

Provenance for the People

An HCI Perspective on the W3C PROV Standard through an Online Game

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The University of
Nottingham

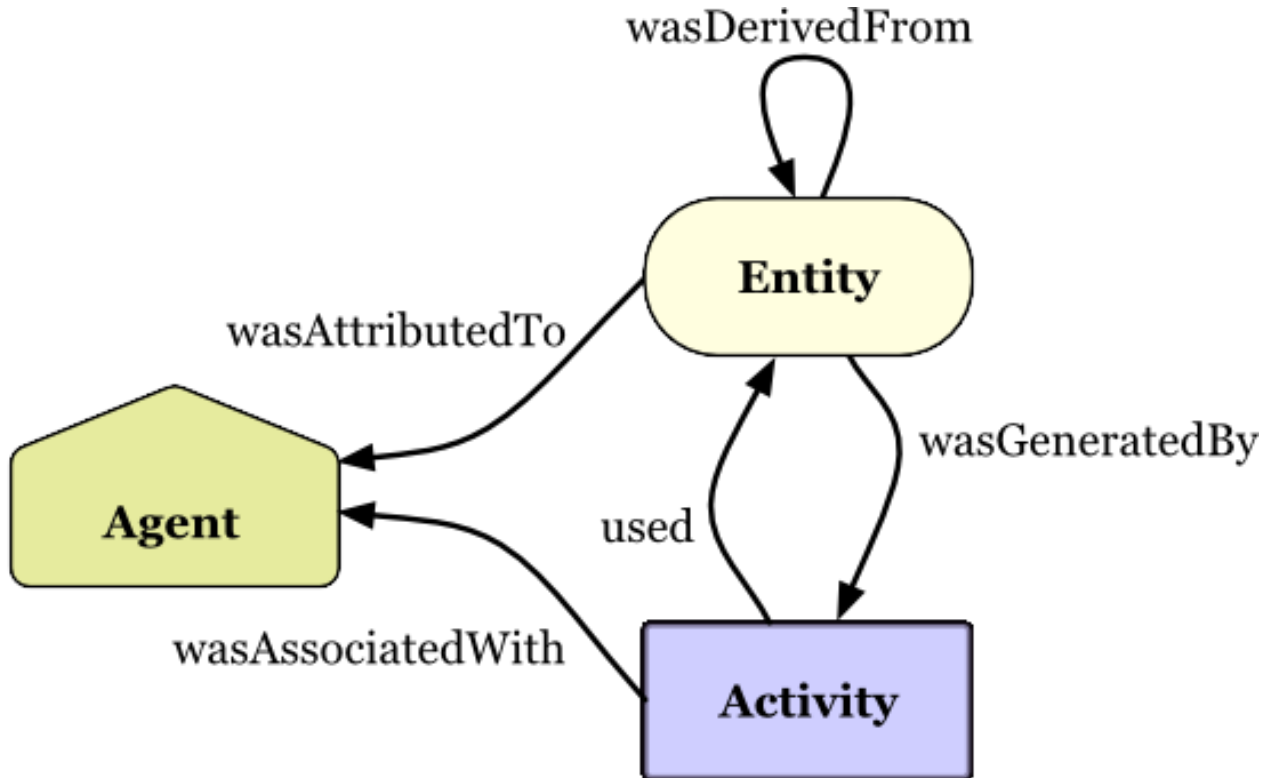
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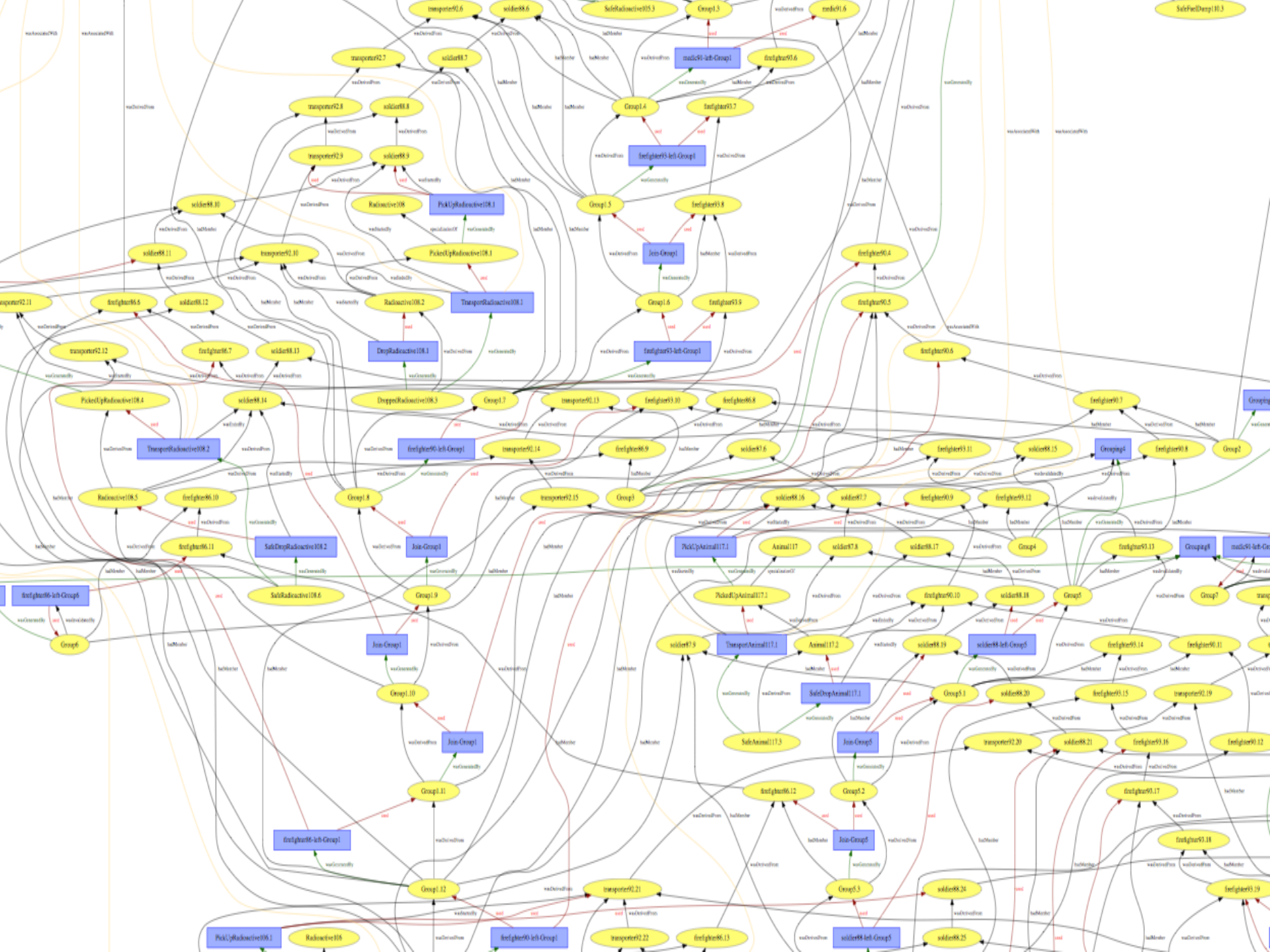
UNIVERSITY OF
Southampton

