
**“I am not a Computer!
I am a Human Being!”**
(Or: Introducing the logViewer: A Web-Based
Tool For Making Quick Sense of the fax_log)

Craig A. Magaret
*Statistical Center for HIV/AIDS Research and
Prevention*
Fred Hutchinson Cancer Research Center
cmagaret@scharp.org



SCHARP's DataFax Operations

- 15+ active clinical trials and observational studies
- Receives between 3,000-18,000 faxed CRFs weekly
- CRFs are submitted from 50+ sites across five continents
- Keeping everything running smoothly is a logistical challenge



Data-Flow Monitoring Process

- CRF-Tracking System
- CRFometer
- Various Automated Scripts
- fax_log



Behold, in all its glory ... the fax_log

```

/studies/datafax/archive/0340/0276|1|Thu Oct 2 06:54:04 2003|"kz1
/studies/datafax/archive/0340/0277|1|Thu Oct 2 06:56:10 2003|"kz1
/studies/datafax/archive/0340/0278|1|Thu Oct 2 06:57:10 2003|"kz1
/studies/datafax/archive/0340/0279|1|Thu Oct 2 06:59:18 2003|"kz1
/studies/datafax/archive/0340/0280|1|Thu Oct 2 07:01:17 2003|"kz1
/studies/datafax/archive/0340/0281|1|Thu Oct 2 07:03:17 2003|"kz1
/studies/datafax/archive/0340/0282|1|Thu Oct 2 07:04:27 2003|"kz1
/studies/datafax/archive/0340/0283|1|Thu Oct 2 07:07:22 2003|"kz1
/studies/datafax/archive/0340/0284|1|Thu Oct 2 07:08:22 2003|"kz1
/studies/datafax/archive/0340/0285|1|Thu Oct 2 07:11:21 2003|"kz1
/studies/datafax/archive/0340/0286|1|Thu Oct 2 07:12:21 2003|"kz1
/studies/datafax/archive/0340/0287|1|Thu Oct 2 07:14:23 2003|"kz1
/studies/datafax/archive/0340/0288|1|Thu Oct 2 07:20:30 2003|"kz1
/studies/datafax/archive/0340/0289|2|Thu Oct 2 07:24:05 2003|"bh
/studies/datafax/archive/0340/0290|5|Thu Oct 2 07:30:58 2003|"df
/studies/datafax/archive/0340/0291|12|Thu Oct 2 09:07:44 2003|"hj
/studies/datafax/archive/0340/0292|19|Thu Oct 2 09:08:28 2003|"d
/studies/datafax/archive/0340/0294|1|Thu Oct 2 10:02:12 2003|"21
/studies/datafax/archive/0340/0295|1|Thu Oct 2 10:41:14 2003|"20
/studies/datafax/archive/0340/0296|2|Thu Oct 2 11:13:33 2003|"20
/studies/datafax/archive/0340/0297|1|Thu Oct 2 11:51:54 2003|"
/studies/datafax/archive/0340/0298|2|Thu Oct 2 11:53:13 2003|"fa
  
```



fax_log

- Akin to that grumpy quasi-friend you need to hit up for favors all the time, but otherwise wouldn't smile at in the hallway
- Used frequently, but only accessible via command line utilities (e.g., *grep*, *tail*, *sort*, *sed*, *rm*)
- Can provide lots of useful information, but not at a casual glance
- The stuff we care about: sender ID, raster ID, # pages, rx date



Backstory: The CRFometer

- A homebrew data-analysis and -visualization tool that provides detailed data-flow information
- Has a configuration file that maintains a one-to-one relationship between sender IDs and their real-world descriptions
- E.g., "212232318" equals "Columbia University (Harlem Hospital Center)"



Enter the logViewer

- Forget that *grep* nonsense ... we're Americans, we believe in convenience
- fax_log via GUI: pretty up the signal, filter out the noise
- For accessibility, GUI = web browser
- Desired features: view information for only one site at a time; view actual CRFs received



