

# ***Load Balancing For Humans***

## ***or: How to Survive in IT***

# *whoami*

- *Vanessa White*
- *Technomancer @  
New Relic PDX*
- *@macgirl84 on Twitter*
- *Mac geek since 1994*



# ***Before we get started...***

- ***I am not a lawyer.***
- ***I am not a doctor.***

# ***Before we get started...***

- ***What I am a geek. I am coping as best I can, and I hope my talk can be of benefit to you.***
- ***...or at least make you laugh.***

# ***Before we get started...***

- ***It's dangerous to go alone, take this:***
- ***"Time Management for Systems Administrators" by Tom Limoncelli — buy it. Buy it dead-tree, buy it digital; get it, read it, live it.***
- ***Is a holistic, complete approach of SysAdmins***
- ***Is cromulent to our interests***

- ***No, seriously. If you've got your phone or computer with you, go order it. Right now. I'll wait.***

- ***Here are the ISBNs: ISBN-13:  
978-0596007836 ISBN-10: 0596007833***

- ***OK, we good? Moving on...***

***Before we get started, key terms....***

- ***BOFH: Bastard Operator from Hell.  
“Boffs” — They’re the reason users  
hate and/or dislike IT/Support folks.  
aka Why we can’t have nice things.***

***Before we get started, key terms....***

- ***PEBKAC: Problem Exists Between Keyboard And Chair. Also known as a Layer 8 issue on the OSI model, or an ID10-7 error. TL;DR — your issue is with a human component.***

# ***Before we get started, key terms....***

- ***GUI: Graphic User Interface. Icons, colors, buttons, the safe space most users inhabit.***

# ***Before we get started, key terms...***

- ***CLI: Command Line Interface. AKA that place where you can interact with the BSD substructures of Mac OS X, or \*nix structures of Linux/Unix.***

***Before we get started, key terms....***

- ***Grok: to understand on a deep, innate, universal level. You've passed 10k hours, it's now second nature.***

# ***Before we get started, key terms...***

- ***Customer: Someone you support infrequently.***
- ***User: Someone you support on a weekly basis.***
- ***Coworker: Someone in your section of the org who you interact with frequently and who also supports users/customers.***

# ***Main Themes***

***1. Know Your Users.***

***2. Enjoy Your Work.***

***3. Know Your Limits.***

***4. Learn To Cope.***

***\*. General Advice and Final Thoughts***

# *Part 1: Know Your Users*



# *Know your Users*

- *Why?*
- *Know what they need*
- *Speak the same language*
- *Wheaton's Law*
- *Tickets!*
- *Know your coworkers*

# ***Why you should know them***

- ***So you can:***

- ***better fulfill their needs***

- ***have a degree of witty banter***

- ***build a social trust between techs and users***

# ***Know what they need***

- ***To find solutions, you need insight into:***
- ***skill and comfort level with tech***
- ***what exactly needs to happen***
- ***what it will take to support the solution***

# ***Example: Homebrew for Engineers***

- ***I support software engineers. They hang out in Terminal and use Homebrew***
- ***Every new hire needs Homebrew and other CLI packages installed on day 1***
- ***Previously there was a combo of Homebrew and GUI installed packages, by consolidating to just Homebrew things are easier to maintain***

- ***It takes me  $\pm$  15 minutes to configure all the packages and settings***
- ***By taking time to install and configure their CLI environment in advance new hires have more time to commit their first change to our product***

# *Speak the Same Language*

- *Linguistic common ground:*
- *Grok what they grok, however they grok it*
- *Be able to explain things in a common argot/jargon*
- *Don't dumb things down — explain in simpler terms*





© *Paramount Pictures*

*On not dumbing things down...*

# *Wheaton's Law*

***“Don’t be a dick.”***

***—Wil Wheaton***

# *Apply Wheaton's Law*

- *Strive to be friendly, open, and engaging with your users*
- *You are not Dennis Nedry from Jurassic Park, so don't be a BOFH*

- ***You're busy — take the time to explain that and don't blow people off***
- ***Establish heads down time and let your users know so they understand you're busy and not ignoring them***

# ***Tickets!***

- ***You've got a ticketing system, right?***
- ***If not, get one ASAP. Zendesk, RT, Redmine, JIRA, just get something.***
- ***Note: your inbox is not a ticketing system.***

# ***Tickets! c'td***

- ***Tickets = trackable issues, less dropped balls, and fewer walkups.***
- ***Over time tickets will inform your documentation, and give you insight into your userbase.***

