



# All About Mobile Testing



Stephen Janaway



# Who am I?

Stephen Janaway



- 13 years experience in mobile software testing.
- Software testing and test management.
- Main focus on the mobile device and applications area.
- Have worked for companies such as Ericsson, Motorola and Nokia.



[www.stephenjanaway.co.uk](http://www.stephenjanaway.co.uk)



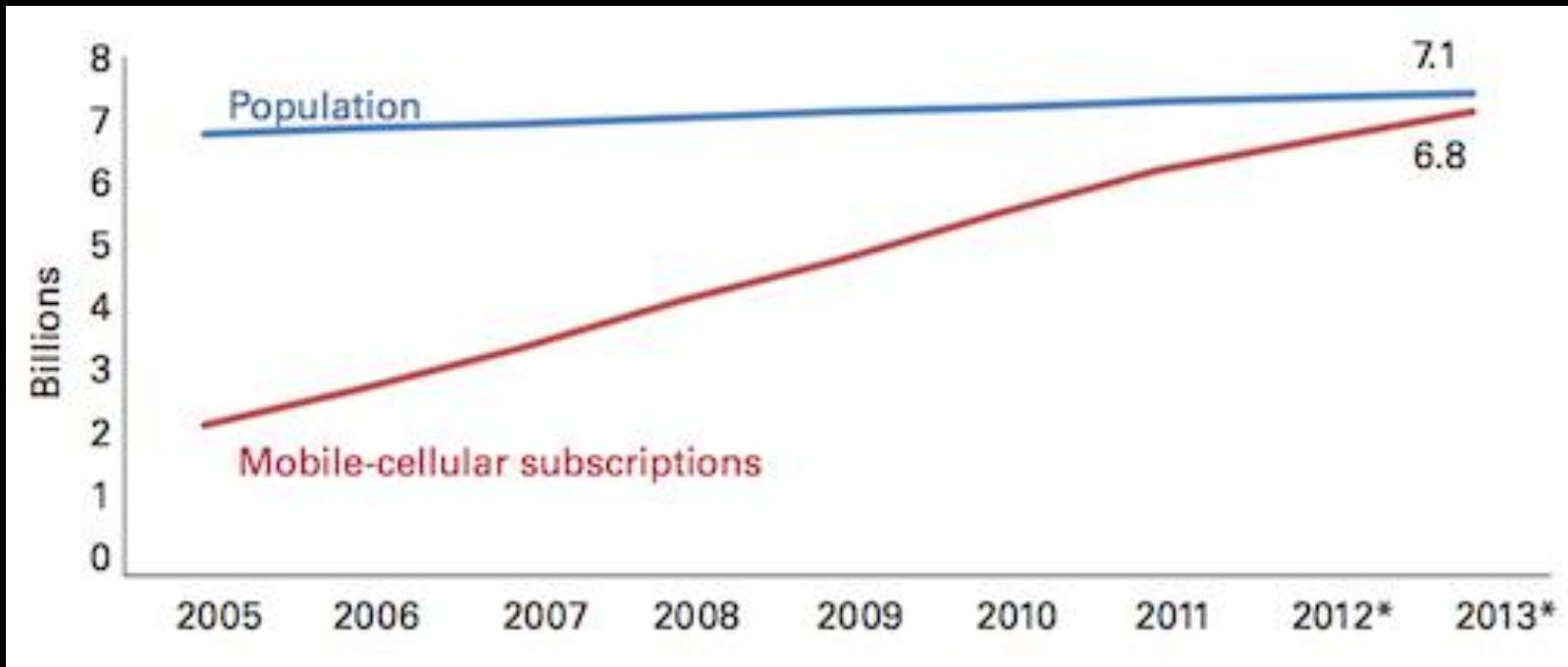
@stephenjanaway

# This Presentation

- Why mobile testing?
- What is mobile testing?
- Hints, tips and techniques.
- Why get involved?



