how do power users help and hinder open bug reporting?

Andrew J. Ko
Parmit Chilana
mailing lists
forums
What I Have Against Contextual Design and Personas

Posted by Alex Faaborg  April 7, 2010

Last night Boriss wrote a great post about the benefits of the contextual design process. Aspects of the contextual design process like the inquiry, work modeling and environment design are all incredibly important skills for a UX designer to have. However, I couldn’t disagree more with the premise that this process should have been applied by Lead Ubuntu designer Ivanka Majic in the design of the window manager.

Limitations of Contextual Design

Welcome to my blog. I’m a Principal Designer on Firefox, helping to develop its interactive design, visual design, and overall vision. On this blog you can find information about many of the user facing features being developed for future versions of Firefox.

Blogroll
- WordPress.com
- WordPress.org
microblogs
bug reports
bug reports

users + developers → new code!
(not just ideas for new code)
over the past 15 years, 150,000 people have submitted 500,000 bug reports trying to help the community improve and other F/OSS software
how well has this user/developer dialog worked?

bug reports

users → feedback! → patches! → devs
1. what **kind** of contributors submit reports?

2. what are the **outcomes** of their reports?

3. **why** do their reports have these outcomes?
how does open bug reporting work?

① what kind of contributors submit reports?

② what are the outcomes of their reports?

③ why do their reports have these outcomes?
a user sees something that violates their expectations...

“Why can’t I open this link in Safari?”
user visits **bugzilla.mozilla.org**
users are encouraged to look for an **existing bug report** that describes their issue

<table>
<thead>
<tr>
<th>Change in last day(s)</th>
<th>Component</th>
<th>Severity</th>
<th>Op Sys</th>
<th>Target Milestone</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Layout</td>
<td>normal</td>
<td>All</td>
<td>---</td>
<td>[INLINE] Too much space (for descenders) under image (&lt;img&gt;), e.g. in table cells</td>
</tr>
<tr>
<td>0</td>
<td>Startup and Profile System</td>
<td>critical</td>
<td>Windows XP</td>
<td>---</td>
<td>customized toolbar always reset to default on restart, bookmark engines lost, unable to add search engines (localstore.rdf corrupt, upgrade or crash). SEE URL FIELD FOR SUPPORT LINK</td>
</tr>
<tr>
<td>0</td>
<td>Widget: Win32</td>
<td>major</td>
<td>Windows 98</td>
<td>---</td>
<td>Mousewheel doesn't work with some driver/Win32 OS combination (scrolling)</td>
</tr>
<tr>
<td>0</td>
<td>Plug-ins</td>
<td>critical</td>
<td>All</td>
<td>---</td>
<td>Application shortcut keys (keyboard commands such as f11, ctrl, etc) fail to operate when plug-in (flash, acrobat, quicktime) has focus.</td>
</tr>
<tr>
<td>0</td>
<td>Layout</td>
<td>enhancement</td>
<td>All</td>
<td>---</td>
<td>(Warning 56k) Alt text is not displayed as a tooltip over &lt;img&gt;</td>
</tr>
<tr>
<td>0</td>
<td>Plug-ins</td>
<td>major</td>
<td>Mac OS X</td>
<td>Future</td>
<td>[OSX] Java applets draw on wrong tabs</td>
</tr>
<tr>
<td>0</td>
<td>Layout</td>
<td>critical</td>
<td>All</td>
<td>mozilla1.9beta1</td>
<td>Splitting Absolutely positioned frames not implemented - Missing page of content when printing or print previewing this site</td>
</tr>
<tr>
<td>0</td>
<td>General</td>
<td>enhancement</td>
<td>All</td>
<td>Firefox1.0</td>
<td>Options for where to open URLs from other applications (reuse)</td>
</tr>
</tbody>
</table>
if they don’t find one, they submit a new bug report...

**Summary**

A sentence which summarises the problem. Please be descriptive and use lots of keywords.

*Bad example:* mail crashed  
*Good example:* crash if I close the mail window while checking for new POP mail

**Details**

Expand on the Summary. Please be as specific as possible about what is wrong.

