

# YAHOO!

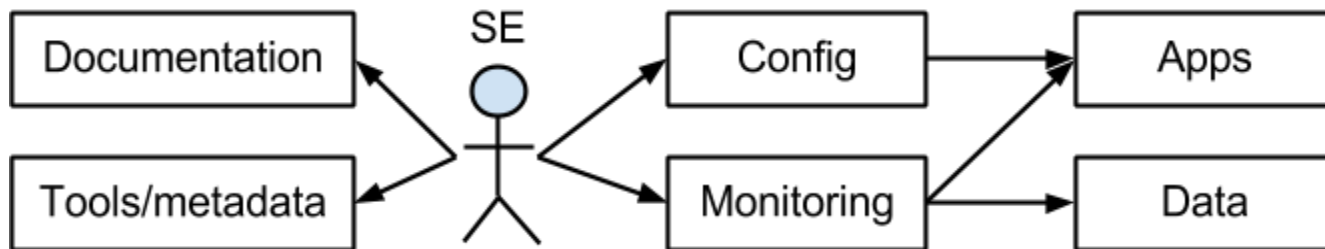
## Building Large Scale Services

PRESENTED BY **Jennifer Davis** | November 8, 2013

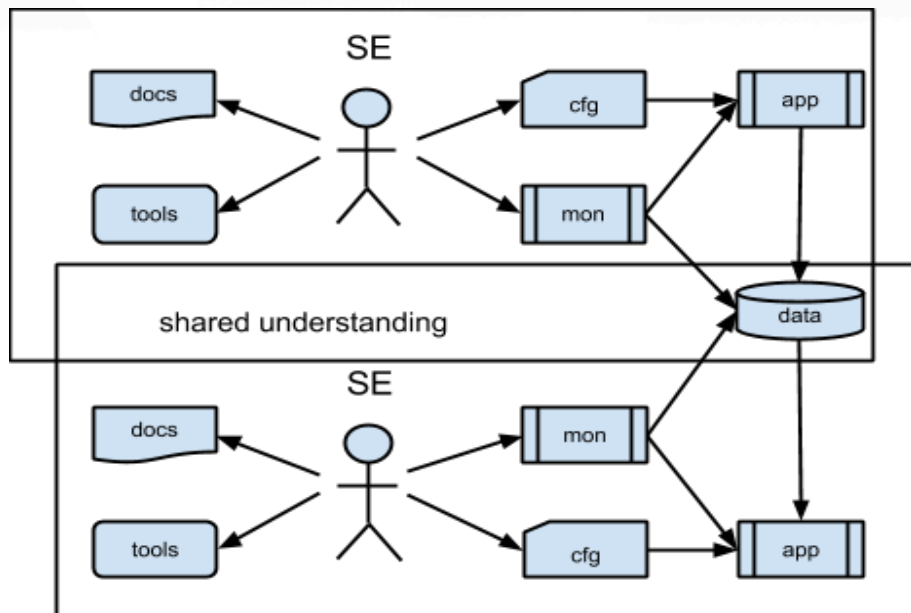
**TWITTER: @SIGJE**

**EMAIL: SIGJE@YAHOO.COM**

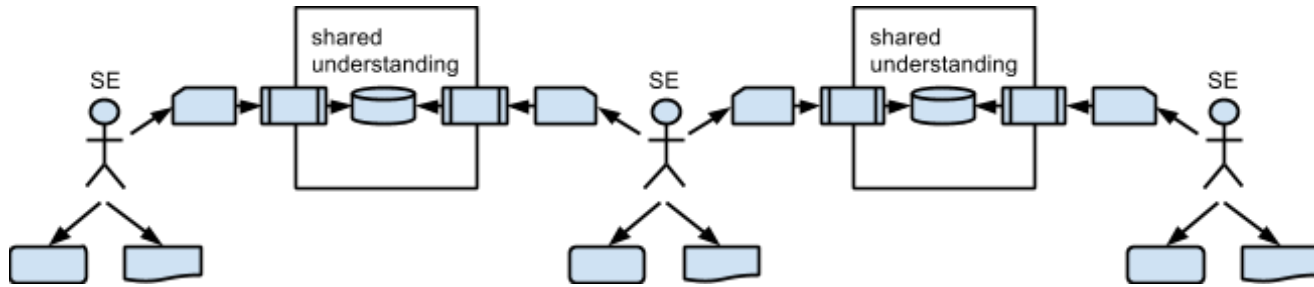
# SYSADMIN CONTROLS ALL THE THINGS



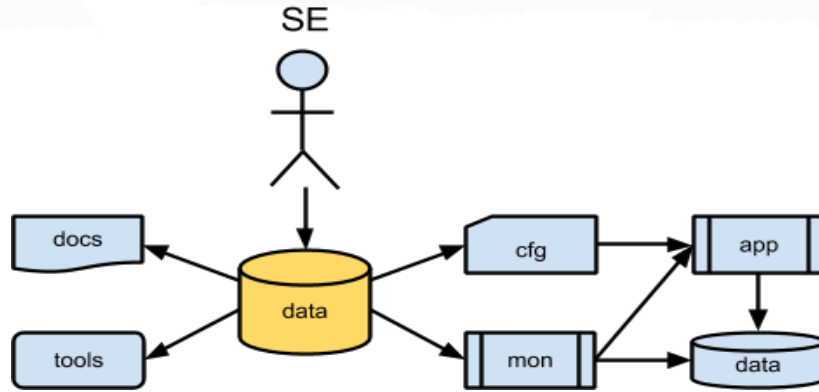
# SHARED DEPENDENCIES



# THE REALITY...



# THE DREAM...



**HOW?**

# DEFINE CORE PRINCIPLES

- Common
  - › Collaboration across teams, companies, industry, define standards
  - › Incident, Problem, Change, Config, Release management
- Distinct
  - › Specifics to an application or service
  - › Availability, Service, Business Continuity, Capacity