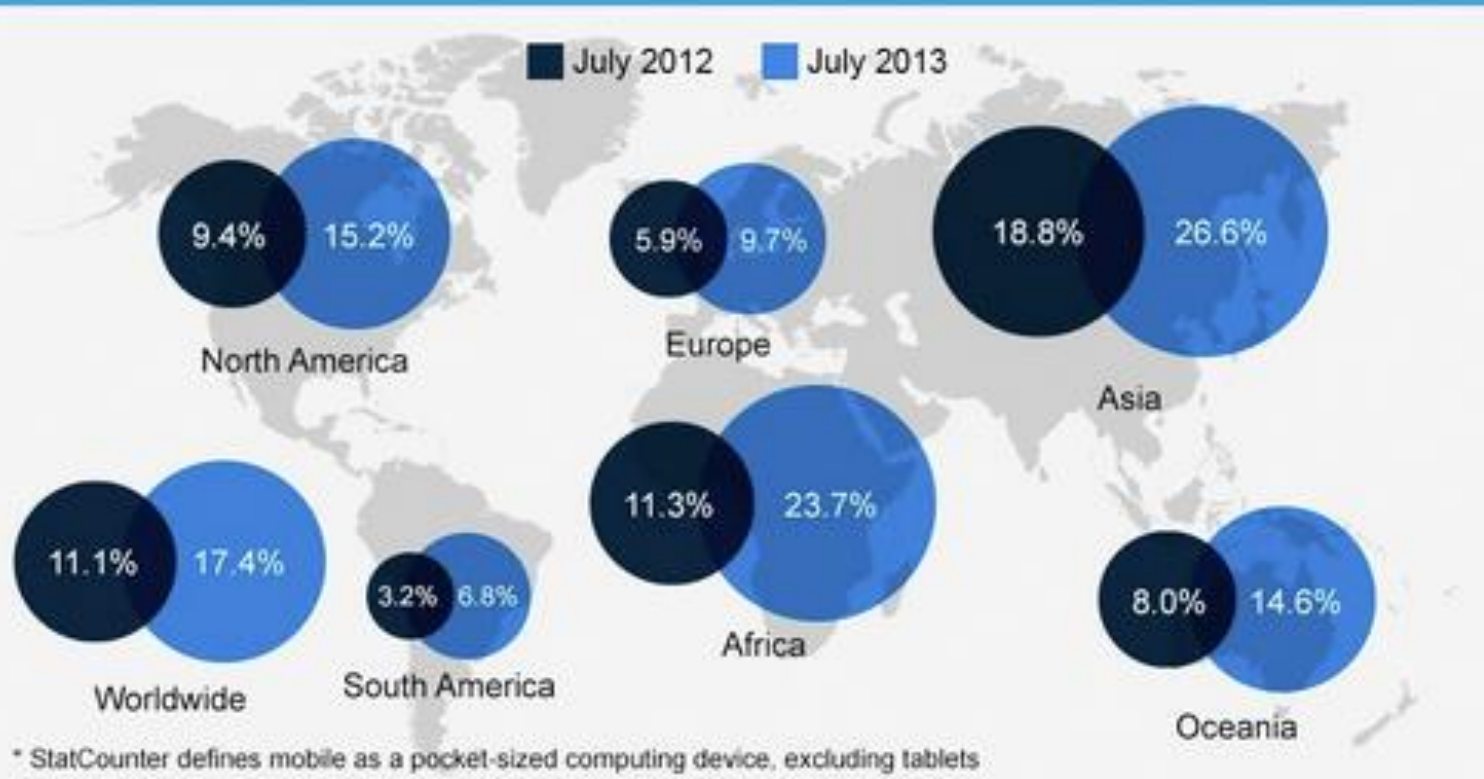
# So Why Mobile?



