Blackbox Test
For "WikiDroid" app

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Introduction

This document records the defects we've found when black-box testing the "WikiDroid" app.

Only the bugs that can be reproduced in various test environments are recorded.

Test Environment

The following environments are used to perform the tests:

- Android Virtual Device (AVD) with Nexus 7 Profile and Android 4.1.2 and 4.2.2 APIs respectively
    - This was abandoned because the program could not open in this version.
- Android Virtual Device (AVD) with Galaxy Nexus Profile and Android 4.2.2 API
    - This is the reference environment stated in the README document.
- Kindle Fires with Android 4.4 and Android 4.2

Test Cases

Test Set 1: Running the app

#	Severity	Defects
0	S3	The README document stated wrong standard environment. • While declaring the emulator should use Android 4.2.2, the README document also stated the API should be version 19, which actually corresponded to Android 4.4.2. • This was confounding at the beginning.
1	S1	App cannot open and stay in main activity in Android 4.1.2 and Android 4.2.2 emulators with standard configurations. • Since the program alleges to run on Android 4.0 and above, this issue is critical. • From further test the only supported platform is Android 4.4.2 emulator.
2 *	S2	App cannot always open correctly in Kindle Fire with Android 4.4.2 (CM11) OS. • The severity was discounted to S2 because CM11 for Kindle Fire is not an official Android OS for the device.

* Because Kindle Fire is not officially supported, we did not list the specific issues of the app running on Kindle Fire in this document.

Test Set 2: Searching Articles by Keywords

#	Severity	Defects
0	S3	There is no prompt for invalid keywords like empty string or string consisting of only whitespaces. • The user doesn't know whether the app is searching or not, which is confusing.
1 *	S1	The app shows wrong page for [a-zA-z]+ entries. • For example, open the app, search for "`software`". • The app gives entry "`software engineering`" rather than the entry "Software" http://en.wikipedia.org/wiki/Software
2	S2	When the entry to search for does not exist, the app picks up one of the entries in Wikipedia's search result. • For example, search for "`gk104`" • Wikipedia shows the entry does not exist nd gives a search page (http://en.wikipedia.org/w/index.php?search=gk104) • The app however, picks up the third entry on the search page. The app displays entry "`Geforce 700 Series`"
3 *	S1	The app shows wrong page for [-\s\w]+ entries. • Search for entry "`Xi Jinping`" • Instead of showing the correct entry (http://en.m.wikipedia.org/wiki/Jinping_Xi), the app gives the entry "`Presidents of People's Republic of China`".
4 *	S2	The app shows wrong page when searching for quoted entries. • Search for entry "'`Jinping Xi`'" (without the single quotes) • The app gives the entry "China National Symphony Orchestra", which is actually the last entry in the search list (http://en.m.wikipedia.org/w/index.php?search=%22jinping+xi%22) • Same issue with keyword "`Abercombie & Fitch`"

* We analyzed the weird search result, and found that the app actually searches for entries under http://en.m.wikipedia.org/w/index.php?search=<KEYWORD>. The entry shown tends to be the 3rd entry in the list. Because of this issue, test for matchings of keywords with entries makes no sense. Also because of this, sometimes searching for the same keyword gives different entry pages, but this is very hard to reproduce.

Test Set 3: Links and Tabs

#	Severity	Defects
1	S1	The app can open at most 7 tabs; opening the 8th tab will cause the program to crash. • The backlog specified that the app should support open 10 tabs.
2 [1]	S1	The app crashes when closing the first (default) tab. • Open the app, click the X button on the tab, and then app will crash. • This happens even when you have multiple tabs open; closing the first tab and app will crash.
3 [1]	S1	Click the X button on the nth tab and the $(n-1)^{th}$ tab actually gets closed. • This is a typical off-by-one bug.
4	S1	Tap and hold on a link but the program does not respond. • It is expected that one tap and hold on the link, and a menu should pop up, and then the user could choose "Open in the new tab" to open the link in background.
5	S3	When one navigates through links and reaches a page of Desktop version (e.g., "this page needs to improve", etc.), the layout goes totally wrong. • We give this problem "Workaround" level because most users tend not to click such kinds of links.
6	S1	The star (favorite icon) of tabs is actually associated with the *number* (the position number, more precisely) of tabs instead of the actual tab *object*. Some related phenomena are: • Say we have tabs 1,2, and 3, and tab 2 is starred. After closing tab2, the previously tab 3 becomes starred, while it is expected that no tabs are starred. • Still assume we have tabs 1, 2, and 3, where tab 3 is starred. Closing tab 3 and adding a new tab, one gets a starred new tab (this is more likely to happen than not).

Notes:

- Because of the issue with its keyword searching mechanism, we cannot let the app show a disambiguation page or category page on purpose.
- [1] The noted bugs should belong to the same problem in the code.

Test Set 4: At Exit

#	Severity	Defects
1	S1	The app does not save article status or tab status at all. • It doesn't save anything even just moving the app to background and then back to foreground.

Test Set 5: Save for Offline Access

#	Severity	Defects
1	S1	The app does not save anything at all; not to mention save for offline access.
2	S1	The command "Save article" does not work at all. Thus one cannot save articles even manually.
3	S1	The app crashes _whenever_ one clicks "List of Articles Saved" command. • It is labeled S1 because it is one of the core functionalities of the app.
4	S2	App cannot withstand volume test. • One can crash the app by opening 4 "Adolf Hitler" entry pages, one "War in Afghanistan" page, and a "Gun laws in the United States by states" page. There are only 6 tabs and the program would crash.

We assume there is no offline browsing function in the app because it cannot save articles oro tabs, nor it can show a list of saved articles.

Test Set 6: Miscellaneous Commands

#	Severity	Defects
1	S1	"Share" button does not work. • Click on the share button and there is no response from app at all. • It is expected that the app shows a menu of the options one can use to share the article with other people.
2	S1	"Settings" button will close the app. • This seems an intentional behavior of the app.
3	S2	The language setting of the app can be changed only once; after that when one wants to switch to another language the loaded language list is always empty. • Some charsets are missing in the system.

4	S3	Some languages in the language list are shown as blank. • A typical page is "Software Engineering" one can get by searching for "software".
5	S1	When one switches to the nth language in the language list, the page actually loads the $(n+1)^{th}$ language. • This is marked S1 because of the 3rd defect listed in the table – once the language is changed one cannot change the language anymore.
6	S2	The "Cancel" button on the language selection pane actually works as "Submit" or "Confirm". When clicked it submits the query and changes the language. Also there is no actual "Cancel" button at all.
7	S2	One cannot zoom-in or zoom-out a page. • Zoom function is listed on the backlog.
8	S1	Click "List of Articles Saved" command and app will crash. • We give this issue a "Critical" level because offline browsing functions is one of the critical reasons for the app to exist.
9	S1	There is no in-page keyword search function. • It was alleged one of the core features of the app.

Test Set 7: Non-functional Tests

#	Severity	Defects
1	S2	The search bar, toggle menu (containing login, add to favorite, watchlist, and other items), and other elements from Wikipedia web page shows in the article pane. This is confusing because they seem to be within the scope of the app, or overlap the functions of the app.
2	S3	When loading languages, it prompts "Loading ***unavailable*** languages...". The word "unavailable" should be "available".
3	S3	The command string "List of *Articles Saved*" should be "*List of Saved Articles*".
4	S2	The app has serious compatibility issue. It can only work on Android emulator of version 4.4.2 with Galaxy Nexus profile, and does not work on other API versions. It does not work on Kindle Fire with Android 4.4.2, either.
5	S3	Pages load annoyingly slowly.