

The Invisible Computer Lab





Cedars School of Excellence

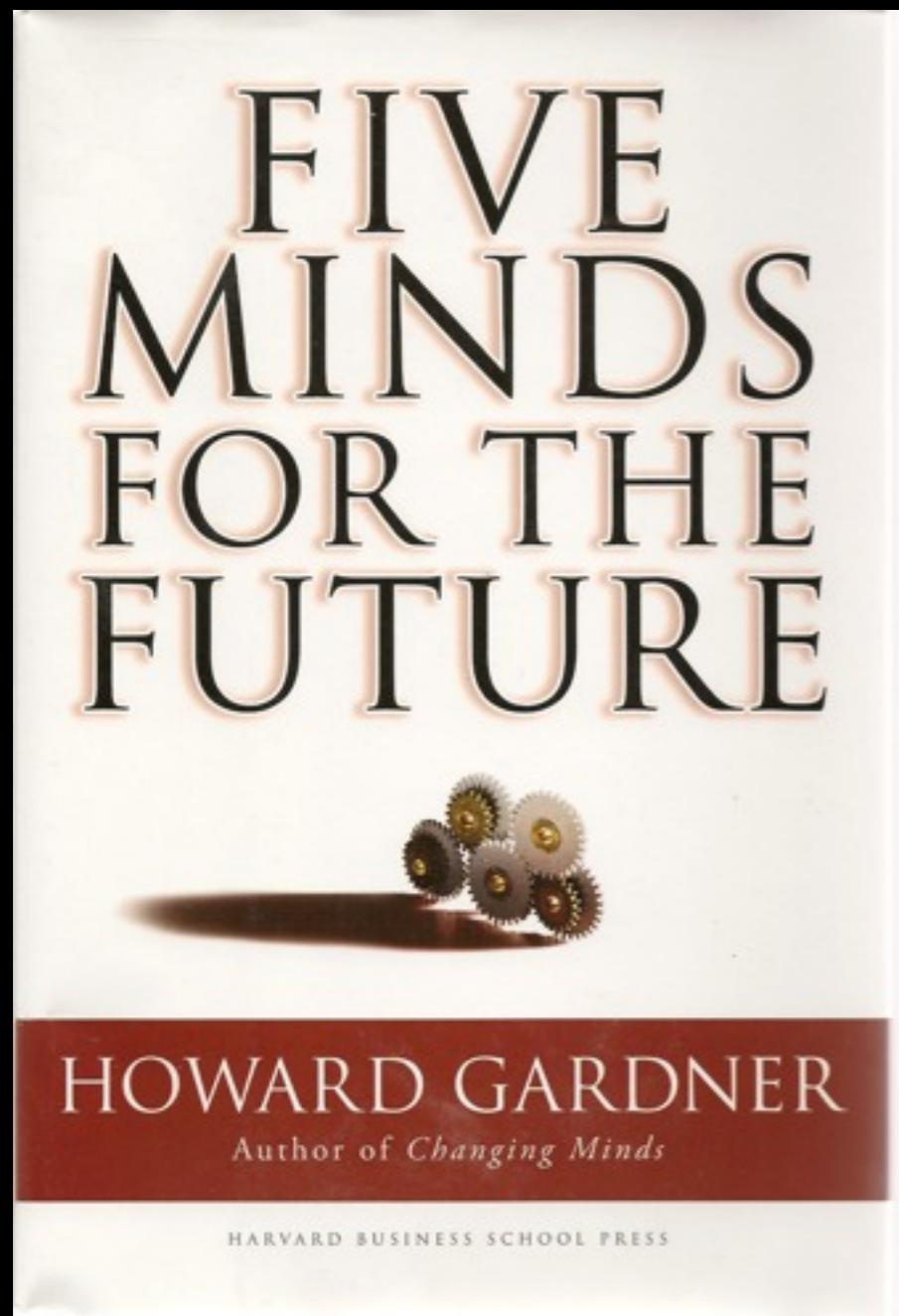
Founded 1999



Cedars School of Excellence

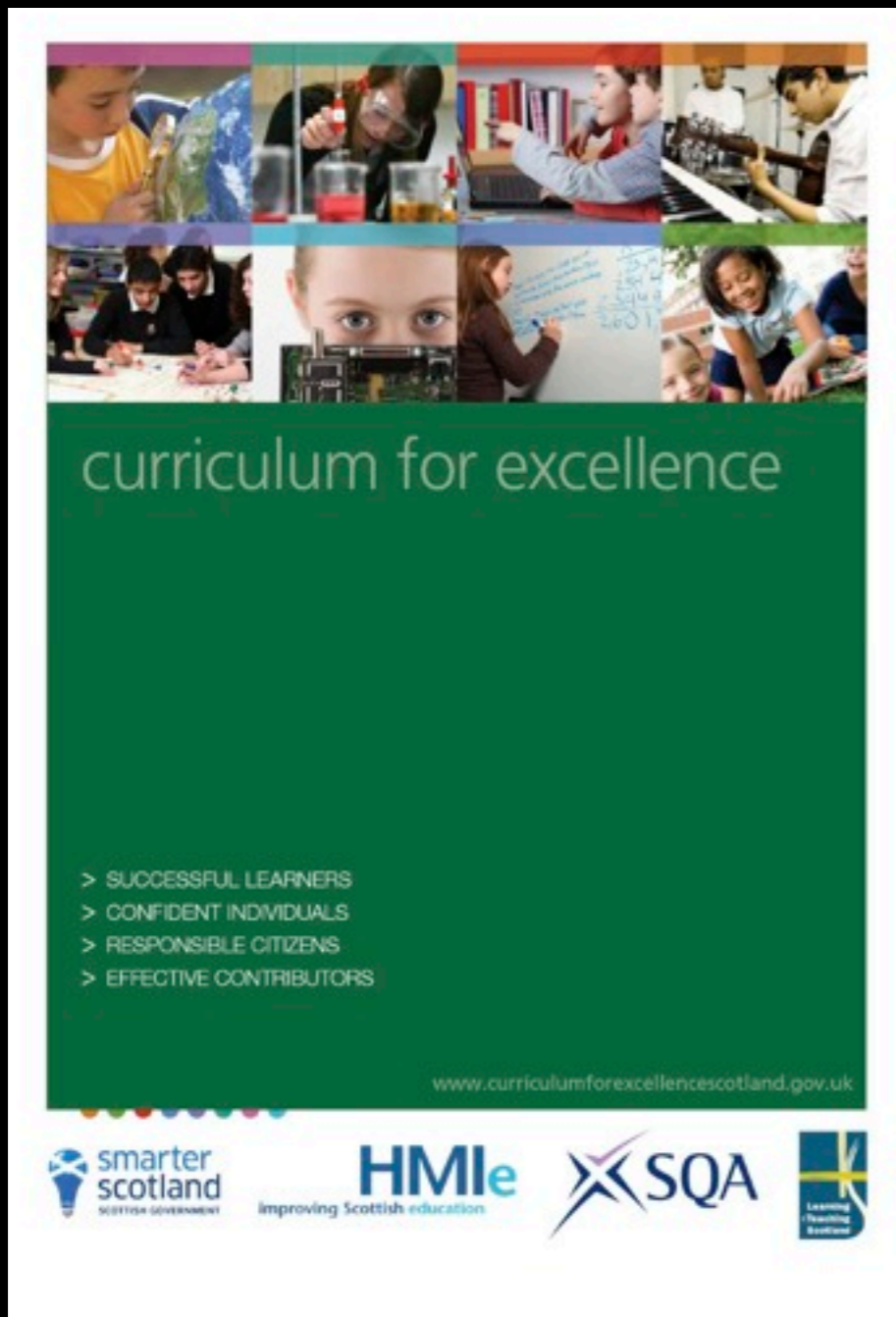
Founded 1999

New Approaches to Teaching



***“the world of the future-
with its ubiquitous
search engines, robots,
and other computational
devices-will demand
capacities that until now
have been mere options.
To meet this new world
on its own terms, we
should begin to cultivate
these capacities now.”***

*Howard Gardner, Five Minds for the
Future (Harvard Business School Press),
Kindle Edition, Location 33.*



***“The experiences and outcomes are an essential component of Scotland’s new curriculum and apply wherever learning is planned.*”**

The title ‘experiences and outcomes’ recognises the importance of the quality and nature of the learning experience. An outcome represents what is to be achieved.”

