Games for Teaching? Teaching for Games?

Tech Tools for Teaching Seminar, DCU

9 Dec, 2014

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Overview

- Games today
- The affordances of today's games for teaching and learning
- Games + Learning: bad and good examples
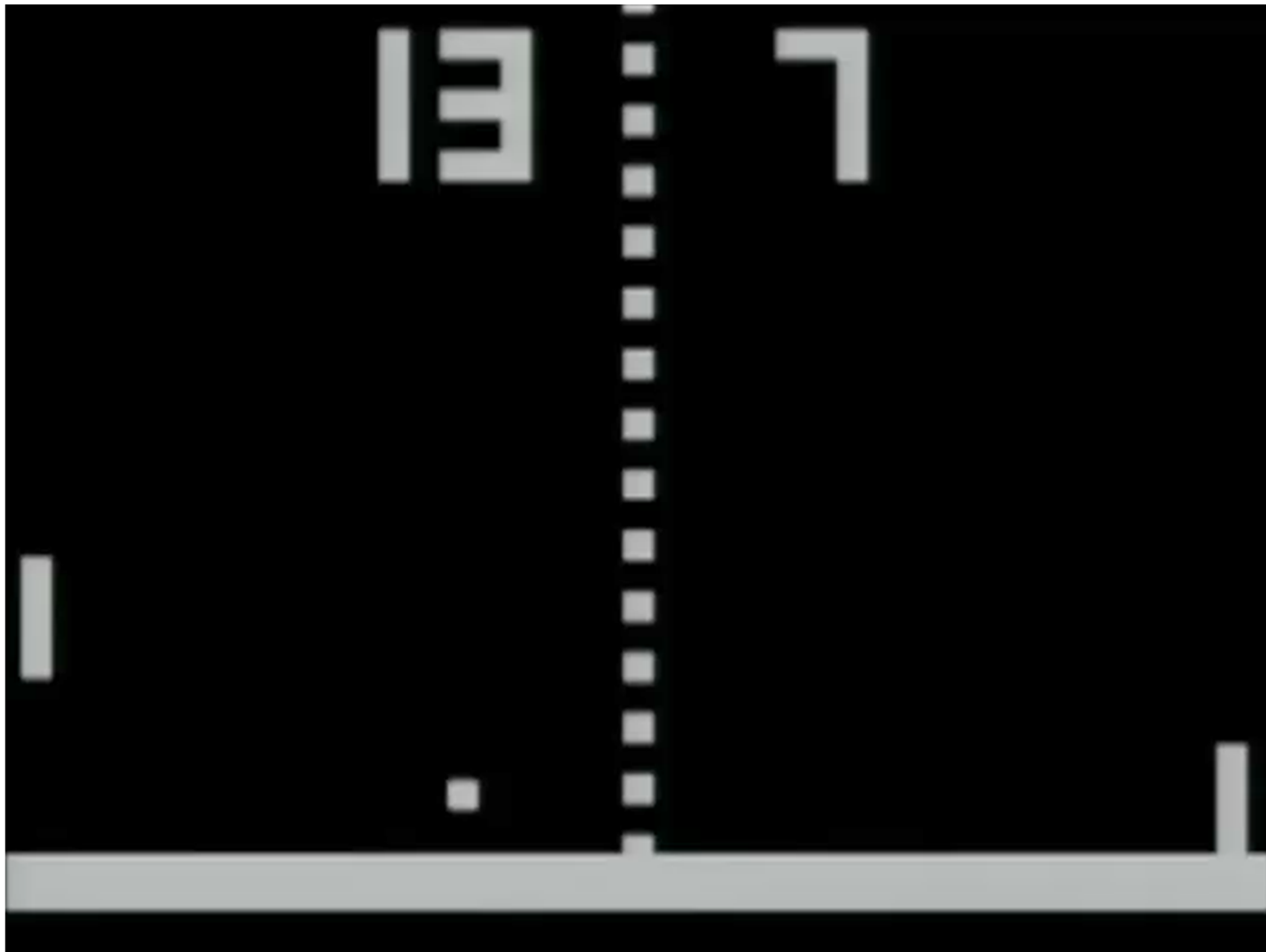- Serious games as a business and an instructional design challenge…

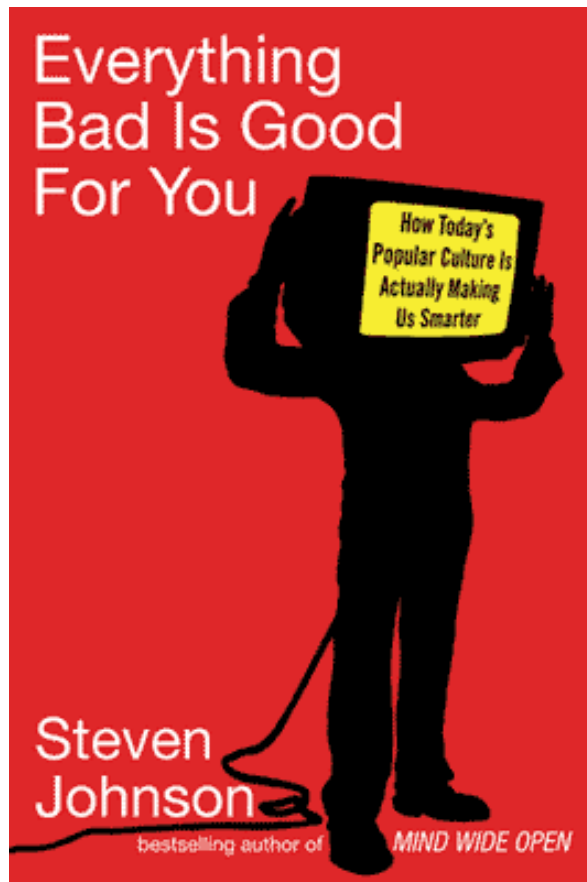# Games I Grew Up Playing...
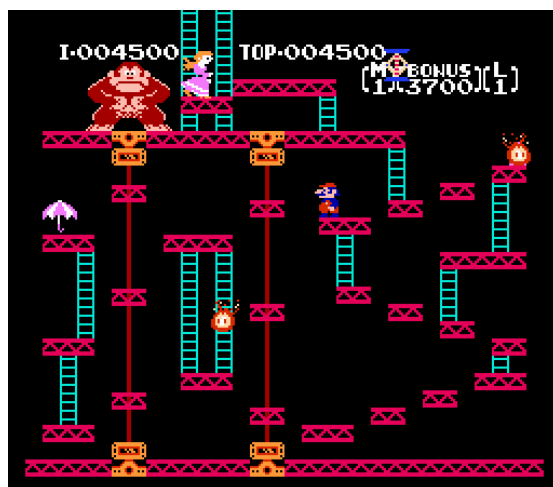
What I Played Them On...

