

EnvoScholar v3.0

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Problem

Searching for papers in the environmental field is done using user-friendly search engine tools which aggregates results based on an input query

Examples of Academic Search Engines:

- Google Scholar
- Microsoft Academic
- Springer

Limitations: These contain information in a multitude of fields and it is not field-specific. Therefore, it is difficult for young researchers in the field of environmental science to explore the current work in that specific area.

Current System

EnvoScholar v3.0 is an academic search engine in the field of environmental science which contains newly added features:

- Dynamic and User-Friendly Ontology Visualization that is Searchable and Expandable.
- Improved **Mobile** experience in major components.
- **Developer Statistics** that leverage user-based results.
- Overhauled User Profile capabilities.
- Complete **server-side** processing and filtering of search results.

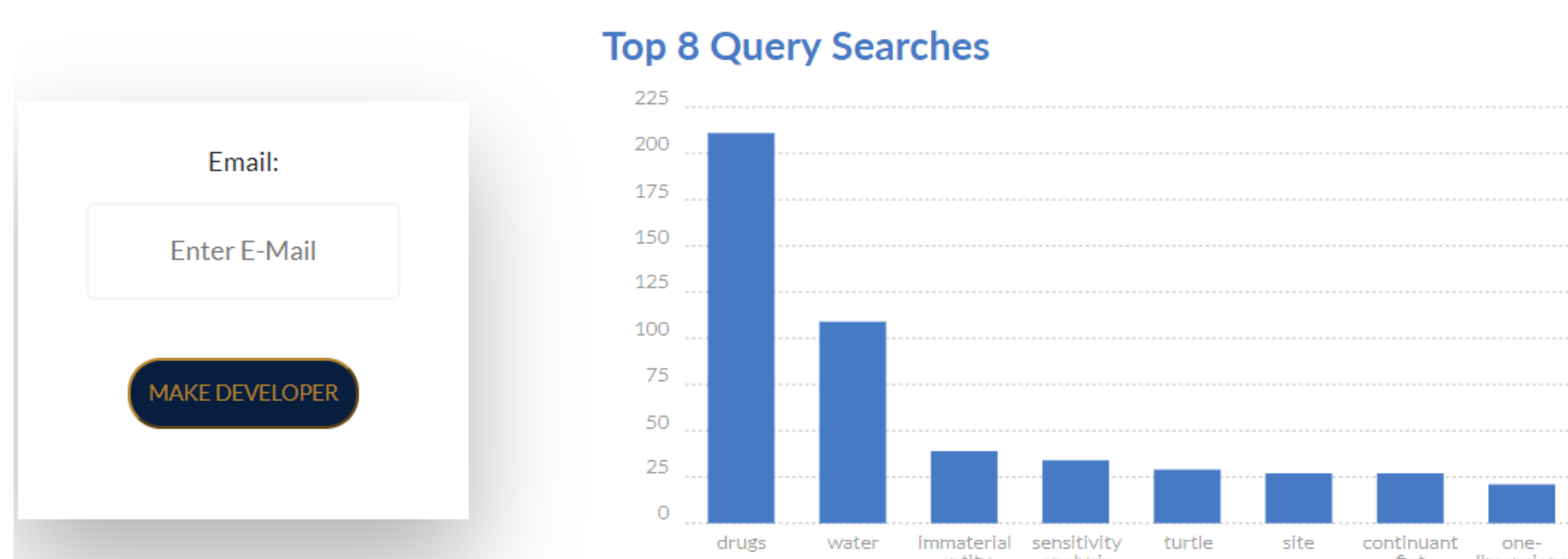
Requirements

Overall, the UI must be web-based, cross-browser, cross-platform, and interactive for researchers. My specific contributions involved implementing the following:

- Developer accounts that can access aggregated statistics about the user's interaction with the website.
- Overhaul of user profile page to improve user experience.
- Server side filtering mechanism and redesign of results page.
- Ontology visualization embedded into main angular project.
- Mobile experience for developers

Screenshots

Aggregated Statistics About the User's Interactions



Server Side Filtering

Page Size

10

Change Size

Date Range

1900

2019

Filter Date Range

Redesigned Results Page

 [View Results In Microsoft Academic](#)  [View Results In Semantic Scholar](#)

