



Faculty of Computer Science and Information Technology

***UNIMAS STAFF TRAINING SYSTEM***

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Bachelor of Computer Science with Honours  
(Multimedia Computing)  
2015



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## **ABSTRACT**

The training is usually is to increase his or her skills by changing the attitude of the employee or increase their ability to perform well in their job. There are two group of employee that need for training which are individual level and group level. In individual, the training is important to improve their skills and knowledge and also to prepare them for possible job transfer. While in a group level, the need of training is to face any change in organization strategy that might affect the performance of the organization. Web based systems for staff training recorded in University Malaysia Sarawak (UNIMAS) has been developed in this project. UNIMAS staff needs to undergo training for 7 days, 56 hours per year to complete their annual work target. The purpose of this system is to provide a computerized system to replace current system which is manually records and process all training information in excel file. Staff can key in their own training information in the system and the admin just keep track and validate the information whether it is true or not. Besides that, the staff can request for outside training through the system. Different user has different features and functionality as they have different purpose to access the system. Each features design based on research how training in UNIMAS is conducted.



## **CHAPTER 1: INTRODUCTION**

### **1.1 Background**

According to Wikipedia stated that the definition of training is the acquisition of knowledge, skills, and competencies as result of the teaching of vocational or practical skills and knowledge that relate to specific useful competencies. The training is usually is to increase his or her skills by changing the attitude of the employee or increase their ability to perform well in their job.

There are two group of employee that need for training which are individual level and group level. In individual, the training is important to improve their skills and knowledge and also to prepare them for possible job transfer. While in a group level, the need of training is to face any change in organization strategy that might affect the performance of the organization. Training also needed in an organization when new product or services are launched. Training is very important in an organization as for UNIMAS, every staff need to complete 7 days which are 6 hours times 7 days equal to 42 hours per year. This rule had been set by government in order for the staff to complete their annual performance evaluation. All of this training information need to record by admin of each of faculty and they also need to validate one by one to ensure that training courses are exist and the trainings are attended by the staff

### **1.2 Problem statement**

Currently the staff training records are done semi-manual. In future, the number of staff in UNIMAS will be increase and these will make the recording and calculate hours of training of each staff become complicated as more data need to process. Lecturer will key in their training outside information into the system called eTrain and automatically calculate the hours and record all the information into the system. All of this information no needs to go through admin

to validate all the information added before record in the system. Before eTrain system is develop, all the training information will be key in by admin staff of each faculty in excel file based on collected information from CALM and the manual attendance sheet/book if from inside training. While if the staff attend outside training, they need to request for approval from training approval by email, and it takes a long time as training approval will not alert with the email and also by fill in the form of requested training provided in the CALM website. With eTrain system, all the recorded outside recorded is done by the lecturer and drop the admin role to record the training and calculate the hours of training but all the requested training approval still done manually through the email and form submitted through the office of each faculty. This is time consuming, error prone and lack of validation (whether the staff really attended the training) is not checked by admin staff anymore. Thus improving eTrain system that not only can record the training attended by the staff but also request for the training either inside or outside through the system without using email or manual form anymore would make the recording staff training and calculating hours taken faster and effective. The admin staff just needs to keep track all the information recorded.

### **1.3 Objective**

The main objective of this project is to enable crowd sourcing effort in recording the attended training. Specific objectives are:

i. To study and identify the specification and requirement of UNIMAS Staff Training System

In this project, all the specification and requirement of UNIMAS Staff Training System will be gathered and analysed to ensure the process in this system are the same with the actual process.

ii. To design and integrate web database technology

In this project, the system will develop by web based and using web based database technology to store all the information. All the information then can be retrieve, update and use the data to calculate training hours taken automatically by the system.

iii. To develop a UNIMAS Staff Training System based on the requirement and specification and design above.

In this project, the staff will be able to record, keep track of hours taken, request and keep track of approval requested to the training approval. The admin user will able to keep track all staff training information and validate for each training attend by the staff and lastly the training approval user will able to keep track all staff training information and view the requested training and give feedback to the staff.

