

10 WAYS TO WRECK YOUR DATABASE

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REVENGE
against your boss

guarantee yourself
JOB SECURITY

ensure
PROJECT
FAILURE

make sure
NOBODY KNOWS
THE REAL DATA

open a
database

BACK

DOOR

force a
TOTAL
REWRITE
of the code

SLOW

DOWN

the application
to a crawl

make those stupid
DEVELOPERS
MISERABLE

10 Ways

to:

Lose Data

Be Insecure

Become Unmaintainable

Stifle Changes

and

Make Everyone

Miserable

One Big Spreadsheet

City	State	Zip	Car?	???	Tux?	Mon.	Tues.	Wed.	Thurs	Fri
San Francisco	CA	94117	Car	Yes						
San Francisco	CA	94131	Car	Yes	No					
Los Angeles	CA	90026	No Car	Yes	Yes	y	y	y	y	y
Oakland	CA	94613	No Car	Yes		y	y	y	y	y
San Francisco	CA	94118	Car	Yes		y	y	y	y	y
<u>Emeryville</u>	CA	94608	Car	Yes	Yes	y	y	y	y	y
Foster City	CA	94404								
Menlo Park	CA	94025	Car	Yes		y	y	y	y	y
Berkeley	CA	94703	Car	Yes		y	y	y	y	y
Oakland	CA	94609	Car	Yes	No	y	x	x	x	y
San Francisco	CA	94115	No Car	Yes	No					y
San Francisco	CA	94103	Car	Yes	Yes	y	y	y	y	y
<u>El Sobrante</u>	CA	94803	Car	Yes	Yes	y	y	y	y	y
So San Francisco	CA	94080	car	Yes	YES	n	evng	n	evng	evng
Oakland	CA	94608	Car		No	y	y	y	y	y
San Jose	CA	95123	Car	Yes	No	y	Till 3	n	Till 3	y
<u>Petaluma</u>	CA	94954	Car							
San Bruno	CA	94066	Car	Yes	No					
San Francisco	CA	94117				y	y	y	y	y
Burlingame	CA	94010	Car	Yes	No	y	y	y	y	y
San Francisco	CA	94116	Car	Yes						
San Francisco	CA	94118	Car	Yes			y		y	
San Francisco	CA	94123	No Car	Yes	No	y	y	y	y	y
Pacifica	CA	94044- ¹	Car	Yes	No					
San Francisco	CA	94115	Car	Yesse	No	y	y	y	y	y
San Francisco	CA	94121	Car	Yes	No	Before 4	y	y	Before 4	Before 4

2. ranDom_naming(s) plural vs. singular

- users
- forum
- threads
- posts
- message
- profile
- styles
- images
- survey
- faqs

2. ranDom_naming(s) camel vs. underscore

- users
- threadCategory
- threads
- posts
- privateMessage
- userProfile
- user_styles
- post_images
- survey
- faqs