The  Working Group on
Provenance

Provenance is a record that describes the people, institutions, entities, and activities, involved in producing, influencing, or delivering a piece of data or a thing.

W3C PROV







Notice details

Type:

Transport
> Road Traffic Acts

Publication date:

24 September 2014, 13:16

Edition:

The London Gazette

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2200807

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1501

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Road Traffic Acts

London Borough of Hillingdon

THE HILLINGDON (WAITING AND LOADING RESTRICTION) (CONSOLIDATION) ORDER 1994 (AMENDMENT NO. 428) ORDER 2014

THE HILLINGDON (PROHIBITION OF STOPPING OUTSIDE SCHOOLS) TRAFFIC ORDER 2014 (AMENDMENT NO. 1) ORDER 2014





THE HILLINGDON (FREE PARKING PLACES) (DISABLED PERSONS) (AMENDMENT NO. 4) ORDER 2014

THE HILLINGDON (EASTCOTE) (ZONES E AND E2) (RESIDENTS ON STREET PARKING PLACES) ORDER 2003 (AMENDMENT NO. 10) 2013






THE HILLINGDON (ON STREET PARKING PLACES) (ICKENHAM) (RESIDENTS) ZONE IC ORDER 2014 (AMENDMENT NO. 3) ORDER 2014

THE HILLINGDON (ON STREET PARKING PLACES)

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Research Questions

- Is the PROV model accessible to the general population as a means of information dissemination?
- What are general perception of and attitudes towards provenance?
- What are the ethical and social issues that arise when provenance data is captured and used in the real world?

