

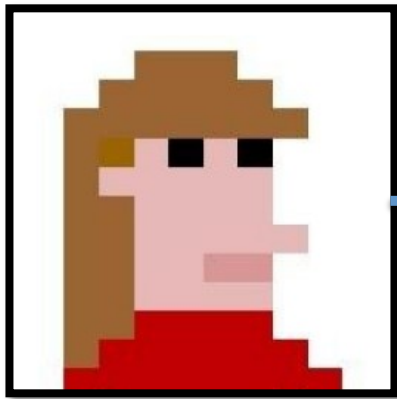
# Evolution or Revolution?

The expectations of 4G services  
within UK Higher Education

Elaine Garcia

Tuesday 1<sup>st</sup> April 2014

# What links **me** and **Kevin Bacon**?



# HOW DID WE GET HERE?

ROCK HUDSON DORIS DAY

...THE PERFECT PAIR, FOR...

# "PILLOW TALK"



...IT'S WHAT GOES ON  
WHEN THE LIGHTS GO OFF!







**YELLOW  
PAGES**







# FLY FISHING

by

## J. R. HARTLEY





# The Mobile Phone. Business essential or status symbol?

## The answer is at Yorkstar Motors.

If you think a Mobile Phone is a status symbol, you're right. But it's a whole lot more when it comes to doing business effectively and efficiently.

For a special demonstration of the Telecom Mobile Phone in the luxurious Mercedes-Benz see the Telecom Sales Representative at Yorkstar Motors, 108 William Street, Sydney from Monday 8th to Saturday 13th November.

If you would like to see and hear more about a Telecom Mobile Phone and you can't make it to the special demonstration at Yorkstar Motors, call the Communications Hotline on (02) 267 6767.



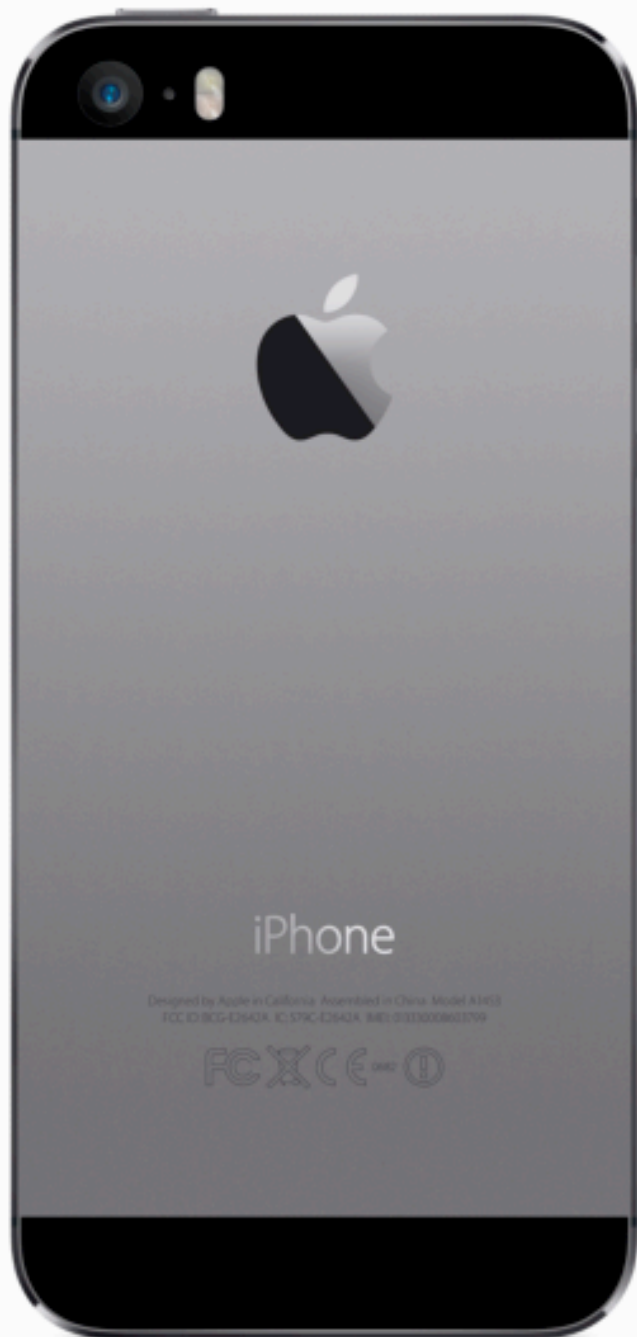
**Telecom Australia**

Working for you

TAN 321







2012 Mobile Traffic was....

18 Times

the size of global internet traffic in 2000





7 BILLION



# LTE, WiMAX, HSPA+, 3G, GSM information by country

(March 21, 2014)

