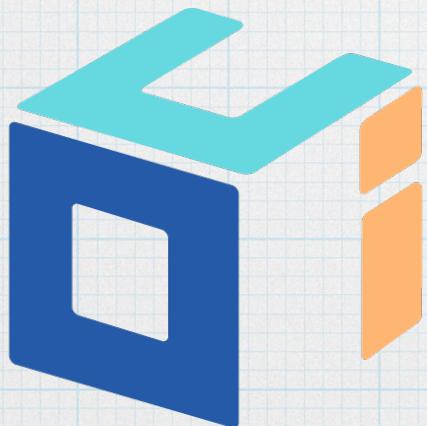


# Experiences, Lessons, & Opinions from 38 years of Software Development

R. Mark Volkmann  
Object Computing, Inc.  
[mark@objectcomputing.com](mailto:mark@objectcomputing.com)



slides at <https://github.com/mvolkmann/talks>

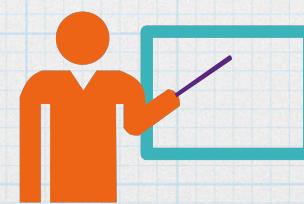
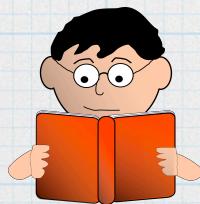
# OCI

- \* Consulting and training company headquartered in St. Louis
- \* <https://objectcomputing.com>
- \* Started in 1994
- \* Strong focus on open source software
- \* Home of Grails framework
- \* Monthly SETT articles
  - \* <https://objectcomputing.com/resources/publications/>



# 38 Years?

- \* B.S. and M.S. in Computer Science 
- \* while having two kids
- \* Three employers
- \* Many languages including Fortran, Basic, PL/I, Mumps, Python, C, C++, Pascal, Java, Ruby, JavaScript, and dabbling in many others 
- \* Too much XML, XML Schema, and XSLT
- \* Consulting for past 21 years
- \* Lots of reading, writing, teaching, and speaking



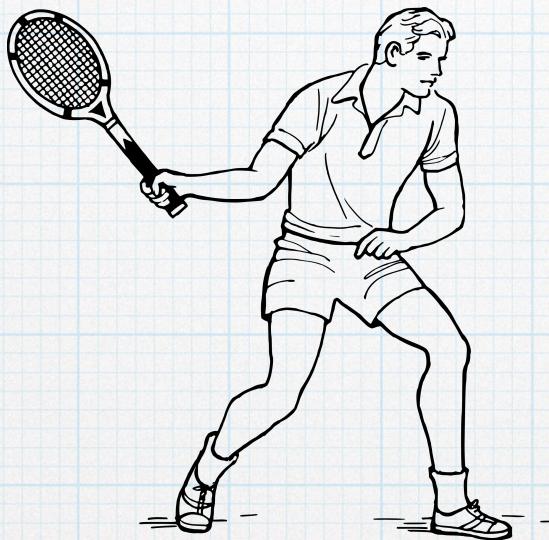
# Computers I've Owned

- \* TI-59
- \* Atari 400 & 800
- \* Power Macintosh 7200
- \* Gateway PC
- \* PowerBook 5300
- \* Mac Mini
- \* iMac 21" & 27"
- \* series of MacBook Pros
- \* three iPads



