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Examination Management and Documentation System (EMDS)

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Abstract

The innovation of the Examination Management and Documentation System (EMDS) aims to provide lecturers and academic advisory facilities (PA) in delivering information and managing examination documents. This system takes into account the aspect of management i.e. examination information and examination documents that need to be carried out in accordance with quality procedures for the Examination Unit, Department of Mechanical Engineering, Polytechnic Ibrahim Sultan. The cloud drive development model has been used as a guideline for developing this system. The main software used is Microsoft Publisher and Adobe PDF to design a well-streamed and flexible interface. For the database, Google Drive has been used to store all forms of information it wants to communicate or notify users. Then the intermediary medium to convey EMDS information online is to use the tinyurl.com. EMDS has had a positive impact on its official use in the JUNE 2019 session. Overall, the results of the effectiveness survey showed more than 90% of respondents responded 'very agreeable' that the EMDS makes delivering the latest information information faster and effective. In addition, the examination-related quality documents can be completed by the user online and facilitate reference later on.

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Keywords: EMDS, cloud drive, google drive, tinyurl.com

Introduction

Information and Communication Technology (ICT) covers aspects of information technology and communication technology. Information technology is defined as a technology that individuals use to collect data and analyze data into useful and meaningful information, as well as to produce information in various forms such as text, graphics, voice, animation and virtual. Data and information are always required for specific purposes such as for the purpose of improving knowledge, experience, skills and affordability. Communication technology allows individuals or groups of individuals to exchange data and information in unlimited time spaces and places, quickly and at the same time through local or global networks.

With this in mind, information and communication technology (ICT) is the Examination Unit of the Mechanical Engineering Department in collaboration with the Head of Mechanical Engineering Programme (Materials) has developed an information delivery system known as EMDS based on:

Ensure that all updates are disseminated quickly, relevant to the department's examination which is important to ensure that all procedures and date lines are complied with by all course lecturers and Academic Advisors (PA). Able to expedite the process of completing and submitting examination documents to the department's examination unit.

Reduce the use of papers and print in the department's examination. Information via email will sometimes be overlooked if there is too much information from other units or individuals. Official emails used by the department contain a variety of information and are likely to lecturers of courses and Academic Advisors will overlook important and up-to-date information from the Department's Examination Unit. Use of repetitive paper printing for purification of question paper (drafters of final assessment items) to question item rating penals can be overcome. Facilitate re-reference process in the event of consequential issues.

Information and documents regarding the examination should be communicated quickly and clearly to launch the assessment of scores and reporting and issue student results. With this innovation, all information and documents of the examination report will be faster and accurate. Information from the right sources will facilitate course lecturers and PA to carry out their respective responsibilities more effectively and orderly. Development needs to plan design organizations that are in a clear and orderly manner. It aims to safeguard the quality of the software itself by identifying errors, deficiencies and problems encountered during the design process.

Previous Studies

Various definitions have been given about information technology. One of them according to Senn (1998), information technology is a combination of all three components of computer, communication and know-how. According to him, it creates opportunities for humans and organizations to be more productive, effective and generally successful. Therefore, the logic, these three components cannot be separated when talking about information technology. Computers without the knowledge to use them wisely certainly should not be considered an effective technology. According to (Robert G. Murdick (1977) using this computer technology, information can be stored safely and effectively for which this will facilitate maintenance work.

Subsequently, if the knowledge to use a computer is available but without the ability to disseminate information to communicate certainly does not bring much impact to the most frequently said globalization process now. Thus, generally, as covered by Lai et al (1990), information technology is a key tool in the mectural era used to access, store and disseminate information especially information in a digital form. Moreover, according to Paisley and Chen (1982) was quoted from Wilkinson (1997), information could be said to be something that affects the way a person thinks. It is contained in messages that can be saved, accessible and manipulated.

The process of obtaining and disseminating complete information is a problem for the examination unit especially when making decisions and planning related to examination. The human information management system (manual) will take a long time to obtain information. Computer technology viewed is ideally used to operate management systems at IPT to accelerate management and facilitate management to submit reports without having to do so humanly. According to Baharuddin (2003) using computing technology, all information can be easily accessed and all confidential information is secured of its confidentiality.

Study Methodology

The Examination Management and Documentation System (EMDS) is administered and designed by the Coordinator of the Examination Unit of the Department of Mechanical Engineering, Polytechnic Ibrahim Sultan in collaboration with and generalisation of the Head of Mechanical Engineering Programme (Materials). Officially, the EMDS was adopted in the JUNE 2019 session but the development and unofficial users have started since the JUNE 2018 session. EMDS can be accessed via internet access from computers, tablets or smart phones using the following official web address <https://tinyurl.com/peperiksaandis2019>.