# How Games Have Changed...

David Perry, 2006

So Today's Games Are Complex (in a good way)

- The "clearest measure of the cognitive challenges posed by modern games" (Johnson 2006) = the "sheer size of the cottage industry devoted to publishing game guides"
    - Forums, discussion lists etc
- Older games typically offer only one kind of learning challenge, today's games "a sophisticated mixture of difficult challenges that typically intertwine and support each other" (Prensky, 2005)

- Researchers are looking now more to games like StarCraft than Chess to study the cognitive processes (SFU Cognitive Science Lab, 2011).

Today's Games Are Adaptive Too

- An excess of complexity could overwhelm but today's games are *adaptive*
  - they can adapt or manipulate difficulty levels in response to player choice, progress, performance etc.
- Adaptivity something of a "holy grail" in CAL/e-learning circles
- This kind of choice and adaptivity links to the kind of balance Csíkszentmihályi has in mind with his "flow state"
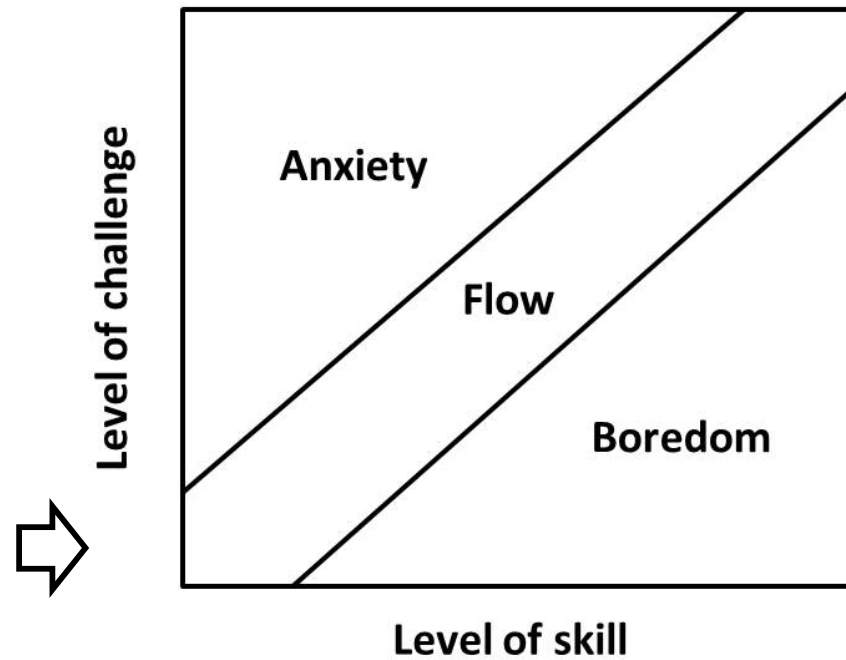
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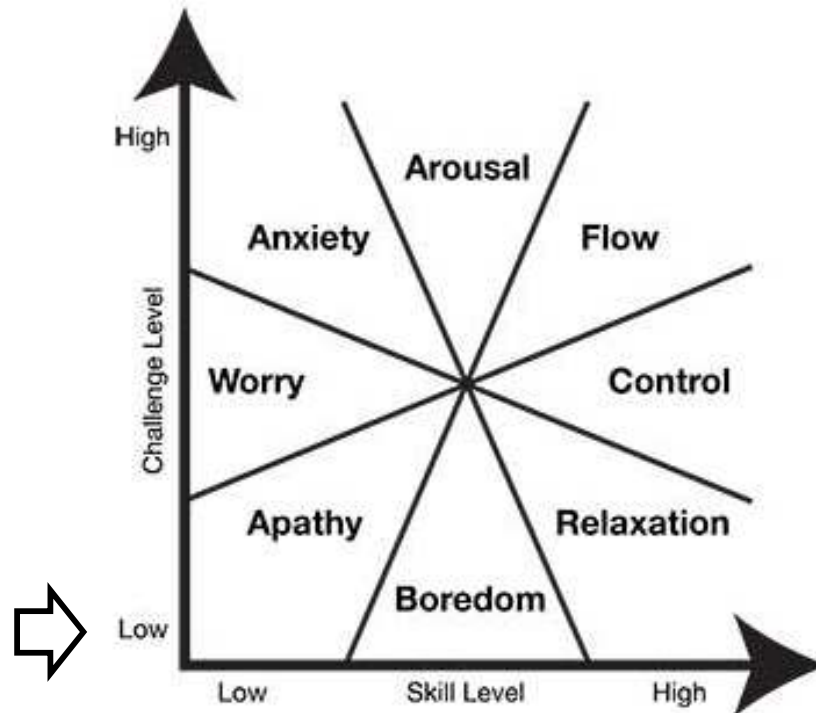
And Games Give Us Feelings...

Phil Toledano

Robbie Cooper

And Feelings Are Good...

- From a cognitivist perspective feeling drive attention, which in turn drives learning and memory.

- From a neurological perspective emotions seem, in essence, to "amplify learning" (LeDoux, 2000), i.e. if what we "see" fails to elicit an emotional response, it will have have little chance of being selected for preservation.

