

STAYING AWARE OF RELEVANT FEEDS IN CONTEXT



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MOTIVATION

Developers face an avalanche of information daily.

Tuesday

5:32 am 7836 system_server consumes excessive CPU processing touch events

7:25 am 7037 Different virtual keyboards for landscape and portrait ori...

7:26 am androidosblog Mozilla unveils Firefox for Android pre-alpha ht...

7:51 am Do not play alarms if alarm stream volume is 0.

8:06 am 7589 Android dev team ignores its own bugtracker

8:07 am Use onStartCommand since onStart is deprecated.

8:11 am Fix issue 2192673: Music Pausing Even when notifications are set to silent.

8:12 am Just pushed out #Android NDK r3 with OpenGL ES 2.0 support. Downl...

8:14 am peterkumagai @catbaron7 Android携帯電話向けの音楽プレーヤ...

8:14 am MotoDroid @mikeod68 Well everything I could find about Ackwire poi...

8:17 am 7186 MediaPlayer not calling onPrepared() for certain MP3 files

8:20 am Service API changes starting with Android 2.0

8:21 am mariov59 RT @Techmem: It's Official: Adobe Flash support will be buil...

8:27 am [android-developers] ListView with multiple layouts formats in it

8:29 am Kill the alarm when a call comes in.

8:45 am 6 months agoFix issue #2154688: when alarm rings ,device does not wa...

8:48 am 7909 Camera preview does not work on HTC Desire

8:49 am [android-developers] problem to install .apk on phone

8:51 am 6954 App Watch

8:58 am Your feedback on Samples/Tutorials/Articles

9:14 am [android-developers] [Help] How to get current UTC time?

9:15 am Hey developers check out the new icon design guidelines, used in #Andr...

9:16 am [android-developers] Re: Typing English Text Results in Chinese Characte...

9:16 am Restore alpha channel on clock hand.

9:44 am Fix some copy-paste errors and acquire locks before launching the Activity.

9:46 am If the alarm fires while in a call, remember the call state since registerin...

9:56 am 7362 Japanese IME on by default in Emulator 2.0, 2.01 and 2.1

9:58 am 7240 No way to remind the birth dates from Contact

10:01 am Fix a permission typo.

10:05 am This Week's office hours

10:06 am 1942 Alarms don't work if phone is off

10:11 am 7522 "Stop" in browser takes forever to actually stop

10:12 am High-resolution (hdpi) artwork from TAT for AlarmClock.

10:19 am Android at the Game Developer's Conference

10:21 am Speech Input API for Android

10:29 am Android NDK r3

10:51 am Live wallpapers

10:54 am 3057: calendar alarms for all-day events are triggered on GMT

10:58 am [android-developers] SoftKeypad upon the Notification Bar

11:11 am 7115 android:windowSoftInputMode="stateAlwaysHidden" does n...

11:27 am Merge commit 'goog/readonly-korg-master' into merge_korg_...

11:28 am 3116 [Time Picker] Alarm clock GUI problem - need a redesign.

11:28 am Bug 1973471

11:31 am 7620 SMS limit issue

11:33 am [android-developers] URL.openStream() throwing FileNot...

11:37 am [android-developers] onCreate and orientation change

11:41 am wow android Android phones multiply http://bit.ly/cDQkns

11:42 am Thanks to everyone who came out to our London Android Develop...

11:48 am 7076 Email not supporting sending HTML content in the Body

11:49 am 7192 Bluetooth audio cannot be routed to BT devices from 3rd party...

11:53 am 6949 Can't access aggregate contact ID of Facebook raw contact

11:57 am Optimize your Android UI layouts with our new layout tool. http://bit...

11:58 am Fix the clock face preference.

12:00 am 7570 google-voice app respawns when closed

12:14 am I was clearing all the preferences when removing the snooze an...

12:48 am [android-developers] Developing a C++ static library for use wi...

12:48 am [android-developers] Frustrated with CheckBox/CheckedListVi...

1:04 pm Merge commit 'a50bd6dff1e8e17515fcb93c2769d4f9acbead15'

1:17 pm 7876 "get directions" button gone from browser on moto droid with 2...

1:34 pm Make the "This alarm is set for N hours from now" message more ...

1:56 pm 7664 Wrong Contact linked to text messages from companies It was

2:07 pm Android at Mobile World Congress

2:09 pm Changes to Google Calendar API

2:13 pm New resources and sample code on developer.android.com

2:16 pm concatenating the days/minutes/seconds segments together with...

2:26 pm Wake the screen before launching the AlarmAlert.

2:38 pm [android-developers] Lighting effects in android

2:40 pm Hello, Stack Overflow!

2:49 pm resolved conflicts for merge of 439d5bd5 to master

2:49 pm Change the time format to show 2 digits for 24-hour mode.

2:57 pm We just released updates to multiple components of the A...

