Investigating Developer Questions on Social Media

Master Thesis of Mathias Birrer
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Developers have a lot of questions!
Practices

Tools

Technologies
Where do they ask the questions?
Where do developers seek information on social media?
Researchers want to support developers!
Main sources used

- Popularity
- Ease of data extraction
- Large open source projects
- History
Combining sources

Topic scattered over different sources

Comparing kind of data on different sources
Sources are different

• Data
• Structure
• Extraction
• Preprocessing
How do researchers analyze developers information needs on social media?
Pilot study

41 papers on the topic “Developer Information needs” reviewed

• What sources are considered?
• How is the process?
• What tools & technologies are used?
What are the sources considered?

Number of papers reviewed

Sources

SO  Mailing List  Quora  Bug Reports  Newsgroup  App Reviews  Github
Analysis process

Extract data

Record selection & categorization

Clean & preprocess data

Analyze
Problems found in data preprocessing phase

Number of papers

- Missing Preprocessing Info: 15
- Missing Dataset: 30
Problems found

- Incomplete description of data preprocessing
- No access to dataset
- Only 9 papers have used some tools for preprocessing

Impossible or very hard to reproduce results
Data Management Tool from seminar project

- Heterogeneous sources
- Data preprocessing
- Export for analysis
Technologies

[Rails logo]

[PostgreSQL logo]

[Docker logo]
Demo
Case Study
What are the developers questions about code commenting?
Case study: **Code comment practices**

What do developers ask on social media about code comments and how do the questions differ on Quora and SO?
Roadmap

Gather sources  
State of the Art  
Tool development  
Reflection on case study

Paper review  
Tool specification  
Case study
A prudent question is one-half of wisdom.

Francis Bacon