A Short Note About Short Notes (to Self)

Note to Self: Examining Personal Information Keeping in a Lightweight Note-Taking Tool

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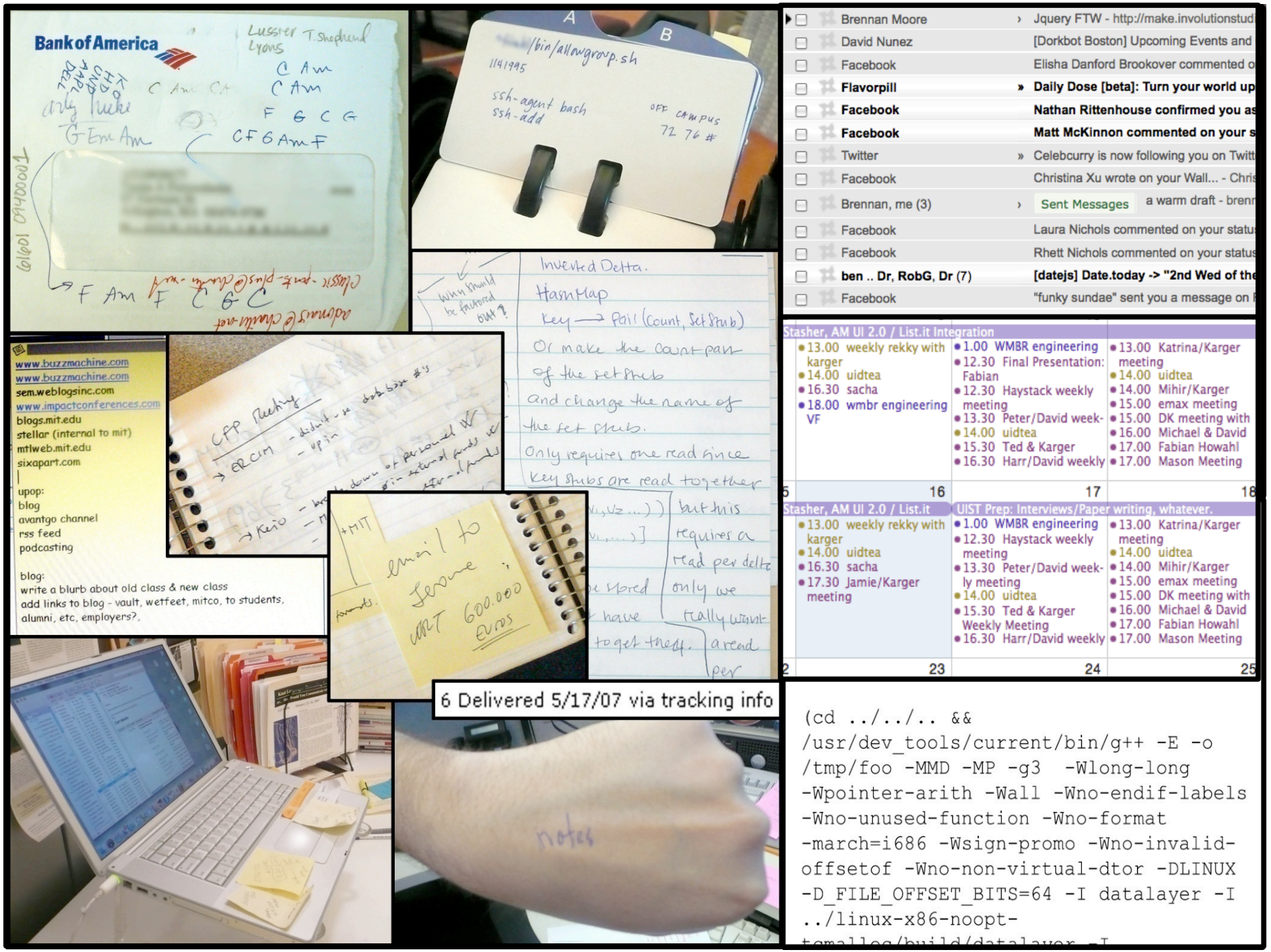
with Michael Bernstein, Katrina Panovich, Greg Vargas,
David Karger, and mc schraefel

CHI 2009 in Boston
April 8, 2009


Bank of America
Lussier Lyons
T. Shepherd
/bin/allowgroup.sh
1141995
ssh-agent bash
ssh-add
OFF CAMPUS
72 76 #
Inverted Delta.
HashMap
Key → Pair (Count, Set Stub)
Or make the count part of the set stub and change the name of the set stub.
Only requires one read since key stubs are read together
but this requires a read per delta only we really want a read per
www.buzzmachine.com
www.buzzmachine.com
sem.weblogsinc.com
www.impactconferences.com
blogs.mit.edu
stellar (internal to mit)
mtlweb.mit.edu
sixapart.com
upop:
blog
avantgo channel
rss feed
podcasting
blog:
write a blurb about old class & new class
add links to blog - vault, wetfeet, mitco, to students, alumni, etc, employers?,
CFP Meeting
email to Jerome
600.000 Euros
6 Delivered 5/17/07 via tracking info
notes
Brennan Moore
Jquery FTW - http://make.involutionstud
David Nunez
[Dorkbot Boston] Upcoming Events and
Facebook
Elisha Danford Brookover commented o
Flavorpill
Daily Dose [beta]: Turn your world up
Facebook
Nathan Rittenhouse confirmed you as
Facebook
Matt McKinnon commented on your s
Twitter
Celebcurry is now following you on Twitt
Facebook
Christina Xu wrote on your Wall... - Chris
Brennan, me (3)
Sent Messages
a warm draft - brenn
Facebook
Laura Nichols commented on your statu
Facebook
Rhett Nichols commented on your status
ben .. Dr, RobG, Dr (7)
[datejs] Date.today -> "2nd Wed of the
Facebook
"funky sundae" sent you a message on
Stasher, AM UI 2.0 / List.it Integration
13.00 weekly rekky with karger
14.00 uidtea
16.30 sacha
18.00 wmbr engineering VF
1.00 WMBR engineering
12.30 Final Presentation: Fabian
12.30 Haystack weekly meeting
13.30 Peter/David week-
14.00 uidtea
15.30 Ted & Karger
16.30 Harr/David weekly
13.00 Katrina/Karger meeting
14.00 uidtea
14.00 Mihir/Karger
15.00 emax meeting
15.00 DK meeting with
16.00 Michael & David
17.00 Fabian Howahl
17.00 Mason Meeting
16
17
18
Stasher, AM UI 2.0 / List.it
UIST Prep: Interviews/Paper writing, whatever.
13.00 weekly rekky with karger
14.00 uidtea
16.30 sacha
17.30 Jamie/Karger meeting
1.00 WMBR engineering
12.30 Haystack weekly meeting
13.30 Peter/David weekly meeting
14.00 uidtea
15.30 Ted & Karger Weekly Meeting
16.30 Harr/David weekly
13.00 Katrina/Karger meeting
14.00 uidtea
14.00 Mihir/Karger
15.00 emax meeting
15.00 DK meeting with
16.00 Michael & David
17.00 Fabian Howahl
17.00 Mason Meeting
23
24
25
(cd ../../.. &&
/usr/dev_tools/current/bin/g++ -E -o
/tmp/foo -MMD -MP -g3 -Wlong-long
-Wpointer-arith -Wall -Wno-endif-labels
-Wno-unused-function -Wno-format
-march=i686 -Wsign-promo -Wno-invalid-
offsetof -Wno-non-virtual-dtor -DLINUX
-D_FILE_OFFSET_BITS=64 -I datalayer -I
../linux-x86-noopt-

A. Sellen & R. Harper "Myth of the Paperless Office", MIT Press 2001

V. Bellotti, "Quantity versus Quality: E-Mail Centric Task Management and Its Relation with Overload" Human-Computer Interaction, 2005.

