### WHO CARES IF THE CODE IS FRE? USER EXPERIENCE (UX) & OPEN SOURCE

MÁIRÍN 'MO' DUFFY

Principal Interaction Designer



### OPEN SOURCE == BADUX

The success of Slack says more about the lack of our UX
 skills as open source scene than it says about Slack's
 engineering.

- Johannes 'fish' Ziemke (@discordianfish) January 25, 2017

https://twitter.com/discordianfish/status/824281126353125377

19

	IRC	A lot of things a society chan	<b>3</b> ·		
	1988	RFC 1459 1993		2013	}
980	19	<b>1995</b> Windows 95 <b>90</b>	2000	2010	2017

# LOST POTENTIAL

THE PLOT SUMMARY:

### YET ANOTHER STARTUP....

SHINY, CONVENIENT...

PROPRIETARY, NO OPEN STANDARD....

GONE IN A FEW MONTHS...

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### LONGEVITY

NICE TRY

"Hey, our API is open! You can use it!"
"Well... our client is open source!"
We use open source technology and contribute back."

That's great, but you still might....

- Hold and control user data, sometimes indefinitely.
- Surveil users: monitor and analyze activity.
- Steal users' time and attention and sell them or profit.
- Could go out of biz or get bought anytime.

**PURPOSE** 

# GREATER GOOD



PROFIT

OPEN SOURCE CUSTOMIZEABLE BENEFITS ALL PROPRIETARY COMPANY

ONE SIZE FITS ALL

**BENEFITS FEW** 

# OPEN SOURCE UX ISSUES



# INTEGRATION

"Lulzbot Mini 3D Printer" by Maurizio Pesce on Flickr, Creative Commons Attribution 2.0





"Scratching its back" by Maëlick on Flickr, Creative Commons Attribution ShareAlike 2.0

### WHAT IS UX?

# WHAT UX IS NOT...





Where once engineers used to rely on raw programming languages to create software; today, they build from open-source libraries and preexisting technology platforms. In the consumer internet world in particular, the marginal cost of software is zero-and design is now the differentiator.

"The past, present, and future of design in Silicon Valley" Steve Vassallo, Tech Crunch

https://techcrunch.com/2017/04/30/the-past-present-and-future-of-design-in-silicon-valley/

# IF YOU BUILD IT, THEY MIGHT NOT COME.

CI OF THE

"Zakim Bridge" by Robbie Shade on Flickr, Creative Commons Attribution 2.0

# UNDERSTAND THE USERS

Example: usersys static IP



USERS ASK FOR THINGS. THE WHY MATTERS.

# HOW?

### UX DESIGN PROCESS



**USER RESEARCH** 

DESIGN IMPLEMENTATION

**DESIGN VALIDATION** 

### USER RESEARCH PROCESS

GATHER DATA

 $\bullet$ 

ANALYZE DATA

### PRIORITIZE FINDINGS

"Tracing Relations" by Neil Cummings on Flickr, Creative Commons Attribution-ShareAlike 2.0

RESEARCH DESIGN VALIDATION

Affinity Map





### DESIGN PROCESS

### **GENERATE IDEAS**

 $\bigcirc$ 

### ORGANIZE IDEAS

### CHOOSE A DIRECTION, PROTOTYPE

 $\bullet$ 



"Brainstorms at INDEX: Views" by Jacob Bøtter on Flickr, Creative Commons Attribution 2.0

ESEARCH DESIGN VALIDATION

### VISUAL HIERARCHY



What's most important?

What stands out the most visually?

### ORDERING

Sometimes alphabetical order isn't the best way to order things.

#### lists.fedoraproject.org Mailing Lists

#### Welcome!

List

Below is a listing of all the public mailing lists on lists.fedoraproject.org. Click on a list name to get more information about the list, or to subscribe, unsubscribe, and change the preferences on your subscription. To visit the general information page for an unadvertised list, open a URL similar to this one, but with a '/ and the list name appended.

List administrators, you can visit the list admin overview page to find the management interface for your list.

If you are having trouble using the lists, please contact mailman@lists.fedoraproject.org.