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Technology Evolution



5
1999



12
2006



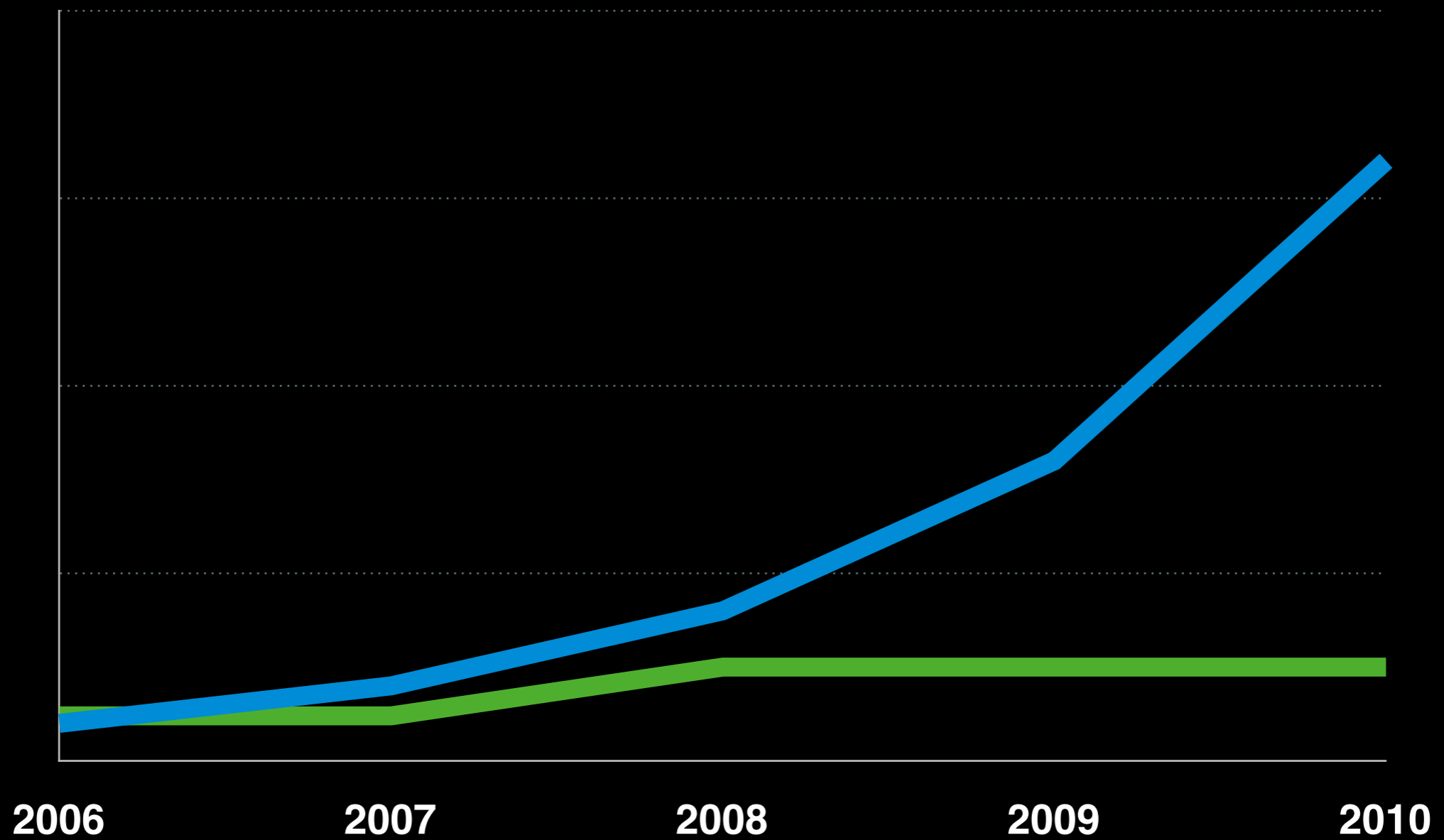
12
2008

Images: <http://www.flickr.com/photos/38455623@N05/>

Crisis point: December 2009

IT Crisis

- Demand for ICT
- Supply of ICT



December 2009





Options



Student-owned devices



Student-owned devices

Wide range of device capabilities	
Uneven provision	
Constant churn of new devices	
Puts the support burden on the teacher	

**We are stuck with technology
when what we really want is just
stuff that works.**

Douglas Adams

January 27th 2010

iPad



Technical Preparation

WiFi & Internet



Enough coverage?

Enough bandwidth?

Enough data?

Photo by [_sarchi](http://flic.kr/p/6Mj6Vo) - <http://flic.kr/p/6Mj6Vo>

Deployment Preparation

iPhone Configuration Utility



Deployment Preparation

iPhone Configuration Utility



General Profile



User-Specific Profile

Deployment Preparation

iPhone Configuration Utility

WiFi Settings

Calendar Subscription

Passcode Policy



General Profile

Deployment Preparation

iPhone Configuration Utility

Email configuration

Create 100s via AppleScript



User-Specific Profile

Delivery



Teaching Preparation

Teacher Preparation

May: every teacher gets an iPad



Photo by smagdali - <http://flic.kr/p/89JQZC>

Go Explore

Every teacher gets a little budget to explore the App Store



Photo by Danielle Scott - <http://flic.kr/p/7hybXV>

THE RIOT ACT.

If any persons to the number of 12 or more unlawfully, riotously, and tumultuously assemble together to the disturbance of the public peace and being required by any Justice by proclamation in the King's name in the exact form of the Riot Act, I George I, Sess. 2 c. 5 s. 2, to disperse themselves and peaceably depart, shall to the number of 12 or more unlawfully, riotously and tumultuously remain or continue together for an hour after such proclamation shall be guilty of a felony.

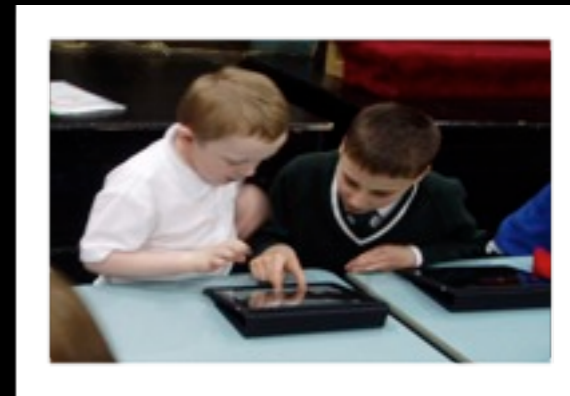
The Form of Proclamation is as follows:—

"Our Sovereign Lord the King chargeth and commandeth all persons, being assembled, immediately to disperse themselves, and peaceably depart to their habitations, or to their lawful business, upon the pains contained in the Act made in the first year of King George the First for preventing tumults and riotous assemblies."

GOD SAVE THE KING.

