Long-term Goal-Aware Recommender System Exploration Using Twitter Data

In everyday life, we keep receiving recommendations from others either by words of mouth, press print, or multi-media such as TV advertising. Nowadays, recommender systems are entering our life online since people depend more and more on computers to solve problems of various kinds. We can come across them almost everywhere on the internet: advertising about something you searched the other day in Google appears in the right side of your current searching page; Amazon always tries to guess what you would be interested in and give some similar items as recommendations; content sites such as StumbleUpon provide information in particular areas which you set before.

Here, we are planning to build a special recommender system, called "long-term goal aware recommender system", which would differ from traditional ones as providing recommendations according to the users' long-term goals. It is supposed to be able to serve people in a more comprehensive way and in long haul, by providing them an excellent package of recommendations to reach their long-term goals.

So, the first phase is to build a long-term goal dictionary to be referred to, which is also what we are doing now. We use twitter posts that contain "new year's resolution" as our raw data, and extract key words as users' long-term goals. Then, by using LDA algorithm, these long-term goals are clustered under several different topics, so the basic dictionary of long-term goals is built. The next is to refine it. We may use external sources to extend it into large-scale dictionary.

For the future work, another difficulty is how to choose appropriate recommendations to different people. We tend to build another dictionary, a recommendation dictionary, which is used for recommendations' online searching. The framework of our system shows as Fig.2.

Keywords: Long-term goals, twitter, topic modeling, clustering

Reference

[1]   D. D. Zhu, Y. Fukazawa, E. Karapetsas and J. Ota, Analysis of New Year's Resolutions Extracted from Twitter Posts to Capture User's Long Term Goals, Web Intelligence and Interaction (SIG-WI2), pp.41-42(2012)
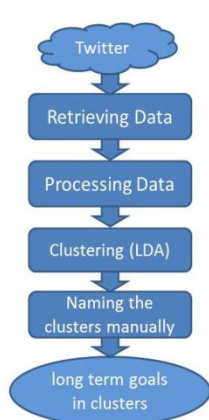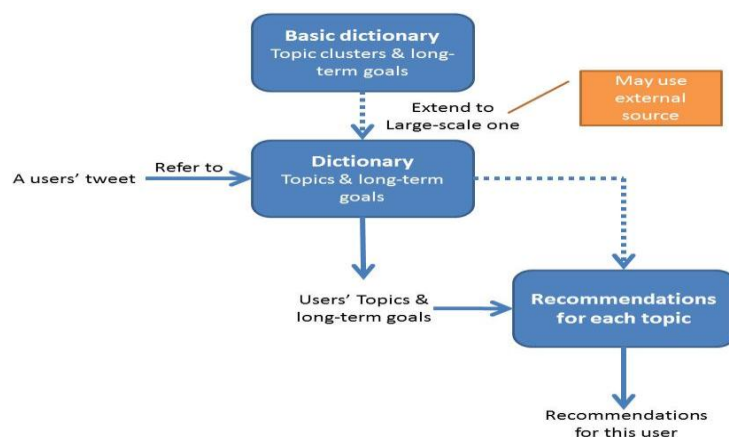
Fig. 1 Flow chart of creating long term goal dictionary   Fig. 2 Overall flow of long term goal based recommendation