A Node.js E-Commerce Website for the Cam Van Store Chain

Đồng Quốc Huy
Thai Nguyen University of Information and Communication Technology
Thai Nguyen University, Thai Nguyen, Vietnam
student531@ictu.edu.vn

***Abstract*—This thesis develops a Node.js e-commerce website for the Cam Van store chain. The report analyzes user roles and requirements, describes JavaScript and PostgreSQL, and presents use cases, interaction diagrams, wireframes, and website screens. The planned customer workflow includes browsing products, adding goods to a cart, placing orders, and commenting on products. The author says the basic project was completed and acknowledges limitations caused by time and experience. The source does not provide measured sales growth, a payment-settlement audit, or evidence of sustained use across the chain. This summary treats design requirements and demonstrated screens as distinct from verified production behavior. The contribution is a documented student e-commerce implementation that can be refined through operational testing.**

***Index Terms*—e-commerce, Node.js, PostgreSQL, online store, Cam Van**

I. Introduction

A retail chain needs to present products and support customer ordering across locations. The thesis uses Cam Van as a case for a web storefront developed with Node.js. It identifies customer, employee, and administrative tasks and studies the technologies used in the design. Its aim is to create a usable website for the chain. The report does not establish a measured baseline for the chain existing sales process [1]. Earlier ICTU student work on related designs is included here for context [2], [3], [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 author gathers functional requirements, models use cases and interactions, and prepares wireframes for key pages. The report describes JavaScript, Node.js, and PostgreSQL and maps requirements for product browsing, carts, orders, and comments to system designs. Implementation material illustrates the website interface. The method is analysis, design, and prototype construction; no independent payment-security review or controlled usability study is documented [1].

III. Results

The thesis presents requirement tables, sequence and activity diagrams, wireframes, and interface material for the Cam Van e-commerce workflow. Its conclusion states that a basic website was completed. It does not measure checkout success, customer satisfaction, or business performance after deployment. Some functions appear as specified requirements and should not automatically be read as independently tested features. The evidence is strongest for the documented architecture and screens [1].

Supervisor: Nguyễn Văn Tảo, Thai Nguyen University of Information and Communication Technology (nvtao@ictu.edu.vn).

IV. Discussion

A web storefront can bring product information and orders into one channel, but its practical value depends on stock accuracy, secure accounts, checkout handling, and staff workflow. The author recognizes that the project needs further improvement. The source does not demonstrate live payment settlement or chain-wide adoption. A later evaluation should distinguish planned features from implemented ones and test actual customer and administrator journeys [1].

V. Conclusion

The thesis documents a Node.js e-commerce website project for the Cam Van store chain. It includes requirements, models, wireframes, and website implementation material. The author reports a basic completed site and acknowledges remaining shortcomings. The source does not verify economic impact or production reliability. Further testing with the chain would establish which features meet daily needs and which require revision [1].

References

[1] Đồng Quốc Huy, "A Node.js E-Commerce Website for the Cam Van Store Chain," 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] Phạm Tuấn Hải, "Construction of a Commercial Website for Huyền Vấn Limited Liability Company," internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2009.
[4] ICTU Student 70, "Application of E-commerce," internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2008.
[5] ICTU Student 182, "Analysis and Design of an E-commerce Website for Computer Products - Introduction and Sales for H3T Corporation," internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2010.
[6] Trần Văn Khanh, "Construction of a Furniture E-commerce Website for a Store in Vinh Phuc Using Laravel Framework," internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2022.

[7] Lô Khánh Hòa, ”Construction of an Online Clothing Store Website for Ilike Store,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2021.
[8] ICTU Student 147, ”Construction of a Website for Children’s Merchandise Shop Hùng Vương,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2009.
[9] 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.
[10] ICTU Student 81, ”Construction of a Computer Store Website,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2008.