Introducing
The Ministry of Provenance



APOCALYPSE OF MOP

Online game

Launched Dec. 2013

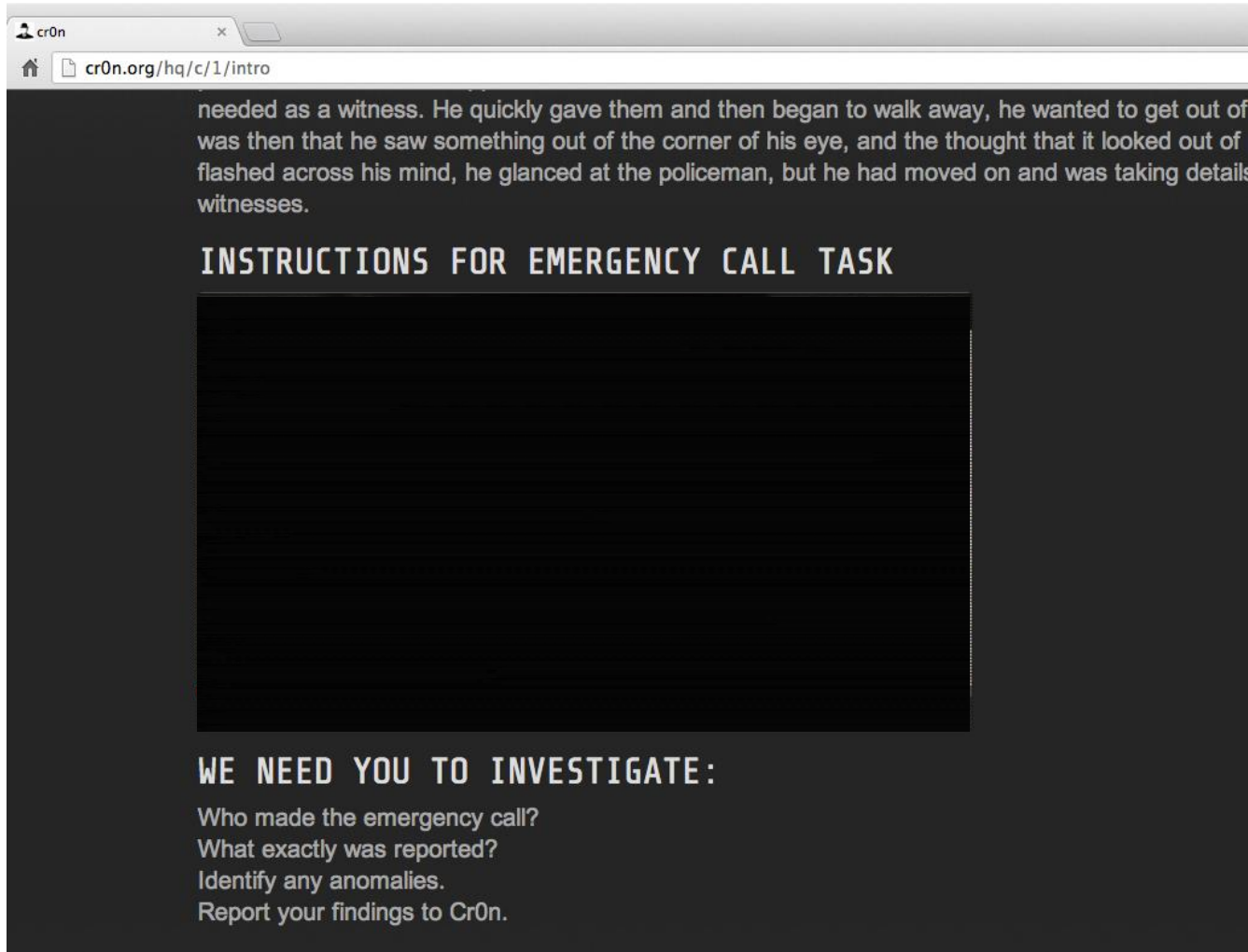
4 episodes

19 missions



APOCALYPSE OF MOP

Step 1: Join Cr0n as an agent



The screenshot shows a web browser window with the address bar displaying "cr0n.org/hq/c/1/intro". The page content includes a paragraph of text, a heading "INSTRUCTIONS FOR EMERGENCY CALL TASK", a large black redacted area, and a section titled "WE NEED YOU TO INVESTIGATE:" followed by a list of tasks.

needed as a witness. He quickly gave them and then began to walk away, he wanted to get out of
was then that he saw something out of the corner of his eye, and the thought that it looked out of
flashed across his mind, he glanced at the policeman, but he had moved on and was taking details
witnesses.