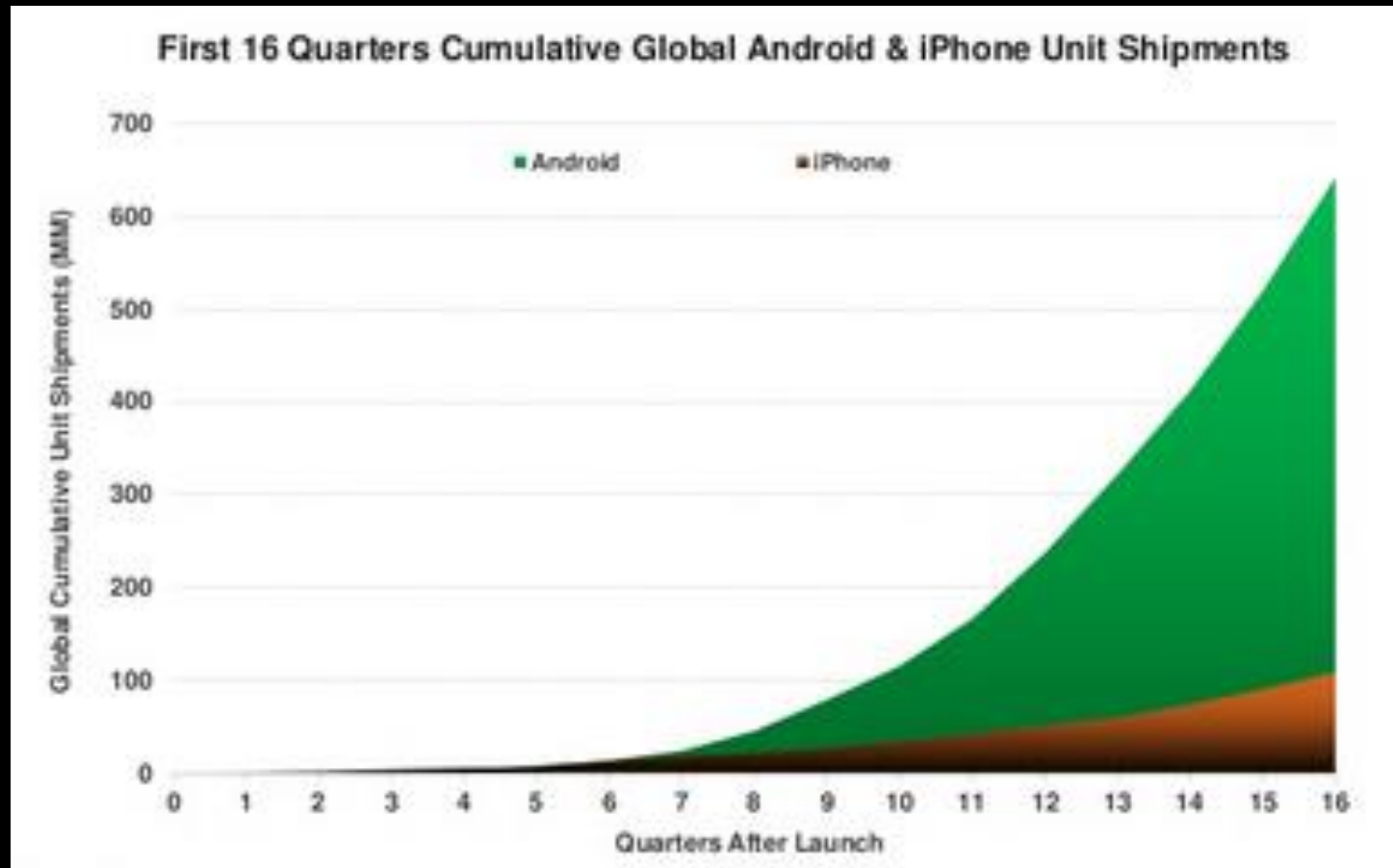
# So Why Mobile?

## Mobile Phones Account for 17% of Global Web Usage

Percentage of page views coming from mobile devices\*



# So Why Mobile?



# The mobile market is huge

Worldwide Mobile Phone Sales to End Users by Vendor in 3Q13 (Thousands of Units)

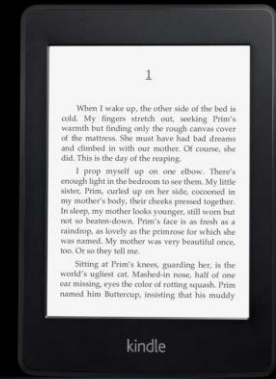
Company	3Q13 Units	3Q13 Market Share (%)	3Q12 Units	3Q12 Market Share (%)
Samsung	117,053.8	25.7	97,956.8	22.7
Nokia	63,048.4	13.8	82,300.6	19.1
Apple	30,330.0	6.7	24,620.3	5.7
LG Electronics	18,030.7	4.0	13,968.8	3.2
ZTE	13,696.4	3.0	16,605.9	3.9
Huawei	13,574.4	3.0	11,918.9	2.8
Lenovo	12,999.8	2.9	7,203.7	1.7
TCL Communication	12,345.6	2.7	9,326.7	2.2
Sony Mobile Communications	9,757.5	2.1	8,202.4	1.9
Yulong	8,801.0	1.9	5,218.5	1.2
Others	156,004.7	34.2	153,701.20	35.7
<b>Total</b>	<b>455,642.3</b>	<b>100.0</b>	<b>431,023.8</b>	<b>100.0</b>

Source: Gartner (November 2013)



# Mobile devices are

- Smart Phones
- Feature Phones
- Tablets
- E-readers
- Big screens, small screens, touch screens and keypads.





