Study on Exception Handling in Android App Development

We are Software Engineering researchers who are interested in understanding the best practices applied when developing exception handling code for Android apps.

We believe you can strongly contribute to this study and we would appreciate your feedback via this 15-minute survey.

We will openly publish the results so everyone can benefit from them, but will anonymize everything before doing so. If you have questions about the survey, please send an email to: diogo@ppgsc.ufrn.br

This is a purely academic study which aims at extending the work presented this year at 12th IEEE/ACM Working Conference on Mining Software Repositories - Unveiling Exception Handling Bug Hazards in Android Based on GitHub and Google Code Issues (http://2015.msrconf.org/program.php).

We would appreciate if you could send this survey to other Android experts that you think can also help with this study.

We accept answers in English and Portuguese.

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1 - For how long have you been developing in the Android Platform?

( ) < 2 years
( ) >= 2 and < 4 years
( ) >= 4 and < 6 years
( ) >= 6 years

2 - Is the development of Android apps part of your job?

( ) Yes
( ) No

3 - What kind of Android projects do you work on?

( ) Open source projects
( ) Closed source projects
( ) Both
( ) Other:

Text related to the next 3 questions (4, 5 and 6)

Some kinds of situations where can occurring exceptions in Android development:

- Make IO operations (load a image, access a database, ...);
- Thread communication and interprocess communication
- Use third-party libraries;
- Access Android native code

This list is just to remember some situations where you can find exceptions, but do not get stuck to it. The intention is that you think about a situation that may throw an exception and what do you usually do to handle it.

4 - Please list the main BEST practices do you use when developing the exception handling code of your Android apps?

5 - Is there any practice specific to Android or are they the same as the ones you use in Java development in general?

6 - In your opinion what can be considered exception handling BAD practices in Android development?

7 - Do you believe any inherent characteristic of Android Platform can make the exception handling a complex task?

( ) Yes
( ) No
( ) I don't know

8 - If yes, could you tell us which ones?

[ ] The multithreaded environment of Android
[ ] Android componentes life cycle strongly based in callback methods (e.g onCreate, onPause, onStop...)
[ ] Several entry points for a single Android application
[ ] Other:

9 - If you choose any of the above characteristics, could you tell us why? How do you deal with them?

10 - What are your strategies to deal with uncaught exceptions? Do you think the way the Android platform deals with it is good enough?

11 - How do you decide when you should catch the exception or let it uncaught? What are the reasons that lead you to choose one of these actions? What do you think about catch generic exceptions (e.g Exception, RuntimeException, Throwlable) in Android development?

12 - Do you use crash reporting tools (e.g. Crashlytics, Crittercism, Splunk, Acra...) in your apps?

13 - If yes, what is the impact of these tools on the development of robust Android apps?

14 - If not, why?

Please leave your email address if we can contact you afterwards to clarify any doubt about your answers:
Do you have any further comments for us? Is there any point that you think is important about exception handling in Android that was not addressed in the questions?