# First Applications

- \* Tennis Serve



- \* Telephone Cable Resistance

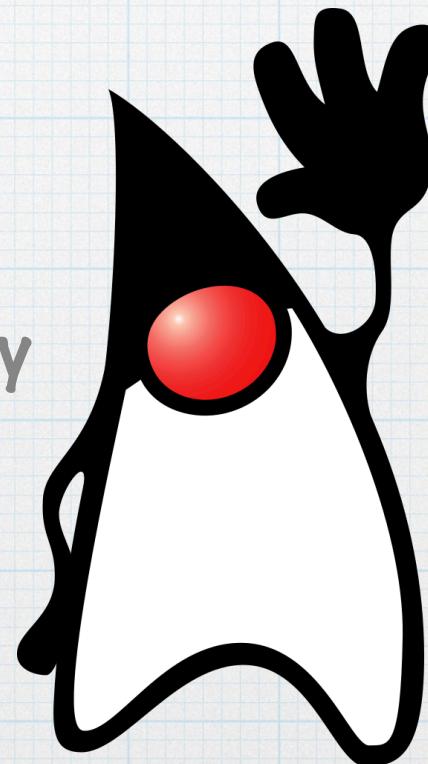


# Making a Bad Performance Review Good

- \* Not focused enough on business



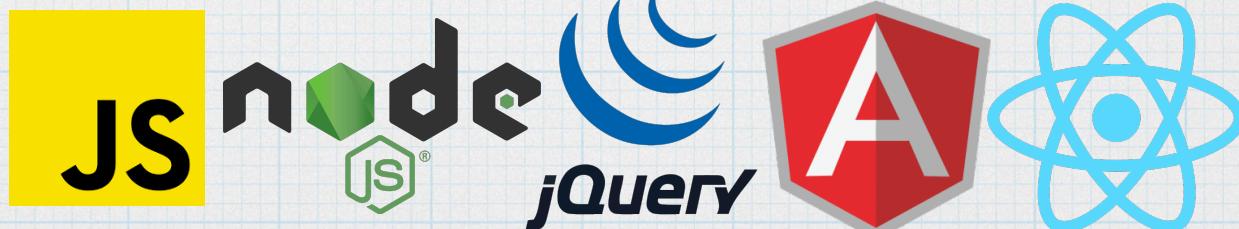
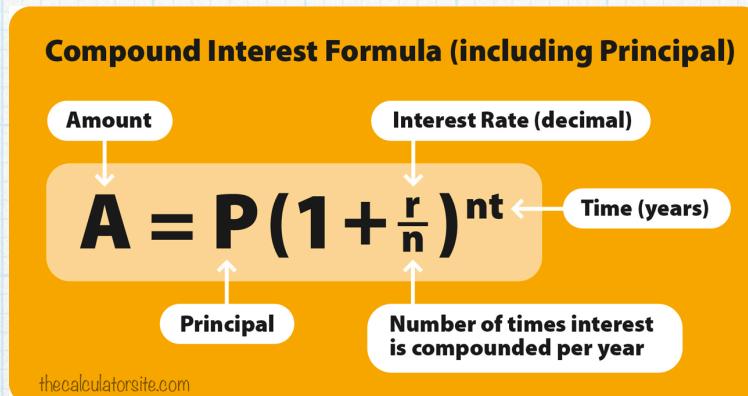
- \* Too interested in technology



# Teaching

- \* Business Math
  - \* Word & Excel
  - \* QuickBasic
  - \* C++

- \* many Java courses
- \* many XML courses
- \* Ruby 
- \* HTML, CSS, JavaScript, Node, jQuery, Angular, React



# Continuous Learning

- \* Surely you didn't think this would end after high school, bootcamp, or college!
- \* But how?



# Learning Resources

- \* Books - paper or e
- \* Blog posts / websites
- \* Twitter 
- \* Screencasts / Videos
  - \* YouTube and others
- \* User Groups
- \* Conferences
- \* Volunteer to give a talk
  - \* fear of embarrassment will cause you to dig in



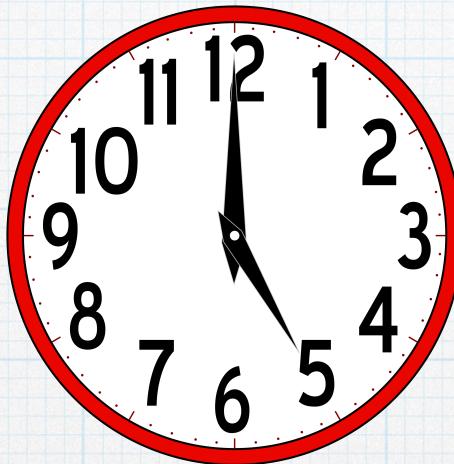
# Why Highlight?