2. ranDom_naming(s) fields

- users

- firstName
- last_name
- login
- email
- crt_date
- IstLogin

- users

- is_active
- ACL

2. ranDom_naming(s) Hungarian Notation

- tblUsers

- txtFirstName
- str_last_name
- txtLogin
- email
- dtcrt_date
- tmslstLogin

- tblUsers

- bool_is_active
- int4ACL

3 & 4

We don't need no
stinking keys



3. No Real Keys

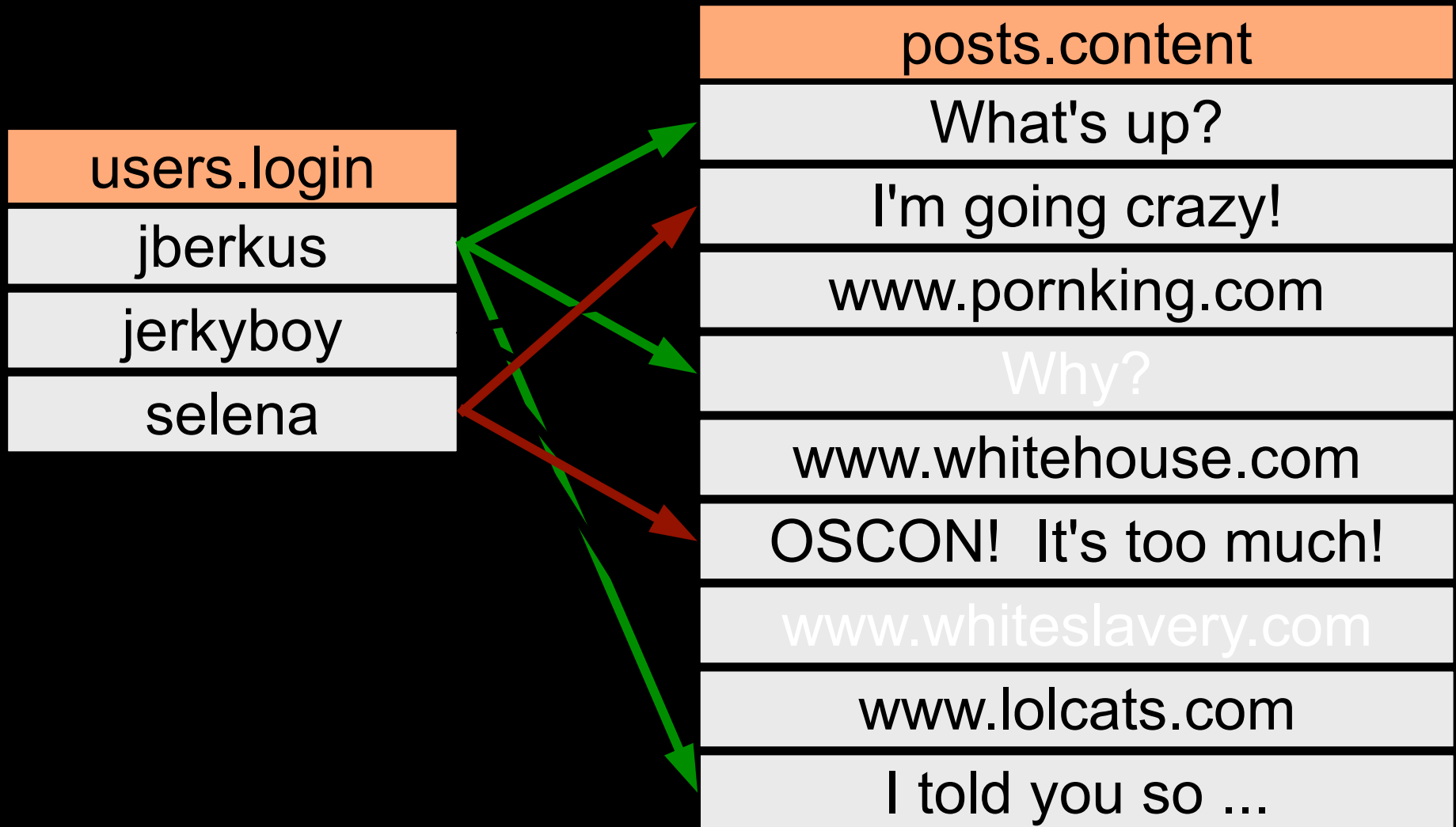
- Users

- userID AUTONUMBER PRIMARY KEY
- first_name
- last_name
- login
- email
- is_active

