

Eco-design Based on Collaborative Filtering Recommender System

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Received: 14 June 2017 Accepted: 27 September 2017

Eco-design Collaborative Filtering Recommender System is an approach to assist designers in producing a green product. Collaborative Filtering (CF) approach is the most commonly used and most successful approaches for the systems of recommendation. In eco-design (Ecological Design), several studies focused on the implementation of eco strategies to reduce the products' environmental impact. While the raw materials of the product are even more important in order to design a product to preserve the environment. Therefore, in this paper, the researcher employ the CF to develop a new eco-design method to provide a set of raw materials to assist the designers at early stage to preserve the environment. CF system is able to overcome the information overload issue by analyzing the past behavior of its users. It's very simple and effective way to assist eco-designer to identify the best options from alternatives. CF system introduce a set of recommendations to the product designers through comparing the new product with the existing products in data base based on products' information. Next, determine the most similar products and rank them based on its environmental impact. Then, the components of products which have low environment impact will be provided to the eco-designers as a recommendations. An assumed example of eco-design will be used to explanation the proposed method. Further research can be conducted on this proposed method by implementing it with real dataset to generalize its performance.

Keywords: Recommendation System; Collaborative Filtering, Eco-design.