- \* Highlight important parts of books and printed articles
- \* Forces thinking about what is important
- \* Forces re-reading which solidifies learning
- \* Makes it faster to refresh your memory in the future, only re-reading the highlighted parts



# Finding Time to Learn

- \* Exercising
- \* Driving
- \* Kid activities
- \* Eating
- \* Waiting in lines, waiting rooms, ...



Always have something  
with you to read.  
You never know when  
spare minutes will appear.

# Deciding What to Learn

- \* Interesting, but rarely used tech?
- \* Widely used tech?
- \* Does it have corporate backing?
  - \* Angular -> Google
  - \* React and Flow -> Facebook
  - \* TypeScript -> Microsoft
- \* Do you care?



# Documenting What You Learn

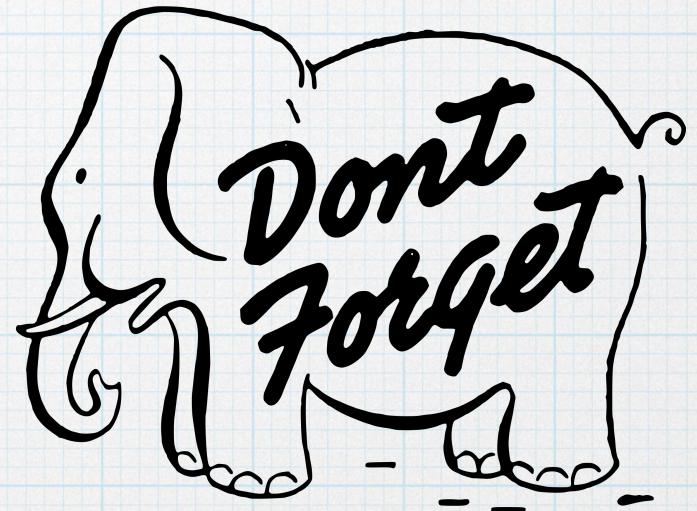
- \* Keep notes by topic

- \* in easy to edit files,  
like plain text or Markdown
- \* provides a place to record new knowledge
- \* becomes the basis for ...
  - \* blog posts / articles
  - \* slides for talks to give at  
user groups and conferences
  - \* books you will write