Instruments

Specifically, the application for innovation of the Examination Management and Documentation System (EMDS) uses THREE (3) main instruments namely;

- | | | | |
|------|-----------|---|---|
| i. | Interface | : | Microsoft Publisher & ADOBE PDF |
| ii. | Database | : | Google Drive |
| iii. | Link | : | https://tinyurl.com |

Interface

Microsoft Publisher and ADOBE PDF are used to design this interface system. This interface can be modified according to the appropriateness at any time without changing the original access address. With this the user will still use the original source from the beginning of the semester to get the latest information. Figure 3.1 shows the interface used.

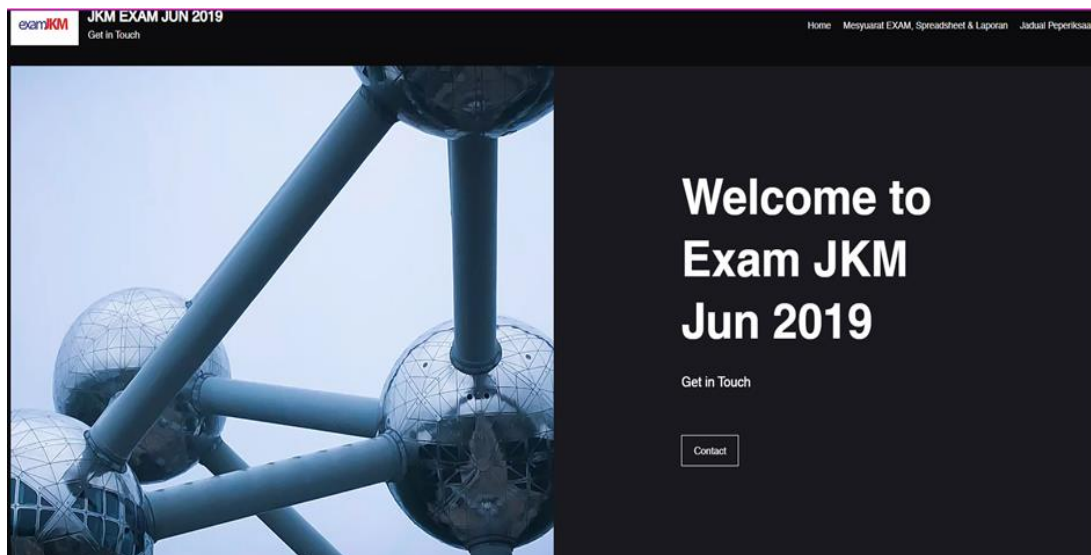


Figure 1.1: Interface (Interface) EMDS

Table 1.1 below shows the description of each item displayed on the EMDS interface.

Table 1.1: Description of EMDS Item

Item	Statement	Responsibilities
Course Failed Report	This report is filled online if there are students who failed the courses to be taught.	Course Lecturer
Report Failed to Stop	This report is filled in online if there are students who FAIL TO STOP	Academic Advisor (PA)
GENERAL INFORMATION	All information pertaining to examination and general information	Admin SPDP
Meeting Slot Rotation	Showing slot turn for Department Examination Meeting	Course Lecturer
Course Responsibilities Lecturer	Demonstrate the responsibility of the course lecturer prior to the Department Examination Meeting	Course Lecturer
Responsibility Academic Advisor (PA)	Demonstrate the responsibility of the Advisor Academic (PA) prior to the Department Examination Meeting	Academic Advisor (PA)
Score Sheet (Speardsheet)	Displays score sheet for Department Examination Meeting	Advisory Academic (PA) & Course Lecturer

Database

Database is the part of the bank to store all the information you want to pass on to the user. This innovation uses a cloud drive developed by Google, 'Google Drive'. This medium is the same function if we store data on a computer but this Google drive will store the data inside the internet drive that can be accessed at any time. Figure 3.2 shows the information stored in Google Drive. The software is chosen for the suitability and ability to store the information more organized, systematic, flexible and accurate.