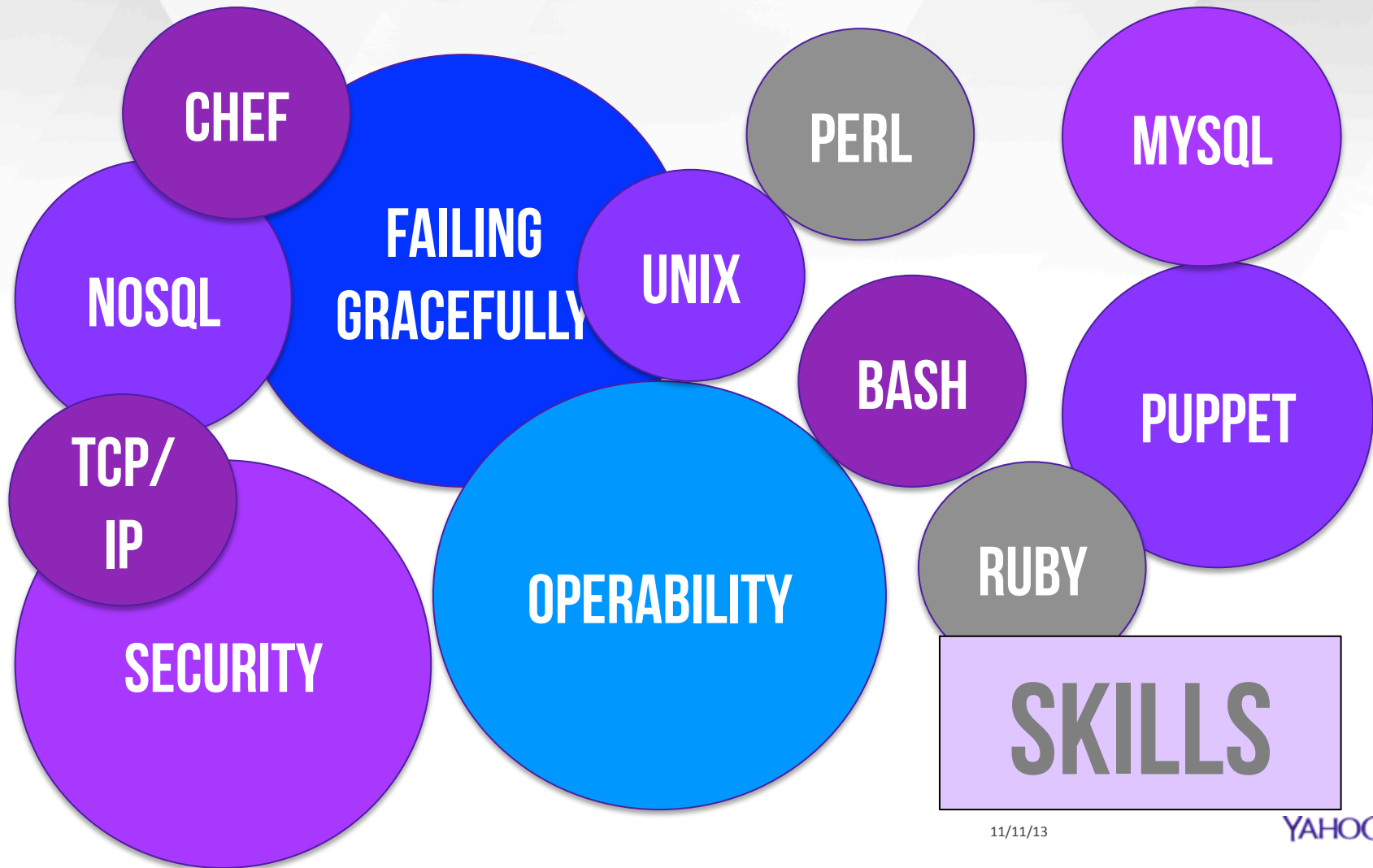


# KILL THE MYTHS

- Stupid User

# KILL THE MYTHS

- Stupid User
- System Admin == Operator



CON  
INT  
WIS  
CHA

SAVING THROWS  
**FORTITUDE**  
**REFLEX**  
**WILL**

TOTAL	7	-1			
	8	+4			
	3	+4			

**MELEE**  
attack bonus  
**RANGED**  
attack bonus

TOTAL	4	2			
	6	2			

+1 thrown  
spear +1d6

+1 thrown 2d6  
double range

WEAPON					TOTAL ATTACK BONUS	DAMAGE
+1 Dagger					5/9	1d4
RANGE	WEIGHT	TYPE	SIZE			
10	1lb	P	tiny			

WEAPON					TOTAL ATTACK BONUS	DAMAGE
+1 Darts					10	1d4
RANGE	WEIGHT	TYPE	SIZE			