Description

#### CATEGORIES OF LISTS

announce	commits
region	community
teãm	users '
project	event
project tickets	year

List	Description	····· ···· /··
<u>389-announce</u>	Announcements for the 389 Directory server project	
389-commits	List of git/CVS commits to the 389 Directory server project	could these be grouped together? clearly they're related
<u>389-devel</u>	389 Directory server developer discussion.	clearly they're related.
389-users	General discussion list for the 389 Directory server project.	
<u>Ada</u>	Fedora Ada SIGis this group still active? I haven't heard	of it before.
advisory-board	Fedora community advisory board	
ambassadors	[no description available]	nly Italy have its own list?
ambassadors-it	[no description available]	
announce	Announcements related to the Fedora Project this seems pretty	major, maybe should be called out specially?
ANZ	Fedora Australia & New Zealand Are there other re	egional lists? Should they be grouped together?
arm	Fedora Australia & New Zealand     Are there other re       Discussions about the Fedora ARM Project     GEOIP to suggest p	otential relevant ones?
arm-builds	[no description available] The two ARM lists should be gro	ouped together.
<u>astronomy</u>	[no description available]	
badges	Discussion of the Open Badges Infrastructure Should developmen	it projects be grouped together?
bangladesh-users	Fedora Bangladesh Discussion List	
<u>bigdata</u>	Fedora Big Data SIG	
board-private	Fedora Board discussion of sensitive issues If it's private it could	d be called out differently.
br-devel	Lista de Discuss�o voltada para os Desenvolvedores Brasileiros do Fed	ora
<u>br-edu</u>	[no description available]	
br-users	Lista de discuss�o voltada para os usu�rios brasileiros do Fedora	Why does Brazil have its own devel list? Another candidate for grouping.
brasil-marketing	Lista dos embaixadores brasileiros do Projeto Fedora	
<u>buildsys</u>	Discussion of Fedora build system	
Campus-ambassadors	[no description available]	
Chinese	Fedora Chinese Is this discussion in Chinese, of Chinese	e (translations), or the Chinese community?
<u>classroom</u>	Fedora IRC Classroom discussion and feedback list	
<u>cloud</u>	Fedora Cloud SIG	
cwg	[no description available]	

Community Marking Cr

### ORDERING

Sometimes alphabetical order isn't the best way to order things.

		Search all lists <b>Q</b> & Manage lists D Sign In 🚑 Sign Up
Available lists		Most popular Most active By name Newest
		Find list
LIST	DESCRIPTION	ACTIVITY IN THE PAST 30 DAYS
devel devel@lists.fedoraproject.org	Development discussions related to Fedora	220 participants 267 discussions
USERS users@lists.fedoraproject.org	Community support for Fedora users	<ul> <li>95 participants</li> <li>66 discussions</li> </ul>
FreeIPA-users freeipa-users@lists.fedorahosted.org	FreeIPA users list	<ul> <li>77 participants</li> <li>80 discussions</li> </ul>
LNST-developers Inst-developers@lists.fedorahosted.org		<ul> <li>▲ 58 participants</li> <li>♥ 62 discussions</li> </ul>
Flock-attendees-2017 flock-attendees-2017@lists.fedoraproject.org	Flock 2017 Attendee List	<ul> <li>▲ 49 participants</li> <li>Q 27 discussions</li> </ul>
libteam libteam@lists.fedorahosted.org		<ul> <li>▲ 42 participants</li> <li>♥ 55 discussions</li> </ul>
infrastructure infrastructure@lists.fedoraproject.org	Fedora Infrastructure	a 34 participants 42 discussions
test test@lists.fedoraproject.org	For testing and quality assurance of Fedora releases	<ul> <li>▲ 29 participants</li> <li>▲ 168 discussions</li> </ul>
trans trans@lists.fedoraproject.org	Fedora Translation Project List	▲ 28 participants № 14 discussions
ambassadors ambassadors@lists.fedoraproject.org		27 participants

# PROGRESSIVE DISCLOSURE

By default, show the basics, and allow user to open up more options / controls if and as needed.

