



Engine

- Explore the infinite web

About Infinity Engine

Infinity Engine is an elegant and quick-responsive search engine which is inspired from the commonly-known Google search engine.

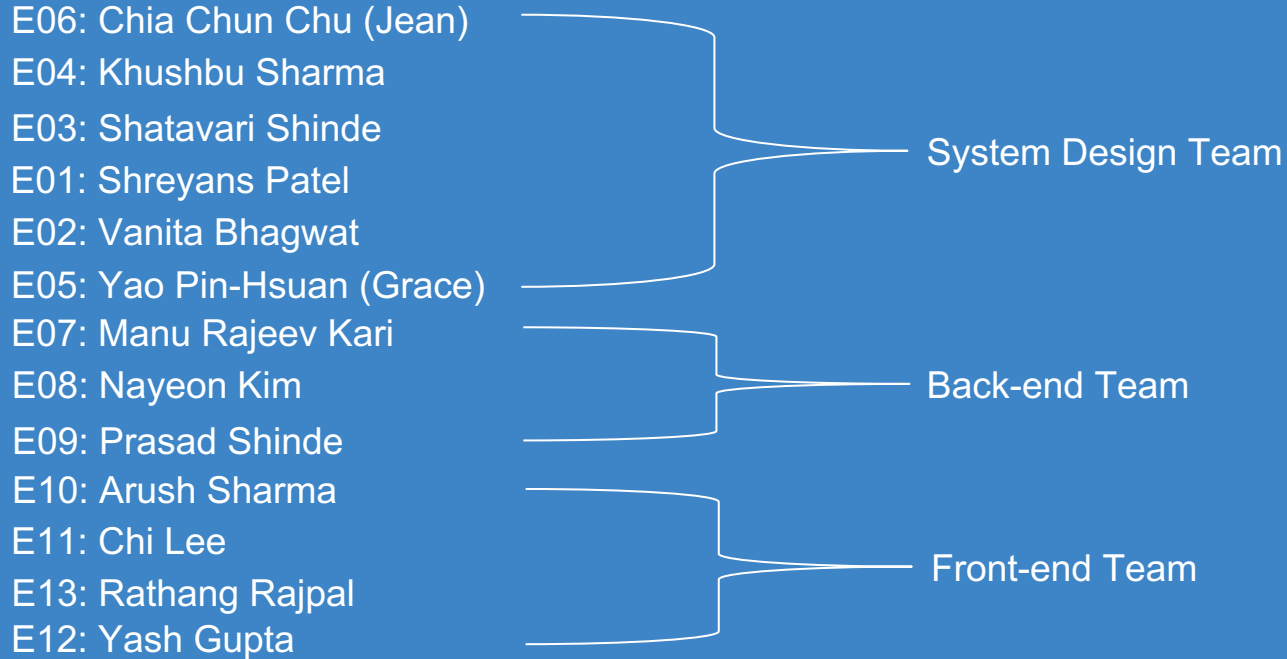
Story Behind The Name

Since this engine was born out of the course OOAD, we were thinking of something like OOAD search engine. Then we iterated like every successful project.

- Name Iteration 1: OOAD Search Engine
- Name Iteration 2: OO Engine
- Name Iteration 3: Infinity Engine (Since OO looks like it)
- Name Iteration 4: We found out tag line – “Explore the infinite web”



Meet the Infinity Team



Functional Requirements:

FR01: Case Independent Search

FR02: Hyperlink Enforcement

FR03: Domain-Specific Logical Operators Support

FR04: Concurrent Operation

FR05: Outdated URL Deletion

FR06: Ranking / Ordering Results

FR07: Number of Results per Page Functionality

FR08: Autofill Support

FR09: Filter Stop Words



Non- Functional Requirements

NFR01: User-Friendly

NFR02: Low Latency

NFR03: Scalable

NFR04: High Throughput

NFR05: Understandable for Future Developers



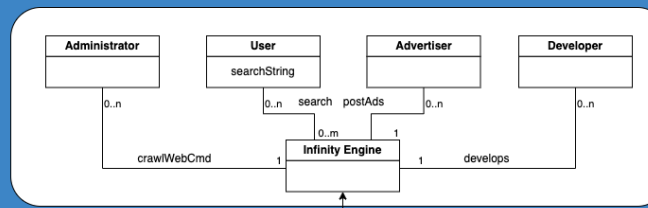
Planned Development Cycle

	FR01	FR02	FR03	FR04	FR05	FR06	FR07	FR08	FR09
Iteration 1									
Iteration 2									
Iteration 3									
Iteration 4									
Iteration 5									