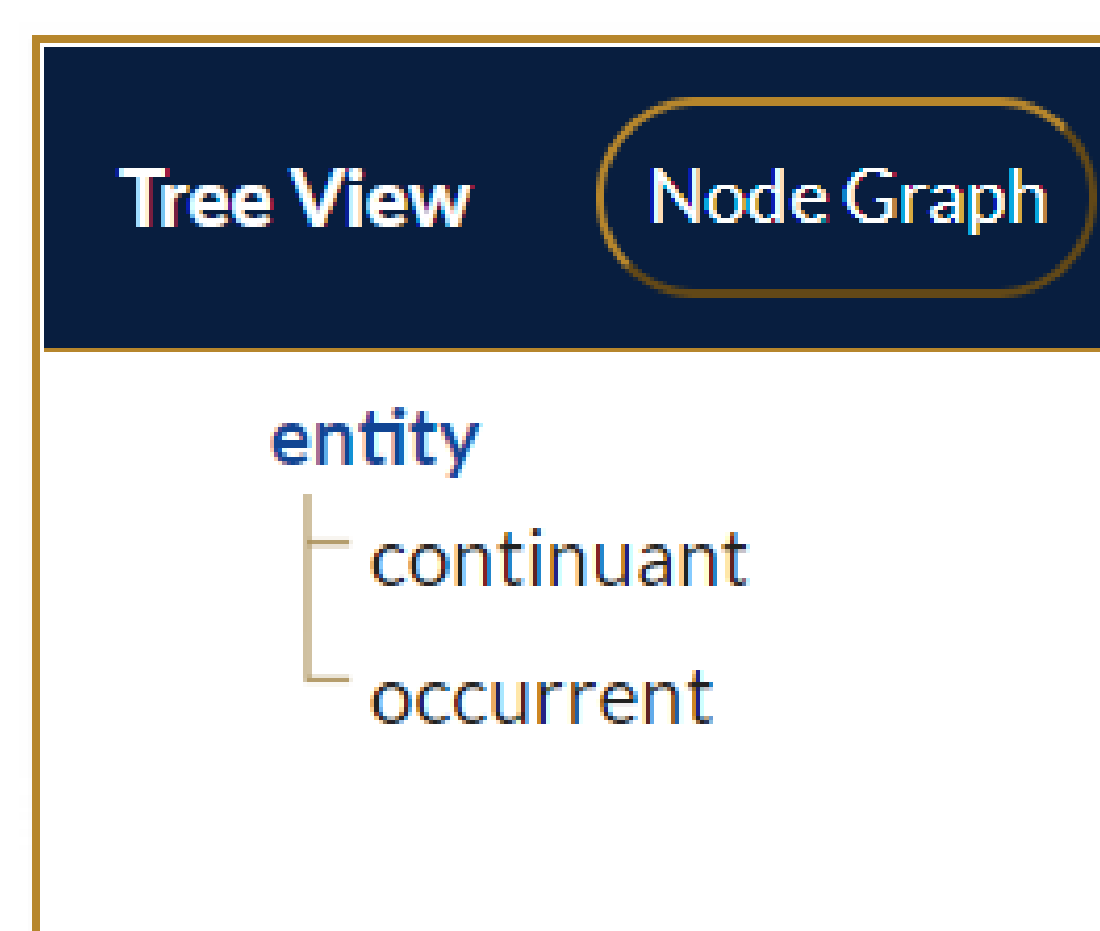
Is there evidence for man-made nanoparticles in the Dutch environment?