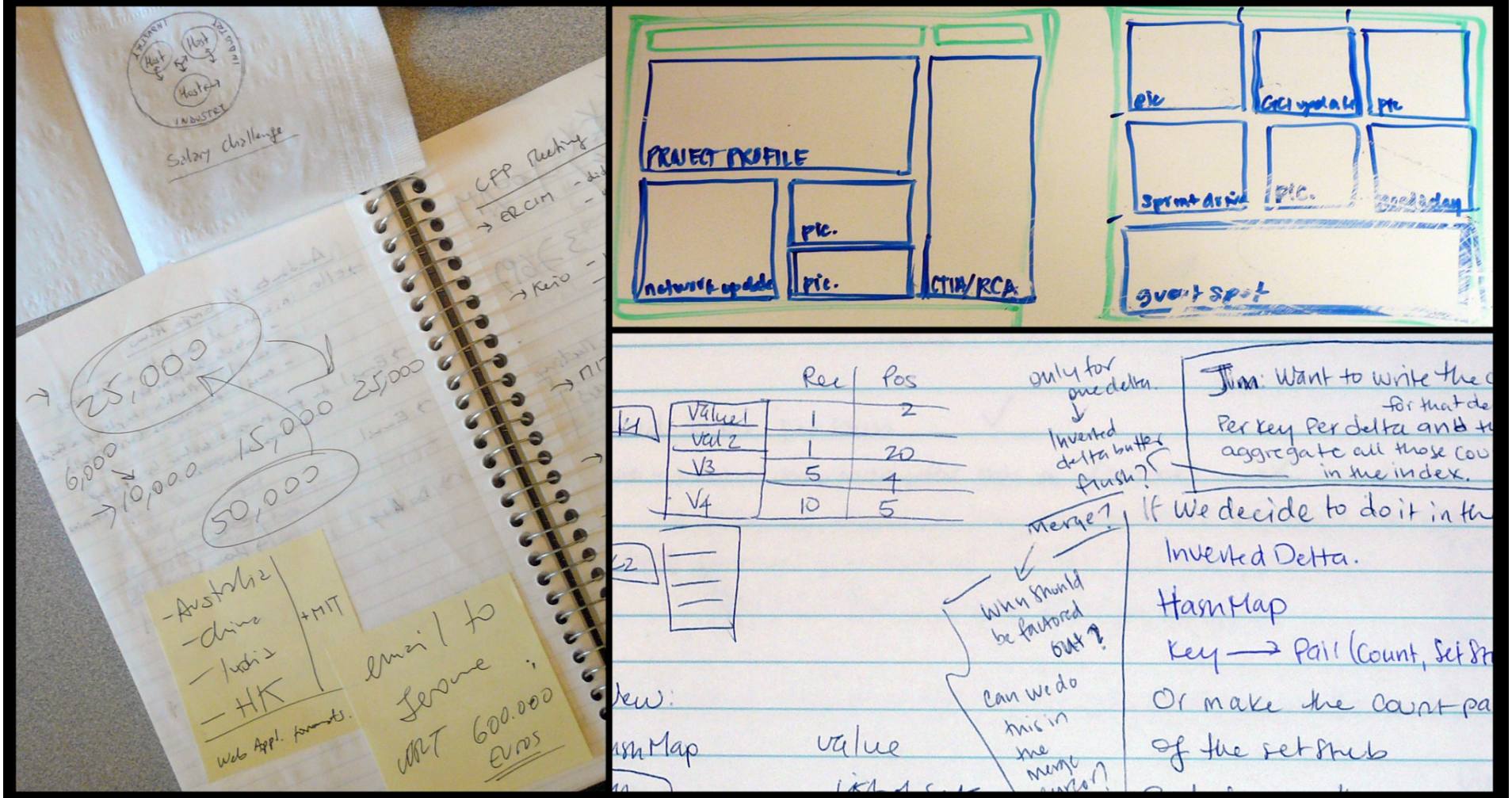
W. Jones, "The World Is At My Doorstop.. And the House is a Mess: Putting Our Information In Its Place in the Digital Age", 2008.

S. Whittaker & V. Kalnikaite, "Software or Wetware: Discovering When and Why People Use Digital Prosthetic Memory." CHI May 2007.

Types?

Uses?

Needs/Affordances?



information scraps study

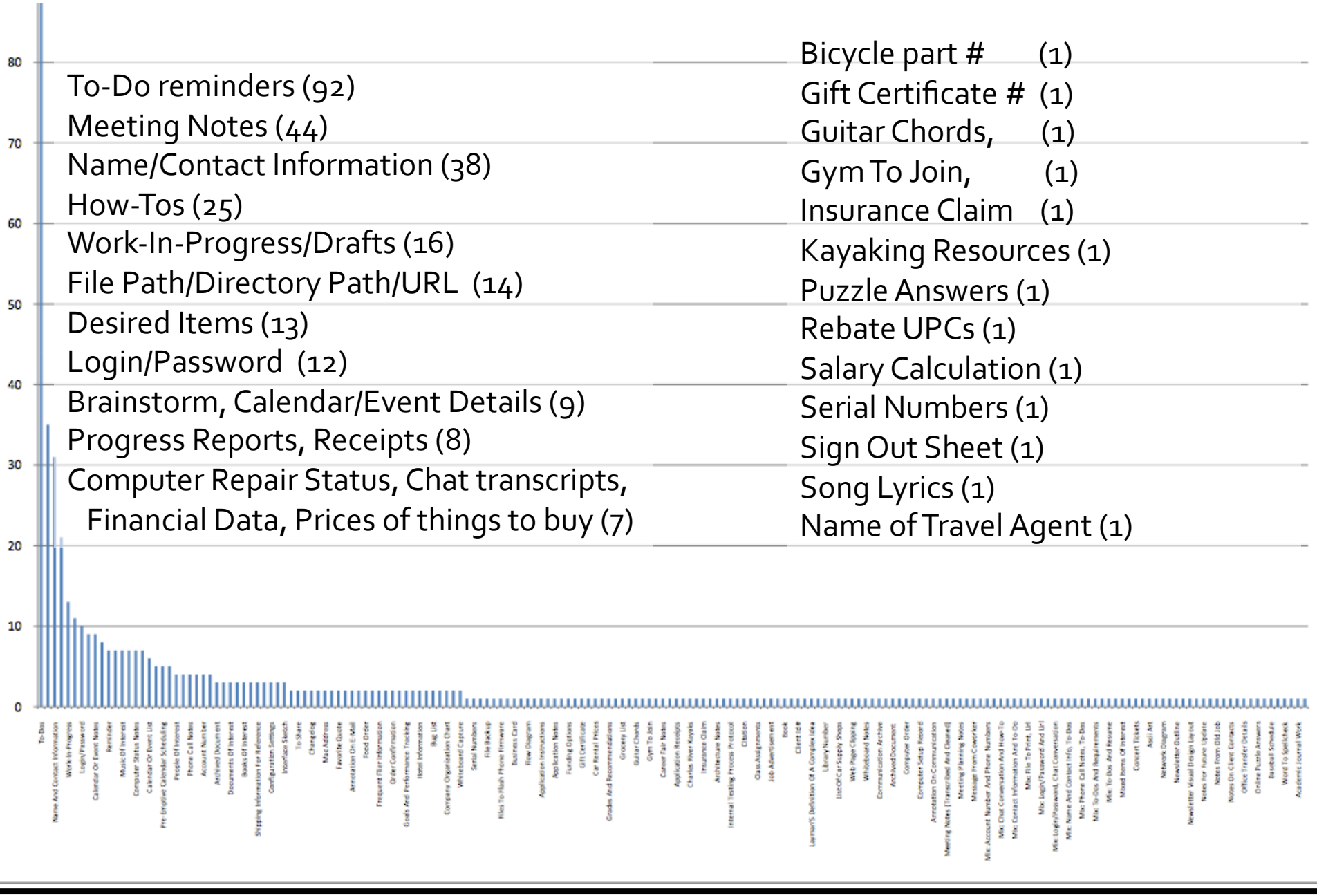
27 participants. 5 organizations. 1-hour sessions,
semi-structured interviews and artifact examination

"Information Scraps: How and Why Information Eludes our Personal Information Tools". ACM TOIS Special Issue on Personal Information Management, 2008

