

The Unicorn & 5 ideals

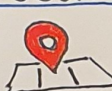
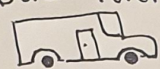


Gene Kim

@RealGeneKim

Defⁿ DevOps: Tech to win Market
Better Value, Sooner Safer, Happier

1

Locality & Simplicity



Dev & DBA's
 Bus Factor
 Team & Teams
 Etsy
 middleware ← sprouter
 how long does a deployment take?

Closure (X)
 Docker, Kafka, Git
 why is my cloud?

Focus, Flow & Joy
 flow
 flow icon
 Joy icon

2

3

Improvements of Daily Work
 phoenix project
 quicker feedback loops
 3,500 times per day
 Pay down tech debt
 (feature freeze)
 Transforming Nokia
 Lead time for changes?
 Quick Experiments

Top indicator of performance
 Blameless post mortems
 chaos monkeys
 psychological safety
 Rework
 4
 -risks
 -feelings

5

Customer focus
 Data Centre tour
 *tomb stones of Savings
 What do customers care about?
 inspired

drawn by
@BugHunterSam

#you19



Unit of one entry
notified at 5 pm
and email address
for further details

Quantum & You

Computing

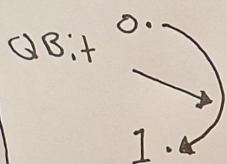
Matthew Keesan

<1,000 people

#YOZZ9

Quantum Bit:

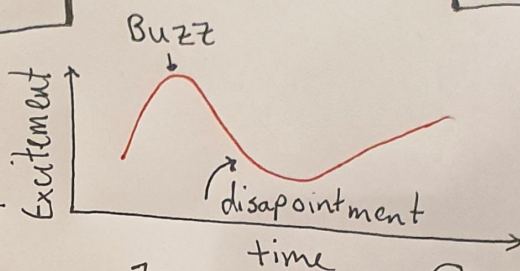
probability: $a+b+c+\dots=1$



$$\sqrt{a^2+b^2+c^2+\dots}=1$$

probability VS

0.
↓ Bit 0 or 1
1.



Scott Aaronson

1. Superposition
2. Entanglement → Inference

We get an exponential speedup
not super human powers

1995
Quantum
Logic
Gate

Good for:

- simulating Chemistry
- Logistics -finance

Challenges

isolation Hard
Gates
Slight errors

Logical
Qubits

END GAME

How to Build

- make Qubit
- isolate
- initialise
- set of gates
- measure

drawn by @BugHunterSam

6170

Level UP

- Quality
- Safety - Security

@Todd I
Montgomery

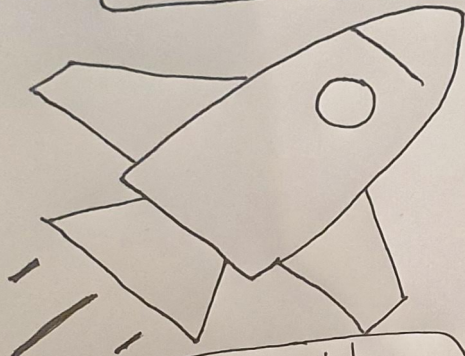
NASA - Quality

'86 - shuttle explodes

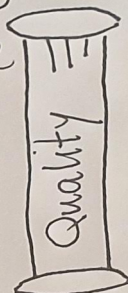


Independant
Verification
& Validation

Safety is an emergent
property of systems NOT
a component property
Nancy Leveson



- performance
- safety
- functional
- Security



Most people
don't expect
software to
work*

What could
Possibly go wrong?

Common Process

- Throw testers at it
- Patch / Hot Fix
- Bug Triage
- Code Review

PLACEBO

100% Code
Coverage

doesn't work

*Root Cause Matters

*Bet I can exploit that

*Look at pronouns

Spec as comms
Early Requirements
Domain Expertise

SUMMARY
culture of
Account-
ability

Quality is:

One Uncomfortable Truth
Pride
Ownership
Responsibility



drawn by @BugHunterSam

2019

Graphs That Help Investigative Journalists

#You19

Michael Hunger

1. Panama Papers
2. Trump World
3. Russian Trolls

- Cambridge Analytica (influence opinion)