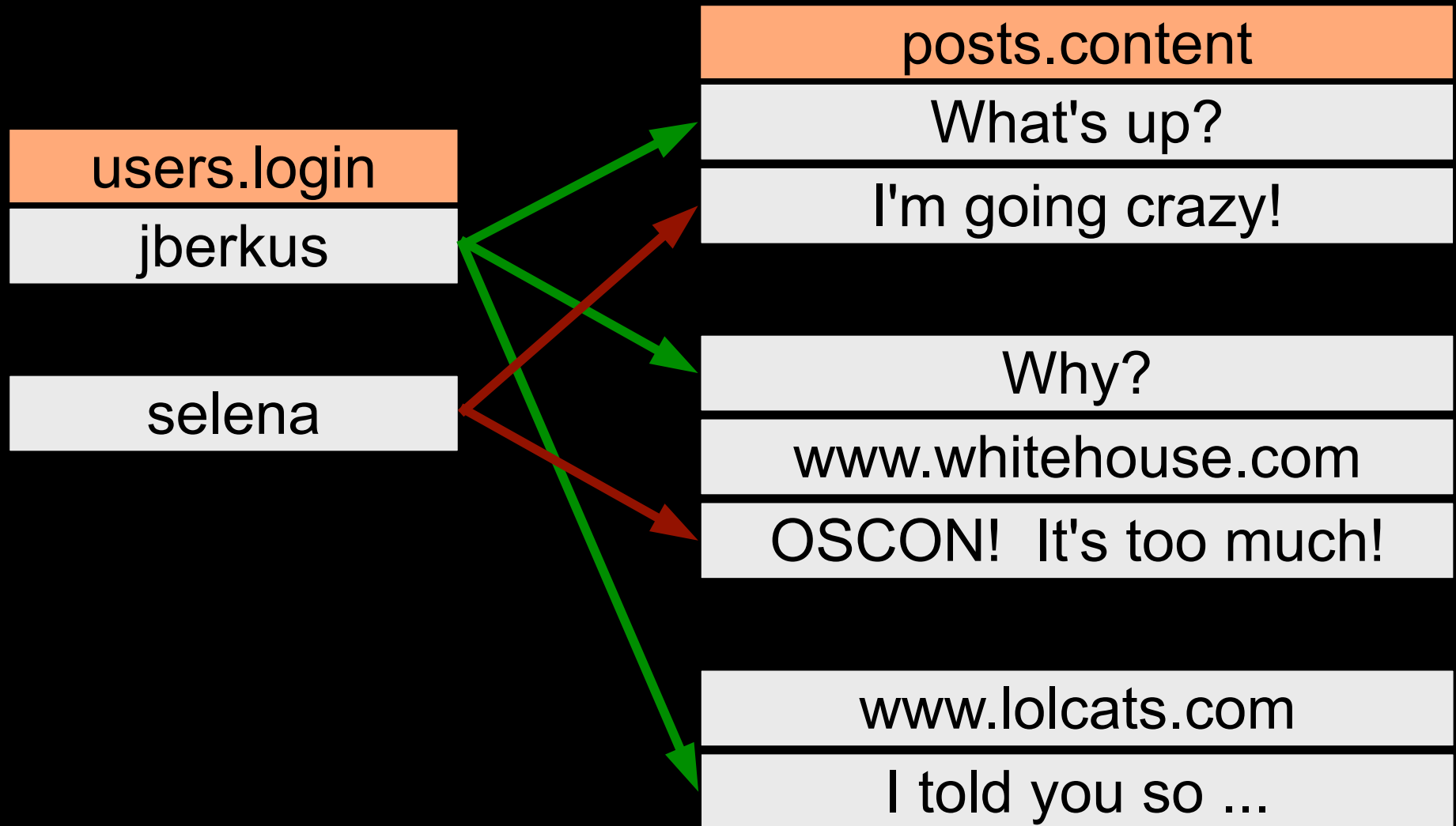
3. No Real Keys

ID	first_name	last_name	email	login	password	active	level
21	Josh	Berkus	josh@pgexperts.com	josh	jehosaphat	TRUE	u
47	Joshua	Berkus	josh@pgexperts.com	joshb	dbguy	TRUE	u
198	Josh	Berkus	josh@postgresql.org	joshb	jehosaphat	FALSE	u
204	Josh	Berkus	josh@agliodbs.com	jberkus	joshiam	TRUE	a

4. No Foreign Keys



4. Fun with Orphan Rows



4. Fun With Updates

```
INSERT INTO threads VALUES ( .... );
if $dbh('success') then
  while $these_posts.date > $cutdate
    UPDATE posts SET thread = $newthread
    WHERE id = $these_posts.id;
if not $dbh('success') then
  while $these_posts.id > $last_id
    UPDATE posts
    SET thread = $oldthread
    WHERE id = $these_posts.id;
DELETE FROM threads
WHERE id = $newthread;
```

5. No Constraints

- Users
 - userID AUTONUMBER PRIMARY KEY
 - first_name TEXT
 - last_name TEXT
 - login TEXT
 - email TEXT
 - is_active TEXT

5. No Constraints

- Users

- userID AUTONUMBER PRIMARY KEY
- first_name VARCHAR (30)
- last_name VARCHAR (30)
- login VARCHAR (20)
- email VARCHAR (40)
- is_active BOOLEAN

5. No Constraints

first_name	last_name	email	login	password	active	level
Josh	Berkus	josh@pgexperts.com	jberkus	jehosaphat	TRUE	a
NULL	NULL	kelley@ucb	k	NULL	FALSE	u
Mike	Hunt	www.pornking.com	c34521	c34521	TRUE	l
S	F	gavin@sf.gov	gavin	twitter	NULL	x

6. Non-Atomic Fields

name
Josh Berkus

```
SELECT SUBSTR(name,STRPOS(name, ' ')) ...
```

status
a

```
... WHERE status = 'a' OR status = 'u' ...
```

6. Non-Atomic Fields

name
Josh Berkus

```
SELECT SUBSTR(name,STRPOS(name, ' ')) ...
```

status
i

```
... WHERE status = ??? ...
```

6. Non-Atomic Fields

- Account Type
 - 5400 active individual
 - 5401 inactive individual
 - 5600 active board individual
 - 5601 inactive board individual
 - 6600 active corporate donor
 - 6601 active corporate board member
 - 6602 inactive corporate donor
 - 6603 inactive corporate board member

7. Magic Numbers

$$ID = 0$$

7. Magic Numbers

2008-02-30

7. Magic Numbers

\$-0.01

7. Magic Numbers

-1, 1, 2, 3, 4, 5, 100

7. Magic Numbers

Document them
only in your code!