# 2013 Mobile Traffic generated

4G



3G



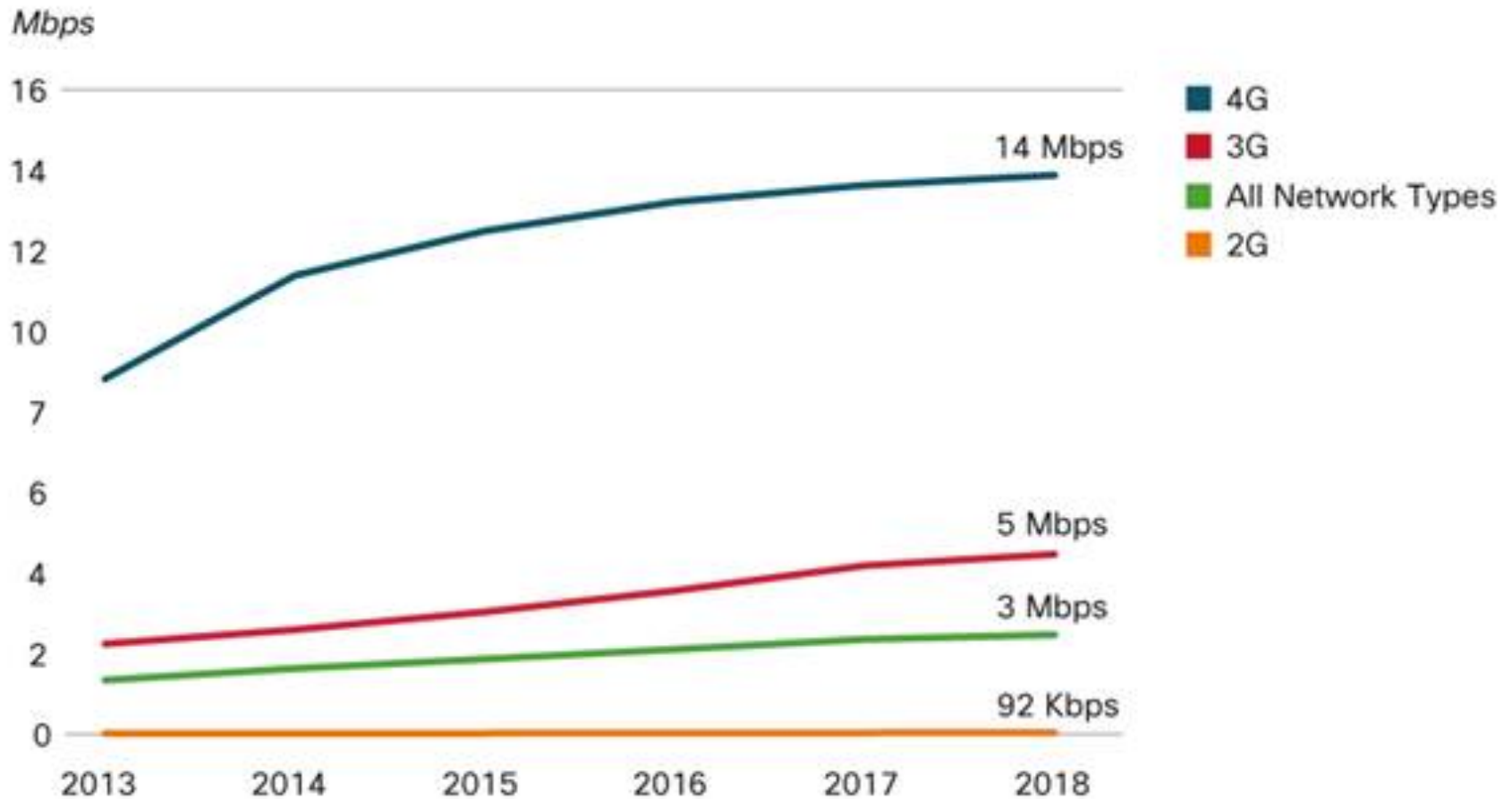
# Benefits of 4G

Higher Bandwidth

Lower Latency

Improved spectrum efficiency

# Mobile speeds by Technology



***“4G allows you to do the things you couldn’t do before...”***

**“Some users have reported that 4G is more reliable and better able to handle some tasks than some home broadband connections.”**

**“4G should not be  
thought so much as  
something that is  
changing mobiles but  
is changing the  
Internet.”**







**“There is no  
task that 4G  
could perform  
better.”**

**“Frustrations that individuals currently have relating to failed 3G.... Are likely to remain for the time being.”**

# WHAT DOES THIS MEAN IN REALITY FOR EDUCATION?

# Mobile Learning







Teachers are no longer tied to the classroom





Commuting can be useful time





Distance Learning

# CASE STUDY





Plymouth College of Art



# SUPERFAST 4GEE FROM EE

We're launching the next generation mobile network, that gives you superfast internet speeds on your mobile, tablet or laptop. We like to call it 4GEE.