- Lots of Data (today)
- global collaboration

1. Panama Papers

(offshore companies have legal uses) 2.6 TB Data

Emails, Databases, PDFs

214,000 Companies

Uncover Truth
Protect Whistle Blower

International Consortium Investigative Journalists

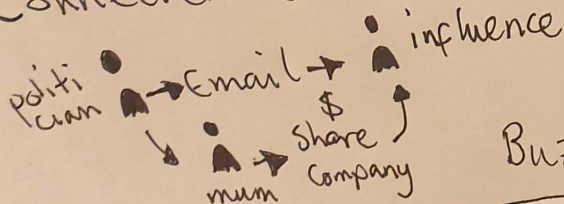
200 people secret exposure

Mossack Fonseca
Moscon + Panama

128 politicians
12 current world leaders

Niux $\Rightarrow$ OCR $\Rightarrow$ Solr

Connected data



[Neo4j]

BuzzFeed

Murders:
Daphne
Jan

Risks

Internet Research Agency

Graph Algorithms

drawn by @BugHunterSam

Growing Your Personal

Design Heuristics

#yww19

Rebecca Wirfs-brock

Discussion
of the method

"Heuristics are fallible"

Types

- Simple Methods Meta?
- patterns
- Solve a problem:
- Domain Model
- Table - Transactions

Patterns
Enterprise
Architecture

Object Oriented
Re-engineering Patterns

Heuristics often
Conflict

1. Map out Your Interests
Where to Next?

2. Share & Compare

3. Take Contrary; argue 4 it...
Conversation specific topic

4. Distill what you hear

↓
Sketch
notes

↓
photos

Distill what you do

5. Take Notes

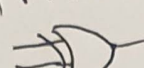
writing
Ethnographic
notes

drawn by @BugHunter Sam

I nteraction P rotocols

It's all about Good manners

Martin Thompson @mjpt777

Real logic  # You?

Wierd gymnastics
to get stuff done
in Code

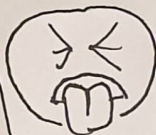
Protocol noun:
etiquette & precedence
treatment & formatting

Charles Darwin
Evolution & biology

Manners

Hygiene $\Leftrightarrow$ Disease
Cortuesy $\Leftrightarrow$ Society
Norms $\Leftrightarrow$ Trust

Facial Expressions



Rules of Engagement

How Should I components Interact?
-IETF -418-I'm a teapot

Documentation
API vs Protocol

Error Handling
things arrive out of
order

Plan for failure
Build better ways
to Recover

Waste? encode & decode?
Sync Vs Async?
Batching? Layering

Feedback &
Recovery
protocols

what can we
depend on?



drawn by @BugHunterSam

Frictionless Frontends

🔧 [9] 19

4 Backend Engineers

Mandy Michael @Mandy_kerr

channel
7

react & Node (3 websites)

Frontend:

HTML
CSS
JS

UI & Presentation
Layer...

Bootstrap

Landing Page CMS

Typed Languages : Type : Static
Script

HTML is a type
any type is
like a `</div>`

Lighthouse 

Tips `<HTML>`

`<section>`
`<article>`
`<nav>`
`<aside>`

clear
Structure
&
Heirarchy

Use Built in
Functionality

Use Native!

Buttons & links

Choosing Fonts
-fontpair-

CSS grid

Fluid

span

Layouts

nav	main	menu
fixed	fluid	fixed
span menu		

index 4 grid starts @1.

CSS

Inheritance
Specificity

3 rows

grid-row:

drawn by @BugHunterSam

Full Stack Accessibility

#Women Who Code

Larene Le Gassick
@LareneLg



Lawsuit Driven Development

Inclusion

Engineer: won't shut up about HTML forms

WCAG 2.0

Assistive Technology

Screen Readers

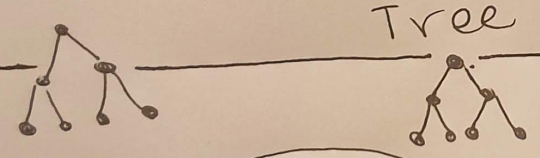
Braille Readers

Switch Control

JAWS NVA VoiceOver

Guidelines

Dom tree $\Rightarrow$ Accessibility Tree



WebAIM - Report
97.8% failed
Low contrast text
no.1 issue

Automated Accessibility Checkers

30% bugs

Contrast, Alt text
colour blindness

[add for & id to HTML]
[captions]

drawn by @BugHunterSam

Standards #YOUNGTO

There's always Room for 1 more

Nicola Nye

What is a standard?