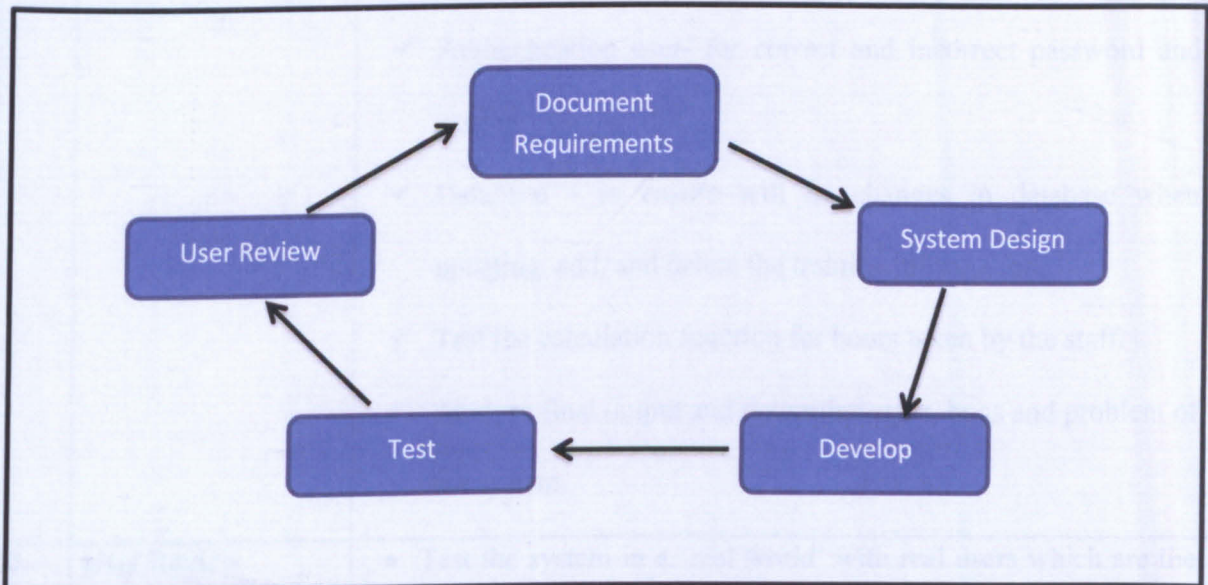
## 1.4 Methodology

The development of UNIMAS Staff Training system will apply the Rapid Agile Development (RAD). This section will briefly explain the methodology and procedure to develop the system.

According to Martin (2000) an overview of RAD had defined that “RAD is development cycle that will give much faster development with higher quality of result than traditional method. It is designed to take maximal advantage of great development software that has evolved recently”.

There are five phase of the RAD which are document requirement, system design, develop, test and user review.

Diagram 1.0 below shows the flow of the phase and table 1.0 shows the description of each of them.



*Diagram 1.0: The five phase of the Rapid Agile Development (RAD)*

Table 1.0: The description of five phase of the Rapid Agile Development (RAD)

No.	Phase	Description
1.	Document Requirement	<ul style="list-style-type: none"> <li>• Gather all information about UNIMAS staff training.</li> <li>• Study how to record the staff training information and total hours had been calculated.</li> <li>• Identifying objectives of UNIMAS Staff Training system.</li> </ul>
2.	System Design	<ul style="list-style-type: none"> <li>• Defining list of process that need to be done by UNIMAS Staff Training system, produce a workflow of the process.</li> <li>• Designing database for data storage and user interface</li> </ul>
3.	Develop	<ul style="list-style-type: none"> <li>• Produce real user interface</li> </ul>
4.	Test	<ul style="list-style-type: none"> <li>• Test the UNIMAS Staff Training system based on:               <ul style="list-style-type: none"> <li>✓ Authentication user- for correct and incorrect password and user id</li> <li>✓ Database – to ensure will be changes in database when updating, add, and delete the training information.</li> <li>✓ Test the calculation function for hours taken by the staff.</li> </ul> </li> <li>• Analyze final output and determine error, bugs and problem of the system.</li> </ul>
5.	User Review	<ul style="list-style-type: none"> <li>• Test the system in a ‘real world’ with real users which are the staff, the training approval and the admin.</li> <li>• Feedback and comment from the user will be used for improvement of the system.</li> </ul>

### **1.5 Scope**

The aim of this project and research is to focus on developing UNIMAS Staff Training system to record all training attend by the staff, calculate training hours and validate training added by the staff. Research and development of this project will be conduct based on rapid agile development (RAD) methodology.

