



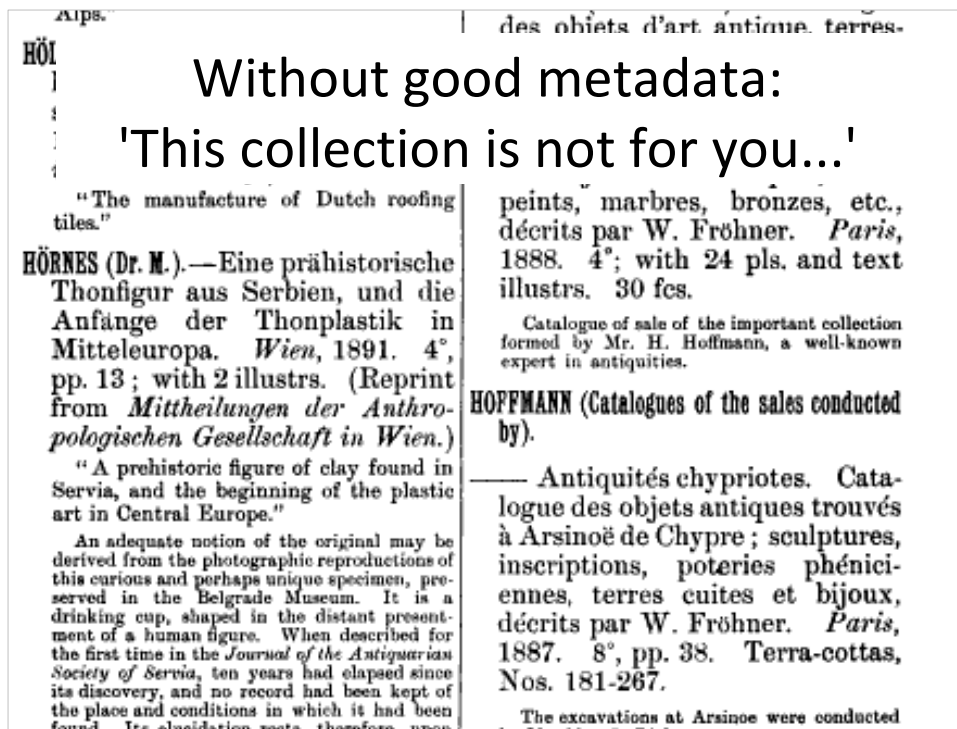
Notes for Inspirationsseminarium, Digital kommunikation & kulturarv, Stockhom, May 11, 2011

I'm going to share lessons learnt from a project I ran to design, build and evaluate museum metadata games. These metadata games were designed to improve museum collections by crowdsourcing better data about objects. Specifically, the project set out to explore whether metadata games could be applied to 'difficult' objects as well as art history collections. The project also included a preliminary investigation of games that ask players to create content beyond simple tags.

If I lose you in the some of the detail of best practice for crowdsourcing games, the two most important things to learn are:

- crowdsourcing games can help digitise your collections and them more accessible while people have fun
- designing for and with a defined audience is a key part of your commitment to making better games.

Mia Ridge @mia_out Games: <http://museumgam.es/> Blog: <http://openobjects.blogspot.com>



So why is better metadata needed? Many collections websites lack the types of metadata that would aid discoverability, or they fail to offer enough information and context to engage casual or non-specialist visitors. The language used often says to the general audience 'this collection is not for you'.

Image source: <http://books.google.com/books?>

[id=rQJXAAAAMAAJ&pg=PA212&lpg=PA212&dq=roman+pottery+catalogue+record&source=bl&ots=vmj95XGhxV&sig=WV9QLKnN_nkXGWEgK7YvjCs851k&hl=en&ei=XxyfTeT1FPKx0QGf2PybBQ&sa=X&oi=book_result&ct=result&resnum=6&ved=0CD0Q6AEwBQ#v=onepage&q=roman%20pottery%20catalogue%20record&f=true](http://books.google.com/books?id=rQJXAAAAMAAJ&pg=PA212&lpg=PA212&dq=roman+pottery+catalogue+record&source=bl&ots=vmj95XGhxV&sig=WV9QLKnN_nkXGWEgK7YvjCs851k&hl=en&ei=XxyfTeT1FPKx0QGf2PybBQ&sa=X&oi=book_result&ct=result&resnum=6&ved=0CD0Q6AEwBQ#v=onepage&q=roman%20pottery%20catalogue%20record&f=true)



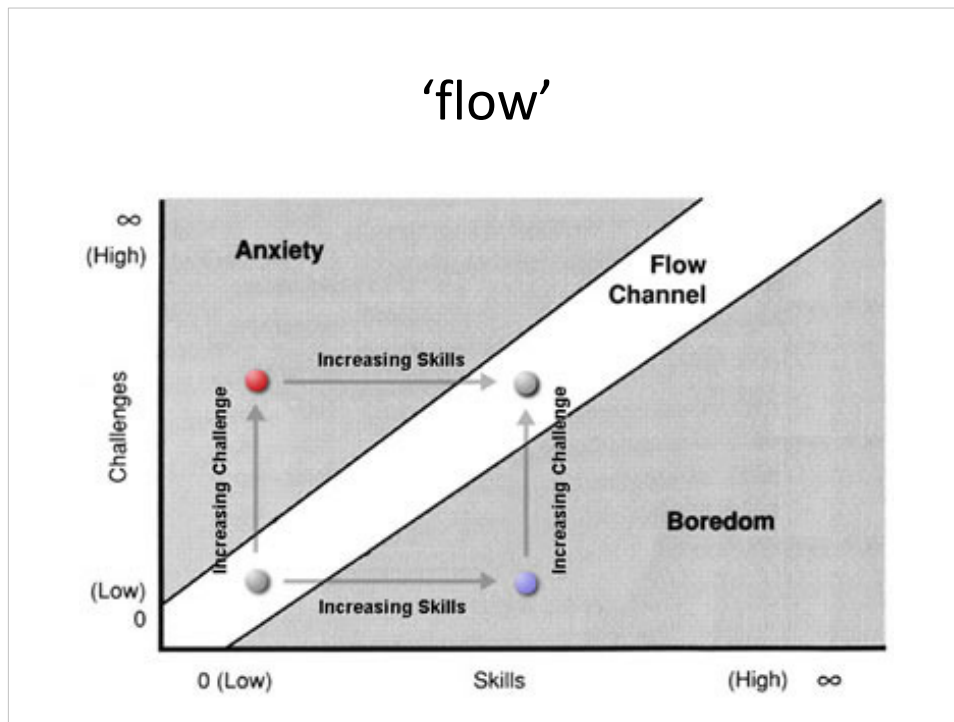
Crowdsourcing was first defined as exploiting 'the spare processing power of millions of human brains'. For museums, libraries and archives, where there's too much work for us to do by ourselves, crowdsourcing creates the possibility of opening up the task of creating or improving content about collections to the whole world. It might sound like a recipe for disaster, but as we'll see, it works. Careful design also reduces the risk of disaster.

