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WEB-BASED NEW RENUMERATION SCHEME (SSB) EVALUATION SYSTEM

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ABSTRACT

This Web-based SSB Evaluation System is a web-based human resource evaluation or remuneration system, which has been developed to replace the current paperwork used in Human Resource Department (HRD) in UM. By providing a computerized SSB Evaluation form, the HRD can gather all the data entered by users using a user-friendly interface of SSB form instead of paper form. This will help to increase the quality and accuracy in data keeping, yet providing an up-to-date and economical way of information management. Moreover, this proposed system will provide safeguards to ensure reliability, accuracy and confidentiality of the information. It will also reduce the data storage cost and increase the efficiency of data storage. The Web-based SSB Evaluation System consists of a number of modules or sections. The modules are: Staff Section which enable staffs to fill in the SSB Evaluation forms; Supervisor Section which enables supervisor to view the record of the particular staff supervised by him/her, evaluate staff's performance and fill up the assessment part in SSB Evaluation forms; HRD Section which enables authorize staff to view the reports of evaluations and finally, the administrator's section which enables the administrator to keep track staffs who have submitted the SSB evaluation form on the selected date. The proposed system was developed by using Waterfall with Prototyping Model as the methodology for system development, JSP as web programming language, MySQL database and Tomcat as the web server.

Keywords: *Skim Saraan Baru, Web-based, Evaluation system, Human-resource, Remuneration*

INTRODUCTION

SSB is an abbreviation of *Skim Saraan Baru, which* means New Remuneration Scheme. This scheme was introduced in 1991 by our Prime Minister, Dato' Seri Dr. Mahathir Mohamad, and enforced in 1992 [10]. The SSB scheme was structured on a "Pay For Performance" system to encourage the good performance and to increase the quality and productivity of government staff.

Currently, Human Resources Department of University of Malaya (UM) still uses the conventional way to conduct the SSB Evaluation form. This may insufficient in terms of space, cost, security and confidentiality of information. Therefore, the purpose of this project is to eliminate drawbacks in the conventional method, save cost and time by improving the effectiveness of the process in each stage.

Under the current UM's SSB scheme, staffs will be required to fill in the SSB form, and then submit it to their head of department. Performance's evaluation is essential in SSB. It is used to decide the salary movement of the staffs of civil services department at every year. Normally, there are two stages of evaluation; namely the first supervisor stage (Peringkat Pegawai Penilai) and second supervisor stage (Peringkat Pegawai Penilai Semula). Basically, the first supervisor can be defined as the higher-level officer or supervisor who is the nearest, and have direct working relationship to the particular staff that is being evaluated. Second supervisor is the higher-level officer who is nearest to the first supervisor, and has working relationship with the staff that being evaluated. The first supervisor will evaluate and comment on the achievement of the staff. Then, the form will be re-evaluated by the second supervisor. Finally, the forms are submitted to Human Resources Department (HRD) to be processed. Once the HRD has gathered all the forms, they will key in the merit of the evaluation in the computer and prepare the report for the consideration of staff's salary increment by *Panel Prestasi dan Pergerakan Gaji (PPG).* Four types of salary increment are available in this scheme, namely static, horizontal, vertical and diagonal. The time taken to complete all these procedures will normally take 2 or 3 months, maybe more depending on how fast the staff returning the forms, etc. Figure 1 below shows the flow chart for the conventional SSB evaluation system in UM.
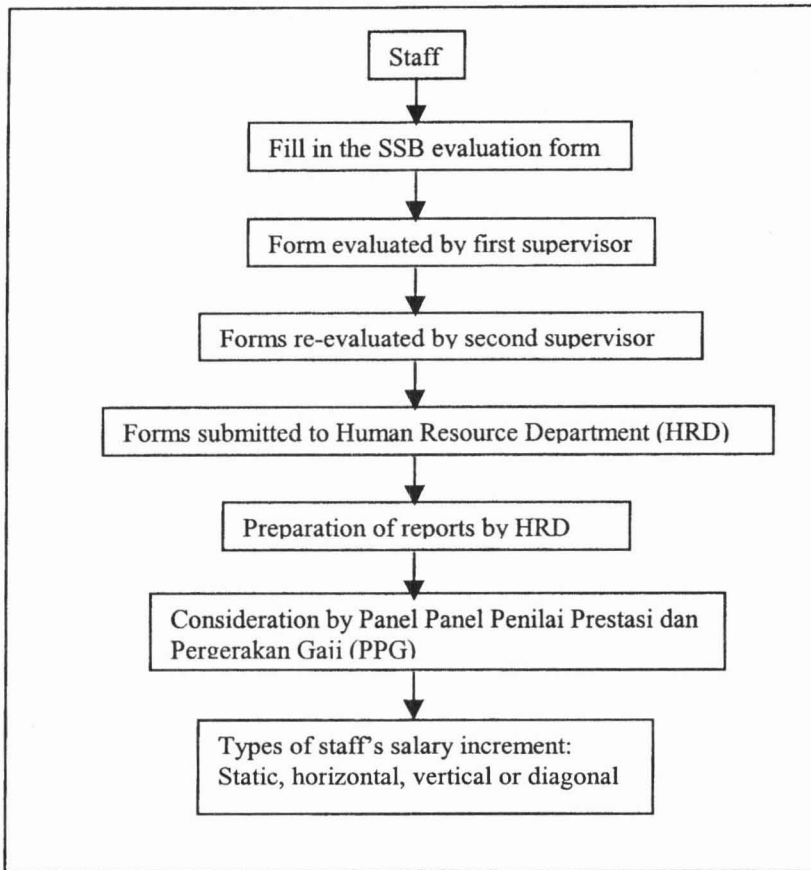
Figure 1: Flow chart for the conventional SSB evaluation in UM.