INSTRUCTIONS FOR EMERGENCY CALL TASK

[REDACTED]

WE NEED YOU TO INVESTIGATE:

- Who made the emergency call?
- What exactly was reported?
- Identify any anomalies.
- Report your findings to Cr0n.


APOCALYPSE OF MOP

Step 2: Infiltrate MoP

Open Recruitment of Citizen Helpers for Internal Deployment

[control centre](#)

Citizen Helper: Dalek Roushab
Identifier: ORCHID-UPEW-0AQ6HEHD
TRUST: 155 (promotion at 500)
Credits: 0

[logout](#)  [3 unread message\(s\)](#)


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Ministry of Provenance

Guidance

This is the control centre of the Ministry of Provenance intranet. Please select where you want to go next.

You can send and receive messages, fill in forms, request and process documents, check your performance and read the Guidebook.

Need help?
- Just ask [MOPCOR](#)!

APOCALYPSE OF MOP

Step 2: Infiltrate MoP

Open **R**ecruitment of **C**itizen **H**elpers for **I**nternal **D**eployment

Citizen Helper: Dalek Roushab
Identifier: ORCHID-UPEW-0AQ6HEHD
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control centre

logout

✉ 3 unread message(s)

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Guidance


Ministry of Provenance

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**Ministry of Provenance
Communication and OutReach
(MOPCOR)**

APOCALYPSE OF MOP

Step 2: Infiltrate MoP

Open Recruitment of Citizen Helpers for Internal Deployment

Ministry of Provenance
Audit and Internal Investigations
(MOPAIN)

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Ministry of Provenance
Communication and OutReach
(MOPCOR)



Ministry of Provenance

Guidance

This is the control centre of
the Ministry of Provenance

s,
read



MORGAN & CLAYPOOL PUBLISHERS

Provenance

An Introduction to PROV

Luc Moreau

Paul Groth

*SYNTHESIS LECTURES ON
THE SEMANTIC WEB: THEORY AND TECHNOLOGY*

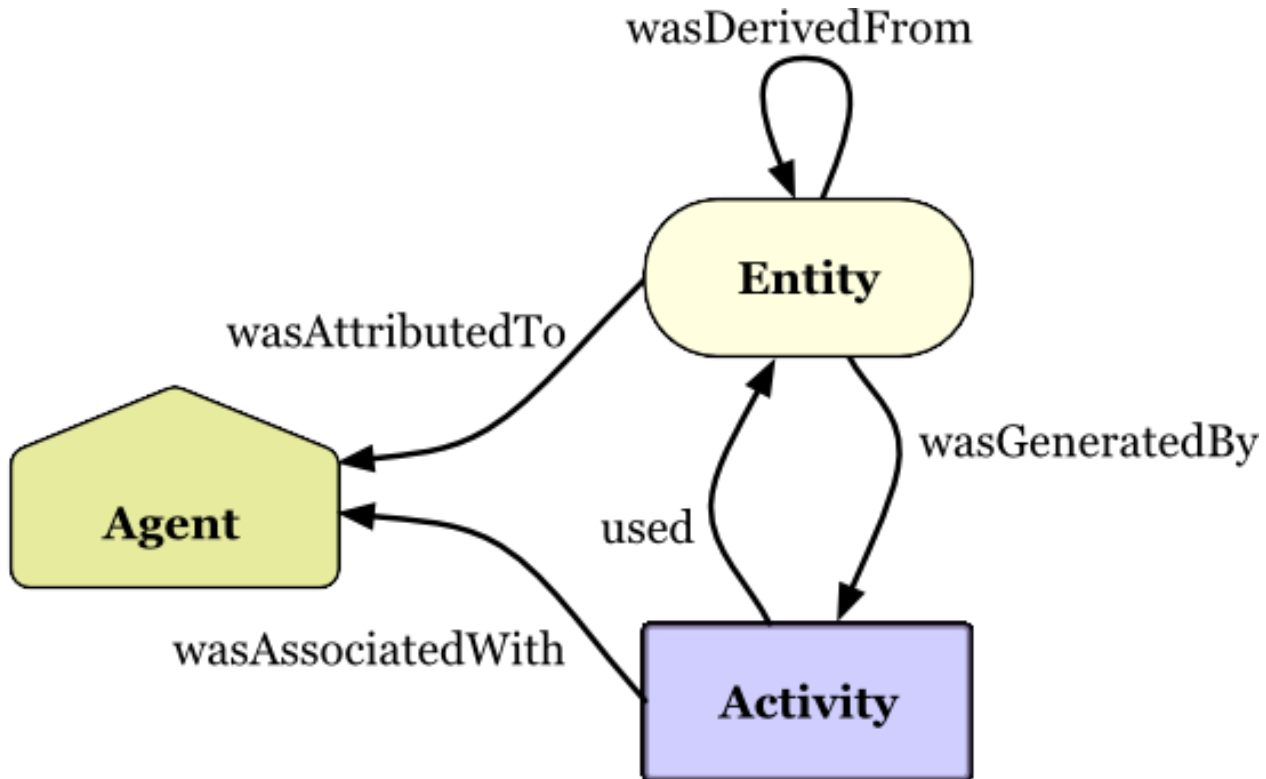
James Hendler and Ying Ding, Series Editors

