eFRP and eFPK Application

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ABSTRACT

Mobile apps have had a significant impact on a variety of industries, including higher education when they first appeared. As a result of this epidemic, the quality of teaching and learning is also affected so that the implementation of theoretical and practical classes cannot be conducted physically or face-to-face, this includes all the management works. Therefore, this online app is produced in line with the development of technology in today's management which requires more creative, innovative, and interactive management techniques when the files or documentation need to be stored or submitted online. This innovation was created to facilitate the head of the program and the head of the department in the implementation of the review or verification of eFRP/ eFPK files and save the management's time to complete the review of the files. Therefore, an online app for file management was developed for file reviews to increase the effectiveness of the file review process. This management innovation has been tested with the head of programs and the head of the department to see their opinions regarding the effectiveness of production of this innovation. Most of the heads of programs gave a positive response and stated that this innovation helped and facilitated them in their file review or verification. This online app for file management was developed by using Appsheet. This online app allows users to key in the checklist directly in the apps after checking the files in Google Drive. The mobile application created can read and display the checklist items on the screen of a mobile device. With a clear checklist on the screen, users can tick the items directly and the checklist can be printed in PDF format for send out to the file owner.

1.0 Introduction

The online apps were built to help the management team, especially the head of programs and department in file checking wherever they are. Checklist items have been stated in the application for users' reference.

The pattern of national education has changed a lot following the spread of the COVID-19 epidemic, including management work. All the files need to be stored digitally for easier access. This app can be filled by users anywhere and anytime. Therefore, this online application has been considered as more flexible and effective.

2.0 Literature Review

Every semester, in order to meet the requirements of the academic calendar and the department's quality management, the head of the program and the head of the department will review the Lecturer Record File (FRP) twice and the Course Coordinator File (FPK) once which the

lecturers under their respective supervision need to prepare, updating and preparing files for review. This review of FRP and FPK requires quite a lot of filing. Each review element in the review form or checklist also requires very close scrutiny since the head of the program must review many lecturers under their supervision and has to send them one by one into the lecturer's review file. Before the pandemic, the review activity was manual where all the documents kept by lecturers in FRP and FPK files were in hardcopy. This review of FRP and FPK needs to be done to ensure the quality of academic management is in good condition.

Through the study, the cloud-based File and Storage Management System (FSMS) (Leif Jay B. et al. 2021) would help the employees of the said school function their tasks effectively and efficiently. During the pandemic, the preparation of FRP and FPK for lecturers has changed to softcopy where lecturers need to keep relevant documents (Nazir et al. 2015) in the Google Drive link (Febrianto, 2022) provided by the Department's Quality Coordinator. The head of the department and head of the program need to check the FRP and FPK of the submitter through the link according to the review period that has been set. During the review process, there was a problem that some submitters were late in submitting the relevant documents and this caused the review work not to go well. The head of the program also had to frequently access and check Google Drive to ensure that the lecturer's file was complete and updated.

Besides that, the Online Course File Management System (OCFMS) as part of University Systems supports the enhancement process of all aspects of academic works, less use of papers, availability of access to the course file any time, and from anywhere; standardization of structure of the course file document itself; syllabus designing and editing, assessment components of the teaching course according to program learning outcomes, and mapping them with other students outcomes and many other benefits can be expected from such type of systems (Ayman et al. 2009).

Furthermore, today's software development approach is more web-based because information is more easily shared and accessible anywhere if the computer is connected to the internet network system. Its use is also not limited to certain software platforms. Among the following are the advantages of project management software developed on a web application. It can be achieved with a wide variety of computers without the software installation process, easy access control, multiple users and only need to install one software (Quintuna, X. 2014).

Moreover, the study by (Mohammad Noor et al. 2019) again state course management process more efficient and systematic and saves cost, time, and energy. Based on the research conducted, the proposal to develop a eFRP and eFPK application for use by the management to track and monitor the lecturer's files is considered necessary to further improve the quality of file management system.

3.0   Methodology

The production of this innovative application uses Google AppSheet software to develop mobile applications. The selection of this software is because it is easy to use, user-friendly, and easy to repair. Users can use this application anywhere to check and confirm the lecturer's record file and the course coordinator's file. After the review process, the checklist/comments in PDF format can be directly sent to the file holder to be updated. The mobile application created is very easy to use and attracts the interest of the users.