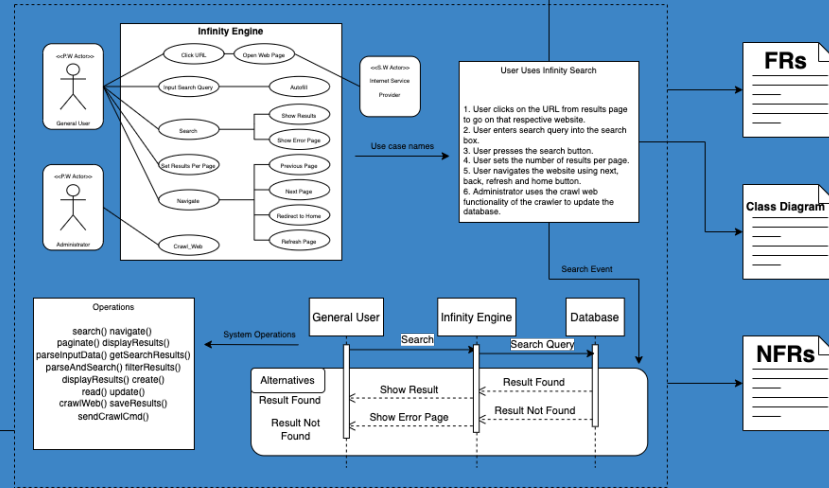
Legend:
Green: Completed
Yellow: Planned
Red: Dropped