### **1.6 Significant of Project**

In order to increase the efficiency of staff training record and total hours calculated automatically, UNIMAS Staff Training system can less time consuming because all staff can key in their training information by themselves and request for approval training through the system.

They also can keep track the status of their request through the system. The training approval also no need to check the requested training through the email, they also can check through the system and approve or disapprove the training and the admin side just to validate all the training's attendance, and to ensure the training get the approval from training approval or not. All of these will make the staff training system more efficient and decrease the error that might occur.

## **1.7 Thesis Outline**

In Chapter 1, we describe the introduction of the proposed system. In this chapter, problem statement, objectives of the study, methodology, project scope, significant of study, project schedule and the expected outcome of the project are included. The problem statement describes the obstacles faced by the current system and provides justification on why this project needs to be developed. The objectives of the project are the goal intended to be attained by the project.

The scope clarifies the area that should be focus on this project.

In chapter 2, we present in detail about the review of the existing system that are similar to the project based on journal, article and conference papers. Besides that, we will also provide an overview of the proposed system, limitation of existing system and the enhancement of that system. Discussion also had been done about software and technology used to develop the system.

In chapter 3, we describe the methodology that will be used throughout the development. The Rapid Agile Development (RAD) will be used to develop the proposed system. This chapter also will include the requirements that had been obtained from the stakeholder of the system.

In chapter 4, we explain the system's implementation. The structure of the system is described in detail by using screenshot and interface layout. We will also run a testing and explain the important of the testing phase in this chapter.

In chapter 5, we present the testing result for the system. The system is tested for each features, compare the output with expected result and to ensure that the system fulfilled the entire requirement before integrated the system into real world.

In chapter 6, we conclude the whole project developed, and present the limitation of the project and future of the project. The future work outline is for the improvisation that can be made to the project in the nearest time to come.

### **1.8 Summary**

UNIMAS Staff Training system plays an important role for staff training record in UNIMAS.

This is not only focusing on recording the training information of the system but also will help staff to calculate and keep track hours taken of the training.



## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 Introduction**

In this chapter, we will review about existing system, tools and technology to be used in the proposed system. Similar system of existing system which is training system will be reviewed and compare for its features to gain better understanding about the idea. Then, the tools and technology that will be used for development of the system will be reviewed. Literature review is an important thing to be done in this project to gain deeper understanding about the requirement need for the system and for choosing best alternatives and tools to be used.