<	Region	a & Language	_ ×		<	Region & Language -
						Input Source Options ×
	Language	English (United States)				● Use the same source for all windows
	Formats	United States (English)				○ Allow different sources for each window
						Keyboard Shortcuts
	Input Sources	Options				Switch to previous source Shift+Super+Space Switch to next source Super+Space
	English (US)					You can change these shortcuts in the keyboard settings
	Irish					
	+ -	^ <b>v</b>		100		+ - ^ ~ 📼

"Onion Skin" by June Seita on Flickr, Creative Commons Attribution 2.0

# CURATION

Chunking like controls and information together and eliminating extraneous items.







# **CONTEXTUAL HINTS**

Putting information / tips right where a given control / item is on the screen is the most visible and useful place for it.

<		Us	sers	<u></u>	Jnlock –	×	
My Account           Máirín Duffy           duffy	Password Automatic Login	Máirín Du					
	Last Login	Sep 18,					
				vord		Chang	ge ✓
			New Passw	Good passwo punctuation		etters, numbers and	$\mathbf{\dot{>}}$
			Verify New Passw	vord			

### DIFFERENT TOOLS FOR DIFFERENT AUDIENCES

Sometimes the user audiences are divergent enough that more than one focused tool can meet their needs better than one tool that tries to address everything.

WELCOME TO FEDORA 2	1.		
What language would you like to us	e during the installation process?		
বাংলা		(United States)	
Bosanski		(United Kingdom)	
Català		(India)	
Čeština		(Australia)	
Cymraeg		(Canada)	
Dansk	Danich	(Denmark)	
Ελληνικά	Englist	(Ireland) (New Zealand)	
English	Engust	(New Zealand) (Nigeria)	
Español		(Hong Kong SAR China)	
Eesti	Estonian Englist	(Philippines)	
Euskara		(Singapore)	
فارسي	Persian	(South Africa)	
Suomi	Finnish	(Zambia)	
Galego	Collision	(Zimbabwe) (Botswana)	
		(bocswana)	
Type here to search.	Ð		

#### #version=DEVEL

# System authorization information
auth --enableshadow --passalgo=sha512

# Use CDROM installation media
cdrom
# Run the Setup Agent on first boot
firstboot --enable
ignoredisk --only-use=sda
# Keyboard layouts
keyboard --vckeymap=us --xlayouts='us','ie'
# System language
lang en\_US.UTF-8

# Network information
network --bootproto=dhcp --device=eml --ipv6=auto --activate
network --hostname=pandafortress
# System timezone
timezone America/New\_York
user --groups=wheel --homedir=/home/duffy --name=duffy
# X Window System configuration information
xconfig --startxonboot
# System bootloader configuration
bootloader --location=mbr --boot-drive=sda
autopart --type=plain
# Partition clearing information
clearpart --all --initlabel --drives=sda

#### %packages



# a from primerrar



while recipe from colleague

### VALIDATION (USABILITY TESTING)



#### So, what did you learn about Hyperkitty?

Our full test results, including the full text from the user's task notes buffers as well as the user questionnaires (listed In full per user as well as across user per question), are available on the Hyperkitty trac wiki:

#### fedorahosted.org/hyperkitty/wiki/SpinachConZero

At a high-level, we drew a few pretty strong conclusions from the testing experience:

#### 1. Hyperkitty's search needs more work.

Only 1 of the 8 testers was able to find the GPT posting from March 2012 In task #4! Suggestions the users offered here included:

- listing more than 10 results per search results page
- allowing users to sort the search results
- allowing users to search only within a certain time period (e.g., only in March 2012)
- · simplifying the search results listing of posts
- making the search box easier to find / more apparent
- · have an 'advanced search' page with a lot more searching tools
- · filter search results to only threads you were involved in

#### 2. The users enjoyed Hyperkitty's look and feel.

Multiple testers asked me about how to set up Hyperkitty for their own usage after completing the test. Hyperkitty earned the following average user ratings on the user questionnaire:

- Aesthetics: 8.4 out of 10
- Intuitive: 8.0 out of 10
- User-Friendly: 7.6 out of 10
- Professional: 8.6 out of 10

#### 3. The left-hand nav / filters for the mailing list overview weren't visible to users.

Only one of the 8 testers discovered the left nav on the hyperkitty list overview that would have allowed them to sort the lists by popularity (making task #2 super-easy!)