The Big Picture Diagram

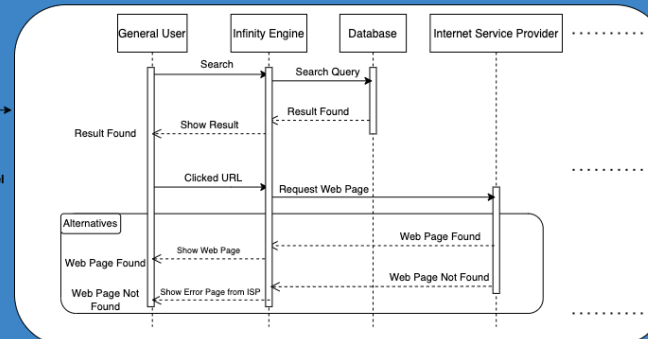
Domain Model



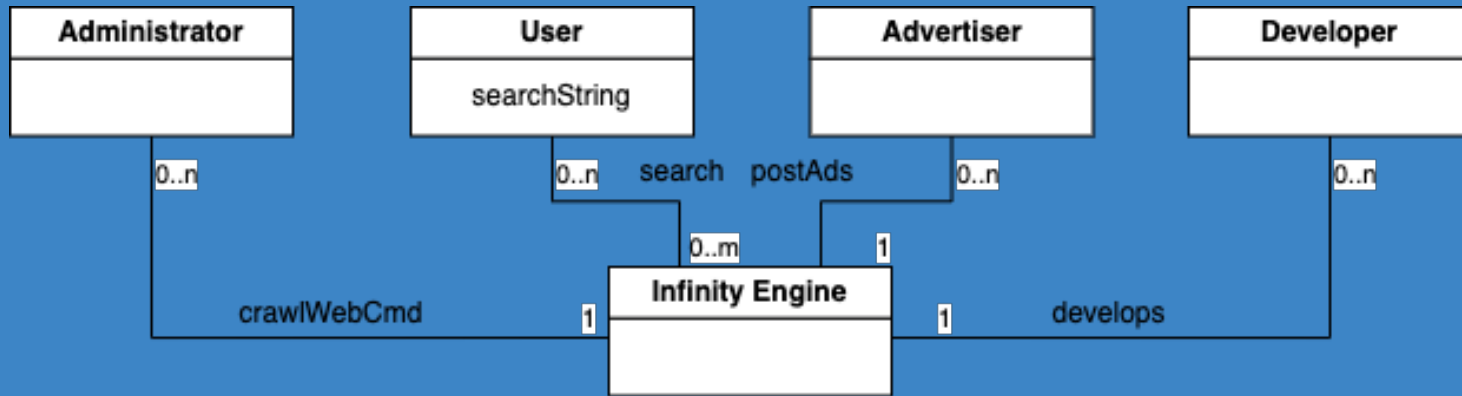
Requirements



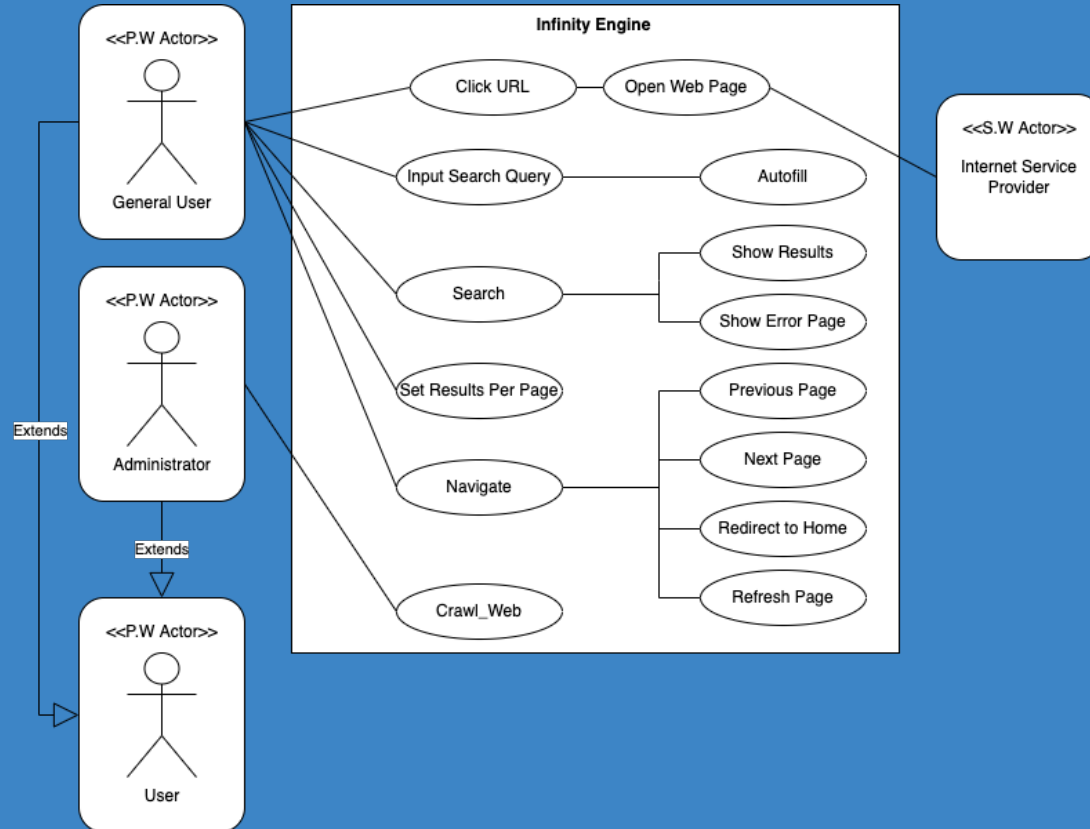
Design Model



Domain Model Diagram



Use Case Diagram



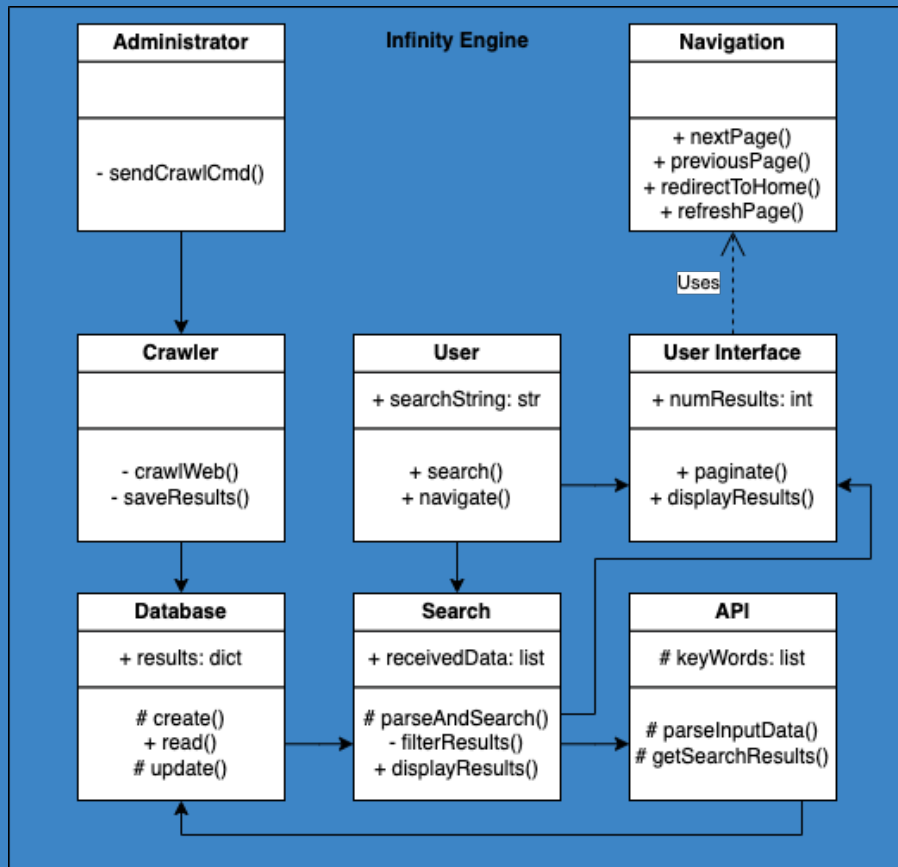
Use Case Template: Search for URL

Use Cases	Use Case 1: "Search for URL"
Actors	General User, Engine
Description	The general user enters a search query, and the results are returned by the engine.
Preconditions	Users should be able to access the Infinity Engine.
Postconditions	The User gets the URL results based on the searched query.
Flow of Events	Successful search: The user adds a search query and clicks on the search button. The web engine searches the database, gets the results based on the query and returns it to the user.
Exception flows	Unsuccessful search: The user adds a search query and clicks on the search button. The web engine searches the database, and the results are not available based on the query. The engine returns an error message to the user.
Non-functional	Low Latency: The results should be returned with low latency for better user experience. Scalable: The system should be able to serve multiple user searches at the same time and should not crash.