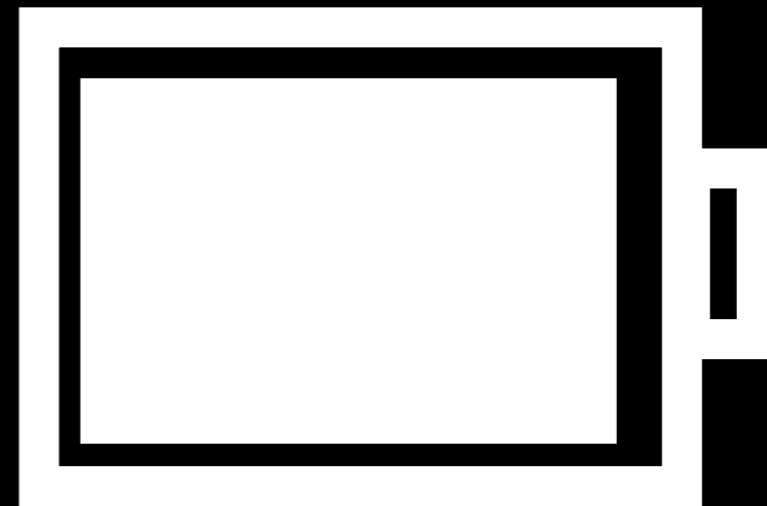
Launch Day

23 August 2010



Classroom Impact

99%



Zero-click backup and 1- click restore



Collaboration
Easy mobility leads to easy collaboration



Casual Computing

Computers are the new books, paints, games, paper, pencils...



**Engagement with Reading
eBooks are the new books**

English



Their essays in every case are longer than they are when they hand write them - sometimes a lot longer.

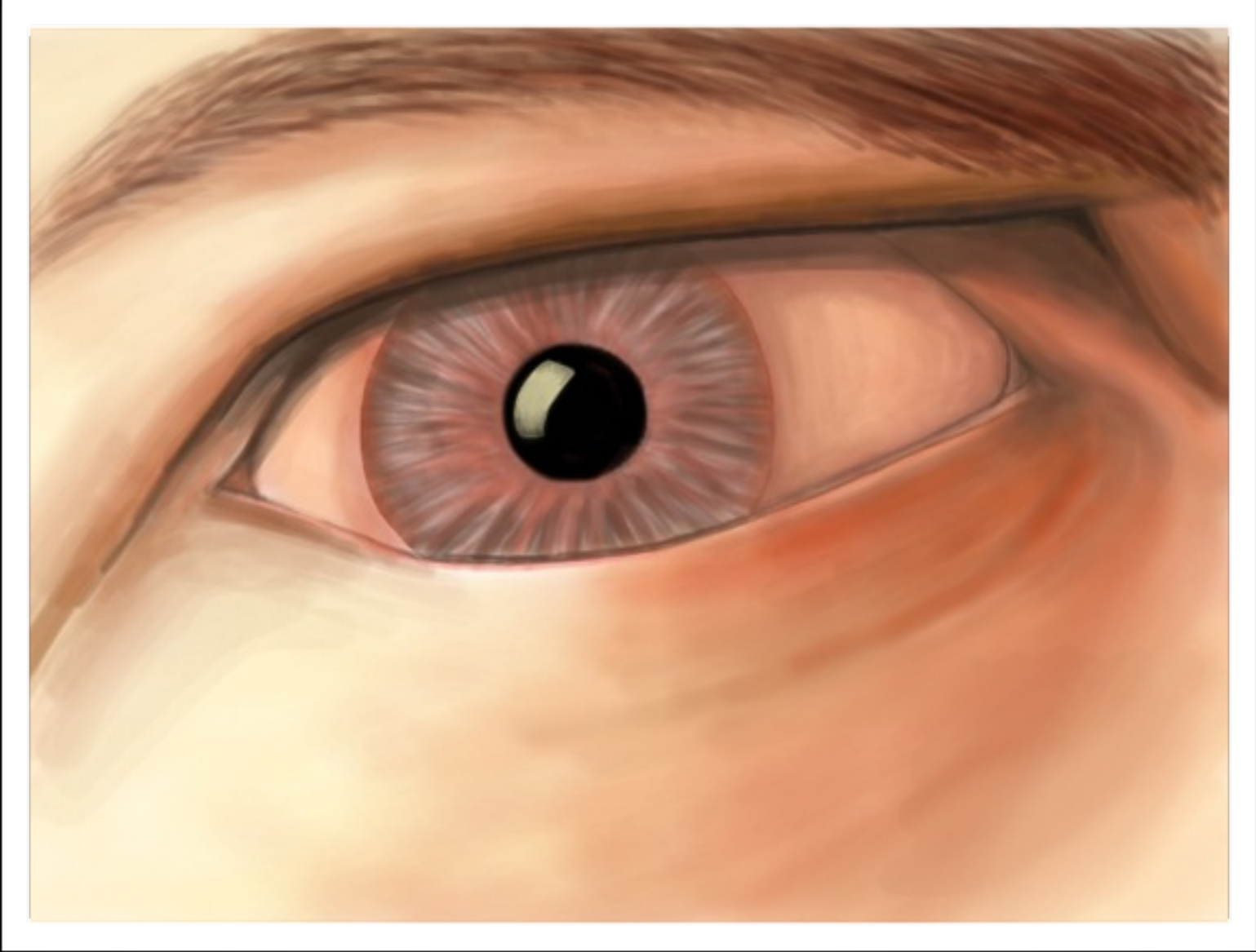
I'm actually in the position of having to tell some of them to cut their essays as they exceed the Standard Grade word limit - something I've not had to do before!

