Abstract

Public interest in electric vehicles is increasing due to various significant factors. One such factor is the rising world oil price, which has affected the price of fuel oil, a concern for Indonesians who depend on private transportation in their daily lives. The subsidy provided by the Indonesian government to encourage electric vehicle purchases is another contributing factor. A GAIKINDO Indonesia International Auto Show report in August 2022 revealed 1,594 units of electric vehicles sold in eleven days. A report from International Energy Agency stated that electric car sales in Indonesia tripled in 2022 compared to 2021, reaching 80,000 units sold. However, buyers either encounter difficulties or lack the time to research technical specifications for electric vehicles. Furthermore, there is a lack of recommender systems specifically designed to recommend electric vehicles as products, despite the increasing demand in the market. To overcome this difficulty, we propose a conversational recommender system (CRS) for electric vehicles that considers buyers' functional requirements. The CRS will utilize ontology as knowledge representation and recommend suitable electric vehicles interactively, mimicking a car dealership. The CRS will present suitable electric vehicle choices based on the user's demands and preferences. Our observation showed that the system acquired an 86.58% overall success rate in recommending electric vehicles to users who have tested the system, redeeming it as a reliable assistant in guiding users to purchase the right electric vehicle.

Keywords: electric vehicles, recommender system, conversational recommender system, ontology.