*Bad example:* Mozilla crashed. You suck!  
*Good example:* After a crash which happened when I was sorting in the Bookmark Manager, all of my top-level bookmark folders beginning with the letters Q to Z are no longer present

**Reproducibility**

Happens every time.

**Steps to Reproduce**

1.  
2.
Bug List: (This bug is not in your last search results)  Show last search results

Bug 172962 - Options for where to open URLs from other applications (reuse tab, new tab, new window)

Status: RESOLVED FIXED  
Whiteboard: conversion, fixed-aviary1.0 
Keywords: conversion, fixed-aviary1.0 
Product: Firefox  
Component: General  
Version: unspecified  
Platform: All All  
Importance: P3 enhancement with 64 votes (vote)  
Target Milestone: Firefox1.0  
Assigned To: Dan M  
QA Contact: 

URL: 

Depends on: 255123  
Blocks: 128632 75138 99945 103843 121969  
161466 257011 258076 263956 267249  
Show dependency tree / graph  

Reported: 2002-10-06 15:23 PDT by Duey
Modified: 2009-11-24 21:21 PST (History)  
CC List: Add me to CC list  
119 users (edit)  
2005@bdam.de  
alex@spamcop.net  
ali@ebrahim.org  
ask@swva.net  
asqueella@gmail.com  
beltzner@mozilla.com  
benjamin@mozilla.com  

Flags: 

bugs: blocking-aviary1.0PR  
jst: blocking-aviary1.0  
block19.0.19  
blocks18.1.next  
wanted18.1.x  
block18.0.next  
wanted18.0.x  
in-testsuite  
indimyus
**reporter**
who created
the report

**date**
when the
report was
created

**assignee**
the developer
assigned to
resolve this
report

**resolution**
the reason
the report
was closed

**FIXED**
DUPLICATE
INCOMPLETE
WONTFIX
WORKSFONE
INVALID
screenshots, patches, test cases, mockups, etc.

attachment attacher date

<table>
<thead>
<tr>
<th>Attachments</th>
<th>Details</th>
<th>Diff</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>the strings</strong> (1.17 KB, patch)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004-08-30 16:41 PDT, Mano</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>base code to control where URLs are opened</strong> (19.04 KB, patch)</td>
<td></td>
<td></td>
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<tr>
<td>2004-09-19 16:54 PDT, Dan M</td>
<td></td>
<td></td>
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<tr>
<td><strong>optional addition to divert window.open to a new tab</strong> (5.36 KB, patch)</td>
<td></td>
<td></td>
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<tr>
<td>2004-09-19 16:58 PDT, Dan M</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>pref UI</strong> (6.74 KB, patch)</td>
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<td></td>
</tr>
<tr>
<td>2004-09-19 17:00 PDT, Dan M</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>windows-only native hookup of external URL control</strong> (5.03 KB, patch)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004-09-19 17:03 PDT, Dan M</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>mac-only native hookup of external URL control (Aviary branch)</strong> (7.35 KB, patch)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004-09-30 13:13 PDT, Dan M</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>linux-only native hookup of external URL control (Aviary branch)</strong> (6.97 KB, patch)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004-09-30 17:18 PDT, Dan M</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>don't divert window.open to a new tab if the named</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004-09-19 16:58 PDT, Dan M</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See Also:

- blocking1.9.3: ---
- status1.9.3: ---
- blocking1.9.2: ---
- status1.9.2: ---
- blocking1.9.1: ---
- status1.9.1: ---
I think this feature would be important. I, myself, prefer links to open new windows. Others would prefer them to use an existing window. Now that you can also browse with tabs, other people might like a combination of the two (open a new tab in an existing window).

Right now it's pretty much random for me. Some applications open links in a new window while others seem to always use the top most window. However, I think it's important that opening new links be consistent. I can't get all of my applications to do the same thing, so it's logical that I should be able to set my browser to act only one way.

I would like to open up this enhancement for Phoenix since (I think) the developers of Phoenix can add features independent of Mozilla. However, I'll understand it if you feel this isn't that important. At least you will have considered it.