The computerized data is stored by using Microsoft Access database and will be kept for three years. These data will be referred if there is a promotion or carrier development for the particular staff because the main purpose of SSB is Pay For Performance.

Since this process is done manually, there are some problems associated with this exercise. The main problem faced by Human Resources Department including the *(PPG)* is the SSB evaluation forms have not been returned by the due date. The misplacing of those forms usually causes this. Due to this, extra works have to be done to keep track about who have received the form and also who have submitted the form. This has delayed the process of performance evaluation especially the meeting of *PPG Pusat,* to decide the salary movement of the staffs. As the result, those forms, which are received beyond the due date, will be given a static salary, which is not fair to the relevant staff.

Storage is another problem, especially in an organization where the number of staffs is big and keeps on increasing. Paper files required a large amount of storage space, but more importantly, they are easily misplaced or lost and required excessive time for retrieval. A lot of files are needed to keep track and maintain all the records. This is not an efficient way as it is very tedious and needs a lot of manpower to keep track and handle the records. It also difficult to retrieve and update and some of the data may be duplicated or lost.

This project is aimed to provide a computerized SSB Evaluation form which will assist the Human Resources Department to gather the information needed for the purpose of SSB evaluation. The beauty of this system is that the HRD can gather all the data entered by users using a user friendly interface of SSB computerized form instead of the conventional paper form. The idea of this project is some kind of office automation; a Web-Based SSB Evaluation System to provide SSB Computerized Evaluation forms that allows the staff to login to the system and fill in their particulars through the browser. The data will then be stored into the database. In order for the supervisors to access the SSB form of the staff under him, they have to enter their username and password. It is important to provide adequate safeguards to protect the system and information from unauthorized users. Characteristics such as validation of the fields in SSB

form are also included so that the system will prompt out the error message when the user enter the wrong value for the particular field. While in the perspective of accessibility, this project will focus on security issues that have different access level for staff, first supervisor, second supervisor, Human Resources Department and administrator. This is to protect unauthorized users from viewing and editing the contents of the record in database. By this way, the information will be kept confidential and no cross check will be allowed.

It is hoped that this system will eliminate the problems associated with missing/misplaced forms, save cost and time, reduce delays in receiving and returning forms, human negligence and etc. This system is also effective in keeping track the record year by year and allowing the administrator to search the particular form based on staff ID.

The objectives of this proposed system could be summarized as follows:
  i.   To increase quality and accuracy in data keeping.
  ii.   To develop interactive interface for SSB evaluation form.
  iii.   To provide up-to-date and economical way of information management.
  iv.   To provide safeguards to ensure reliability, accuracy and confidentiality of the information.

The implementation of a complete web-based SSB evaluation system will require a significant amount of man-hours, thus at this stage the scope is only limited to building the system of gathering SSB Evaluation Forms for the category *Pegawai Kumpulan Pengurusan Dan Profesional* . This system can obviously be extended to include the other categories when the need arises.

METHODOLOGY

There are varieties of technique that can be used to determine the requirements of the system or the users. This includes sampling and investigating hard data, interviewing, questionnaires, observing decision-maker behavior and office environment and even prototyping [12]. At this stage, the developer needs to know the details of current system functions about who are involved, what are the activities, where the work take place, when or the timing of the activities and how the current system's procedures are performed.