I made 'casual' games. Casual games work well for crowdsourcing as they are designed to be easy to pick up and play, and can be enjoyed in two minutes or played for hours. Casual game genres include puzzles, word games, board games, card games or trivia games. Angry Birds and Solitaire are casual games you've probably heard of, even if you don't think of yourself as a 'gamer'.

Metadata games are games that play with words. For example, you might have to name the thing that I'm describing or drawing or acting out in a game like Pictionary or Charades.

Crowdsourcing games should produce meaningful, accurate metadata as a side effect of enjoyable game play". The key terms there are 'useful' and 'enjoyable', and later I'll present some design tips for best practice for fun and useful crowdsourcing games.

The magic circle is a useful concept – it's 'the boundary that divides ideas and activities that are meaningful in the game from those that are meaningful in the real world. The magic circle is entered into when the player decides to play.



Flow is a useful concept for game design. Flow (Csikszentmihalyi, 1990) is the state of total focus when the world falls away and hours pass like minutes. In this diagram, it's the 'channel' where your skill and the challenges you face are matched – if your skills are greater than the challenge, you're bored, but if you don't have the skills for the challenge then you feel anxiety. Flow can occur in games or in work, but it requires a clear goal, immediate feedback on the success of your attempts to reach that goal, and a good match between skills and challenges.

Supporting flow helps keep players engaged with a game, and therefore helps create more content for you. A good game keeps the player within the channel, but keeps things interesting by providing varying levels of challenge as their skill increases.

For crowdsourcing games, the trick is increasing the challenge without compromising the quality of data, and providing ways for skills and mastery to grow.

Image source: <http://www.boxesandarrows.com/view/design-for-emotion>

Gamification?

BOO!

“taking the thing that is least essential to games and representing it as the core of the experience”

“a short-term sugar rush of engagement followed by a crash”

“emphasizes the shallow, dumb, non-interesting tasks, and it decreases motivation for interesting tasks that might be intrinsically motivated.”

You may hear a lot about the buzzword 'gamification' as the next big thing, but if the threat of cheap gamification comes true, players will eventually be turned off games, including games for social good. Game designer Margaret Robertson describes it as 'taking the thing that is least essential to games and representing it as the core of the experience', instead of the interestingly hard challenges, meaningful choices and the learning that makes games fun. According to researcher Sebastian Deterding, real 'gamification' should provide the player with meaning, mastery and autonomy. Museum games and activities sometimes protect people from failing, but games should allow players to learn from failures, to try again and do better.

Quotes from Margaret Robertson <http://www.hideandseek.net/cant-play-wont-play/>
Kathy Sierra: <http://radar.oreilly.com/2011/04/gamification-purpose-marketing.html#comments> and Chris Hecker:

<http://uk.gamespot.com/news/6284524.html>. See also 'Smart Gamification: Social Game Design for a Connected World' <http://slidesha.re/jepjeU> and <http://www.slideshare.net/dings/meaningful-play-getting-gamification-right>

Image source: <http://icanhascheezburger.com/2008/04/08/funny-pictures-boo-aaaaahhhhhh/>



Manually enhancing collections records is expensive and time-consuming. And even when metadata or information records are created by professional cataloguers, the content is often designed for internal or specialist users and therefore doesn't improve accessibility or support potential engagement for the general visitor. So why not ask the general visitor to help by tagging content in their own words? The *steve.museum* research with art collections showed that getting visitors to tag objects can bridge the 'semantic gap' and help make content more discoverable and more useful for the non-specialist. Chris Anderson told the *Smithsonian*, when your collections are vast, 'the best curators will not be working for you' - there's a lot of specialist expertise outside the museum.

As another bonus, crowdsourcing the improvement of collection metadata helps make other participatory projects possible by improving the quality of the content available, or by providing other ways of navigating through collections.

Image source: <http://www.flickr.com/photos/mythoto/2102542915/>

'difficult' objects:
technical, near-duplicate, poorly
catalogued or scantily digitised

(Accession num: B794)



'toy' model steam engines, Powerhouse Museum

(Accession num: B1121)



B 1121
11.02.05

(Accession num: B1120)

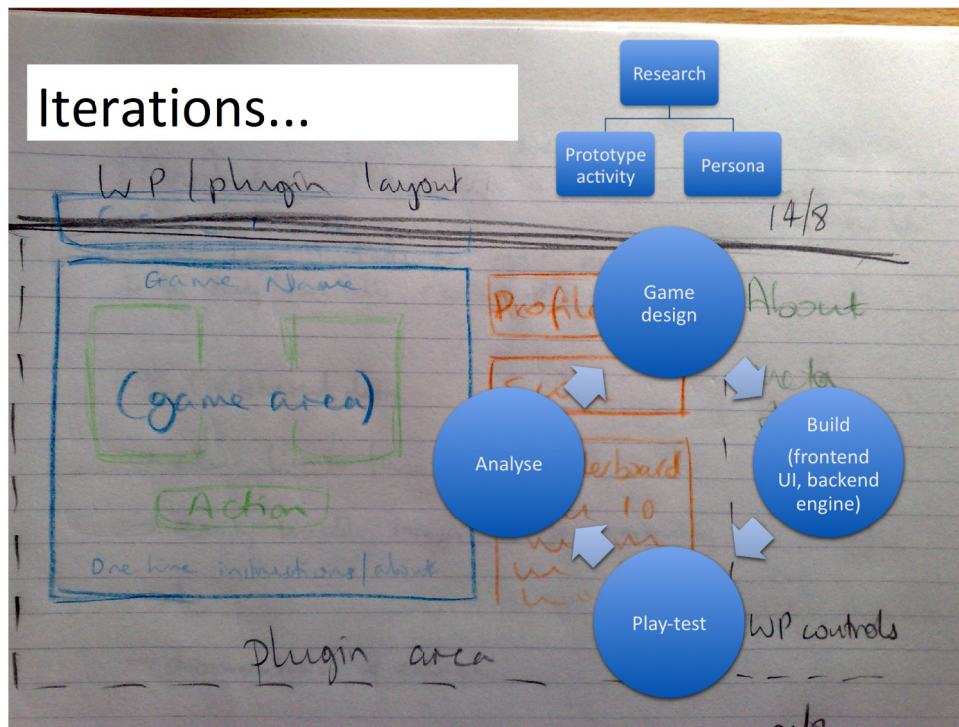


B 1120
11.02.05

I worked for the Science Museum while designing this project. Our objects weren't pretty and exciting like an art museum, but they are still part of the history of science and technology and should be available to the public. So my project asked whether metadata games could help people have fun with creating content about difficult objects. How many versions of almost identical telescopes could people bear to see?

