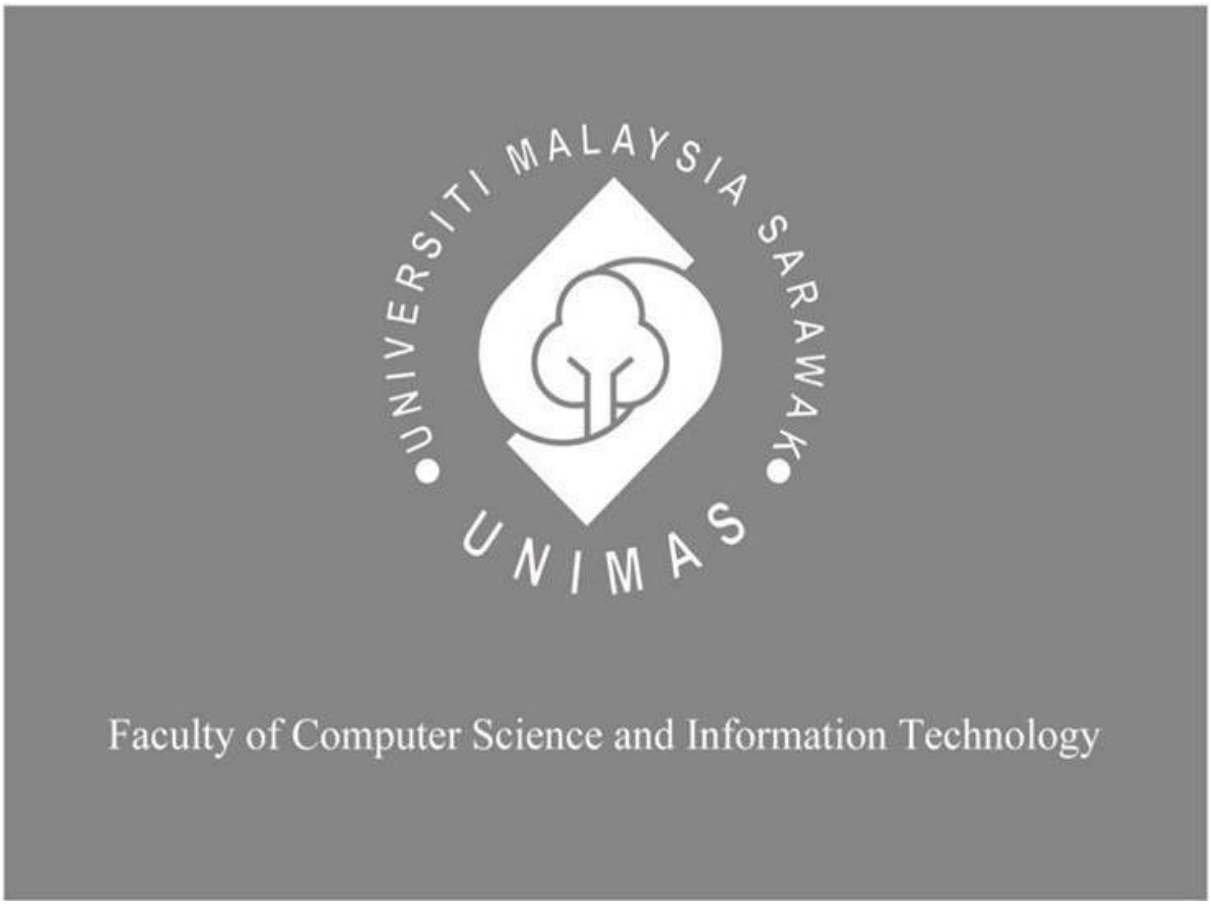

Research Grant and Postgraduate Student Management System

David Kee Yen Chee

Bachelor of Computer Science with Honors

(Computational Science)

2020

RESEARCH GRANT AND POSTGRADUATE STUDENT MANAGEMENT SYSTEM

DAVID KEE YEN CHEE

This project is submitted in partial fulfilment of the requirements for the degree of

Bachelor of Computer Science with Honors

(Computational Science)

Faculty of Computer Science and Information Technology

UNIVERSITI MALAYSIA SARAWAK

2020

GERAN PENYELIDIKAN DAN PELAJAR POSTGRADUATE

SISTEM PENGURUSAN

DAVID KEE YEN CHEE

Projek ini merupakan salah satu keperluan untuk

Ijazah Sarjana Muda Sains Komputer dan Teknologi Maklumat

(Sains Komputan)

Fakulti Sains Komputer dan Teknologi Maklumat

UNIVERSITI MALAYSIA SARAWAK

2020

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Declaration

I hereby declare that this project work is done by me under the supervision of Dr Chiew Kang Leng. The results and contents embodied in this project are original work and have not been submitted for the award of any degree.