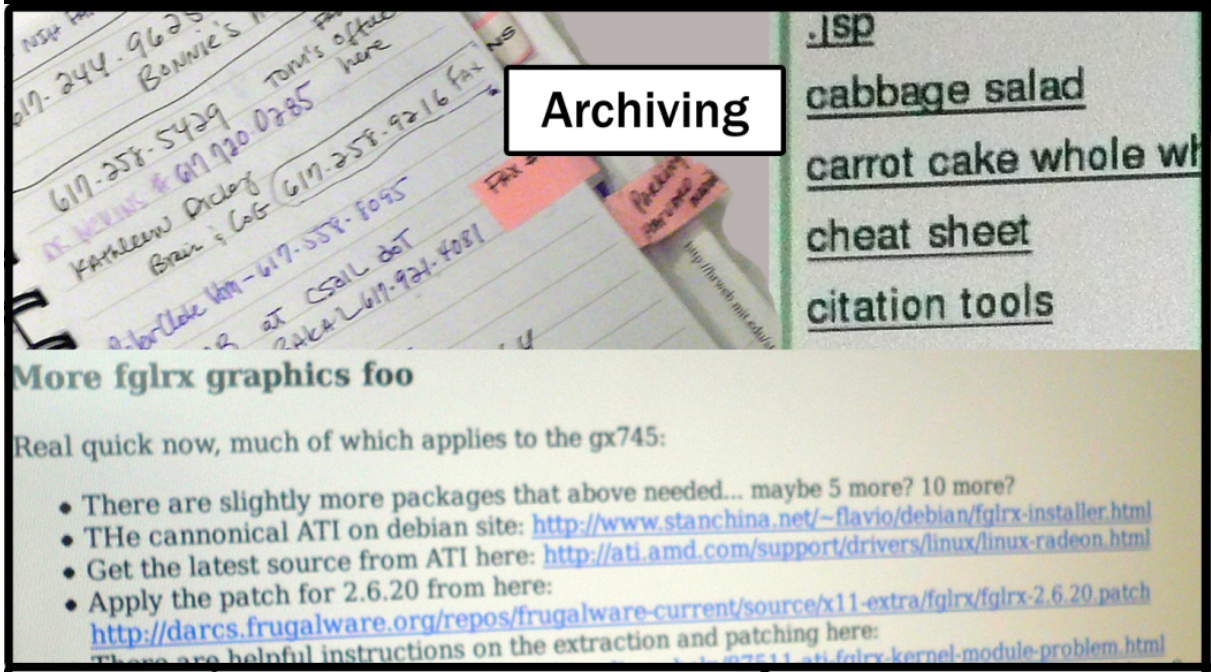
Types?

To-Do reminders (92)
Meeting Notes (44)
Name/Contact Information (38)
How-Tos (25)
Work-In-Progress/Drafts (16)
File Path/Directory Path/URL (14)
Desired Items (13)
Login/Password (12)
Brainstorm, Calendar/Event Details (9)
Progress Reports, Receipts (8)
Computer Repair Status, Chat transcripts,
Financial Data, Prices of things to buy (7)

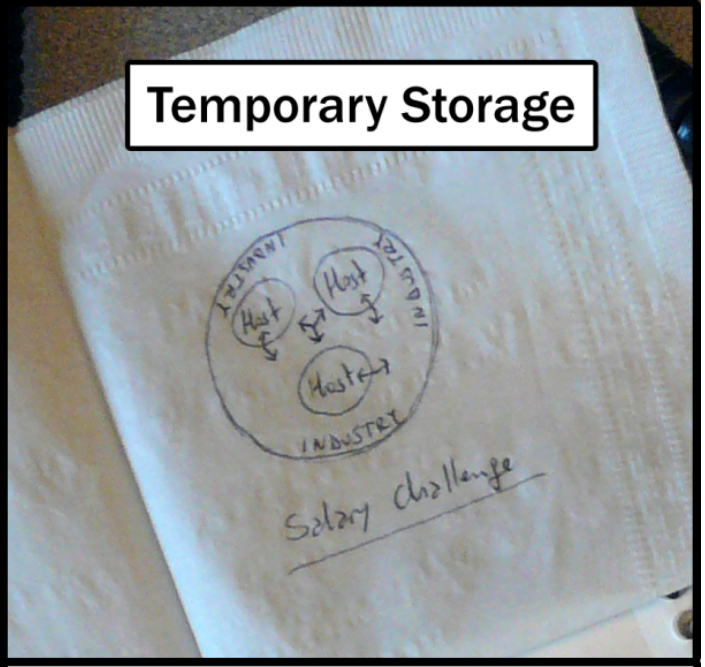
Bicycle part # (1)
Gift Certificate # (1)
Guitar Chords, (1)
Gym To Join, (1)
Insurance Claim (1)
Kayaking Resources (1)
Puzzle Answers (1)
Rebate UPCs (1)
Salary Calculation (1)
Serial Numbers (1)
Sign Out Sheet (1)
Song Lyrics (1)
Name of Travel Agent (1)



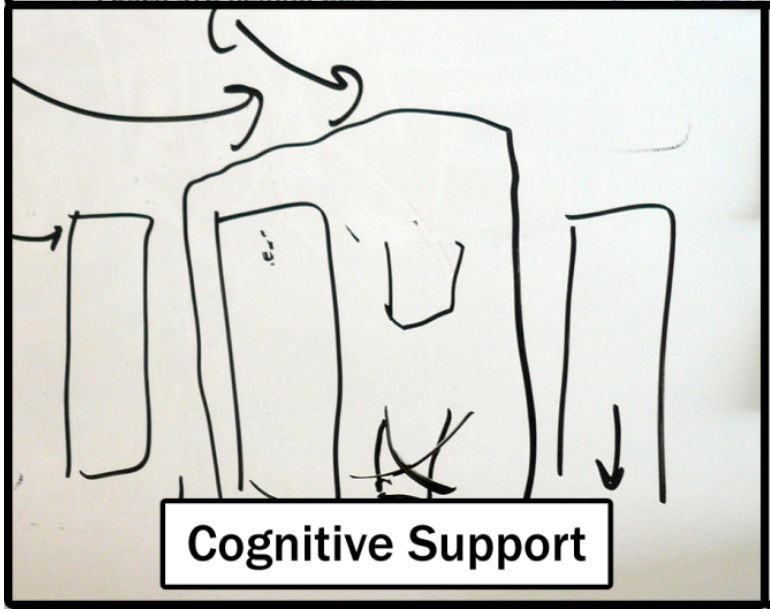
Uses?

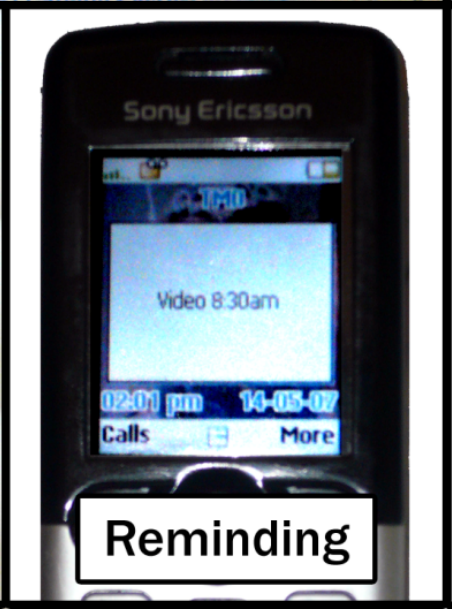


Archiving



Temporary Storage


Cognitive Support



Reminding

```
How to find circular dependencies:

copy paste the failed build command g++
into a diffeent shell by puting in
parenthases, then precede the -o with -E
and replace the object file with some
foo file. then run and look at output.

(cd ../../.. &&
/usr/dev_tools/current/bin/g++ -E -o
/tmp/foo -MMD -MP -g3  -Wlong-long
-Wpointer-arith -Wall -Wno-endif-labels
-Wnc
-mar                                valid-
offs                                LINUX
-D_F                                ver -I
../l
tcmalloc/build/datalayer -I
```

Unusual Information Types

Needs?

1. too much effort to write it down/put it in

> "If it takes three clicks to get it down, it's easier to e-mail [to myself]."

2. no tool for it / it doesn't fit

> "I wanted to assign dates to *notes*, but [it] would only allow dates on *tasks*."
> "*Where else* would I keep my { guitar tabs / poetry }?"

3. too hard to organize

> "It's too much work to decide which section it should go in –sometimes things don't fit in just one place. It's hard to decide what to do."

4. visibility and availability

> "If it's not in my face, I'll forget about it."
> "I need it with me at all times, so I have no choice."

Needs?

1. too much effort to write it down/put it in

> "If it takes three clicks to get it down, it's easier to e-mail [to myself]."