What are difficult objects? Let's start with 'easy' objects - art museums and galleries tend to have smaller collections compared to natural history or social history museums, and as representations, artworks can be easily tagged in terms of styles, colours, material, period, content (things, people and events depicted), and can even evoke emotional and visceral responses. Art objects are also more likely to be unique and visually distinct.

However, social history collections can contain tens or hundreds of similar objects, including technical items, reference collections, objects whose purpose may not be immediately evident from their appearance, and objects whose meaning may be obscure to the general visitor. The difficult objects I worked with were technical, near-duplicate, poorly catalogued or scantily digitised.



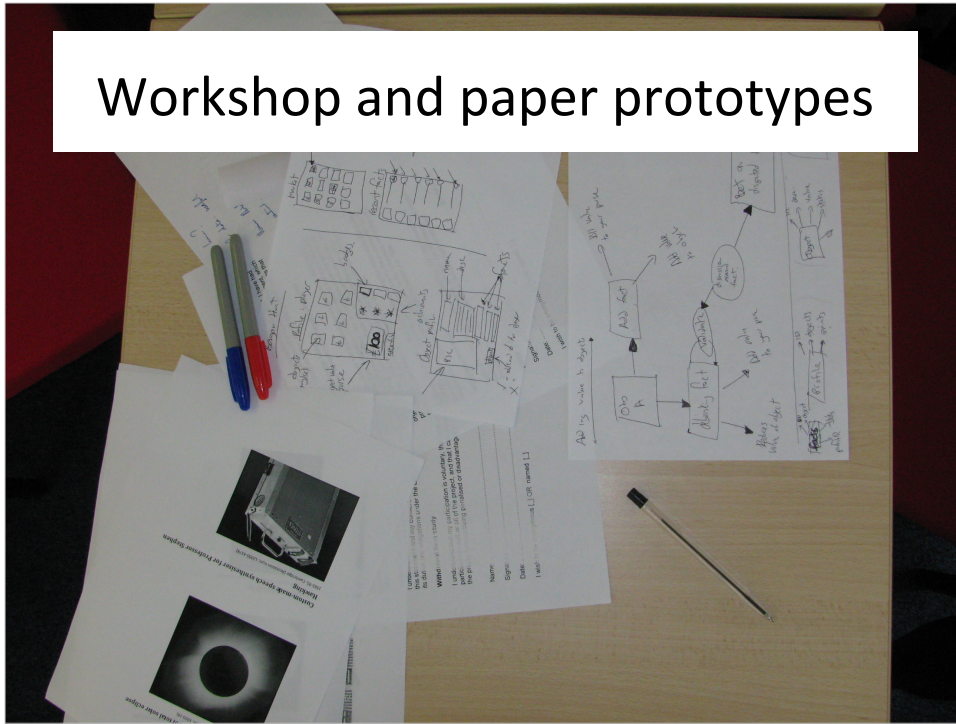
Some notes on process because I think agile, iterative approaches are common in digital companies but not yet in museums... My research included a lit review, analysis of crowdsourcing in cultural heritage; and of crowdsourcing games; research into suitable game genres and demographic research for player-persona based on selected genre. A research-based persona was used during the design process for the tagging game.

Each game was first built as a simple activity, to establish a control for later evaluation and to help identify barriers to participation. The games were developed iteratively with repeated cycles of build, evaluate and redesign. The goal of the first iteration was to get as many viewers as possible over the hump of tagging their first object. The second iteration was about motivating players to keep tagging. Then I broke my arm and had to stop there; the third and fourth iterations would have been about polishing the games - improving the feedback and scoring systems and getting people to come back for repeat sessions, bringing their friends with them. The priorities for each cycle arose naturally from research and testing with prototypes, and were grounded in user experiences with real content rather than pre-determined specifications.

Play tests were usability-style sessions and included people close to the player persona where possible. The goal of the analysis phases were to produce improvements rather than documentation.

Image sources: Mia Ridge, game design sketches and diagrams

Workshop and paper prototypes



A game design workshop was run to help devise a range of game 'atoms' – the basic actions and rules of a game. The workshop merged the structure and activities of a creativity workshop with game design processes. Participants produced paper prototypes of games during the workshop. Paper prototypes allow you to explore and throw away ideas without losing invested time and resources; they can be used to test games with their target audiences, and they can also help explain the game to stakeholders (who may not be game players themselves).

Image source: Mia Ridge, workshop in progress


Donald's detective puzzle

"Hello, Holmes! Thank goodness you're here. Can you help us solve The Case Of The Myst dastardly Moriarty has left behind these objects why. Can you use the information on this interesting fact or link about one of the below?

You may need to hunt around for some relevant facts - try internet. Then report back to Headquarters by filling in the succeed, you'll get 250 merit points towards a promotion

I've selected some objects at random - take your pick. I know so this link will open a new window and show you some reports submitted.

Toy motor car of a Vanguard Estate




Toy motor car, 'Micro Models', Vanguard (Australia) Productions Pty Ltd, Australia, Vanguard estate car with a diecast zinc top. The body of car has a dark green enamel finish.

Object from: Powerhouse Museum. (Accession number: L2009-4034)

Image credit: Powerhouse Museum.

[Take the full view](#)

Toy fish by Mettoy



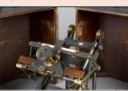
Toy fish, tin plate, made by Mettoy. Great with a yellow and green body and scales coloured in red, green, black and white as if fish. There is a clockwork motor top.

Object from: Powerhouse Museum. (Accession number: L2009-4034)

Image credit: Powerhouse Museum.

[Take the full view](#)

Optical instrument for measurement of astronomical objects



Optical instrument, for measurement of a metal / glass / wood, used at Sydney Observatory, made by Troughton and Simms. An optical machine for measuring astronomical objects.


Object from: Powerhouse Museum. (Accession number: L2009-4034)

Dora's lost data

"Hi, my name is Dora, and I'm a junior curator. It's my first day and I've made a big mistake - I accidentally deleted all the information we were going to add to our collections online. I need to re-label them, and quickly...

Can you help? Add words about the thing in the picture that would help someone find it on Google - how it looks, what does, who might have used it - anything you can think of."

Scale model (1:10) of Swift gamma-ray burst satellite



Object from: Science Museum.

Date: c. 2000 Place: University of Leicester (Accession num: L2009-4034)

Add words ('tags') to describe this object

Tags:

Tip: separate each tag with a comma, like this: tag, label, a phrase, name, names.

Not sure about this object? [Get a different object.](#) (It won't affect your points.)

Tip: save this URL if you want more time to think or research: http://museumgam.es/dora/?obj_ID=225

The results of the project were 'Dora', a tagging game; and 'Donald', an experimental 'trivia' game that explored emergent game-play around longer forms of content.

The games were built as plugins and themes for WordPress. Objects can be imported for use in the game through another plugin, that queries various museum Web services including the Powerhouse, Culture Grid and Europeana APIs.

