

Provenance for the People: The W3C PROV Standard from an HCI Perspective

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Objectives

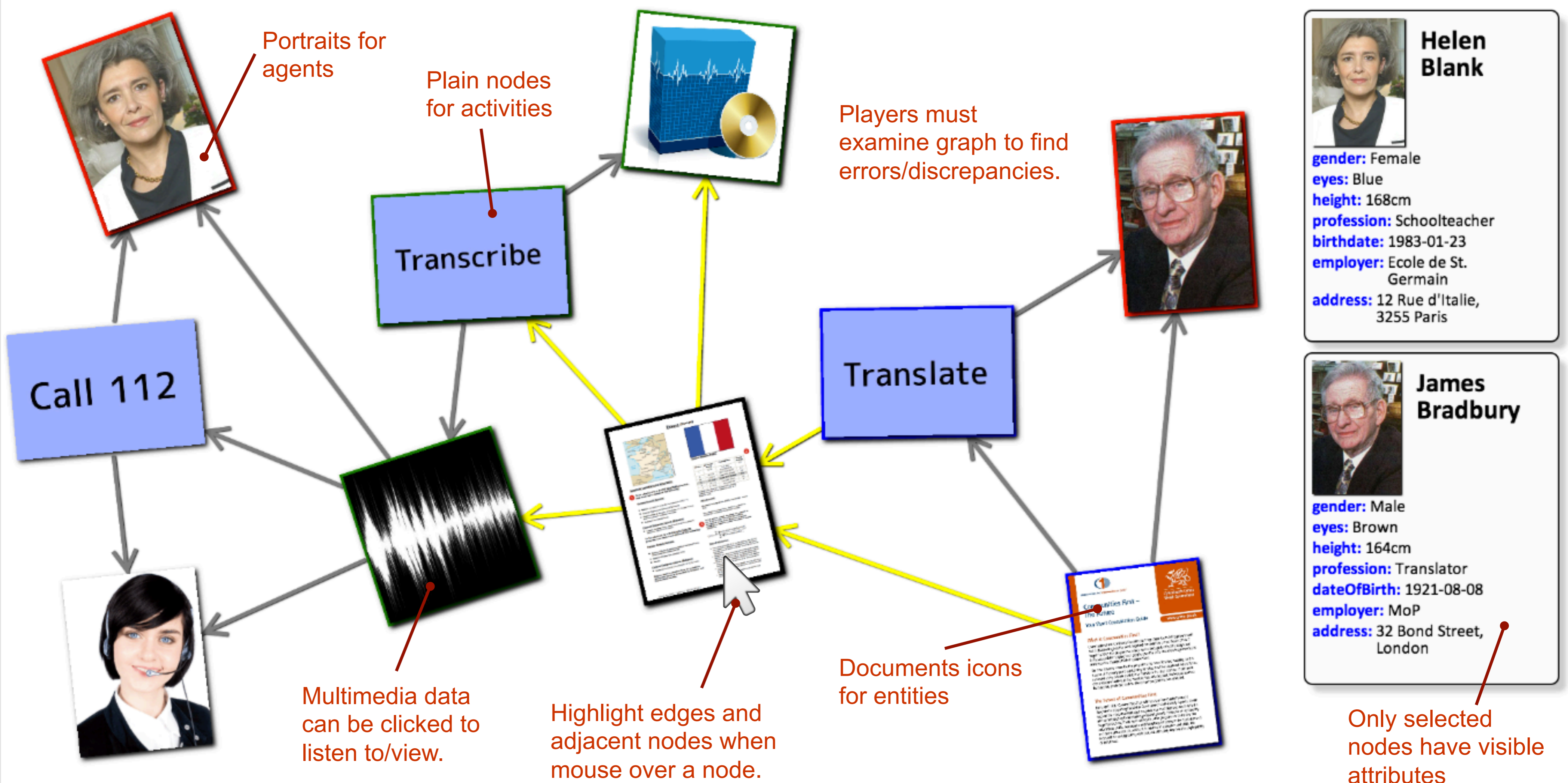
We are building an online game in which players are required to examine, analyse and modify the provenance records of certain game assets with the objective of unmasking a sinister plot by a shadowy organization.

Further details on the game (storyline, mechanics, etc...) are presented on a separate poster by Richard Wetzel.

The game will be used to:

- Explore research questions related to how users engage with provenance as described in the W3C PROV standard.
- Explore further questions about the role of provenance in society, with particular focus on social and ethical implications such as privacy and trust.

Provenance Interface



Research Questions and Methods

Research Question	Investigation Methods
How to represent provenance to users?	<ul style="list-style-type: none"> • Two main styles of provenance graphs are developed: 1) media augmented with images/sounds (above example) and 2) simpler shapes/text only. Interviews/questionnaires will help understand what users prefer. • Logging players' graph manipulation and storing final node positioning.
Which views of provenance are more suitable for users?	<ul style="list-style-type: none"> • Players will have the option of looking at provenance through three different views (process, activity, data). Switching between views is logged to highlight players' preferred views.
How do users interpret provenance information? Are multiple interpretations of the same graph possible?	<ul style="list-style-type: none"> • Players will periodically be asked to describe in narrative text a series of events based on a provenance graph.
How much provenance information is suitable for an average user?	<ul style="list-style-type: none"> • Controlled lab studies using the developed infrastructure to determine what is the size of a provenance graph that users are capable of processing effectively.
What ethical and social issues arise when provenance data is captured and used in the real world?	<ul style="list-style-type: none"> • Interviews and questionnaires about the users' attitude towards provenance being applied to their own actions in the real world. Focus on issues of privacy, consent, and the right to traceless deletion personal data.
How to capture provenance of provenance in the game?	<ul style="list-style-type: none"> • Later during the game, we introduce the notion that provenance information also has provenance. Players will then have to deal with analyzing provenance graph based on their provenance. Questionnaires/interviews would highlight the issues involved.