THE RTP-MS EVOLUTION FROM SHAREFOLDER TO ONLINE-BASED MANAGEMENT: AN ALTERNATIVE DOCUMENT ACCESSIBILITY

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ABSTRACT

This paper describes the structure of document management, specifically the evolution of Reactor TRIGA PUSPATI Management System (RTP-MS) from ShareFolder to online-based management using SharePoint. Employing the Integrated Management System (IMS) approach, which characterizes documents based on a hierarchy of importance, the development and utilization of Nuclear Malaysia's longstanding SharePoint website has served as a pivotal shift for officials at the Reactor Technology Center (PTR) in the quest for enhanced document accessibility and updates. The migration initiative commenced in 2020, coinciding with the onset of the COVID-19 pandemic, and it remains an ongoing process. The objective of this paper is to share how PTR utilizes SharePoint as an alternative digital document management system, with the scope of this study focuses on the existing Nuclear Malaysia SharePoint and the local reactor ShareFolder under NAS3. The methodology applied in this study consists of five steps, which are: (1) assessment and planning, (2) configuration and setup, (3) the migration, (4) training and user briefing and finally, (5) optimization. PTR officers have enthusiastically adopted the SharePoint platform, especially during audit sessions with regulatory agencies and for document sharing. This preference is due to SharePoint's utilization of a graphical user interface that acts as a navigation panel, in contrast to ShareFolder's method of displaying a document list.

ABSTRAK

Kertas kerja ini menerangkan struktur pengurusan dokumen, khususnya evolusi Sistem Pengurusan TRIGA PUSPATI (RTP-MS) Reaktor daripada ShareFolder kepada pengurusan berasaskan dalam talian menggunakan SharePoint. Menggunakan pendekatan Sistem Pengurusan Bersepadu (IMS), yang mencirikan dokumen berdasarkan hierarki kepentingan, pembangunan dan penggunaan laman web SharePoint Nuklear Malaysia yang telah lama wujud telah menjadi anjakan penting bagi pegawai di Pusat Teknologi Reaktor (PTR) dalam usaha untuk kebolehcapaian dan meningkatkan kemudahan dalam mengemas kini dokumen. Inisiatif migrasi ini bermula pada tahun 2020, serentak dengan permulaan wabak COVID-19, dan ia kekal sebagai proses yang berterusan. Objektif kertas kerja ini adalah untuk berkongsi bagaimana PTR menggunakan SharePoint sebagai sistem pengurusan dokumen digital alternatif, dengan skop kajian ini memfokuskan kepada SharePoint Nuklear Malaysia sedia ada dan ShareFolder reaktor di bawah NAS3. Metodologi yang digunakan dalam kajian ini terdiri daripada lima langkah, iaitu: (1) penilaian dan perancangan, (2) konfigurasi dan persediaan, (3) migrasi, (4) latihan dan taklimat pengguna dan akhir sekali, (5) pengoptimuman. Pegawai PTR telah menggunakan platform SharePoint sepenuhnya, terutamanya semasa sesi audit dengan agensi kawal selia serta tempat perkongsian dokumen. Keutamaan ini disebabkan oleh penggunaan grafik antara muka SharePoint yang

bertindak sebagai panel navigasi, berbeza dengan kaedah ShareFolder yang hanya memaparkan senarai dokumen..

Keywords: IMS, online, TRIGA PUSPATI, ShareFolder, SharePoint

INTRODUCTION

The increasing intricacy of the TRIGA PUSPATI reactor (RTP) documentation, which consists of procedures, work instructions, technical instructions, forms, and reports, coupled with stringent standards, poses a considerable challenge to the Reactor Technology Center's (PTR) management. Retrieving, and updating documents becomes particularly challenging, especially during the COVID-19 pandemic era, due to the use of shared folders on the local network that cannot be accessed via the internet at all. Hence, working from home seems not to be working for PTR personnel where accessibility of documents is the mainstay especially for auditing purposes.