# ***Corollary: Know Your Coworkers***

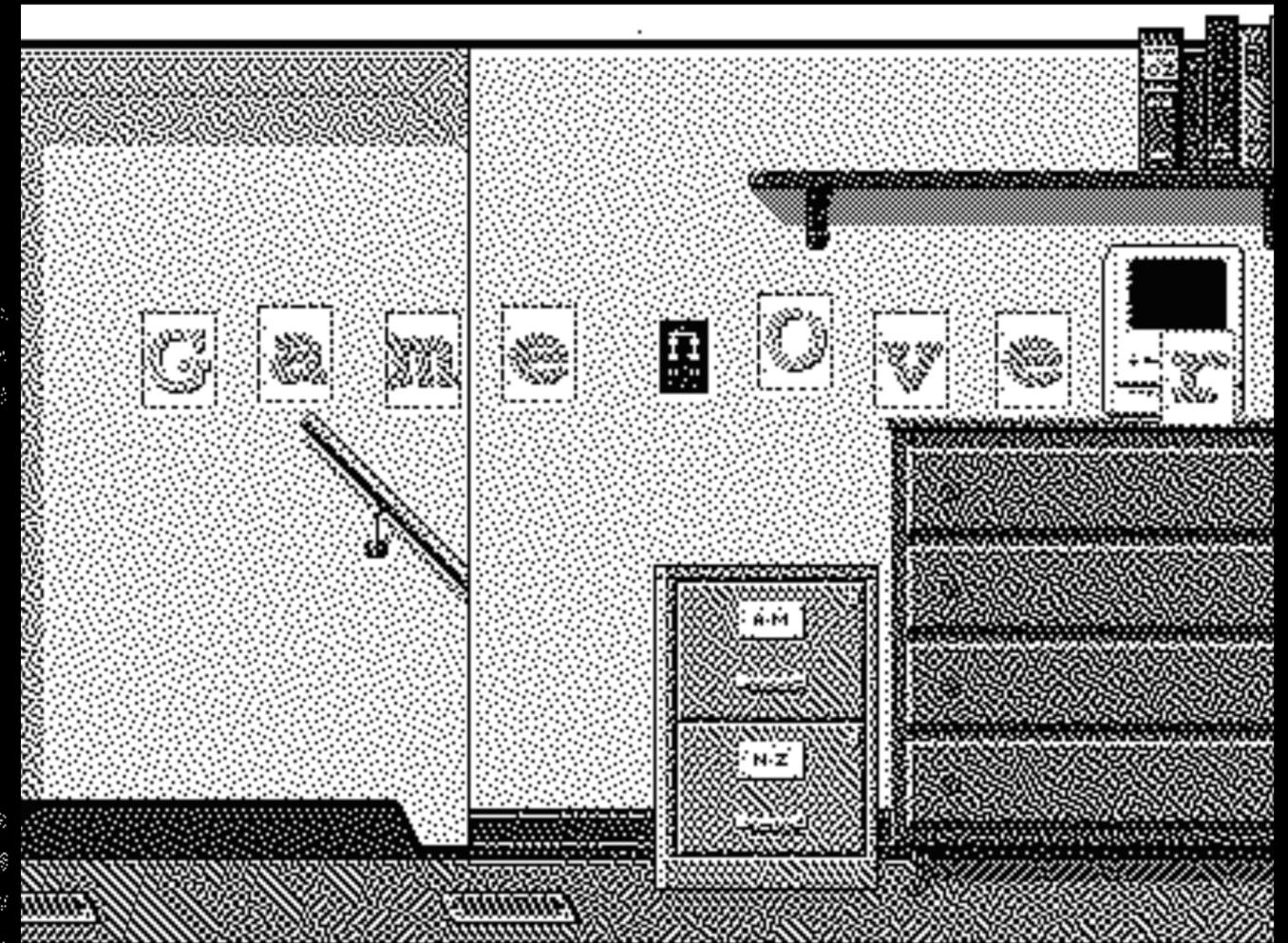
- ***...if you don't have any, start tracking your workload so you can convince management to get you help***
- ***Know each other's strengths, weaknesses, and preferred type of work***

# ***Know Your Coworkers c'td***

- ***Balance workload amongst the team and shift on call responsibilities***
- ***Shore up knowledge gaps***
- ***Pro tip: have coworkers run through wiki docs to make sure they're clear, concise, and helpful***

# ***Part 2: Enjoy Your Work***

- ***Do you....?***
- ***Ways to make things fun***
- ***Challenge yourself***
- ***My challenges, past and present***
- ***Documentation***



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# *Do you...*

- *like interacting with humans?*
- *enjoy solving puzzles? fixing things?*
- *wish you had skills beyond the ken of normal humans?*
- *occasionally enjoy pulling light-hearted pranks on like minded individuals?*

***if you answered mostly yes...***

- ***...then it is entirely conceivable that you can enjoy your job!***
- ***...if you didn't answer mostly yes, you might want to re-evaluate things.***

***This next part is geeky/nerdy.  
You can't say I didn't warn you.***

# *Ways to Make Things Fun*

- *Everything is a game:*
  - *You're solving puzzles with various amounts of data.*
  - *You're leveling up your skills.*
  - *You can change "classes" with sufficient learned skills.*
  - *Nerdy/Geeky users? Add them to the game...*



© Cyan

# Peasant's Quest

CLICK ANYWHERE TO PLAY!

Made by guys:  
Mike, Matt, and Jonathan  
©1982 Videlectrix



© The Brothers Chaps

***Gaming with users  
Surprisingly fun, I promise!***

# ***Dungeon Mastering your Users!***

- ***User: I need access to the company GitHub repos.***
- ***Me: Complete the following quest goals:***
- ***Update your GitHub profile with your full name and work email address.***
- ***Submit a ticket with your GitHub user name and CC you manager if you need additional access repos.***

# ***Challenge Yourself***

- ***Roll up your sleeves, get dirty, and challenge yourself — how else can you level up?***
- ***Learning how to do new things is good.***
- ***Block out time and learn!***

# ***Challenge Projects***

- ***Sometimes I get bored.***
- ***Sometimes I decide it's time to take on something new and challenging.***
- ***Over the last five years I've done the following...***

# ***Previous Challenge Projects***

- ***Virtualized Mac OS 7.6.1 and Mac OS 9.0.4 in SheepShaver***
- ***Learning Mac OS X Command Line***
- ***Learning RADMIND***
- ***Hand Building Nagios***
- ***Rebuilding a borked AFP Homedir server***
- ***Speaking here***
- ***Setting up Baremetal VSphere Mac Minis***

# ***After half a decade of projects...***

- ***I've come up with a system for making sure I tackle them intelligently.***
- ***Since it's my most recent project, lets go over the ESXI Minis for my process.***
- ***(PS: talk is tomorrow!)***

***Personal Challenge:  
ESXI VSphere Mac Minis***

***Goal: set up Mac Minis running  
VSphere for long running Mac boxes.***

# ***Project Phases***

- ***Phase 1: Research***
- ***Phase 2: Hardware Teardown***
- ***Phase 3: Software Setup***
- ***Phase 4: Refinement***

# ***Personal Challenge: Timeline***

- ***Phase 1 — Research: a day of interruptible googling and research.***

# ***Personal Challenge: Timeline***

- ***Phase 2 — Hardware teardown: 30 minutes of disassembly/reassembly.***

# ***Personal Challenge: Timeline***

- ***Phase 3 — Software Setup: most of a day of heads-down. Some retooling of original plan.***