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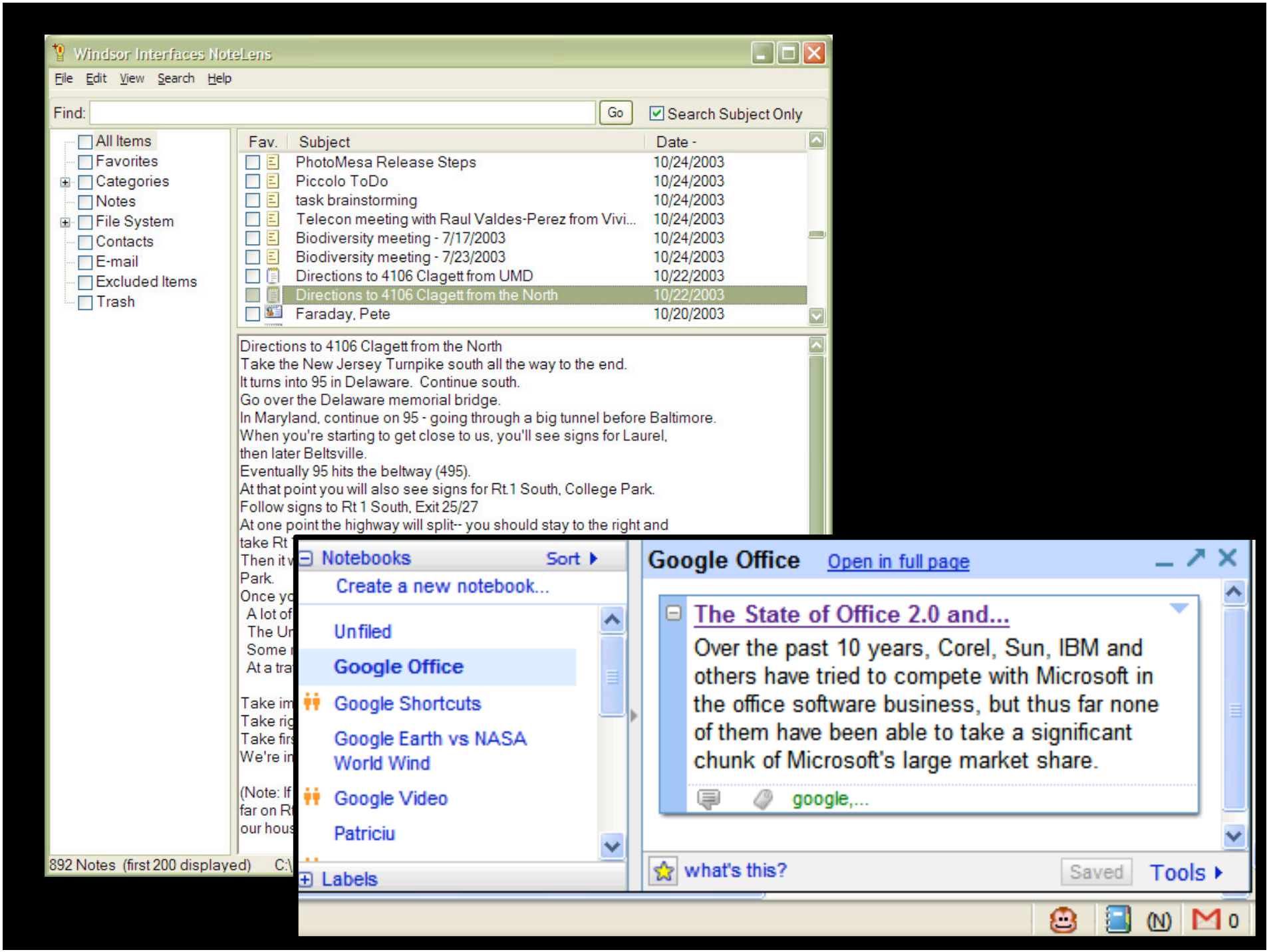
What about lightweight
note-taking tools
and snippet-keepers?

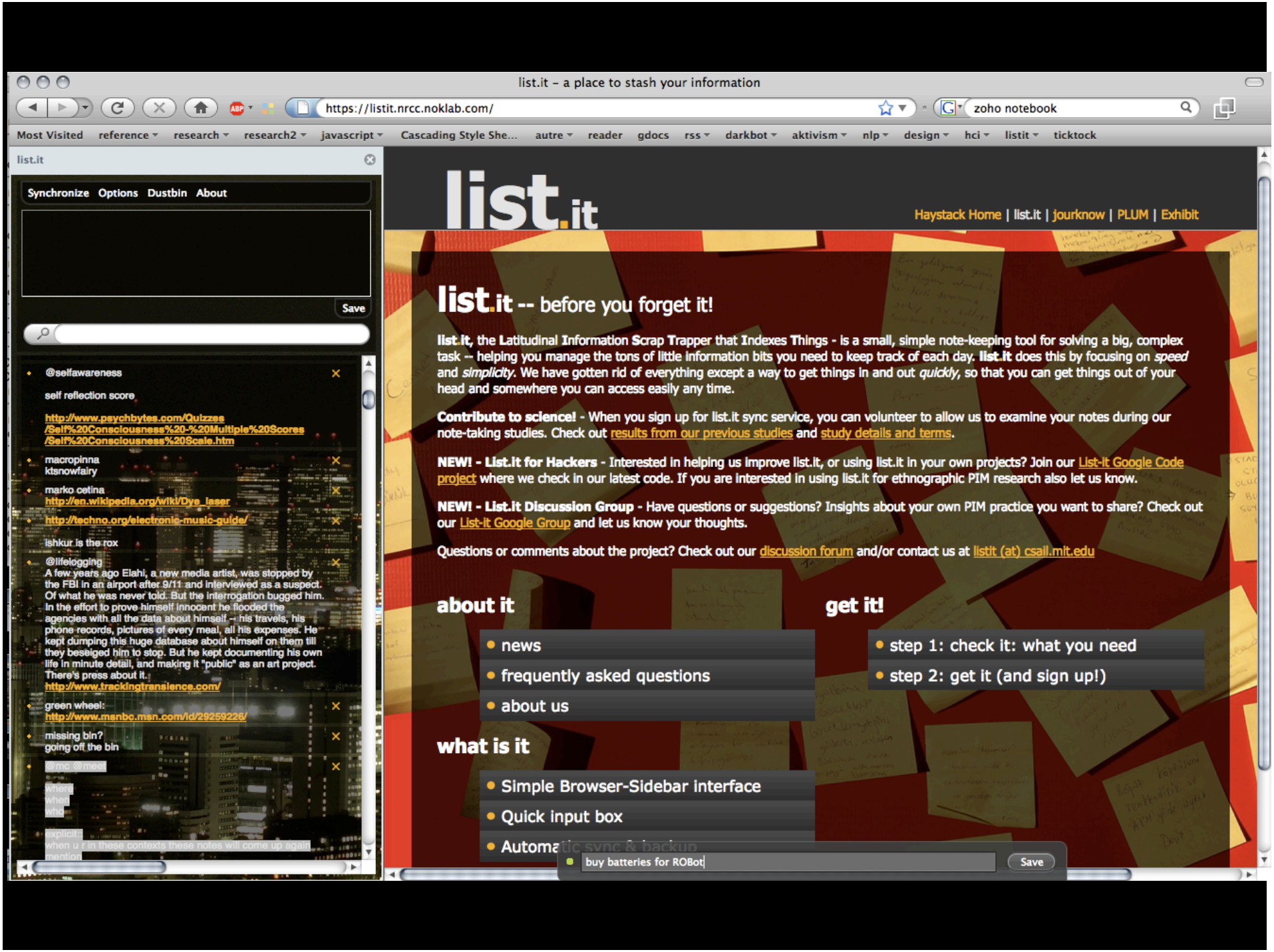

Windsor Interfaces NoteLens
File Edit View Search Help
Find:
Go
Search Subject Only
All Items
Favorites
Categories
Notes
File System
Contacts
E-mail
Excluded Items
Trash
Fav.
Subject
Date -
PhotoMesa Release Steps 10/24/2003
Piccolo ToDo 10/24/2003
task brainstorming 10/24/2003
Telecon meeting with Raul Valdes-Perez from Vivi... 10/24/2003
Biodiversity meeting - 7/17/2003 10/24/2003
Biodiversity meeting - 7/23/2003 10/24/2003
Directions to 4106 Clagett from UMD 10/22/2003
Directions to 4106 Clagett from the North 10/22/2003
Faraday, Pete 10/20/2003
Directions to 4106 Clagett from the North
Take the New Jersey Turnpike south all the way to the end.
It turns into 95 in Delaware. Continue south.
Go over the Delaware memorial bridge.
In Maryland, continue on 95 - going through a big tunnel before Baltimore.
When you're starting to get close to us, you'll see signs for Laurel,
then later Beltsville.
Eventually 95 hits the beltway (495).
At that point you will also see signs for Rt.1 South, College Park.
Follow signs to Rt 1 South, Exit 25/27
At one point the highway will split-- you should stay to the right and
892 Notes (first 200 displayed)
Notebooks
Sort
Create a new notebook...
Unfiled
Google Office
Google Shortcuts
Google Earth vs NASA
World Wind
Google Video
Patriciu
Labels
Google Office
Open in full page
The State of Office 2.0 and...
Over the past 10 years, Corel, Sun, IBM and others have tried to compete with Microsoft in the office software business, but thus far none of them have been able to take a significant chunk of Microsoft's large market share.
google,...
what's this?
Saved
Tools
(N)
0