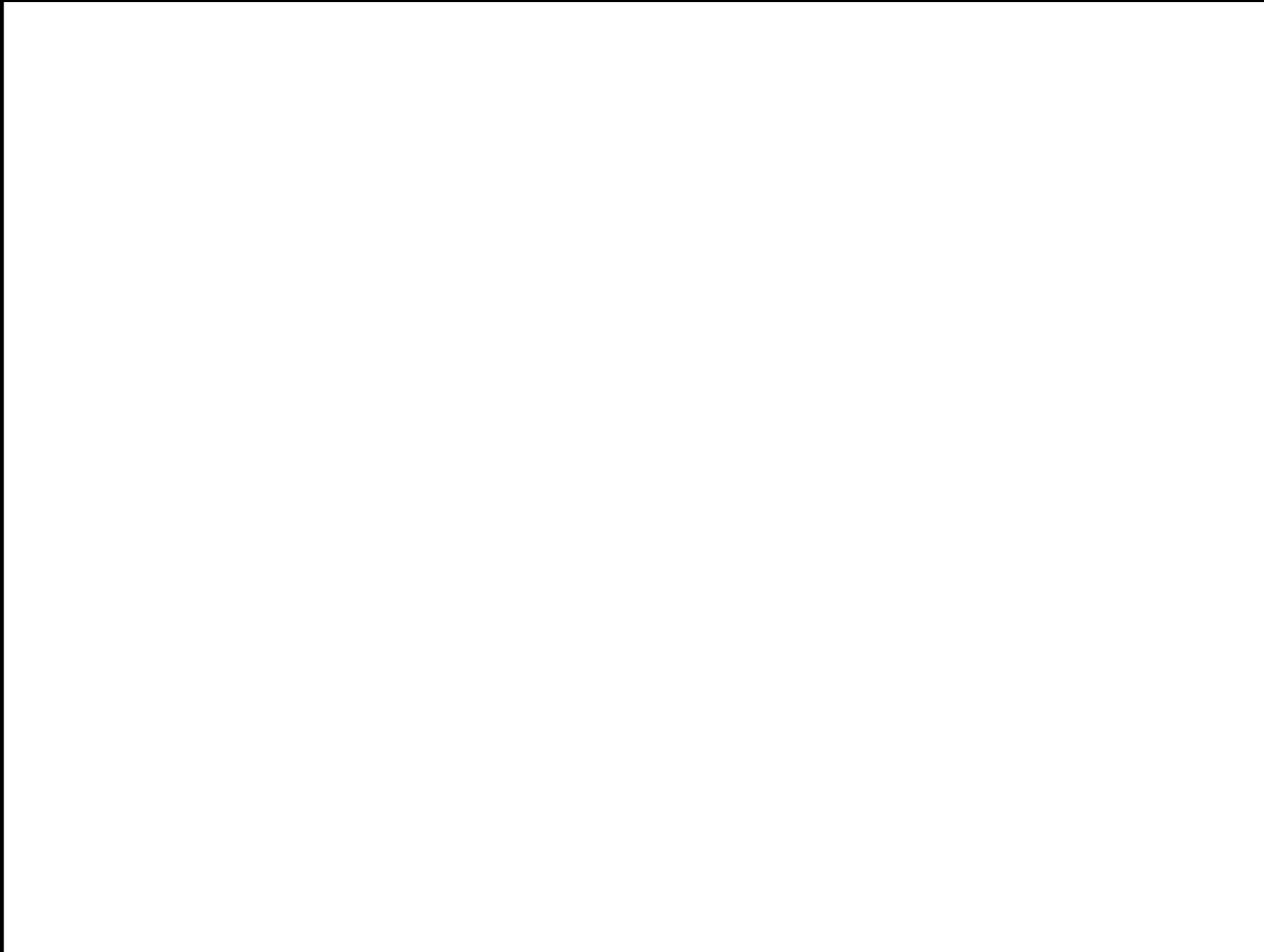
Art & Drama

The iPad has opened the door to a new media in the art world – digital finger drawing / painting. This is not a substitute for any existing media but simply a new avenue with which to explore the realms of creativity.



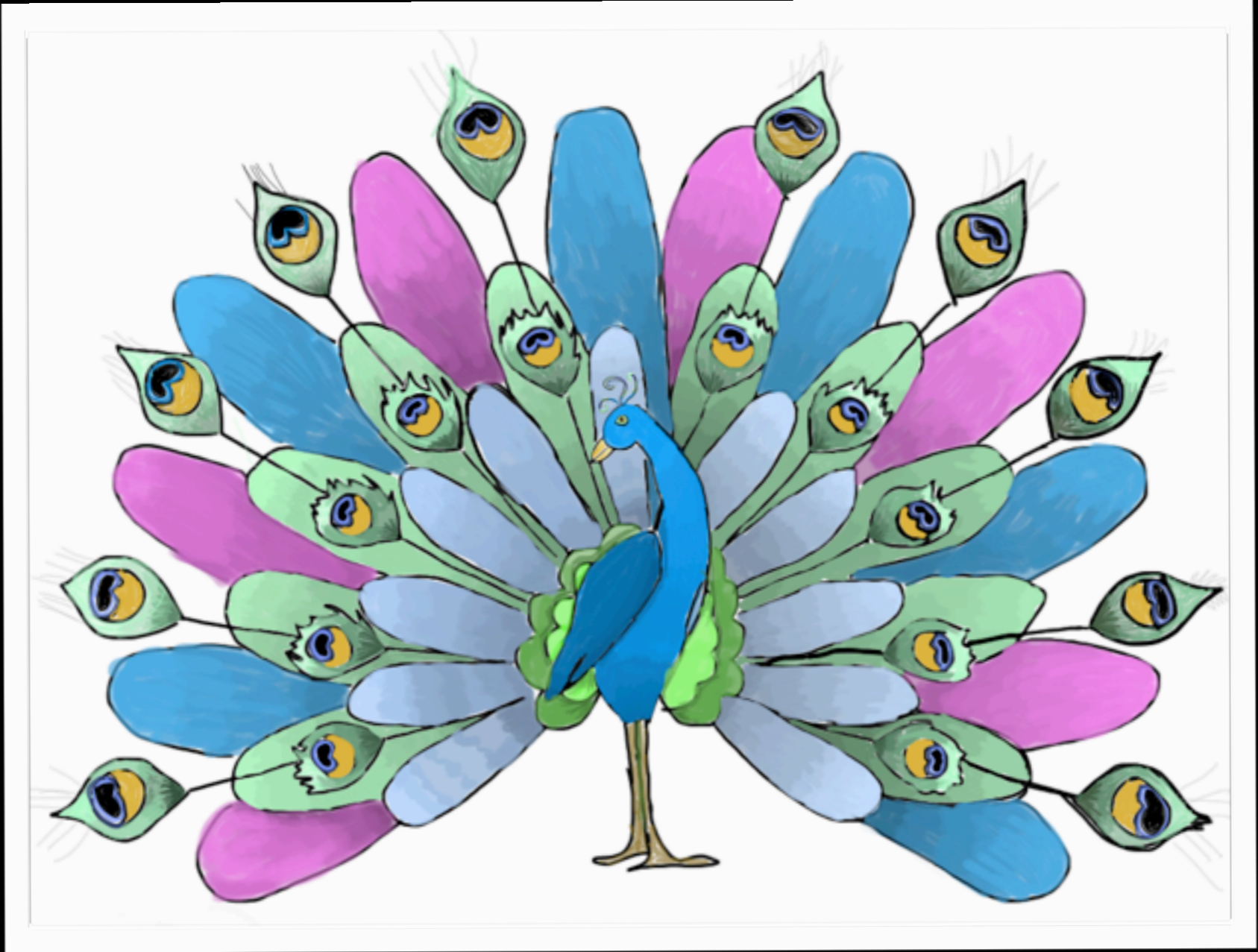
It requires the same artistic skill to master this medium as that of, for example, paint or pastel or clay.