# ***Personal Challenge: Timeline***

- ***Phase 4 — Refinement: on rev 2 and 3 of the process I significantly cut the setup time because...***

# ***Documentation is Magic!***

- ***Did I mention I documented everything I did, as I did it?***
- ***Because I did. And you should too.***

# ***Documentation is Magic***

- ***Document as you go. Period. No ifs, ands, or buts — document what you did, document the settings, link to the documentation you followed.***
- ***Bring some levity to your documentation. If you facepalmed, if you derped, if you wanted to scream, add it to your documentation. Examples...***

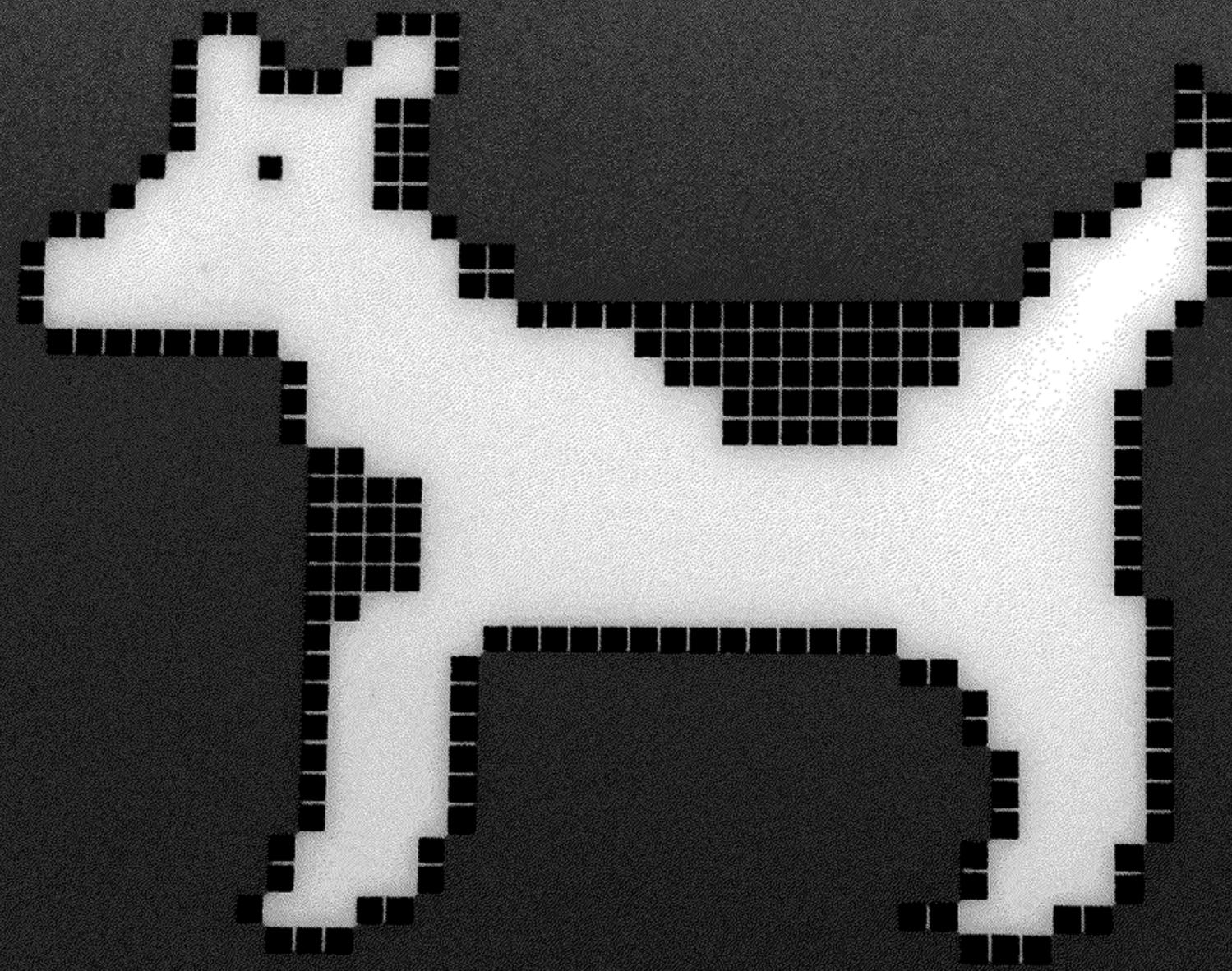
# ***Documentation can be Human***

***Write your documentation for people, not robots!***

# ***pmset(1) manpage***

***"We do not recommend modifying hibernation settings. Any changes you make are not supported. If you choose to do so anyway, we recommend using one of these three settings. For your sake and mine, please don't use anything other 0, 3, or 25."***

***(So you know: this is the CLI process that controls Mac power management settings)***



Moof!

# ***Macintosh Technote #31***

## ***The Dogcow***



## #31: The Dogcow

Written by: Mark "The Red" Harlan April 1989

Recently we've been getting a lot of questions about the dogcow in DTS. The purpose of this Technical Note is to clear up any confusion that you may have, and more importantly, to get you to quit bugging me about it.

---

### What is a Dogcow?

I wish I had a nickel for every time I've heard this question--by now I'd have enough money to buy a "Changing the world, one person at a time" bumper sticker. Dogcows, by their nature, are not all dog, nor are they all cow, but they are a special genetic hybrid. They are rarely seen in the wild. Since dogcows are two dimensional, they will stand facing a viewer "on edge" to avoid being seen.

The dogcow has no natural enemies, but the meager population manages to keep itself in check through its own stupidity. They have a nasty tendency to graze off cliffs (in fact, there are no known "cliff-dwelling dogcows" left in existence) and to get lost in the weeds. You've probably noticed that when you cut very high grass, you tend to get a lot of "paper" in the grass clippings; closer examination would show that much of it is actually dogcow. When a mower approaches, dogcows often actually change their hide to resemble newspaper as a final line of defense--hence the famous expression, "black and white and read all over."