- In my own PhD research into learning transfer and games "felt experience" emerged as key to uncovering experience and learning from our past to help us navigate learning challenges in our present (www.preparedness.eu)
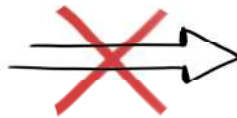
And We Have Our Feelings Together

*"Most people think video games are all about
a child staring at a TV with a joystick in his hands.
I don't. They should belong to the entire family."*
- Shigeru Miyamoto

...Sometimes On a Very Large (And Very Epic) Scale...

And Social is Good

- Social learning theorists, social constructivists, situated cognitivists, connectivists agree that, in a profound way, learning is social
  - this is where and how it is made; this is, in a sense, what it is made of
- *"Gamers are virtuosos at weaving a tight social fabric...we like people better after we play a game with them, even if they've beaten us badly...it takes a lot of trust to play a game with someone"* (McGonigal, 2010)

Games are Popular...More Than is Realised

- More ways to play than ever before
  - Full size consoles; handheld consoles; mobile games; desktop games; web-based/casual games; social network games; mixed reality games etc
- More people playing than ever before
  - % of people who play computer and/or video games (Survey Age: 6-64) : 41% UK, 40% Spain, 60% France, 50% Germany (Game Track Digest, Q2 2014)
  - 59% of Americans play computer and/or video (Entertainment Software Association)
- More different kinds of people playing than ever before
  - Family gamers, grey gamers, casual gamers