“The World Wide Web is now deeply intertwined with our lives, and has become a catalyst for a data deluge, making vast amounts of data available online, at a click of a button. With Web 2.0, users are no longer passive consumers, but active publishers and curators of data. Hence, from science to food manufacturing, from data journalism to personal well-being, from social media to art, there is a strong interest in provenance. Provenance is a crucial piece of information that can help a consumer make a judgment as to whether something can be trusted. Provenance is no longer seen as a curiosity in art circles, but it is regarded as pragmatically, ethically, and methodologically crucial for our day-to-day data manipulation and curation activities on the Web.”

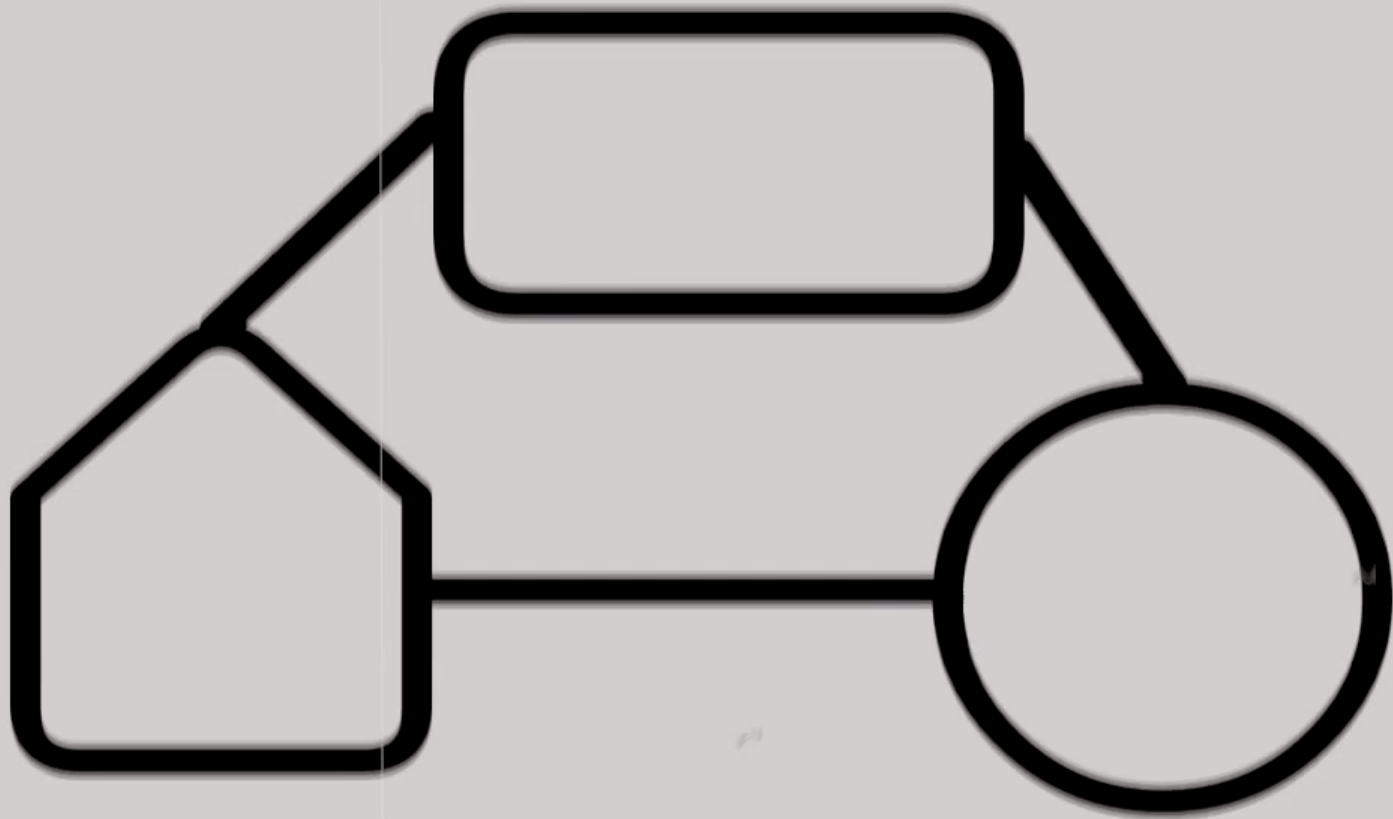
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W3C PROV