My research suggests that invoking the magic circle is key for encouraging wider participation in museum content projects. When audiences can immediately identify an activity as a game - in this the characters and a minimal narrative really helped - their usual reservations about contributing content to a museum site disappear. The player meets Dora, a junior curator who needs their help replacing some lost data, asking them to add words that would help someone find the object shown in Google. The clearly defined task (refined through iterative cycles of design and play-testing) is a strength of the game *Dora*.

Donald was very experimental. We know that audiences can hold 'hidden knowledge' about objects including otherwise inaccessible information about the history and use of objects, 'autobiographical memories' or experiential accounts of the objects in use but participation rates are typically low in projects gathering this content. *Donald* was designed to test the design issues and emergent game mechanics around content such as personal stories, links or facts. Because longer forms of content usually require some form of research or personal experience and because it's more difficult to validate and score this content, designing good reward and feedback systems is more challenging.

Image sources: Mia Ridge, <http://museumgam.es/donald/> <http://museumgam.es/dora/>

Glass plate negative of view of the Shipard family at Bungowannah, near Albury

View [object on the Powerhouse Museum site](#) (opens in new window).

(Accession num: 2008/165/1-57)



Thumbnails under license from Powerhouse Museum.
So far people have added content in 10 turns about this object.

Tags

family, dog, photograph, negative, glass plate, Shipard, Albury, verandah, black and white photograph, relaxed group, informal, Albury, family group, glass plate negative, photograph, family, dog, shipard family, Family, Shipard, photograph, adults, male, beards, children, dog, outside, trees, costume, beards, waistcoat, dog, family, shipyard, braces, boots, glass, plate, negative, photography, family, domestic, Bungowannah, children, dog, outdoor, portrait, Negative, glass plate, monochrome, Sydney, family portrait, dog, house, children, 1900, Bungowannah, Albury, Joseph Shipard, Arthur Phillips, family, dog, black and white, tree, old, old fashioned, antique, photograph, family, dog, Australia, house, tree, father, children

Headline: Family pictures and social history 1906 Bungowannah

Summary: Photographic glass plates pre-date film and negatives and were common up until the early 1900's and could still be processed upto the 1980's. Photographic prints can then be made from the glass plates. The plate above is held at the powerhouse but members of the family also have copies of the Photgraph. The plate shows Joseph Shipard was born 22/4/1859, died 17/9/1945. Never married. Ephraim Shipard (Teddy) was born 22/10/1866, died April 1938. The children Stanley John was born 17/7/1898, died 1968, and Bessie Maud, born 22/2/1904, died 28/10/1995. All seated outside their home in Bungowannah outside Albany in 1906. The plate negative is part of a larger collection at the museum that shows locations and buildings around Sydney and New South Wales. Importantly it shows the social context and economic history of the time.

Source: Powerhouse museum, Raymond Phillips

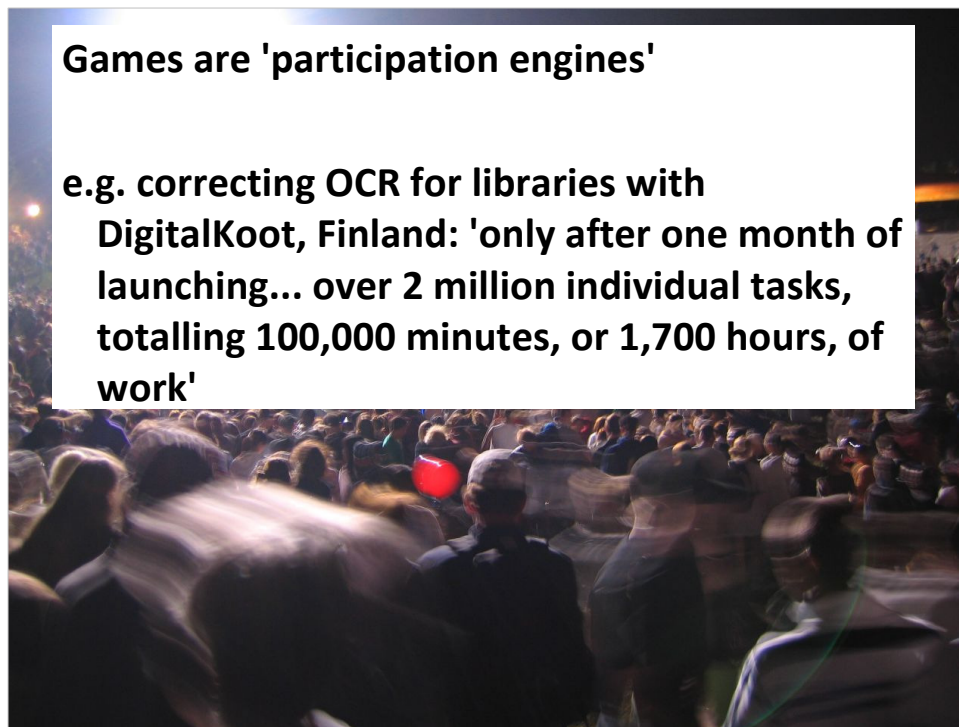
One Facebook status update asking for players: 180 turns (176 tagging turns, 4 fact turns), 1179 tags and 4 facts about 145 objects from 26 players in c. 6 hours

In the analysis period (December 3 – March 1), there were 969 visitors from 46 countries, with 1,438 visits and 5,512 page views. Overall, 196 game sessions were played, with a total of 1079 turns (average 5.51 turns per session); 47 users registered for the site. Players created 6,039 tags (an average of 18 tags per object), 2232 unique tags, and 37 facts for 36 objects. The highest number of turns for a single session was 56. Players are still contributing, so these are old figures.

Excluding 'bounce' visits, the average time on site was over 7 minutes, with 6.5 pages per visit, showing that games are sticky. Facebook seems to be a good place to promote games - Facebook referrers viewed over 8 pages and spent 10 minutes per visit. This may be because Facebook users are comfortable with notifications about new games and the site is a good match for the casual games demographic.

Usage sample: in a single evening (approximately 6 hours), a call for players through one personal status update on Facebook yielded 180 turns (176 tagging turns, 4 fact turns), 1179 tags and 4 facts about 145 objects from 26 players.

The games are still very much prototypes, they need a few more iterations to polish them and improve the design and gameplay, and I didn't have a marketing budget, so imagine the potential for a proper project...



So crowdsourcing games have a lot of potential. To take a recent example, DigitalKoot, launched by the National Library of Finland had 25,000 visitors within one month of launching. These volunteers completed over 2 million individual tasks, totalling 100,000 minutes of work' correcting OCR errors. The Games with a Purpose image tagging game had gathered more than 50 million labels for images from 200,000 players as of July 2008.

A well-designed crowdsourcing game can be more fun and more productive than other crowdsourcing interfaces. Not only does good game design entice more people to make their first contribution, but games are also designed to motivate on-going participation. Just as games have been called 'happiness engines', crowdsourcing games could be called 'participation engines'.