Patrick S. Bauerlein-Erik Emke-Peter Tromp-2017-01-15

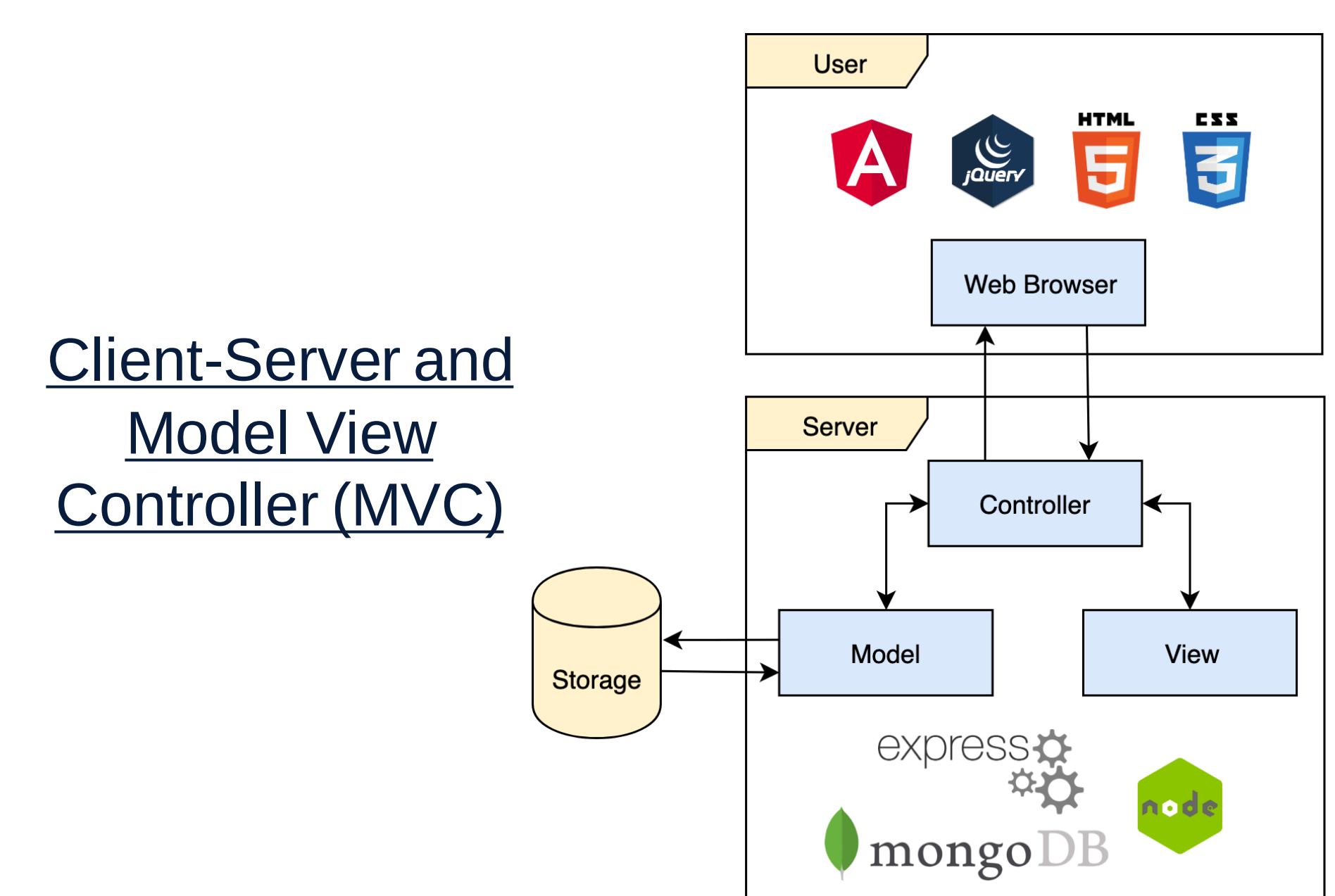
Only very limited information is available on measured environmental concentrations of nanoparticles. In this study, several environmental compartments in The Netherlands were probed for the presence ...