Reproducible: Always

Steps to Reproduce:

 commenter

Anyone interested in this bug can add information to the report.
a typical report lifespan

original report
comment
comment
screenshot
comment
comment
patch 1.0
comment
patch 2.0
code review
patch 3.0
closed
1. What kind of contributors submit reports?

2. What are the outcomes of their reports?

3. Why do their reports have these outcomes?
1. what kind of contributors submit reports?

- downloaded **496,766** reports
- 15 years of reports, including Netscape years
- **152,877** unique e-mail addresses
- **64%** contributed to only 1 report

who was behind these **152,877** addresses?
who was behind these 152,877 addresses?

1% \textbf{CORE} developers, drivers, super reviewers, module owners, peers
who was behind these 152,877 addresses?

1% **CORE** developers, drivers, super reviewers, module owners, peers

1% **ACTIVE** developers assigned bug reports
who was behind these 152,877 addresses?

- **1%** CORE developers, drivers, super reviewers, module owners, peers
- **1%** ACTIVE developers assigned bug reports
- **80%** REPORTERS reported and commented on bug reports responsible for 54% of reports
who was behind these 152,877 addresses?

1% **CORE** developers, drivers, super reviewers, module owners, peers

1% **ACTIVE** developers assigned bug reports

80% **REPORTERS** reported and commented on bug reports responsible for 54% of reports

18% **USERS** only commented on bug reports
# of active contributors by type, per 6 month period

Reporters and users fluctuate. Spike before a release.

- Firefox 0.1
- Firefox 1
- Firefox 2
- Firefox 3

- Reporters
- Users
- Active
- Core
1. What kind of contributors submit reports?

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1. what **kind** of contributors submit reports?

   mostly non-developer, one-time contributors who were active pre-release (REPORTERS)

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3. why do their reports have these outcomes?
1. what kind of contributors submit reports?

mostly non-developer, one-time contributors who were active pre-release (REPORTERS)

2. what are the outcomes of their reports?

3. why do their reports have these outcomes?
what are the outcomes of their reports?

most developer reports are fixed
what are the outcomes of their reports?

only 13% of REPORTER reports were fixed
half of fixed reports were reported by ~8,000 REPORTERS

what are the outcomes of their reports?
what are the outcomes of their reports?

most **REPORTER** reports were duplicate, worksforme, or invalid
wete the duplicates *useful*?

73% of REPORTERs’ duplicates referred to *fixed* reports

70% of REPORTERs’ duplicates referred to issues known for > 1 month

66% of REPORTER duplicates of *fixed* reports were created *after* a patch was attached

↓

most REPORTER reports identified issues that were already known already patched
# of REPORTER reports by resolution (per 3 months)

dropped since the alpha version...
% of REPORTER resolution types (per 3 months)

↑ likelihood of invalid or incomplete

↓ likelihood of fixed
% fixed reports by contributor type (per 3 months)

proportion by REPORTERs has dropped since 1.0
1. What **kind** of contributors submit reports?
   Mostly non-developer, one-time contributors active pre-release (**REPORTERS**)

2. What are the **outcomes** of their reports?

3. Why do their reports have these outcomes?
① what kind of contributors submit reports?
mostly non-developer, one-time contributors active pre-release (REPORTERS)

② what are the outcomes of their reports?

REPORTERS contribute a lot of reports, but they are increasingly redundant, invalid, or incomplete, and generally not fixed

③ why do their reports have these outcomes?
1. what **kind** of contributors submit reports?
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   **REPORTERS** contribute a lot of reports, but they are increasingly redundant, invalid, or incomplete, and generally not fixed

3. **why** do their reports have these outcomes?
why do their reports have these outcomes?

a qualitative analysis of reports with REPORTER and USER comments

100 100 100 100 100 100
fixed incomplete invalid worksforme duplicate wontfix

+ 40

reports with USER comments (5% of all reports)
fixed reports
13% of REPORTER reports

terse, productive
an obvious shared understanding of process
usually a single REPORTER followed by a patch
some involved diagnosis by the REPORTER
before a patch could be written
incomplete, invalid, worksforme reports
38% of REPORTER reports

problems were ambiguous and ego-centric

1/3 identified issues already resolved in a recent build

“have you tried the latest nightly build?”

