An Online Multiple-Choice Practice Website for the Faculty of Information Technology

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***Abstract*—This undergraduate thesis investigates an online multiple-choice practice website for the Faculty of Information Technology. Students can benefit from a web interface for practicing questions and reviewing their answers. The author analyzes quiz workflows and implements a site with ASP.NET Core, HTML, CSS, JavaScript, and supporting interface libraries. The manuscript describes database design, pages, and user operations. The conclusion reports a usable basic quiz website and says that passwords are stored with one-way hashing. Image insertion into questions, random question mixing, and classification by difficulty are explicitly absent from the implemented version. The author characterizes the site as basic. The source does not include an independent learning-outcome study, a security audit of authentication, or a measured performance benchmark. The contribution is a documented student study or prototype whose stated scope can guide further testing.**

***Index Terms*—online quiz, ASP.NET Core, multiple-choice practice, education**

I. Introduction

Students can benefit from a web interface for practicing questions and reviewing their answers. This thesis investigates an online multiple-choice practice website for the Faculty of Information Technology. 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], [4], [5], [6]. Related published studies provide context for the subject and methods [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 analyzes quiz workflows and implements a site with ASP.NET Core, HTML, CSS, JavaScript, and supporting interface libraries. The manuscript describes database design, pages, and user operations. 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].

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III. Results

The conclusion reports a usable basic quiz website and says that passwords are stored with one-way hashing. Image insertion into questions, random question mixing, and classification by difficulty are explicitly absent from the implemented version. 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 author characterizes the site as basic. The source does not include an independent learning-outcome study, a security audit of authentication, or a measured performance benchmark. Future work could add image questions, randomization, difficulty levels, and a second interface language, followed by user testing and security review. 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 an online multiple-choice practice website for the Faculty of Information Technology. The conclusion reports a usable basic quiz website and says that passwords are stored with one-way hashing. Image insertion into questions, random question mixing, and classification by difficulty are explicitly absent from the implemented version. The author characterizes the site as basic. The source does not include an independent learning-outcome study, a security audit of authentication, or a measured performance benchmark. Future work could add image questions, randomization, difficulty levels, and a second interface language, followed by user testing and security review. 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] Dương Thị Tươi, ”An Online Multiple-Choice Practice Website for the Faculty of Information Technology,” internal undergraduate thesis (original in Vietnamese), Thai Nguyen University of Information and Communication Technology, 2024.

[2] ICTU Student 207, ”Construction of a Multiple Choice Exam Program and Educational Support,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2010.

[3] ICTU Student 206, ”Multiple Choice Examination Program for Hiep Hoa 3 High School,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2010.

[4] Phạm Thị Huyền, ”Construction of an Online Testing System on the Joomla! CMS,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2009.

[5] Hoàng Văn Kiên, ”Construction of an Online English Learning and Exam Practice Website Using Laravel Framework,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2021.

[6] Phạm Văn Cường, ”Construction of an Automatic Grading System,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2023.

[7] Sami Shaban et al., ”Online assessment standard setting for multiple choice questions,” International Journal of Medical Education, 2016. doi:10.5116/ijme.5715.3481.

[8] M Divya Sri et al., ”Online Quiz Website,” International Journal of Advanced Research in Science, Communication and Technology, 2022. doi:10.48175/ijarsct-7578.

[9] Richard Say et al., ”Formative online multiple-choice tests in nurse education: An integrative review,” Nurse Education in Practice, 2022. doi:10.1016/j.nepr.2021.103262.

[10] R. Guo et al., ”Intelligent diagnostic feedback for online multiple-choice questions,” Artificial Intelligence Review, 2013. doi:10.1007/s10462-013-9419-6.