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Embedded Ontology



System Design

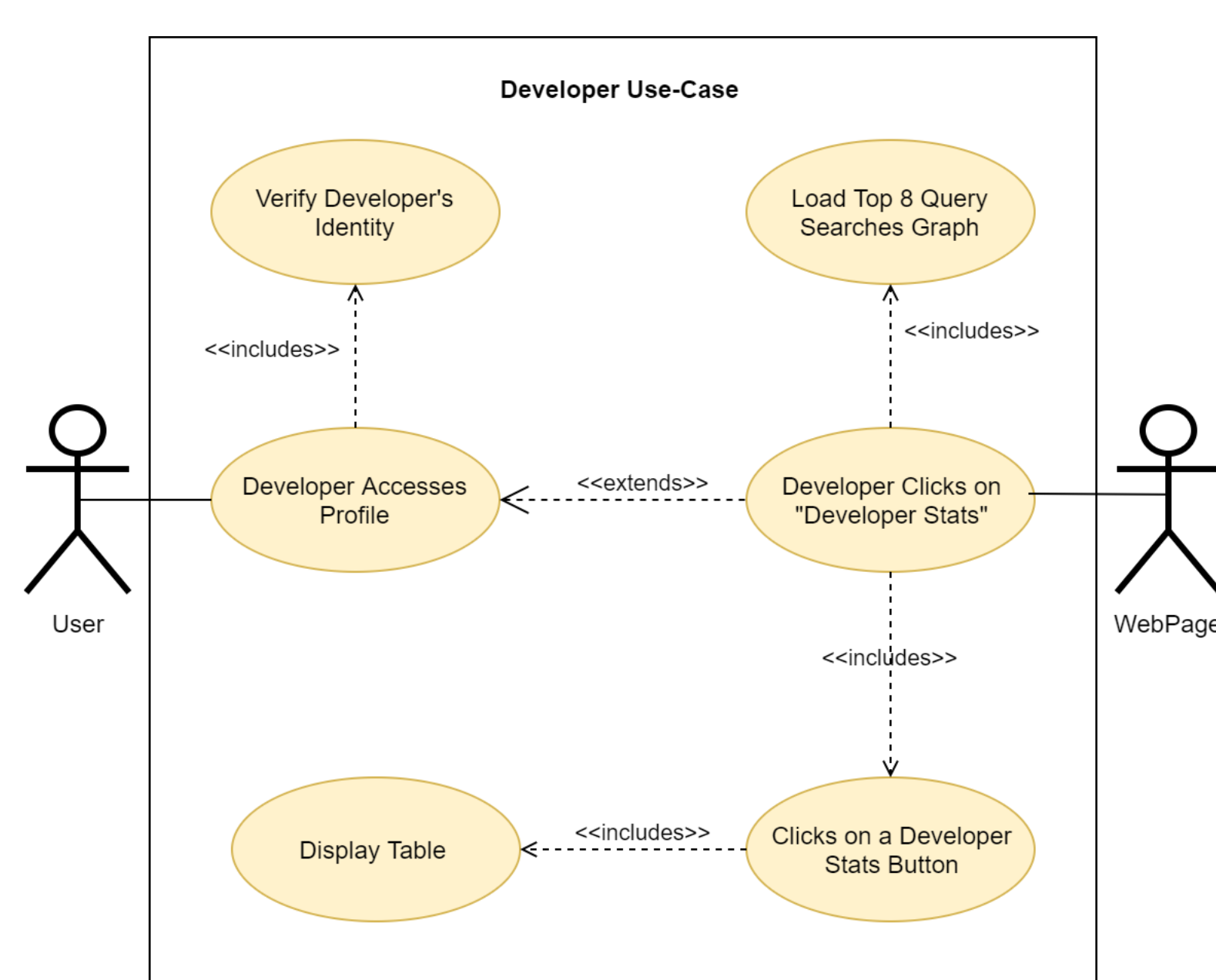


Implementation

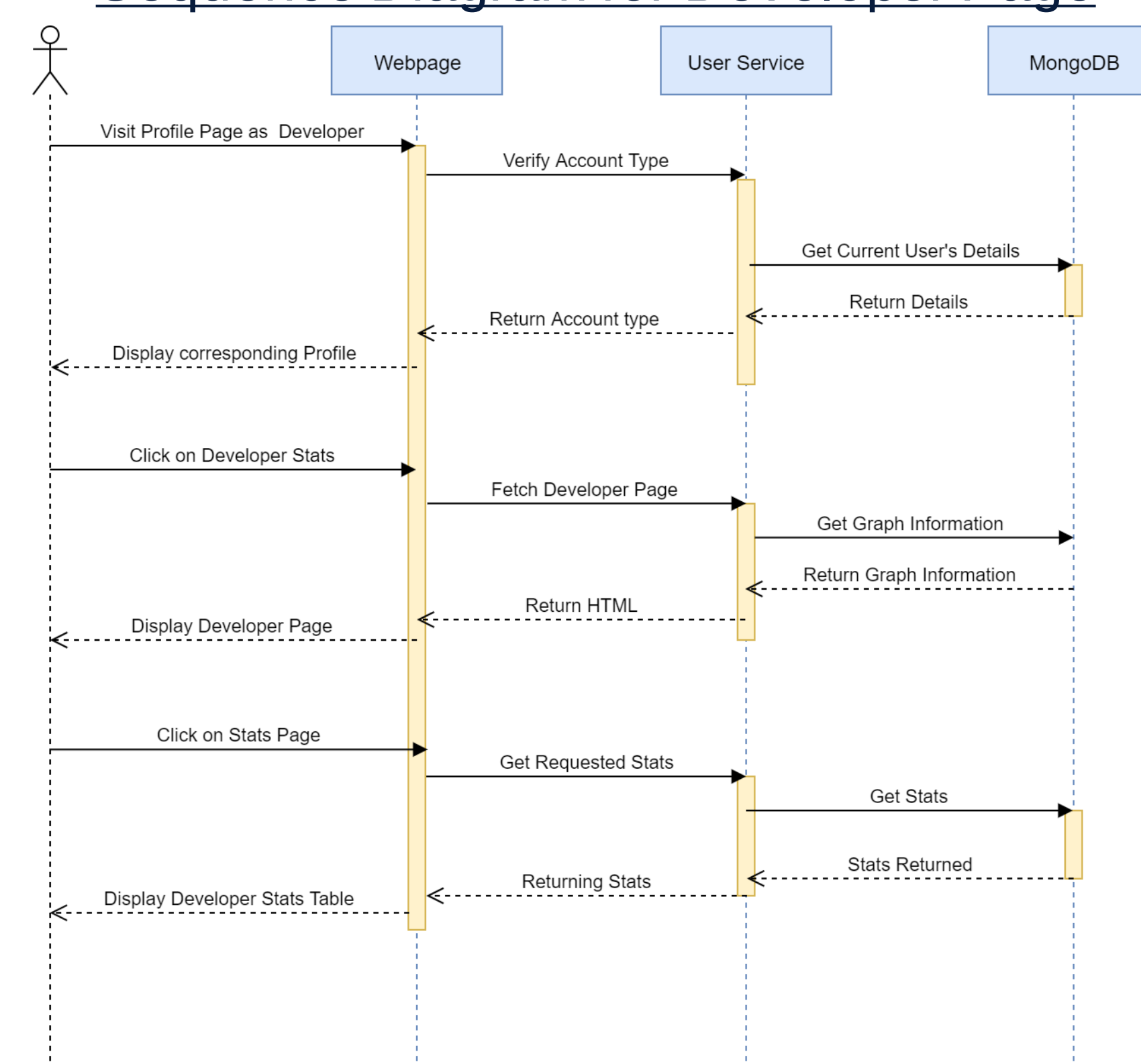
- Results are loaded and filtered (based on user preference) server side using NodeJS and Express API
- The Display Results page stores user interactions as developer stats in the MongoDB database via Express API
- The Ontology visualization was implemented using by modifying the WebVowl project.