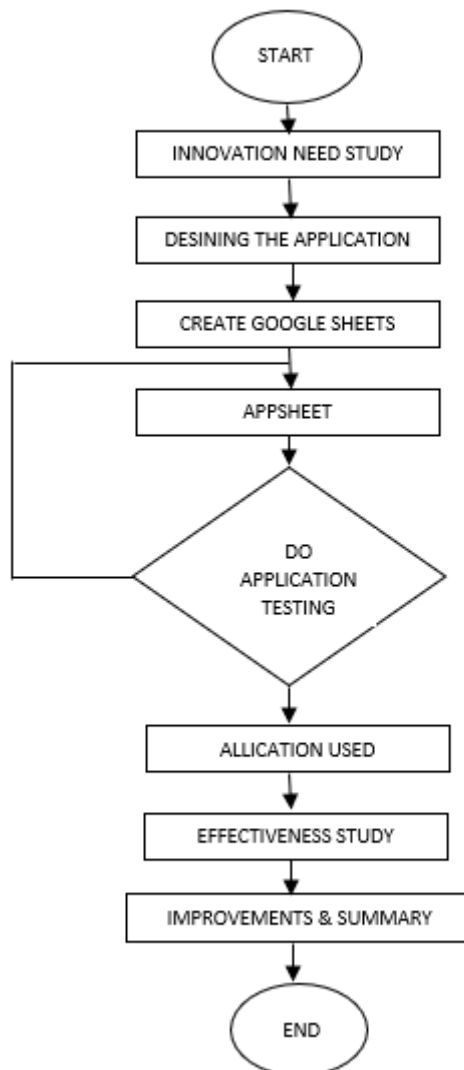The implementation method to develop this innovation is as follows:

Figure 1.1: Flowchart

Start by identifying the problem and choosing an appropriate topic. The chosen title is eFRP and eFPK Application. The problems faced by the head of the program and head of the department are as discussed earlier. After that, do the study of innovation needs. For designing the application, the designing phase is done by designing the eFRP and eFPK application interfaces. Before the designing phase can be done, the development of the Google Sheet for items in the review form/ checklist needs to be done first. Application Development Phase by using AppSheet to design the application interface. The final step is the testing phase. It is done to ensure that the eFRP and eFPK application forms can work properly and that the review form/ checklist that has been generated can be sent in PDF form to the file holder.

The correction phase is done if there is any error. The eFRP and eFPK application innovations are used by the head of the program and the head of the department. Carry out a study on the effectiveness of innovation applications for the head of program and head of department in the Electrical Engineering Department at Kota Kinabalu Polytechnic in session 1 2023/2024.

Lastly, make the conclusions and improvements for the application. The production of the innovation is complete and then this innovation will be used by the head of the program and head

of the department in the process of reviewing the lecturer's record file and the course coordinator's file at the Electrical Engineering Department, Kota Kinabalu Polytechnic in the next semester.

Once the form is filled out using the eFRP application, the information will be saved into a Google Sheet.
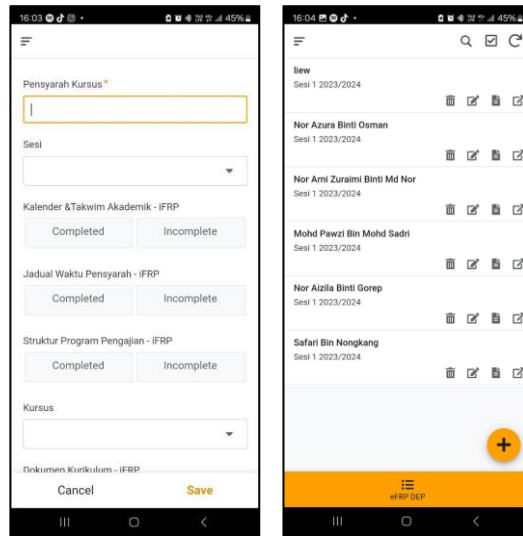

