



VCU

Virginia Commonwealth University
VCU Scholars Compass

Capstone Design Expo Posters

College of Engineering

2017

StackInTheFlow: StackOverflow Search Engine

John Coogle

Virginia Commonwealth University

Jeet Gajjar

Virginia Commonwealth University

Chase Greco

Virginia Commonwealth University

Follow this and additional works at: <https://scholarscompass.vcu.edu/capstone>

 Part of the [Computer Engineering Commons](#)

© The Author(s)

Downloaded from

<https://scholarscompass.vcu.edu/capstone/212>

This Poster is brought to you for free and open access by the College of Engineering at VCU Scholars Compass. It has been accepted for inclusion in Capstone Design Expo Posters by an authorized administrator of VCU Scholars Compass. For more information, please contact libcompass@vcu.edu.



StackInTheFlow: StackOverflow Search Engine

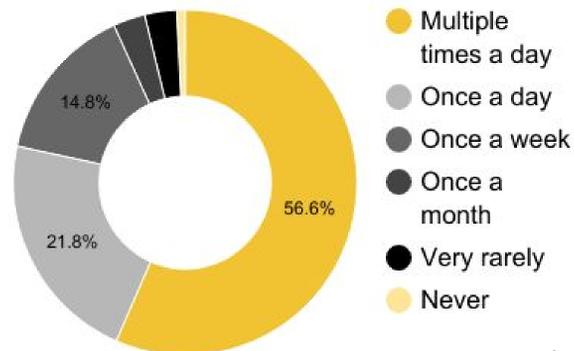
CS-314 | Team members: John Coogle, Jeet Gajjar, Chase Greco | Faculty adviser: Dr. Kosta Damevski



Motivation

Programmers increasingly rely on an Integrated Development Environment (IDE), which offers capabilities for writing, debugging and testing code. It has been observed that all developers reference outside sources when debugging, like StackOverflow, from novice to more experienced developers. **The purpose of StackInTheFlow is to reduce the amount of time and interruption necessary to gather external information during development.** This enables the developer to remain in-the-flow of solving software engineering problems.

StackOverflow Visit Frequency



Source: StackOverflow Developer Survey 2016

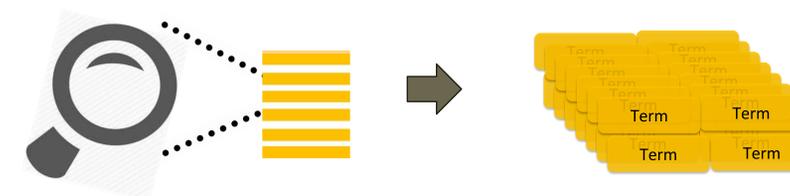
Moving Forward

The StackInTheFlow team intends to continue this tool and provide additional functionality by:

- Tailoring queries to current programmer activity
- Integrating filtering results using tags
- Collecting anonymous user data to incorporate additional machine learning techniques for auto-query generation
- Exploring additional information sources (e.g. books)

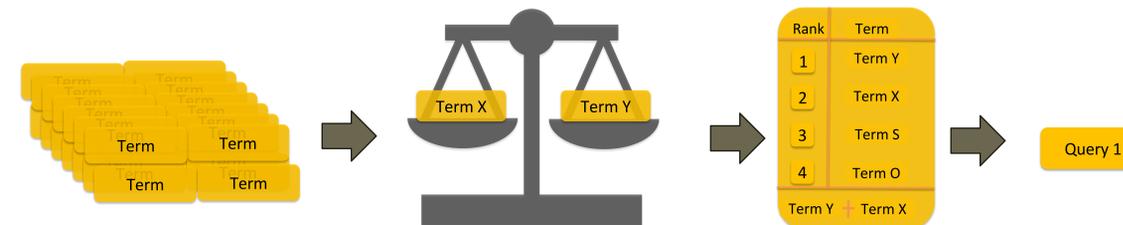
1 Parse Source Code

Using a custom-built Java parser, source code is scanned and a list of candidate query terms is extracted. The parser particularly focuses on import statements, lines of code around the cursor, and compiler errors.



2 Score Query Terms

Candidate query terms are collected and compared to a dictionary constructed from a dump of StackOverflow articles. They are scored based on information retrieval statistics for pre-retrieval query quality. Then, the top scoring terms are selected to form the query.



3 Execute Query

The final query is sent to the StackOverflow API using Jersey and relevant articles are fetched and displayed to the user.