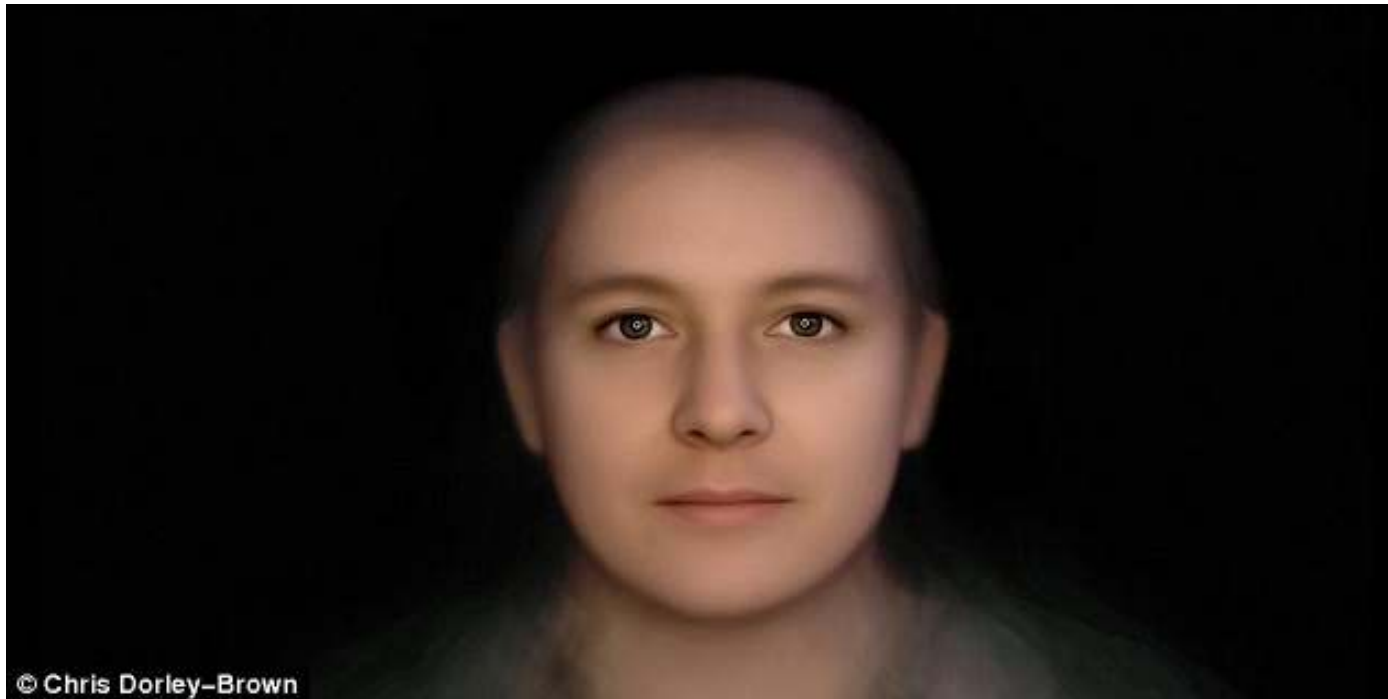# Everybody's Playing…

...Everybody
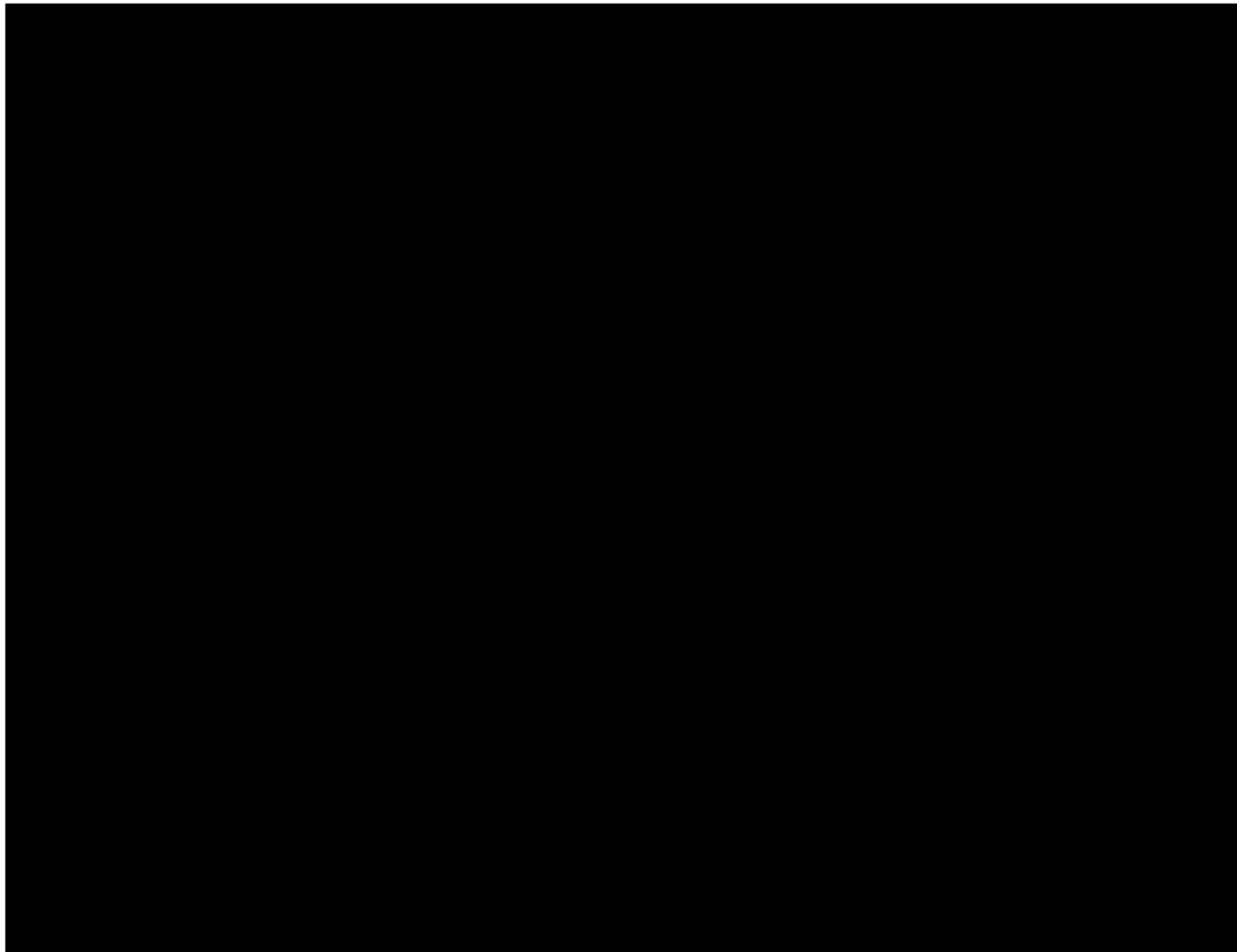
Mr T Talks WoW

This Is No Longer Your Typical Gamer...

Actually though this might be....

© Chris Dorley-Brown

The face of the UK average gamer, "Joe".

Combines 2,000 faces of real gamers with data from a 2014 UK survey of over 1,000 gamers (nearly 1/5 of gamers are women, 1/3 over 35, and 54% in relationships).

So Yey for Game + Learning?

- This is not the first time we've become interested in using games for learning, before we had "serious games" we had...eductainment.

- "...edutainment tends to focus on simple game structure, which provides a limited learning experience ....because edutainment feed the player information, rather than encouraging curiosity and exploration. Edutainment has, from the very start, primarily been driven by business interests..."
(Egenfeldt Nielsen, 2008, p. 212-213).

- The formula has varied little since the heyday of edutainment:
  - Little intrinsic motivation
  - Drill and practice learning (v.s. understanding/deep learning)
  - Very Simple Gameplay (Gen X type games)
  - Separation of gameplay from learning content/objectives