20	1/2	P	small			

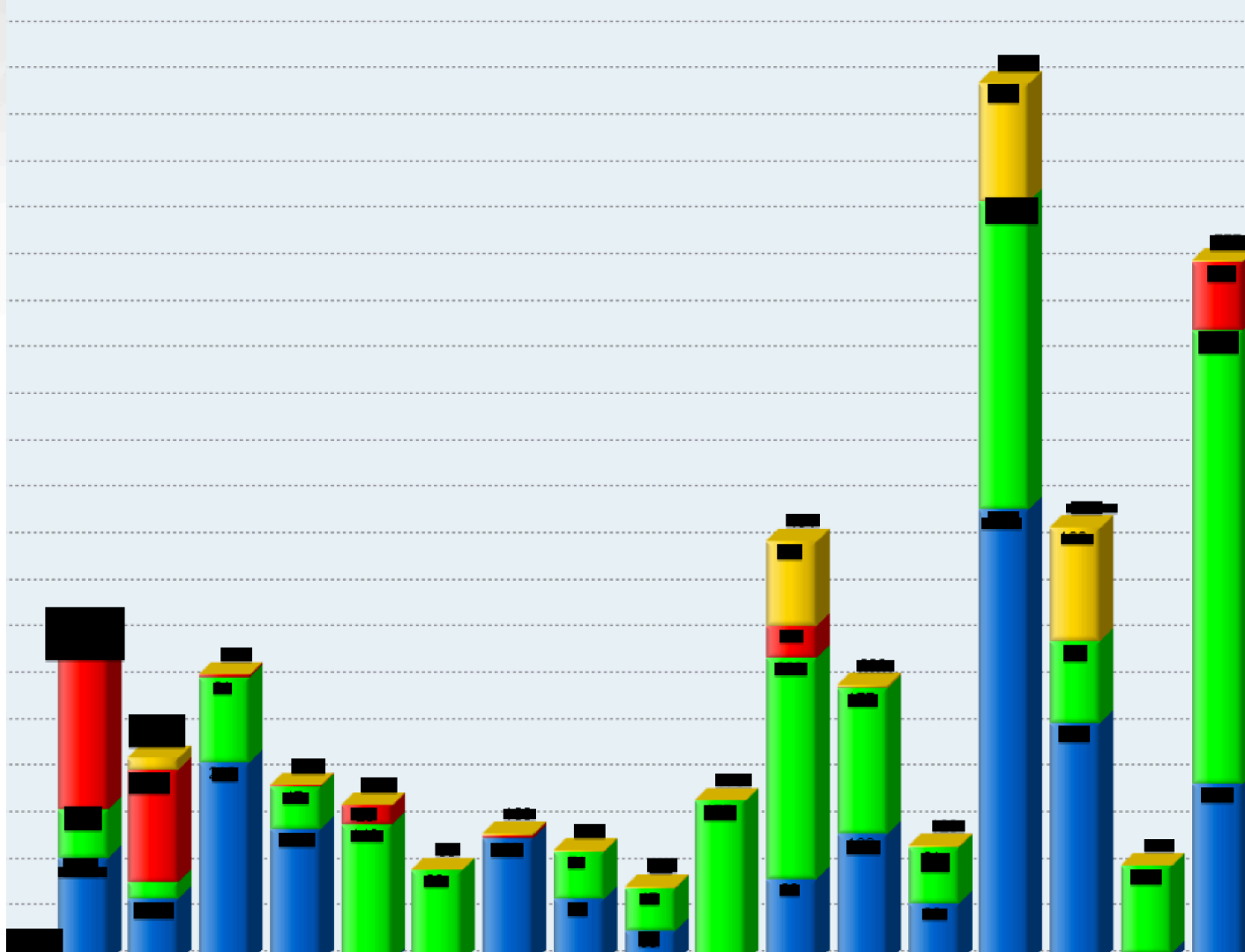
WEAPON					TOTAL ATTACK BONUS	DAMAGE
+2 Javelin					11	1d6+3
RANGE	WEIGHT	TYPE	SIZE			
30	2	P	med			x2



- Intuition
- Intuit Dir
- Jump r
- Knowledge
- Knowledge
- & engineering
- Knowledge (geog)
- Knowledge (hist)
- Knowledge (loc)
- Knowledge (na)
- Knowledge
- (nobility & roy)
- Knowledge (s)
- Knowledge
- Listen r
- Move Silen
- Open Lock
- Perform
- Pick Po

# KILL THE MYTHS

- Stupid User
- System Admin == Operator
- Words have a common universal implicit meaning



