

Guest Editorial Preface

Special Issue on User-Centric Service Recommendation in Internet of Things

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This special issue of the *Journal of Organizational and End User Computing* (JOEUC) collects five articles.

The first paper, titled “A Lightweight Three-Factor Anonymous Authentication Scheme With Privacy Protection for Personalized Healthcare Applications,” proposes a lightweight three-factor anonymous authentication scheme with forward secrecy for personalized healthcare applications using only the lightweight cryptographic primitives. The proposed scheme adopts pseudonym identity technique to protect user’s real identity, and employs one-way hash chain technique to ensure forward secrecy. Analysis and comparison results demonstrate that the proposed scheme can not only reduce execution time by 34% as compared with the most effective related schemes, but also achieve more security and functional features.

The second paper, titled “Time-Aware CF and Temporal Association Rule-Based Personalized Hybrid Recommender System,” proposes a time-aware CF and temporal association rule based personalized hybrid recommender system TP-HR. The proposed time-aware CF algorithm considers evolving features of user’s historical feedbacks. And time-aware user’s similar neighbors selecting measure and time-aware item rating prediction function are proposed to keep track of the dynamics of users’ preferences. The proposed temporal association rule-based recommendation algorithm considers the time context of users’ historical behaviors when mining effective temporal association rules. Experimental results on real datasets show the feasibility and performance improvement of our proposed hybrid recommender system compared to other baseline approaches.

The third paper, titled “Towards Smart Transportation System: A Case Study on the Rebalancing Problem of Bike Sharing System Based on Reinforcement Learning,” focuses on the smart transportation system that involves both the organizations that manage the large-scaled system and individual end-users who enjoy these services. The authors study how Deep Reinforcement Learning (DRL) can be used to optimize the operating policy in modern bike sharing systems. As a case study, the authors demonstrate the potential power of the modern DRL by showing a policy-gradient based reinforcement learning approach to the rebalancing problem in a bike sharing system, which can simultaneously improve both the user experience and reduce the operational expense.

The fourth paper, titled “A Top-K QoS-Optimal Service Composition Approach Based on Service Dependency Graph,” investigates the Top-k service composition problem that can provide users with more service options, meet diverse application requirements, and eliminate the “overheating” of services brought by the centralized selection of optimal approaches. To overcome the shortcomings of current Top-k service composition approaches, a Top-k service composition approach is proposed in this paper. Through an effective filtering strategy and the serialization representation of the service composition solution, the Top-k service composition approaches can be obtained from a large data set

within a short period of time. Experiments show that the proposed algorithm can guarantee reliable accuracy and better time performance.

The fifth paper, titled “Impact of Mobile Ad Wearout on Consumer Irritation, Perceived Intrusiveness, Engagement, and Loyalty: A PLS-SEM Analysis,” investigated the impact of Mobile Ad Wearout on Jordanian consumer irritation and perceived intrusiveness, and their impacts on consumer engagement and loyalty. Stringent tests and robust methodological approaches were carried out; results revealed that Mobile Ad Wearout is a strong determinant for increased irritation and perceived intrusiveness among consumers. Results show that as consumer irritation increases, the level of consumer engagement decreases, and no change was recorded for consumer loyalty. Further, as perceived intrusiveness increases, the level of consumer engagement decreases, and the level of consumer loyalty increases. Marketing managers should consider both the positive and negative fronts of mobile ads prior to inaugurating them into their marketing mix.

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