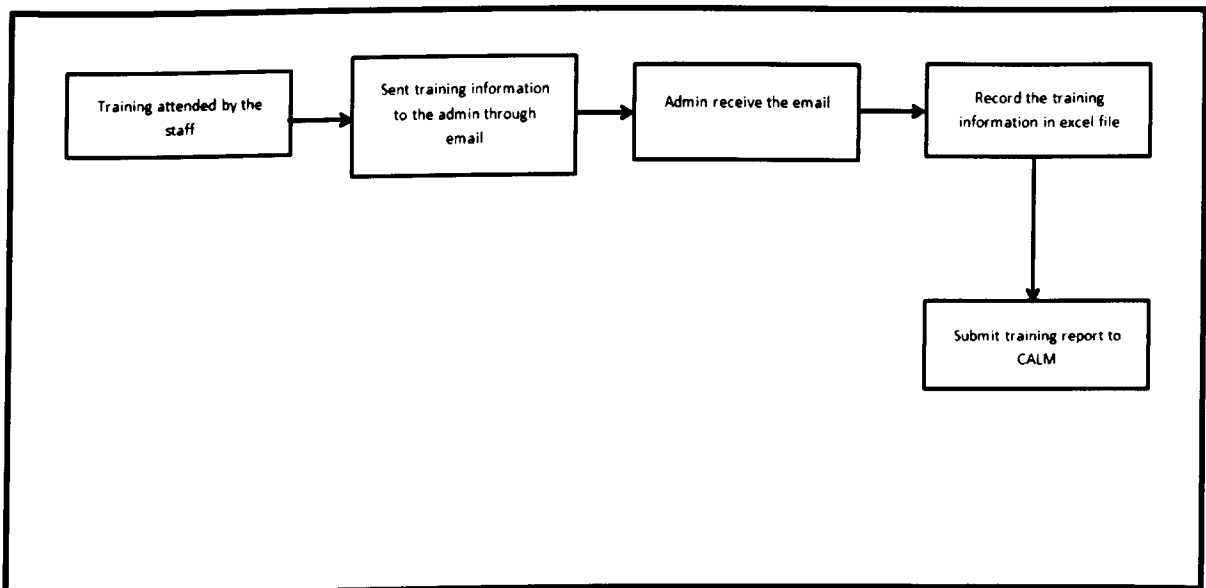
Training becomes an important element for one organization. Past research stated that training is needed for the organization to ensure worker satisfaction, increase productivity, improve worker performance, improve quality of service an products, reduction in supervision, reduced cost and help in addressing employee weakness (Frost, S. 2014). In order for the organization to keep the information or data of the training attend for every staff, they need to have one system that will keep and process all the information in computer system rather than manually. According to Sheila Shanker (2014) system will perform basically the same process but just difference in the mechanics of the process. The differences lying in the mechanics of the process which is can give the advantage to the organisation are in term of speed of the data being process, the cost to carry out the process and back up of the data in the system.

## 2.2 Reviews on Similar Existing Systems

The reviews will be conducted for three similar existing systems and compare with proposed system.

### 2.2.1 Current manual training system

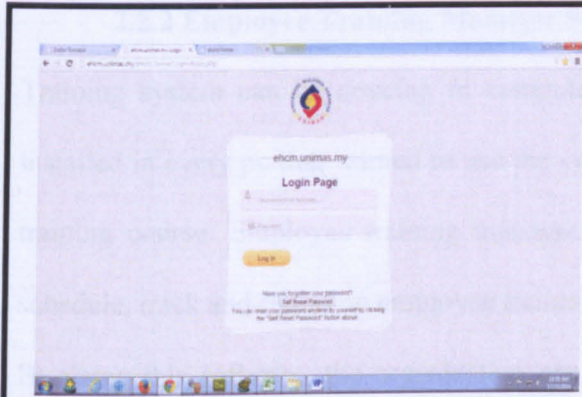
After carry out some research and interview with the staff of Faculty of Computer Science and Information Technology (FCSIT), all the training attended and its information are processed and recorded manually using excel file during last semester February, 2015. Starting on March 2015, eTrain system to record training outside for the lecturer was develop but only to record the training, to request training outside approval and request to attend training inside still in manual way which is the lecturer need to fill in the form and submit it through the email or at the office. The system remove admin role of validate the training added before training hours is added into the lecturer training's record.



*Diagram 2.1: Record training information in the training system before eTrain was developed*

Training system is for the whole UNIMAS. Every faculty, there is one admin that manage and record the information. Training information attend by the staff sent to the admin via email. Details that need to email to the admin are time and date of the training, title name or course name, organizer and the venue of the training will take place. The admin will key in all the information in the excel file according to their matric number and name of the staff. The training report submitted to the CALM in a hardcopy format and sent the softcopy by email and cc all the staff and training approval. All the staff can see their training of the month and keep track of their training hours by their own, they also can check the training whether all the training had been record in the system or not. The admin will not validate the training attend by the staff, all the information will directly key in into the system. It is hard to validate the training one by one for all the staff by manual system. Normally, the admin key in the information based on what the staff emailed them. Same goes to outside training, the admin do not know whether the training had been approved or not because there is not system or record to check for the approval.