# Mobile devices are much more

- Alarm Clocks
- Maps
- Link to loved ones
- Hand held shops
- Tickets
- Music Players
- Books
- Games Players
- Cameras
- .....



- These are key experiences. Imagine if they did not work?

My alarm didn't go off...

I'm lost





# Where were we meeting?



# Quality is not currently great

- Many applications launch un-tested.
- Phones launch with serious issues (remember the iPhone 4 death grip).
- Android has security issues.
- Users tolerate this....but for how long?
- How can we improve this?





# Different Sorts of Testing

- Hardware level:
- Protocol/ Air Interface:
- Applications

**Mobile app market to be worth \$27 billion this year**



BY: DUSAN BELIC, INTOMOBILE  
FRIDAY, JUNE 28TH, 2013 AT 5:47 AM



- The software that you test could be in the hands of millions of people once you have finished.
- Releasing a phone with bugs in it loses a company a huge amount of money.
- The mobile world is a low margin, high volume game.

# Native or Web?



- Native app:
  - Specifically designed to run on a device.
  - Runs on device OS.
  - Testing needs to include download/ upgrade/ uninstall.
  - Typically needs to be adapted for different devices.
- Mobile website:
  - All or some parts of the software are downloaded from the Web each time it is run.
  - Usually accessible from all Web-capable mobile devices.
  - HTML5 makes it increasingly difficult to separate web apps from native apps.
  - Testing needs to include different mobile browsers.



# Interactions

- While your application runs, the phone
  - Talking to the network
  - Working out where you are
  - Maybe receiving calls, texts, Facebook and Twitter updates.
- What happens when you have your application running, and then get a call, and a text, whilst uploading video to YouTube? Test for it and find out.



# Performance



- Mobile devices have limited memory and limited processing capacity.
- It's important to test how the devices work when stressed.
- Test for memory leaks and general performance of the operating system and applications.
- Think of battery life!!!
- Think of how the application works when network performance is poor or on different speeds (2G/ 3G/ LTE/ Wifi).



Available on the iPhone

App Store

# Compliance



- You may need to test for certification compliance.
- One estimate is that 70% of applications are submitted to apps stores without any formal testing have been conducted.



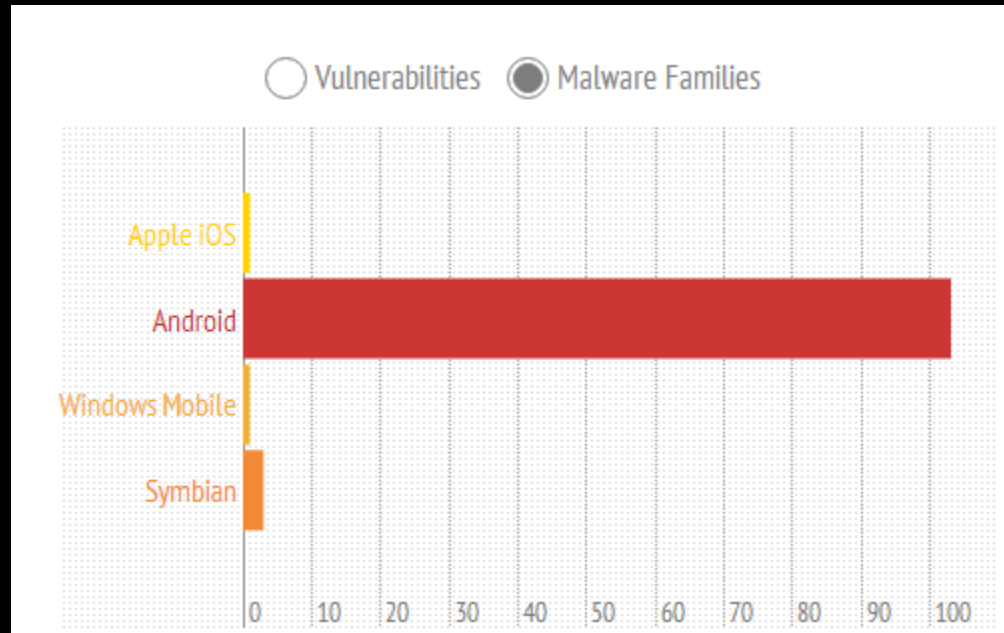
[Home](#) > [News](#) > 400,000 [apps in the App Store](#) have never been downloaded says report

## 400,000 apps in the App Store have never been downloaded says report

Posted: 02 Aug 2012, 09:01, by Alan F.

