

Pay It Forward - a Dynamic Question Oriented Recommender System

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1 Background

A recommender system is a web technology that proactively suggests items of interest to users based on their objective behavior or their explicitly stated preferences. Although this definition is very broad, all most people think about regarding recommendations are **simple, static, product recommenders** like those of Amazon, simple reputation systems like that of Ebay or answer recommendations like on StackOverflow. Although systems that rely exclusively on machine learning do exist, all the successful ones are collaborative, based on community feedback.

Moreover, most of the work in recommender systems has steered clear of using textual information to generate recommendations. This is probably due to the difficulties of getting machines to understand written natural language at a level sufficient to compete with simpler data sources, such as star reviews or buying patterns.

2 Description

This project proposes a transition from a static recommendation environment to a **dynamic** one. Instead of browsing the items that have previously been rated by others we propose asking a question about the exact thing the user is interested in. The key element is to get answers from the people who would bring most value to the one who asked the question. This is where the recommendation comes in - in selecting the best users to answer each question and at the same time balancing the question load for each user.

The dynamic nature of this information flow makes it suitable for mobile applications and we are currently developing an Android framework in which the future components will be built in.

The goal of the student project is to determine the conditions under which people are most likely to help their peers by answering their questions. The preexistent Android app will be used to allow participants to ask and answer questions and to help each other in everyday tasks. The goal is to incentivize users to be active in order to have a better chance to be helped when they need it. This form of interaction also gives the project its name - Pay It Forward.

pay it forward

The image shows the phrase "pay it forward" written in a casual, handwritten style. Below the word "forward", there are three small circles arranged in a row, with lines connecting them to the letter 'o' in "forward", suggesting a visual pun or a simple diagram.

2.1 Tasks

- Evaluate how involved each community member is in the answering and helping process.
- Increase usability of the initial Android app and evaluate the impact of the changes
- Grow a pilot community of users

The project can be seen as incremental. The basic requirements are the implementation of several question recommendation mechanisms and their impact assessment. If the results are impressive they can be turned into a scientific paper, but this is optional.

3 Skills

- Extensive Java programming experience
- PHP and Android app programming backgrounds are advantages

4 Benefits

- Learn about making recommendations and question answering
- Gather valuable coding experience with mobile platforms
- Develop a real world app and watch a community grow