IMAP

Global

interoperatory

HTTP

IT/CP

IRC

JSON mail

TCP/IP

DNS

They come from
Volunteers

RFC IETF W3C
ISO ... etc... etc

"Mostly Agree"



"No Voting"

charter

Humming
Agreement

Internet
Engineering
Task
Force

How do
global
Volunteers
work
together?

Herding Cats

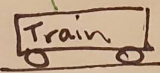


It's a wonder
the internet works
at all

3 Years

to write a
standard

Adoption
is Hard



150 years

Global
Standard

WHY?

Ethos

improve
world

Compete
with Tech Giants

drawn by @BugHunterSam

INVENTING THE FUTURE

Allen Wirfs-Brock
@AWBJS #YOWCTO

from microsoft · mozilla
2 Vacuum Computers
Cloud

-Innovation

How do we build stuff
4 the future?

Dream Vs Reality

Alan Kay (Personal Computing)

Expensive
Room
Computers



Personal
Computers

Explore
Interactions

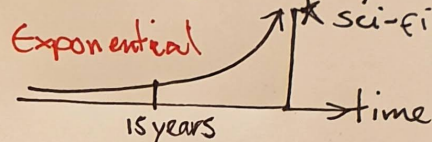
Xerox Park

Interim Dynabook ⇒ Small talk

Note taker



Timeline (30 years)



Tesla: expensive
Sports car ⇒ mass
market ⇒ mid price
car

1. vision n years?
2. favourable exponential?
3. n-2 years, what's possible?
4. what can you do today?

- will take
work!
- not cheap
- its not day
2 day

Hard to
get people to
think long term

drawn by @BugHunter Sam

Technical Leadership Matters

55 minutes

Dave Thomas

Navy Hats



- technical

ship less
code each
release

- Vision

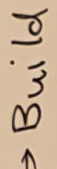


- fail fast



Get along

Business 101



Build

Sell



Innovation is so useless
Governments have departments 4 it

Thought Experiment

Live in fear & respect of
your competitors

Leadership Problem

- Government?

+ Live

+ Best wrong answer

+ Young people are
key

+ Lead by example

+ Engineers hate no decision

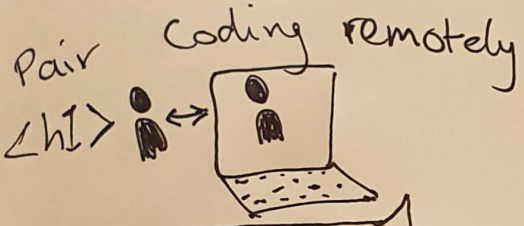
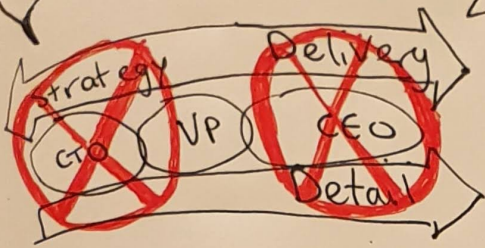
You don't need innovation
Therapy

drawn by
@BugHunter Sam

#You (TO Summit)

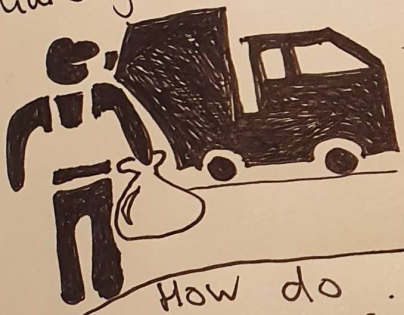
How I CTO

not my style



need curiosity

Garbage Collection



How do I have tension?

How do we advocate 4 waste?

Gil Tene

Azul Systems
- 27 years

No one reports to me...

I prefer to consult Engineers BUT I'll sit with sales, marketing etc

Know your business & code, customers

OBSERVATIONS

- * Things Change
- * What we are doing is NOT New
- * Get Things Done ☒
 - There should be waste & dead ends & chaos
 - Efficiency is a Lie
- * Disrespect the Problem
- * Question Fundamentals
- * Prove things

#YOWGTOSUMMIT

drawn by
@BugHunter Sam