Security in knowledge

YOU'RE NOT YOUR IPHONE – OR ARE YOU?

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What we'll talk about

- ► Of course you're your iPhone!
- ► Of course you're not!
- ► Separating the I from the iPhone
- ► Bringing them back together
- ► Conclusions (or not!)

The questions we'll explore

► Why the number of devices you have matters

► Why your relationship to your device(s) matters

► What technological, societal and government regulatory trends are relevant in our relationships to our device(s)

Of course you're your iPhone!

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Universal Identity is already here

► Google's Universal Online ID

Too many devices

► And we already have too many devices

You don't lose what's important

► If we had only one device, wouldn't we be less likely to lose it?

Biometrics are Already Here

► Why else did Apple buy AuthenTec?

Devices will get more versatile

► In form as well as function, making single device even more feasible

The Integration of Communication

There are more than 3 billion mobile phone subscribers worldwide.

► For digital natives, communication is integrated – so should your device be.

We are what We Wear

► But our phone is more than an accessory

Of course you're not!
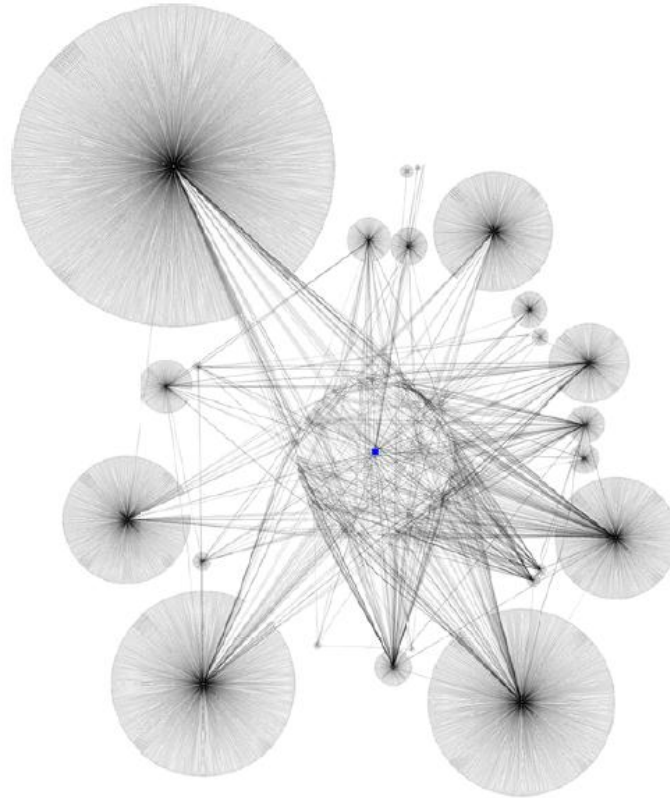
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Your identity is more than a device

► Identity is a subtle, diverse set of relationships and attributes, intimately bound to particular contexts

We all have multiple personas

► Shouldn't our devices be multiple as well?

How do we identify ourselves

VOICE RECOGNITION
GREAT POTENTIAL FOR
MOBILE PHONE TRANSACTIONS.

DNA
CHANCES OF TWO INDIVIDUALS
SHARING THE SAME DNA
PROFILE IS LESS THAN ONE
IN A HUNDRED BILLION.

FACIAL RECOGNITION
NEW TRENDS INCLUDE 3-D
TECHNIQUES AND SKIN
TEXTURE ANALYSIS.

Biometrics

FINGERPRINT
ONE OF THE OLDEST FORMS OF
BIOMETRICS. IT HAS BEEN USED FOR
MORE THAN 100 YEARS.

IRIS RECOGNITION
FALSE MATCH RATES ARE BELOW
0.000000000001 PERCENT.

► We don't rely on a single identifier. We shouldn't rely on a single device.

Multiple-use devices become unusable

▶ Devices tailored to use or unusable, elaborate devices?

▶   #RSAC

The "Swiss Army Knife " iPhone

Kickstand landscape

Lens Ring

USB Drive 8gb or 16gb

Kickstand portrait

Headphone Clip

Multi-tool standard blade serrated blade flat head screwdriver bottle opener black or silver

► Is this the really the direction to go?