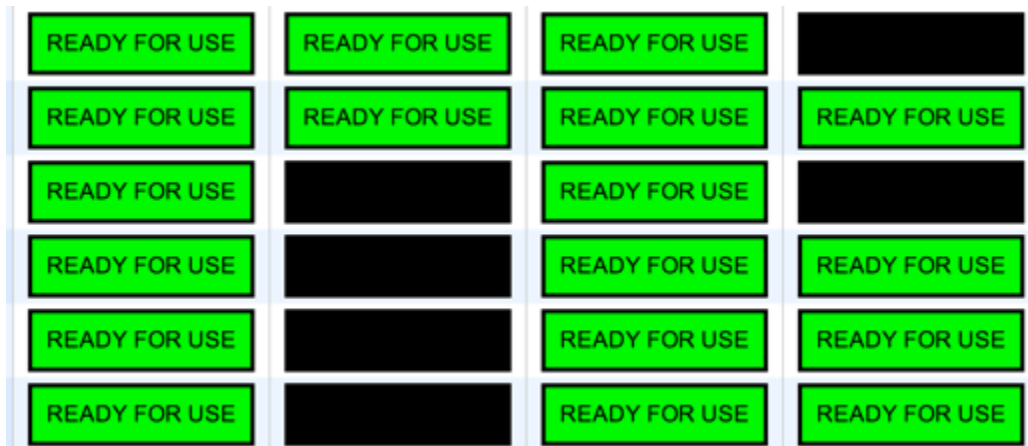
# LEARN TO MODULATE YOUR MESSAGE

C	C	C	C	C	C	-	-
C	C	C	C	C	C	C	C

# TEAM



# MANAGER



# CUSTOMER



# TEAM

- People working towards common goal.
- Different roles.
- Different views.
- Same objectives.

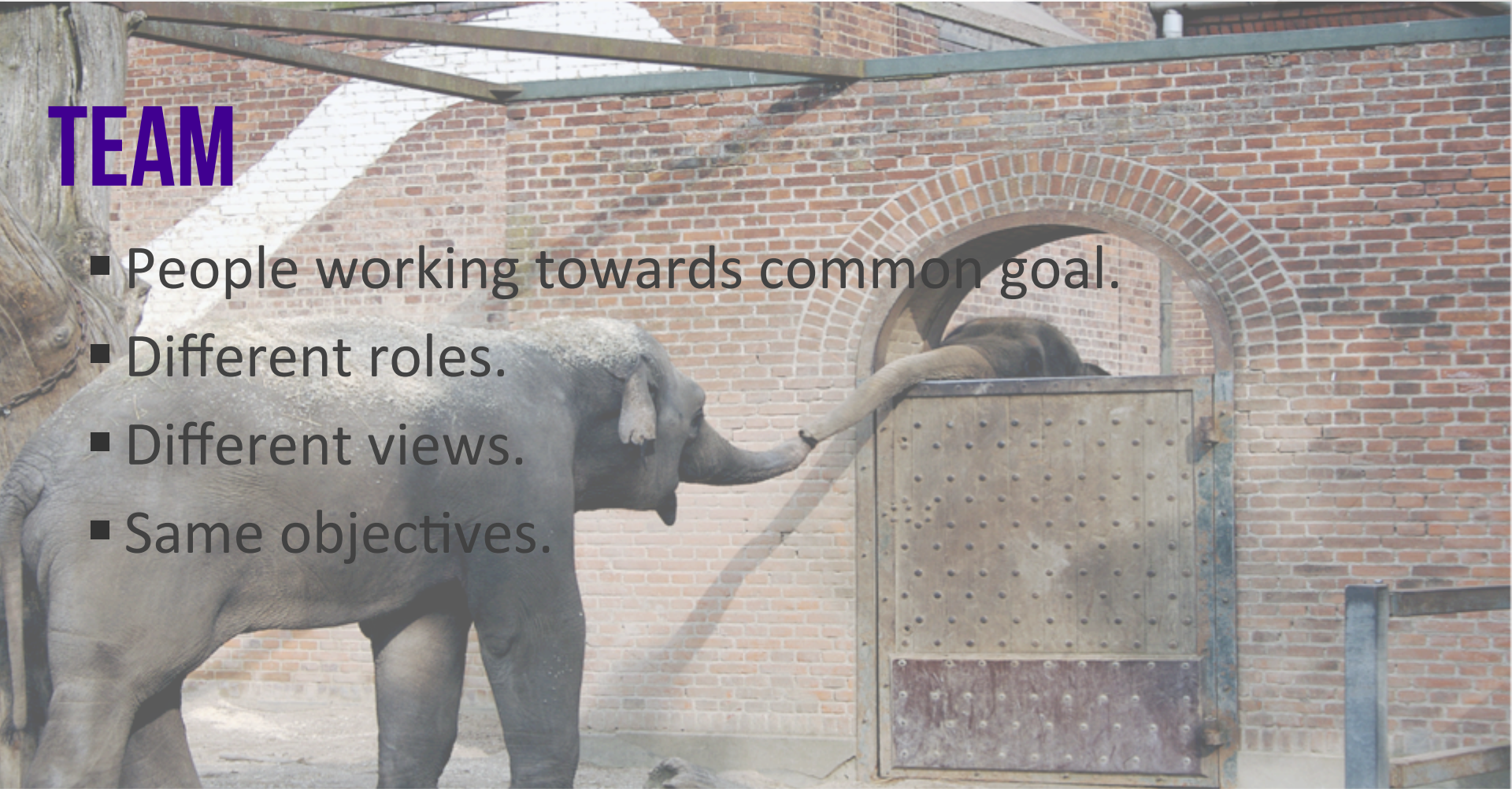




Image Credit: Kyle Latino



# TEAM

**Suggestion: Don't talk about the "devs" request, talk about Elaine's request.**



# TEAM



**Suggestion: Don't talk about the “devs” request, talk about Elaine's request.**

**Suggestion: Verify that your team has the same vision.**

# UNDERSTAND THE VISION.

- Are there other options, open source or not within the company?
- Are there other options outside the company?
- Is EVERYONE on the same page about what the service is?

