ubuntu

# Business in the Robot Age

Or, money can’t buy you love but it certainly helps with the actuators

CANONICAL

ubuntu

# Never chase headlines or ambulances

It takes 5-10 years to make an overnight success

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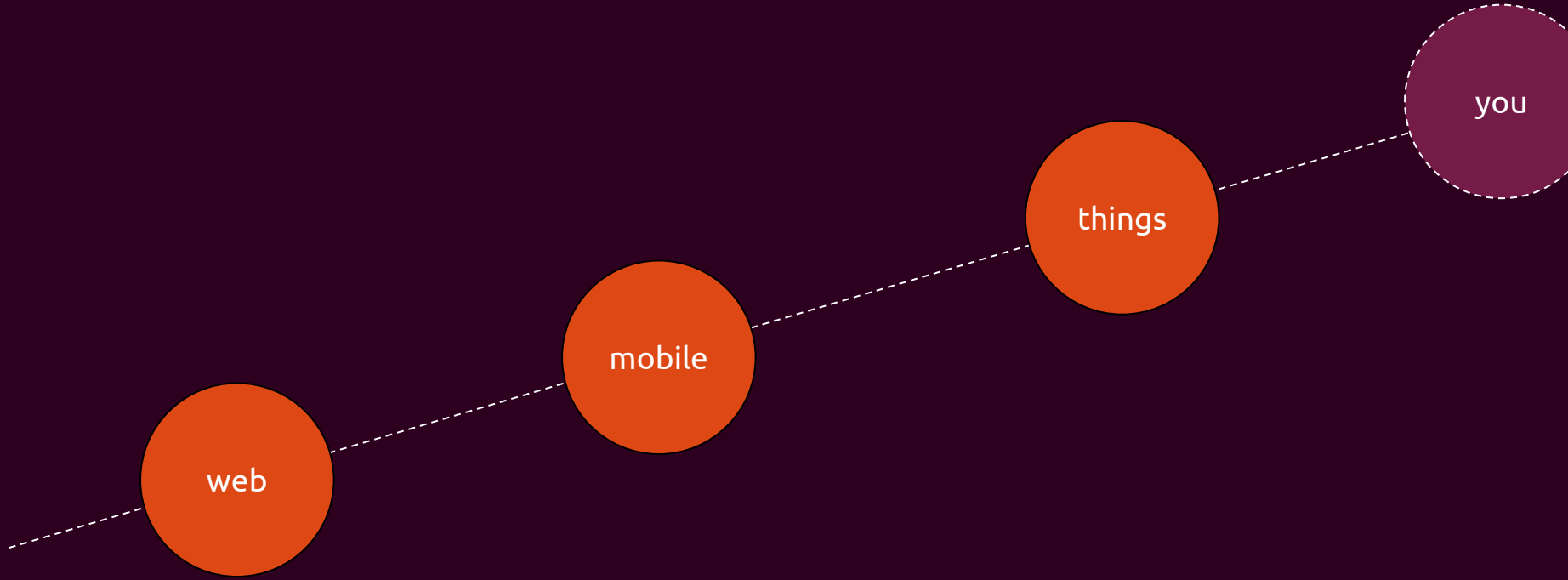
disruption is much easier than it looks


you
things
mobile
web

# Margins on physical things

# Software is sweet

# Erle-Spider

## app store included

http://igg.me/at/erle-spider/x/7817776

28
NEWS
sdk

snapcraft

```
name: timesink
version: 0.1
summary: NTP server with GPS support
description: |
  A snap that uses your GPS to provide a long-term accurate time
  service with NTP. If your GPS provide a "pulse per second" (PPS)
  signal, then the time can be accurate to microseconds.

parts:
  gpsd:
    type: scons
    source: http://download-mirror.savannah.gnu.org/releases/gpsd/gpsd-3.15.tar.gz
    source-type: tar
    stage-packages: [ libncurses5-dev, ]
  ntpd:
    type: autotools
    source: http://www.eecis.udel.edu/~ntp/ntp_spool/ntp4/ntp-dev/ntp-dev-4.3.72.tar.gz
    source-type: tar
```