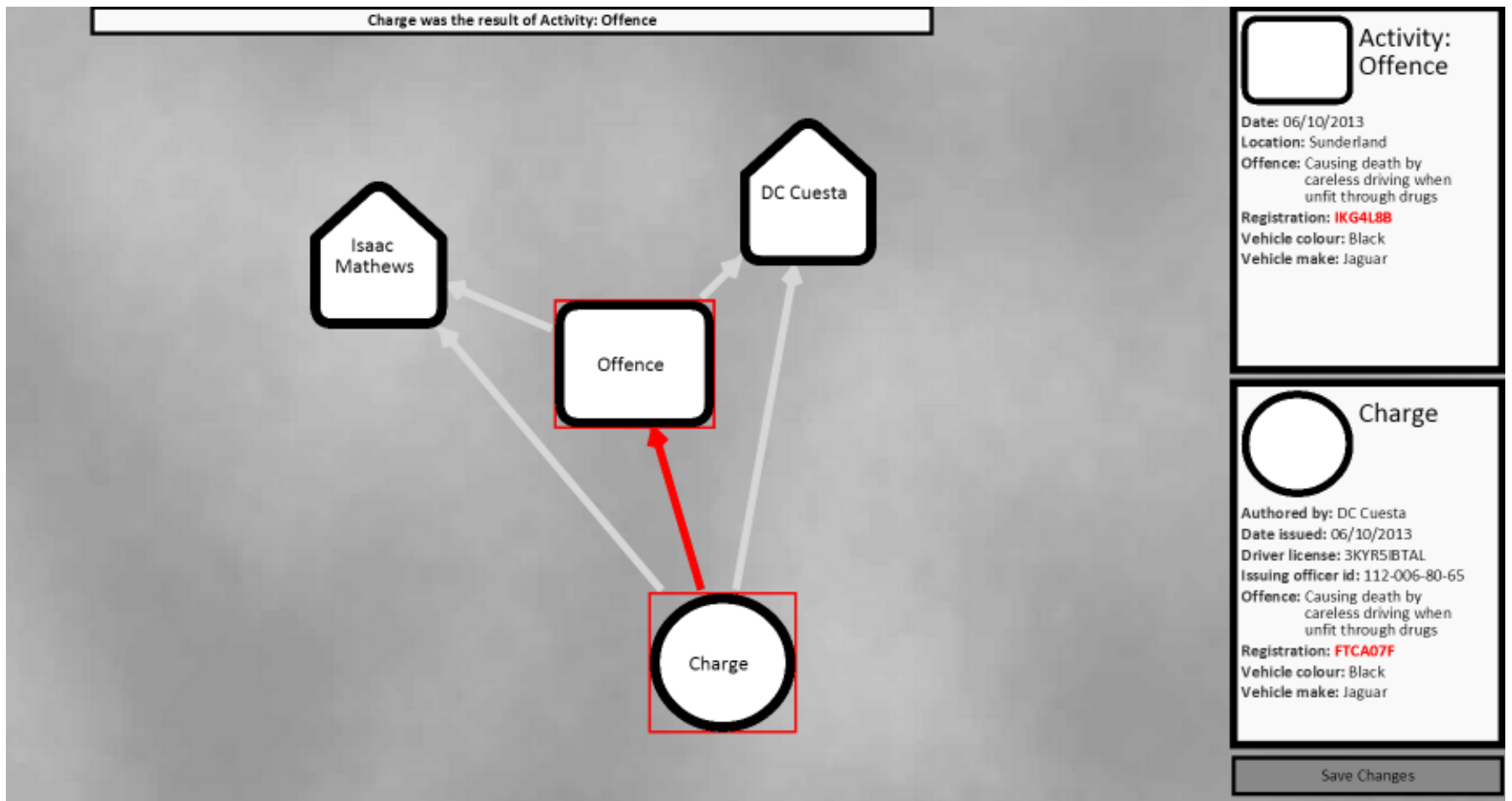
APOCALYPSE OF MOP



APOCALYPSE OF MOP

Step 3: Maintain MoP Trust





Clearance					
required TRUST	N/A	50	500	2,500	8,000



APOCALYPSE OF MOP

Step 4: Use MoP Trust to leak documents to Cr0n

REQUIRED DOCUMENTS:

		name	identification number	unit	level	Credits
	view	Photographs	DOC-MOPCOM-ZV-A6ACX9-NANA	MOPCOM		-100
	view	Pizza Delivery	DOC-MOPCOM-XW-B8G98T-UBEG	MOPCOM		-50



APOCALYPSE OF MOP

Step 5: Uncover what MoP is hiding

Click on a node to inspect it.

Click on a node to inspect it.