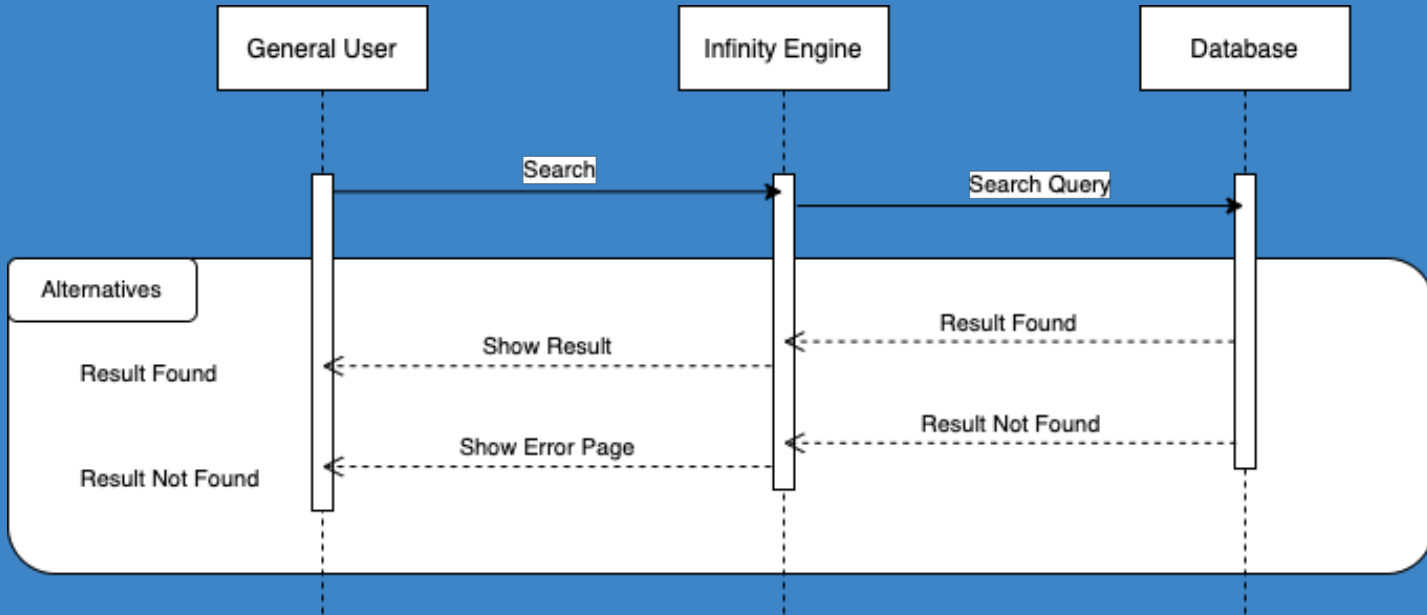
Use Case Template: Click URL

Use Cases	Use Case 2: "Click URL"
Actors	General User, Internet Service provider
Description	The general user clicks on one of the URLs from the search result. The internet service provider sends back the website for the URL and displays it to the user.
Preconditions	Users should have searched a query and should be displayed the result URLs.
Postconditions	The website based on the user click should be displayed to the user.
Flow of Events	Successful direction: The user clicks on one of the desired URLs. The internet service provider sends back the website result to the user and the correct website is displayed to the user.
Exception flows	Unsuccessful direction: The user clicks on the URL. The requested page is not found. Error message is displayed to the user.
Non-functional	Low Latency: The results should be returned with low latency for better user experience. Reliability: The system should be able to serve the user with appropriate web result every time user clicks on the URL.

