Product Recommendation for the High-End Sales Website

Thái Văn Cường
Thai Nguyen University of Information and Communication Technology
Thai Nguyen University, Thai Nguyen, Vietnam
student620@ictu.edu.vn

***Abstract*—This undergraduate thesis investigates product recommendation integrated into the High-End company sales website. An online catalogue can use customer ratings to show relevant products on its home and detail pages. The student studies collaborative filtering and implements a user-based recommendation view for the home page and an item-based view for product details using stored ratings. The manuscript presents the rating-based computations and interface screenshots for both recommendation views. Its conclusion reports integration into the company website and responsive interface improvements. The source notes that recalculating the rating matrix after new reviews may slow recommendation loading. It does not give an independent recommendation quality benchmark, customer satisfaction study, or measured sales uplift. The contribution is a documented student study or prototype whose stated scope can guide further testing.**

***Index Terms*—recommender system, collaborative filtering, online sales, product ratings**

I. Introduction

An online catalogue can use customer ratings to show relevant products on its home and detail pages. This thesis investigates product recommendation integrated into the High-End company sales website. It begins from a practical engineering need and explains the technologies and workflow chosen for the case. The objective is to document a student implementation or comparative investigation, together with the evidence available in the manuscript. Broader operational or economic effects require separate measurements and are not assumed from the existence of a prototype [1]. Earlier ICTU student work on related designs is included here for context [2], [3]. Related published studies provide context for the subject and methods [4], [5], [6], [7], [8], [9], [10]. These contextual works were selected for this English summary; they are not asserted to appear in the original thesis bibliography.

II. Methods

The student studies collaborative filtering and implements a user-based recommendation view for the home page and an item-based view for product details using stored ratings. The source is summarized through its stated design, implementation material, examples, and conclusion. Features shown in the manuscript are distinguished from proposals for later development. This review does not add a new experiment, fill missing measurements with estimates, or treat a planned capability as an observed result. The source thesis remains the provenance for the reported work [1].

Supervisor: Nguyễn Đức Bình, Thai Nguyen University of Information and Communication Technology (ndbinh@ictu.edu.vn).

III. Results

The manuscript presents the rating-based computations and interface screenshots for both recommendation views. Its conclusion reports integration into the company website and responsive interface improvements. The report's screens, configurations, examples, or measurements constitute the evidence for this summary. A capability described only as a design intention is not counted as a validated operational outcome. No additional performance, adoption, financial, or safety figure has been introduced here. The result is interpreted within the scope of the student's documented setup [1].

IV. Discussion

The source notes that recalculating the rating matrix after new reviews may slow recommendation loading. It does not give an independent recommendation quality benchmark, customer satisfaction study, or measured sales uplift. Further work could benchmark response time and recommendation accuracy with documented datasets and optimize updates to the rating matrix. These limitations affect how the evidence should be read. The current manuscript can support understanding of the design and reported demonstration, while independent tests would be needed for stronger claims. Any later deployment should document its environment and separate observed outcomes from intended benefits [1].

V. Conclusion

The thesis documents product recommendation integrated into the High-End company sales website. The manuscript presents the rating-based computations and interface screenshots for both recommendation views. Its conclusion reports integration into the company website and responsive interface improvements. The source notes that recalculating the rating matrix after new reviews may slow recommendation loading. It does not give an independent recommendation quality benchmark, customer satisfaction study, or measured sales uplift. Further work could benchmark response time and recommendation accuracy with documented datasets and optimize updates to the rating matrix. Accordingly, the present contribution is a source-grounded account of the student work

and its tested or illustrated scope. Claims about broader effectiveness should be assessed in later work using explicit evaluation conditions [1].

References

[1] Thái Văn Cường, ”Product Recommendation for the High-End Sales Website,” internal undergraduate thesis (original in Vietnamese), Thai Nguyen University of Information and Communication Technology, 2024.

[2] Đinh Tiến Tùng, ”Construction of an E-commerce Website for Laptop Sales for Hoang Anh-Bac Giang Store,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2021.

[3] Kiều Hoàng Phúc, ”Construction of an Online Clothing Store Website Using Reactjs for Hoang Minh Store,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2023.

[4] Silvana Vanesa Aciar et al., ”Enhancing Recommender System with Collaborative Filtering and User Experiences Filtering,” Applied Sciences, 2021. doi:10.3390/app112411890.

[5] Kapil Saini et al., ”Comparative analysis of collaborative filtering recommender system algorithms for e-commerce,” Journal of Autonomous Intelligence, 2023. doi:10.32629/jai.v7i2.1182.

[6] Mahdi Jalili, ”A Survey of Collaborative Filtering Recommender Algorithms and Their Evaluation Metrics,” International Journal of System Modeling and Simulation, 2017. doi:10.24178/ijsms.2017.2.2.14.

[7] S. Amutha et al., ”An Improved Product Recommender System Using Collaborative Filtering and a Comparative Study of ML Algorithms,” Cybernetics and Information Technologies, 2023. doi:10.2478/cait-2023-0035.

[8] Shivani Patel, ”IMPLEMENTATION OF ONLINE PRODUCT RECOMMENDATION SYSTEM USING COLLABORATIVE FILTERING.,” International Journal of Advanced Research, 2019. doi:10.21474/ijar01/9715.

[9] Zhihai Yang et al., ”Detecting Anomalous Ratings in Collaborative Filtering Recommender Systems,” International Journal of Digital Crime and Forensics, 2016. doi:10.4018/ijdcf.2016040102.

[10] Hung Quoc Ly et al., ”APPLYING COLLABORATIVE FILTERING METHOD FOR DOCUMENT RECOMMENDER SYSTEM,” TRA VINH UNIVERSITY JOURNAL OF SCIENCE, 2023. doi:10.35382/tvujs.13.6.2023.2102.