**UX/UI Professionals Focus Group**

***Context:***

Artificial Intelligence (AI) and its related technologies are currently penetrating our society more than ever, with data science and computationally intensive methods becoming more ubiquitous and ever more affordable and scalable. Museum collection management systems and online catalogues provide museum professionals with a wealth of information, enabling them to query and filter through an abundance of data in a very short time compared to analogue modes of research. However, those systems are just as good and reliable as the data entered, are prone to errors and missing entries, and mostly limited to traditional keyword search. Novel approaches, such as machine learning (ML) algorithms for the creation of art works and digital objects have gained popularity over the recent years, but systems enabling various museum constituents – from professionals to on- and offline visitors – have yet to be trialled and adopted on a big scale.

One of the applications that could facilitate interaction with museum collections are recommender systems. Those systems collect intrinsic and/or extrinsic user feedback to serve recommendations based on certain criteria, e.g., likes or ratings, low-level interactions (click through rates, dwell times, click events etc.), user profiles etc. and can therefore provide personalised pathways through data.

The RECollect recommendation system is a web app-based recommender engine using museum collection data to serve recommendations based on artifact interactions. Recommendations are based on offline-trained metadata and image vector similarity. Recommendations are served based on user clicks on artworks.

***Rationale:***

The use of recommender engines to support systems used by on-site visitors has been the focus of scholarly research so far, their application to support professional workflows in museums however is yet to be investigated and understood. It is important to collect information about how professional workflows can be informed by, and also inform the development and usage of those applications to better comprehend their implications in relation to museum data.

***Hypothesis:***

Museum professionals can benefit from recommender systems, which can be a valuable tool to not just navigate online collections but to also establish novel connections and gather new forms of knowledge.

***RQs:***

Can a machine learning recommender that suggests similar objects based on meta and image data aid the professional workflow and if so how?

What are the requirements to such a system by professionals and what are their considerations?

How do professionals see other user groups, such as visitors, interact with this system?

***Expectations:***

Gather valuable information about how recommender engines can support museum professionals and how these systems are perceived. It is expected that professionals will have different requirements to such a system than the general public has. This can further inform system development for both user groups, giving insights into workflows and data practices of museum institutions.

***Research goals:***

* Better understand how professionals perceive the recommender system
* Focus on the group context and a shared understanding rather than individual opinions
* Explore the way social and cultural knowledge and meaning are produced around system
* Identify areas for further development and research
* Add context and professional insight to the system
* Gather feedback and user interaction/experience data
* Investigate ethical considerations
* Compare different user group requirements

***Method:***

Focus groups to investigate user interaction with the current system and consider future development improvements.

Pre-existing social groups:

Participants will be convenience and purposively sampled; 6-10 participants per organisation [Manchester Museum Partnership (confirmed), the National Gallery (confirmed), Smithsonian (confirmed), Badisches Landesmuseum Karlsruhe (confirmed)]

Professional backgrounds to be sampled: Collection Management, Curatorial, Educational, Data/Insights, Digital/Technical, Research, SLT

Assumed average time: 2-2.5 hours

***Topic Guide:***

* **Introduction:**

Welcome

Introducing the research, researcher, and the note-taker (probably student to be recruited for task)

Researcher will be introduced as moderator of the focus group

Introduction of participants

Aim of the research

Schedule

Some ground/house rules

PIS and consent forms

* **Showcase recommender system and demonstration:**

Highlight that this system is a pilot

Demonstration of the system led by researcher

Walk-through system specs and functionality; ‘behind the screen’ information

Explanation how the system works and how recommendations are served

Explain Autoencoder as black box algorithm

* **Semi-guided discussion:**

*BLOCK A: Data and pre-processing*

Implications of using collection data and pre-processing/feature engineering steps:

What does it mean to you to use online collection data/CMS data for this system?

Why might there be eventual shortfalls in relation to this data?

Who should decide what data goes into the system?

*BLOCK B: System*

We have now seen that this system serves recommendations based on \_\_\_\_\_\_.

 How would you use such a system in your professional role?

What are the advantages and disadvantages?

Would you see this system as a stand-alone application or as an integration?

What functionalities should be added/would be desirable in future developments?

BREAK (10 Minutes)

 *BLOCK C: Users and Engagement*

The system is ideally designed to cater several user groups and museum constituents:

What are further user groups that would profit of a recommender engine?

Why might this be a helpful tool to support community activities, e.g., community curation?

How does a system that doesn’t replicate the brick-and-mortar museum or collection keyword search foster engagement?

How can this system be used in an educational setting?

 *BLOCK D: Evaluation*

Recommender engines have mostly pre-defined user experience goals that they are benchmarked against, and/or have desired statistical outcomes:

 What defines a successful system for you as a museum professional?

 Does this success need to be differently evaluated for different user groups?

Recommendations should be novel, serendipitous, relevant, and increasing
diversity:

 How does this fit the museal context?

Recommendation algorithms should have certain level of accuracy:

How does this effect museum recommender systems, especially if a higher accuracy reduces serendipity? The museum recipe?

Comparing the two questions: what type of evaluation is interesting and useful for museums?

*BLOCK E: Ethics and Bias*

Machine learning techniques, as well as museums, are facing ethical issues and bias, which needs addressing:

 What do you think about the use of so-called black box algorithms in relation to museum collections data?

 How can we ensure that the algorithms don’t replicate bias in collection data?

 Who gets to decide over such issues?

END: Questions and de-brief

Remark again, that participants have the right to withdraw from the study, and if they do so, explain that their data will not be destroyed, but not used further.

Highlight that data (or parts of it) can’t be removed from recordings.

Thank you and sign-up to follow-up email.