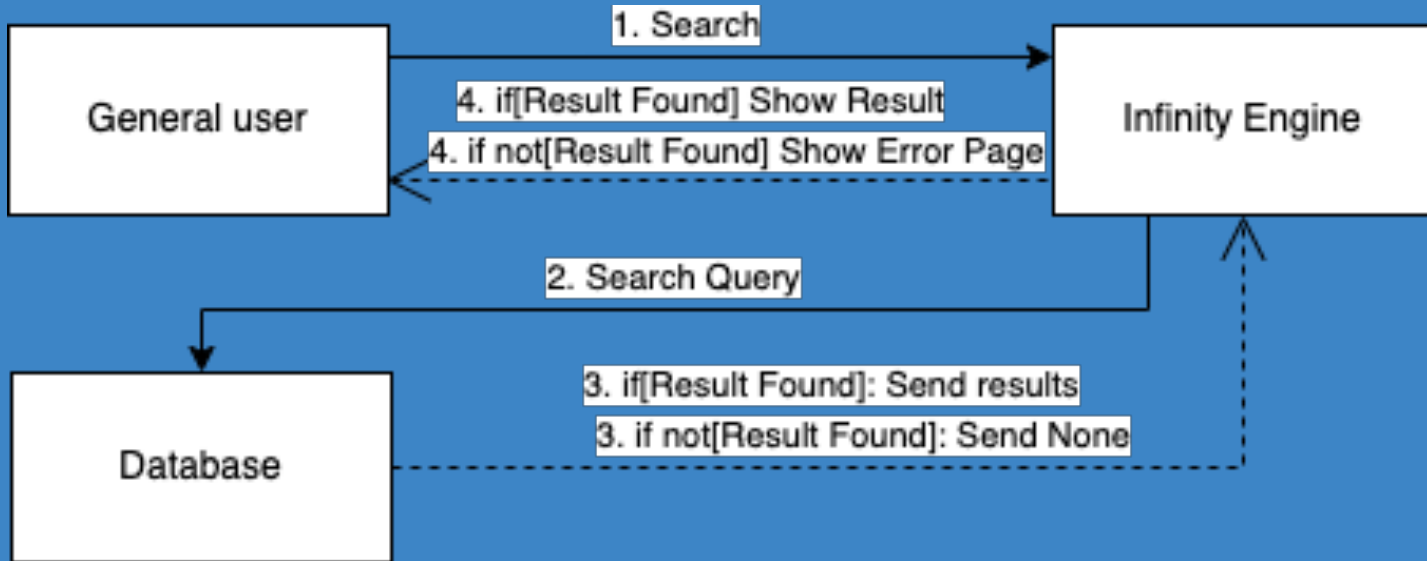
Class Diagram



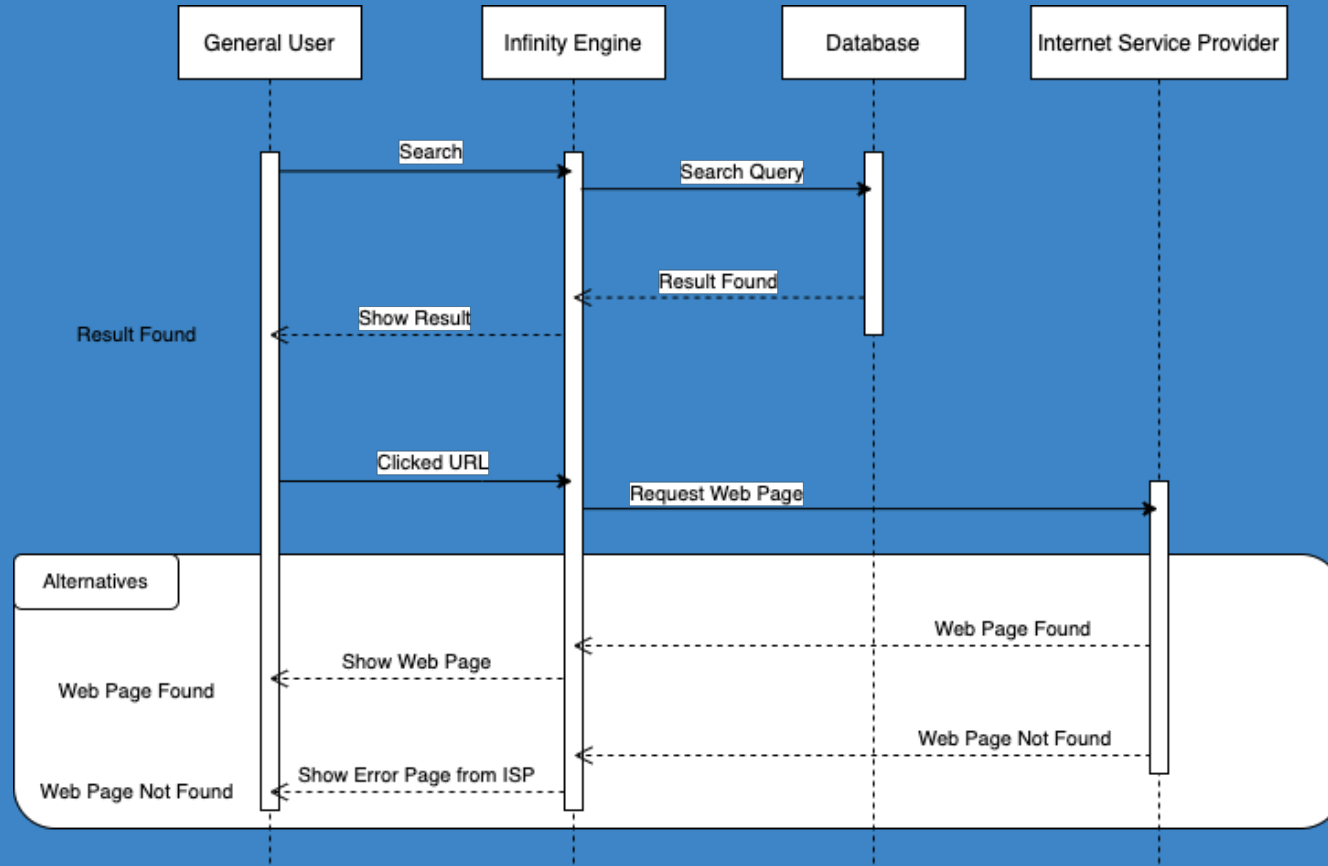
Sequence Diagram: User Searches