You never lose your razor... but why?

- ▶ You only use it for a single purpose
- ▶ In a single context

- ▶ Those assumptions don't hold for mobile devices

- ▶ We *can* design a single, multi-authentication device... but *should* we?
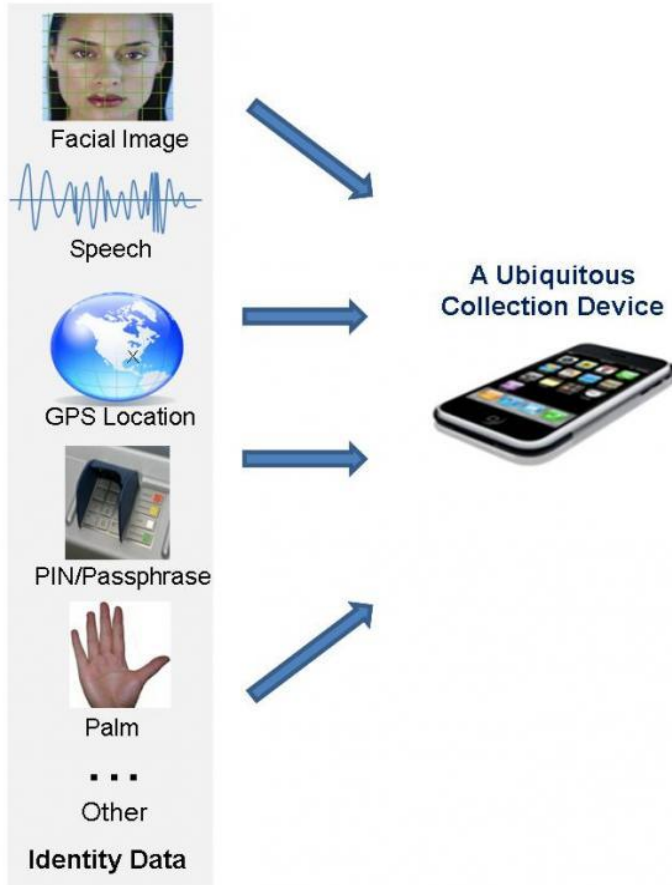
A tempting analogy...

► It's tempting to think of your phone as a "virtual keyring"

► Tempting, but misguided

► Your keyring holds a collection of single-purpose "credentials"

► They're all dumb

► It's always obvious to you which context you use them in

► All the different things for which you use your phone give rise to different contexts and kinds of risk

Are biometrics the answer?

Facial Image
Speech
GPS Location
PIN/Passphrase
Palm
. . .
Other
Identity Data

A Ubiquitous Collection Device

► If our phone becomes our identity, what happens if we lose it (the phone, that is...)?

► How do you "re-issue" a compromised biometric?

► Who has your biometrics right now?

► There are "biometrics" you leave everywhere: is that good or bad?

► How robust will biometrics prove to be, over time?

► In short: an interesting technology, but we're still learning...

