What can gamification add to cultural heritage?
Summary: Towards a new immersive Cultural Heritage experience

1) **Serious Games Institute: hybrid model bringing together industry and academia.** How we are addressing critical challenges in our research and development work, including trajectories for research work and some key findings and research challenges ([www.seriousgames.org.uk](http://www.seriousgames.org.uk))

2) **Due to globalization challenges and economic downturn we are at a transformative moment in culture and cultural heritage**, e.g. cuts to national and regional budgets. How can we address this? What is the role of ‘gamification’, play and feedback in this new cultural interchange between globalised cultures. What are the impacts upon in social (behavioural) change and awareness raising in cultural heritage?

3) **Case Studies:** Shakespeare Trust Project, Priory Undercroft and Roma Nova

4) **Reflection upon creating cultural heritage experiences?** What role for gamification and games?
Coventry University was voted Entrepreneurial University of the Year in 2011 (THES)

The university has four faculties and three institutes and has over 19,000 students

We are a top 1992 university and have a strong reputation in applied research and business engagement

Coventry University Enterprises Ltd is the commercial arm of the university and has established over 200 SMEs

Coventry university undertook 25% of all industrial consultation undertaken by British universities
1: Serious Games Institute: Part of the Game Science Group: bringing together commercial and research expertise
Serious Games Institute: An International Hub of Excellence in Serious Games Research, Business and Study
The Serious Games Institute – Hybrid model

- **Business:** 4 spin outs, serious games studios, mobile apps lab
- **Applied Research:** 23 projects, 11 EU projects
- **Study:** Masters programme, Doctoral School, CPD, Bespoke training solutions
The Serious Games Institute – Applied Research

Applied research projects (23 projects, 12 EU projects)

IEEE VS-Games conference (2008-2014)

Second Wednesday events (2008-2014)

Consultancy work
The Serious Games Institute – Study

Masters Programme

Doctoral School (industry funded PhDs)

CPD / Advantage+ modules

Internship programme (access to developers and modellers)
## Projects & Games at the Serious Games Institute

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Examples of Games at the Serious Games Institute

meducator
alice
code of everand
roma nova
gala
floodsim
simaula
mirror
vtrade

customer
futurict

modex
edugamelab
maseltov
prepare
Towards a new immersive cultural heritage experience: access, re-use, transformation and reconstruction
Definitions and scope

- What is a cultural heritage experience?
- What is gamification – and how can it support cultural heritage?
- What are the differences in structured and free play?
What is new?

**e-Learning:**
Advances in e-learning uptake internationally: online learning, MOOCs, learning analytics.

**Pervasive game play:**
International Software Federation of Europe (isfe, 2010): 74% of those aged 16-19 considered themselves gamers (n=3000), 60% of those 20-24, 56% 25-29 and 38% 30-44. E.g. 32% of the total uk population consider themselves gamers (n=3000). 31% of females described themselves as gamers and 34% of males.

**Serious game play:**
Value of SG in 2010 was estimated to be $1.5 billion, and is set to increase by average 47% between 2010 and 2015 (i-date market report).

**Open data, metadata and data:**
New extending role of open and big data, allows us to personalize experiences in a dynamic and immediate way.

Trends in Games and Gamification
What is new?

**Efficacy of game-based approaches over traditional learning:** *Triage Trainer* pragmatic controlled trial showed effectiveness of games over traditional learning in two of the three measures (Knight et al., 2010). *Prepare* cluster randomised control trial showed (Arnab et al., forthcoming). *Code of Everand* evaluation study showed game played for 30 minutes on average and high engagement of players.

**Importance of play:** Link between less free play and higher anxiety in children (Chudacott)

**Social interaction:** collective awareness platforms, social software uptake and emphasis upon peer learning, use of mobile devices, augmented reality
Due to reducing national budgets, digitization and raising expectations of visitors, we can use new technologies to improve the visitor’s experience:

a) **Visualization and modelling** to aid with reconstruction of old ruins and remains to enhance the visitor’s experience (Priory Undercrofts project).

b) **Digitization of records** to enliven and deepen the experience (BT archives project)

c) **Re-Use and Open Access** of digital records to reach wider audiences and those unable to visit in person (mEducator project)

d) **Reconstruction used for scientific research purposes**: to learn how buildings were used in different periods (Priory Undercrofts project)

e) **Transformation of content** and materials through reuse and co-creation
3: Case studies

Shakespeare Trust

Priory Undercrofts

Roma Nova
Mapping our systems more closely against human behaviour

- a: neuro-psychology approaches to learning with games
- b: visualization and modelling
- c: multimodal interfaces
- d: artificial intelligence and life
- e: semantic web, standards and metadata

models and frameworks
2006-2013
Shakespeare Trust project: Enlivening the Visitor’s Experience
Roma Nova: A Cross-Curriculum Learning Experience
So, why are games and gamification approaches so powerful?

**Scalability of game environments:** extending reach to large global communities

**Greater scope for creating immersive experiences:** providing new tools for flow, feedback, visual and actual realism leading to higher levels of immersion

**Improved user engagement and adaptivity to user requirements:** there is scope for learning more by closer modelling of user behaviour (feedback loop) there is increased motivation and engagement, potential for personalized feedback and more sophisticated learning interaction

**Strong scientific evidence of behavioural change:** ability to feel more like you are back there and change behaviour and attitudes as a result

move towards immersive learning experiences and design: with increased motivation, immediate feedback and sophisticated user models
So, what can gamification add to cultural heritage?

Gamification and games-based approaches can:

Create an **immersive experience** to enhance the visitor’s experience

**Connect up education and culture** through missions and quests

**Open up access and transformation** to more cultural collections and content

Create **new opportunities for scientific research**...
Book now for upcoming events:

New season of Second Wednesday events starts in September 2013...

Join us at:
IEEE VS Games conference: Bournemouth, UK

11th-13th September 2013
selected references

JOURNAL ARTICLES & CONFERENCE PAPERS:


BOOKS (2010-2013):


BOOK SERIES:

Contact: s.defreitas@coventry.ac.uk
Facebook: The Serious Games Institute
Follow us on twitter: @saradefreitas; @SGIcoventry
Web: www.seriousgames.org.uk