David Kee Yen Chee
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Acknowledgement

I would like to express my great appreciation to those who provided me their assistance in completing this report. First, I would like to offer my special gratitude to my final year project supervisor, Dr Chiew Kang Leng, for his patient and willingness to provide guidance and suggestions for this project.

Moreover, I would like to thank my project examiner, Dr Mohamad Imran bin Bandan, for his guidance and valuable suggestions in the completion and preparation of this project.

Lastly, I wish to thank my parents and my friends for their support, cooperation and encouragement for completing this project.

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Abstract

Currently, the information for Research Grant and postgraduate student are recorded manually. Therefore, the data did not keep updated from time to time and the data will easy to get lost. Hence, the project's aim is to create a management system to manage the information for research grants and postgraduate students. This management system will able to register a new grant and the grant information that registered are able to be edited and updated the progress. Besides, postgraduate student statistics will also able to keep track of this management system. All the postgraduate student's detail will store completely in the system. Lastly, the project will able to generate reports depends on research grants and postgraduate students.

Abstrak

Pada masa ini, maklumat yang berkaitan dengan geran penyelidikan dan prasiswazah telah direkodkan secara manual. Hal ini demikian kerana, data yang sedia ada tidak dapat dikemaskini dari semasa ke semasa dan boleh menyebabkan data tersebut hilang. Oleh itu, matlamat projek ini adalah untuk mewujudkan satu sistem pengurusan bagi mengemaskini maklumat yang berkaitan tentang geran penyelidikan dan prasiswazah. Sistem pengurusan ini bertujuan untuk membuat pendaftaran geran baru dan maklumat tersebut dapat dikemaskini dalam system pengurusan ini. Selain itu, statistik atau maklumat yang berkaitan dengan prasiswazah dapat juga dijejaki sewaktu menggunakan sistem pengurusan ini. Tambahan pula, semua perincian yang berkaitan tentang prasiswazah akan disimpan sepenuhnya dalam system ini. Akhir sekali, projek ini dapat menghasilkan laporan bergantung kepada geran penyelidikan dan prasiswazah.

Chapter 1 Introduction

1.1 Introduction

Research grants are available by various institutions to help in funding research efforts made by individuals, universities and other related group of people.

Grants can be divided into a few categories such as Internal grants, External grants, Chair Fund and so on. Each of the category of grants can be divided into a different type of grants. For instance, Chair Fund can be divided into “Tun Openg Chair”, “Tun Zaidi Chair” and so on. Status of the research grants can be divided into four categories which are the project is completely closed, the project still in progress, already expired, closed with terms and conditions or postponement. All these information needs to be tracked because faculty research grants normally take at least two to five years to carry on. Currently, grants are managed manually which is the conversion paper file keeping by the management.

Meanwhile, students who are pursuing Master or PhD level might have some personal issues which causes them to suspend their academic study or even give up their education. Besides, Universities Malaysia Sarawak (UNIMAS) opens registration for Master or PhD level for Faculty Computer Science and Information Technology (FCSIT). During Master or PhD level registration, all the information of students such as their personal information, supervisor and research title are recorded manually.

1.2 Problem Statement

Currently, all the details of research grants are stored manually which is using MS-Excel, MS-Word and printed copy. The idea of this project is to reduce the workloads of the administration in recording the details of research grants. This system will help them to keep

track of the number of rejected and accepted research grants. Besides, it can record the progress of the research and the amount of the research grants.

Besides, the information of new intake of Master and PhD level students such as their student id, name, email, research title and supervisor are recorded by manual approach. Since the information of the students is recorded manually using paperwork, the paperwork may be damaged, lost or misplaced easily. Therefore, this management system is effective in terms of documenting the information.

To solve the listed problems, postgraduate and research grants management system is designed to replace the manual approach to achieve better efficiency.