EVERYONE

E Edutainment

ESRB CONTENT RATING www.esrb.org

Yey?
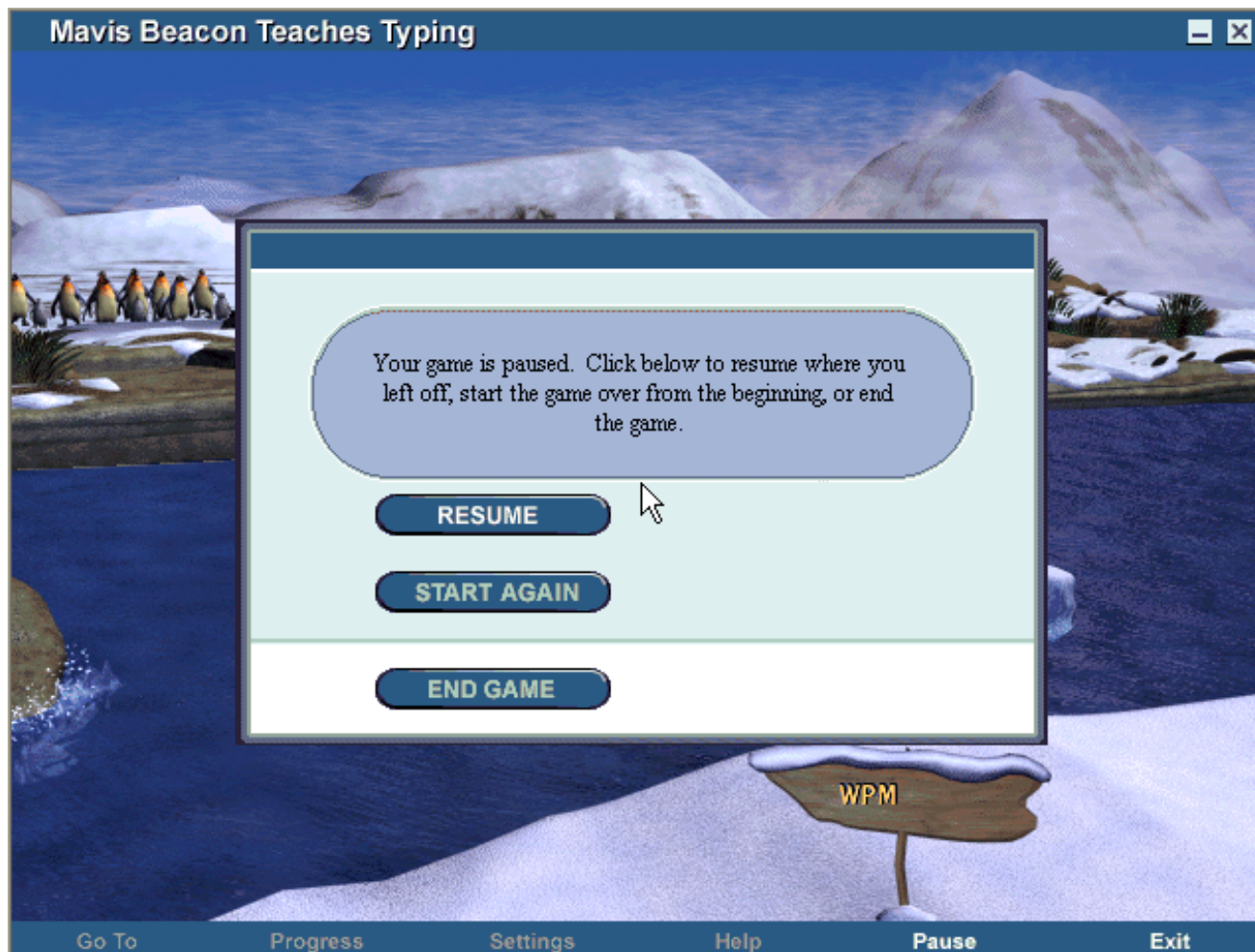
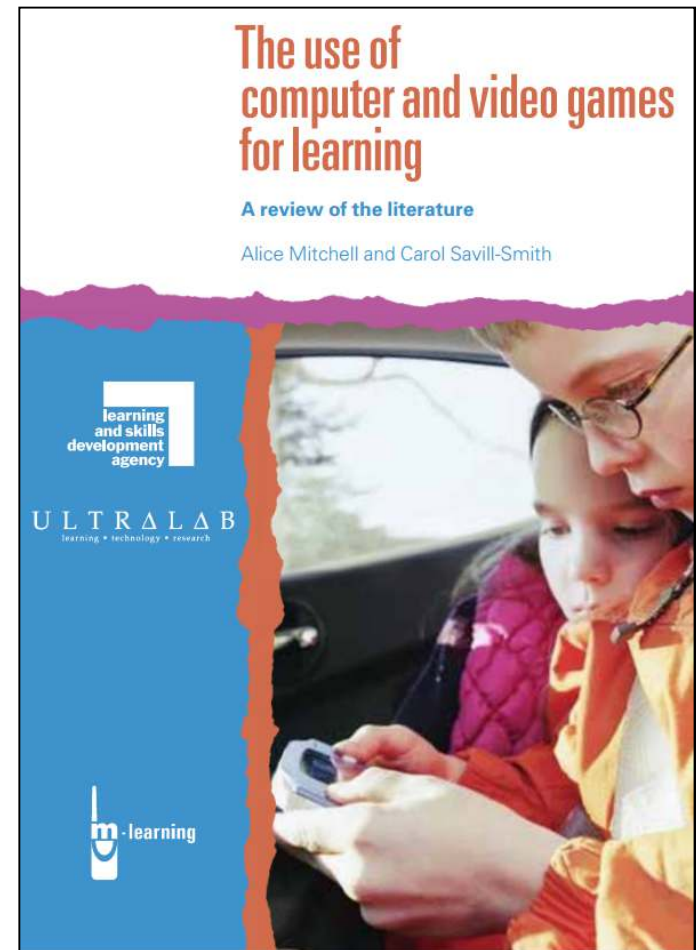*Mavis Beacon Teaches Typing*

Yey?

NetAid and CISCO

Serious Games V Edutainment

- If…"edutainment" = boring profit-driven behaviourist drill and practice Gen X style games then…"serious games" = ?
- "Games that do not have entertainment, enjoyment or fun as their primary purpose" (Michael & Chen, 2005)
- An Oxymoron?
    - Can games be serious and remain games?
- A false distinction?
    - *"I really think our brain is wired to consume entertainment and enjoy entertainment, precisely because of the fact that it's inherently educational. And we've made this artificial distinction between the two, we've almost kind of put a chasm there that didn't exist"*
    - Will Wright

Serious Games V Edutainment

- A challenge to set ourselves?
  - *"Educational games are preferred to standard classroom instruction, but – and this is a big but – students would never voluntarily play such a game outside of class"* (LSDA, 2004)

- A new economic model?
  - *"While the ancestors of "Serious Games" were based on the same economic model as entertainment video games...they are now funded by 'clients', who hire a developments studio to create a video game tailored to their needs...the game's success is no longer tied to its retail performance..."* (Djaouti et al, 2011)

The use of computer and video games for learning

A review of the literature

Alice Mitchell and Carol Savill-Smith

learning and skills development agency

ULTRALAB
learning • technology • research

m-learning

Some Serious Games #1



America's Army: Proving Grounds (2013)
The fourth game in The *America's Army* series, a succession of tactical multiplayer first-person shooter released by American DoD – the world's first and still (?) most successful serious game series

Some Serious Games #2

- But honestly it's not all about the guns and explosions...

  - *Global Conflicts: Palestine:* The game attempts to challenge the player's beliefs and ideas about the conflict.

  - *Sparx :* Fantasy game offering CBT for young players with mild to moderate depression

  - *That Dragon Cancer:* Autobiographical story-game developed by Ryan Green about his infant son who suffered from terminal cancer

  - *Ludwig:* Cute 3D point and click adventure about physics

  - *Electrocity*: Browser game that lets players manage their own virtual towns and cities and in so doing learn about sustainability and environmental management