- \* If you don't document it, you'll forget it

- \* Just doing this will help you learn it more

- \* you'll have to express it clearly



# Why Share What You Learn?

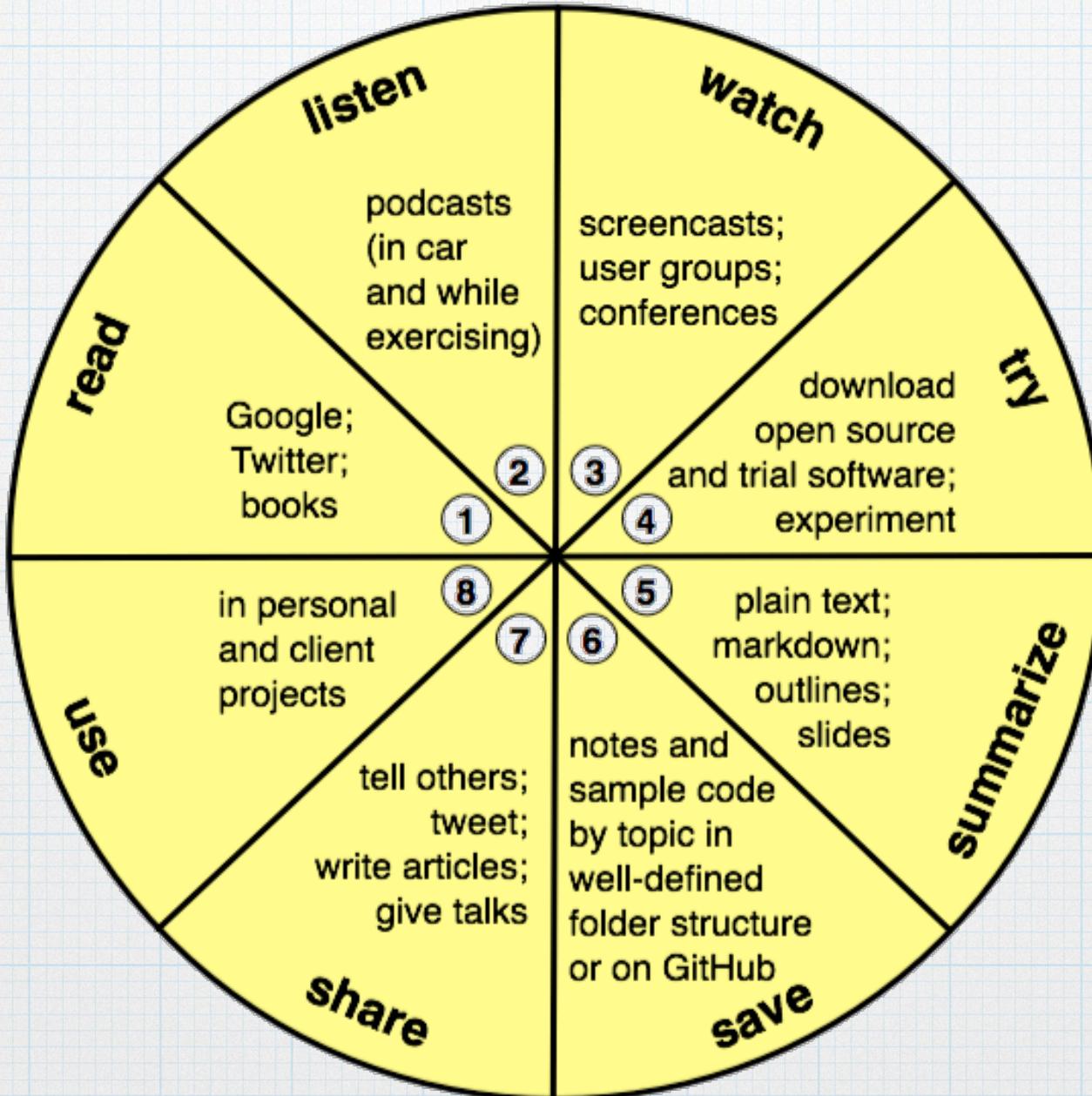
- \* To learn more deeply
- \* It's only fair
  - \* you've gained so much from what others have shared

# Sharing What You Learn

- \* Create screencasts
- \* Write blog posts / articles
- \* Create web pages
- \* Publish sample code in GitHub
- \* Give user group talks
- \* Give conference talks
- \* Write books

Same as list of learning resources, but not you're creating the resources!

# Wheel of Continuous Learning



# Code Formatting

- \* Do we really have to talk about tabs vs. spaces and indentation?
- \* Yes! But why?
  - \* consistent code is less distracting to read
- \* Automate!
  - \* with tools like Prettier and ESLint (--fix)
  - \* each developer can have a different configuration that they apply to all code after creating a new branch
  - \* a prepush Git hook can format to project standard before every push

# Editors / IDEs

## \* Modal editing

- \* command mode versus insert mode
- \* allows more convenient keyboard shortcuts

## \* Editing macros

- \* record a sequence of keystrokes including editor commands
- \* assign a name
- \* replay any number of times

## \* Repeating actions

- \* ex. replace word under cursor with a specific word
- \* best if triggered with a single key (ex. “dot” key)

# Command Line

- \* Master it

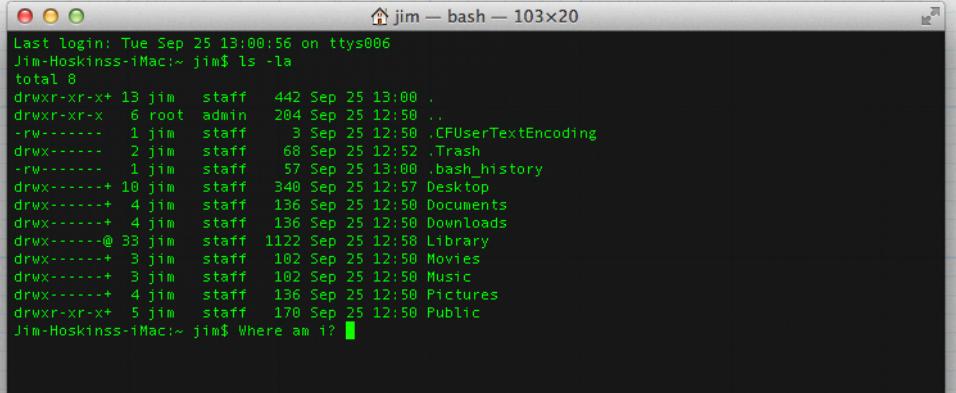
- \* fish shell

- \* better autocomplete support with history recall and completion of commands, options, file paths, and git branches