1.3 Scope

The postgraduate and research grants management system is a web system which is developed only for the faculty management team. The users are faculty dean and deputy dean only. This system can record the details of postgraduate students according to their years. This system is designed to add, edit and generate the report.

1.4 Objective

1) To develop a web-based system for research grant.
2) To develop a web-based system for postgraduate management.
3) To generate report for postgraduate statistics, and progress report of research grants.

1.5 Brief Methodology

This project will use the Incremental Model and it is a combination of one or more waterfall Models Incremental Model, Project requirements are divided into multiple modules and each module is developed separately (Naveen, 2015). The developer will divide the system into different parts of this method. These parts consist of four main phases, which are requirement phase, design and development, testing and deploying.

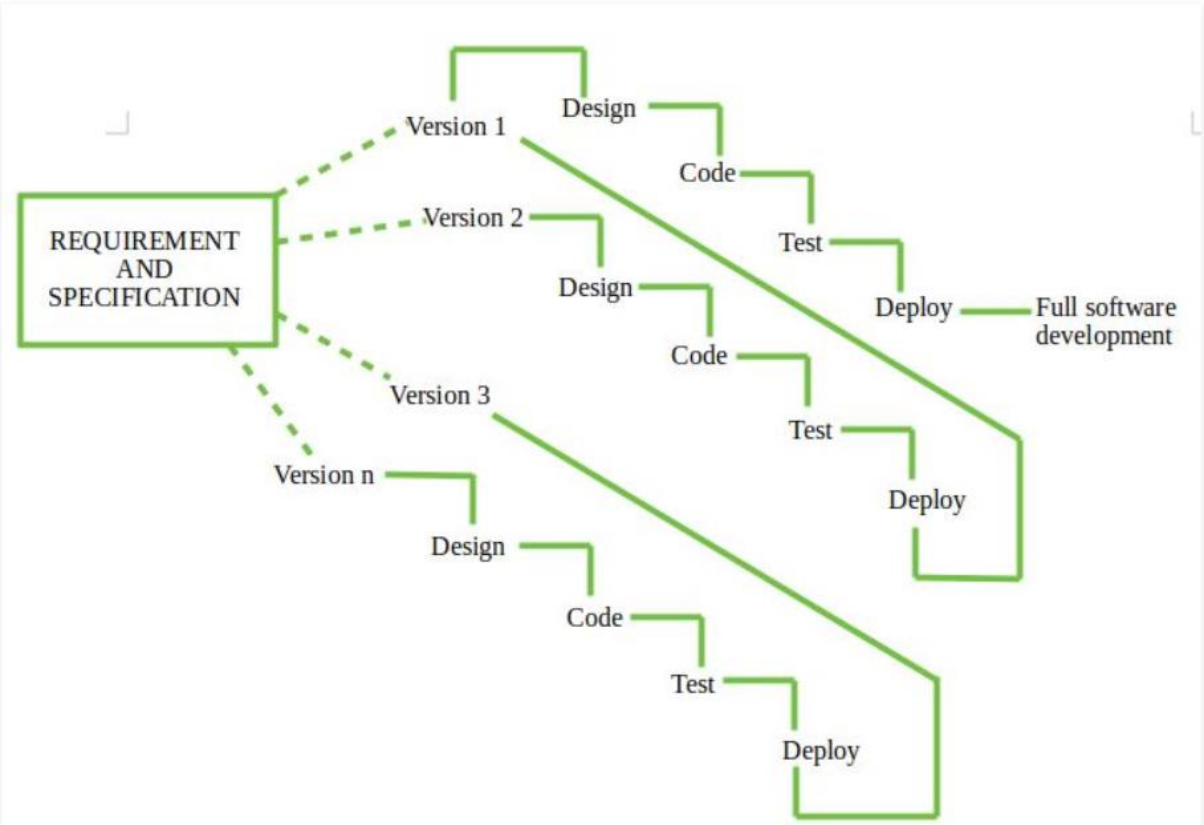

Figure 1.1 : Incremental method (Software Engineering | Incremental process model, n.d.)

For the requirement phase, all the requirements of the system are identified and documented. After that, the developer will categorise all the system needs into multiple linear sequential phases. The second phase is the design and development phase. In this phase, the system architecture is designed according to the system requirements. All the system functional design

and development are completed in this phase. For the testing phase, all the functionality and non-functionality will be tested. After the testing phase, the developer will undergo the final phase which is the deploying phase. During deploying phase, all the system that has been designed and developed in the previous phases will be implemented.