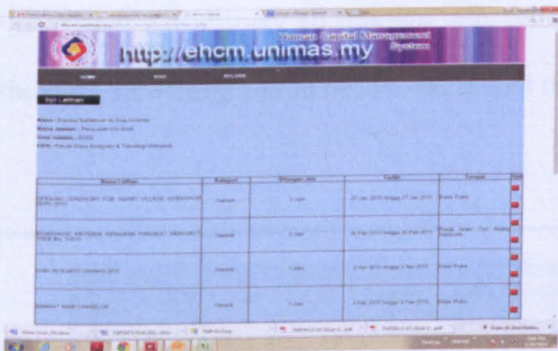
On March 2015, eTrain system was developed to record training information of the lecturer. The features of the system are provide the interface for the user to key in the training outside information after attend the training and display training report to the user for how many hours had been completed per year. But still all the requested training approval is done manually by form and email. The screenshot of the system can be seen below in Diagram 2.2.



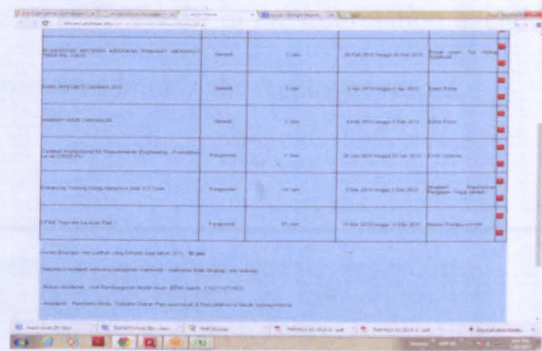
- Login page



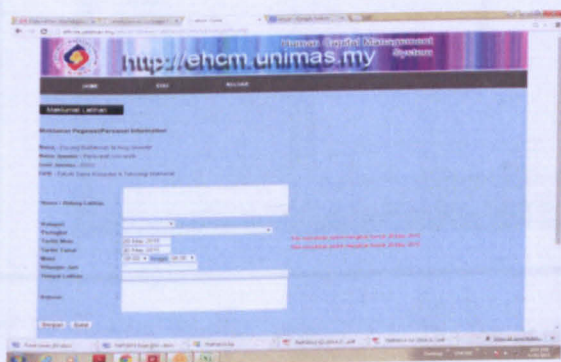
- Select eTrain to enter into training system



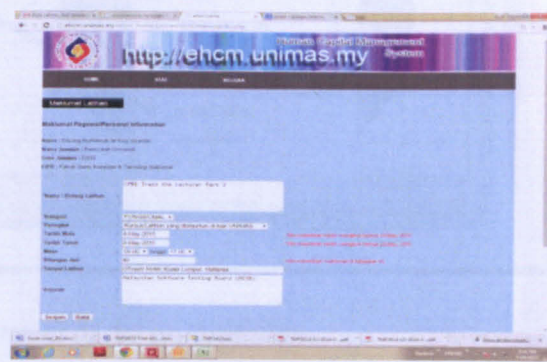
- Display all training information had been attended by the staff.



- Display total hours taken by the staff



- Add training outside information interface.



- User need to fill in the information in order for them to claim the hours.

Diagram 2.2: eTrain system



## 2.2.2 Employee Training Manager Software

Training system can be develop in computerize system as a software. The software will be installed in every pc that wanted to use the system to keep and process all the information about training course. Employee training manager software provide the system that enable user to schedule, track and report on employee training, skill sets and qualification for the employees.

By using this software, the organization can keep track staff's performance from the training attended by the staff. However, the system should only administer by certain people only because the system will display all training information for all staff. To fill in the information attend by the staff, first thing admin need to do is find the respective admin in the employee record.