# VISION STATEMENT

- Clear statement about the problem that the service is solving.
  - › Direction
  - › Identity management
  - › Team cohesion

New product? Be part of creating that vision!

# SHERPA'S VISION

.. Distributed replicated eventually consistent key value store that had a focus on scalability ..

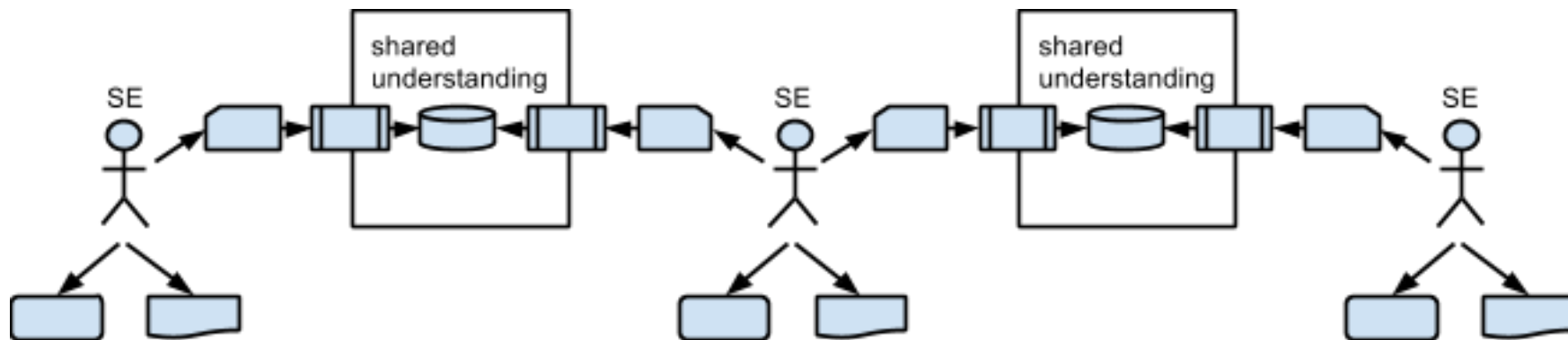


# MY JOB

- Examine software
- Define risk
- Communicate cost of risks
- Mitigate risks
- Identify events
- Manage events



# FRAGILE PLATFORMS ARE BAD.



# CHANGE IS INEVITABLE

- Products pivot based on needs.
- Requirements change and evolve.
- Know core issues.

# KNOW CORE ISSUES

- Limit the scope of focus.

# KNOW CORE ISSUES

- Limit the scope of focus.
- Focus on the biggest priorities.

# KNOW CORE ISSUES

- Limit the scope of focus.
- Focus on the biggest priorities.
  - › Understand Development Methodology: Waterfall, Scrum, ?

# KNOW CORE ISSUES

- Limit the scope of focus.
- Focus on the biggest priorities.
  - › Understand Development Methodology: Waterfall, Scrum, ?
  - › Identify the key “time” elements.

# KNOW CORE ISSUES

- Limit the scope of focus.
- Focus on the biggest priorities.
  - › Understand Development Methodology: Waterfall, Scrum, ?
  - › Identify the key “time” elements.
  - › Talk to them. Identify their key terms. “Enhancements”, “Defects”

# KNOW CORE ISSUES

- Limit the scope of focus.
- Focus on the biggest priorities.
  - › Understand Development Methodology: Waterfall, Scrum, ?
  - › Identify the key “time” elements.
  - › Talk to them. Identify their key terms. “Enhancements”, “Defects”
  - › Establish the “Top” list.



