

Preface on the Second Workshop on Engineering Computer-Human Interaction in Recommender Systems (EnCHIReS 2017)

A recommender system suggests items that might be interesting for the users, by analyzing their previous preferences. While these preferences can be explicitly expressed in the form of ratings or likes, the interactions of the users with the system can also be exploited, in order to collect *implicit* preferences and provide more fine-grained and objective knowledge on what the users are experiencing [2].

Therefore, the user interface engineering community can play a crucial role in the design of more effective recommender systems. Indeed, it is important to move from the perception of a recommender system as a *black box* that provides suggestions that are not interpretable and are completely disconnected from the user model, since this would lead to a lack of trust of the users in the system [3]. It is also widely-known that a current challenge in the recommender systems research is to go beyond accuracy, since the acceptance of a recommendation by the user is related to a set of other factors, such as the way in which the recommended items are presented to the user [1, 4–9]. Therefore, an analysis of the capability of the user interface to improve both the effectiveness and the understanding of the recommendations is an aspect of central interest in this research area.

Moreover, the possibility to allow the users to tailor the recommendations to their current needs is essential. This dynamical adaptation to the users can be pursued by offering means to let a user express what she is currently interested in and is expecting from the system, or by inferring these needs by monitoring her interactions with it. Being able to control the user model, in order to discard outdated preferences or preferences that are related to other users (e.g., when a profile is used to buy a gift for another person) is another crucial aspect.

The user interface also plays a crucial role when visualizing or communicating risks in recommendation domains such as health and medicine.

In this regard, the user interface engineering community has the expertise for generalizing the existing approaches, and to elaborate new patterns and metaphors for supporting users in both inspecting and controlling Recommender Systems. The papers in this workshop proceedings volume present different results and ongoing research on the following topics:

- Design patterns, metaphors, and innovative solutions for the end-user inspection and control of a Recommender System;
- Case studies, applications, prototypes of innovative ways for considering the users' interactions as data for Recommender Systems;
- Position papers on problems and solutions for supporting the Recommender Systems through user interaction and the user while interacting with applications that exploit Recommender Systems;

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- Feature selection and data filtering approaches to extract information from the data gathered through Human-Computer Interaction techniques, for recommendation purposes;
- Analysis of implicit data collected from real-world systems, in order to evaluate their effectiveness for recommendation and personalization purposes.

The workshop was an event co-located with the 9th ACM SIGCHI Symposium on Engineering Interactive Computing Systems (EICS 2017). After the review process, the programme committee selected 6 papers. In addition, Martijn C. Willemsen was invited to give a talk on understanding user preferences and goals in recommender systems. We thank all the authors for their submissions and all members of the program committee. We are grateful to the EICS workshop chairs Teresa Romão and Lucio Davide Spano for their support in the workshop organization.

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Organization

The workshop was organized by the Digital Humanities unit at Eurecat (Spain) and by the Department of Mathematics and Computer Science at the University of Cagliari (Italy).

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References

1. Aymerich, F.M., Fenu, G., Surcis, S.: A real time financial system based on grid and cloud computing. In: Proceedings of the 2009 ACM Symposium on Applied Computing. pp. 1219–1220. SAC '09, ACM, New York, NY, USA (2009), <http://doi.acm.org/10.1145/1529282.1529555>
2. Buder, J., Schwind, C.: Learning with personalized recommender systems: A psychological view. *Comput. Hum. Behav.* 28(1), 207–216 (Jan 2012), <http://dx.doi.org/10.1016/j.chb.2011.09.002>
3. Calero Valdez, A., Ziefle, M., Verbert, K.: Hci for recommender systems: The past, the present and the future. In: Proceedings of the 10th ACM Conference on Recommender Systems. pp. 123–126. RecSys '16, ACM, New York, NY, USA (2016), <http://doi.acm.org/10.1145/2959100.2959158>
4. Cooper, J., Bennett, E.A., Sukel, H.L.: Complex scientific testimony: How do jurors make decisions? *Law and Human Behavior* 20, 379–394 (1996), <http://dx.doi.org/10.1007/BF01498976>
5. Fenu, G., Nitti, M.: Strategies to carry and forward packets in VANET. In: Cherifi, H., Zain, J.M., El-Qawasmeh, E. (eds.) Digital Information and Communication Technology and Its Applications - International Conference, DIC-TAP 2011, Dijon, France, June 21-23, 2011. Proceedings, Part I. Communications in Computer and Information Science, vol. 166, pp. 662–674. Springer (2011), https://doi.org/10.1007/978-3-642-21984-9_54
6. McNee, S.M., Lam, S.K., Konstan, J.A., Riedl, J.: Interfaces for eliciting new user preferences in recommender systems. In: Proceedings of the 9th International Conference on User Modeling. pp. 178–187. UM'03, Springer-Verlag, Berlin, Heidelberg (2003), <http://dl.acm.org/citation.cfm?id=1759957.1759988>
7. Nguyen, H., Masthoff, J., Edwards, P.: Persuasive effects of embodied conversational agent teams. In: Proceedings of the 12th International Conference on Human-computer Interaction: Intelligent Multimodal Interaction Environments. pp. 176–185. HCI'07, Springer-Verlag, Berlin, Heidelberg (2007), <http://dl.acm.org/citation.cfm?id=1769590.1769610>
8. Pu, P., Chen, L.: Trust-inspiring explanation interfaces for recommender systems. *Know.-Based Syst.* 20(6), 542–556 (Aug 2007), <http://dx.doi.org/10.1016/j.knosys.2007.04.004>
9. Qiu, L.: Designing social interactions with animated avatars and speech output for Product Recommendation Agents in electronic commerce. Ph.D. thesis (Jan 2010), <https://open.library.ubc.ca/cIRcle/collections/831/items/1.0092949>