Not only will you get the UK's biggest 3G network with EE, you will also get the first mobile 4G network to be rolled out across the UK. You can't get it from anyone else. We'll have 16 cities good to go by the end of 2012, covering over a third of the population.

It will be powered by a new technology called 4G LTE that makes everything go unbelievably quick. You'll be able to do things like downloads and streaming — five times faster than you can on 3G.

Be one of the first to get it.

[FIND WHERE YOU COULD USE SUPERFAST 4GEE >](#)



The UK's biggest 3G network with 4G first in these cities:

Belfast  
Birmingham  
Bristol  
Cardiff  
Derby  
Edinburgh  
Glasgow  
Hull  
Leeds  
Liverpool  
London  
Manchester  
Nottingham  
Newcastle  
Sheffield  
Southampton

[Scroll down for terms and conditions](#)

Plymouth

# Speed Tests

**Table 1:** Connections speed gained across various UK locations tested with speedtest.net

Type	Date / Time	Time	Download (Mbps)	Upload (Mbps)	Ping (ms)	Location
3G	19/06/13	20:40	0.89	0.00	179	London (4)
Wifi	19/06/13	20:38	12.91	0.64	17	London (4)
4G	19/06/13	20:37	14.40	5.00	51	London (4)
3G	17/06/13	09:03	3.05	1.65	109	Plymouth (3)
Broadband	17/06/13	09:03	63.06	29.13	16	Plymouth (2)
Wi-Fi	17/06/13	09:03	50.99	28.80	17	Plymouth (1)

# Mobile Learning

“Most of the locations that I ended up in would have Wi-Fi and I would find that to be as equally good as using 4G.”

“It will allow you to do anything you do indoors, outdoors. This will really change teaching and learning experience.”

“It is an excellent device to have in the classroom, or should I say in the outdoor classroom.”

“These... devices could be useful for field trips where you want students to connect to the internet through a controlled connection.”

“This will enable sessions to occur in a range of environments and allow students to have hands on experiences and learn from this.”



# Teachers are not tied to desks

“Probably not a life changing experience.”

“These devices haven’t really improved my efficiency. It’s been useful but it hasn’t really changed things.”

“Extremely useful and something I should like to use permanently.”

“I love my device and it has literally changed my life. My time is now used efficiently and effectively. My productivity has been increased.”





# Commuting

“Overall, it means I can stay in touch and on the pulse all the time I’m on the train.”

“The speed of 4G from Bristol to Birmingham is amazing even on a moving train.”

“A good internet signal can make the train journey far more productive.”

“I love my device and it has literally changed my life. I don’t think I can, or should, go without it.”

“I used to feel that it was “dead” time travelling before because we really need the internet to do our job.”



# Distance Learning

“I am sure especially in terms of distance learning soon will be expanded within the institution.”

“The students think it is a brilliant device for continuity and remote teaching.”