1.6 Significance of Project

The significance of this project is to ensure all the postgraduate and research grant information are stored accurately and systematically.

1.7 Project Schedule

Total Estimate	**189 days**	**Tue 10/9/19**	**Fri 29/5/20**
Final Year Project 1	**90 days**	**Thu 12/9/19**	**Thu 16/1/20**
Identify Project Supervisor	3 days	Tue 10/9/19	Thu 12/9/19
Project Title Selection	3 days	Thu 12/9/19	Sat 14/9/19
Project Brief Description	12 days	Sat 14/9/19	Sun 29/9/19
Full Proposal	17 days	Sun 29/9/19	Sat 19/10/19
Chapter 1	7 days	Sat 19/10/19	Sat 26/10/19
Chapter 2	17 days	Sat 26/10/19	Sat 16/11/19
Chapter 3	15 days	Sat 16/11/19	Thu 5/12/19
Prepare FYP1 report	8 days	Thu 5/12/19	Sun 15/12/19
Presentation FYP1	21 days	Sun 15/12/19	Fri 10/1/20
Submission FYP1	2 days	Fri 10/1/20	Sat 11/1/20
Final Year Project 2	**87 days**	**Thu 30/1/20**	**Fri 29/5/20**
Submission of the proposed FYP report,Title and Gantt Chart	5 days	Tue 11/2/20	Mon 17/2/20
Submission of First Draft for Chapter 4	26 days	Mon 17/2/20	Mon 23/3/20
Submission of First Draft for Chapter 5 and Chapter 6	11 days	Mon 23/3/20	Mon 6/4/20
Submission of First Draft for FYP2 Full Report and Paper	8 days	Mon 6/4/20	Wed 15/4/20
Submission of Final Report,Source Code, Installation Kits,User Manual and Paper for Assesment	11 days	Wed 15/4/20	Wed 29/4/20
Presentation FYP2	6 days	Wed 29/4/20	Wed 6/5/20
Amendment and Modifiation for FYP2	15 days	Tue 5/5/20	Sat 23/5/20
Submission of Final Report with Amendment	6 days	Sat 23/5/20	Fri 29/5/20

Figure 1.2 : Grant Chart

1.8 Expected Outcome

A web system that manages all the postgraduate and research grants information. This system can display the student statistics which are education level and student status, student education level by year and student status by year. This system can generate report for the grant progress and student postgraduate statistics.

1.9 Thesis Outline

- Chapter 1: This chapter will explain the idea of this project including introduction of this project, problem statements, scope, objectives, brief methodology, significance of the project and expected outcome of this project.
- Chapter 2: This chapter will review and make comparisons between the reviewed existing applications to give a clearer vision for the project design.
- Chapter 3: Requirements will be collected, and design phase will be carried out in this chapter.
- Chapter 4: Deployment will be discussed in this chapter. Besides that, testing and debugging will be carried out and explained in this chapter.
- Chapter 5: The conclusion for this project will be stated and future improvement will be discussed in this chapter.

1.10 Summary

This chapter explained the fundamental idea of this proposed system and focused on the project requirements. The problem statements, objectives, project scope, project significant and expected outcome are described to have a clearer image on the requirement of the system. The methodology, project schedule, and project outline are illustrated for planning and scheduling of projects.

Chapter 2 Literature Review

2.1 Introduction

This chapter will discuss the existing system or application that already published or developed in this market which are related to the proposed system. The main objective of this literature review is to understand more about the theoretical base of the proposed project in doing the development phase.

A good management system must involve a way to generate a good report. The design of the database is also quite important to generate a good report. Because we need to collect enough information from user so that we can generate a good report. Besides, user-friendly also occupies one of the factors. In order to achieve user-friendly achievements, the design for the management system is accounted for a big role. The existing system or application will be reviewed in this chapter to understand the favour of the user more effectively.

2.2 Review for Reporting System

The main point of the chapter is to review the similar existing system. For my Postgraduate and Research Grant management system report part, I would like to use The Unimas Portal, Manage Engine Exchange Reporter Plus and Hotelogix Smart Hoteliering for my review.