Image source: <http://www.flickr.com/photos/logicalrealist/25638338/>

Lessons learned

Design for variable levels of difficulty

Design for a specific player persona

Use data from one game as input into other games.

Quality of feedback and scoring systems counts

Design for variable levels of difficulty – it helps keep the players in flow (the zone between boredom and anxiety) by varying the challenge in relation to skills; introduces interesting uncertainty about the outcome, helps move from 'game-like' to 'game'.









Fun is personal so design for a specific player persona, and test with your actual audience. Other players will still have fun, but targeted design is more likely to produce a better game. For more content, target super-taggers. Most crowdsourcing projects have a small number of players who contribute the majority of content, usually over multiple sessions.

Use data from one game as input into other games e.g. Use stats from tagging games to reduce the number of repetitive objects in higher-level games

Players wanted scores based on quality, not quantity of tags and facts so need to work on models for tag quality – ie test tags against corpus of collections texts to eliminate nonsense words while rewarding unusual-but-valid terms. Dora currently offers contextual tips for improving the number of tags but more variable responses to player actions would increase the challenge and improve the games.

Image source: <http://www.flickr.com/photos/pagedooley/2577006675/>

★ Top Facebook Pages, Sweden

			Fans today	Fans this week	Fans this month	Total Fans
1	 H&M Fashion Brands Sweden		8,827	85,554	362,094	6,992,318
2	 Sony Ericsson Telecoms Brands, Tech Brands Sweden		8,059	68,831	329,815	4,646,941
3	 Maher Zain Musician Sweden		2,901	34,292	99,788	2,119,919
4	 Basshunter Musician Sweden		2,941	24,545	111,832	1,544,261
5	 Swedish House Mafia Musician Sweden		3,067	25,247	123,367	1,338,180
6	 Icy Tower Game! Game Sweden		1,239	9,324	45,402	1,138,534
7	 Spotify Website Sweden		1,025	12,333	60,027	974,386
8	 ABBA Musician Sweden		1,843	12,827	56,910	921,587

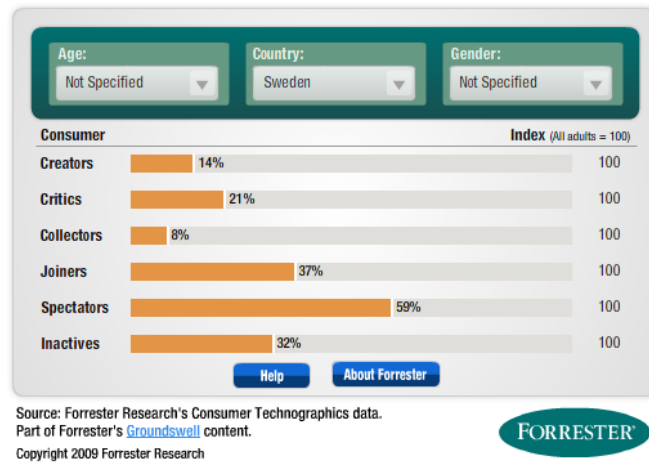
Speaking of audiences, here's some local information. It's maybe not quite as loved as H&M or Basshunter, but a game is in the top 10 Facebook pages for Sweden.

200 million people play casual games online. 200 million – that's a lot of potential helpers.

2010, UK research said 67% of the online audience (17 million people) play casual games on social networks, 20 million on mobile devices, 18 million on casual games portals.

Image source: http://www.famecount.com/facebook-rank/Sweden?order=field_facebook_fan_count_value&sort=desc

Can games increase participation?

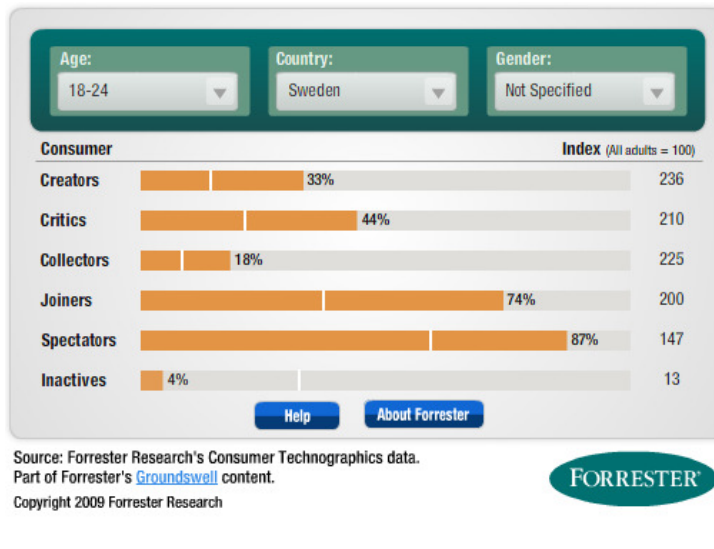


Games can increase the number of creators. Games can also use the energy of conversationalists and critics in really fun ways.

Definitions source: <http://www.slideshare.net/jbernoff/social-technographics-defined-2010>

Image source: http://www.forrester.com/empowered/tool_consumer.html

...depends on your audience



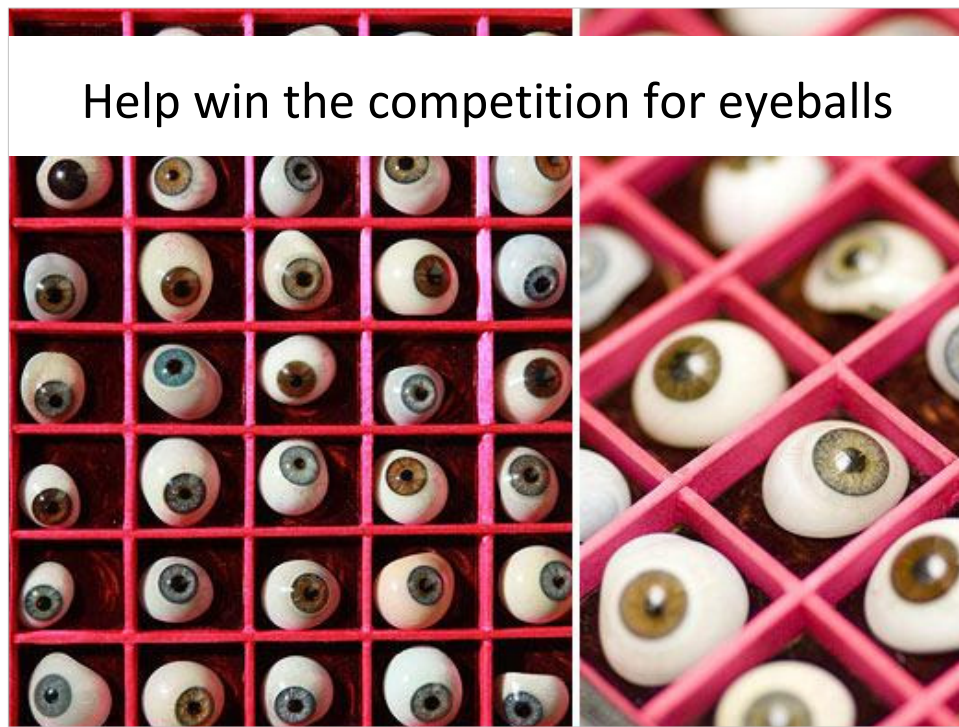
Ok, yes, young people are an obvious match. But many are surprised to learn that casual game players are mostly women over 35 years old.