# REVOLUTION OR EVOLUTION?

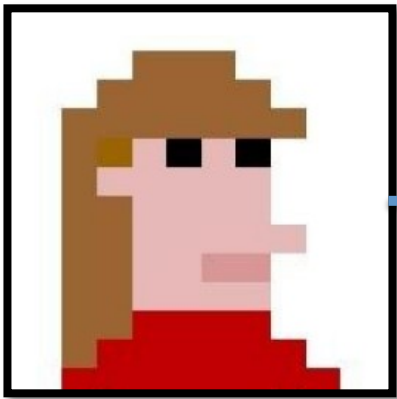


**Promises** are of a **revolution**

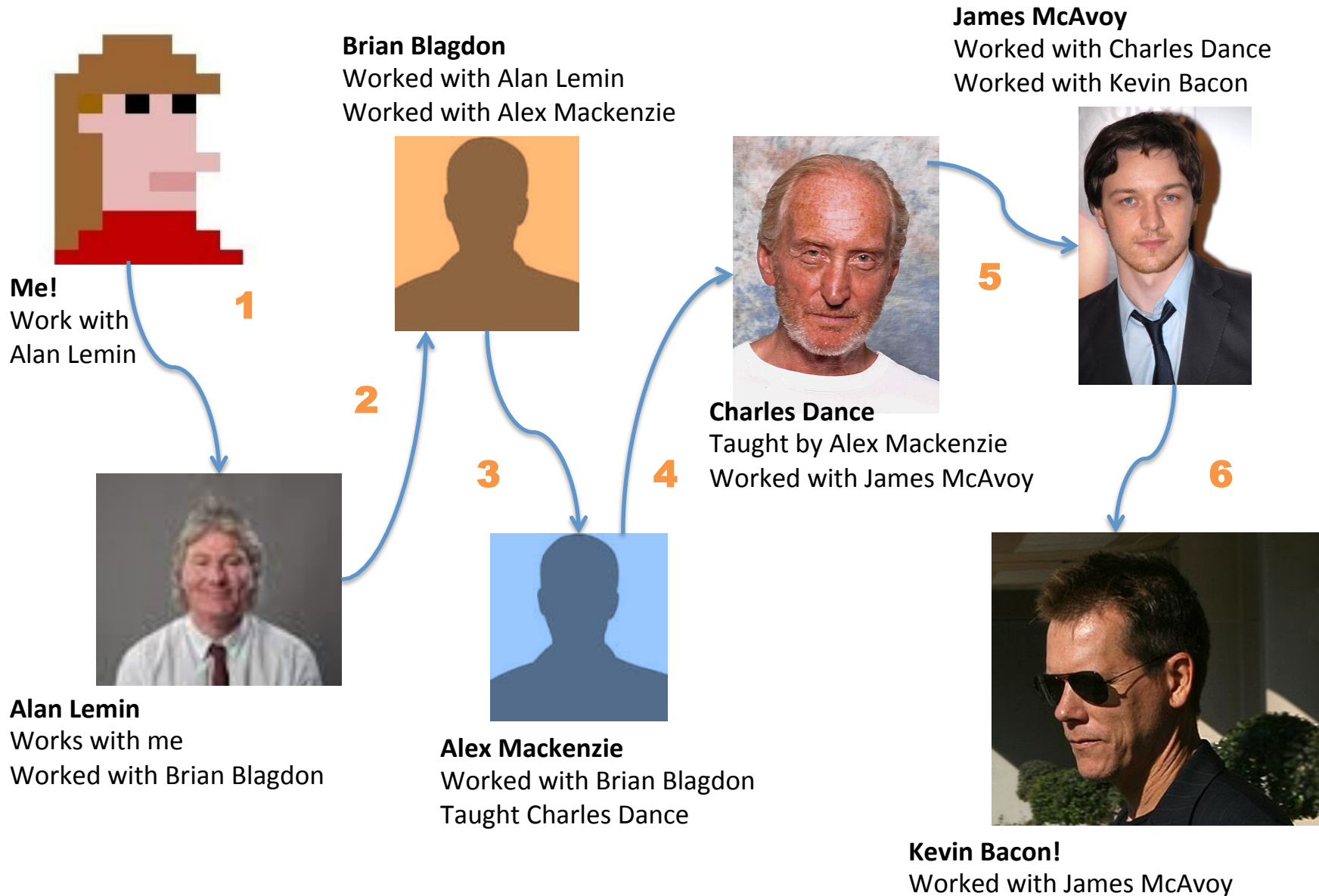
**Experiences** suggest a **evolution**

**LETS TALK ABOUT KEVIN...**

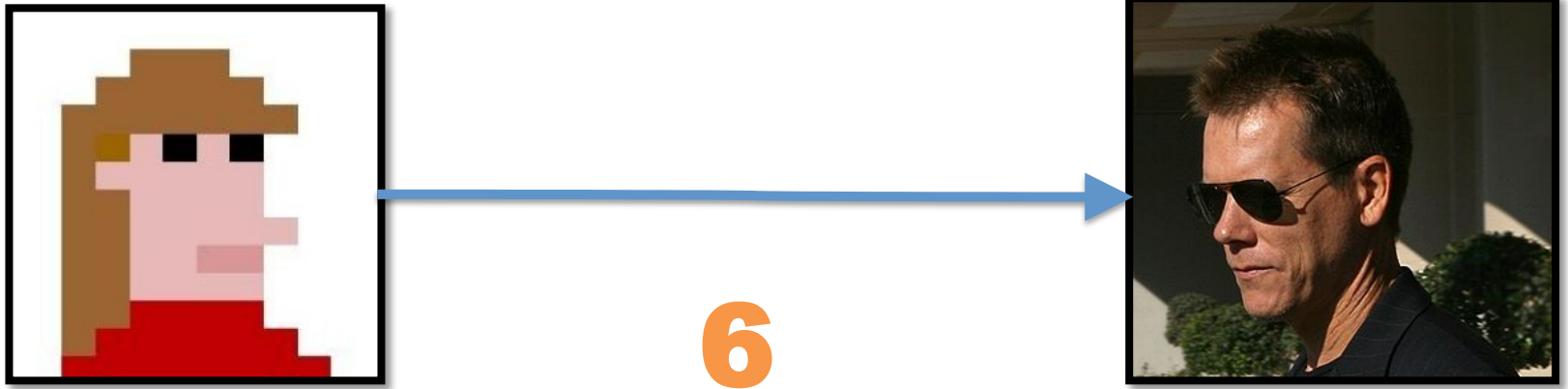
# What links **me** and **Kevin Bacon**?