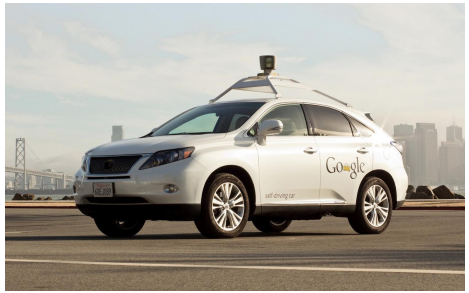
```
parts:
 spider:
   plugin: catkin
   source: ./software/

   catkin-packages:
     [ demos, joy, kdl_parser, orocos_kdl, ps3joy,
     spider_body_kinematics, spider_gait, spider_imu,
     spider_imu_dev, spider_joint_publisher,
     spider_leg_kinematics, spider_maestro_controller,
     spider_msgs, spider_teleop_joy, urdf,
     urdf_parser_plugin ]

   stage-packages: [ bluez, cmake, joystick, libeigen3-dev, liburdfdom-dev,
     liburdfdom-headers-dev, libusb-dev, pkg-config, python-bluez,
     ros-indigo-xacro, libgtest-dev ]
```

# Which comes to consumers first?

# Autonomous driving or autonomous flying?

backwards

@ErleRobotics, make
#ubuntu #erlespider go




forward

# Services are sweeter!

Pay for what you use, not the tools.

ubuntu

# Services businesses emphasize field ops

… and best alignment to customer interests

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# Transactional update and rollback

for the OS and kernel and applications, individually

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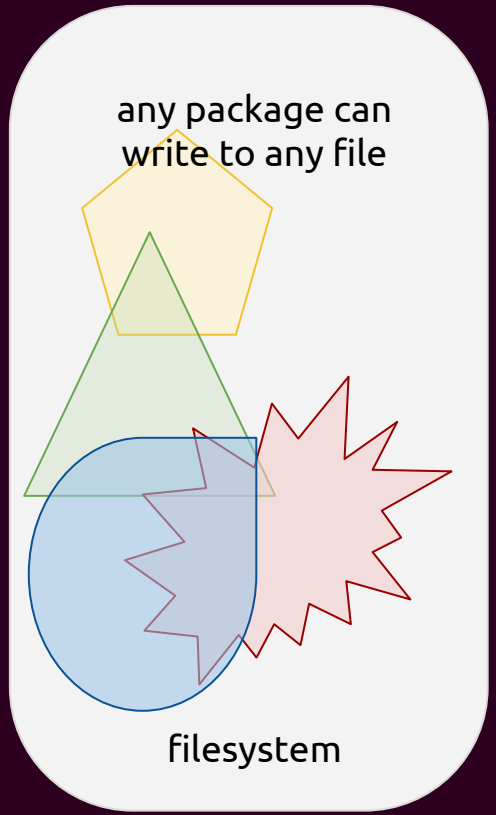
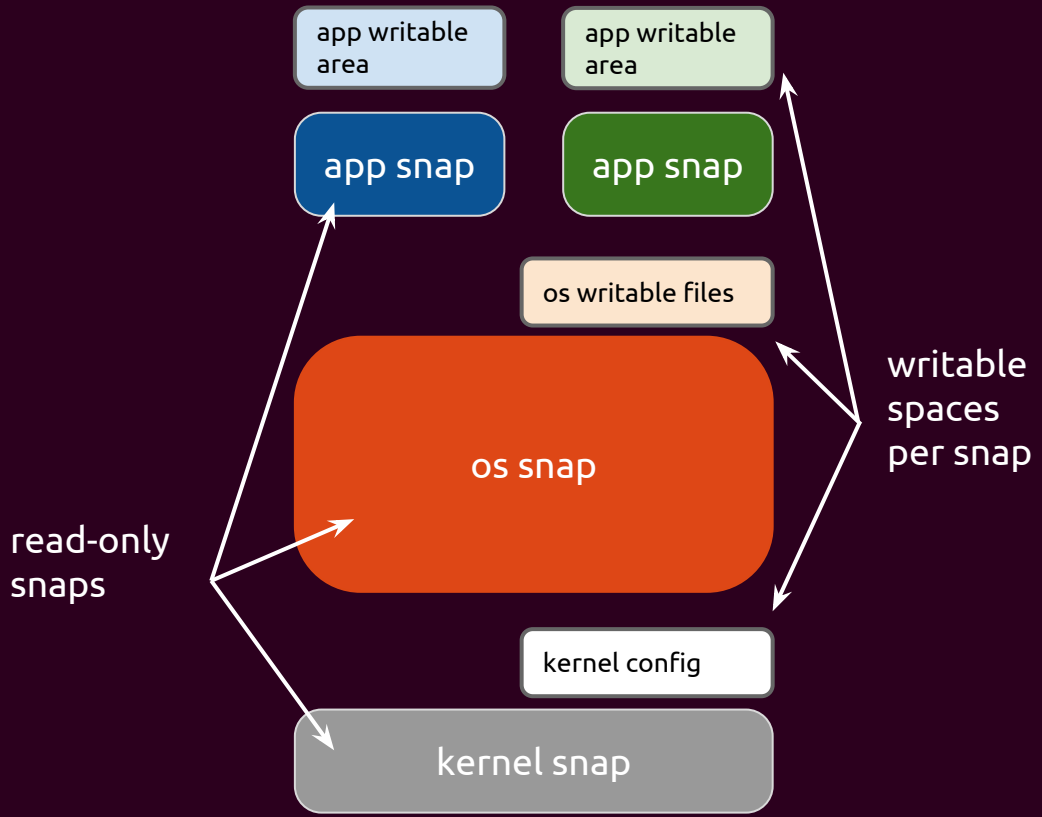