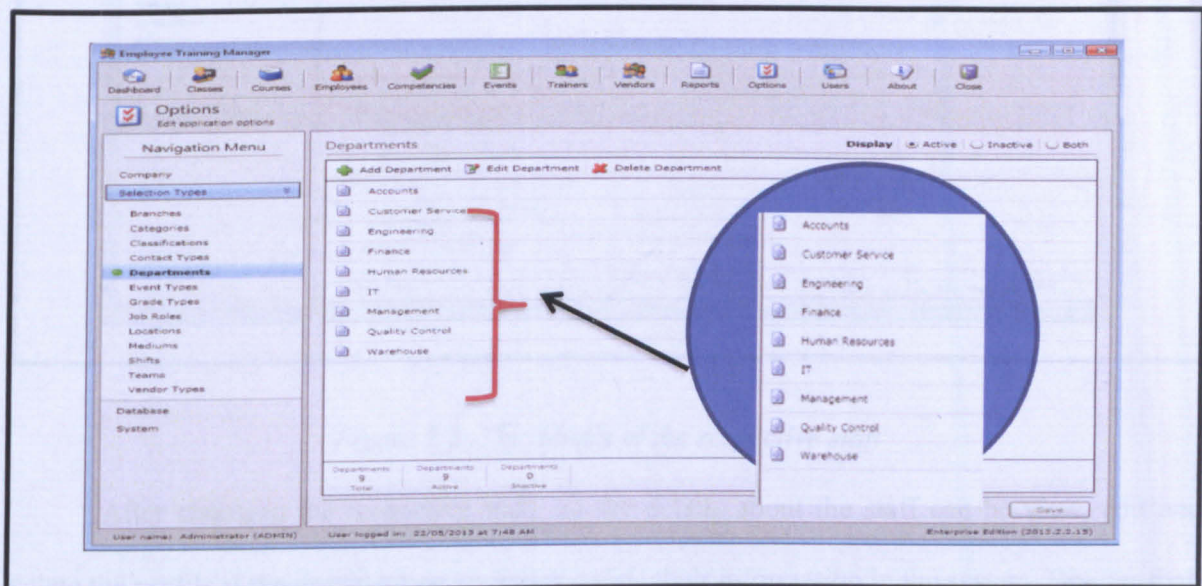


Figure 2.1: The list of department of the organisation



The employees are sort by department name. The admin can find the respective employee by select the department they are in. Besides that, admin also can add and edit department to the system. It is such important features the system should have as for example for the company with large number of staff. All the staff will be arrange and sort according to their department. It is easier to find and the fastest way to search for the respective staff to fill in their training information or see their details.

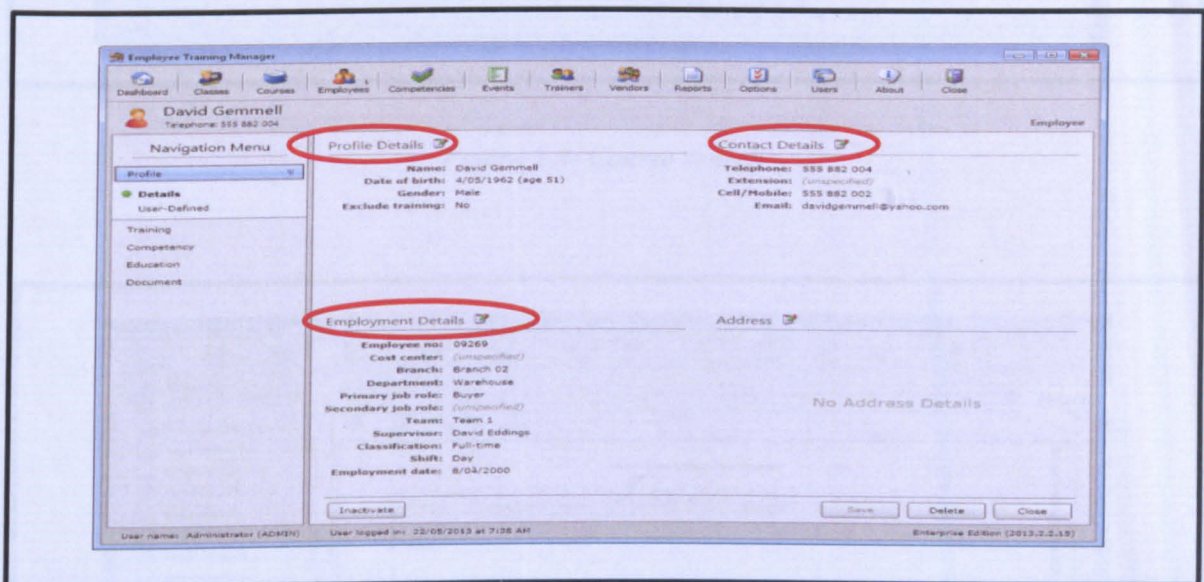


Figure 2.2: The details of the respective staff

After choosing the respective staff, all the details about the staff can be view, edit and delete the profile if the organization no longer needs their information in the system. Besides that, the related information about training, competency, education will also store in the system. For the training information, search the course available before assign to the staff and after submit the course, the system will generate employee summary report for the training taken.