- \* better error messages
- \* better script control flow syntax
- \* more colorful
- \* can configure with a web UI

- \* tmux - terminal multiplexer

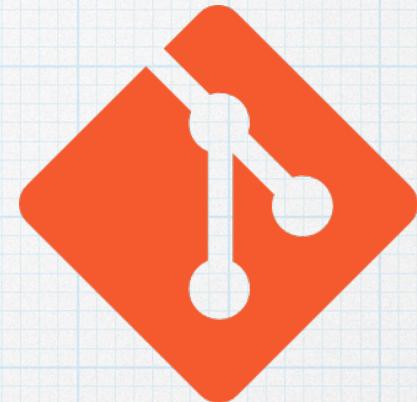
- \* <http://java.ociweb.com/mark/tmux/>



```
Last login: Tue Sep 25 13:00:56 on ttys006
Jim-Hoskinss-iMac:~ jim$ ls -la
total 8
drwxr-xr-x+ 13 jim  staff  442 Sep 25 13:00 .
drwxr-xr-x+  6 root  admin  204 Sep 25 12:50 ..
-rw-----+  1 jim  staff   3 Sep 25 12:50 .CFUserTextEncoding
drwx-----+  2 jim  staff   68 Sep 25 12:52 .Trash
-rw-----+  1 jim  staff   57 Sep 25 13:00 .bash_history
drwx-----+ 10 jim  staff  340 Sep 25 12:57 Desktop
drwx-----+  4 jim  staff  136 Sep 25 12:50 Documents
drwx-----+  4 jim  staff  136 Sep 25 12:50 Downloads
drwx-----@ 33 jim  staff 1122 Sep 25 12:58 Library
drwx-----+  3 jim  staff  102 Sep 25 12:50 Movies
drwx-----+  3 jim  staff  102 Sep 25 12:50 Music
drwx-----+  4 jim  staff  136 Sep 25 12:50 Pictures
drwxr-xr-x+  5 jim  staff  170 Sep 25 12:50 Public
Jim-Hoskinss-iMac:~ jim$ Where am i?
```

# Version Control

- \* Game over, Git has won!
- \* Learn how to use from command-line



# Automation

- \* Command-line aliases
  - \* cdgitroot, br, status, co, ci, nr, push, klp, ...
- \* Scripts
  - \* findjs, findscss, ...
- \* Linting - ESLint
- \* Type checking - Flow, TypeScript
- \* Code formatting - Prettier
- \* Testing - Jest, Enzyme
- \* Git hooks - Husky
  - \* ex. prepush