Fortunately, I have a solution

- ► Guaranteed handset security
- ► Simple user interface
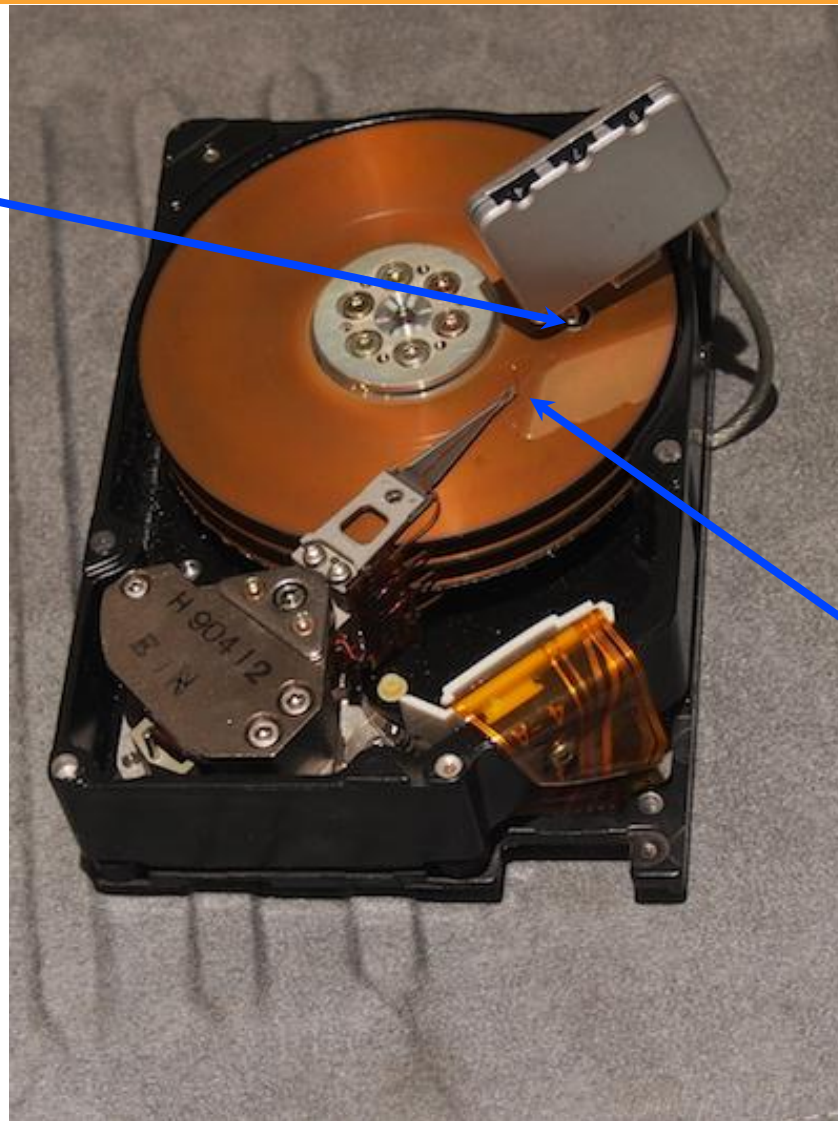- ► Universally applicable principle...

Also works for hard drives...

▶ I know what you're thinking...

▶ "You've only secured the disk, Robin, not the data"

▶ ...

I'm way ahead of you...

ull, platter-level
hysical security

Read/write head
removed for added
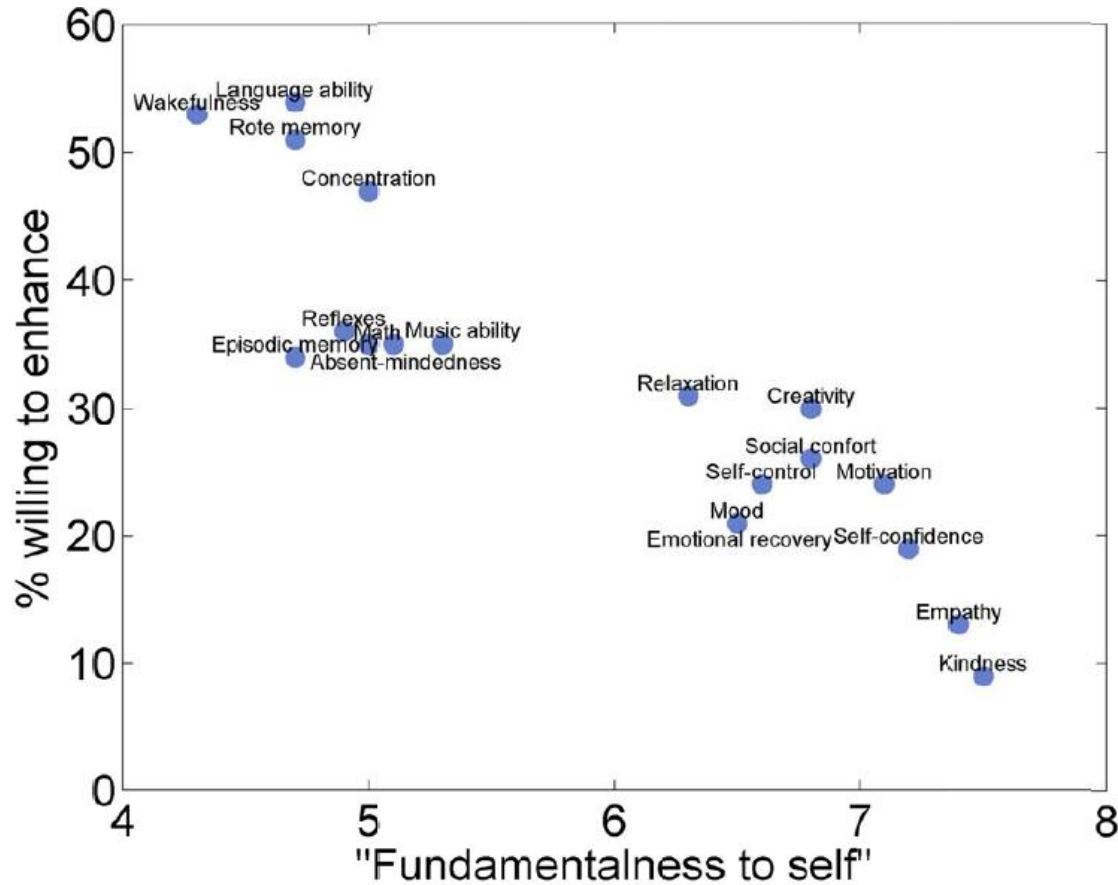protection

