SAPTHAGIRI COLLEGE OF ENGINEERING

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Department of Computer Science and Engineering

Certificate

Certified that the project work entitled "**Structural Balance Theory Based E-Commerce Recommendation**" carried out by **VANDITHA.V (1SG11CS089), DEEPASHREE M.S (1SG13CS403), DHRUVA KUMARA B.Y (1SG14CS407), NAKUL SAGAR (1SG12CS058),** bonafide students of **this institute,** in partial fulfillment for the award of **Bachelor of Engineering** in **Computer Science and Engineering** of **Visvesvaraya Technological University, Belgaum** during the academic year **2016-17.** It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the department library. The project progress report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said degree.

10/6/17	10/6/17	
Signature of the Guide	**Signature of the HOD**	**Signature of the Principal**
Mr. J. Suriya Prakash	**Dr. Prashanth C.M**	**Dr. Aswatha Kumar M**
Assistant Professor	Professor & Head	Principal

Name of the Examiners	**Signature with date**
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ABSTRACT

Recommending appropriate product items to the target user is becoming the key to ensure continuous success of E-commerce. Today many E-commerce systems adopt various recommendation techniques, example Collaborative Filtering based technique, to realize product item recommendation. Overall, the present Collaborative recommendation can work only if the target user owns similar friends (User-based Collaborative Filtering), or the product item preferred by the target user own one or more similar product items (Item-based Collaborative Filtering), while due to sparsity of big rating data in E-commerce, similar friends and similar product items may be both absent from the user-product purchase network, which leads to a big challenge to recommend appropriate product items to the target user. Considering the challenge we put forward a Structural Balance Theory based Recommendation approach where we look for the target user's "possible friends", according to "enemy's enemy is a friend" rule of structural balance theory, and recommend the product items preferred by these "possible friends" of the target user as the recommendations for the target user. Likewise, for the product items purchased and preferred by the target user, we determine their "possibly similar product items" based on Structural Balance Theory and recommend them to the target user.