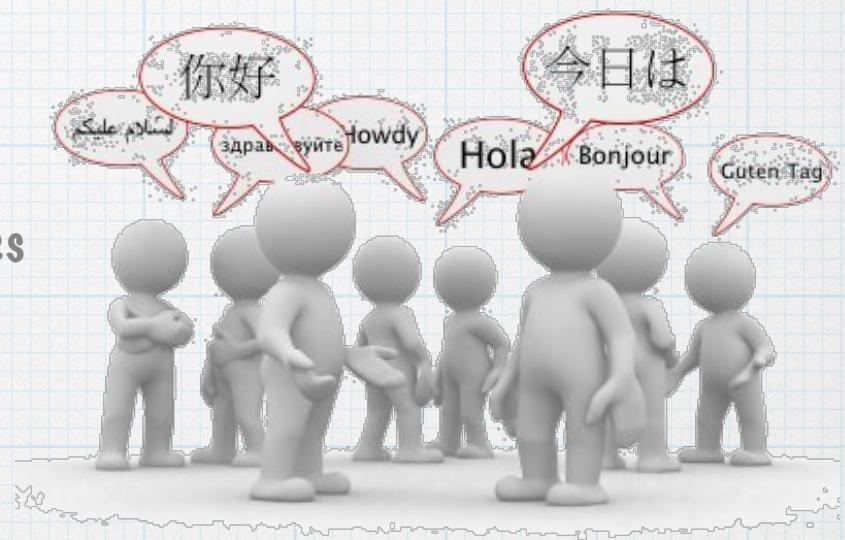


## Some Benefits of Types

finding errors  
documentation  
refactoring  
code completion

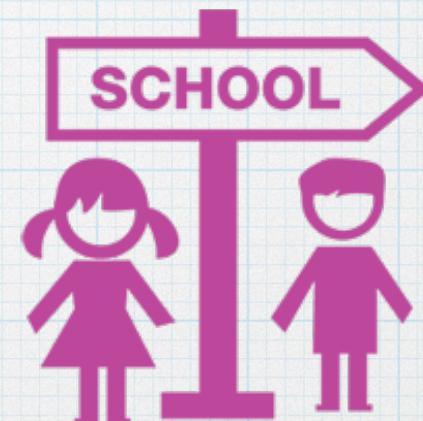
# Mono or Polyglot?

- \* Are you really using the “best tool for the job”?
  - \* or are you just using that as a justification to use a language you like?
- \* Is it worth the mental shift?
  - \* between client-side and server-side languages
- \* Is it worth the effort to learn?
  - \* for the whole current team and future developers that will maintain it?



# Formal Education

- \* Is it important?
- \* Self-taught vs. Bootcamp vs. University
- \* Is it worth knowing topics outside of CS well?
  - \* math, statistics, physics, ...
- \* Learning how to learn
  - \* I use very little of what I was taught in college
  - \* but I did learn about data structures and how compilers work
  - \* and I learned "how to learn" which is important for continuous learning



# Getting Along With Others

- \* Logic over emotion
- \* Manner in which you share your opinions
  - \* questions sometimes better than statements
  - \* "That will never work because ..."  
vs.  
"How would that handle ..."
- \* Cursing is not cool
  - \* can make others discount your opinions before they even consider them
  - \* don't be too lazy to choose better words



# Being a Consultant

- \* Lots of variety!
- \* Get to recommend approaches and describe their pros and cons
  - \* don't get to decide
- \* Expected to be a good mentor
  - \* Do others frequently ask you for help or your opinion?
- \* Expected to find solutions that you didn't already know
  - \* "I'll get back to you on that", not "I don't know"
- \* Expected to quickly find bugs
  - \* in code written by other

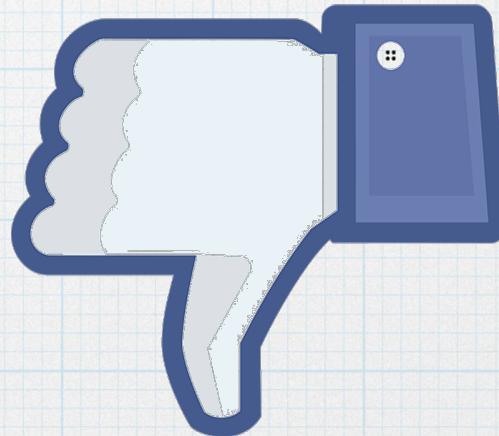
# Choosing Talks to Attend

- \* Pick talks that will

- \* teach you something new
  - \* inspire you to learn more on your own

- \* Pick talks on tech you think you don't like

- \* so you can better elaborate why you don't like it
  - \* document this so you don't forget



# Wrapup

- \* Thanks so much for listening to my ramblings
- \* AMA
- \* Sit with me at lunch ... please!
- \* Email me at [mark@objectcomputing.com](mailto:mark@objectcomputing.com)
- \* Checkout my resources at [github.com/mvolkmann](https://github.com/mvolkmann)
- \* Share your opinions with me
- \* Run with me sometime