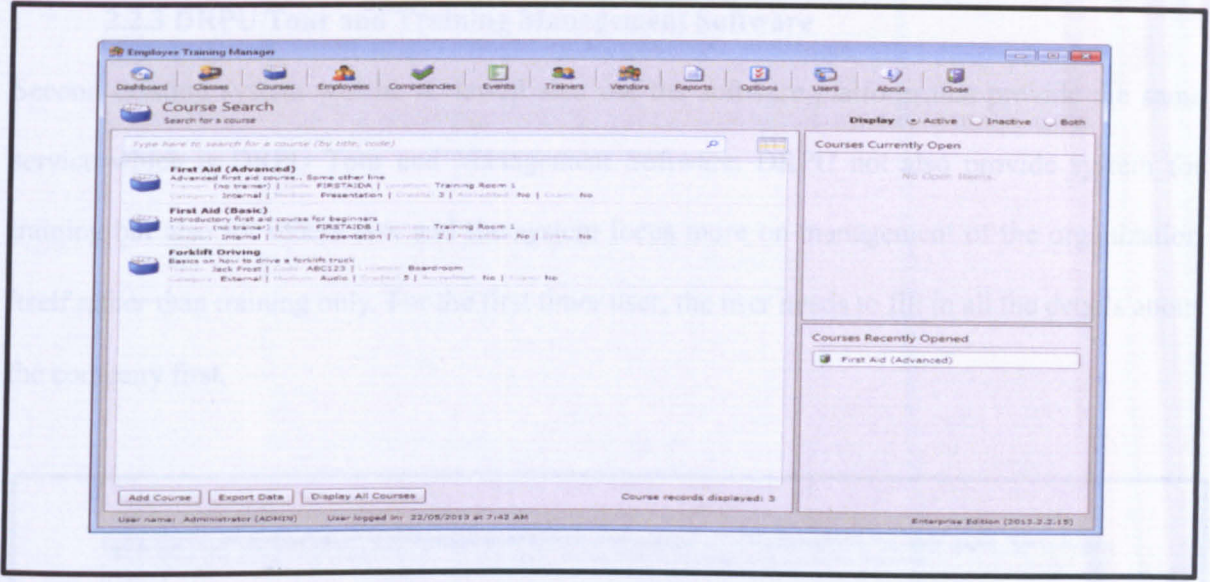


Figure 2.3: Course search

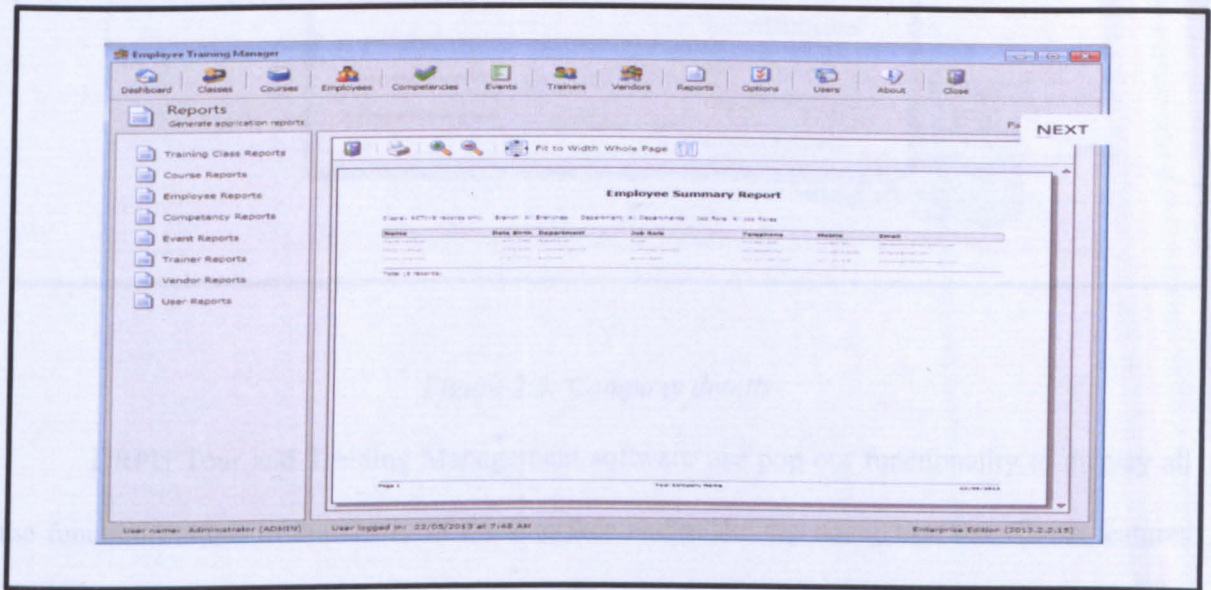


Figure 2.4: Employee summary report

### 2.2.3 DRPU Tour and Training Management Software

Second existing system will be reviewed also use the software platform that provide the same service which is DRPU Tour and Management Software. DRPU not also provide system for training but also for others task and the system focus more on management of the organization itself rather than training only. For the first timer user, the user needs to fill in all the details about the company first.