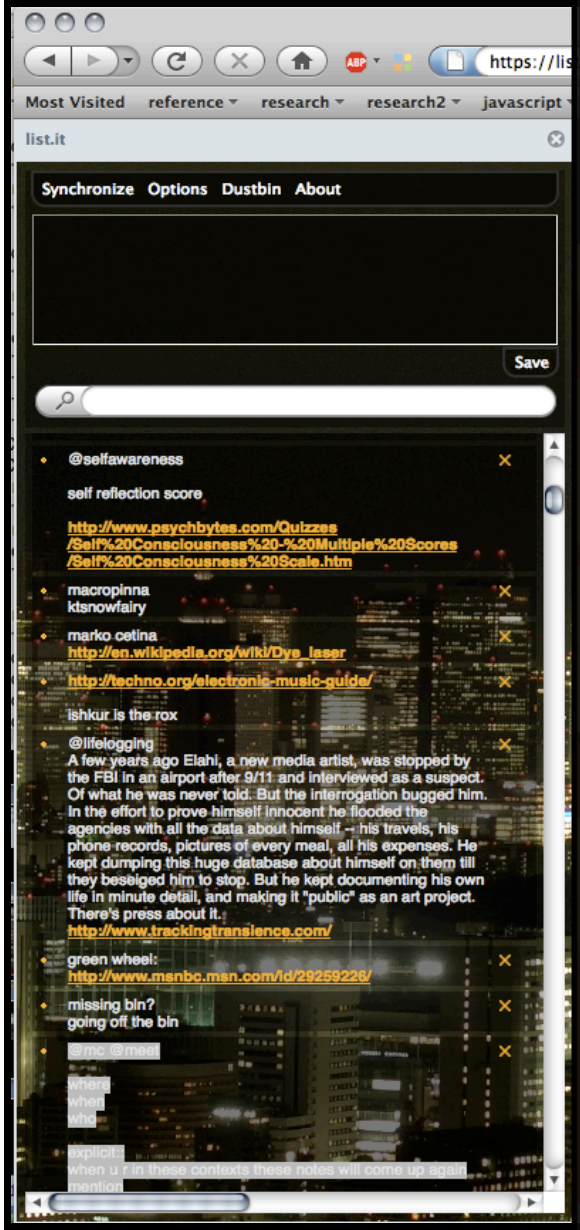
note-taking tools and snippet-keepers

How do people use them?

What do people write in them?
(Types)

What kinds of roles do they serve?


list.it – a place to stash your information
https://listit.nrcc.noklab.com/
zoho notebook
Most Visited reference research research2 javascript Cascading Style She... autre reader gdocs rss darkbot aktivism nlp design hci listit ticktock
list.it
Synchronize Options Dustbin About
Save
@selfawareness
self reflection score
http://www.psychbytes.com/Quizzes/Self%20Consciousness%20-%20Multiple%20Scores/Self%20Consciousness%20Scale.htm
macropinna
ktsnowfairy
marko cetina
http://en.wikipedia.org/wiki/Dye_laser
http://techno.org/electronic-music-guide/
ishkur is the rox
@lifelogging
A few years ago Elahi, a new media artist, was stopped by the FBI in an airport after 9/11 and interviewed as a suspect. Of what he was never told. But the interrogation bugged him. In the effort to prove himself innocent he flooded the agencies with all the data about himself -- his travels, his phone records, pictures of every meal, all his expenses. He kept dumping this huge database about himself on them till they beseiged him to stop. But he kept documenting his own life in minute detail, and making it "public" as an art project. There's press about it.
http://www.trackingtransience.com/
green wheel:
http://www.msnbc.msn.com/id/29259226/
missing bin?
going off the bin
Haystack Home | list.it | jourknow | PLUM | Exhibit
list.it -- before you forget it!
list.it, the Latitudinal Information Scrap Trapper that Indexes Things - is a small, simple note-keeping tool for solving a big, complex task -- helping you manage the tons of little information bits you need to keep track of each day. list.it does this by focusing on speed and simplicity. We have gotten rid of everything except a way to get things in and out quickly, so that you can get things out of your head and somewhere you can access easily any time.
Contribute to science! - When you sign up for list.it sync service, you can volunteer to allow us to examine your notes during our note-taking studies. Check out results from our previous studies and study details and terms.
NEW! - List.it for Hackers - Interested in helping us improve list.it, or using list.it in your own projects? Join our List-it Google Code project where we check in our latest code. If you are interested in using list.it for ethnographic PIM research also let us know.
NEW! - List.it Discussion Group - Have questions or suggestions? Insights about your own PIM practice you want to share? Check out our List-it Google Group and let us know your thoughts.
Questions or comments about the project? Check out our discussion forum and/or contact us at listit (at) csail.mit.edu
about it
news
frequently asked questions
about us
get it!
step 1: check it: what you need
step 2: get it (and sign up!)
what is it
Simple Browser-Sidebar interface
Quick input box
buy batteries for ROBot
Save



List.it (demo)

For studying note-taking in situ

Open source! (MIT License)

Instrumented for logging

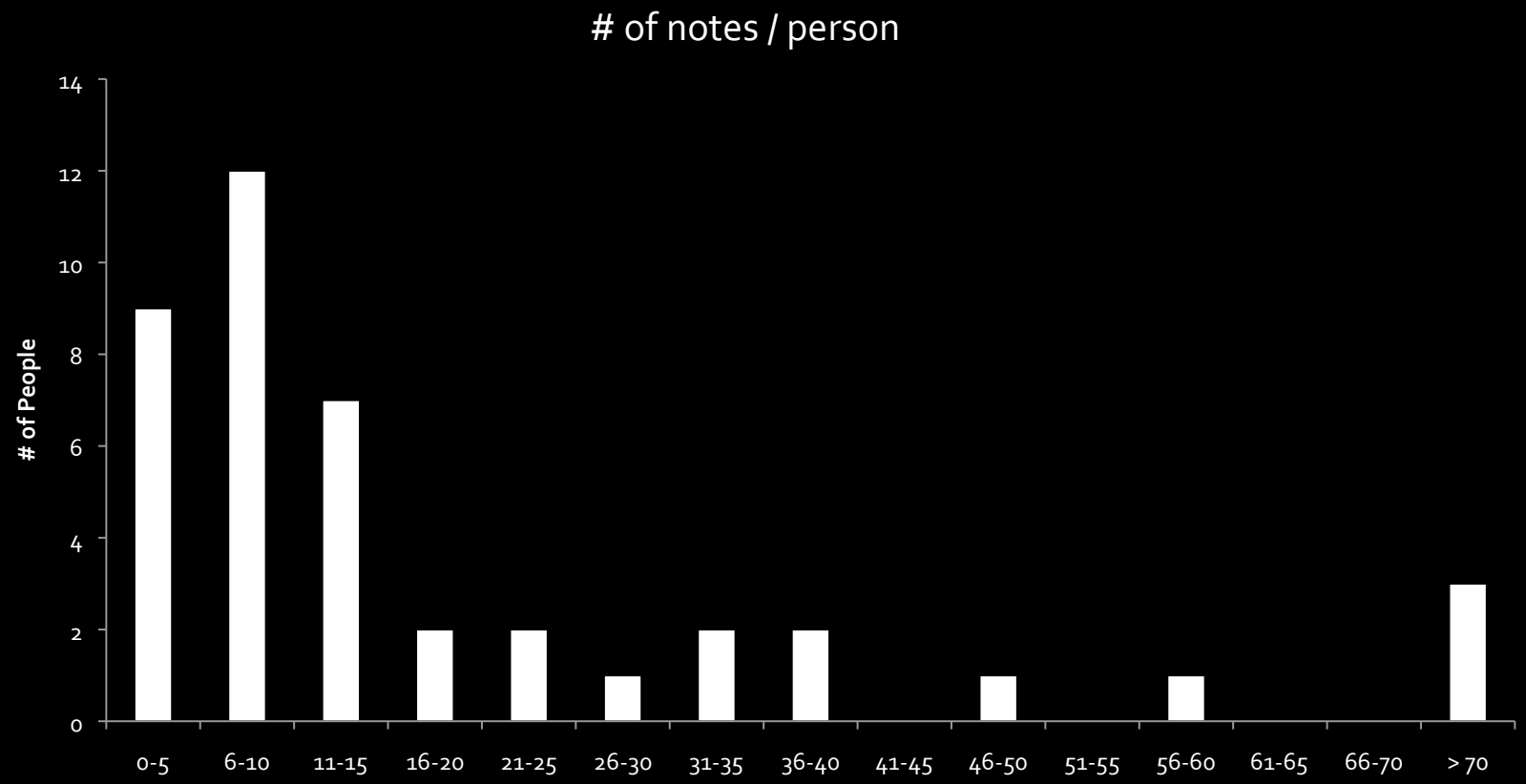
List.it field study (Nov 2008)