# Six degrees of Kevin Bacon



# Six degrees of Kevin Bacon



Google: “Bacon number + actor”

# References

Mobile in car <https://www.flickr.com/photos/misstinykitten/5128320368/in/photolist-8PaYYG-bMXndZ-ae6AKF-9urj8F-asHyFi/>

BT Ad [http://www.validpath-network.co.uk/Articles/281464/ValidPath/New\\_Developments/KevBlog/Its\\_good\\_to.aspx](http://www.validpath-network.co.uk/Articles/281464/ValidPath/New_Developments/KevBlog/Its_good_to.aspx)

JR Hartley <http://www.ediblegeography.com/fascinating-stories-about-semi-skimmed-milk/>

Pillow talk [http://www.mrge.com/movie\\_reviews/pillow-talk-m100007006](http://www.mrge.com/movie_reviews/pillow-talk-m100007006)

Globe [http://commons.wikimedia.org/wiki/File:Globe\\_Atlantic.svg](http://commons.wikimedia.org/wiki/File:Globe_Atlantic.svg)

Flags [http://commons.wikimedia.org/wiki/Sovereign-state\\_flags](http://commons.wikimedia.org/wiki/Sovereign-state_flags)

Mobile phone cartoon <http://ictd.si.umich.edu/mobiles-as-assistive-technology/>

Iphone <http://commons.wikimedia.org/wiki/File:Iphone-5s-black.png>

7 billion globe  
<http://thebottomline.as.ucsb.edu/2011/11/not-so-lucky-number-seven-world-population-reaches-seven-billion-as-resources-decrease>

LTE across different countries <http://www.worldtimezone.com/4g.html>

Rainbow <http://stockarch.com/images/abstract/light/concentric-circles-spectral-lights-3863>

Mobile Speeds by Technology

viva la revolution <http://www.loyolaphoenix.com/viva-la-revolution>

EE coverage <http://gadgetynews.com/superfast-g-lands-uk-everything-everywhere-need-know/>

Mobile Connection speeds  
[http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white\\_paper\\_c11-520862.html](http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white_paper_c11-520862.html)

Mobile Learning <http://www.jisc.ac.uk/mobile-learning>

Teacher at Desk <http://www.teacherrecertification.us/>

Commuter  
[http://dontmesswithtaxes.typepad.com/dont\\_mess\\_with\\_taxes/2013/12/expiring-commuter-tax-break-will-cost-public-transit-users.html](http://dontmesswithtaxes.typepad.com/dont_mess_with_taxes/2013/12/expiring-commuter-tax-break-will-cost-public-transit-users.html)

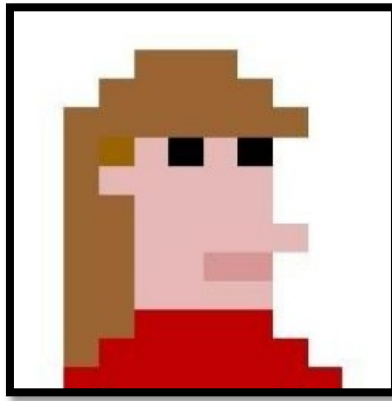
Island <https://www.thebmc.co.uk/five-weird-and-unusual-coastal-walks>

Kevin Bacon <http://commons.wikimedia.org/wiki/File:KevinBacon07TIFF.jpg#file>

Charles Dance [http://commons.wikimedia.org/wiki/File:Charles\\_Dance\\_%28July\\_2012%29.jpg](http://commons.wikimedia.org/wiki/File:Charles_Dance_%28July_2012%29.jpg)

James McAvoy [http://commons.wikimedia.org/wiki/File:James\\_McAvoy.jpg](http://commons.wikimedia.org/wiki/File:James_McAvoy.jpg)

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