Figure 1.2: The eFRP Application

Figure 1.3: eFRP's information in Google Sheet

The information found in the Google Sheet will be entered into the Google Docs template that has been designed by the head of the program.
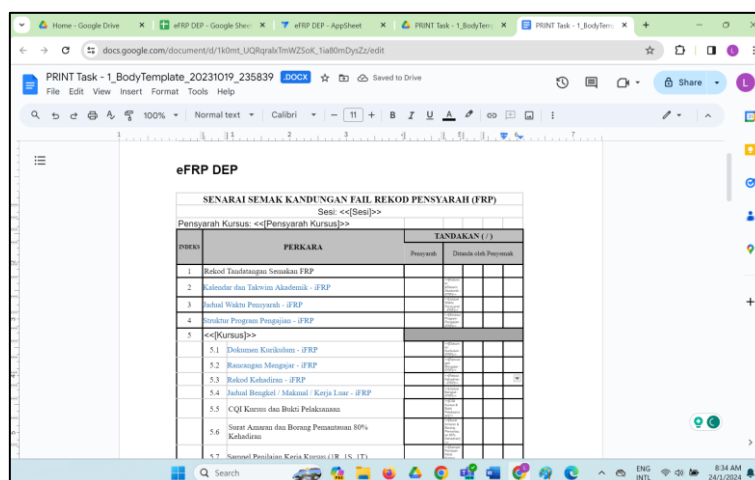
Figure 1.4: eFRP's information in Google Docs

The eFRP/ eFPK review document that has been completed will be saved in one copy in the program leader's Google Drive and one copy will be sent directly to the lecturer's Telegram.
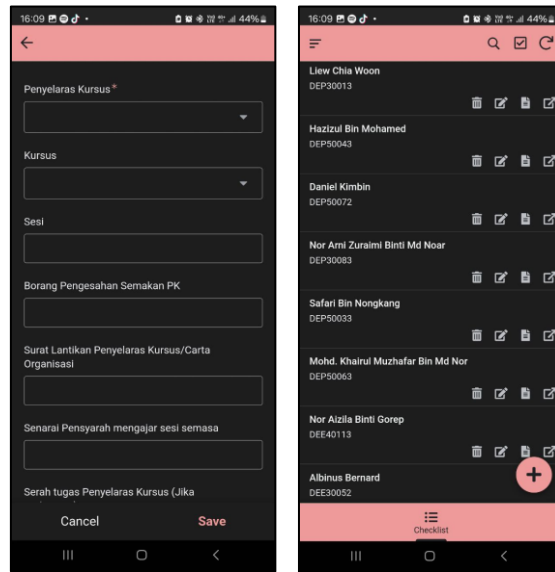

Figure 1.5: The eFPK application

Figure 1.6: eFPK's information in Google Sheet
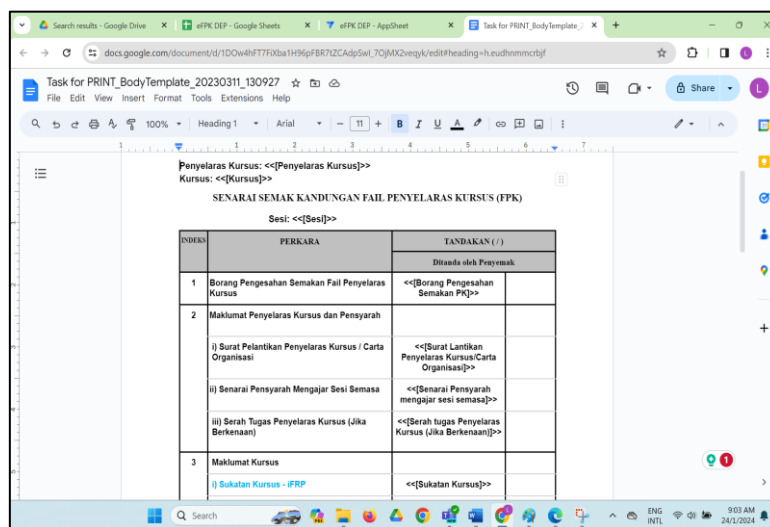
Figure 1.7: eFPK's information in Google Docs

Table 1.1: The comparison between before and after innovation

Before Innovation	After Innovation
Variety of eFRP/ eFPK review form writing	Uniformity in the writing of the eFRP/ eFPK review form
FRP/ FPK reviews are in writing	FRP/ FPK check using an application on a smartphone
FRP/ FPK review form is submitted to the lecturer manually	FRP/ FPK review form is sent to the lecturer via Telegram
The head of the program needs to upload and download the review form from the lecturer's Google Drive	The head of the program does not need to upload and download the review form from the lecturer's Google Drive