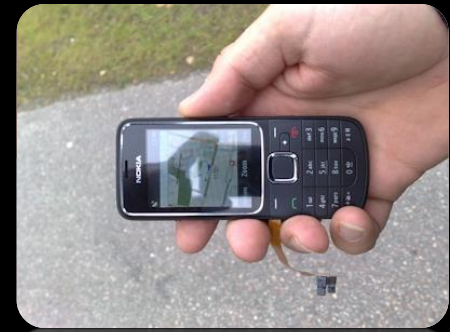
Categories: [Apple](#) + [Apps](#) +

# Security



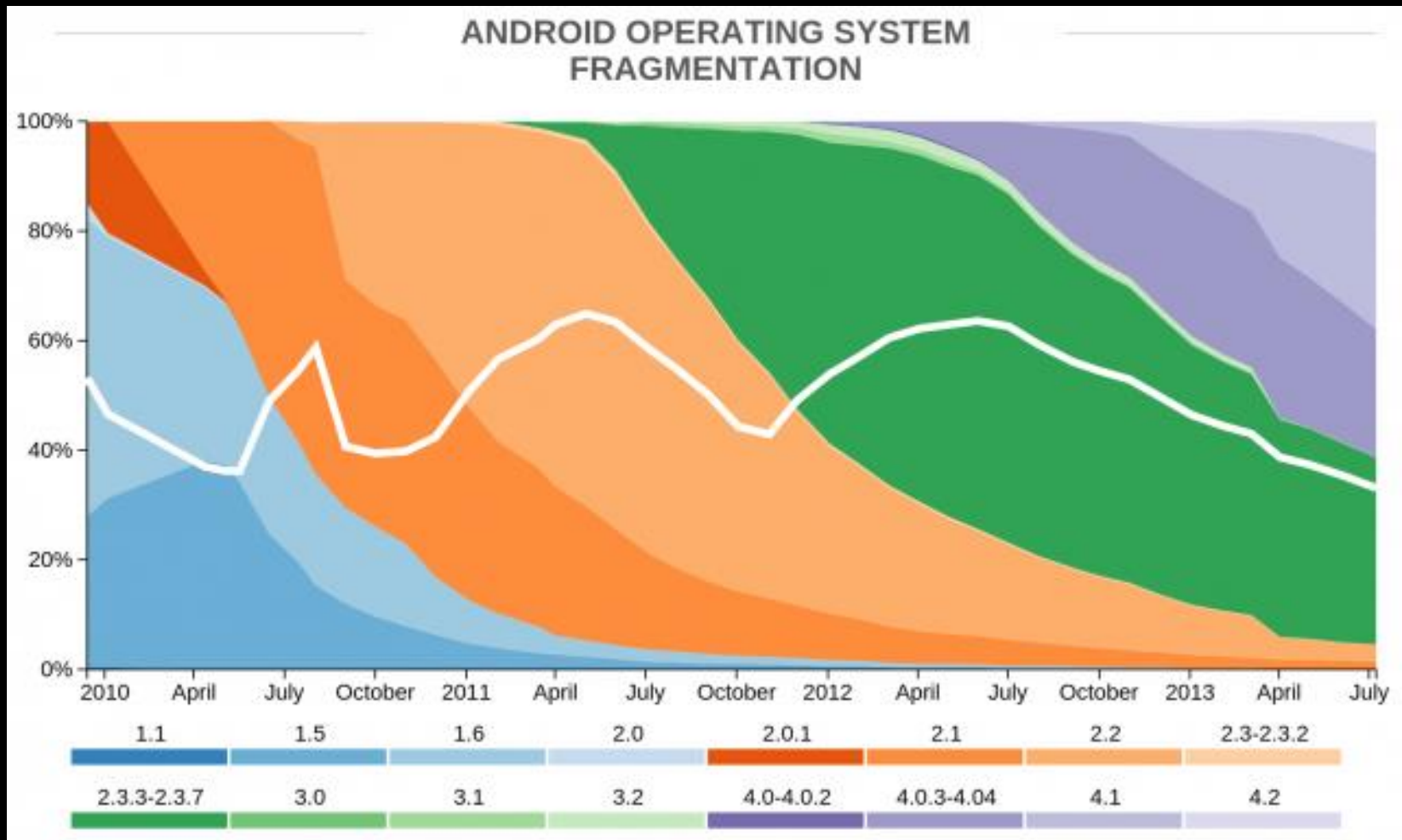
- Only a fraction of smartphones and tablets are protected by security software
- Big recent rise in the amount of malware targeted at mobile devices.
- Test for security issues.
- Check browser security, cookies, etc.
- Check application permissions.