Taking the i out of the iPhone
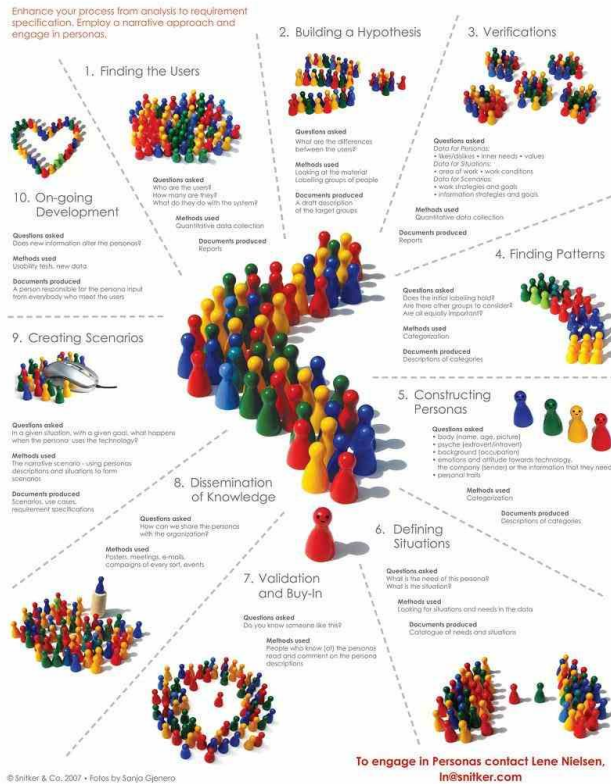
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Our Multiple Selves

► We constantly make decisions that affect our sense of self and how we present ourselves to others

Personas in Marketing

10 steps to Personas

Based on the method "Engaging Personas and Narrative Scenarios" (2004) by Ph.D. Lene Nielsen

- ► Definition of personas for marketing purposes reflects one use of the multiple personas each of us has.

- ► The marketing/profiling industry is a complex ecosystem, invisible to most of us...