Storing documents in an individual workstation ends up with multiple different versions for each officer [1, 2], which later increase confusion on which version of the file is the most up-to-date. Once updated and all the comments have been incorporated, there may emerge multiple document versions, each containing slight differences and several repetitive elements resulting from the feedback. However, manually juxtaposing the documents is not an efficient method for identifying discrepancies [3]. In an effort to maintain only one document for all PTR staff to work on, Google Drive was used and links were shared using email addresses in an effort to control documents only to be shared among involved staffs, as well as upholding safety culture [4]. Unfortunately, despite the humongous benefits, Google Drive does have some disadvantages in terms of security, as listed by Campaigns of The World [5] on their website. Thus, instead of selecting Google Drive as a substitute for ShareFolder, the PTR management opted for SharePoint. However, Google Sheets and Google Forms are extensively utilized for data collection and streamlining the process of summarizing data.

The aim of this document is to elucidate how PTR leverages SharePoint as an alternative system for managing digital documents. This paper specifically delves into the management of operational and maintenance documents within RTP, encompassing the utilization of the existing Nuclear Malaysia SharePoint platform and the local reactor ShareFolder located under NAS3.

ShareFolder and SharePoint are terms related to file sharing and collaboration, frequently employed in the context of digital document management and collaboration within organizations [6, 7]. Definition, advantages, and disadvantages of both ShareFolder and SharePoint are presented in Table 1 below.

Table 1. ShareFolder vs SharePoint

	ShareFolder	SharePoint
Definition	Not a standardized or widely recognized term in the realm of file sharing and collaboration. It might be used informally to refer to a folder or directory on a computer or network that is shared with others.	A comprehensive platform for collaboration, document management, and information sharing within an organization.
Advantages	Simplicity: Easy to set up and use, making them a quick solution for small teams or personal file sharing. Low Cost: If you already have a file server or network drive in place, sharing folders can be cost-effective as there may be no additional software or licensing fees. Familiarity: Many users are already familiar with accessing shared folders on a network, which can reduce the learning curve	Advanced Features: Offers a wide range of features for document management, collaboration, and workflow automation, making it suitable for complex business needs. Centralized Access: It provides a single, centralized platform for document storage, reducing duplication and ensuring everyone accesses the most current version. Security and Permissions: SharePoint offers granular control over user access, ensuring documents are protected and comply with security policies.
Disadvantages	Limited Features: Shared folders typically lack advanced features like version control, document approval workflows, and metadata management. Security Concerns: Managing permissions and access control can be complex, potentially leading to security vulnerabilities if configured wrongly. Scalability: As an organization grows, maintaining shared folders can become more challenging, leading to storage issues.	Complexity: Due to its extensive capabilities, SharePoint can be complex to set up and configure, requiring IT expertise. Cost: Licensing costs and infrastructure requirements can be high, making it less suitable for small organizations with limited budgets. Training: Users may require training to make the most of SharePoint's features.

Source: Omnia [8] and TechSoup [9].

METHODS

In order to ensure the comprehensive inclusion of vital documents in the entire RTP management system, the approach employed in this study aligns with the guidelines set forth by Smallwood [10] as detailed below:

Assessment and Planning:

Inventory: Identify all existing documents and data stored in ShareFolder.

Categorization: Documents are grouped based on the RTP-MS hierarchy of priority (Figure 1).

Configuration and Setup: Configure the SharePoint environment, including document libraries, sites, subsites, and user access.

Migration:

Data Transfer: Manually transfer selected documents and data from ShareFolder to SharePoint.

Permissions: Ensure that access permissions are correctly configured in SharePoint, which are currently managed by the Information Technology Center (ITC).

Training and User Briefing: Provide training and briefings to users on how to navigate and effectively utilize SharePoint for accessing documents.

Optimization: Continuously assess and optimize the SharePoint environment based on user feedback and evolving document management needs.