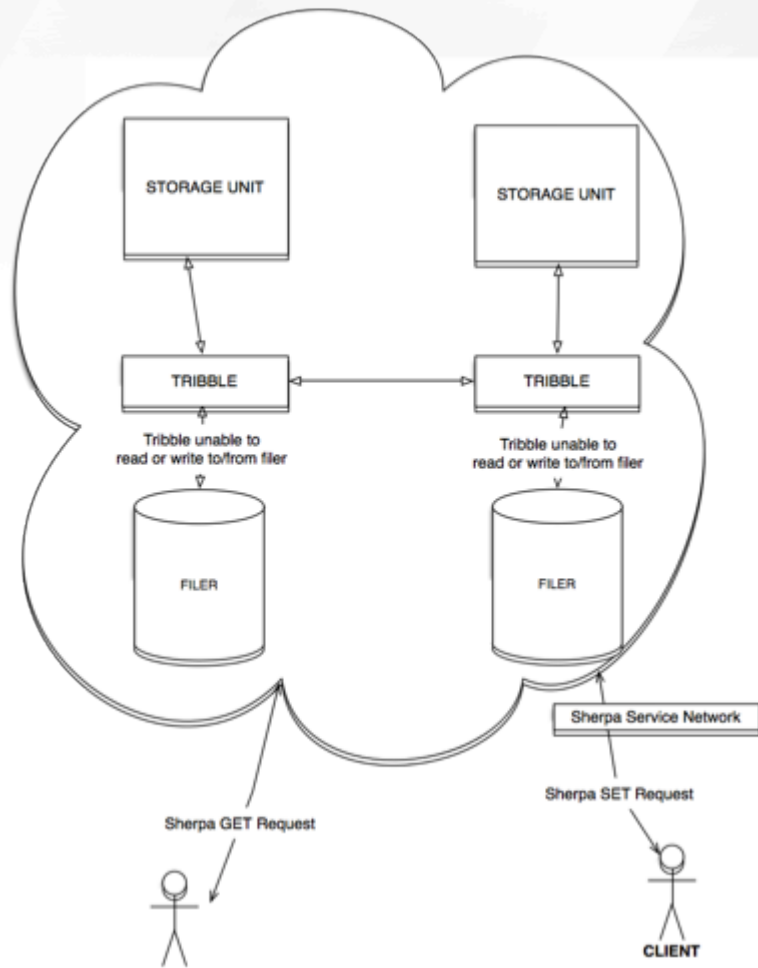
# CREATE CHECKLISTS

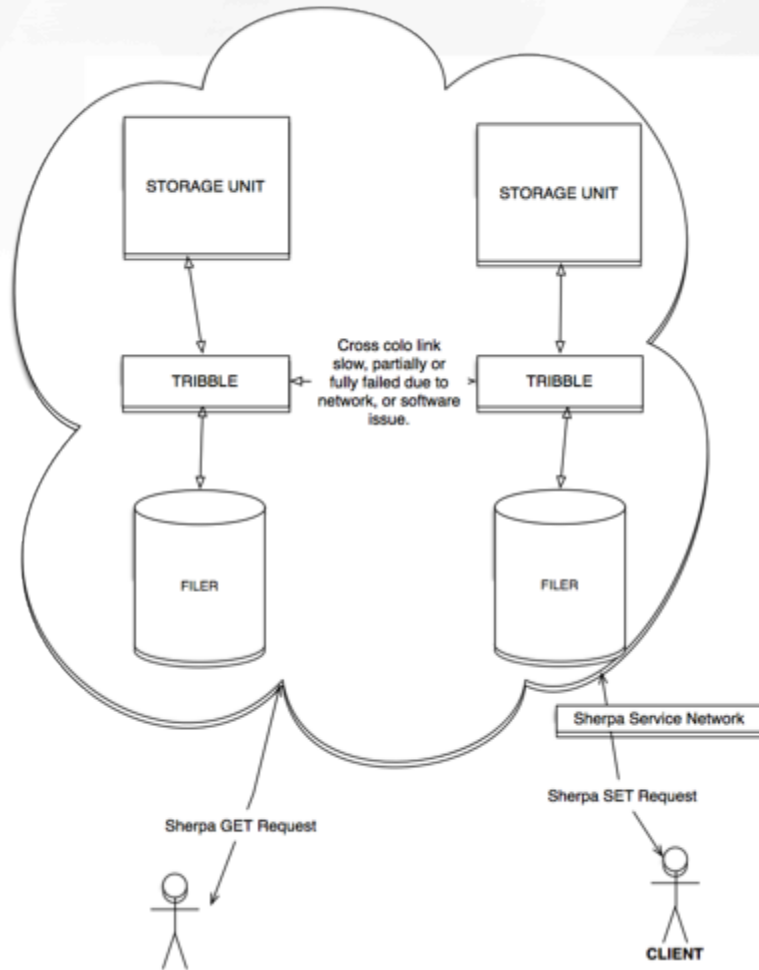
- Not because people are dumb.
- Not only because of automation.
- When things break, knowing what needs focus.
- During normal maintenance, can identify “not OK”.
  - › Audit checklists for deployment through staging environment.