- ► ... and yet it is fuelled by monetization of our attributes

- ► You cannot manage something you don't see or understand

Entities, Identities and Attributes
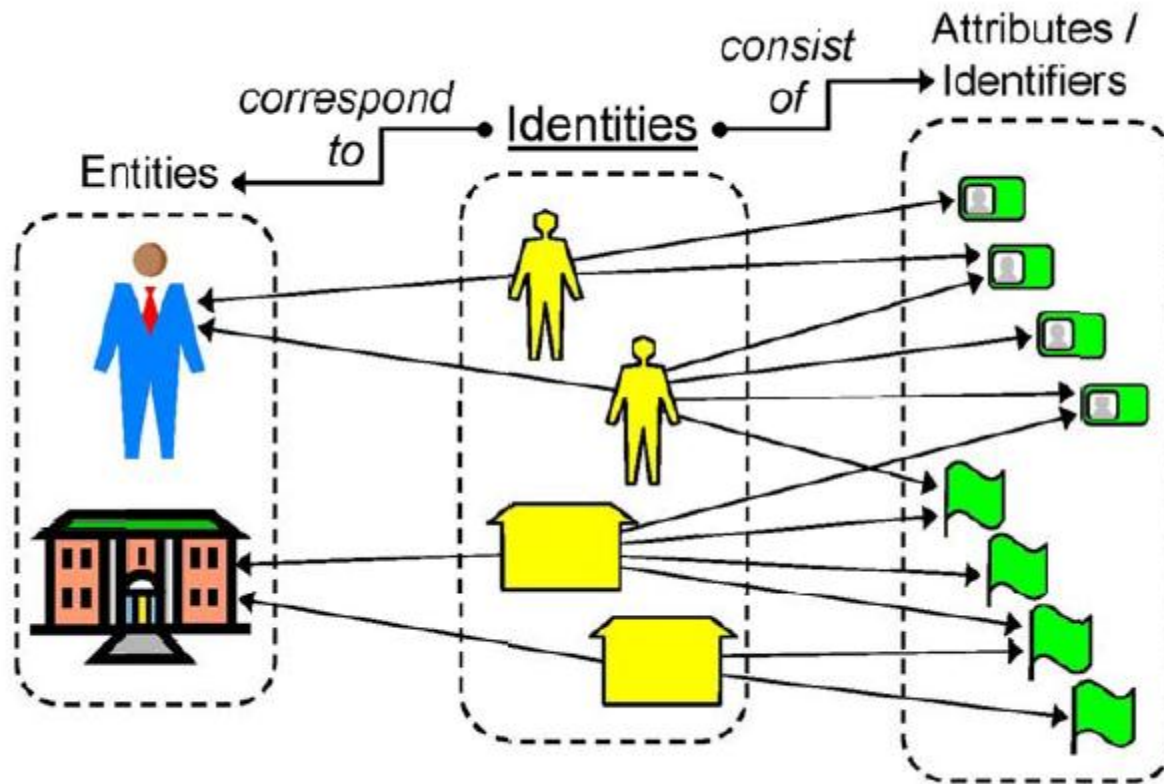
► Our individual relationship to identity is inherently one to many.

► See Roger Clarke's excellent model, here:

http://www.rogerclarke.com/ID/#Summ

#RSAC

Managing Personas

Persona Management Solutions

► Tools that already exist for persona management show the need for multiple personas, multiple devices... and, frankly, better tools ;^(

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What is the real design challenge?

► We should not be trying to design a "wallet"

► We need devices that can:
► Keep contextual data separate
► Support attribute-only assertions
► Make multiple personas/contexts clear and usable
► Rebalance user control vs service provider control
► Help us cultivate better identity/privacy habits

► Will that be enough?
► What happens when your devices talk to each other?
► What happens when service providers share data?