3:00 pm 7493 Android won't always join remembered networks

3:02 pm merge from donut



Overlooking relevant information results in productivity loss. [1]

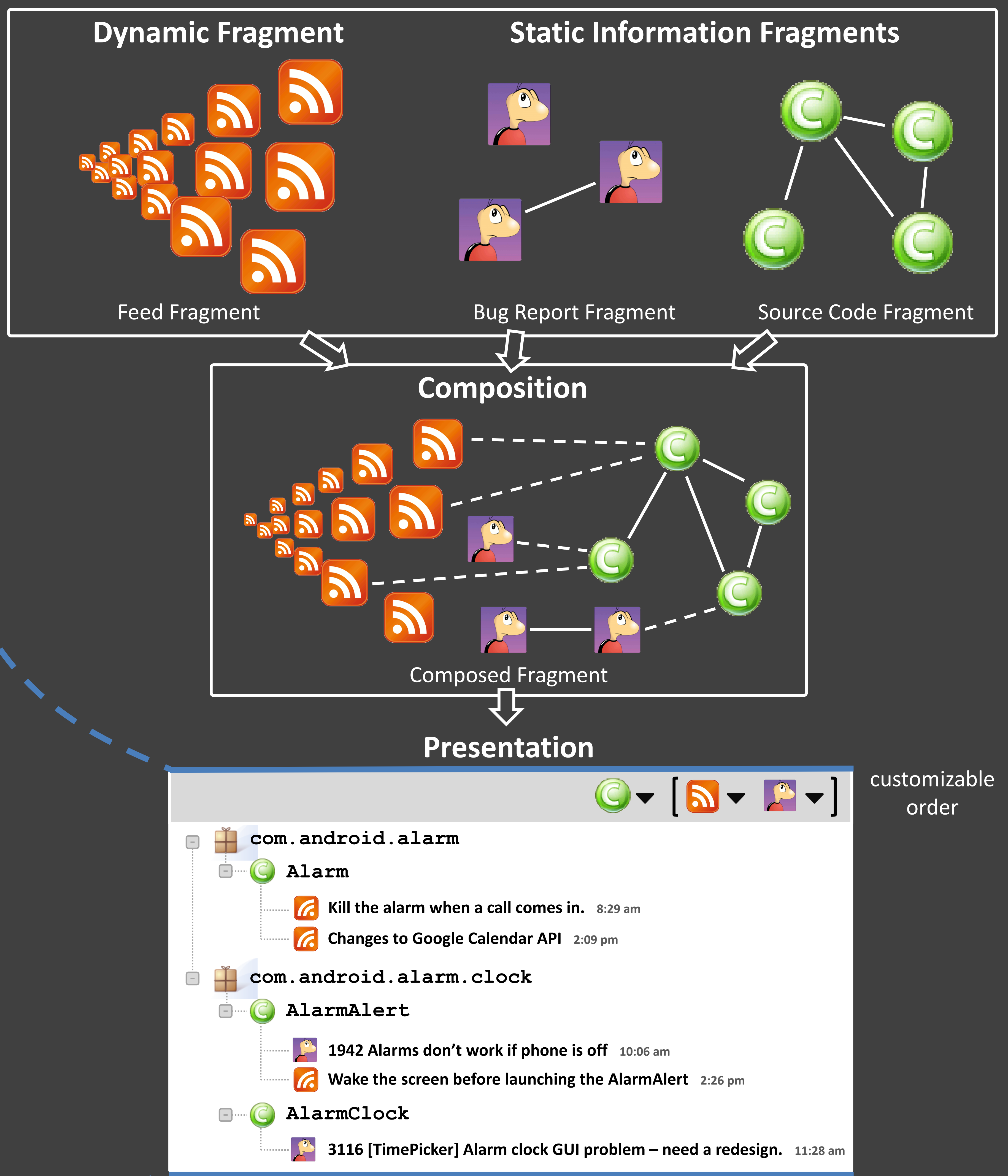
REFERENCES

- [1] D. Damian, L. Izquierdo, J. Singer, and I. Kwan. Awareness in the wild: Why communication breakdowns occur. In *ICSE'07*.
- [2] T. Fritz, and G. C. Murphy. Using information fragments to answer the questions developers ask. In *ICSE'10*.

APPROACH

Extending the Information Fragment Model with Dynamic Fragments

A feed is a stream of information that changes constantly with new incoming information items. Our approach extends our previous Information Fragment Model [2] with the concept of dynamic information fragments, such as feeds.



RESULTS & CONTRIBUTIONS

A fluid integration of dynamic and static information that provides a context for interpreting feeds and supports various means of ranking and filtering feeds. This allows a developer to stay aware of relevant information in his work context.

EVALUATION

Case Study with Professional Developers on jEdit

- H1: Composing feeds with information fragments from the developer's work allows her to retrieve relevant items with high precision and recall.
- H2: The "Awareness View" supports a developer in finding relevant items.
- H3: The composition of dynamic and static fragments provides context that helps the developer interpret the information items.