



Chapter 1

Introduction

1.1 Background

Planning and Development Division of the Faculty of Engineering, Chulalongkorn University, is an organization which has the main function to support the faculty teaching and learning activities. Also, it has to engage in some administrative practices; such as, the management of both government and faculty budgets, trailing of the budget and analysis of faculty and department plans. All these require information from all the departments and affiliations within the Faculty. The information can be classified as follows:

- Status information
- Graduate information
- Extracurricular activities information
- External service information
- Research information

Information data is transferred to the Planning and Development Division by means of paper documentation which is displayed in different formats. Some is available in the form of tables; the other is in the form of overall descriptions. The arrived data is then kept by the Division without analysis or summarization, in the form of conventional text files instored in the personal computer. It is manually typed in by using only word processing feature. Some parts of it are printed as it has to appear in the annual activity report.

When the plans are to be reviewed in order to forecast their trends, data analysis is needed and searching for the required data

always takes a lot of time. Moreover, the numerical data is rather inaccurate due to manual calculation and at present easy-to-understand data presentations can only be tediously done.

1.2 Problems

- 1.2.1 No standard of data formats received from all departments and affiliations
- 1.2.2 Consuming much time in data searching and data seeking
- 1.2.3 Data inaccuracy resulting from numerical calculation
- 1.2.4 Lack of appropriate data presentations
- 1.2.5 No summarization of data

1.3 Objectives

- 1.3.1 To effectively collect data for the Planning and Development Division in an appropriate and easy-to-use form.
- 1.3.2 To increase the efficiency in data searching and data presentation.

1.4 Scope of Work

This covers the use of:

- 1.4.1 The information in the Planning and Development Division
- 1.4.2 Relational Database Management System software
- 1.4.3 Personal computer

1.5 Expected Outcomes

- 1.5.1 An increase in data searching efficiency
- 1.5.2 An increase in efficiency in data summarization, analysis and presentation
- 1.5.3 An increase in data accuracy

1.6 Steps of Information System Development

1.6.1 Study and analyze the old information system in the Planning and Development Division.

1.6.2 Design a data model which can lead to a new information system.

1.6.3 Develop relational database from a newly designed data model using ORACLE Relational Database Management System (ORACLE RDBMS).

1.6.4 Design and develop user-friendly interfaces for easy data manipulation by using user-friendly feature of the ORACLE RDBMS, called SQL*Forms.

1.6.5 Design and develop a feature for graphic presentation of data, using ORACLE database add-in for Lotus 1-2-3 and Lotus 1-2-3 packages.

1.6.6 Evaluate the created system.

1.6.7 Report the project results.

1.6.8 Produce the user manual of the newly-developed system.

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