Object Design

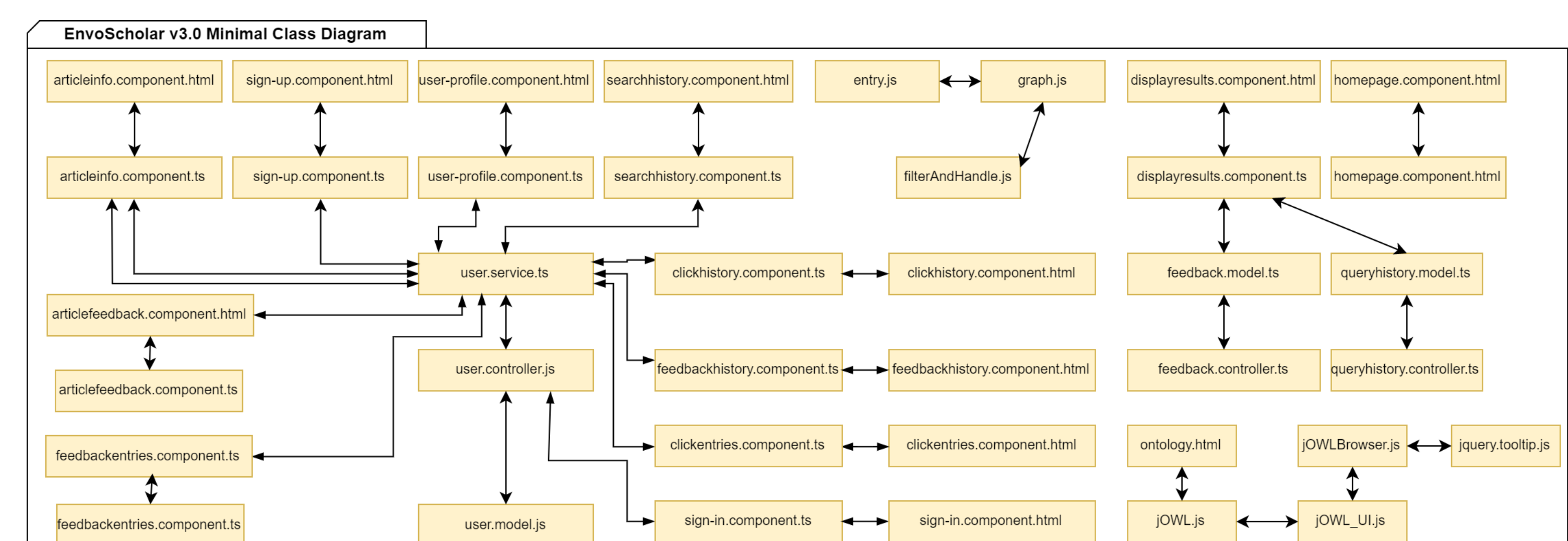
Use Case Diagram for Developer Page



Sequence Diagram for Developer Page



Minimal Class Diagram For Entire System



Acknowledgements

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