42 participants
10 days
“as you see fit”
exit survey

results

results:

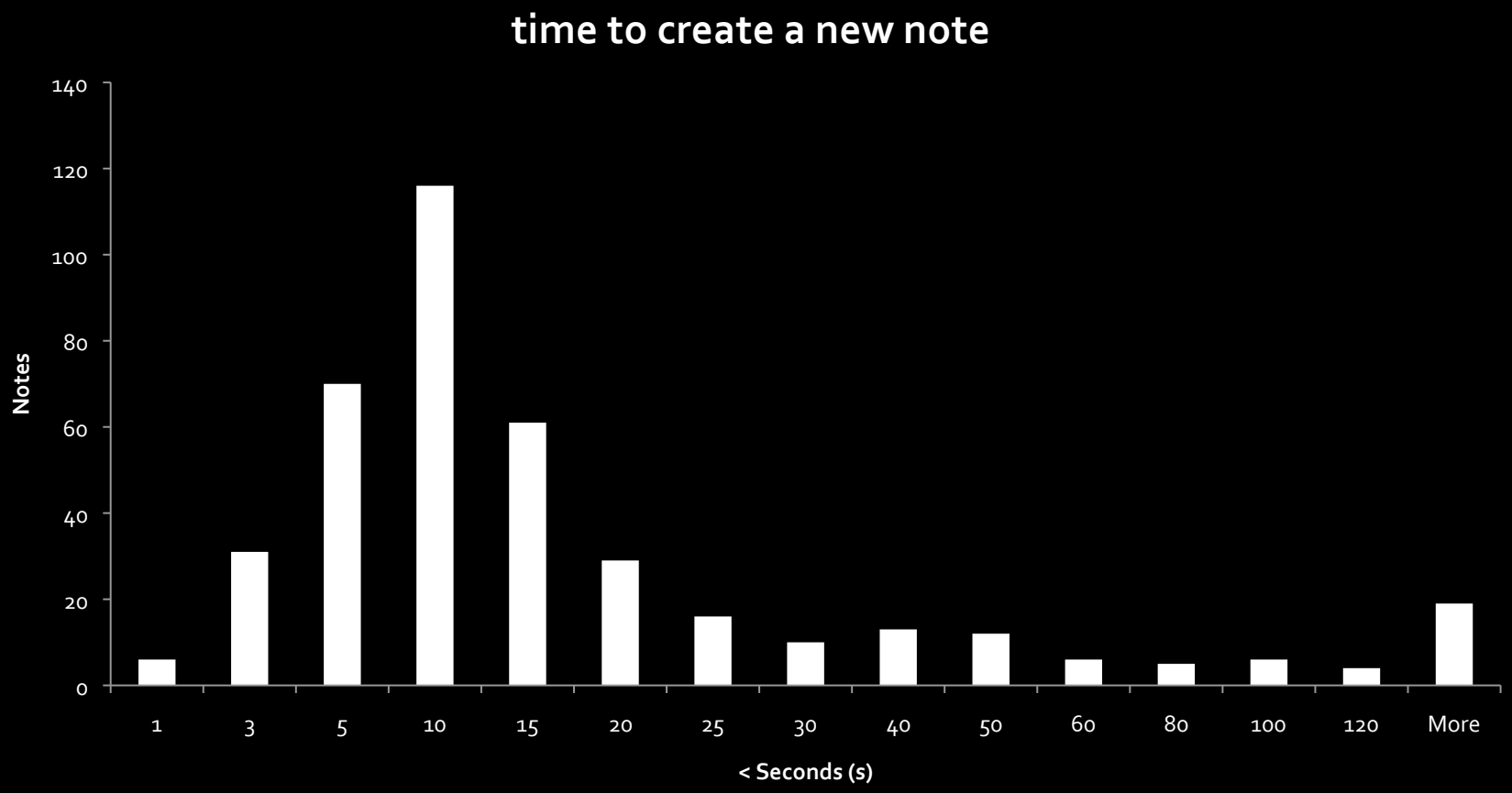
number of non-exercise notes taken by person (42 participants)
min: 2, median : 11, max: 146 (overall: 853)



across participants: ~ 35 new notes per day

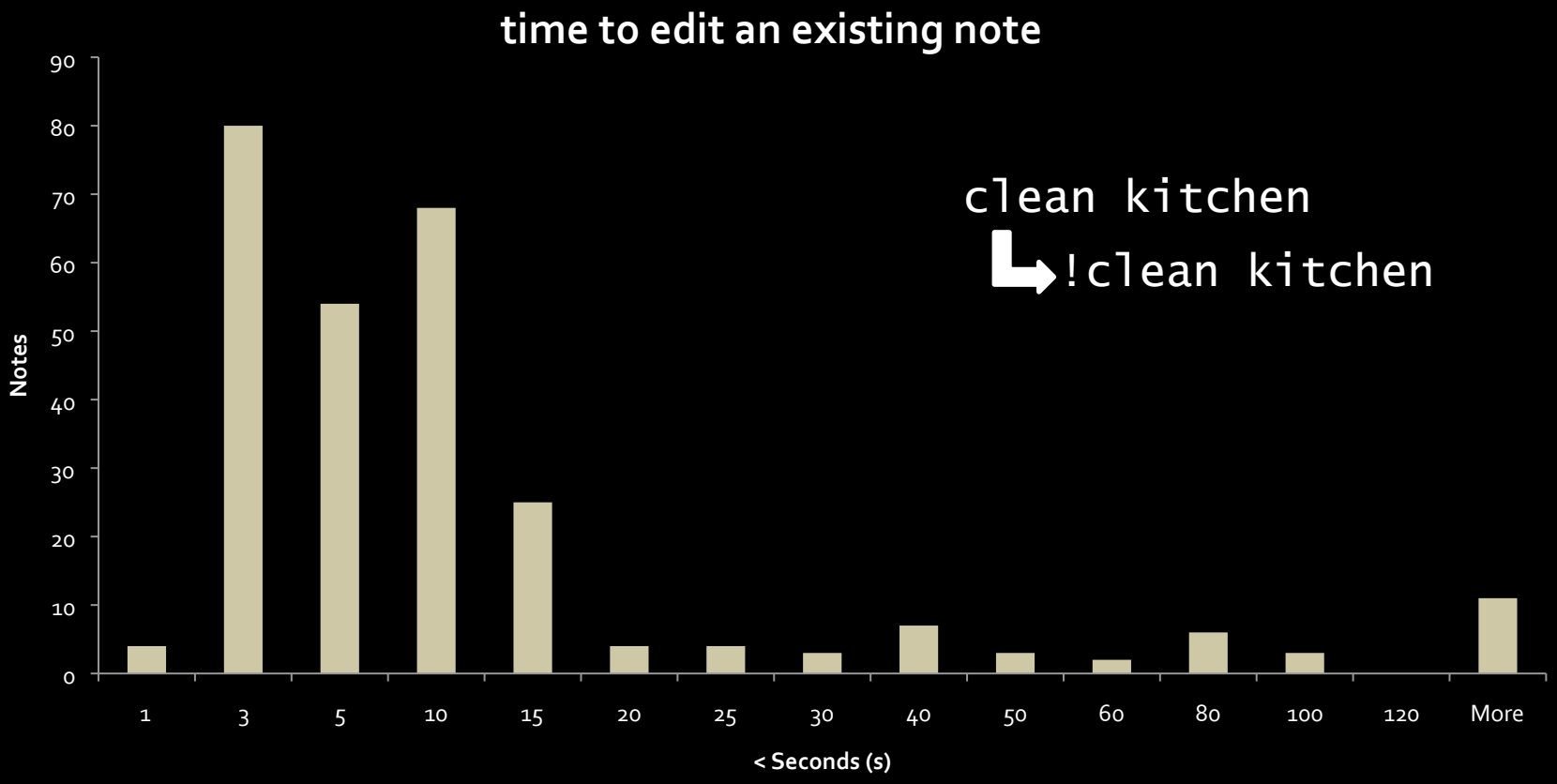
notes were **created** quickly and tersely