logViewer Web Page



<- [343899-343923 of 343923] ->

rx Date/Time	Sender	Raster ID	# Pages
Mon Jan 31 07:50:55 2005	Brigham and Women's Hospital (Boston, USA)	0505/003B	1
Mon Jan 31 07:54:10 2005	No Identifier	0505/003C	5
Mon Jan 31 07:55:24 2005	Impacta-Iquitos (Iquitos, Peru)	0505/003D	15
Mon Jan 31 07:55:44 2005	Alabama AIDS Vaccine Research Clinic (Birmingham, USA)	0505/003F	2
Mon Jan 31 07:59:10 2005	Impacta-Iquitos (Iquitos, Peru)	0505/003G	20
Mon Jan 31 08:08:27 2005	No Identifier	0505/003H	2
Mon Jan 31 08:15:30 2005	Brigham and Women's Hospital (Boston, USA)	0505/003J	1



logViewer Web Page – filter controls

Mon Jan 31 10:32:38 2005	Cabrini Medical Tower (Seattle, USA)	0505/0041	1
Mon Jan 31 10:33:03 2005	Alabama AIDS Vaccine Research Clinic (Birmingham, USA)	0505/0042	2
Mon Jan 31 10:40:17 2005	DataBuddy Test Unit (Seattle, USA)	0505/0043	5
Mon Jan 31 10:43:14 2005	DataBuddy Test Unit (Seattle, USA)	0505/0045	1
Mon Jan 31 10:47:40 2005	DataBuddy Test Unit (Seattle, USA)	0505/0046	3
Mon Jan 31 10:48:42 2005	DataBuddy Test Unit (Seattle, USA)	0505/0047	1
Mon Jan 31 10:52:39 2005	DataBuddy Test Unit (Seattle, USA)	0505/0048	5

Start lines from the end
 Show lines at a time
 From this site: 



logViewer Web Page – filter by sender




You are viewing the log entires for:

JHU-Urumqi (Urumqi, China)

You may [revert](#) to the global view.

<- [1-4 of 4] ->

rx Date/Time	Sender	Raster ID	# Pages
Thu Jun 26 13:57:44 2003	JHU-Urumqi (Urumqi, China)	0326/0618	22
Thu Jun 26 13:58:27 2003	JHU-Urumqi (Urumqi, China)	0326/0620	8
Thu Jun 26 14:08:30 2003	JHU-Urumqi (Urumqi, China)	0326/0647	11
Fri Jun 27 01:50:56 2003	JHU-Urumqi (Urumqi, China)	0326/0856	16

Start lines from the end
 Show lines at a time
 From this site: 



faxview.pl

- Uses *tiffsplit* to crack the multi-page TIFF image into individual image files
- Uses *convert* (ala ImageMagick) to turn the TIFF into a resized JPEG
- *tiffsplit* is fast, *convert* is not (takes a few seconds to view each new page)
- Primitive caching system to reduce unnecessary *converts*
- Only requires raster ID to run










Cross-Tool Integration

- logMaster plays well with others
- Because of flexible nature, has been integrated with our other data-flow monitoring tools
- Linked with tools for the CRF-tracking system and the CRFometer



logViewer w/CRFometer

CRFs recently received from sites, and the hiatus since our last reception
(Sites are removed from the list when their hiatus exceeds 30 days.)

United States / Canada								
Site	Hiatus	25 Jan	26 Jan	27 Jan	28 Jan	29 Jan	30 Jan	31 Jan
DataBuddy Test Unit (Seattle, USA) 	0h	97	37	33	47	-	-	19
Cabrini Medical Tower (Seattle, USA) 	0h	1	38	47	-	-	-	1
Alabama AIDS Vaccine Research Clinic (Birmingham, USA) 	0h	33	-	21	58	-	-	11
RAP Center (Philadelphia, USA) 	1h	32	4	6	157	21	-	16
JHU Center For Immunology Research (Baltimore, USA) 	1h	16	-	31	-	-	-	48
Brigham and Women's Hospital (Boston, USA) 	2h	2	6	20	19	-	-	17
Project Achieve/Mirian Hospital (Providence, USA) 	3h	-	54	3	6	-	-	4
SCHARP (MW-5 Reception via phone)								



Caveats

- Security: do you really want this info, especially the CRF images, to be viewable on a web browser? To whom?
- All files (inc. image files) need to be readable by web-server process
- Archival questions: How far back in time do you want to use the logViewer?
- Doesn't go back to specific times very well



Acknowledgements

- None, I did it all myself
- Well ... okay, so maybe Shane Coultas created the cute “logViewer” graphic
- And maybe I got some input from others on certain usability issues, but do I *really* need to mention them?
- Well, alright ... thanks to Len Quiat and Darryl Pahl, and anyone else I might have forgotten who would otherwise get surly