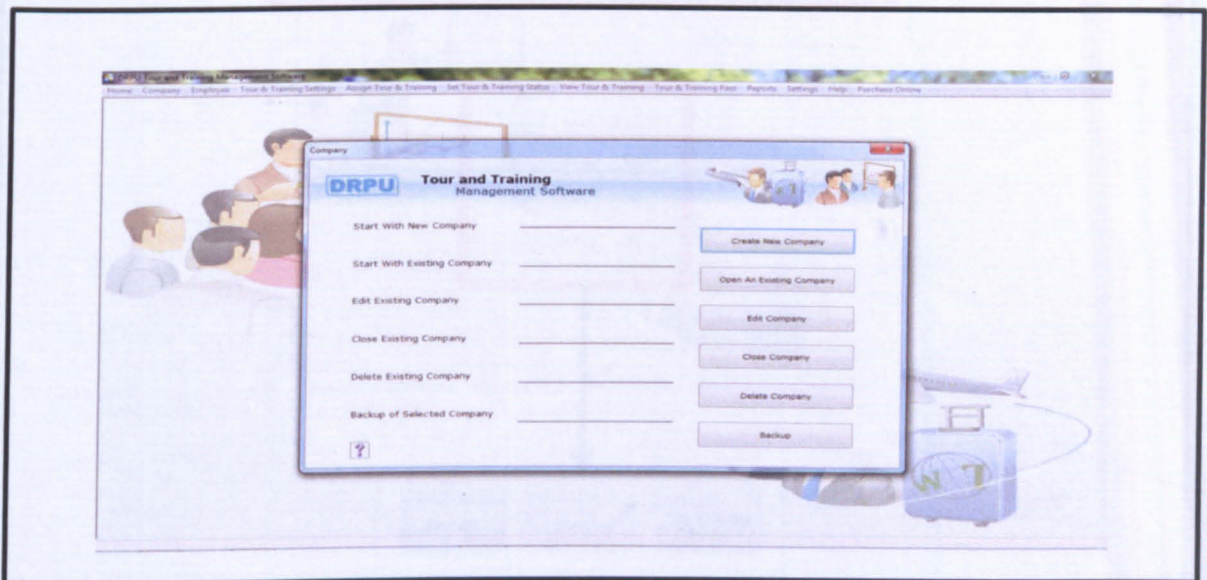


Figure 2.5: Company details

DRPU Tour and Training Management software use pop out functionality to display all the function buttons at the center of the interface and at the top navigation bar. These features may lead to redundant of the function buttons. The system should use the space maximum as they can so they can display the information as much as they can to the user instead of they display redundant function buttons. To be a good system, the developer of the software should apply three clicks rule which means they make the user do their task easier and faster.