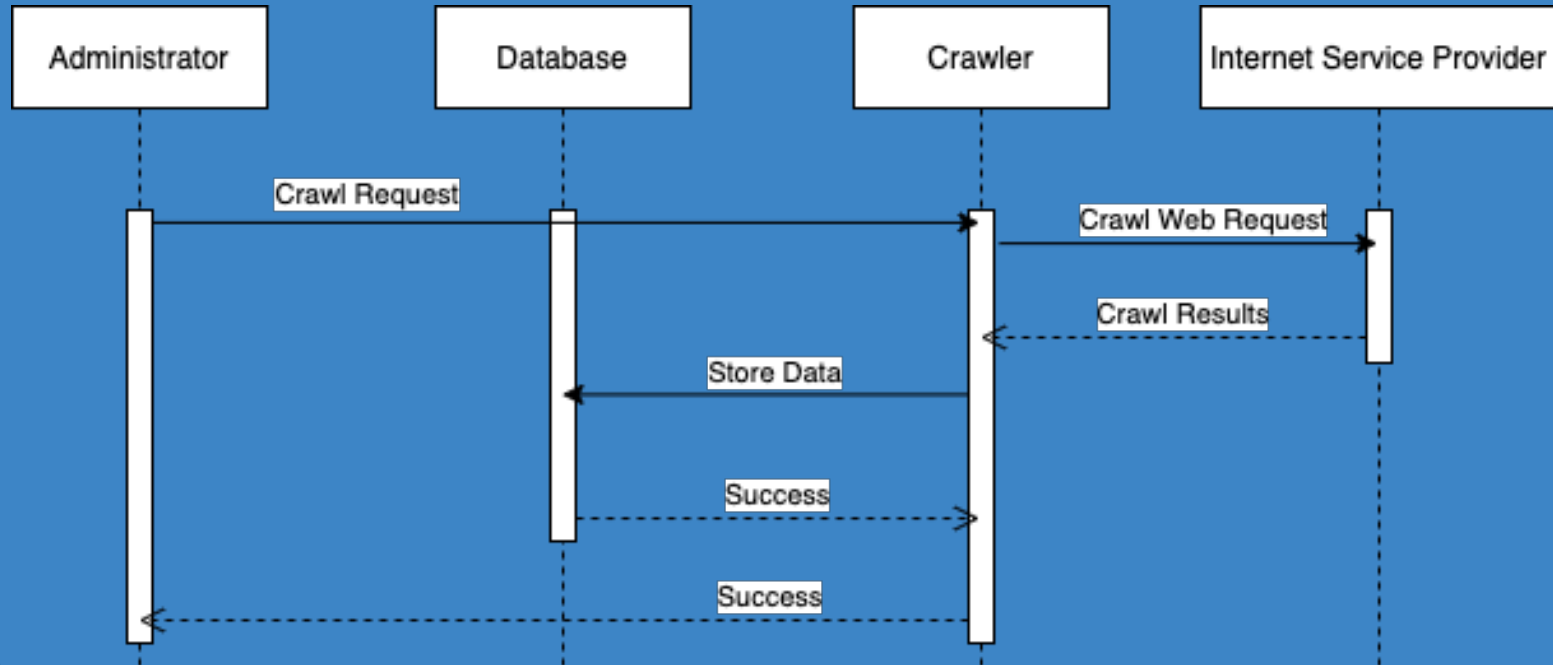
Collaboration Diagram: User Searches



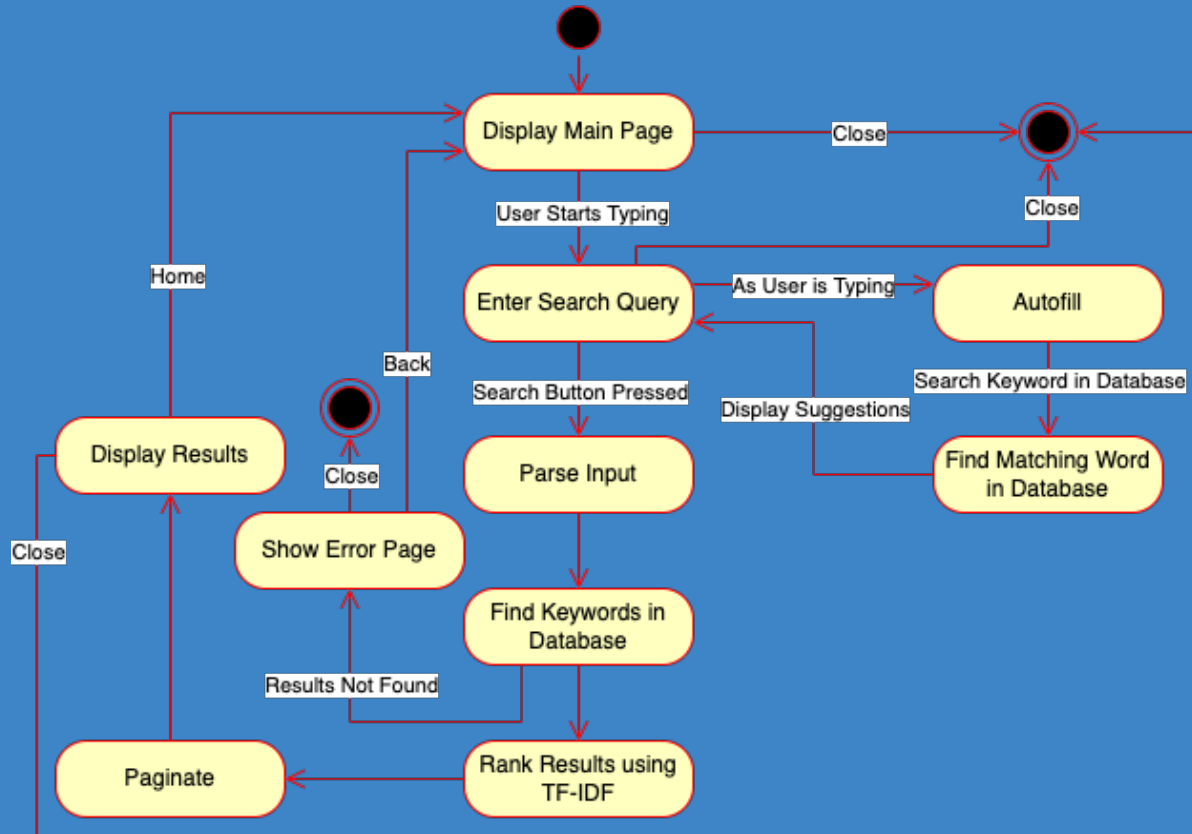