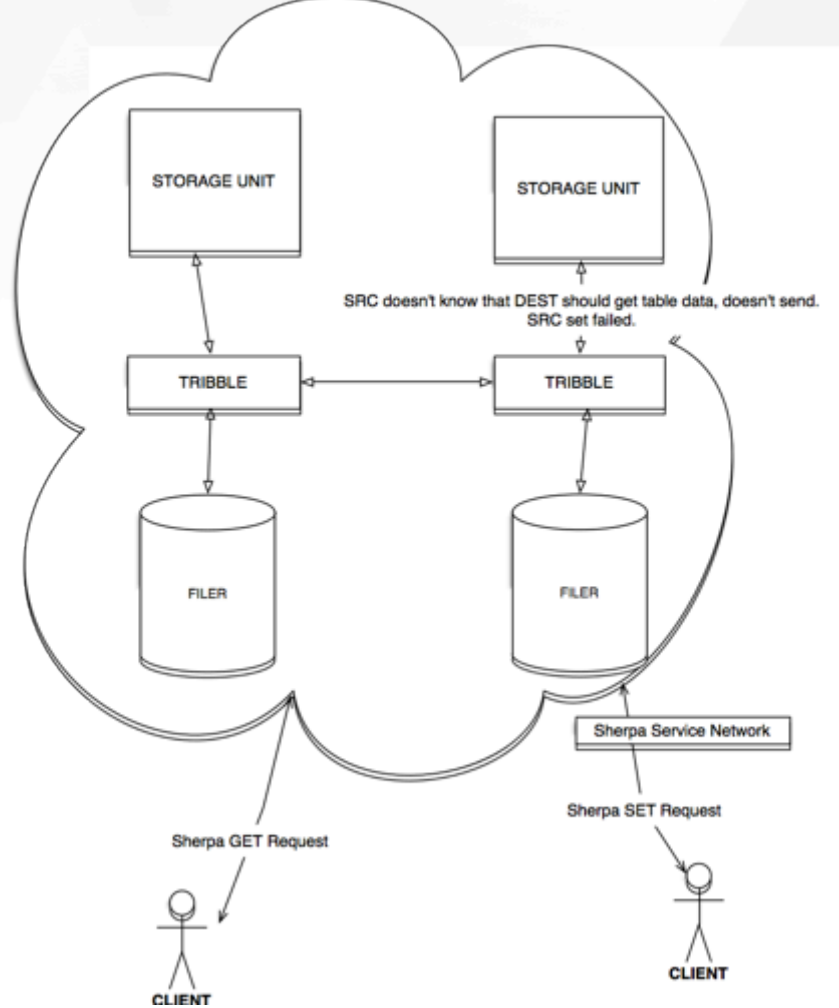
# KNOW OUTPUTS

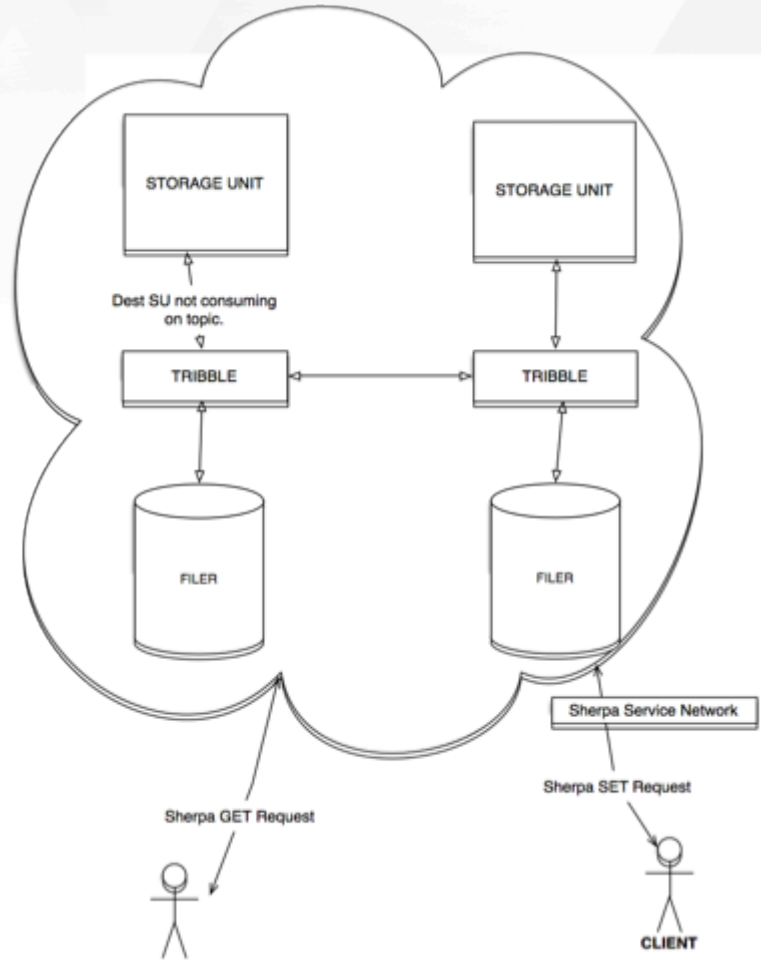
- Identify components.
- Well defined protocols between components.
- Expected Inputs.
- Expected Outputs.

```
yal_abs_poll_times:
  yal_user_tz: pt
yal_user_query_status: 1
  time_stamp: 1335437261
  mesg_type: Insert
  counter: 1
  failure_reason: {"description":"Error in fetching records from
datastore","detail":{"content":["Error 421 on Sherpa
request:RecordNotFound;"]},"lang":"en-US","uri":null}
***** 2. row *****
```









# KNOW STATE TRANSITIONS EXPLICITLY.

- When component is installed but not ready



# KNOW STATE TRANSITIONS EXPLICITLY.

- When component is installed but not ready
- When the color is going away
- Go through What If Scenarios.
  - › Document them.

# KNOW CHOKE POINTS EXPLICITLY.

- Memory
- Disk
- Bandwidth

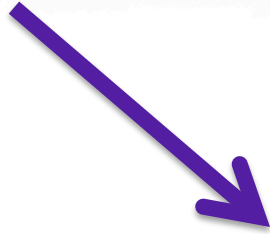
Now and in 6 months.

JIT?

# FAILURE WILL HAPPEN.

- There are no 0 failure systems.
- “Give me the brain” documentation so that anyone can be the brain.
- Repeatable/Reliable failure handling.
- Run fire drills. Really.

postmortems



retrospectives

# SYSTEM ADMINISTRATION IS GARDENING.

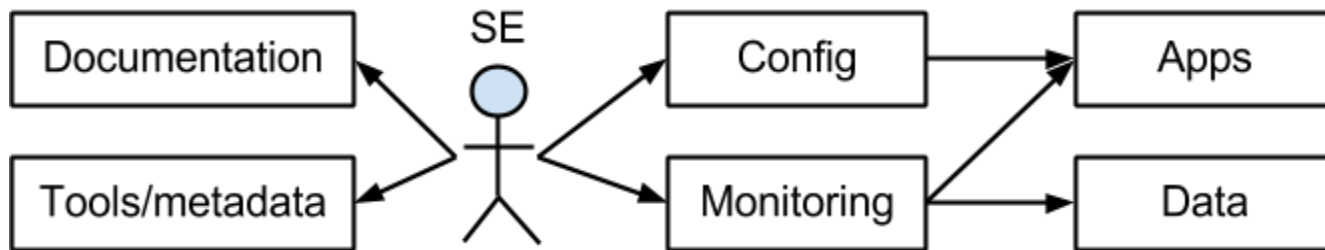
- No guarantee of resources.
- Only guarantee is change.