any package can
write to any file
filesystem


app writable
area
app writable
area
app snap
app snap
os writable files
os snap
kernel config
kernel snap
read-only
snaps
writable
spaces
per snap

# Anthropomorphic or functional?

backwards

@ErleRobotics, make
#ubuntu #erlespider go

forward

# Data can be difficult

And potentially a liability

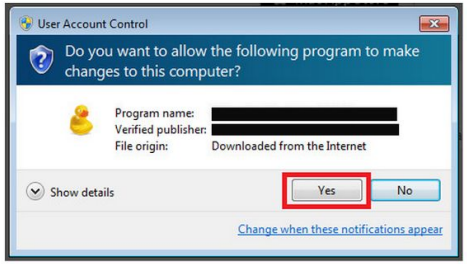
Security can be even more difficult!

# In blunder threatening Windows users, D-Link publishes code-signing key

Leak of private key could give malware easier entry onto Windows computers.

by **Dan Goodin** - Sep 18, 2015 6:15pm BST

68




In a ham-fisted move that threatens computer users everywhere, developers at router manufacturer D-Link published a private cryptography key used to certify that software is trustworthy and not malware, a security researcher said.

The software signing key was released in late February on D-Link's GPL source code sharing website, along with the source code from some of the company's firmware, Yonathan Klijnsma, a threat intelligence analyst at Dutch security firm Fox IT, told Ars in an e-mail. D-Link used the key to cryptographically sign its software so it could be installed on computers running Microsoft Windows without the operating system generating a security warning. With it leaked to the world, anyone—including developers of keyloggers, remote access trojans, and other types of malware—could use the key to sign their malicious wares so they're accepted as trusted D-Link software.

It's not unusual for malware providers to steal or otherwise appropriate valid signing keys to give their wares the appearance of legitimacy. Stuxnet, the computer worm jointly developed by the US and Israel to sabotage Iranian nuclear centrifuges, was among the early pieces of malware to be signed this way. Since then, code signing has become almost standard practice among upper-tier malware distributors. Normally, malicious developers must hack a legitimate certificate holder and acquire the underlying private key. D-Link, it seems, may have saved bad guys this extra step by openly publishing its signing key and allowing it to remain online for seven months. The story was reported earlier by Tweakers.

The key expired earlier this month, but Klijnsma said that any software that was signed before the

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FEATURE STORY (2 PAGES)

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Review: It looks great on the outside, but it's still Google's OS on the inside.

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# Internet of Things vigilante malware strikes tens of thousands of devices - to protect them

## Linux.Wifatch: A force for good or evil?

By Charlie Osborne for Zero Day | October 2, 2015 -- 10:56 GMT (11:56 BST) | Topic: Security

*Symantec*

Researchers are puzzling over the Linux.Wifatch malware -- sophisticated code which appears to help secure IoT devices, and yet also forces infected devices to a peer-to-peer network of infected systems.

On Thursday, Symantec researchers revealed their research into the activity of Wifatch, a peculiar piece of code which does not replicate the usual activities of malware such as bricking systems, conducting surveillance or stealing data.