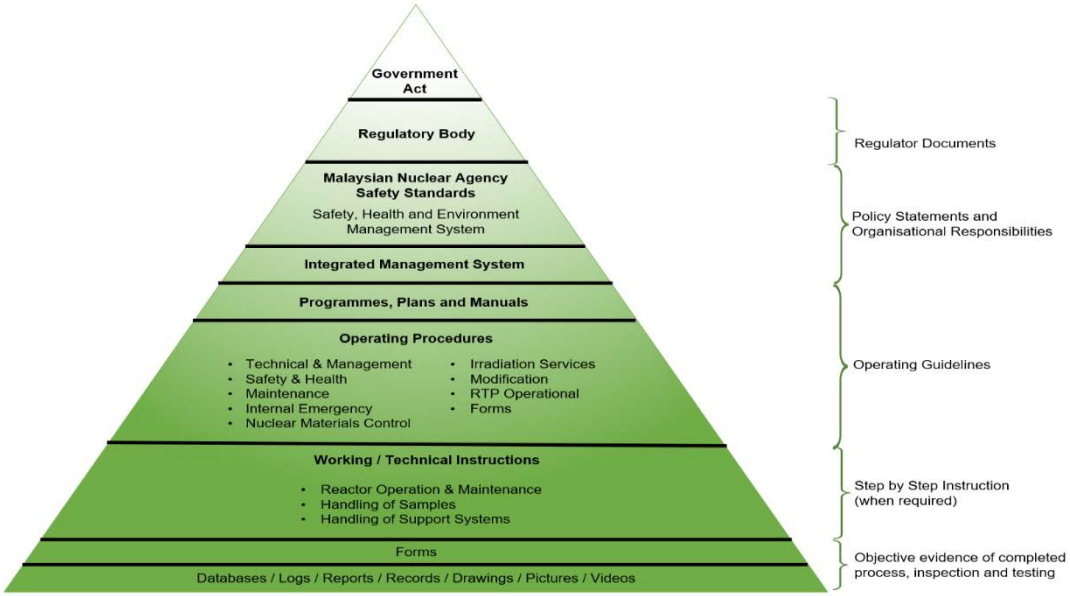


Figure 1. RTP-MS documents hierarchy. Source: Bahagian Teknologi Reaktor [11].

RESULTS AND DISCUSSION

This segment illustrates the portion of RTP-MS SharePoint content that can be contrasted with the traditional RTP-IMS ShareFolder as shown in Figure 2.

