

# A Gaze-Based Exploratory Study on the Information Seeking Behavior of Developers on Stack Overflow

YOUNGSTOWN STATE UNIVERSITY



*Computer Science  
& Information  
Systems*

QUEST 2018

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**Youngstown State University**

Project Id: 255

Registration Number: 176401



**CRA-W**

Computing Research Association  
Women

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# Motivation

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- Stack Overflow is a widely used website used by developers
- Much research done on predictive techniques
  - Gender, question and answer quality
- Very little research on how developers use Stack Overflow



# Stack Overflow Question

 [Questions](#) [Developer Jobs](#) [Tags](#) [Users](#)

[Log In](#) [Sign Up](#)

## How do I pass data between Activities in Android application?

[Ask Question](#)

 [Get started here](#) 

I have a scenario where, after logging in through a login page, there will be a sign-out button on each activity.

On clicking sign-out, I will be passing the session id of the signed in user to sign-out. Can anyone guide me on how to keep session id available to all activities?

Any alternative to this case

[android](#) [android-intent](#) [android-activity](#)

[share](#) [improve this question](#)

 **Nilesh Rathod**  
14.4k • 4 • 19 • 38

 **UMAR**  
31.2k • 87 • 185 • 261

asked Dec 19 '17 at 12:29 asked Jan 19 '10 at 6:06

9 i used sharedPreferences its useful also to keep login data on remember password feature – [shareef](#) Dec 2 '12 at 19:33

This works for me. [stackoverflow.com/a/7325248/2125322](#) Thanks Darshan Computing – [matasoy](#) Sep 1 '13 at 20:59

[stackoverflow.com/a/37774966/6456129](#) may be helpful – [Yessy](#) Jul 24 '16 at 5:48

Possible duplicate of [How to maintain session in android?](#) – [Yatin](#) Mar 15 '17 at 12:06

[add a comment](#)

### 37 Answers

[active](#) [oldest](#) [votes](#)

1 2 next

 The easiest way to do this would be to pass the session id to the signout activity in the Intent you're using to start the activity.

**UPCOMING EVENTS**  
 **2018 Community Moderator Election**  
ends in 4 hours

   
Build your next Node.js app using your tools, your way.  
Start with a \$200 credit for 30 days.  
[TRY AZURE FREE](#) →

### Looking for a job?

**Senior Software Engineer- Decision Engineering**  
GrubHub Seamless • Chicago, IL  
**\$150K - \$200K**  
[linux](#) [python](#)

**Android Developer**  
Clevartech • No office location  
**REMOTE**

## Research Questions

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- What parts of the Stack Overflow questions and answers do developers focus on most?
- How do developers navigate between and within Stack Overflow posts and the code editor in order to finish working on their task?

# Methodology

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- Participants were shown 4 API elements (method or class)
- The task was to summarize each of the API elements
  - Two from Android system, two from Eclipse
- They were given source code of the above systems
- They could freely search on Stack Overflow to help complete the task

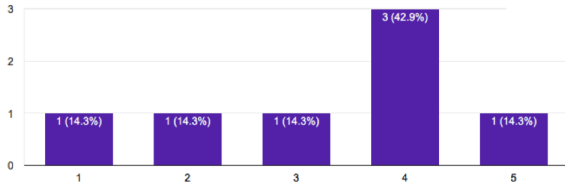
- Used iTrace (developed by the SERESLab in the CSIS department)
  - Integrates eye tracking into developer work environments
  - Supports scrolling and file switching
  - Supports eye tracking for Stack Overflow documents
  - Gaze location, pupil dilation, token, and others
- Screen recording
- Demographics in pre- and post-questionnaire

# Participants

- Students in the CSIS Department
- Pilot study with 3 participants
  - Completed with more people since initial results
- All completed advanced CS courses

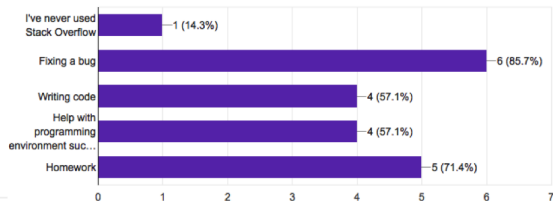
## How familiar are you with Stack Overflow?

7 responses



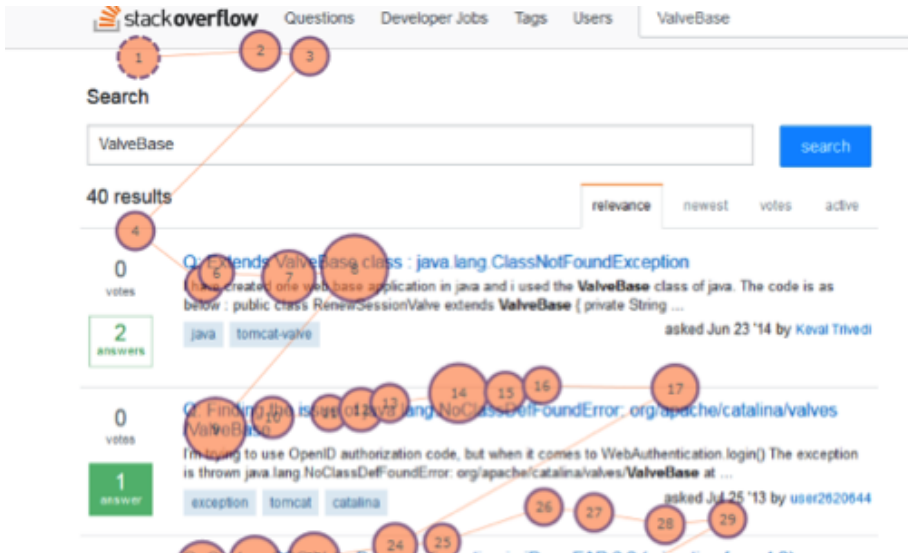
## What have you used Stack Overflow for in the past? Please choose all that apply.