# ***TL:DR — Documentation good***

- ***There is no such thing as bad documentation.***
- ***Outdated documentation? Sure.***
- ***Obsolete documentation? Totally.***

# ***Bad Documentation?***

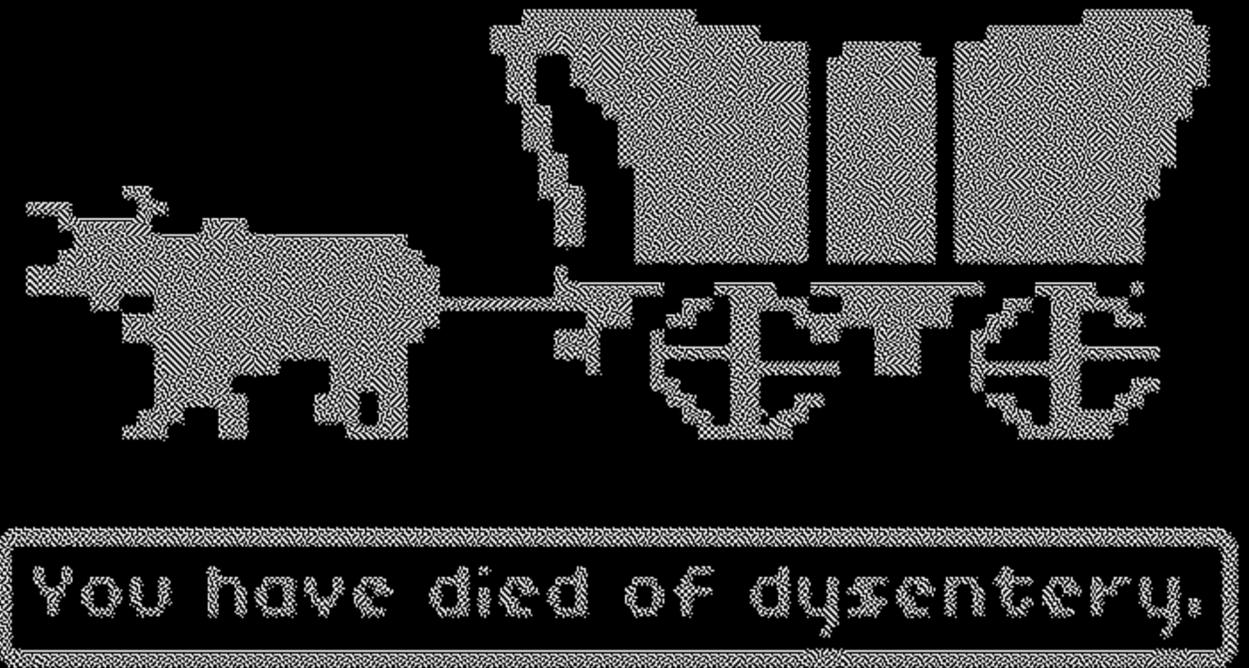
- ***That's documentation that doesn't exist.***
- ***Don't have bad documentation!***
- ***Document all the things!  
Internet = Fun, right?***



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# ***Part 3: Know Your Limits***

- ***Time Management.***
- ***Stay healthy***
- ***Burnout***
- ***Compassion Fatigue***
- ***Martyr Syndrome***



# ***Time Management***

- ***“Time Management for Systems Administrators” by Tom Limoncelli.***
- ***I was serious when I told you to buy it earlier. We can stop and wait again...***

# ***Time Management***

- ***Get it, read it, and then document your time for a few weeks.***
- ***Solo admins and overworked folks: use your log to justify getting help.***

# *Stay Healthy*

- *Break the Stress > Burnout > Illness cycle.*
- *Get enough sleep on a regular basis.*
- *See your doctor.*
- *Evaluate your diet.*

# *Burnout*

# ***Burnout and You***

- ***Know your personal burnout signs.***
- ***Tired? Grumpy? Snapping at people?***
- ***Get to know how you burnout so you can counteract it.***

# ***Burnout and You***

- ***Talk with your manager and coworkers about your burnout.***
- ***Talk with your friends and family about your burnout.***
- ***They'll all notice before you do.***

# ***Make a Burnout Action Plan***

- ***Estimate how long it takes you to burn out***
- ***Get a plan to reverse your burnout***
- ***Extract yourself from stressful situation***
- ***Burn out gracefully. Be apachectl -k graceful, not kill -9***

# ***Example: Burnout and Me***

- ***From late December to the end of March I flew solo in Portland because the other tech left.***
- ***I knew I could make it about 3 months or so without catastrophic burnout.***

# ***Burnout and Me***

- ***My users knew that I'd stepped up my duties and was flying solo.***
- ***In extremely stressful situations I would step back, take a few deep breaths, and refocus myself. Sometimes I even left for the day.***

