

# Computer game to find out how digital provenance affects decision-making

February 28 2014, by Fraser Wilson

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As well as giving gamers the chance to enter an online world as a double agent and infiltrate a corrupt government, new online alternate-reality game *Apocalypse of MoP* also uncovers players' perceptions of provenance and how this affects their decision-making.

The game involves players answering questions and completing tasks relating to the digital provenance of objects. These decisions will then be used to assess how people process information and how important provenance—the origin of information—is in decision-making.

It was developed by researchers at The University of Nottingham's Mixed Reality Lab in collaboration with Nottingham-based production company Urban Angel and researchers at the University of Southampton.

It is hoped that the game will lead to new insights and potential real world applications into how storing and showing provenance—such as the history of a piece of art, a reconstruction of events or the ingredients of food—can be provided to people in an intuitive manner.

## Provenance in alternate reality games

Alternate reality games are a relatively new and untapped area of gaming that integrate closely with real world experience and activity. This means that decisions made in these types of games could inform those made in

the real world.

Dr Martin Flintham, Horizon Transitional Fellow in the School of Computer Science, said: "The point is that players are unsure of the 'boundaries' of the game and using them to research a particular agenda is new.

"We've developed the various websites that, while players are doing their job and are part of the resistance, allow us to record and inspect how they manipulate provenance. As part of the game, players are also asked questions and given tasks that again allow us to probe how much they understand about provenance and its implications."

## **Provenance of information on the web**

Last year researchers from the University of Southampton published the first standard for provenance of information on the web which will provide the structure of a computer-processable audit trail that is capable of describing the origins of information. This audit trail can then be used to help people understand the origins on the information and whether it can be trusted.

Dr Flintham said: "There's still a lot of work to be done to actually understand what can be done with a standard that lets you document the provenance of something—how easily can people read it, author it, share it.

"The people who have written it are largely scientists, so it's important that we understand how others—i.e. the public—can make use of it or relate to it to understand its implications."

And that's where Apocalypse of MOP comes in—but the team behind the game is keen to point out that it is not just a "glorified

questionnaire".

## **The game**

Players are recruited by an underground resistance organisation and asked to help expose a global government conspiracy—inspired by real world events and technologies. They infiltrate the government ministry and get a virtual job; maintaining the front of diligent employee while secretly leaking sensitive provenance information.

Dr Flintham said: "The job involves viewing and manipulating 'provenance' from the government. For example covering up or modifying the history of trivial crimes like MPs' speeding tickets to significant issues inspired by current affairs, such as arms dealing and organ harvesting. Every so often they are required to leak information that drives an overarching narrative about provenance and the secrets of the ministry."

## **How important is provenance?**

The team at the Mixed Reality Lab has built new provenance interfaces in order to study the game's audience—who play online from across the globe—and their reactions and decisions.

It is hoped that the information will have real world implications in terms of determining how important provenance is in decision-making. Dr Flintham uses last year's horsemeat scandal as an example.

He said: "The provenance of food is an important thing to communicate to consumers in an understandable way – but how in depth? How can they spot inconsistencies or know that what they're seeing makes sense? Is it better to give a simple statement of 'this meat is certified as British

beef' or giving an intuitive representation of the history of a piece of beef?"

Provided by University of Nottingham

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