30% of notes were captured in under 5 seconds
50% in under 10 seconds
95% in under 2 minutes



note edits were infrequent, quick and minor

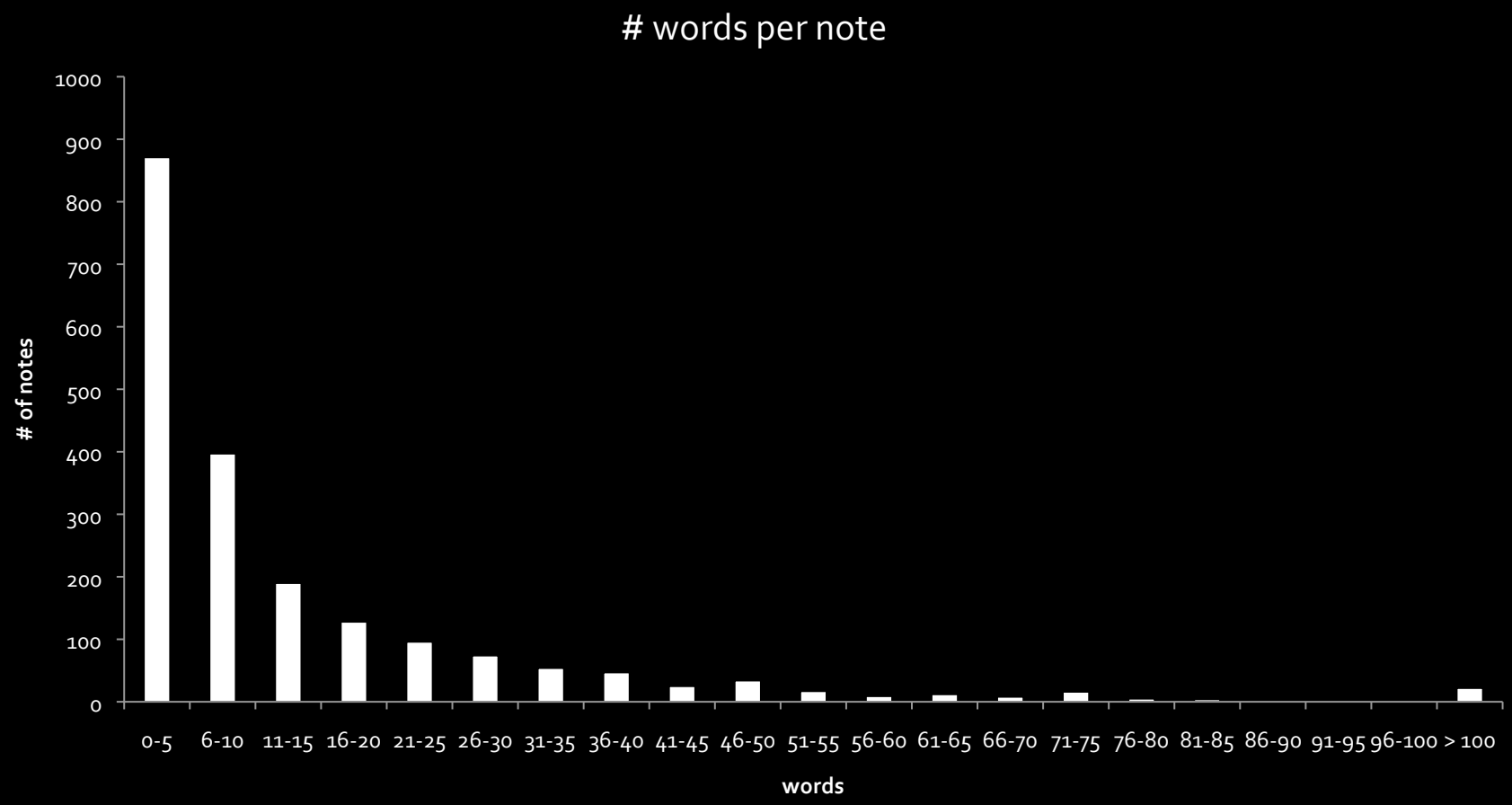
75% of notes were never edited
19% were edited exactly once
39% of edited notes were edited <5 mins after creation
40% of edits were **< 2 character edits**



notes were **extremely short**

median : 29 characters, 7 words

43% were 5 words or fewer



why so short?

CAMPING. Get: backpacking tents, ask michael, if not buy @ REI, propane stoves x 2, check gatage [sic]

teapot, laptop
email HW re vacation
talk to Brin re:ictd
make inspiration wall.
corkboard tiles.
ask dslr
deposit checks
sb at 8:15, 1267 Bent St
costco optometrist?
BGM wiki http://…
renter's insurance
jshieh
4212B9
Thurs 11.30am - Soojin fMRI

soy latte java
laptop at HMS (next week)
waiting on mechanic for AAA
Harp photos
meltmuck http://web.mit.edu/…
malt, malted vanilla
jimmy: (323) 668-xyzz
pacific auto service
talk at noon, 7 Div Av
bring tonight:laundry, dishes, pesto
hotel for Reunions
mw 965 $100 shoemall.com
Play some more Lich King beta.

`website` -> "Get bits for new website; update and transfer old website data to new website."

`scholo` -> "I was leveling my warlock in World of Warcraft [...] part of it involved running the instance Scholomance ("Scholo" for short)."

`jhsieh` -> "I need to contact this person soon"

notes were rarely deleted

28% of notes were deleted
notes deleted *sooner* after creation were more likely to be *shorter*
$t(165)=2.26$, $p<0.05$

deletion strategies:
(7/42=17%) deleted *over half* the notes they created;
most participants deleted *fewer* ($\mu=21\%$, $\sigma=4.6\%$)

Evidence of the "to keep or not to keep" dilemma [Jones, 2004]
And "deletion paradox" [Bergman 2003] ?

information types naturally ambiguous

participants asked to categorize up to 15 non-prompted notes
however, empirically notes often combined traditional PIM types
to-do, calendar item, contact information, …

`Sept 4 12-1pm CCI meeting NE25-746`

coders (3/3): "calendar item"
user: "to-do"

search is infrequent and targeted

Most (36/42) participants searched fewer than 10 times

Two participants used search heavily,
76% of their searches were repeats:
"today" and "todo"

22% of searches yielded exactly 1 note (search-as-navigation)

34% of notes were re-found at least once
(by self-report)

metadata added to aid re-finding

```
Write python calculator for 20.110? to do classes
```

search logs:

```
to do
today
9.18
@do
!read by wed
!!pay rent
```

people used the design affordances of list.it

"List.it seemed most useful for small lists and brief notes [...] due mostly to its simplicity. Overall, I think I'll continue to use it [...] for jotting down quick notes and reminders."

Why in list.it and not elsewhere?
quick capture (35%), browser integration (18%), visibility (13%)

Without list.it, where would you have put it?

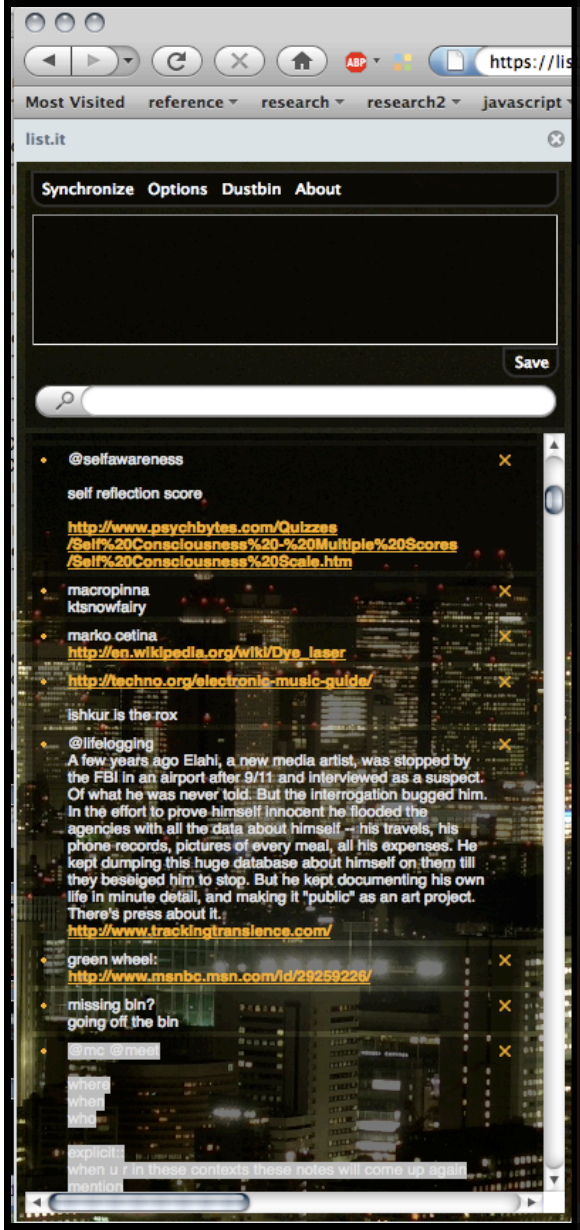
- *I wouldn't have saved it, I don't have anything else to quickly take a note like that.*
- *I probably would not have taken a note at all, and I probably would have forgotten to do it.*
- *[I would have written it] probably on a piece of paper that would then get lost*

list.it struck a chord

(as of april 7th):