  - *Pora Ora*: a 3D MMORPG with problem solving quests and immersive literacy, math tasks linked to the UK National Curriculum(developed by Caped Koola)
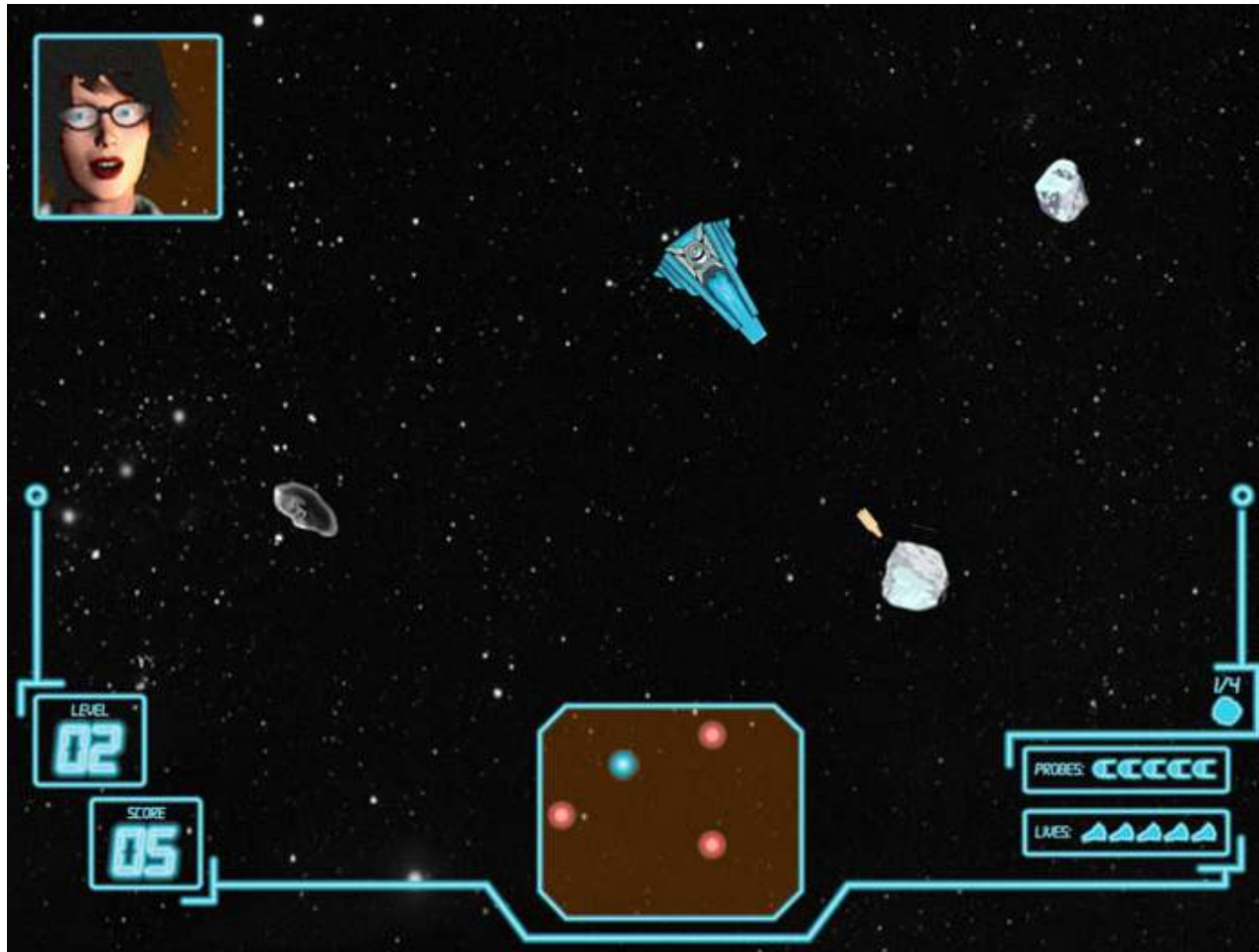
Some Stuff We Did #1
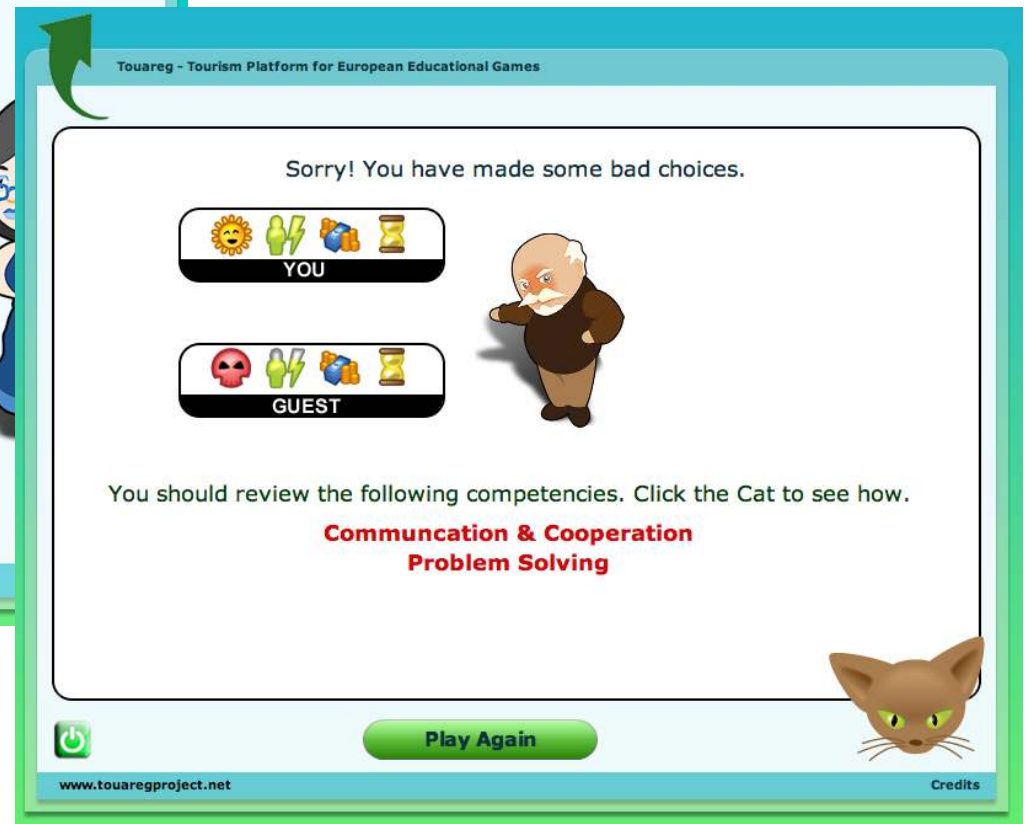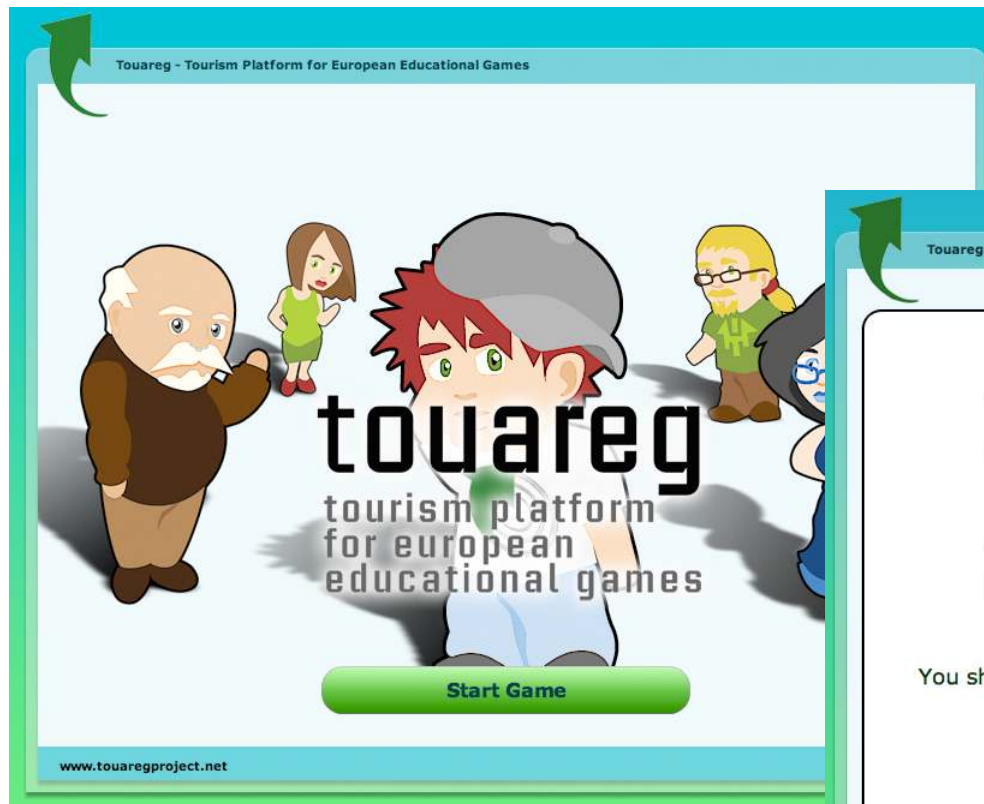
A Dialogue-based Educational Game for Tourist Industry Workers
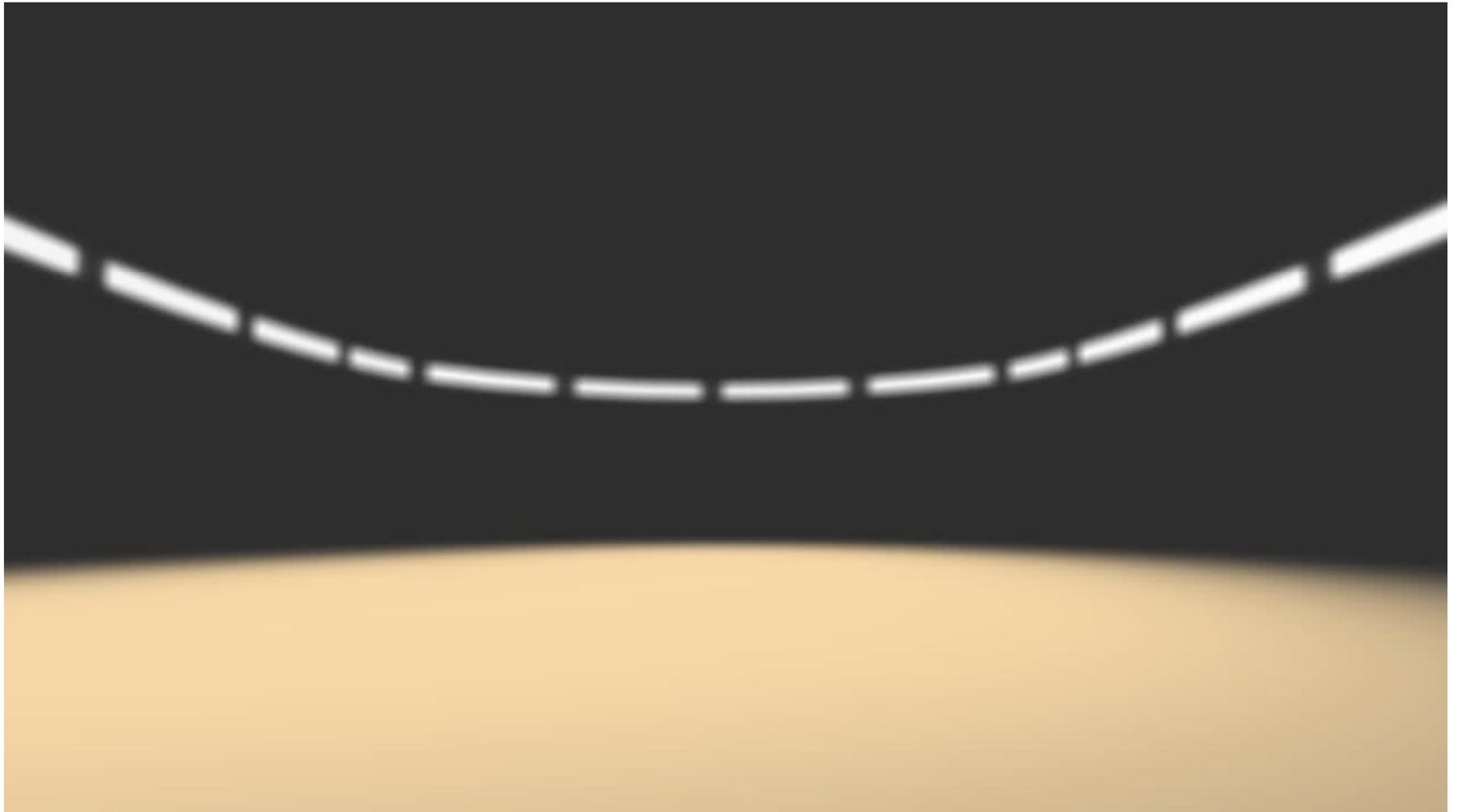
Some Stuff We Did #2