Mature players are a huge but often invisible market for casual and social games, and accordingly are probably a largely untapped audience for museum games.

Audience-related questions to consider: What kinds of games do they already play?

What does that tell you about their preferred genres, motivations, session length and depth, graphic design?

What are their skills, motivation, knowledge and experience? How well do they map to the kinds of content you want to crowdsource about your collections?



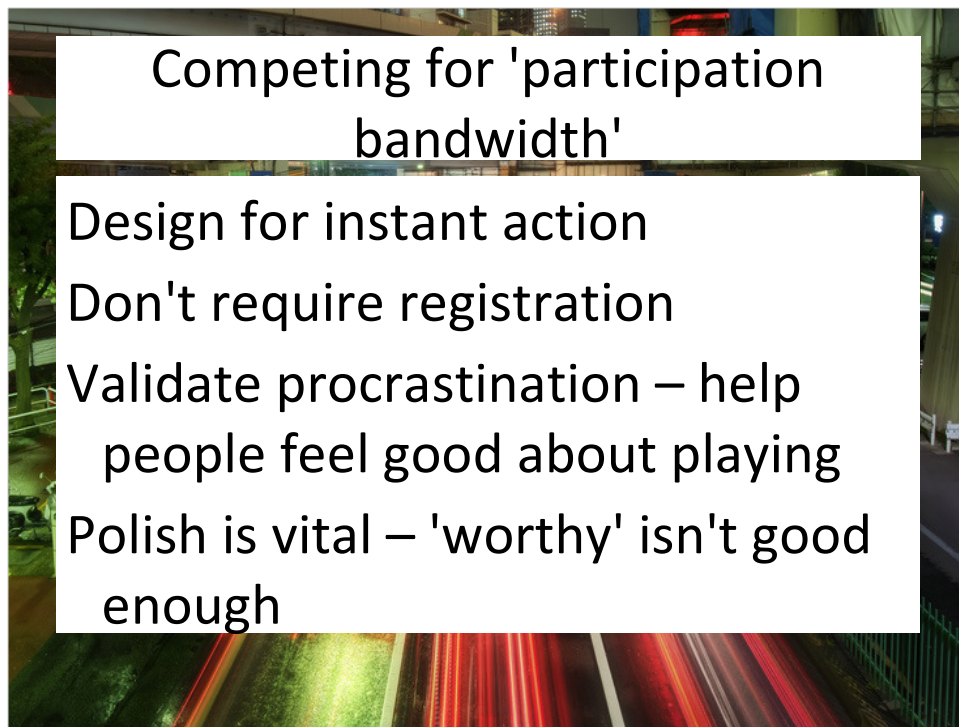
There are lots of projects asking for public participation – how will yours win players?

Some more research... design for immediate gratification. Build instructions or game skill learning into the flow of the game. Make the first goal obvious and offer lavish rewards for reaching it.

Short rounds and frequent 'closure points' can encourage players to keep playing, especially if they feel their progress will be saved. For museums, curiosity about the next object also contributes to the "just one more" feeling that increases the number of turns per session.

Crowdsourcing games must be clear about the knowledge and skills the players will need. Make any mental requirements obvious by building them into the first minutes of the game.

Image source: Science Museum, Brought to Life



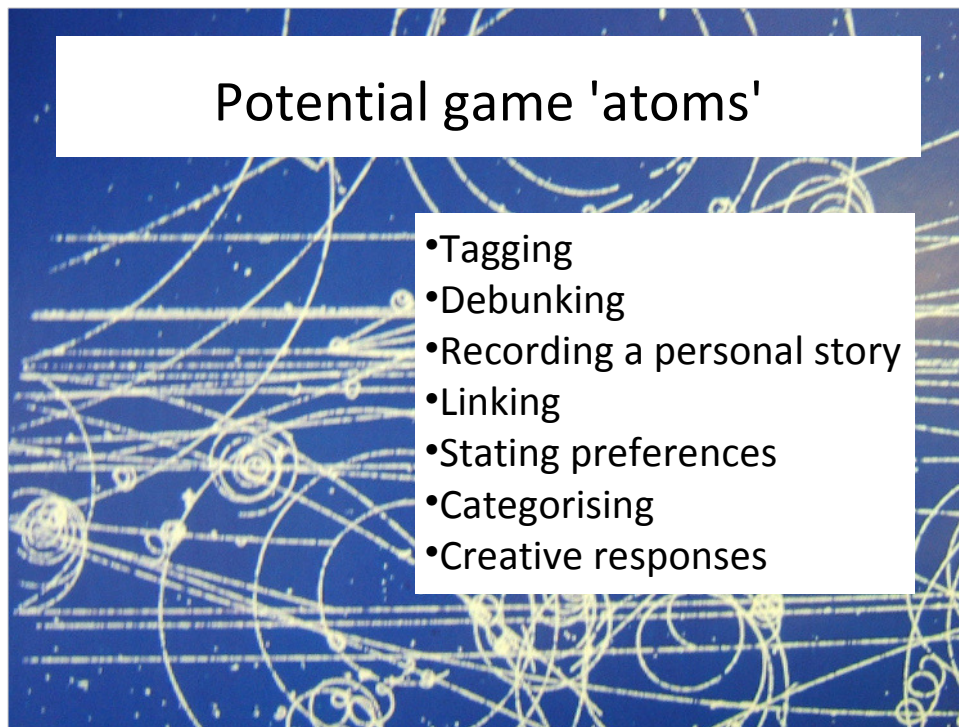
Design quick and easy feel-good tasks like voting or 'liking' to get players participating. You should also let players report dodgy content – it helps you and it's an easy first interaction.

Registration is a huge barrier to participation and isn't generally necessary because trolls have far better places to make a nuisance of themselves. Also, you can just delete their content if it's annoying.

Many players are motivated by the idea of helping a museum, and they also feel ok about spending time playing games because they're doing good. Publicizing the use of the data gathered helps show the impact of the games in the wider world. Seeing data other players have contributed also encourages new players.

Polish is vital - iterate until the game is as fun as a commercial game. Play testing should be part of the project from the first moment that activity types (or game atoms) suitable for your objects and desired content are devised, and should continue as game scenarios are built around the core activities. This process can also help museums understand the best way to market their game to their target players.

