Knowledge Discovery in Databases for Provenance Research on Colonial Heritage Objects

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PRESSING MATTER

- Pressing Matter responds to growing concerns in the Netherlands and Europe about how to deal with the legacies of colonialism in museums.

- It is a complex challenge when hundreds of thousands of objects in museum premises need further provenance information.

- It is counter-productive for museum professionals to study each object individually; therefore emerges the need of development of new methodology or technique to scale-up object provenance research.

> To what extent does knowledge graphs constructed from heritage objects' metadata and further enriched with collectors' biographies information have the potential to scale-up objects' provenance research for museum experts?

Entity Linking

- The state of the art entity linking [1, 2] techniques use contextual information to disambiguate entities.
- Are these approaches still valid when little to no text available around entities?

Pattern Mining

Mixed Method Approach: Both top-down and bottom-up

- Measuring pattern "interestingness", explainability and evaluation remains a challenge in the given context.
- How do we manage incompleteness and ambiguity inherent in data?

External Link Effect

Pattern Mining on Enriched Knowledge Graph

- Can we find new patterns when object knowledge graph is populated with collectors' biographies?
- How can we use/preserve the polyvocality in biographies?

On-going Work: Entity Linking
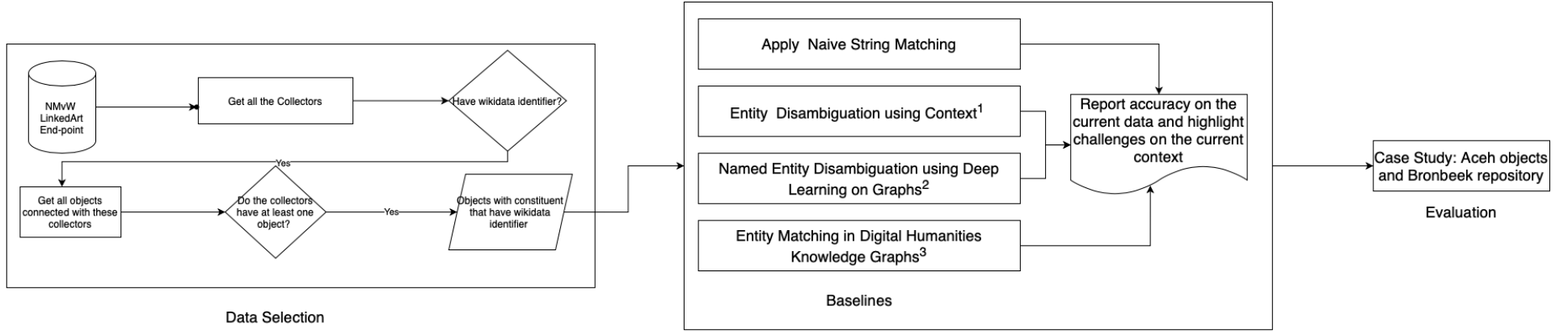
References:

[1] I. O. Mulang', K. Singh, C. Prabhu, A. Nadgeri, J. Hoffart, and J. Lehmann, 'Evaluating the Impact of Knowledge Graph Context on Entity Disambiguation Models', Proceedings of the 29th ACM International Conference on Information & Knowledge Management, pp. 2157–2160, Oct. 2020, doi: 10.1145/3340531.3412159.

[2] A. Cetoli, M. Akbari, S. Bragaglia, A. D. O'Harney, and M. Sloan, 'Named Entity Disambiguation using Deep Learning on Graphs', arXiv:1810.09164 [cs], vol. 11438, pp. 78–86, 2019, doi: 10.1007/978-3-030-15719-7_10.

[3] J. Baas, M. M. Dastani, and A. J. Feelders, 'Entity Matching in Digital Humanities Knowledge Graphs', p. 15.