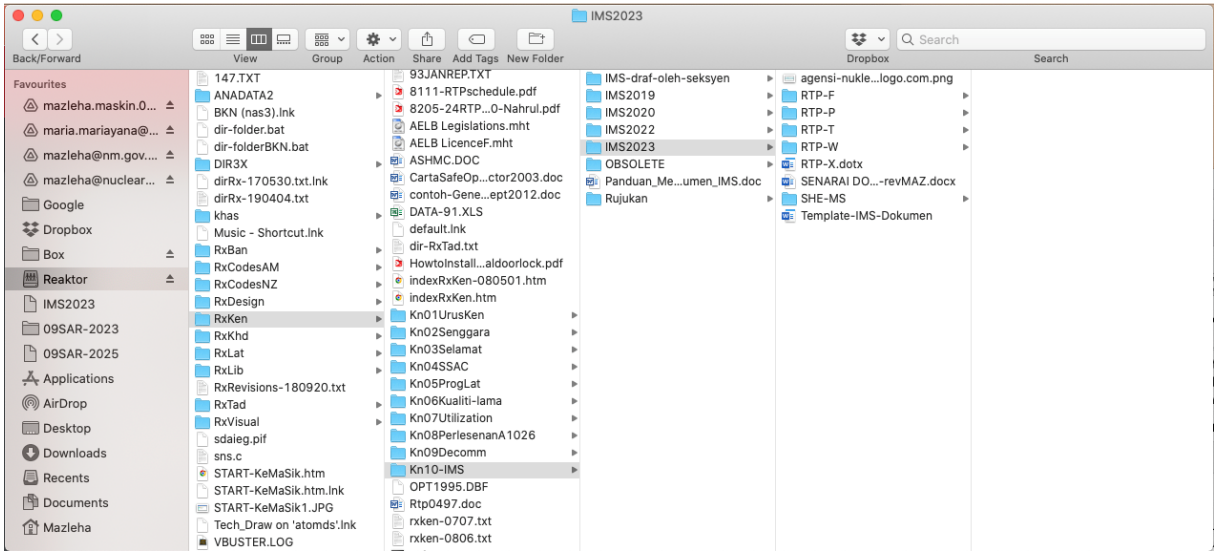


Figure 2. Reactor ShareFolder in NAS3.

RTP-MS Content Management

The key functionalities and features framework of RTP-MS SharePoint has been organized to mirror the RTP-MS hierarchy. It starts with an introduction to PTR and IMS, followed by information on referenced regulatory and safety documents. Additionally, links to the Act 304, BSRP and SHE-MS local website are also provided. To facilitate navigation between different sections, PTR staff can employ both the navigation pane and boxes within the RTP-MS hierarchy image (Figure 3).

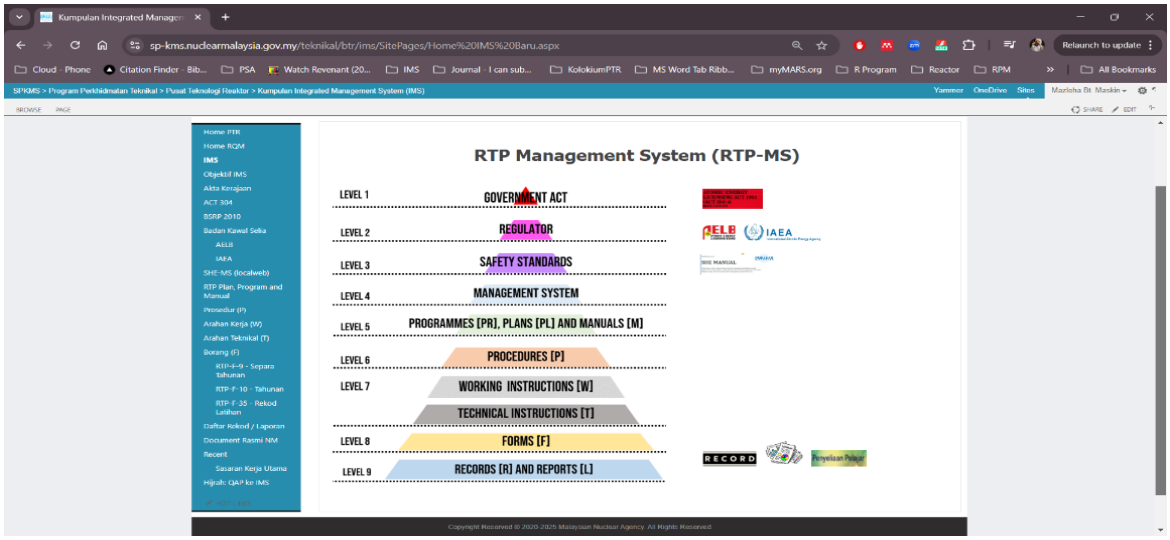


Figure 3. RTP-MS homepage.

RTP-IMS: PROCEDURES [P], WORKING INSTRUCTIONS [W], TECHNICAL INSTRUCTIONS [T] AND FORMS [F]

Figure 4 display the user interface of individual documents within RTP-MS, complete with the document's current revision number and the date or year of the most recent revision. While some documents can be accessed by clicking on the provided link, certain documents are exclusively available through the Visitor Registration and RTP Service Application System (u-RTP).