In order to develop the Web-Based SSB Evaluation System for Human Resources Department of University of Malaya, interviews has been chosen as the information-gathering techniques because the proposed system is deeply related to the current system. Interview activities have been carried out in order to understand the loopholes and weaknesses of the conventional SSB practices in UM. The related documents such as current SSB evaluation forms, announcement letter and other relevant information have also been collected. An interview has been conducted with a staff of Human Resources Department who handles the current SSB evaluation system. Several questions have been prepared in order to understand the history of SSB in Malaysia and University of Malaya, the objectives of this system, the process flow or procedure of practice, advantages and drawbacks of the current practice. It has been learnt that this project received an encouraging feedbacks from the HRD due to some problems in distribution procedure and collection of paperwork in the current practice.

SYSTEM ANALYSIS AND DESIGN

The system analysis covers the area of functional and non-functional requirements of the Web-Based SSB Evaluation System. The functional requirements probably can be divided into four categories, namely the staff section, supervisor section, HRD section and administrator section. The staff's section is where the staff can access the SSB evaluation form, fill in the form and submit it. After the staffs have submitted the form, the supervisor's section will be the process of retrieving the SSB form, evaluation and add in comment into the forms. The HRD section is basically to view the report and staff's SSB evaluation form. Finally, the administrator section will be the implementation of few administrative tasks such as system monitoring, database record deletion and insertion and others. Figure 2 below shows the structure of the Web-Based SSB Evaluation System.
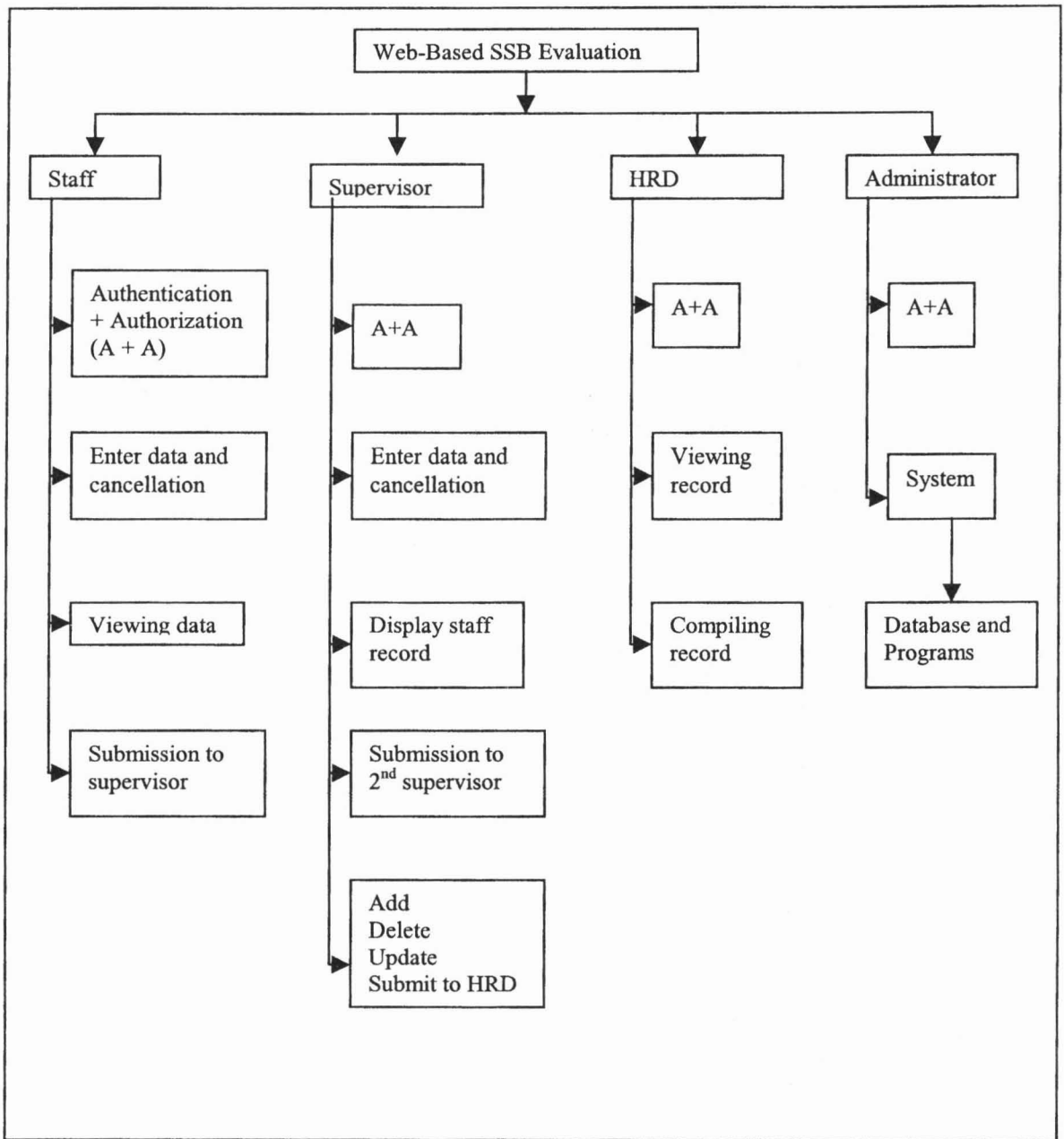
Figure2: Structure of the Web-Based SSB Evaluation System