2/3 two thirds identified problems caused by exotic configurations:

“So i trashed the preferences and all was fine again. thank you all for your time. everyday mozilla is getting better, thank to people like you!” (104347:7)
duplicate reports
42% of REPORTER reports

most were about widely experienced problems with nightly builds

88/100 were marked duplicate on the same day

most had only 1 comment, reminding reporters to check for duplicates

only 12/100 had attachments, such as logs and screenshots
wontfix reports
3% of REPORTER reports

narrow expert feature requests

“it would be nice if I could...”

half explained the resolution, saying the feature was not broadly useful to “regular” users

the rest were denied because the request was supported through other means (e.g., plug-ins)

some REPORTERs expressed frustration

“If you don't change Thunderbird, then Firefox on Mac must be changed, it must be done the same way. (383036:3)”
reports with **USER** comments
5% of all reports

regarded **contentious** Firefox design choices

  bookmarks, location bar, file handling, keyboard shortcuts, tabs, security, history

most **REPORTER** and **USER** contributions expressed

  agreement ("me too!")
  frustration ("this is ridiculous!")
  confusion about the process ("why was it closed?")
Forcing my users to retype the filename (presuming they even know what it should be) is just plain oppressive, IMHO... The organizations (large choral groups) for which I'm creating sites use the right-click save extensively to download (instead of play in their browsers) audio files for rehearsing music. ... *It's just *code*, guys. Figure it out.* (299372:49:reporter)
Over two months ago I gave complete information on when and how I got the error AND spent a great deal of time isolating the messages that caused it ... Which part of that is just saying "me too"?

For crying out loud, I'm a nursing student, not a programmer. Do you do your own x-rays before going to the doctor? (252697:10:user)
contentious reports with **USERs**
5% of all reports, 40 sampled

**REPORTERS** expected service for payment

Mozilla "Foundation", you have cash, you have the resources. FIX IT. **PEOPLE DONATED MONEY TO HAVE YOU *FIX THIS KIND-OF SHIT*...This is the *EXACT* sort-of situation that shows why open-source *FAILS*.
OK, calm down everyone. How many times do I have to say it? It's what we want to try out to start with. That is not code for "we've made a decision" or "your arguments all suck and we're going to ignore them"... That's what the trunk is for. Experimentation. We want to do a UI experiment.

contentious reports with **USERs**
5% of all reports, 40 sampled

developers tried to explain the process
1. what kind of contributors submit reports?
   mostly REPORTERS: non-developer, one-time contributors

2. what are the outcomes of their reports?
   REPORTERS contribute a lot of reports, but they are increasingly redundant, invalid, or incomplete, and generally not fixed

3. why do their reports have these outcomes?
1. **what kind** of contributors submit reports?

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2. **what are the outcomes** of their reports?

   **REPORTERS** contribute a lot of reports, but they are increasingly redundant, invalid, or incomplete, and generally not fixed

3. **why** do their reports have these outcomes?

   **REPORTERS** understood very little of the process or the large context of decisions being made, leading to missing information and egocentric requests
how well has this user/developer dialog worked?
the ~8,000 successful REPORTERs act like **closed source beta testers**
most active before a release
effective at writing good reports
trained over several years
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most active before a release
effective at writing good reports
trained over several years

all other REPORTERs were far less effective

most of their issues should have been triaged by a **tech support**
misunderstandings about process sometimes led to friction
bug reporting is a skill

open bug reporting communities appear to cultivate this skill

few contributors acquire these skills, perhaps because are early negative experiences

bug reporting is not an effective place to gather user feedback

REPORTERs beta testers

in release good reports years

were far less could have tech support

about process function
future work

what kinds of bug reporting tools and processes are best at training effective bug reporters?

what other forms of dialog between users and developers can engage less technical users?

how can open source developers help users understand why progress is slow?
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