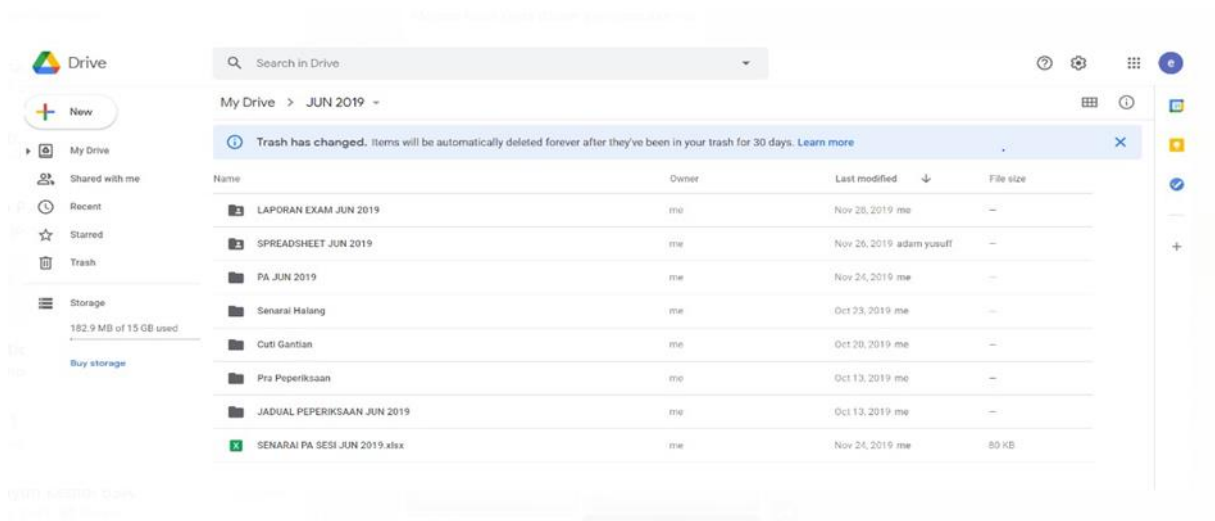


Figure 1.2: Database (Database) using Google Drive

Link System

For the convenience of accessing EMDS via internet access via computer, tablet or smart phone, EMDS has used the website tinyurl.com as a 'link address' for this system. Figure 3.3 shows the website for tinyurl.com.