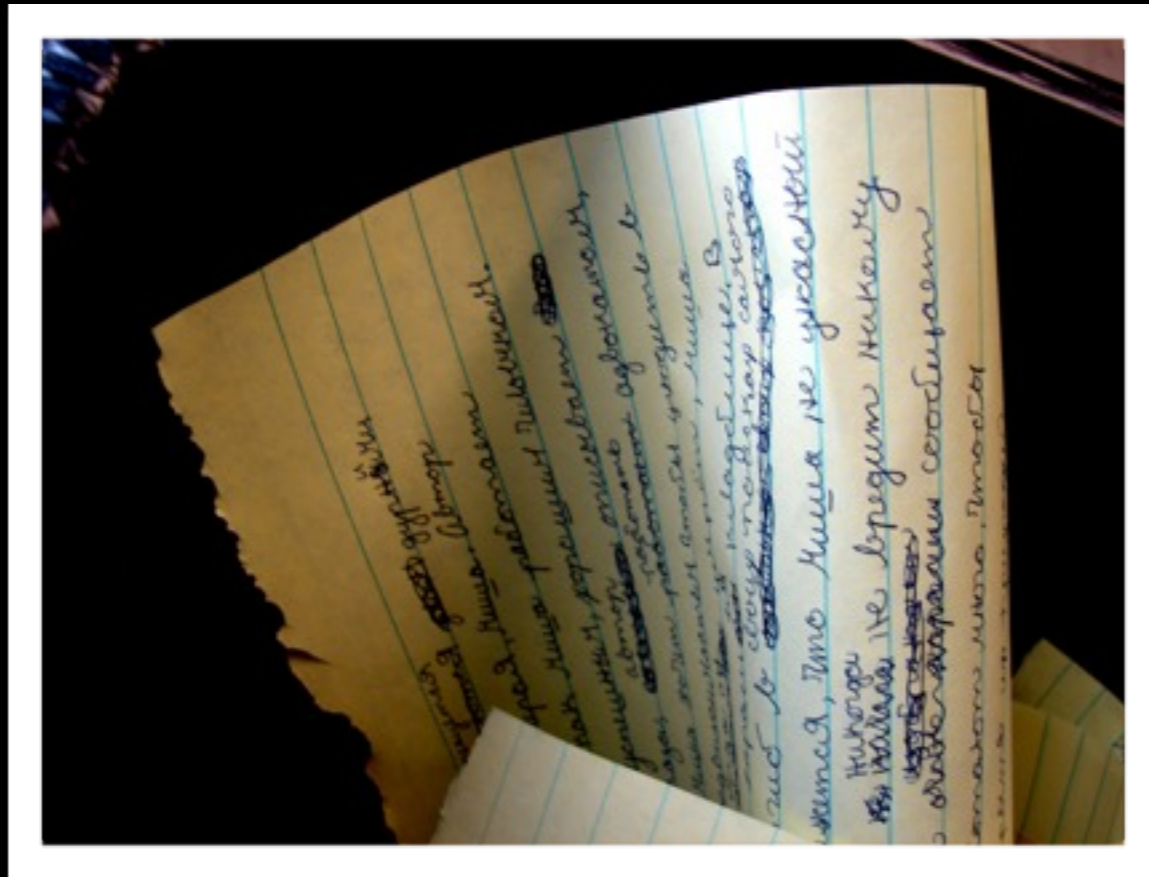






Primary 6-7: The Water Cycle

The 1990 Way



“Read this book then write an essay on how the Water Cycle affects Greenock.”

Photo by quinn.anya - <http://flic.kr/p/4AuyoT>

The 2000 Way



“Read this book then write an essay on how the Water Cycle affects Greenock.

Type it up then bring me the print-out.”

The 2010 Way

How the Water Cycle Affects Greenock



The River Clyde



The iPad Band



Out of School



4 pieces of info about each!







**“Sir Roger”
Asian elephant
Oldest exhibit in the museum**

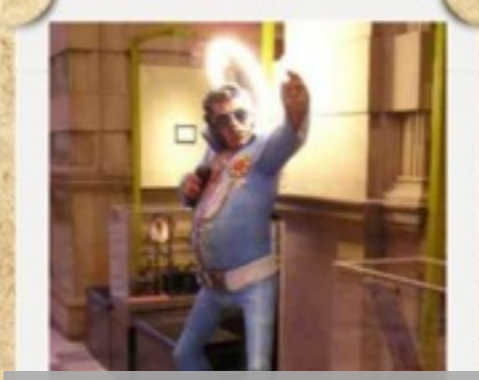


Horse skeleton

4 pieces of info about each!