# Usability Matters



- You should test for usability.
- Usability means testing it on a panel of real users.
- Usability is more important in the mobile world:
  - Smaller screen.
  - More difficult to interact with and typically used one handed.
- Typical areas to focus upon are:
  - How easy is it to use the application? Do user 'just get it'?
  - How is the look and feel?
  - Does the application or device feel fast?

# Strategy - Fragmentation



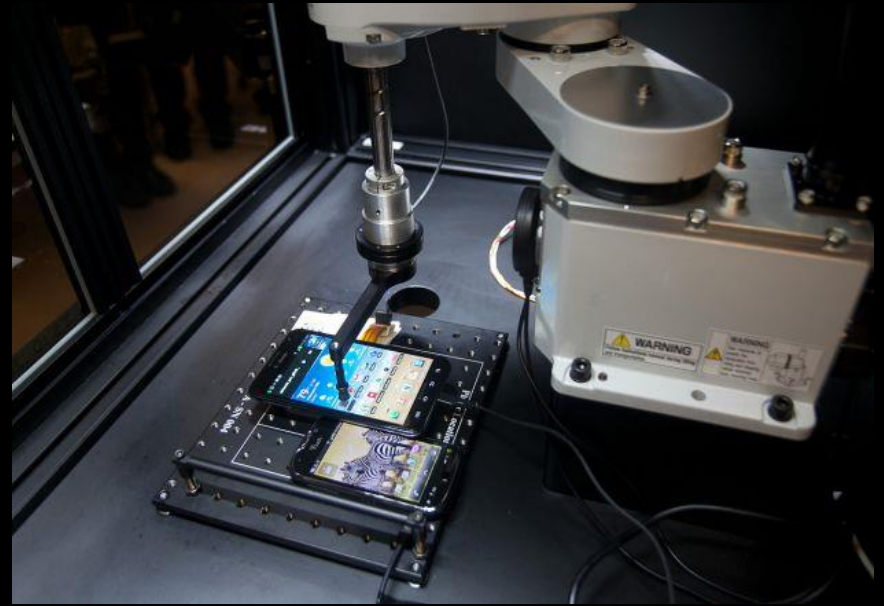
# Where do I get all the devices from?

- Don't use them at all – simulators or user agents.
- Buy them.
- Rent them.
- Use a cloud based service (Perfecto Mobile, DeviceAnywhere).
- Go to a Device Lab 😊



# Automation – the answer?

- Yes and No 😊
- More difficult on mobiles.
- Many options:
  - Appium
  - iOS Driver
  - Robotium
  - Gorilla Logic (Monkey Talk)
  - Touch Test
  - Bespoke solutions....





So.....why get involved?



# So...



- Mobile usage is mushrooming.
- Users are more emotionally attached to their phones than they are to their PCs.
- Testing applications is the easiest route into the industry.
- A mobile test strategy should not merely be a copy of a desktop test strategy.
- “Be proud, your work will soon be in the hands of millions”.

# And one more thing...



**MINISTRY OF TESTING**  
CO-CREATING SMARTER TESTERS

**News**

**Resources**

**Events**

**Testing Planet**

**Testing Feeds**

**Jobs**

## Mobile Testing with Stephen Janaway

Date: Wednesday March 26th 2014

Duration: 1 day – 9am – 5pm

Location: Brighton

<http://www.ministryoftesting.com/training-events/an-introduction-to-mobile-testing/>

# Questions?



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