2.2.1 The Unimas Portal

The Unimas Portal system (The Unimas Portal, n.d.) has a part for the student to update their industrial training information. The system has included weekly report. This weekly report is used to record what student do in their industrial training as shown in Figure 2.1

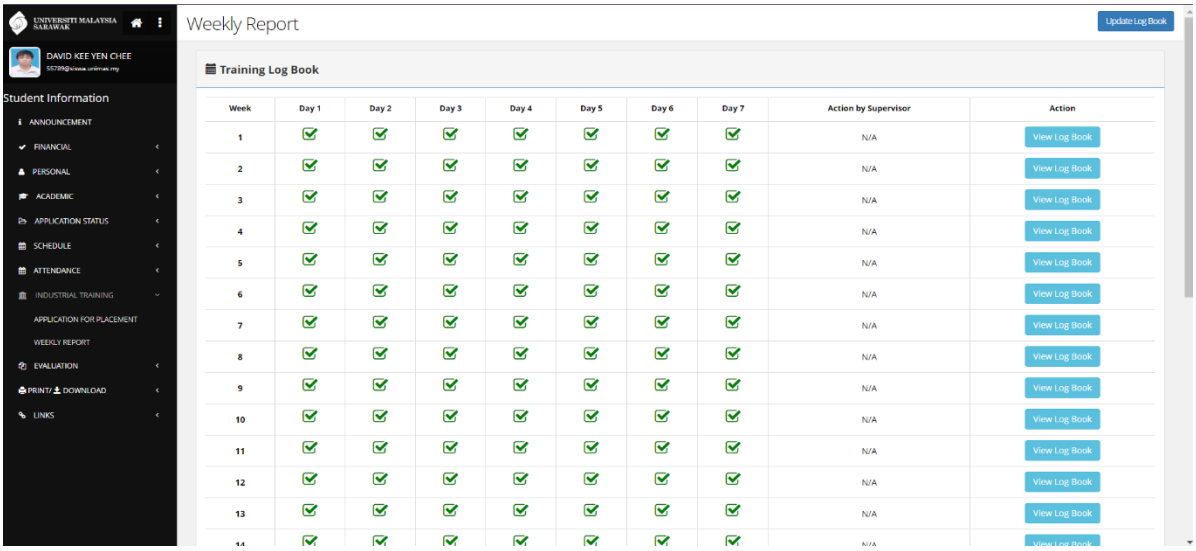

Figure 2.1: Weekly report (The Unimas Portal, n.d.)

Figure 2.1 shows the report is updated because a green tick is shown below the day. The green tick will show out you have the information on that particular column and when the column is empty, the green tick will disappear, it can remind the user the data is empty, but not necessarily need to be updated in the report system. The view logbook button is in blue colour and that is for showing the details of what the user has done in his/her industrial training each week.

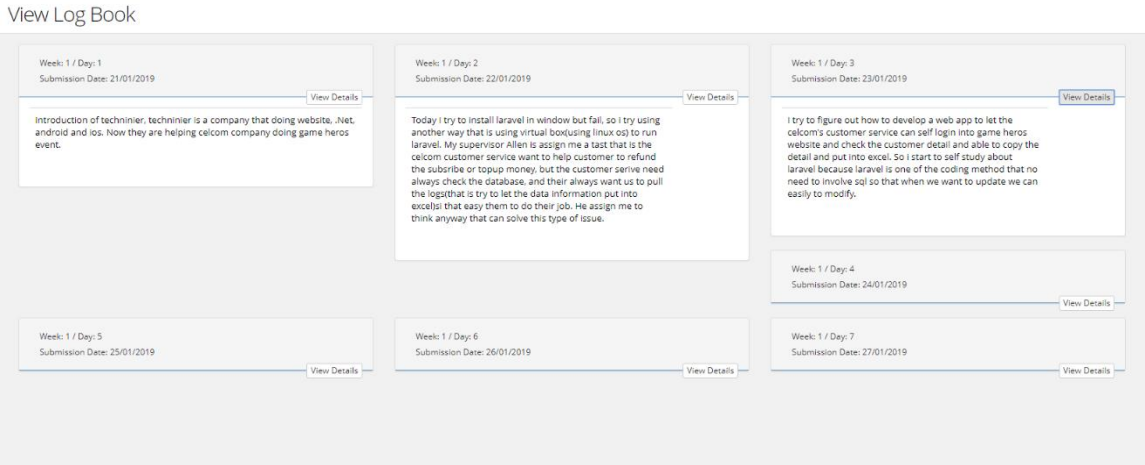

Figure 2.2 : Report details (The Unimas Portal, n.d.)