**Samurai armour
Japan
1860**



**Elvis Presley
Musician and singer
Born: 1935
Died: 1977**



**Marble statue
“Motherless”
by George Lawson**

Take-home Program

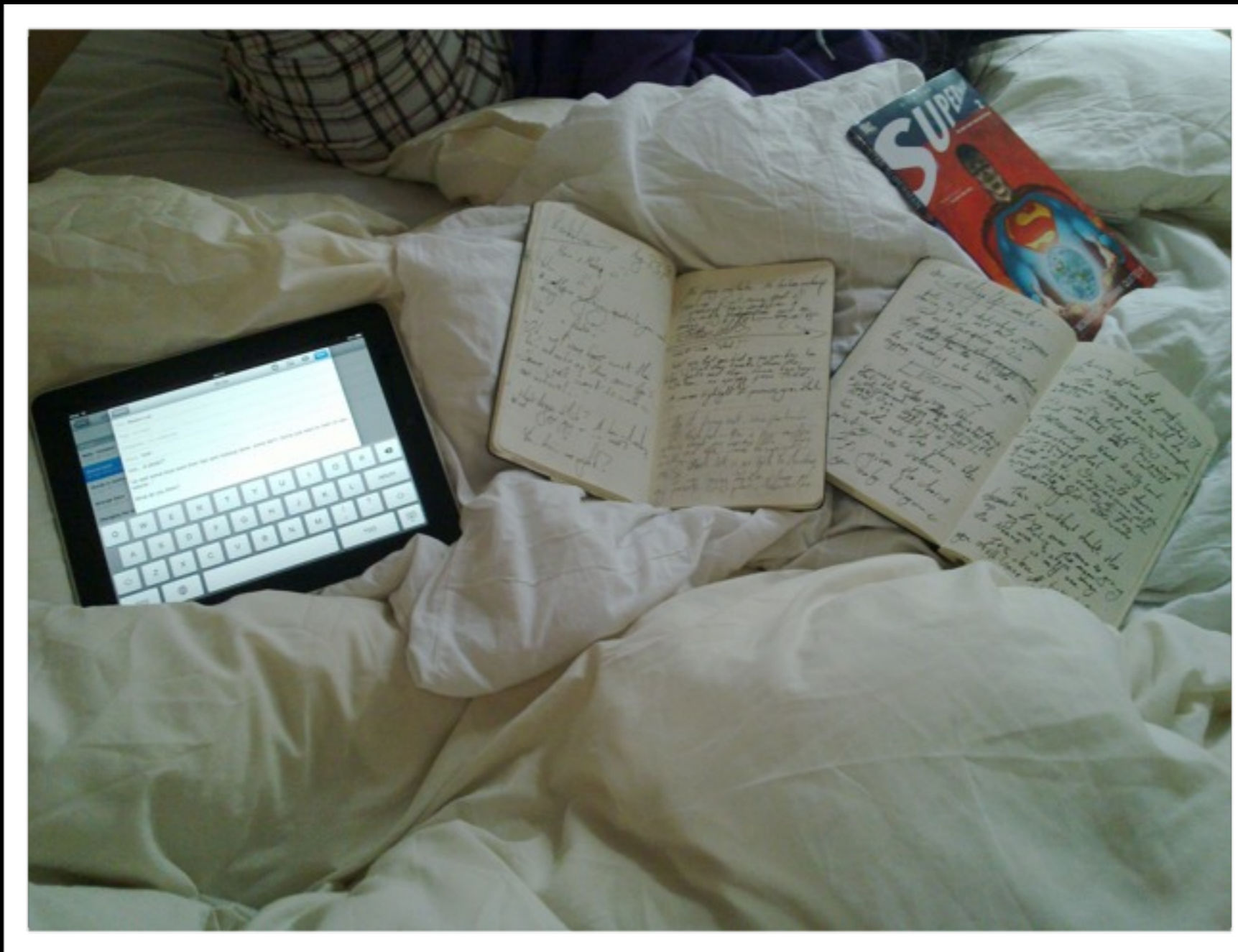


Photo by whatleydude - <http://flic.kr/p/7Xzbt2>

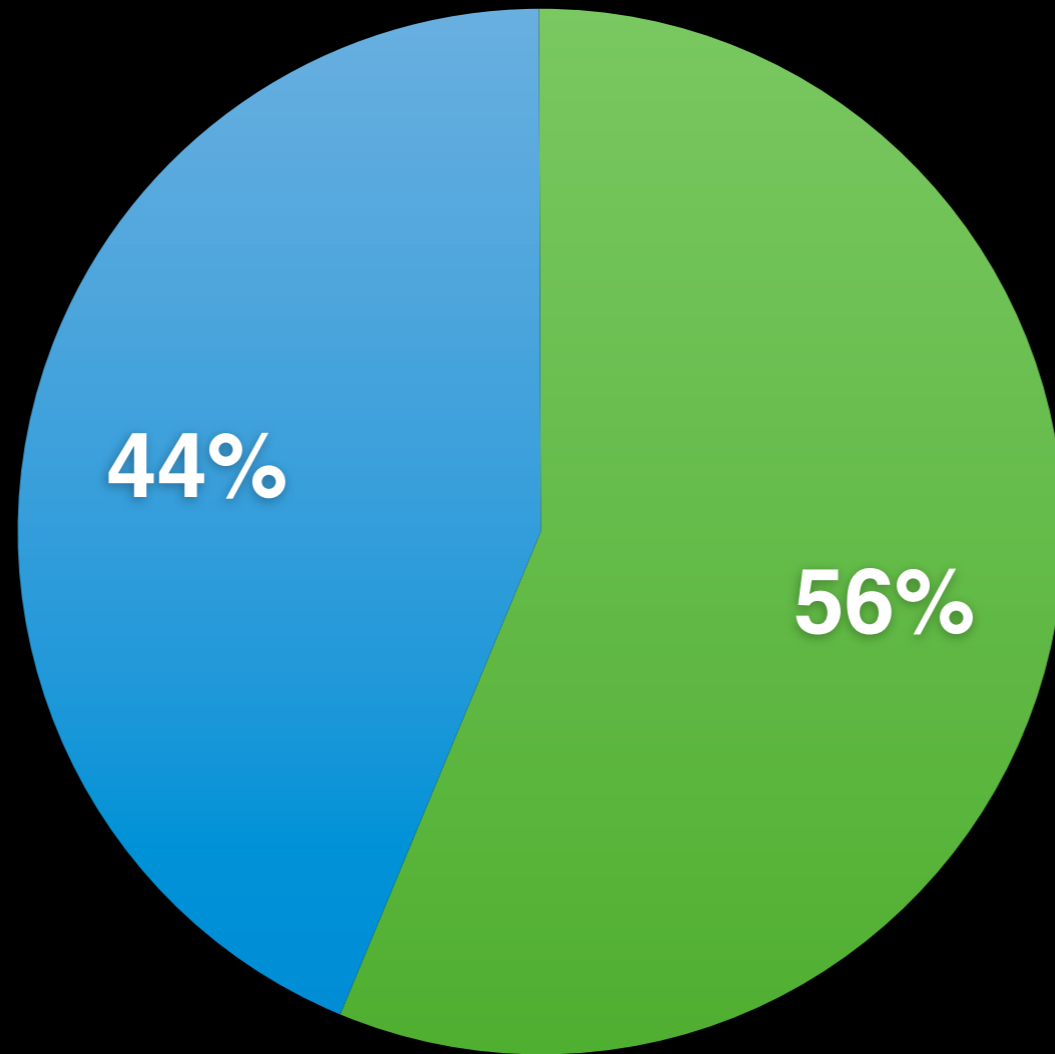
Take-home Agreement



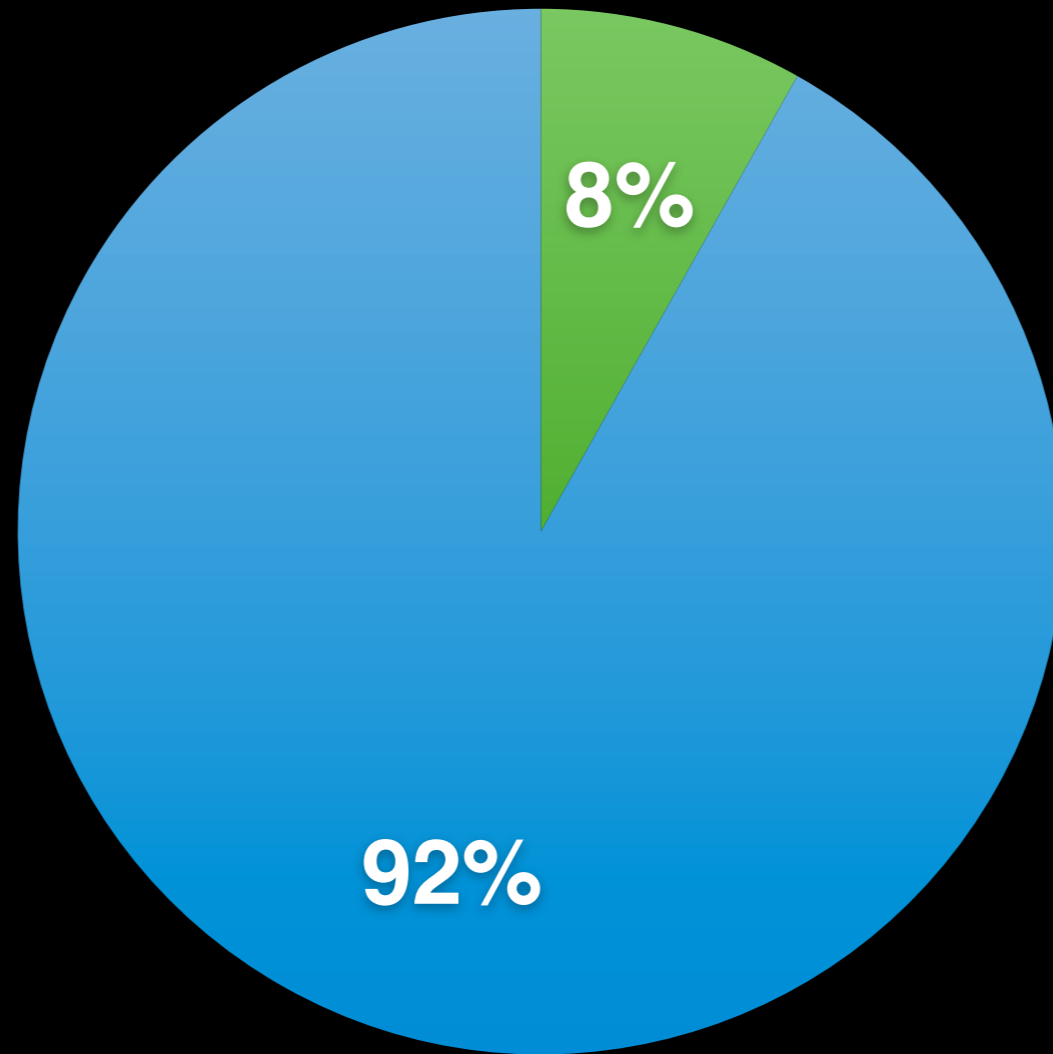
Acceptable Use Policy

Home-use agreement

Photo by PolandMFA - <http://flic.kr/p/7HhNyr>



● Not Eligible ● Eligible



- Agreement
- No Agreement

Apps



iThoughts HD



CourseNotes



Moodboard Pro



Keynote



Math Bingo



ABC PocketPhonics



Google Earth



iBooks

What about your app?