7 responses



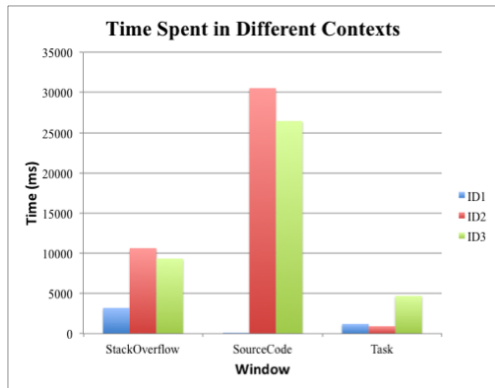
## Results

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Participant ID	Task A1	Task A2	Task E1	Task E2
Y1	Incorrect	Correct	Incorrect	Correct
Y2	Correct	Correct	Correct	Correct
Y3	Correct	Correct	Incorrect	Incorrect

- Based off of documentation in both Eclipse and Android



## ■ ID1

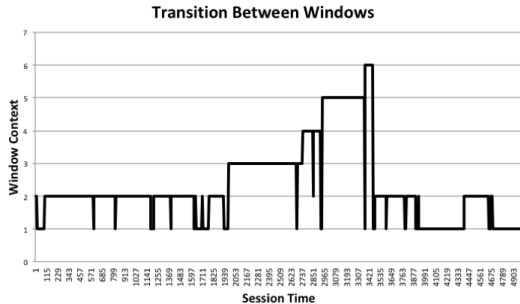
- Only two correct
- No source code used

## ■ ID2

- All correct
- Most time spent in source code and Stack Overflow

## ■ ID3

- Two correct
- Least familiar with Stack Overflow
- Less confident compared to peers



- Different numbers are assigned to different platforms
  - 1 - Task File
  - 2 - Source Code
  - 3-6 - Various Stack Overflow pages
- Transition from page to page
- Transition from Stack Overflow to Task file to source code



# Stack Overflow Gaze Information

- ID3
- Question text, question tag (briefly), question code
- Glanced at question answer

The screenshot shows a Stack Overflow page for the question "When is SQLiteOpenHelper onCreate() / onUpgrade() run?". The page includes a search bar, navigation links, and a sidebar with job listings. The main content area shows the question text, which includes code snippets for SQLiteOpenHelper methods. There are 12 answers, with the top answer being selected. The question has 228 votes and 59 errors. A note is present, stating: "NOTE: (This is the amalgamated summary of tens of similar questions every week. Attempting to provide a 'canonical' community wiki question/answer here so that all those questions can be directed to a good reference.)". The question is tagged with android, sqllite, android-sqlite, and sqlexception. The question was asked by @Ndupz and has 6 revisions and 4 users. The question is marked as a community wiki.

stackoverflow Questions Developer Jobs Tags Users Search...

When is SQLiteOpenHelper onCreate() / onUpgrade() run?

Asked 4 years, 1 month ago  
Viewed 92,694 times  
Active 2 months ago

Looking for a job?

Java/Scala Team Lead  
Hays  
4 years, 1 month ago  
Be one of the first applicants

Agile Fullstack Software Engineer  
Integral  
4 years, 1 month ago  
Be one of the first applicants

Senior Mobile Developer  
Hubstaff  
4 years, 1 month ago  
Be one of the first applicants

Android Developer (Salesforce Mobile SDK)  
Energy Inspectors  
4 years, 1 month ago  
Be one of the first applicants

Linked

3 android.database.sqlite.SQLiteException: no such table

3 Android - How to Create SQLite database with Tables

I create my tables in my SQLiteOpenHelper onCreate() but receive  
228 SQLiteException: no such table  
or  
59 SQLiteException: no such column  
errors. Why?

NOTE:  
(This is the amalgamated summary of tens of similar questions every week. Attempting to provide a "canonical" community wiki question/answer here so that all those questions can be directed to a good reference.)

android sqllite android-sqlite sqlexception

share improve this question edited Mar 22 '17 at 16:15 community wiki 6 revs, 4 users 45% laaifo

Can you post code? - Ndupza Feb 19 '14 at 13:32

11 @Ndupza This isn't an actual problem of mine, just fed up writing the same answer/comment for the Nth time. - laaifo Feb 19 '14 at 13:35

add a comment

12 Answers active oldest votes

SQLiteOpenHelper onCreate() and onUpgrade() callbacks are invoked when the database is

- Collect more data
- Analyze and write results for publication
- Look at types of queries developers formulate

- More accuracy when both source code and Stack Overflow are used
- Code snippets are most beneficial
- Time spent reading source code and searching on Stack Overflow increases accuracy