Figure 2.2 shows after the interface view logbook. The system will hide the daily task and just show the number of weeks and the submission date. The detail for the daily task will show after clicking the view detail.

I. Review on strength of The Unimas Portal system

This system has a good interface as shown in figure 2.1. This can show all the titles (day 1 until day 7) according to the date (week 1) and allow users to view the detail to get more information.

II. Review on weakness of The Unimas Portal system

This system has a weakness that is after users click view detail in figure 2.2, it still hides the detail and need to click again view detail to show out the detail for the day.

2.2.2 Manage Engine Exchange Reporter Plus

This Manage Engine Exchange Reporter Plus system (Exchange Mailbox Size Reports, 2019) has a function that able to generate the mailbox report. This function able to generate a report according to the mailbox size, status and content.

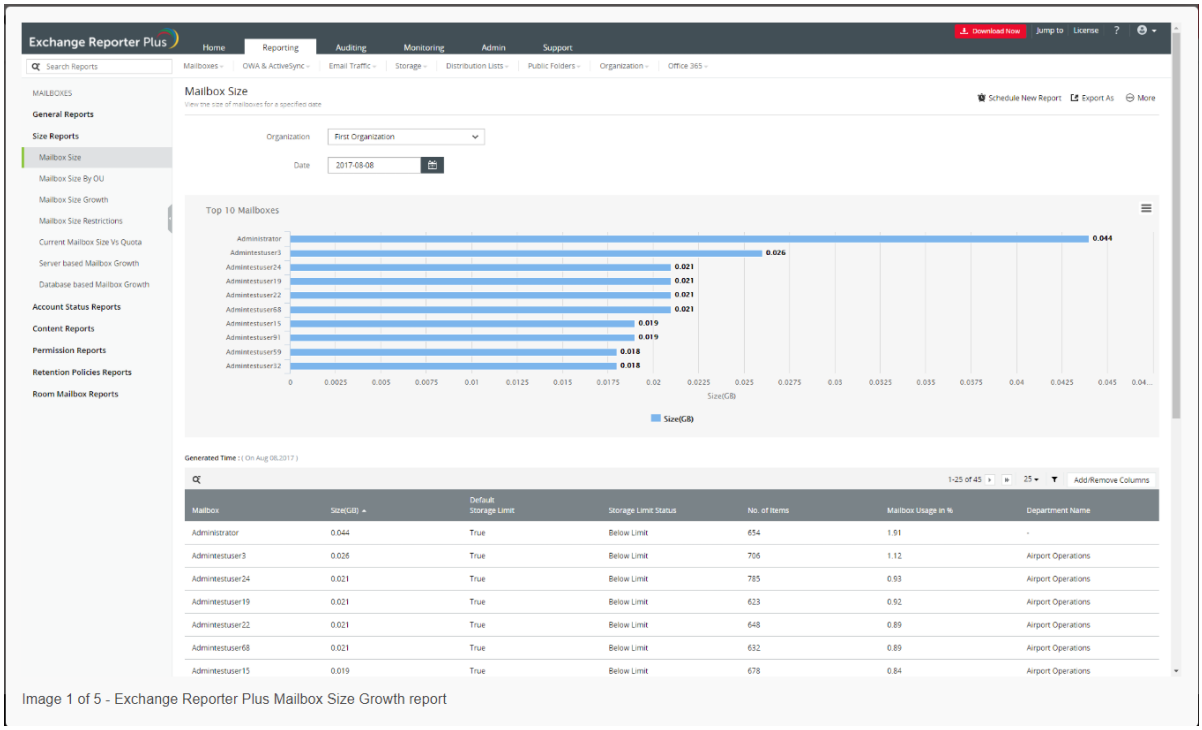

Figure 2.3 : Reporting for Manage Engine Exchange Reporter Plus (Exchange Mailbox Size Reports, 2019)

Figure 2.3 above shows the report for the mailbox size that includes the extract current mailbox size of Exchange users and able to view the graphical representation of the top Exchange mailbox based on the size. This reporting function is good to see clearly about the Exchange user's detail based on the size.