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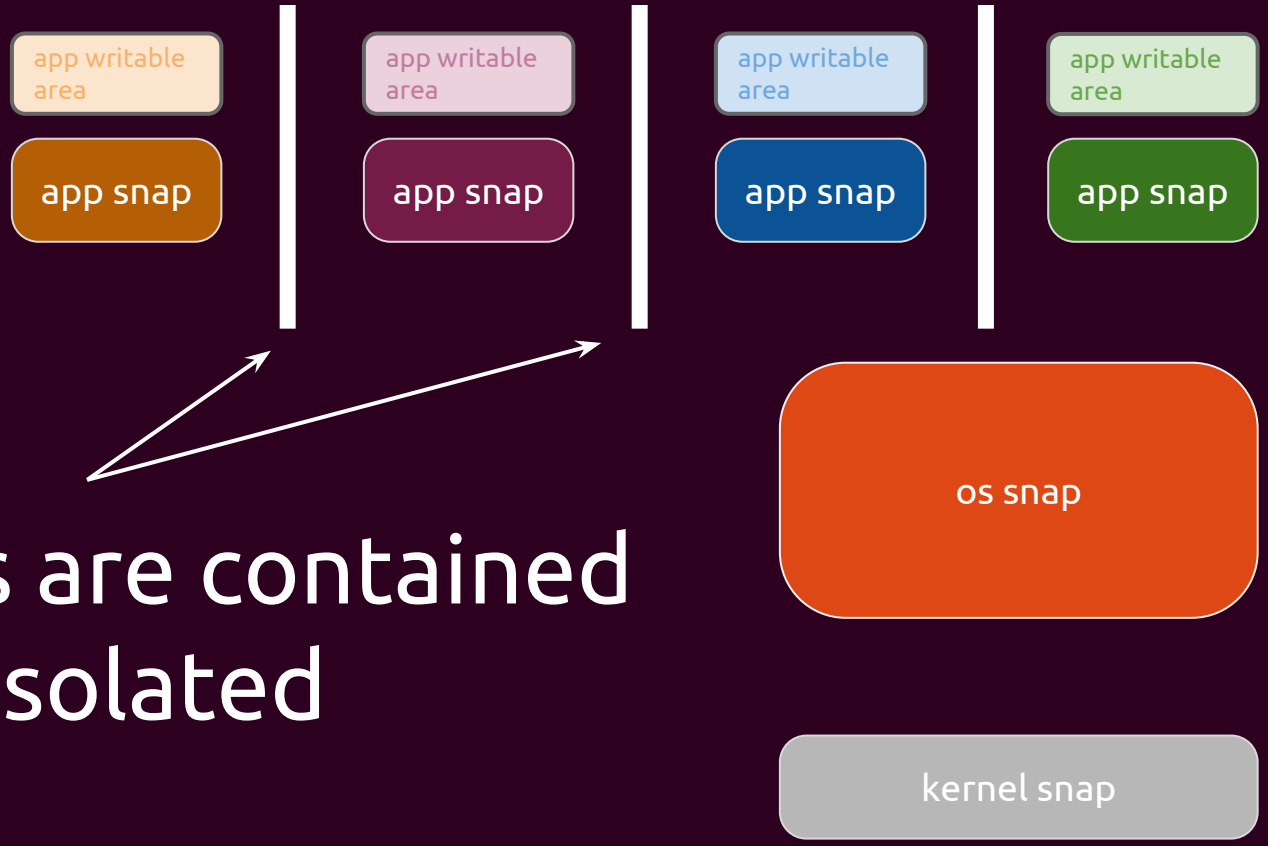
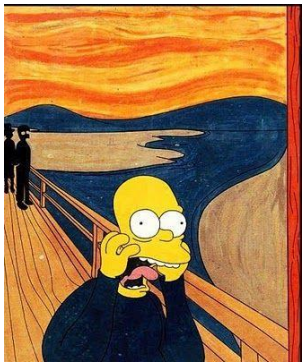



# Apps are contained and isolated

and speaking of contained and isolated...

# Should sex with robots be legal?



@ErleRobotics, make
#ubuntu #erlespider go

backwards

forward

Never underestimate ~~porn~~ entertainment

# The Internet of Toys

# FOCUS