Sequence Diagram: User Clicks URL



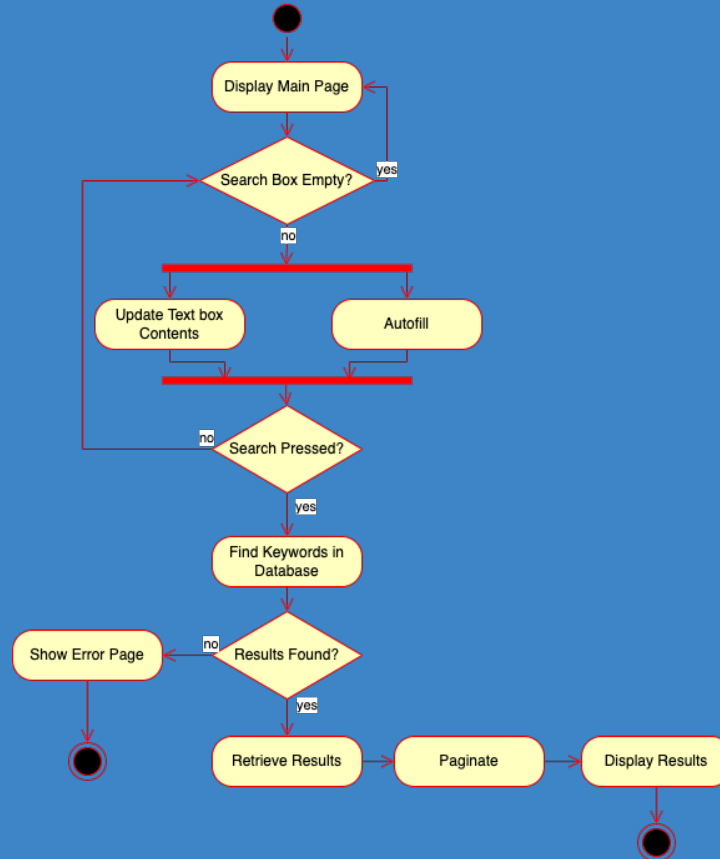
Sequence Diagram: Administrator Crawl Request