# ***Burnout: kernel panic***

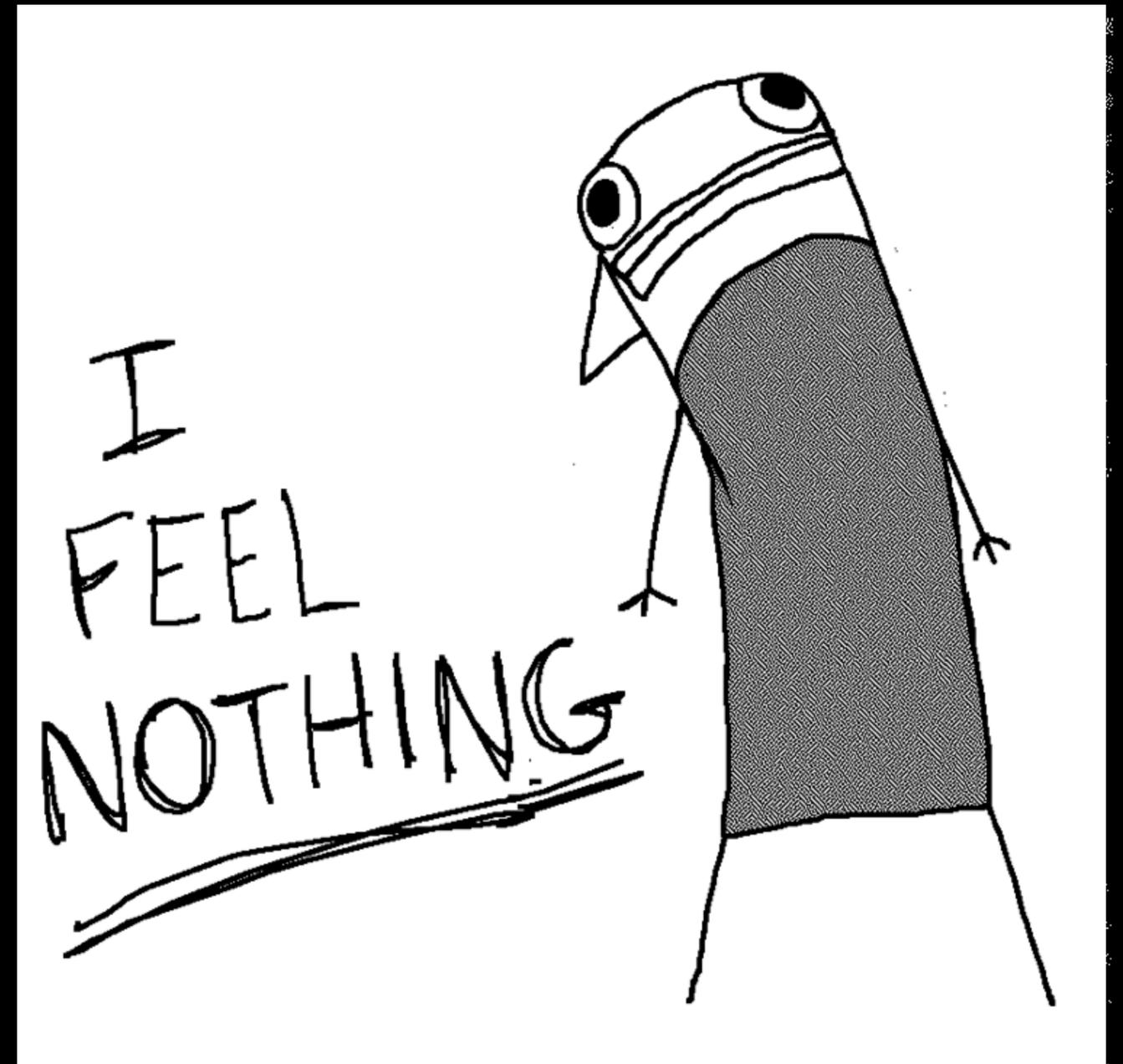
- ***I burnt out at the end of March after dealing with a sql database that kept deleting users.***
- ***After recreating the same 10 accounts a half dozen times or more each I was done.***
- ***I slept for three days, and didn't properly interact with anyone.***

# *Compassion Fatigue*

- *Overload of emotionally jarring circumstances (failed hard drives, broken laptops/phones, dissertations lost to network shares, etc) that lead you to just not caring anymore.*
- *TL:DR — emotional burnout.*

# *Compassion Fatigue*

- *You stop feeling.*
- *You stop caring.*
- *It's worse if you're depressed.*



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# ***Martyr Syndrome***

- ***They can't survive without me!***
- ***o\_0 yes. Yes they can. Stop that.***
- ***2 main types: Passive and Antagonistic.***

# ***Passive Martyrs***

- ***Not typically a BOfH. May work for/under a BOfH.***
- ***Viewpoint: "If I go away there will be:***
  - ***no one to protect/save them (the users/employer)***
  - ***no one to keep everything running"***

# ***Antagonistic Martyrs***

- ***Are probably BOfHs.***
- ***Viewpoint: "They need me because:  
no one else could possibly figure out how this works.  
no one else can do this right."***

# ***You are not a Martyr***

- ***You are someone who gets paid money to make things work for a set number of hours each week.***
- ***Don't sacrifice things for your employer or users.***
- ***Unless its paperclips to the goddess Eris.***

***Part 4:  
Learning to  
Cope  
Because cat macros  
are not a valid  
coping mechanism.***



# *Things to cope with:*

- *Netware—Users, other techs, and yourself. Hu-mans and hu-man problems.*
- *Software—OSes, software, and services.*
- *Hardware—Servers, printers, and client machines.*

# ***Coping with Wetware:***

- ***I am not the best person to ask for advice on interacting with people.***
- ***Seriously, I was the weird pariah kid in K-12.***
- ***Well, ok: be kind, be compassionate, and don't talk down to people.***

# ***Coping with Wetware:***

- ***Find the right workplace and user base for you.***
- ***Adapt. Thrive. Flourish.***
- ***...or get an escape plan and go where you fit.***

# ***Do not trust your brain***

- ***Dump all important data to external memory.***
- ***Document processes and configurations on your wiki.***
- ***Document events/meetings on your calendar.***
- ***Your brain is the ultimate suckup. It will try to trick you into trusting it and only it. Don't believe its lies.***

# ***Fungibility***

- ***Fungibility: ease of replacing something with an identical something.***
- ***You aren't easily or readily fungible.***
- ***Your fungibility drops the better you integrate with everyone around you. Be part of the team.***

# *Coping with Stress*

- *Above all else, most issues come from stress.*
- *Find a way to relieve your stress.*
- *Your mileage may vary, so what works for me (crafts, video games, etc) may not work for you.*

***So... what can really I  
advise on?***

# ***BOFHs***

- ***What I can give advice on is dealing with BOFHs.***
- ***They used to be humans. Probably.***
- ***Here's my advice on dealing with 'em:***

