An Implementation of Goal-Oriented Fashion Recommendation System

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Abstract. On the Web, Electronic Commerce is widely thriving with development of the Web technology. However, users still have trouble finding products that will find their desires. In recent researches, they have introduced many kinds of method for Recommender systems, but these system still have problems which are based on concrete attributes of the products and a complex users model. Within this paper, we introduce a new technique, Goal Oriented Recommendation, which works even when users do not want exactly products that they are looking for. Moreover, the system processes users' input (e.g. "I'm going to have dinner with my boss" or "I'm looking for my wife's birthday presents") with a own concept dictionary which contains a occasion word and a person word. The system can recommend items based on users' desire, if users input their desire.

Keywords: Recommender System, Concept Dictionary, Goal Oriented Recommendation.

1 Introduction

On Electronic Commerce, users still have problems finding products which is their desires or goals. In recent years, almost shopping sites employ keyword or category based searching systems[1, 16]. The advantage of keyword based searching, the system provides products for users with a simple keyword for products, but the disadvantage is that users must guess a keyword of products. Similarly, category based searching also obligates users who should guess a category for the products. On the other hands, bulletin board system provide a free input for users, when they want to ask other users, but the disadvantage is that only the limited user will answer the users' question. Hence, even if users get information about their desires, it would not be accurate information or incorrect answers.

In this paper, we introduce a new recommender system, Goal oriented fashion recommendation system. The system provides the input with a sentence, which make user's remove above obligations. In fact, users of the system can input

their desires freely. In addition, we assume users' situation that they want to find items for their occasions, and also have no ideas "what should they wear" for the occasions.

The outline of this paper goes as follows. First, it shows overview of goal oriented fashion recommendation system, second we introduce how such a system may be built, and give an implementation example of the system, third, discusses the implemented system. Fourth, we introduce related works, finally, we conclude this paper.

2   Goal Oriented Fashion Recommendation System(GOFRS)

2.1   System Overview

We implemented a fashion recommendation system. In this system, we assume a situation that each user is looking for clothes for some events but he/she has no idea what should he/she wear. Firstly, Each user registrates his/her clothing items (jackets, shirts, pants). There is an input entry for users to find items for particular occasions, i.e., "I'm going to ...". For example, "I'm going to have dinner" or "I'm going to attend the entrance ceremony", etc. Based on own dictionaries, the system matches the clothes' styles and functions for context. the system returns suggestions for complete outfit with distinguished items (jackets, shirts, pants), and outfits can be selected by users, which the user interested in. Moreover, users can check a pair of clothes from outfits on the avatar space in the system. Additionally, the system discriminates a formal occasion from a informal occasion depend on a person who is together with the user in an occasion, e.g.,"I'm going to have dinner with my family" must be an informal occasion, on the other hand, "I'm going to have dinner with my boss" must be a formal occasion.

2.2   Item Database and Concept Dictionary

Our database of items is based on an item of Marui web channel[9], and the database contains 100 items which include all categories such as jackets, shirts, pants. Moreover, these items has a key which represents features for items, we use a six-tuple to represent dimensions of the concept style:

(1) Formal
(2) Trendy
(3) Sporty
(4) Luxurious
(5) Elegant
(6) Funky

where a key ranges from 0 to 10. An example of keys goes as follow.

$$leather\ jacket(2, 6, 3, 4, 3, 8)$$