A Cross-Platform Human Resources Application for ICTU Using Google AppSheet

Nguyễn Lập Nam
Thai Nguyen University of Information and Communication Technology
Thai Nguyen University, Thai Nguyen, Vietnam
student506@ictu.edu.vn

***Abstract*—This thesis presents a Google AppSheet application for managing personnel information at Thai Nguyen University of Information and Communication Technology. The author analyzes roles and administrative workflows, then models functions for user accounts, organizational units, positions, employee records, leave, salary information, and personnel reports. The implementation chapter shows AppSheet screens for these data categories and a reporting chart. The development process uses a connected data source and AppSheet configuration to create a cross-platform interface without building separate native clients. The source provides use-case and sequence descriptions and screenshots of the resulting application. It reports a working prototype but also states that some intended functions were not completed and that the interface needs improvement. No measured reduction in administrative effort, deployment trial, or security assessment is presented. The contribution is an implementation example of a low-code personnel-management workflow, with further completion and institutional validation needed before routine use.**

***Index Terms*—personnel management, human resources, Google AppSheet, low-code, ICTU**

I. Introduction

Personnel administration requires consistent records of employees, units, roles, leave, and salary-related information. The thesis proposes a cross-platform application for ICTU using Google AppSheet. It aims to make these records accessible through one administrative interface and to support reporting on personnel data. The source frames the work as a prototype built during the undergraduate project and does not describe a university-wide production rollout [1]. Earlier ICTU student work on related designs is included here for context [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 analyzes user roles and documents use cases and sequence flows for account administration, organizational units, position ranks, and other personnel operations. The application is configured in Google AppSheet using a connected data source, forms, views, and navigation. The implementation chapter presents screens for employee information, employees on leave, positions, units, adding staff, salary management, a university council view, and a personnel report chart. These diagrams and screens provide the primary evidence of implementation [1].

Supervisor: Đỗ Đình Cường, Thai Nguyen University of Information and Communication Technology (ddcuong@ictu.edu.vn).

III. Results

The report displays an AppSheet prototype with personnel records and administrative views for units, positions, leave, and salary information. It also shows a chart intended to summarize the personnel database. The author states that an application was designed and built but acknowledges that some proposed functions are incomplete. The source does not specify a measured number of users, records, or completed transactions, and it provides no controlled comparison with the former management process [1].

IV. Discussion

A low-code AppSheet approach can make a single data source available across devices without separate native implementations. However, the author identifies incomplete functions, an interface that needs refinement, and limited experience with formulas and commands as constraints. The report does not evaluate access control, data protection, or integration with official human resources systems. Those issues matter for actual personnel records and would need separate design and validation before institutional adoption [1].

V. Conclusion

The thesis documents a cross-platform AppSheet personnel-management prototype for ICTU. Screens and diagrams support the presence of several administrative views, while the source explicitly recognizes unfinished functions. The work establishes a demonstration of the chosen low-code workflow, not a verified production human resources system. Completing features, improving the interface, and evaluating real use remain future tasks. Particular attention would be needed for access permissions and the quality of personnel records before the application could support official administration [1].

References

[1] Nguyễn Lập Nam, "A Cross-Platform Human Resources Application for ICTU Using Google AppSheet," internal undergraduate thesis (original in Vietnamese), Thai Nguyen University of Information and Communication Technology, 2024.
[2] Dương Kiều Hoa (2006), "Giáo trình Phân tích hệ thống hướng đối tượng với UML", Trường Đại học Quốc gia Thành phố Hồ Chí Minh
[3] Huỳnh Văn Đức, Đoàn Thiện Ngân (2004), "Giáo trình nhập môn UML", Nhà xuất bản Lao động xã hội

[4] Nguyễn Thị Hoa, ”Human Resources Management Software for Comprehensive Technology Solutions Joint Stock Company in Hanoi,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2014.
[5] Phạm Thu Phương, ”Human Resources Management Program for Kovi Kyung Seung Co., Ltd. in Bac Giang,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2014.
[6] Phạm Hồng Tư, ”Human Resources Management Program for ATK Non-Fired Materials Joint Stock Company in Thai Nguyen,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2014.
[7] Quách Thị Giang, ”Human Resources Management Program for Seidensticker Vietnam Co., Ltd.,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2014.
[8] Vương Thị Huế, ”Human Resources Management Program for the Ninh Xa Commune People’s Committee in Bac Ninh,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2014.
[9] ICTU Student 123, ”Development of a Personnel Management Program for the Telecommunications Center of Bac Kan Province,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2009.
[10] Vũ Thị Tươi, ”Human Resources and Payroll Management Program for Alpha Vietnam Communications and Advertising Joint Stock Company in Hanoi,” internal undergraduate thesis, Thai Nguyen University of Information and Communication Technology, 2013.