of CodeBase the development team was faced with many challenges and obstacles to overcome.

1. Ensuring CodeBase separates itself from other code storage options like GitHub and GitHub Gists.
2. Implementing ways for users to experiment and compile code through a web browser.
3. Maintaining consistent and scheduled development while working as full-time students.