4.0   Discussion of analysis and findings

This innovation has been identified as capable of contributing to a new level of dimension to the use of technology in the field of management, especially in R&D management for head of program and head of department. Among the impact/ effectiveness of the development of this innovation application are:

i.   Ease the burden
The use of this eFRP and eFPK application can ease the burden of the head of the program and head of department in the review process of lecturer record files and course coordinator files each semester.

ii. Ease of access
This application is a mobile application where revision can be accessed at the tip of the finger, and this makes it easier for the head of the program and head of department to use it regardless of location and time to revise lecturers' FRP and FPK.

iii. Saves time
The time and duration for FRP and FPK review can also be reduced and minimized by using this eFRP and eFPK application where the review can be done faster without the process of downloading and uploading in the system.

iv. Lecturer / Course Coordinator
On the part of lecturers, the notifications of eFRP and eFPK review forms can be received directly through their mobile phones after the review has been made by the head of the program, and can then take appropriate action based on the review notes or comments.

v.   Organization/ Polytechnic
This application can also support SmartGreen where the use of paper can be minimized. Suggestions for improvement received from the evaluation panel can be used as references and ideas for research papers that will be carried out in the future.
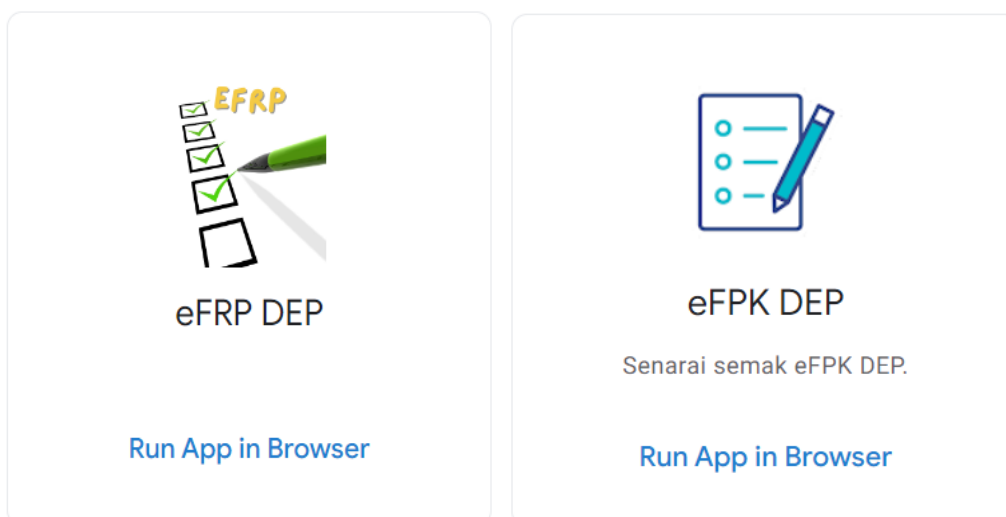

Figure 1.8: Design of eFRP and eFPK application

5.0 Conclusion and future research

This management innovation has been tested with the head of programs and the head of the department for the effectiveness of this application. Most of the heads of programs gave a positive response and stated that this innovation helped and facilitated them in their file review or verification. This online app for file management was developed by using Google AppSheet. This online app allows users to key in the review form/ checklist directly in the apps after checking the files in Google Drive. The mobile application created can read and display the review form/ checklist items on the screen of a mobile device. With a clear checklist on the screen, users can tick the items directly and the checklist can be printed in PDF format for send out to the file owner.

Author Contributions

Individual contributions of authors should be specified in this section to give appropriate credit to each author, for example:

Liew Chia Woon: Conceptualization, Methodology, Software, Data Curation, Writing- Original Draft Preparation; **Noranazizi Abdullah**: Validation, Supervision; **Minir Simon**: Validation and Writing-Reviewing

Conflicts of Interest

The manuscript has not been published elsewhere and is not under consideration by other journals. All authors have approved the review, agree with its Submission and declare no conflict of interest in the manuscript.

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