A design comic for a project using QR codes for a mixed reality learning game in CIT
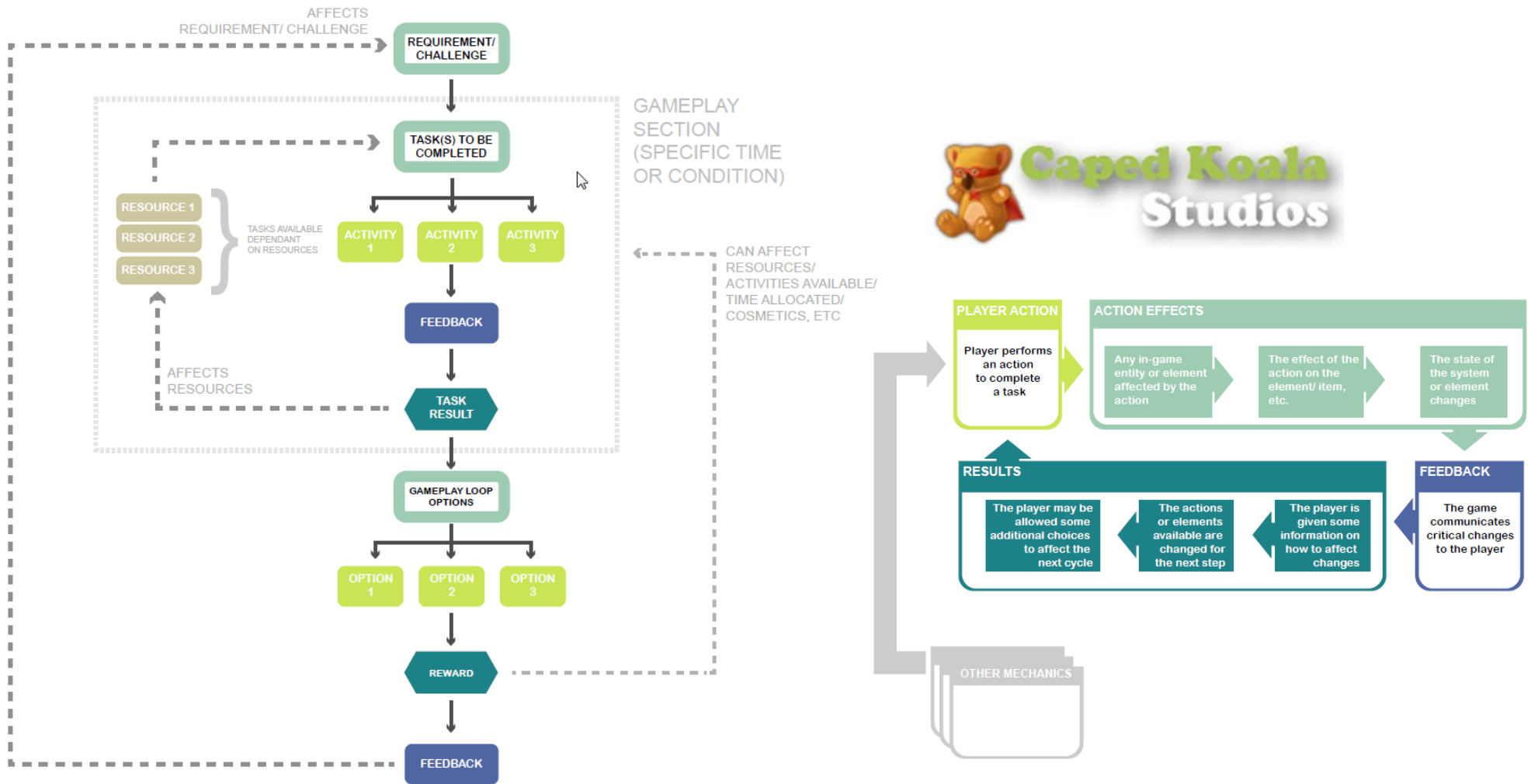
Some Stuff We Did #3