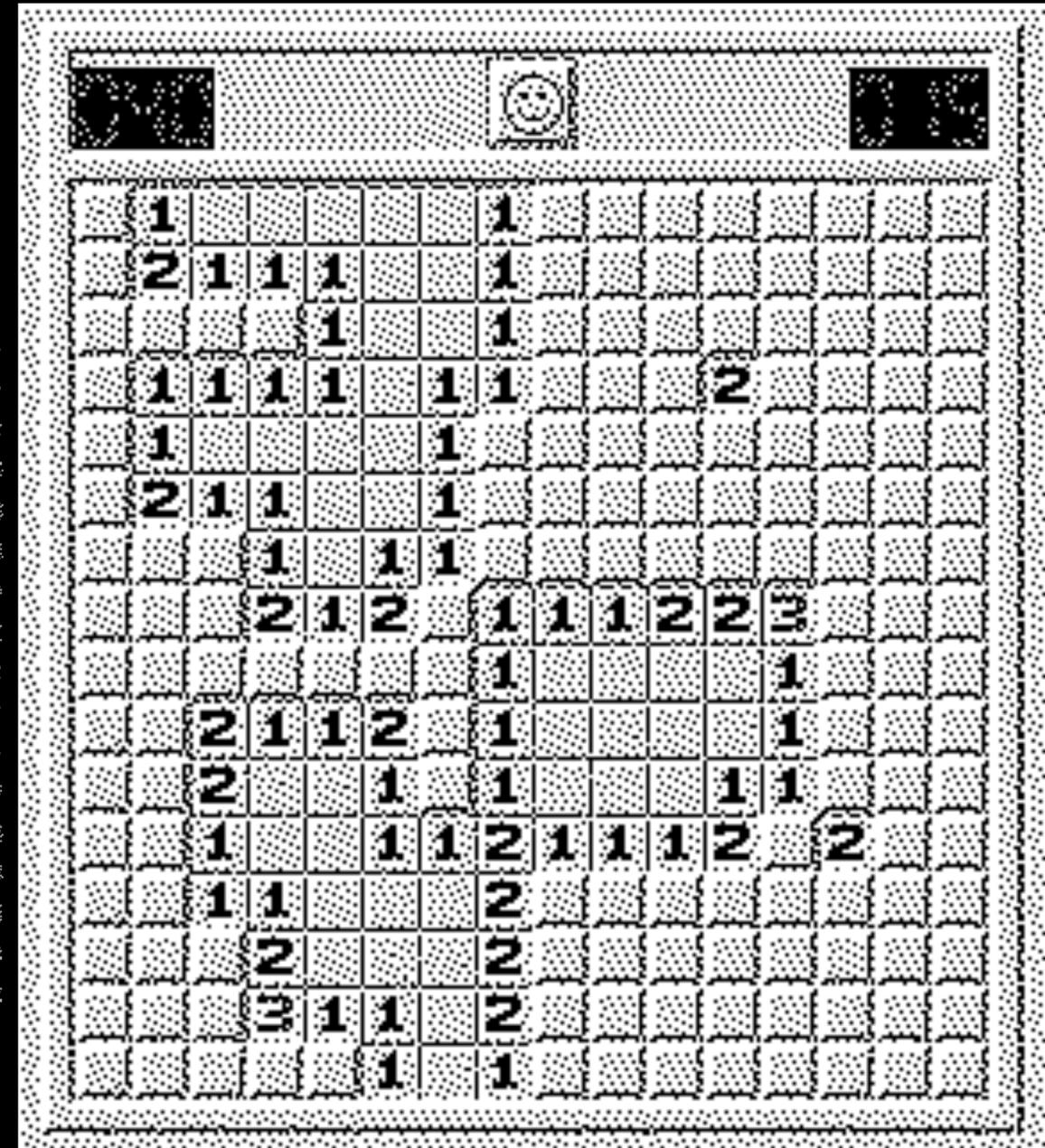
*Run away.*

# ***Field Guide to BOFHs***

- ***Snaps at people***
- ***Sarcastic to the point of cruelty, belittles everyone, users and techs alike***
- ***Doesn't write documentation, at best you get recipes***
- ***Probably has Martyr Syndrome***

# *Coping with BOFHs*

- *A BOFH is like Minesweeper—if at all possible run screaming the other way.*



# *Coping with BOfHs*

- *If you can't run away, limit your contact, and speak to their manager—hostile workplaces suck. Don't expect immediate change, do stay optimistic.*
- *Tread lightly and use extreme caution in your interactions with the BOfH. Avoid negativity whenever possible around them.*

# ***BOTH Coworkers***

- ***If they're your coworker: try to help lighten their workload so they can relax. Be aware that they may lash out and not want to share their tasks, especially if they have Martyr Syndrome.***