Think about mass deployment



Think about different age ranges
Support with room for creativity



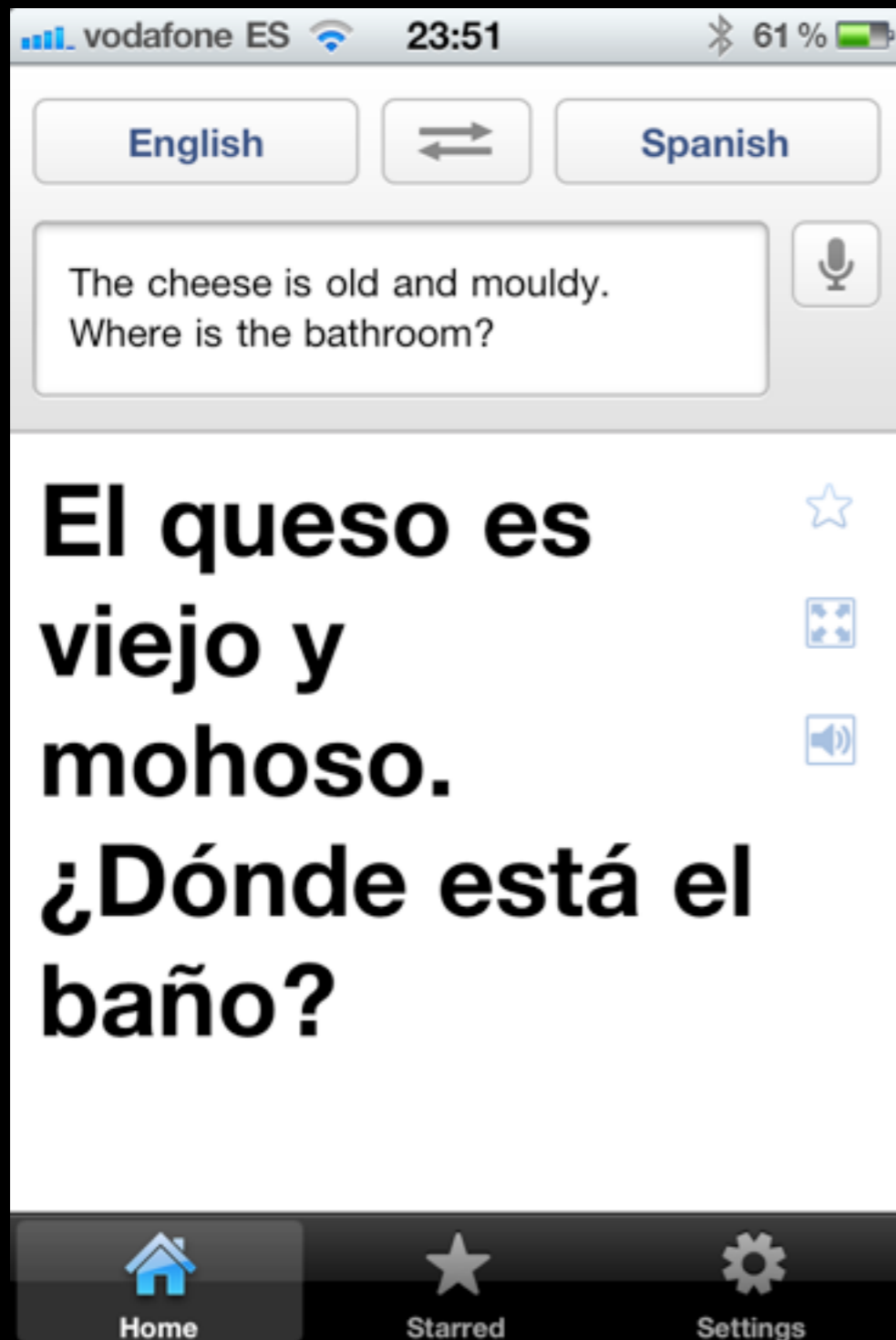
**Consider Freemium
Pcalc and Pcalc Lite**

The Future

The Future of ICT Teaching

Skills  **Skills in-context**

Skills of the past?



Handwriting?

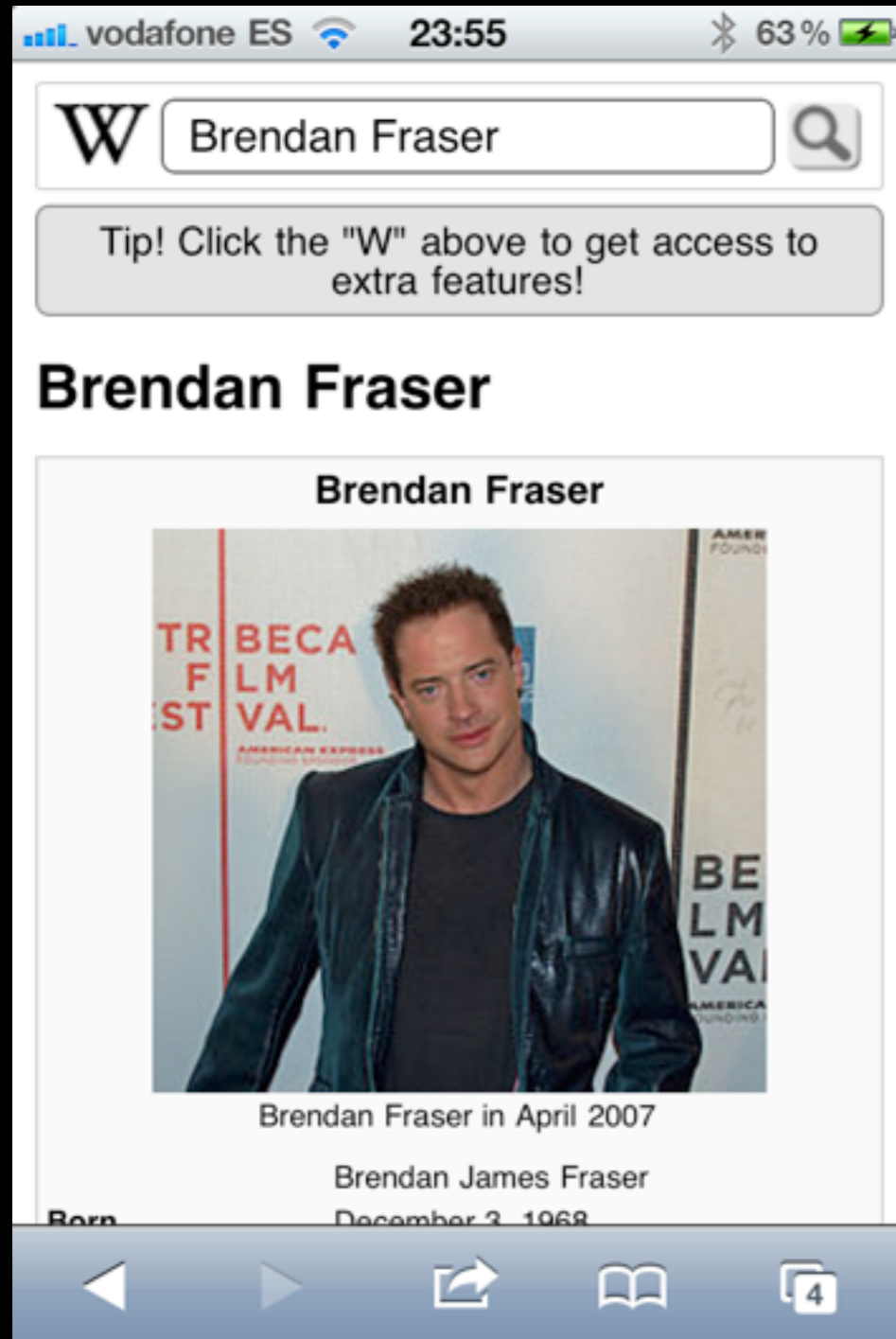
Memorising?

Calculating by hand?

Touch-typing?

Foreign languages?

Skills of the future



**Collaborating and
Synthesising**

Integrating knowledge

Curation and filtering

**Combining disciplinary
learning with
interdisciplinary
teamwork**

There is a serious problem with the way we are educating our young people about Computing.

The majority of students leave school actively disliking what they mistakenly believe to be Computing.