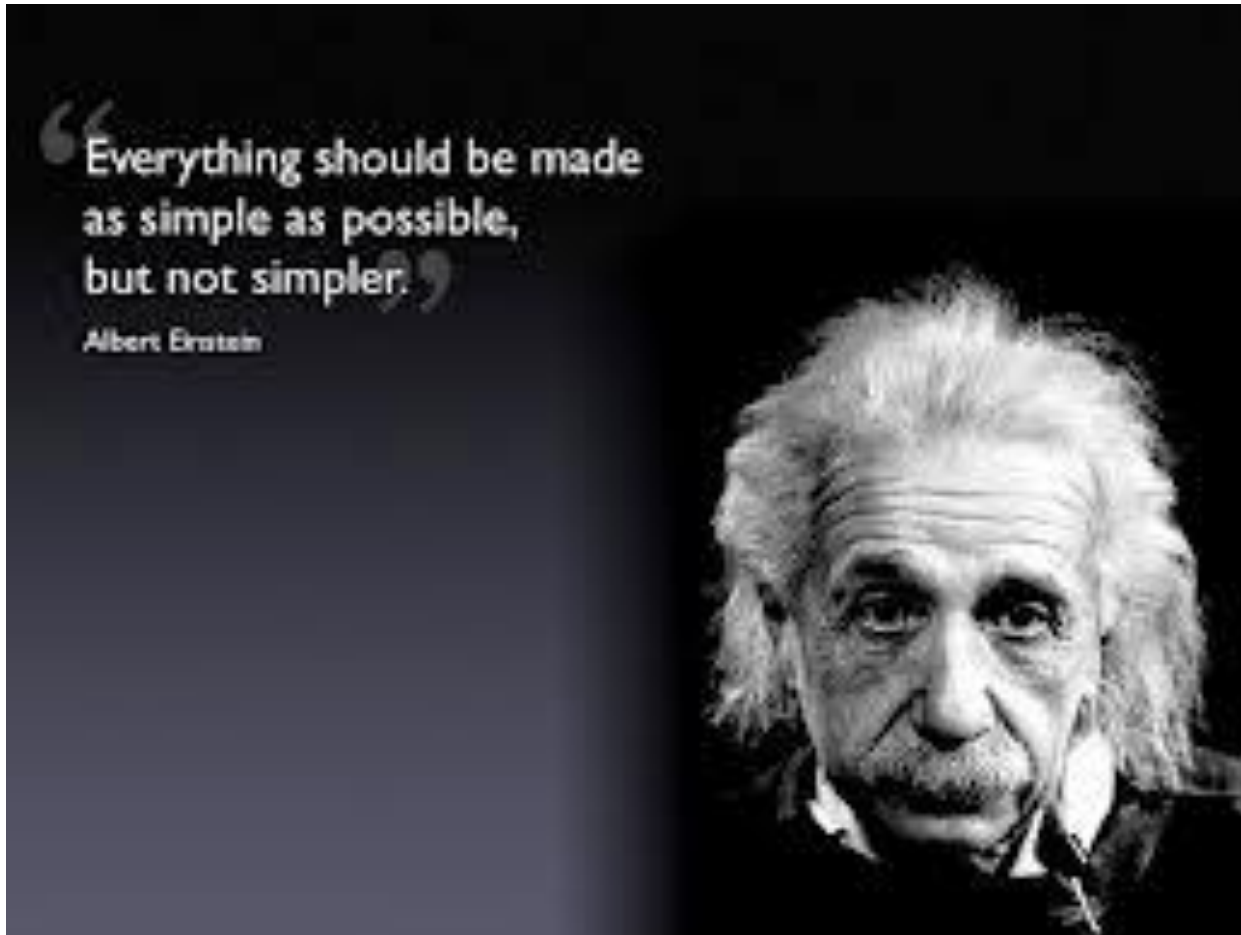# Back to one device

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The complexity of identity

► We need to be able to manage our digital shadow

The simplicity of a single device

Everything should be made as simple as possible, but not simpler.

Albert Einstein

► What could be simpler than a single device?

A simpler you

MOBIO - Mobile Biometry

Secured and Trusted Access to Mobile Services

European Funded Project
(FP7-2007-ICT-1)

▶ Research sponsored by the EU

In Conclusion…

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What can individuals do?

► Develop stronger awareness of the issues/risks

► Understand the principles of basic privacy "hygiene"

► Take control of default settings in apps/devices

► Seek out specific tools that help manage identity/personas

► But above all:

► Recognise that fundamentally, identity isn't a "technology" problem

► Be prepared to adjust the value you place on privacy vs. convenience...

► ... only then can you change your privacy habits

What do **You** Think?

► Are both perspectives valid?

► A conflict of two goods?

► A wicked problem!

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► Thank you!

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