**STATEMENT OF ORIGINALITY**



**DELHI TECHNOLOGICAL UNIVERSITY**

(Govt. of National Capital Territory of Delhi)

BAWANA ROAD, DELHI – 110042

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

This is to certify that the thesis entitled **‘Interest Mining for Recommendation System in Virtual Communities’** done by **Abha Jain (06/MT/SE/FT),** for the partial fulfillment of the requirements for the award of the degree of Masters of Technology in Software Engineering, is an authentic work carried out by her under my guidance. The matter embodied in this thesis has not been submitted earlier for the award of any degree or diploma to the best of my knowledge and belief.

**Project Guide:**

**DR. AKSHI KUMAR**

Assistant Professor

Department of Computer Engineering

Delhi Technological University, Delhi 110042

**ACKNOWLEDGEMENT**

I take this opportunity to express my profound sense of gratitude and respect to all those who have helped me throughout the duration of this thesis.

I would like to thank Dr. Akshi Kumar, Assistant Professor, Department of Software Engineering, DTU, Delhi for her benevolent guidance in completing my thesis titled “Interest Mining for Recommendation System in Virtual Communities”. Her kindness and help have been the source of encouragement for me, without which this thesis would not have seen the light of the day.

Also I would like to say a word of thanks to the whole faculty of the Department of Software Engineering, DTU, Delhi for their valuable guidance wherever and whenever required.

I must not forget to give sincere regards to my revered parents and my doting husband for their constant support, encouragement, understanding and love without which it would have been impossible for me to achieve all that I have.

Last but not the least I like to thank all the concerned ones who directly or indirectly helped me in completing this thesis.

**ABHA JAIN**

Masters of Technology (Software Engineering)

Enrollment No. 06/MT/SE/FT

Delhi Technological University, Delhi 110042

**ABSTRACT**

As organizations, both business and research development continue to search better ways to exploit knowledge capital accumulated on the diversified Web; it fosters the need of collaboration among people with similar interest & expertise. With the advent and proliferation of the Internet and e-commerce, it is evident that the complexity of finding relevant information on the Web has become increasingly intricate and crucial. In fact, “information overload” on the Web is a well recognized problem, where users find it increasingly difficult to locate the right information at the right time. In response to the identified need for improved users' experience by personalizing what they see and using Web 2.0 as a novel platform for users’ participation, we propose the “COMREC system” that realizes a ***COMmunity interest based RECommendation system***. In the proposed system firstly we build an interest similarity group, an online community which is a virtual space where people who are interested in a specific topic gather and discuss in depth a variety of sub-topics related to the topic using blogs. Expert identification involves finding experts on a given topic. Thus, once the group is constructed, as our next step we identify an expert from each of the group. Expert identification in online communities is of importance as online communities can be viewed as knowledge databases where knowledge is accumulated by interactions between the members. That is, we read articles in online communities to get information on specific topics and we tend to have more confidence in the articles written by experts. On the other hand, in terms of communication dynamics, online communities are spaces where non-experts can communicate with experts and communicating with experts is not only difficult but also expensive. Consequently, in the proposed COMREC system it’s the opinion of the identified expert within a virtual community built on shared interest that constitutes the recommendation. Eventually this paradigm helps to overcome the most prominent problem existent in collaborative filtering setting, the *First-Rater or the cold- start problem,* as in our proposed system it is only the expert whose recommendation is considered compared to systems which require a large set of customer preferences for predicting the new preferences accurately for effective Collaborative filtering-based recommendation. The initial results show that the interest mining for recommendation system in virtual communities for building COMREC system is a motivating technique.