Image source: <http://www.flickr.com/photos/stuckincustoms/4111634970/>



The activities listed are based on a review of general and museum-specific crowdsourcing projects and games, and of the designs proposed for this project. They can be mapped to typical game challenges, and built into games (in iterative design and play-testing phases) as game rules and themes applied to the objects from a particular museum collection. The type of data input required will depend on the collection and 'distinctiveness' of the object. There's more in the MW2011 paper, or get in touch to discuss.

Tagging (e.g. simple worlds, also structured tagging/categorisation)

Debunking (e.g. flagging content for review and/or researching and providing corrections).

Recording a personal story (e.g. oral histories; eyewitness accounts)

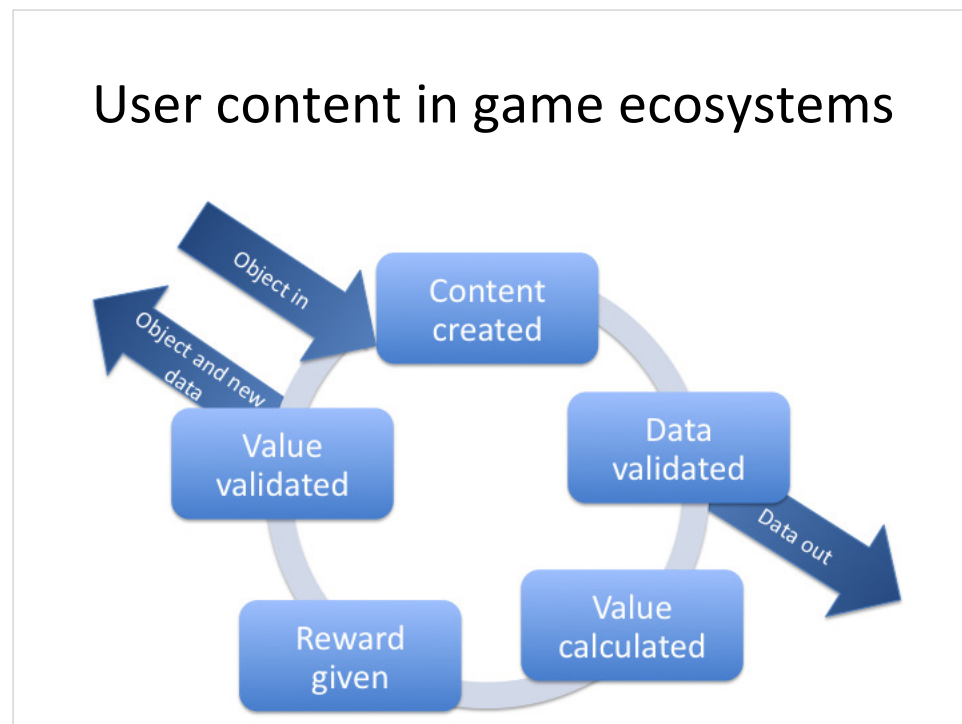
Linking (e.g. linking objects with other objects, objects to subject authorities, objects to related media or websites; e.g. MMG Donald).

Stating preferences (e.g. choosing between two objects e.g. GWAP Matchin; voting on or 'liking' content).

Categorising (e.g. applying structured labels to a group of objects, collecting sets of objects or guessing the label for or relationship between given sets of objects).

Creative responses (e.g. write an interesting fake history for a known object or purpose of a mystery object.)

Image source: <http://www.flickr.com/photos/robotconscience/2261650044/>



An ecosystem of linked games lets you build for different types of participant skills, knowledge, experience; and build for different levels of participation from liking, to tagging, finding facts and links.

It could help resolve some of the difficulties around validating specialist tags or long-form, more subjective content by circulating content between games for validation and ranking for correctness and 'interestingness' by other players.

In this model, content is created about objects in the game; the content is validated; a game-dependent value (score) is assigned to the content; and the player is rewarded. The value of a piece of content may also be validated (e.g. for 'interestingness') when other players show preferences for it. At this point, the object and the new content about it can be used in a new game or presented on a collections page. For some content types, the content may be validated by players in another game after a default value has been calculated but this introduces tricky design issues around delayed responses to actions.

The evaluation for Donald suggested that future prototypes with more clearly defined tasks would increase participation rates - matching specific tasks to appropriate objects is a perfect job for crowdsourcing within an ecosystem of games.

Image source: Mia Ridge

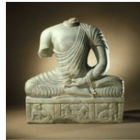
Dealing with problem data?

Brooklyn Museum

Collections: **Freeze Tag!**

2,398 tags in our collection have been challenged. Decide their fate by playing *Freeze Tag!*

Here's how this works: you'll be presented with tags that have been flagged for removal by other posse members. Your job is to provide a second opinion about the relevance of the tag. Consider these examples as guides:



- Limestone
- Buddha
- statue
- headless
- fabric
- africanart
- krishna



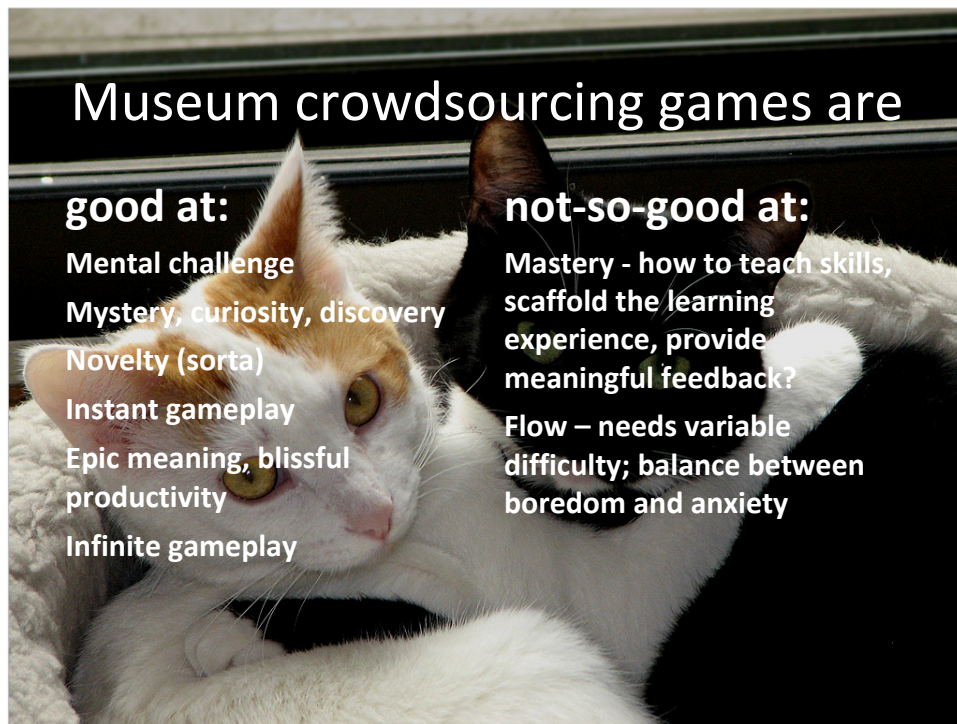
- messy
- American
- Face
- Figure
- Abstract
- warhol
- european



- modern
- chair
- rocker
- classic
- furniture
- bed
- highchair

Not actually a big problem... Just build it into the ecosystem. This is Brooklyn Museum's 'Freeze Tag!', a game that cleans up data added in a tagging game.