# ***Coping with Yourself***

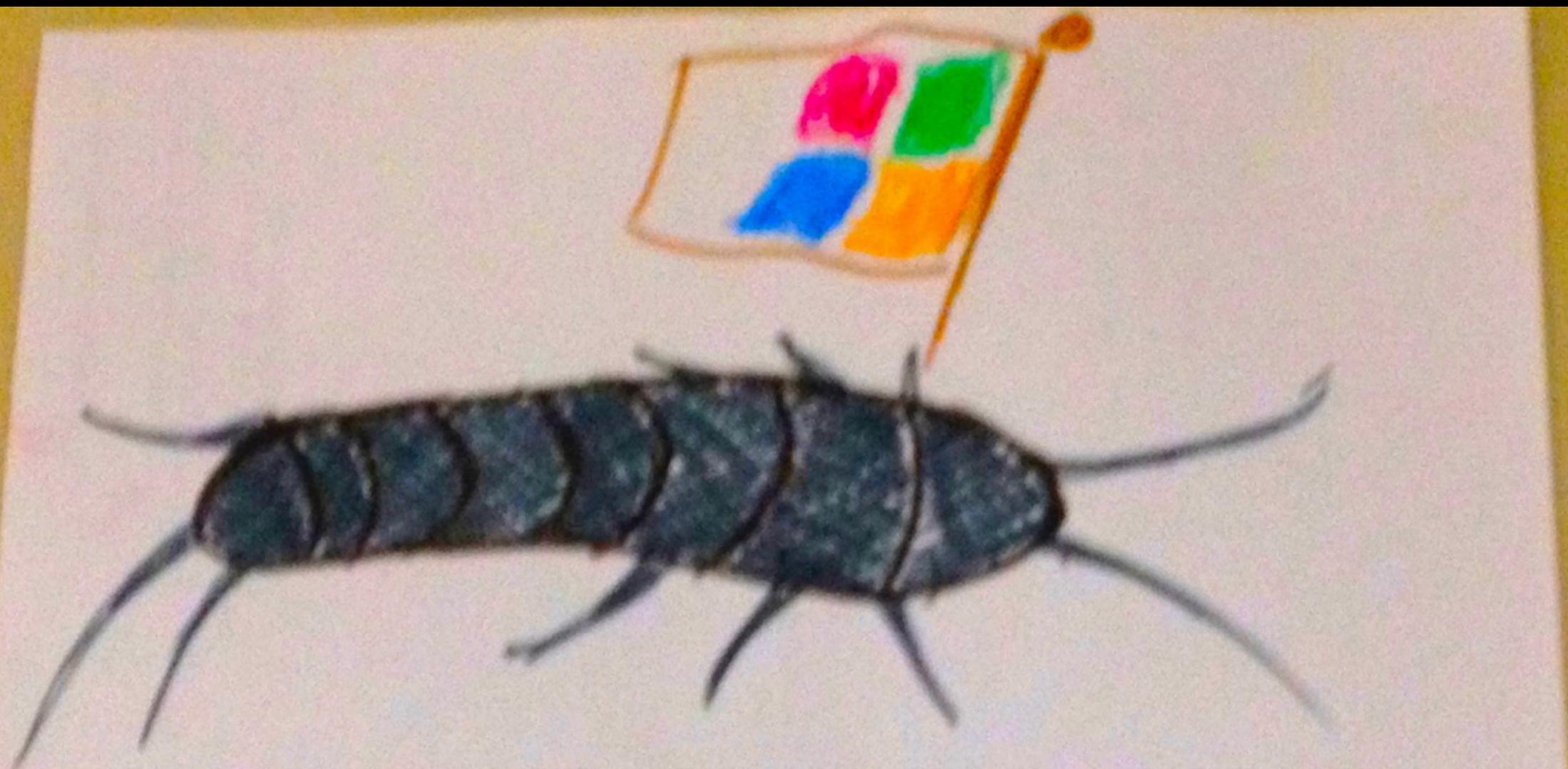
- ***So... the BOfH section was a bit too close to home?***
- ***Keep a log of how much you're doing. How many hours a week are you clocking? How many on-call events?***

# ***Coping with Yourself***

- ***Find ways to de-stress and disconnect from work***
- ***Talk with your supervisor and come up with a way to shift and/or lighten your workload.***

# ***o\_o You? Advice on BOfHs?***

- ***You don't seem very BOfH like, how can you speak about this with authority?***
- ***Well... Previous Employer.***
- ***Christmas, 2012. 8PM PST...***



Never Forget

W/13

# ***The Microsoft Silverfish***

## ***Or, how I almost wound up turning into a B0fH***

- ***User: Oh, hey, happy Christmas. So, I want to watch Netflix on my company issued laptop but I need to install Microsoft Silverfish.***

- ***(facepalm) Seriously?***

- ***Me: Have you tried installing the software?***
- ***User: Oh, yea, it wasn't working.  
It won't let me install.***
- ***No duh? I was told to lock your laptop down.***

- ***Me: Well, I can't access your computer remotely since you're at home. I'll reach out to my supervisor (VP of the company) and see if you're allowed to have this installed.***

• ***User: Oh no please don't bother them until the holiday is over!***

• ***... But you can bother me, the senior IT person. -\_-***

• ***Me: Ok! I've emailed my supervisor, I'll let you know what I find out.***

***• At this point the user stopped messaging me, and I decided that I was looking for a new job. I spent the rest of Christmas night being very frustrated.***

