

What

Ops

Can Learn From

Design



OmniTI / Robert Treat

Velocity Barcelona

Hello

ground rules

slides will be online

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ask questions

Who Am I?

sysadmin sql chef engineer
omnios crocs
oscon postgres scalability perl illumos
php
author surgecon zfs distributed systems
ruby linux devops dtrace web dev golang
git dba zones speaker velocityconf mysql
root beer monitoring
pgcon nosql nodejs
pointy hair open source philosopher
shawarma

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Who Am I?

designer?

Who Am I?

web usability analyst

ux / ui

Who Am I?

A **designer** is a person who designs.

More formally, a **designer** is an agent that "specifies the structural properties of a design object".

In practice, anyone who creates tangible or intangible objects, such as consumer products, processes, laws, games and graphics, is referred to as a **designer**

-- <https://en.wikipedia.org/wiki/Designer>

What is Design?



What is Design?

**focus on utility,
not aesthetics**

What is Design?

everything is created with a purpose

think of design as the means by which we
make that purpose self evident

What is Design?

cars
tv
phones
coffee machines
doors
light switches
showers
toilet

doors

allow entrance / exit

1. push

2. pull

3. both

What is Design?

have you ever tried to push/pull a door open,
only to find that you needed to work the door in the opposite
fashion

What is Design?



What is Design?



What is Design?

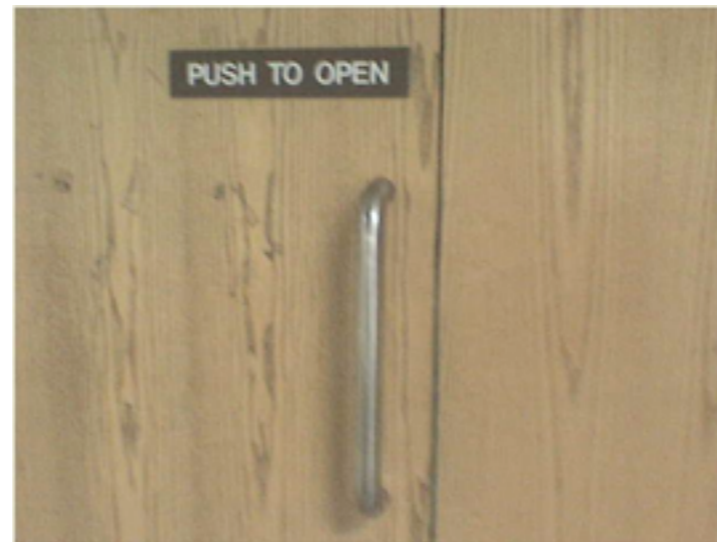


What is Design?



<http://www.lablelocksmith.com/BLOG/wp-content/uploads/2012/03/fire-door.jpg>

What is Design?



<http://psychsciencenotes.blogspot.com.es/2011/10/affordances-of-everyday-things.html>



perceived affordances:

the quality of an object that suggests how it might be used

Perceived Affordances



1. unlock doors
2. push cover on rear side

<http://www.iamaudi.com/2009-a4-a5-fuel-door-release/>

Perceived Affordances



feedback mechanism:

sending information back to the user about what action has actually been done



oncall process



oncall process

alert is sent



oncall process

alert is sent

acknowledge alert?

anti:

- notification of expected action
 - problem is not resolved

pro:

- confirms alert was received
 - allows time to fix

Unix, the Rule of Silence

when a program has nothing interesting or surprising to say, it should *shut up*.

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scripts that execute successfully should remain silent on exit

Feedback Mechanism

when designing a process, program, or system,
you must ensure that success is distinguishable
from failure modes

can you tell the difference between a cron job that runs successfully

and a cron job that doesn't run at all...



oncall process

alert is sent

acknowledge alert

What do we Design?





natural mapping:

taking advantage of analogies or cultural standards to help ensure understanding

Natural Mapping



-d

Natural Mapping

-d

```
[robert@67bfd38c-6dca-11e4-8d31-283737190742] psql --help | grep "\-d,"  
-d, --dbname=DBNAME    database name to connect to (default: "robert")
```

```
[robert@67bfd38c-6dca-11e4-8d31-283737190742] pg_restore --help | grep "\-d,"  
-d, --dbname=NAME      connect to database name
```

Natural Mapping

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pg_dump ?

v7.1 - 8.3

-d, --inserts

Dump data as proper **INSERT** commands (not **COPY**). This will make restoration very slow.

Natural Mapping

-d

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v8.4 - 9.2

-d was removed

Natural Mapping

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v8.4 - 9.2

-d was removed

v9.3+

-d ***dbname***

when we write postgres related scripts and utilities, we
try to use -d for database name

write your utilities to align with software you use

What is Design?



forcing functions:

a constraint where the user "is forced" to complete a task based on a limited, paired down set of features or controls.

Forcing Function



Most microwaves do not allow operation with the door open



“Force” the door to be closed for safety

Few examples in software:

`kill` vs `kill -9`

force an extra step for a more destructive action

Forcing Function

Few examples in software:

kill vs kill -9

force an extra step for a more destructive action

sudo

run an extra command to execute an action

“**sudo su -s**”

Forcing Function

if you use the same tools to deploy changes to dev / stage / prod, perhaps you should require extra steps?

Forcing Function

if you use the same tools to deploy changes to dev / stage / prod, perhaps you should require extra steps?

- verify code running in “prior” environments
- verify no active alerts in prod
- run sanity tests against deploys;
rollback if alerts are generated



We often claim incidents are caused by human error,
but in many cases the human error is a result
of poor design

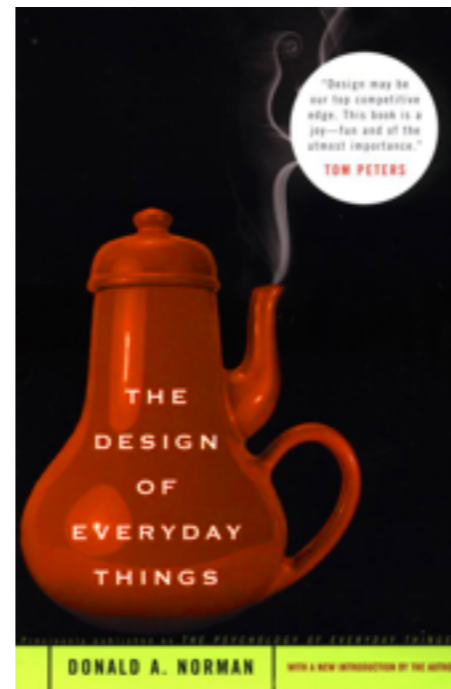
Approaching our problems from a design centered approach
gives us the best chance for improving our world

Fin



thanks!

Fin



Fin?

more:

@robtreat2
<http://xzilla.net>

@omniti
<http://omniti.com>

OmniTI

operationally focused development and consulting services for
building and managing large scale web architectures