# SYSTEM ADMINISTRATION IS GARDENING.

- Nurture relationships.
  - › Be authentic.
  - › Be trusting and trustworthy.
  - › Have integrity.

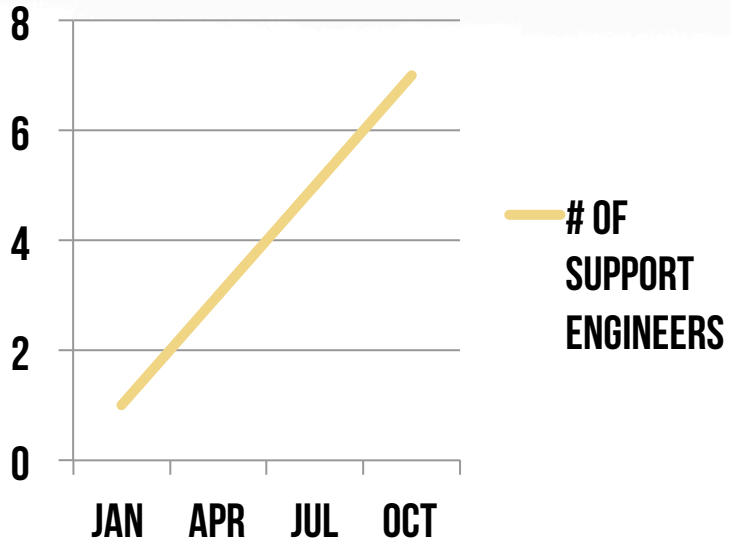
**SUCCESS AT SCALE IS  
COLLABORATION & COOPERATION  
ACROSS TEAMS.**

# DECREASING VALUE

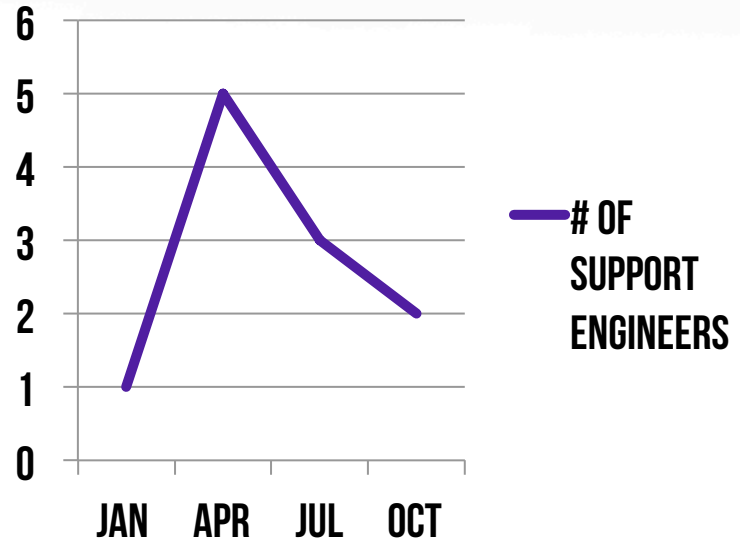




# # OF SUPPORT ENGINEERS



## # OF SUPPORT ENGINEERS



# FAILURE HIDDEN IN SUCCESS

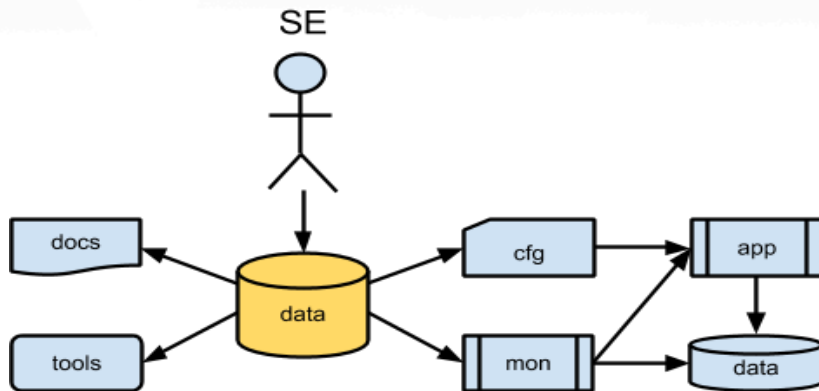
# DOCUMENTATION IS NOT THE CURE.

- Documentation doesn't guarantee understanding.
  - › Operations Sandbox Environment
- Don't spend time at the end documenting.



# SUMMARY

# BE EXPENDABLE. FEED YOUR BRAIN.



# ACKNOWLEDGEMENTS

- <http://www.flickr.com/photos/levork>
- <http://www.flickr.com/photos/puggles>
- <http://www.flickr.com/photos/byteorder>
- <http://www.flickr.com/photos/egoant>
- <http://www.flickr.com/photos/happymonkey>
- Kyle Latino
- Greg Connor



# THANKS!

