

Amuse@ToD: Indoor and Outdoor Cultural Heritage Experiences

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Abstract. Demo of the Amuse@ToD System for connecting indoor and outdoor experiences.

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1 Overview

The system Amuse@ToD (Associating MUSEums at the Tower of David) is being developed to bridge a perceived gap between the museum experience and subsequent experiences at cultural heritage sites and to allow museums to serve as a gateway to other cultural heritage experiences. In order to provide a framework for this experience we adopt parts of "opportunity" theory from marketing research. The system operates in three venues: the museum, post-visit, close by an external site.

In the case of the Tower of David, we try to gather information about the user's preferences and characteristics, while they are walking in the museum. User preferences are derived from positions he takes interest in while they are walking in the museum. Characteristics are derived from the pace of the visit and its orderliness.

At the beginning of the visit the user downloads an app. Upon leaving the museum based on their characteristics and preferences, we advise them of sites in the old city that may be interesting for them to visit. Which sites to visit is based mainly on their preferences, but the type of message (and motivational factors behind the message) is based on their characteristics. Finally, as we get close to actual places in the old city, we can give information about the site which connects it to the museum visit. That is some tidbit (historical, anthropological, social, culinary, etc.) and a tie in to something they have seen in the museum learning about the user.

In order to characterize the user we make use of his general movement activities. We use the following statistics:

- StopsVisited (nS_V) – This is the number of positions where a person stayed more than 9 seconds as detected and logged by the mobile guide's positioning system. [1]
- StopsWhereAssetsSeen (nS_{AS}) – This is the number of positions where the visitor viewed at least one media asset connected to that position as computed from the logs of the mobile guide.
- AssetsSeen (nAS) – This is the total number of media assets the visitor viewed as computed from the logs of the mobile guide.
- AssetsAtStopsVisited (nAS_V) – this is the number of presentations that exist at the positions visited.

We measure curiosity by nS_{AS}/nS_V and orderliness by nAS/nAS_V . Thus we see in the following table a mapping.

Movement pattern	Curiosity/ Inquisitiveness	Attention Span / Orderliness
Grasshopper	Low	High
Fish	Low	Low
Ant	High	High
Butterfly	High	Low

Table 1. Movement patterns vs Personality Characteristics

If we take the meaning of the formulas what we are positing is that a fish sees very little presentations but wanders around. An ant visits a large number of POIs and sees a large number of media assets at each spot they visit; while a butterfly also sees a large number of POIs, they sees less media assets. A grasshopper visits few POIs but sees relatively many media assets.

2 Description of Implementation

The system uses Estimote® beacons to determine proximity inside the Tower of David Museum. When entering a room you get a list of exhibits of where there exists additional information. You then choose one of these for more detailed information. Upon leaving, you get a list of additional sites that might interest you based on the visit. The text that is used to market these sites to you is also based on how you visited. A map view of this list is also provided. Finally when you get to the site you are given additional information including information connected back to what you saw in the museum. From when you leave the museum positioning is done by GPS.

3 References

1. Wecker A., Lanir J., Kuflik T., Stock O.: PathLight: Group navigation in a museum using a personal projector. (2011).MSC thesis, University of Haifa.