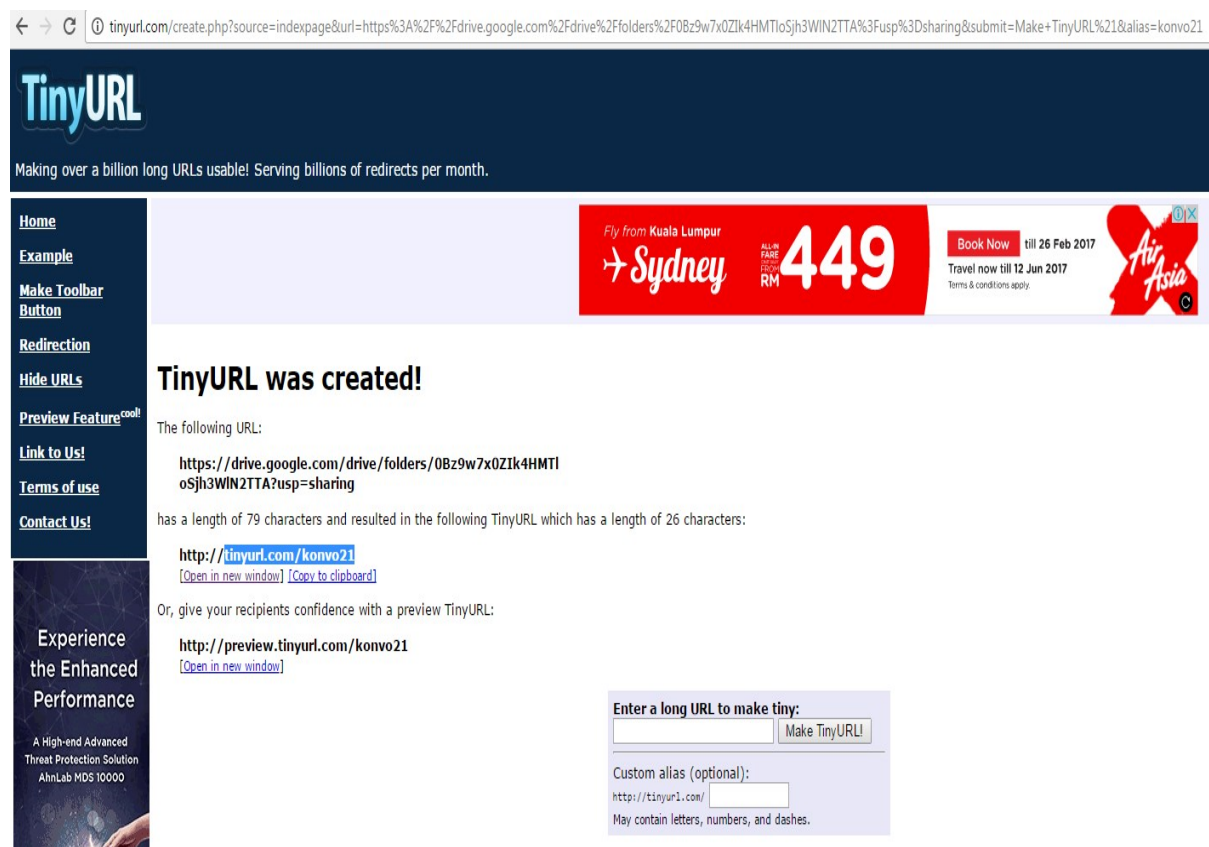


Figure 1.3: Yielding Links Using TinyURL

Online Documents and 'Laporan Gagal Kursus & Laporan Gagal Berhenti'

Figure 1.4 shows the display of examination documents in the EMDS that require users to complete online. Figure 3.5 shows an example of the output from *Laporan Gagal Kursus & Laporan Gagal Berhenti*.

Laporan Gagal Kursus

1. Dilengkapkan oleh Pensyarah Kursus
2. Satu laporan untuk seorang pelajar (jangan jamakkan)

Sesi Pengajian Multiple choice

☐ JUN 2019

☐ Add option or add "Other"

Required ☒

Nama Pensyarah *

Gunakan HURUF BESAR

Short answer text

Kod Kursus *

Gunakan HURUF BESAR

Short answer text

Laporan Gagal Berhenti

1. Dilengkapkan oleh Penasihat Akademik
2. Satu laporan untuk seorang pelajar (jangan jamakkan)

Sesi Pengajian Multiple choice

☐ JUN 2019

☐ Add option or add "Other"

Required ☒

Nama Penasihat Akademik *

Gunakan HURUF BESAR

Short answer text

Nama Pelajar *

Gunakan HURUF BESAR

Short answer text

Figure 1.4: Report View Failed Course & Report Failed To Stop Online

LAPORAN GAGAL KURSUS

Sesi Jun 2019

Kod Kursus	DU2079
Nama Kursus	THERMODYNAMICS
Kategori Kursus	PA dan PB
Nama Pensyarah	MAIZAN BIN SULAIMAN
Nama Pelajar	NURUL HANISAH BINTI NUR SHAHRIL AZMAN
No. Pendaftaran	09DK118P2005
Kelas	DM24
Kategori Kursus	PA dan PB

Punca Gagal Kursus

GAGAL PEPERIKSAAN AKHIR

MENYARANKAN PELAJAR-PELAJAR MENEKUNI SOALAN-SOALAN AKHIR YANG LEPAS DAN MENGAJUKAN PERTANYAAN KEPADA PENSYARAH DENGAN MENGGUNAKAN APLIKASI WHATSAPP ATAU SELAINYA UNTUK JAWAPAN SECEPAT MUNGKIN DARI PENSYARAH

Langkah Penambahbaikan Yang Dilaksanakan

Perkataan ke kuliah

Dokumentasi Persekitaran

Disiplin & Sahsiah

Pendidikan di dalam kuliah

BAIK

KURANG YAKIN UNTUK MENYERTAI PERBINCANGAN

UBAH SIKAP UNTUK FOKUS TERHADAP SETIAP SESI KULIAH DAN MINTA PENJELASAN SECEPAT MUNGKIN JIKA DIDAPATI KURANG PAHAM DENGAN TOPIK YANG DISAMPAIKAN

Cadangan & Catatan lain

Markah	Nilai (100%)
Penilaian Berterusan	58
Penilaian Akhir	14
Jumlah	36

Disediakan oleh

PROFESOR. KURSUS

MAIZAN BIN SULAIMAN

Tarikh: 25 Nov 2019

Disemak oleh

Penyelia. Peperiksaan

Mohamad Zaidi bin Ahmad Yusoff

Tarikh: 26 Nov 2019

Disahkan oleh

Ketua Jabatan / Ketua Program

Marwati binti Marzuki

Tarikh: 26 Nov 2019

LAPORAN GAGAL BERHENTI

Sesi JUN 2019

Nama Penasihat Akademik	NOR AIDA BINTI MOHD SALIHIN
Kelas	DEM 4A
Nama Pelajar	MOHAMMAD ZIKRY IQBAL BIN MOHD AZMI @ MOHD NAZRI
No. Pendaftaran	09DEM17F1053