#### 4. Users didn't seem to notice the search box.

Only a few of the users noticed the search box. Most users, while on the devel list overview page, noticed the year/month listings in the left nav and clicked to March 2012 when completing task #4. Only a few tried to use search, and most only after browsing to March 2012 first.

#### 5. Tagging needs more work.

Aaron, one of our testers, had a lot of interesting thoughts on making tags useful. For example, we should suggest tags already in use in the system (maybe via tag cloud, maybe via some other mechanism) to prevent users coming up with different tags for the same thing (or at least, preventing that as much as possible.) Some of the users also had a hard time finding the tags – they are associated with threads, not individual posts, so they are on the right-hand side of the thread view. Another issue that came up – some users weren't sure if the tags were for their own personal usage or if they were viewable to everyone in the system. (The latter is the case!)

#### Summary

Overall we got a ton of great ideas, feedback, and information from SpinachCon, and it was a really valuable experience. Deb mentioned we may be doing another SpinachCon in the Boston area later this spring; I am totally evolved to being the being and the being does not be a set of the be

### USABILITY TEST RESULTS ARE USELESS...

...unless you prioritize addressing the issues you uncover in your roadmap!

Please do this!
### MAKING THIS WORK IN AN OPEN SOURCE CONTEXT



### **#1 Be inclusive**

#### Avoid technical user echo chambers.

The Users We Need (For the ubiquity of software freedom we all crave)

### **#2 Don't displace existing users**

#### Augment and/or federate instead of replacing core functionality.

Think about city planning...

#### mailman email

#### hyperkitty web ui

1 A %

> days inactive devel@lists.fedoraproject.org Manage subscription 5 comments

a 2 participants

TAGS (0)

£θ. Massullo

\* Add to favorites

PARTICIPANTS (2)

Hans de Goede

> older

[Fedocal] Reminder meeting :..

5

days old

From Hans de Goede <hdegoede@redhat.com></hdegoede@redhat.com>	WPERKITTY	Search this list Q A Manage
Subject Improving Linux laptop battery life: Testers Wanted 09/14/2017 07	:22 AM	Improving Linux laptop battery life: Testers Wante
To Development discussions related to Fedora <devel@lists.fedoraproject.org< td=""><td>2017 Fedora rawhide compose re</td><td></td></devel@lists.fedoraproject.org<>	2017 Fedora rawhide compose re	
Tags Important	September Hans de Goede	Thursday, 14 September 2017 6:22 a.m.
<pre>Hi All, My next project for Red Hat is to work on improving Linux laptop battery life. Part of the (hopefully) low hanging fruit here is using kernel tunables to enable more runtime powermanagement. Wy first target here is SATA Link Power Management (LPM) which, as Matthew Garrett blogged about 2 years ago: https://mig59.dream.idth.org/34868.html can lead to a significant improvement in battery life. There is only one small problem, there have been some reports that some disks/S50s don't play well with Linux' min power LPM policy and that this may lead to system Crashes and even data corruption. As such I've written a new LPM policy, which matches the power-management defaults from the Intel RT Windows drivers. Since it mimicks Windows, this new policy will hopefully not hit any SSD firmware bugs like min power sometimes does. So now I'm looking for people with a laptop with a SATA SSD or HDD to help me test this to make sure this won't cause any issues when we enable this by default for F28, for more details and test instructions see: https://hansdegoede.livejournal.com/18412.html Regards, Hans devel mailing list devel@lists.fedoraproject.org To unsubscribe send an email to devel.leave@lists.fedoraproject.org</pre>	August July June	
	January Part of the (hopefully) low he enable more runtime power	April Hi All, March Wy next project for Red Hat is to work on improving Linux laptop battery life. February Part of the Upopelitivity lew bancing for these is using kernel turghtee to
	2016 waragemein (Lrw) winch, a https://mg59.dreamwidth.org can lead to a significant imp	g/34868.html
		plem, there have been some reports that some tith Linux' min_power LPM policy and that this and even data corruption.
	2014 defaults from the Intel RST this new policy will hopefully	PM policy, which matches the power-management Windows drivers. Since it mimicks Windows, r not hit any SSD firmware bugs like min_power
	2013 sometimes does.	
	me test this to make sure th	le with a laptop with a SATA SSD or HDD to help is won't cause any issues when we enable this details and test instructions see:
	2011 https://hansdegoede.livejour Regards,	ial.com/18412.html
	2010 Hans	0 0 / Q 0
	2009	Show replies by date
	2008 Germano Mass	ullo Thursday, 14 September $7{:}44~a.m.$ $\overline{A}$ %
	2007 Hi Hans, I can provide ~1	) different Thinkpad models to test your code.
	2006 Looking forward to start! Have a nice day	
	See	Ô 0 / Q 0
	2004 Hans de G	oede Sunday, 17 September 8:39 a.m. A %
	<b>Э</b> 2003 ні,	