# ***What can the Microsoft Silverfish teach us?***

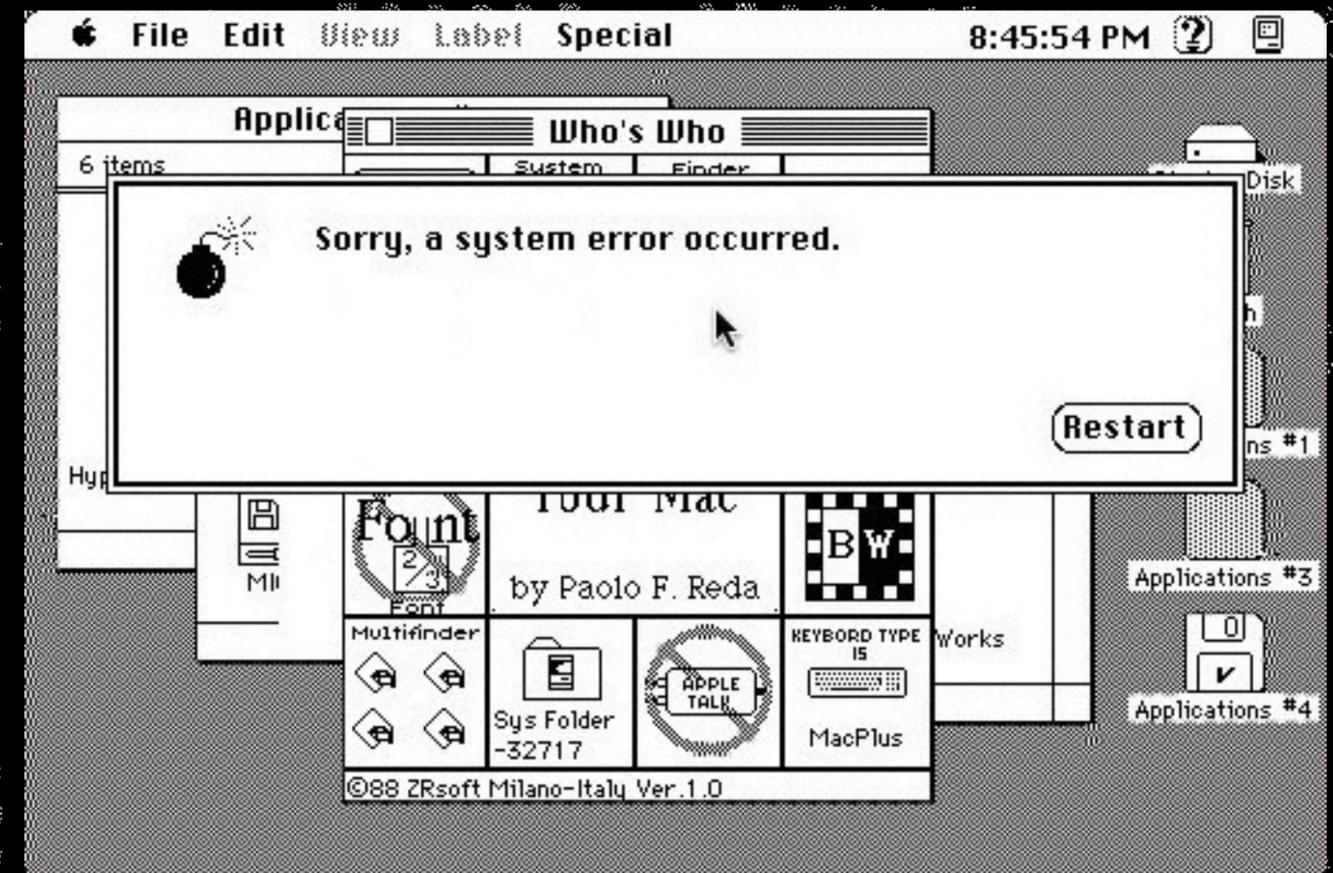
- ***Make sure your users respect you and your time.***
- ***Make sure escalation policies are clear. i.e. Unless the building is on fire don't contact IT on holidays. Even then, an email would be plenty.***

# *Silverfish Lessons*

- *Make sure the folks above you in your organization have your back. If not, consider moving on.*
- *Remember: No one will canonize you for your self sacrifice—don't fall victim to Martyr Syndrome.*

# *Coping with Software and OSes*

- *Find the right community*
- *Get the right tools*
- *Things to keep in mind...*



# ***Find the right community***

- ***First off, you're here, so you obviously found the Mac online support community for sysadmins. Finding the right online community is huge.***
- ***The Mac Admin community is pretty friendly, so we're really lucky.***
- ***Seriously, wanna be horrified? Go look at the DDWRT forums.***

# ***Get the right tools***

- ***Sign up for any and all dev mailing lists pertaining to things you support.***
- ***Get an Apple Developer Account for OS X, and iOS if applicable.***

# *Get the right tools*

- *Do testing in the 10.x betas near the launch of the OS so you can verify that it works properly in your environment. You will have Day 1 upgrades. Be able to accommodate them, to a degree.*
- *Get Production and Testing environments set up*

# ***Things to keep in mind...***

- ***When seeking outside of the MacAdmin sphere read:***
- ***"How To Ask Questions The Smart Way" by Eric Steven Raymond : <http://www.catb.org/esr/faqs/smart-questions.html>***

# *Things to keep in mind...*

- *Damn good article and worth a read, but keep in mind: this is someone who views all of us as ID10-7s, lusers, and PEBKACs for not being programmers who can write Linux kernel extensions.*
- *TL:DR...*

# ***Things to keep in mind...***

- ***TL:DR takeaway if you don't have time:***
- ***Document troubleshooting you did and include it.***
- ***Match the tone of the community.***
- ***Too much data is better than not enough, over document.***

# ***Remember, the Internet is global***

- ***If you're looking for help from an international project be aware of cultural differences and whether or not folks providing support are English as a Second Language speakers.***
- ***Cultural differences can be jarring, and offensive.***

# ***Coping with Hardware Issues***

- ***Macs: Get GSX, or be BFFs with your Apple Store.***
- ***Servers: Get service contracts if at all possible.  
Having onsite support within a service window is easier and cheaper than keeping parts on hand.***

# ***Coping with Hardware Issues***

- ***Printers: For large, high end printers go with a lease including support, or get a support contract. Calling Xerox to come fix your printer is easier than spending a day tearing it apart yourself.***
- ***Everything else: Buy either for quality, or ease of replacement. Have spares if you go cheap.***

# ***General Advice and Final Thoughts***

# ***General Advice***

- ***Learn enough command line to be dangerous.***
- ***diskutil, softwareupdate, purge, and killall are great places to start in OS X***
- ***rm, ls, cd, chown, chmod, mv, and cp are handy in Mac/\*nix envs***
- ***Learn to use top as well.***

# ***Find Balance***

- ***Find your balance between chaos and order***
- ***Try to maintain it***
- ***Understand you will lose balance sometimes.***



# ***Balance work & personal time***

- ***Have a life outside of work. See your friends, family, and pets.***
- ***If you start to shut down after work, get away and take a vacation. You're in pre-burnout.***

# ***Document (most) all the things!***

- ***For internal documentation have a coworker review your docs without you present to check for missing steps.***
- ***For user facing documentation have a median skilled user review them. Fix any hangups before general distribution.***

# ***Have a support network***

- ***Build a team environment where mutual assistance is the norm, not the exception.***
- ***Have backup from your supervisor to ensure you have sufficient authority.***
- ***If you're getting thrown under the bus try to find out why, and/or get out.***

***Before we go to Q&A...***

***They aren't here, but I know  
they'll probably watch this later:***

# *People I need to thank*

- *My friends and family.*
- *My users and coworkers.*
- *The Mac Admin community at large.*
- *My mentors and previous managers.*
- *Because "Bonds of people is the true power."*

***Ok, done being sappy.***

***Such thank!***

***Much wow!***

***Questions? Comments?***

***...or should I just show you cat macros?***