(a) (b)

(c) (d)

Figure 4. Interface of RTP-MS: (a) procedures; (b) working instructions; (c) technical instructions; and (d) forms

RTP-F-35: EMPLOYEE TRAINING RECORDS

As stipulated in license LPTA/A/1026, The Malaysian Nuclear Agency is obligated to regularly update the training records for reactor operators. Consequently, a straightforward system for maintaining the training records of PTR personnel was created using Google Sheets, which is connected to RTP-MS. Each staff member is responsible for updating their own records (Figure 5).

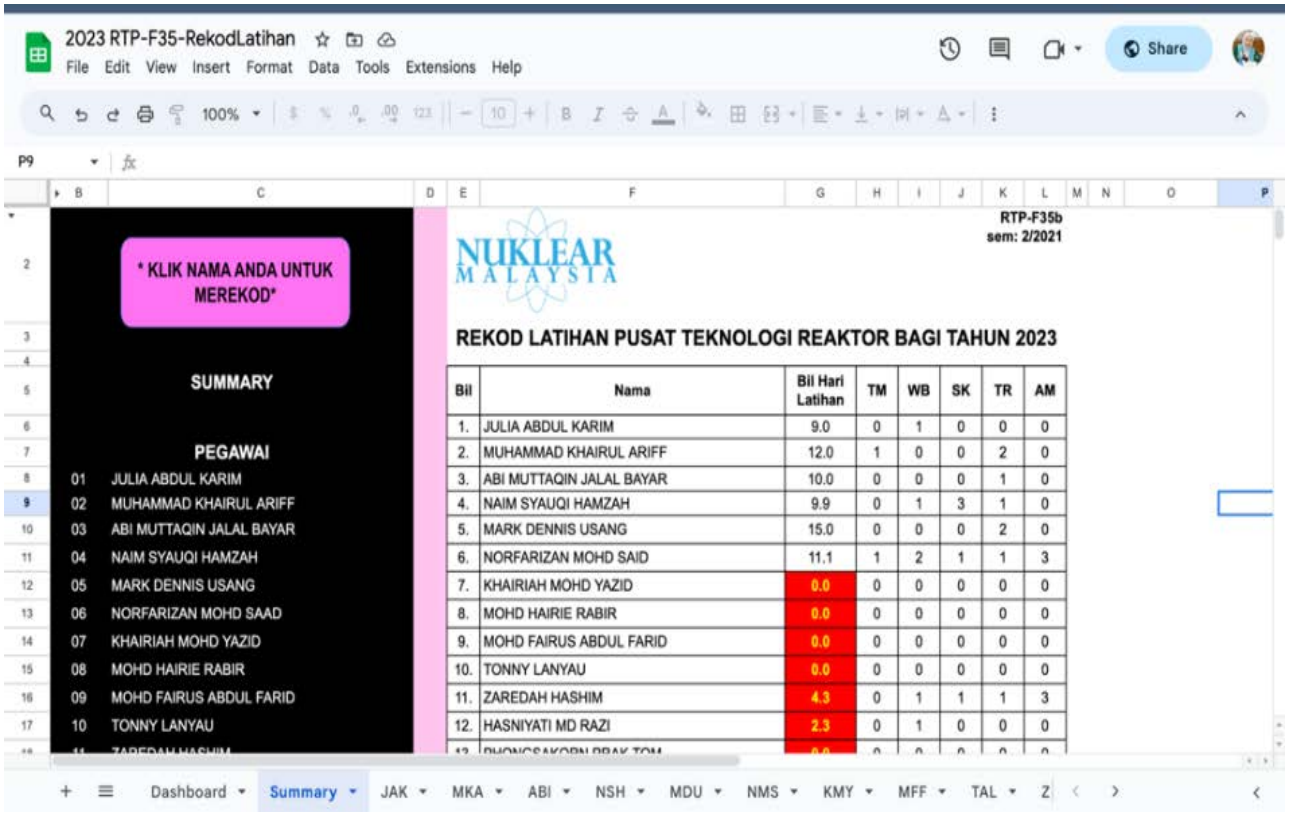


Figure 5. RTP-F35b – Rekod latihan Pusat Teknologi Reaktor interface via Google Sheet.