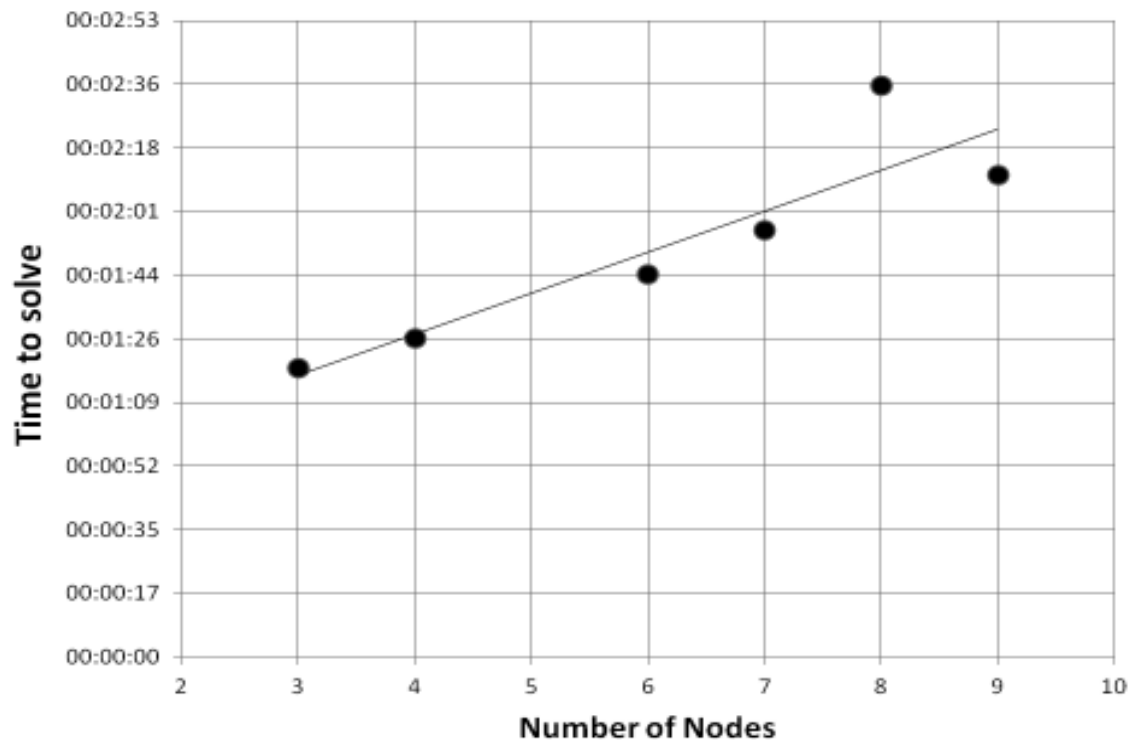
Submit Report

Results

- 940 Sign Ups
- 495 Research consent
- 8 interviews, 41 questionnaires
 - Average age 28,
 - 27% female
 - 68% had not heard of Provenance before

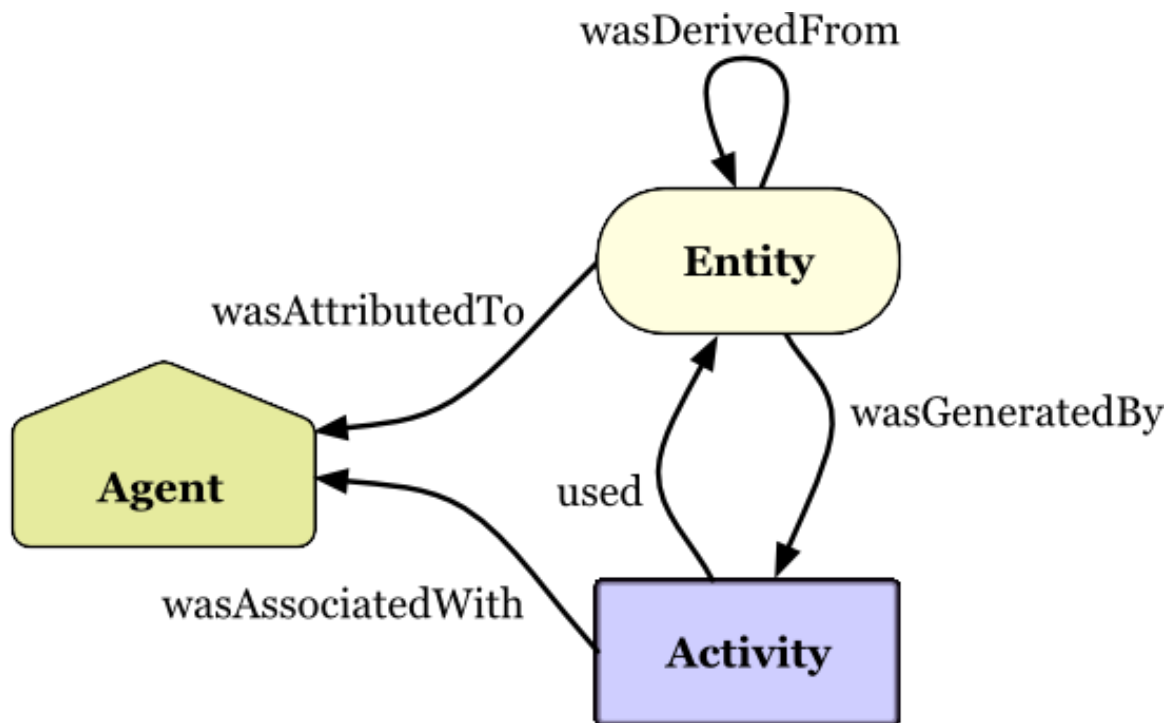
Results

- 12,500 PROV graphs – 96.6% correct
- Average time: 1 minute 46 sec
- 740 Cases



Results: Interface

“The arrows were actually counter-intuitive or confusing to me, the direction that they went. It seemed like they went backwards from what I would expect so I never really paid much attention to the directions of the arrowheads, just the lines.” (1)



Results: Importance

“Because a lot of the time I see a news article and I think, ok, I'm not sure I trust this website. (...) And then I have to spend ten minutes trying to figure out if it has a reputable source. If I had a clear idea of provenance, about who wrote it, about where they got their information from (...) that would be very useful.” (8)



Results: Privacy

“I don't know if I would want every part of my personal life recorded forever and who would hold that information. Certainly there are ex-boyfriends I regret that I'm glad are struck from the record, said simply.” (1)



The Other Results

Tensions and opportunities the result from
varying level of artistic involvement
in research-oriented game

Thanks!