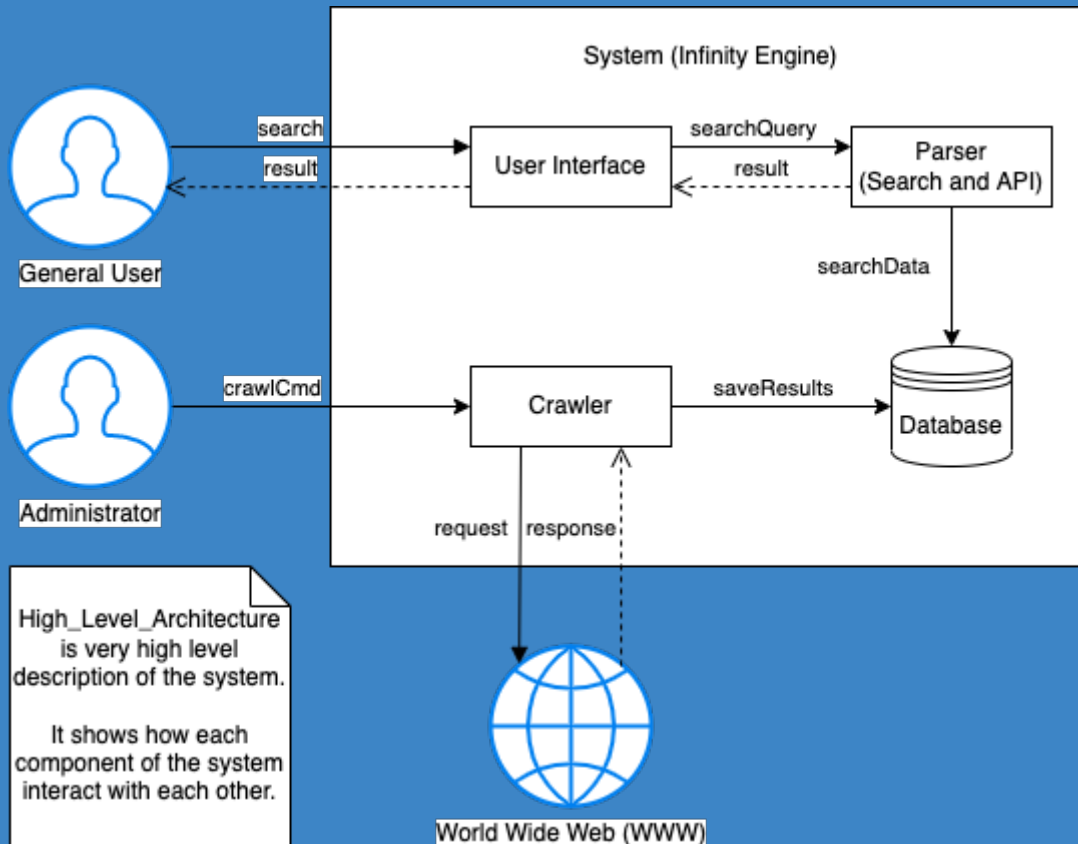
State Transition Diagram



Activity Diagram



High-level Architecture



Testing

Test Case ID	Description	Test Steps	Expected Results	Actual Result	Pass/Fail
TU01	Opening the website on server	1. Visit https://ooad-cyberminer.herokuapp.com/home/	The website opens successfully to its home page	As Expected	Pass
TU02	Opening the website on a desktop	1. Visit https://ooad-cyberminer.herokuapp.com/home/ on a desktop	The website opens successfully to its home page with proper UI	As Expected	Pass
TU03	Opening the website on a mobile phone	1. Visit https://ooad-cyberminer.herokuapp.com/home/ on a mobile device	The website opens successfully to its home page with proper UI	The website content looks too small. The webpage does not adapt to the device	Fail
TU04	Pressing the "About" button	1. Visit https://ooad-cyberminer.herokuapp.com/home/ 2. Click on the About button on the top right of the screen	The team's GitHub repository opens	As Expected	Pass

And So On...



Demo



Questions?



<https://ooad-cyberminer.herokuapp.com/home/>

Thank You

- Team Infinity Engine



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