Asteroid Chaser game developed for Blackrock Castle in Cork

Some Stuff We Did #4

The *Serious Sport* Game For Strength and Conditioning Coaches (an EU-funded Project)
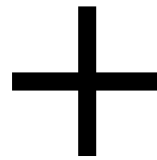
Some Stuff We're Doing...

Green Games: a project/gams about waste and energy management in the Hospitality Sector (another EU-funded Project)

Some Stuff We're Doing…

It's actually going to be something like this…

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Some Issues and Reflections...

- *"Serious games is often a misunderstood corner of an often misunderstood medium"*
  – Jesse Schell

- Convincing people is hard
  - The hype doesn't help, nor does all the edutainment and other bad stuff out there.
  - And it's hard to find the good stuff.
  - Lots of groups set up against it
    - Inc the Digital Game and E-learning industries
  - Games still get a lot of bad press.

- It's hard to do well
  - Consider what the recreational computer and video game industry tries to do (and how often it gets it wrong).
  - Integrating the game with the learning
    - Hitting the good stuff...felt experience, curiosity, fun, identity etc.

LOADING... PLEASE WAIT

Wanna Find Out More/Get Involved?

  > http://www.engagelearning.eu/

  > http://serious-sports.org/

  > http://www.cordiaconsulting.eu/en/projects-and-referencies/segan/

...or just email me >
gearoid.osuilleabhain@cit.ie