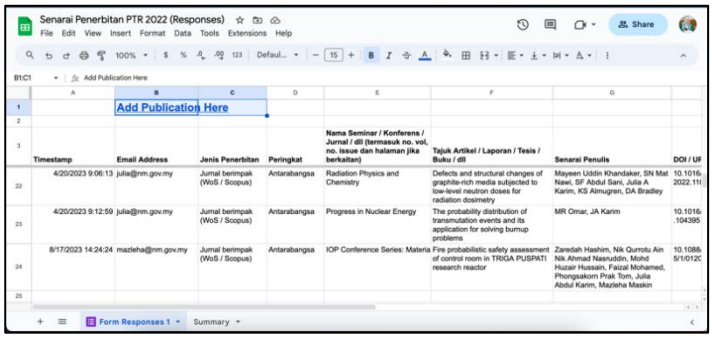
Efficient Knowledge Management Sharing

In addition to the RTP-MS documentation framework, RTP-MS SharePoint also encompasses an effective knowledge-sharing interface. Among the readily accessible information are RTP publications, RTP commemoration events, IAEA missions, and student supervision.

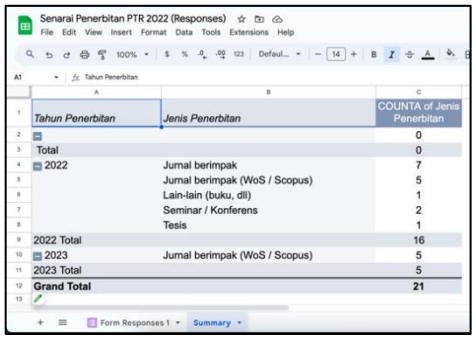
RTP PUBLICATIONS

This platform was created in response to a directive from PTR's management, which mandates that each team member keeps their publications up to date. Additionally, a summarized view of categorized publications for simplified reporting purposes has been made accessible (as depicted in Figure 6).

(a)



(b)



(c)

Figure 6. (a) RTP publications interface; (b) List of publications; and (c) Summary of publications.

RTP COMMEMORATION DAY

In commemoration of RTP reaching its criticality and beginning its first operation on June 28, 1982, several celebration events were held in 2021 and 2022. This website has been built to facilitate access for reference purposes.

(a)

(b)

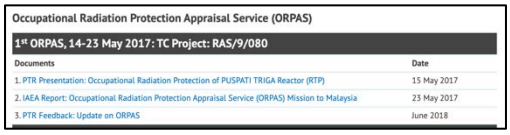
(c)

Figure 7. Interface of (a) RTP commemoration day; (b) Kolokium PTR 2021; and (c) Simposium RTP 2022.

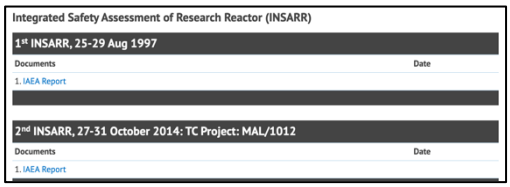
IAEA MISSION

Gathering all IAEA mission reports dating back to 1997 was a substantial effort, and this endeavor has been shared on SharePoint. This sharing makes it easy to reference these documents, particularly for reviewing past issues and actions.