#### **#3 Establish boundaries**

Avoid design by committee by being clear about what you need feedback on and what you do not and who is making the final decision.

The **Open Decision Framework** is a great method to follow:

https://github.com/red-hat-people-team/open-decision-framework

You can use **Gamestorming** techniques to focus discussion: <a href="http://gamestorming.com">http://gamestorming.com</a>

#### **#4 Avoid conflict with transparency**

No design decisions make 100% of those involved happy. In the absence of information, people assume the worst. It's easier to make peace with a decision you disagree with when you understand why it was made.

Be transparent from the start.

The **Open Decision Framework** can help with this, too:

https://github.com/red-hat-people-team/open-decision-framework

#### **#5** It's easier to add, harder to remove

If you're not sure that the software needs a particular feature - don't add it. It is much easier to add something later than to remove it.

Example: anaconda partition cylinder placement

LAIESI: 10.17 UPDAIE CHANGES IN VERSION 10.17: THE CPU NO LONGER OVERHEATS WHEN YOU HOLD DOWN SPACEBAR. COMMENTS: LONGTIME USER4 WRITES: THIS UPDATE BROKE MY WORKFLOW! MY CONTROL KEY IS HARD TO REACH, 50 I HOLD SPACEBAR INSTEAD, AND I CONFIGURED EMACS TO INTERPRET A RAPID TEMPERATURE RISE AS CONTROL". ADMIN WRITES: THAT'S HORRIFYING. IONGTIMEUSER4 WRITES: LOOK, MY SETUP WORKS FOR ME. JUST ADD AN OPTION TO REENABLE SPACEBAR HEATING.

EVERY CHANGE BREAKS SOMEONE'S WORKFLOW.

### DESIGN CULTURE IS DIFFERENT

It's OK. Here's how to work together:

#1 perspective

#### Designers focus on people.

We can help you focus on the problem to solve.

### Developers focus on technology. You are the expert in determining the best technology to solve it.



### "Drive-by" UX is hard. How do you submit a UX "patch"?



UX contributions require a longer-term commitment because of the depth they require. #3

Idealism v. pragmatism

# Designers tend to use closed-source, proprietary tools.

They don't **need** to, mind you.

#### But... be nice!

Start with standard, open formats for assets and go from there...

Their annoyance at the "Creative Cloud" is an opportunity here...







no ace in the hole

In open source, often they who have commit rights and code have the final say.

Designers don't have this. You need to visibly and publicly support their work in your community to help balance this out. **#6** shared vision

The open source vision is compelling and inspiring to designers.

Please remember as in any cultural differences in opinion involving open source...

We have an authentic shared vision we passionately believe in: improve the world with open source technology, making software freedom accessible to all.

### WHERE WILL THE DESIGNERS COME FROM?

### UX designer



open source contributor

# TRAINING

open source contributor



UX designer



### OPEN SOURCE DESIGN COMMUNITY

http://opensourcedesign.net/

Job Board & Forum

### INTERNSHIPS

Outreachy University Partnerships Your Company? **REMEMBER...** 

## GREATER GOOD



### LET'S HELP PEOPLE SOLVE PROBLEMS WITHOUT BECOMING A PRODUCT THEMSELVES, USING OPEN SOURCE.

Thank you.