8. Polymorphic Fields

Name	AccountType	PrefContact	ContactInfo
Josh Berkus	Individual	Email	josh@pgexperts.com
John Dillinger	Board	Phone	415-555-1212
Pearson	Company	NULL	www.pearson.com
Clorox	Company	Jackie	510-555-1111 x202

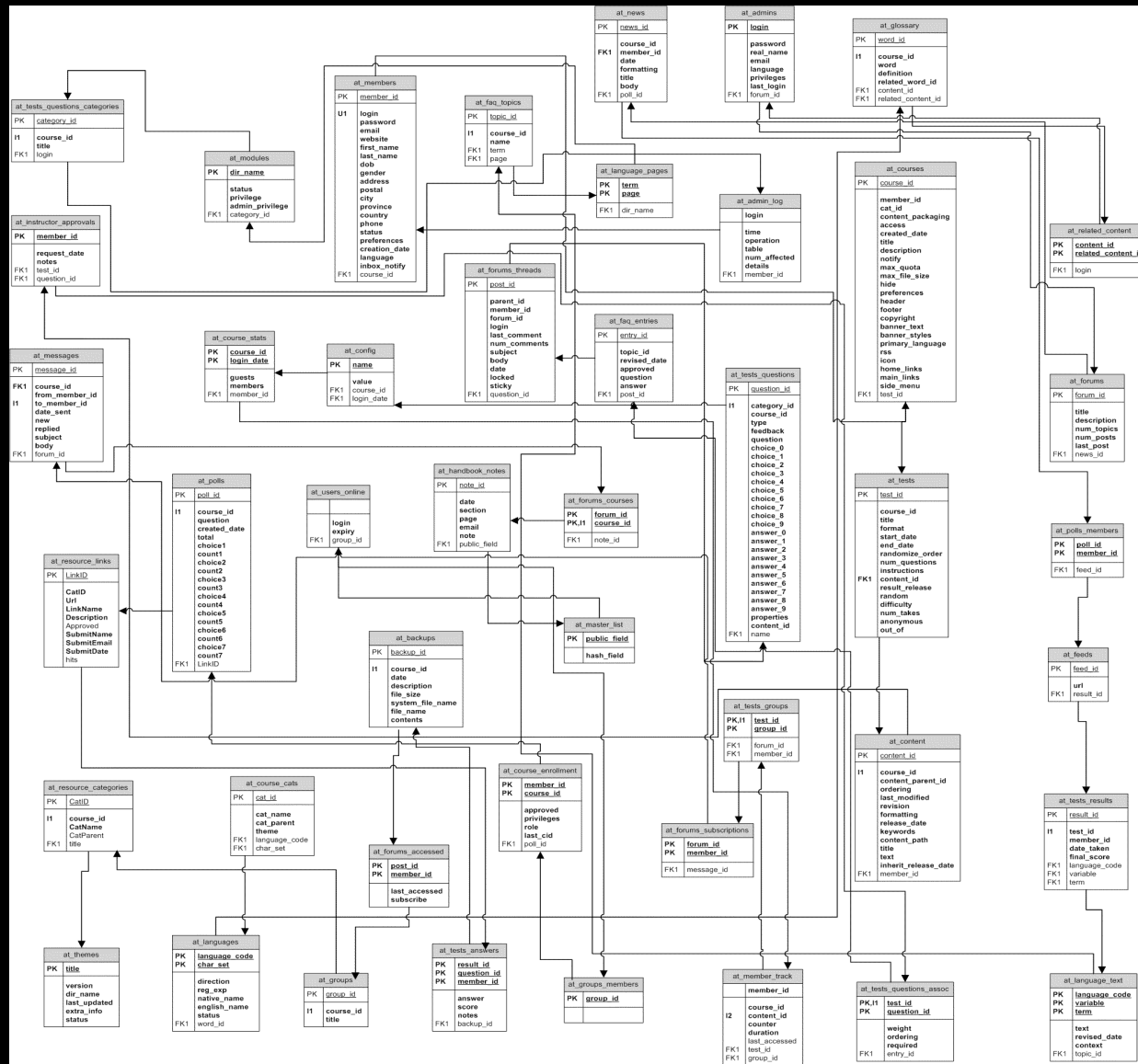
9. EAV (entity-attribute-value)

ID	Property	Setting
407	Eyes	Brown
407	Height	73in
407	Married?	TRUE
408	Married?	FALSE
408	Smoker	FALSE
408	Age	37
409	Height	66in

9. EAV 2.0: E-BLOB

ID	Properties
407	<eyes="brown"><height="73"> <married="1"><smoker="1">
408	<hair="brown"><age="49"> <married="0"><smoker="0">
409	<age="37"><height="66"> <hat="old"><teeth="gold">

10. Let The ORM Take Care Of It



The Ten Ways

1. one big spreadsheet

2. random naming

3. no keys

4. no foreign keys

5. no constraints

6. non-atomic fields

7. magic numbers

8. polymorphic fields

9. EAV & EBlob

10. ORM

More Wreckage

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