11059 registered users
1904 users consented to be studied
48,214 notes uploaded
52 list.it "groupies"
(PIM researchers, fans, hobbyists)

First open personal note corpus for PIM research

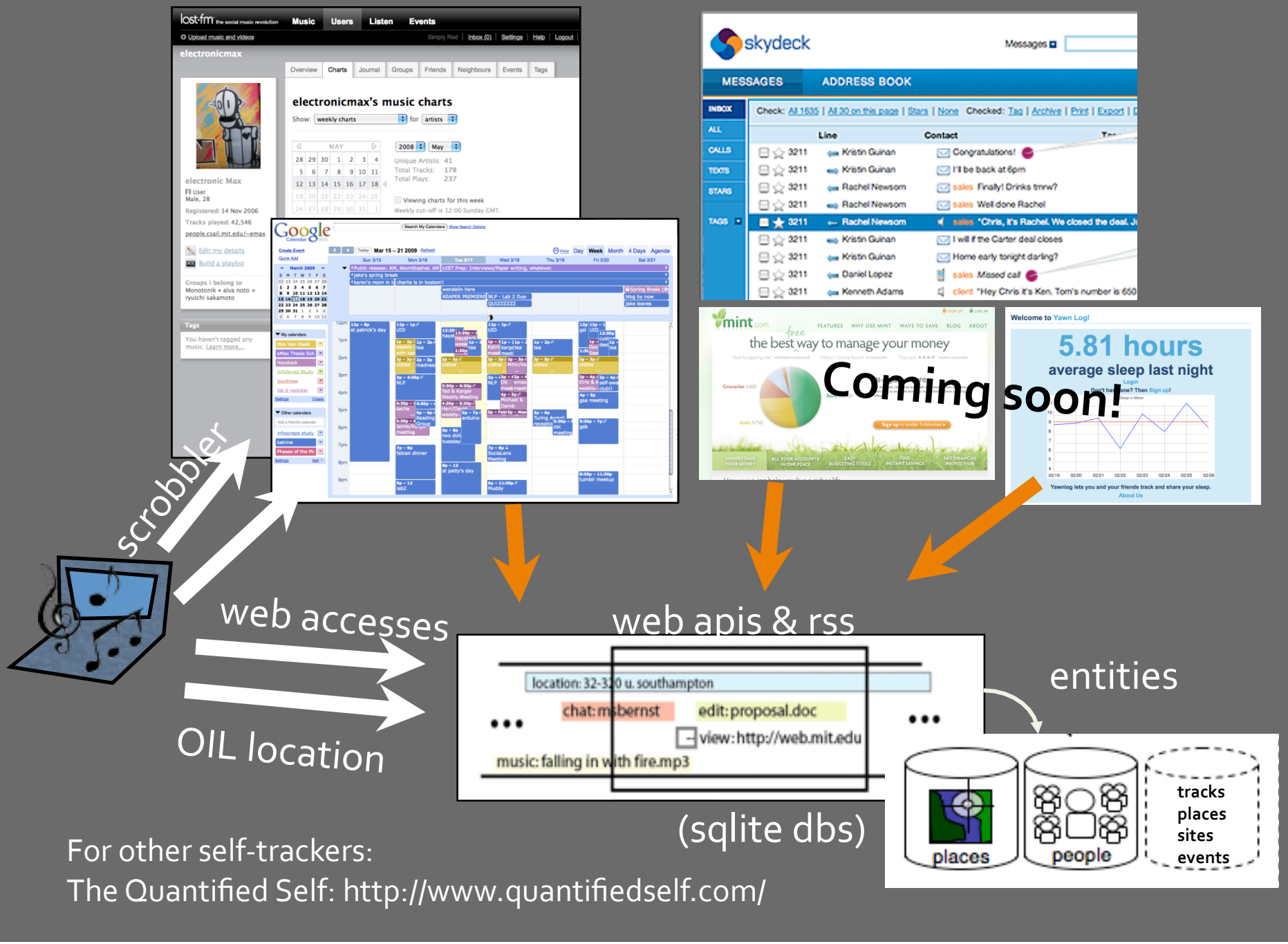


Adaptive list.it

("Notes that Float")

Too many notes? Forget they exist?

Predicts note relevance to
activity and location
and makes relevant notes
automatically visually salient

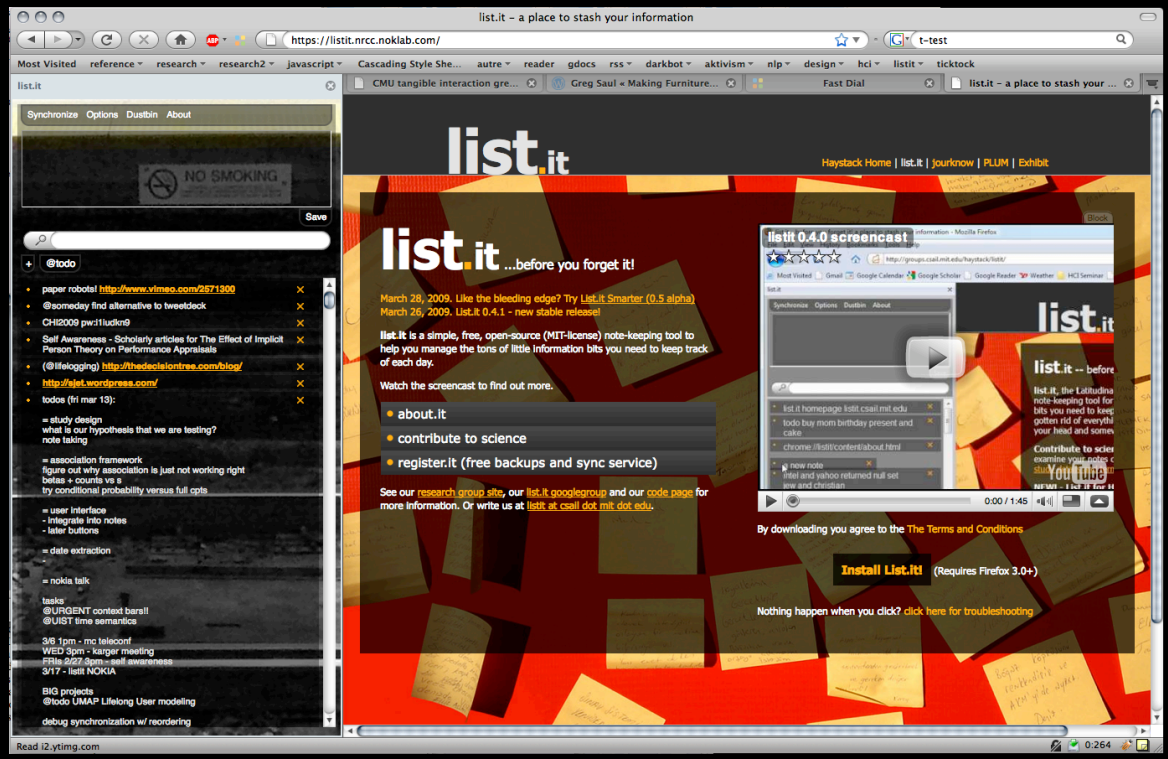


For other self-trackers:
The Quantified Self: http://www.quantifiedself.com/

Recap: List it study

Notes were short, very quickly taken
Abbreviation strategies
Reminding

Few edits and deletions
Search used as filter, navigation mechanism
Notes mixed types (to-dos, contact, how-tos)



Thank you!

List.it http://listit.csail.mit.edu http://code.google.com/p/list-it

This project was funded by Nokia Research, Web Science Research Institute, and the National Science Foundation