Image source: http://www.brooklynmuseum.org/opencollection/freeze_tag/start.php



In summary... museum crowdsourcing games are already quite effective, even for difficult objects. However, there's some way to go to take them from 'worthy' to really compelling. Better feedback systems will help provide players with the 'tension and release', varied levels of challenge and the chance to learn from failure through quality feedback that helps provide mastery within a game.

We need to keep play-testing better reward systems with our target audiences, and using the stats available from existing games e.g. when do people abandon games?

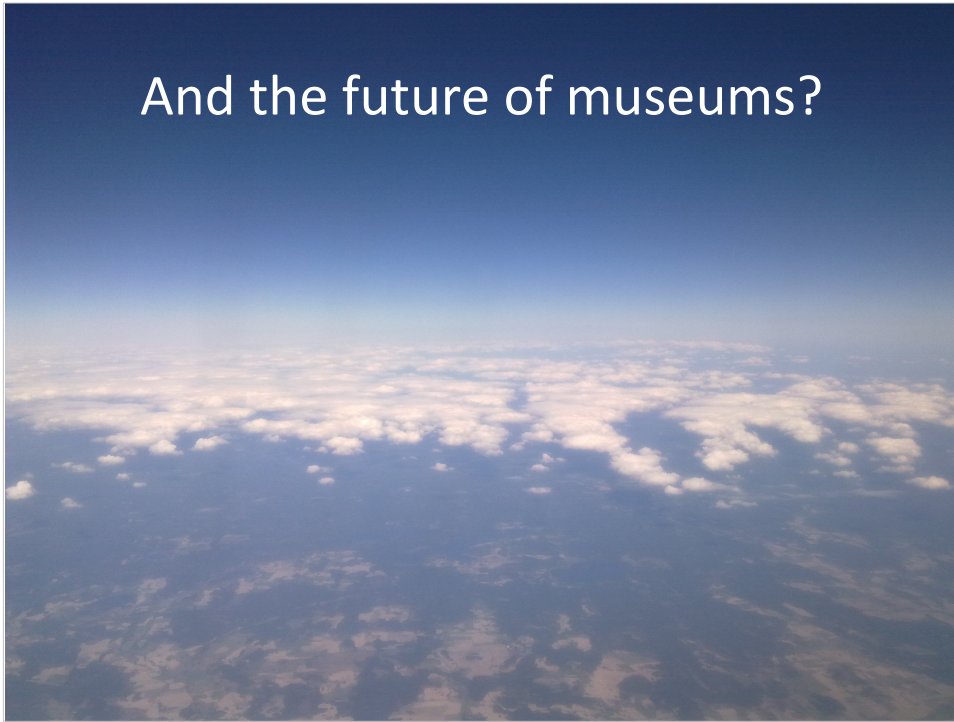
It's hard to provide really good feedback and meaningful rewards without ways to check the quality and validity of long-form or specialist data so that's the next fun problem to solve.

Image source: http://en.wikipedia.org/wiki/File:Black_white_cats.jpg



Find out more? Resources for museum games Lift your (museum) game
<http://museumgames.pbworks.com/>

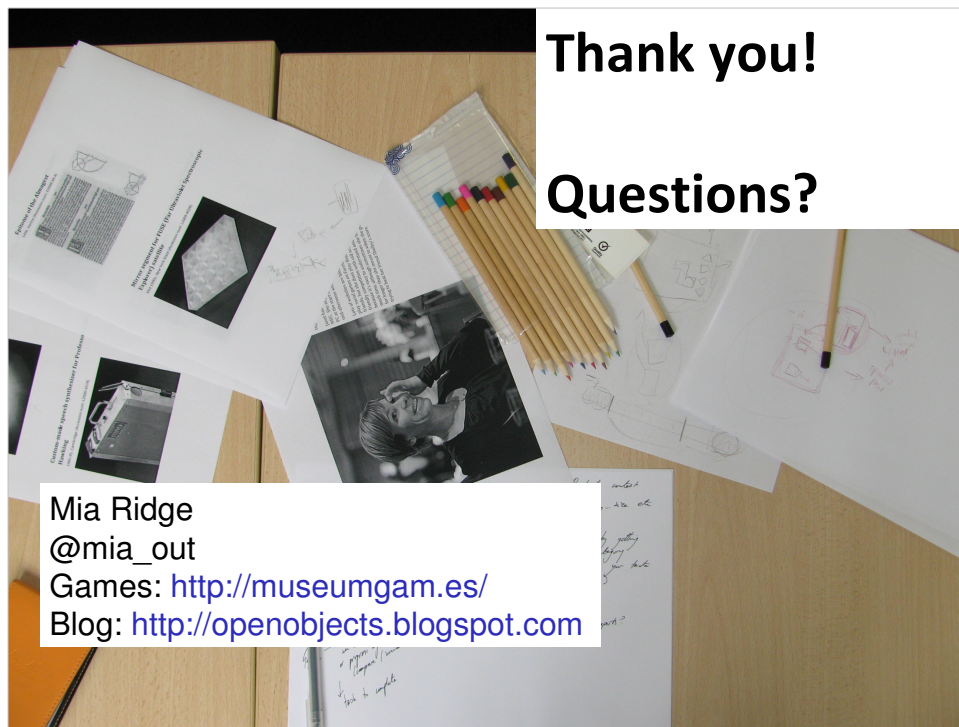
And the future of museums?



I know the future of museums lies in fitting into people's lives as well as being a destination; being the cathedral and being in the bazaar. Cultural heritage needs to be 'out there' to help people value and make time for visits the physical place. It's about new types of engagement and outreach. It's not all digital, but as the world is networked and mobile and social, we should be too.

I was thinking about new metaphors for museums – what if we were Amazon? A local newspaper? A local pub? A student blog? A festival, a series of lectures, or a film group? Should a museum be at the heart of village life, a meeting place for art snobs, a drop-in centre, a café, a study space, a showroom?

But I realised that the answer is deeply personal to any museum, because museums exist in the intersection of their collections, their fans and their local audiences. This is good, because it means you can apply your existing knowledge about what your audiences love about you. The answer to the question 'what would your museum be if it was invented in 2011?' is up to you...



Conclusion – museum metadata games can provide great value for museums, and provide museum audiences with fun, constructive ways of engaging with museum content while feeling good about their participation. There's lots to learn but figuring it out is going to be fun.