Abstract

The automotive industry continues to evolve every year, especially in the field of cars. Manufacturers from various brands are competing to introduce cutting-edge innovations with technological sophistication and unique features. A recommender system for cars has been developed but only based on technical specifications. However, cars have complex specifications, so many users do not familiar with the technical specification. Users find it easier to express their needs in terms of the functional aspects of a product rather than its technical features. To address this issue, we propose a conversational recommender system (CRS) to assist in interacting with users in order to elicit user need preferences. Therefore, we created a conversational recommendation system (CRS) designed to interact with users and capture their specific preferences. CRS engages users in conversations like sales professionals, facilitating natural and efficient interactions to uncover their specific desires. The model combines ontology structures and algorithms to effectively capture user preferences, taking into account explicit product information and temporal data to build domains and user profiles. The evaluation of this system focuses on two main parameters: system performance and user satisfaction. The system performance evaluation yielded an impressive overall accuracy rate of 87.84%, accompanied by positive feedback from users regarding satisfaction. These results demonstrate the effectiveness of the user-centered recommendation system in providing accurate recommendations and assisting users in selecting their desired automotive products.
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Keywords : car recommender system, functional requirements, conversational recommender system, ontology, knowledge-based recommender system