(a)



(b)

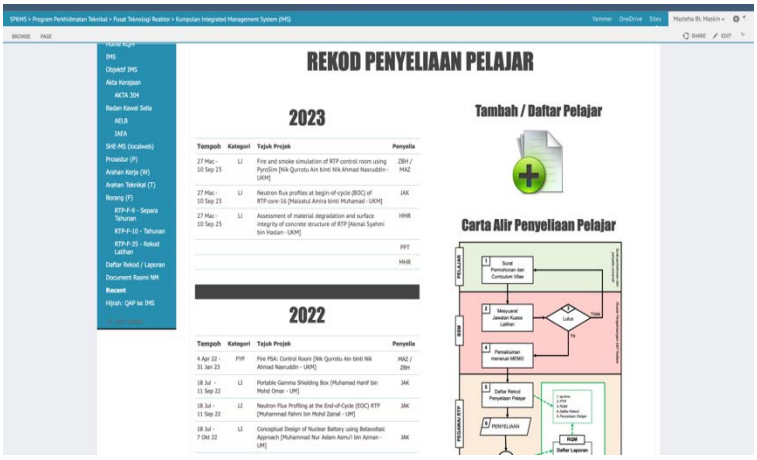


(c)

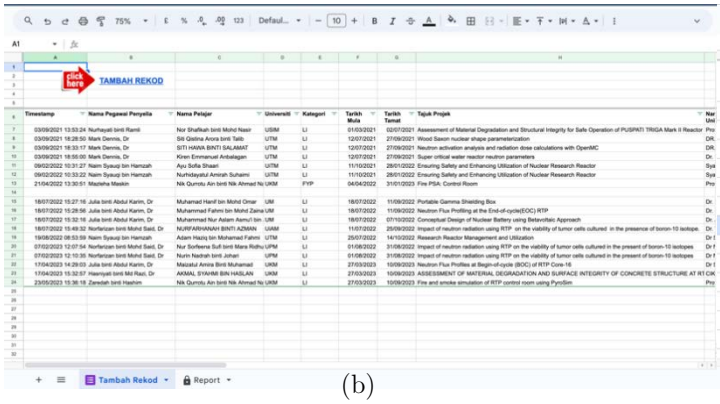
Figure 8. Interfaces of (a) IAEA review mission and advisory services; (b) ORPAS mission; and (c) INSARR mission.

STUDENT SUPERVISION

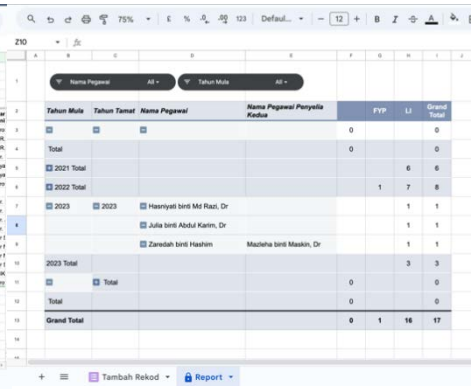
This platform was created for the purpose of knowledge sharing and management among PTR's personnel. Similar to RTP publications, a summarized list of students has been made accessible for simplified reporting purposes (as depicted in Figure 9c). Each student's final presentation is also made available for future reference.



(a)



(b)



(c)

Figure 9. Interface of: (a) Student supervision; (b) List of students; and (c) Summaries.

IMPACT TO AUDIT ACTIVITIES

RTP-MS SharePoint offers a more user-friendly method for accessing documents in contrast to ShareFolder (illustrated in Figure 2) due to its graphical user interface functioning as a navigation tool instead of simply presenting a document list. This valuable feature is particularly beneficial when dealing with auditors in high-pressure situations, making it easier to locate specific documents.

CONCLUSIONS

In general, RTP-MS in SharePoint has had a positive impact on PTR personnel, primarily by improving the efficiency of document retrieval and enhancing document management in terms of accessibility. Another notable criteria of RTP-MS SharePoint is its graphical user interface, which functions as a navigation tool instead of merely presenting a document list (ShareFolder). In the near future, a brief survey among PTR personnel will be conducted to gather authentic feedback and evaluate the effectiveness of RTP-MS SharePoint in supporting daily tasks, reporting, competency, as well as identifying areas for further improvement. Finally, PTR management would like to recommend that ITC can assist the person in charge of SharePoint with training to enhance website development management and workflow.

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