Punca Gagal Berhenti

Langkah Penambahbaikan Yang Dilaksanakan

Latarbelakang Pelajar

Disiplin, Sikap & Sahsiah

Ringkasan Pencapaian Akademik

Sesi Kaunseling

Cadangan & Catatan lain

PNM < 1.00

MEMBERI NASIHAT YANG MEMBINA KEPADA PELAJAR

PASIF

SEDERHANA

SEDERHANA

Kauseling / nasihat secara tidak formal oleh PA

TIADA

Item	Skor (Likert Scale 5)	Nota
Minat terhadap pengajian	2	1-Sangat Tidak Berminat, 5-sangat Berminat
Daya Usaha	2	1-sangat Tidak Berdaya Usaha, 5-sangat Berdaya Usaha
Memberi Kerjasama dengan PA	2	1-Tidak Memberi Kerjasama, 5-sangat Memberi Kerjasama
Pertemuan face to face	2	1-sangat Tidak kerap, 5-sangat kerap
Pertemuan non face to face	2	1-sangat Tidak kerap, 5-sangat kerap

Disediakan oleh

Penasihat Akademik

NOR AIDA BINTI MOHD SALIHIN

Tarikh: 25 Nov 2019

Disemak oleh

Penyelia. Peperiksaan

Mohamad Zaidi bin Ahmad Yusoff

Tarikh: 25 Nov 2019

Disahkan oleh

Ketua Jabatan / Ketua Program

Marwati binti Marzuki

Tarikh: 26 Nov 2019

Figure 1.5: Release of Course Failed Report & Failed Report To Stop Online

Analysis and Results

Review of the effectiveness of the Examination Management and Documentation System (EMDS) is carried out to assess the effectiveness of information delivery and documentation of examination unit. This study was conducted against THREE (3) categories of respondents, namely Course Lecturer, Academic Advisor (PA) and Examination Unit. Table 1.1 shows the results from the test.

Table 1.2: Results of EMDS Effectiveness Study
Study Results (EMDS)

Category	Agree	Moderate	Disagree
Course Lecturer			
EMDS facilitates getting the latest information on exams	96%	4%	
EMDS speeds up time for examination information	98%	2%	
EMDS access is easily accessible	100%		
User-friendly EMDS	94%	6%	
EMDS facilitates making examination reports	100%		
EMDS makes it easy to check students' achievements	94%	6%	
Category	Agree		Disagree
Academic Advisor (PA)		Moderate	
EMDS facilitates getting the latest information on exams	98%	2%	
EMDS speeds up time for examination information	98%	2%	
EMDS access is easily accessible	100%		
User-friendly EMDS	100%		
EMDS facilitates making examination reports	98%	2%	
EMDS makes it easy to check students' achievements	96%	4%	
Category	Agree		Disagree
Exam Unit		Moderate	
EMDS facilitates examination documentation	100%		
EMDS facilitates Department Examination Meeting	100%		
EMDS speeds up time for examination information	100%		

From the results of the table, it shows that the results of the effectiveness of the innovation system (EMDS) which as a whole surpassed the 90 percent level very agreeable from the respondents of specialized lecturers and academic advisors (PA).

Meanwhile, respondents from the Department's Examination Unit showed that the highly agreed level of disparate was 100 percent. Here are some of the impacts of using the Examination Management and Documentation System (EMDS), that is;

- i. This system can be used in any place or medium that has internet access.
- ii. This system enables users to fill in report documents online and thus speed up time and facilitate document inventory.
- iii. Simple and easy to use interface design. The system uses a design that corresponds to the use for a system. Even the use of simple and consistent buttons makes it easy for users to use this system.
- iv. The system is able to generate reporting documents required by management which can be used for official purposes.
- v. This system facilitates the notification of examination information from time to time.
- vi. The system is easily synced and accessible at any time.

Conclusion

The management system is no longer new but has undergone rapid development in all areas. The potential application of computerized management systems in all areas is indeed undeniable and it aims to support and improve the delivery process of information and documentation processes. The management system of the Examination Management and Documentation System (EMDS) not only provides user space and experience but also encourages revolution in the use of databases to ensure accurate data without any errors and saves time. Despite efforts to develop the system already successfully, there are still many constraints and problems. The most challenging problems are expertise, technical problems and time. Nevertheless, all the challenges ahead will attempt to overcome so that the system is relevantly used according to the passage of time and needs.

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