BCS response to Royal Society Study into Computing in Schools

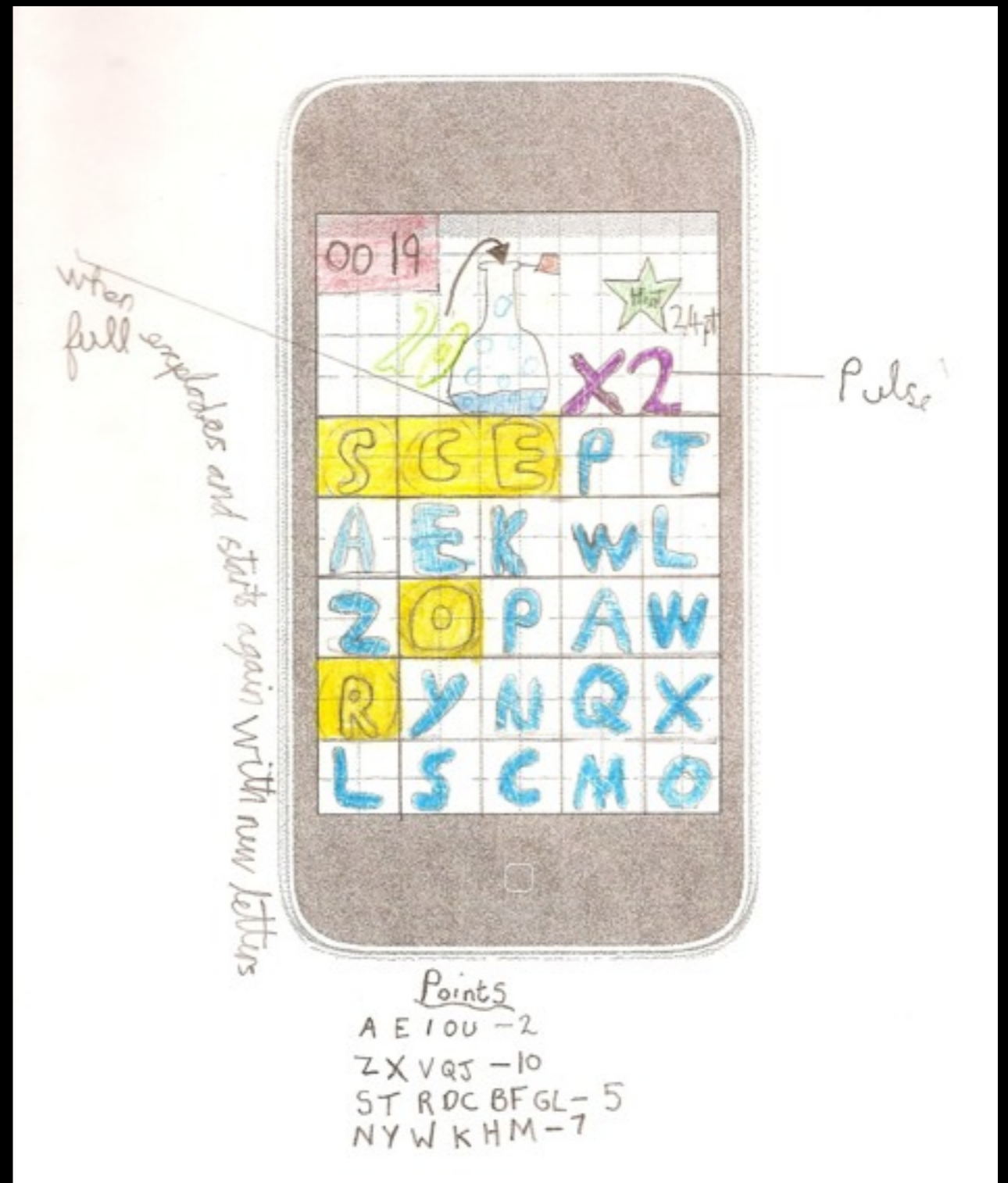
**As a result applications to UK University
Computer Science courses have
collapsed by 60% since 2000, yet the
demand for software professionals
across the EU has grown by 33% in the
same period**

BCS response to Royal Society Study into Computing in Schools

Q: Is programming a fundamental form of literacy for the modern age?

A: Programming empowers students to create new things through the powerful medium of computation, rather than simply to consume things made by others.

BCS response to Royal Society Study into Computing in Schools

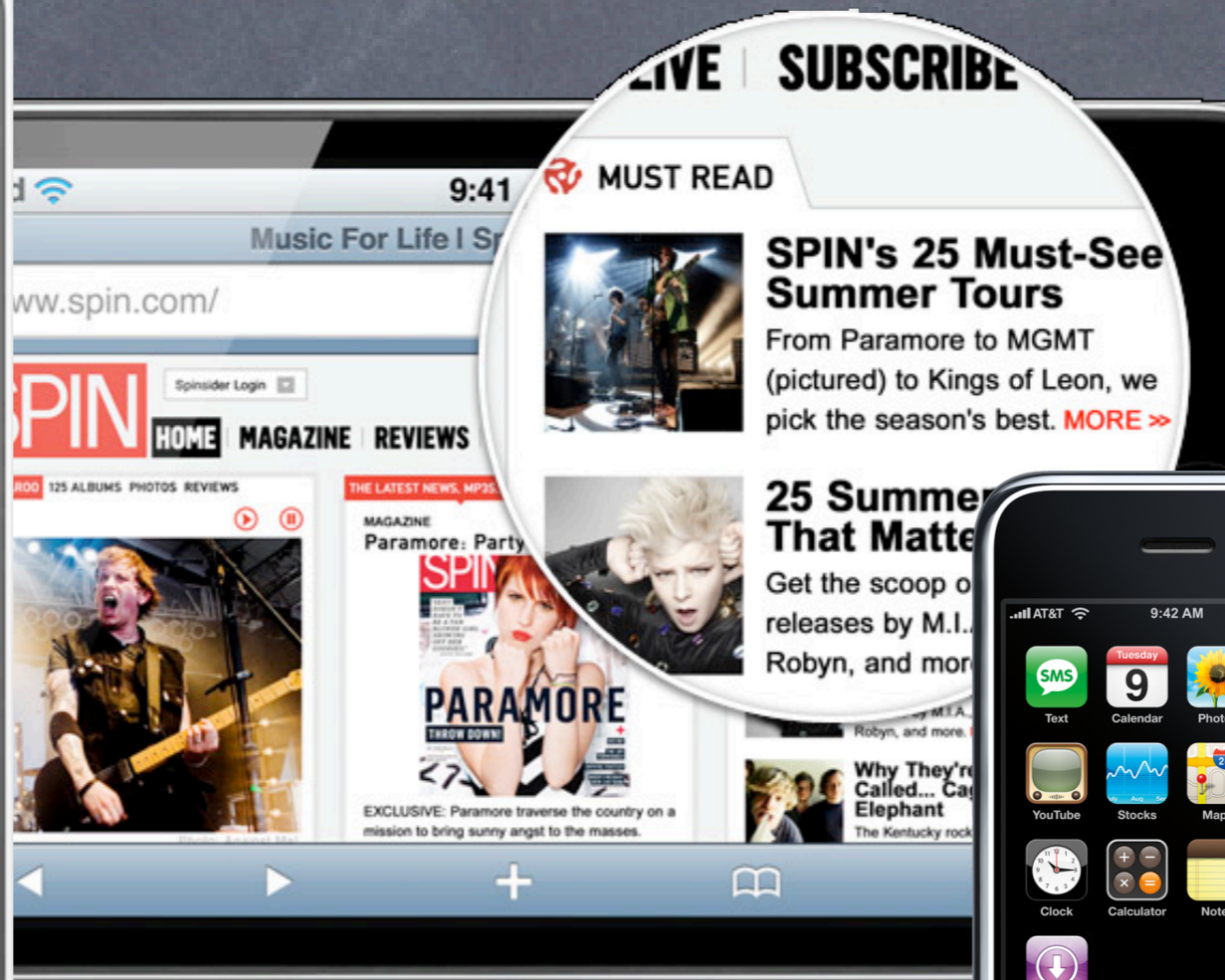


Jumbler

Louis Harwood

Stanford CS193p

Developing Applications for iOS
Fall 2010



The Time is Ripe



Split IT skills from CS

**Push skills *much* further
down the school**

**Introduce relevant and
motivating programming
tasks**

Q & A



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