Security design

As stated earlier, Web-Based SSB Evaluation System is divided into four sections, namely staff section, supervisor section, HRD section and administrator section. Realizing the needs for a secured medium of information transmission for the proposed system for its critical and confidential information, several user levels authentication or restriction have to be implemented. The types of security measures to be implemented are as below:

i. Restriction by username and password
  - Users who wish to access to the system will need to provide a username password recognized by the system in order to get access.

ii. User type restriction

- In staff section, the restriction by username and password not so emphasized because the system should serve the purpose of ease-to-use (do not need to memorize username and password) and availability to all staffs in UM. Thus, the staffs only need to input their Staff ID in order to get access.

- In supervisor section, both Staff ID and password are required. Password has to be assigned to a particular person who is acting as supervisor, either is first supervisor (*Pegawai Penilai*) or second supervisor (*Pegawai Penilai Semula*).

- HRD section has highest level of restriction, which the system require username, password and also Staff ID. The username and password have to be assigned to authorize staff in HRD in order for them to get access to the SSB Evaluation records.

The following figure (Figure 3) shows the system's home page. This system contains of 4 main sections, which are staff, supervisor, Human Resource Department and administrator section. Each section was represented by the hyperlinks of *Menu Kakitangan*, *Menu Pegawai Nilai*, *Menu HRD* and a table for administrator login.
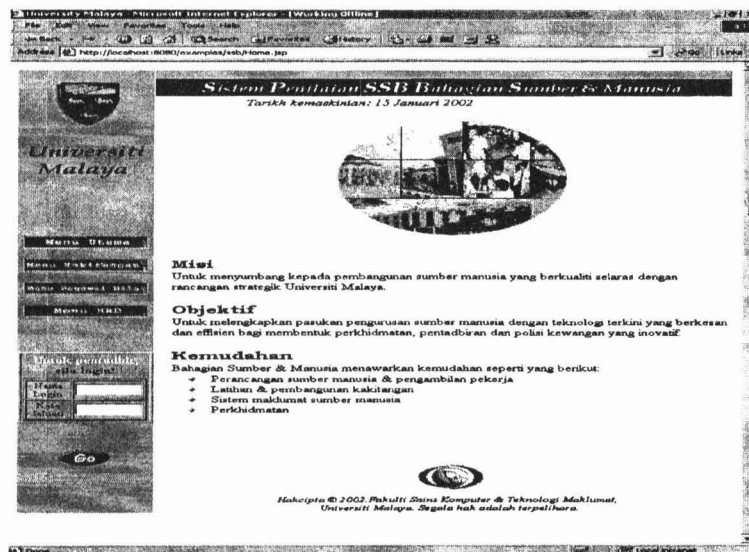

Figure 3: Home page of Web-based SSB Evaluation System

Staff Section

The purposes of the staff section are to display SSB Evaluation form according to the selected staff's category and allow staffs to fill in the form. It also displays the assessment pages. For authorization and authentication purpose, user will be required to fill in their staff ID, login name, and password and also select the staff category in order to login to this section as shown in Figure 4 below. As a security measure, the user will have to answered a randomly generated question such as 'Dimana kampung asal anda?" to ensure that he/she is the authorized user. Then the user can start filling in the SSB computerized form. A sample of the first page of the staff record is shown in Figure 5.
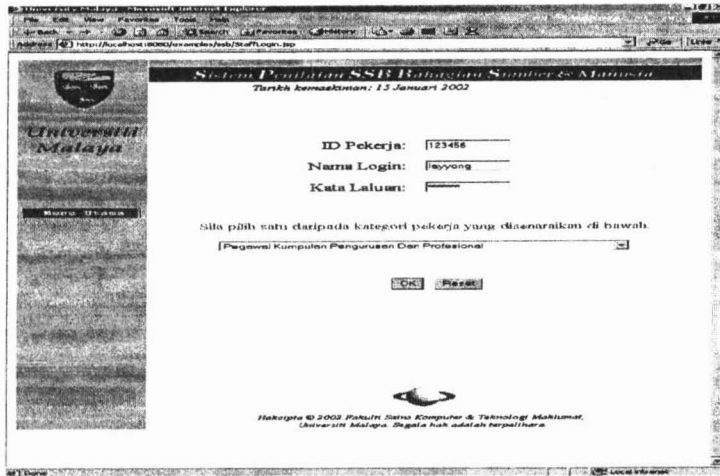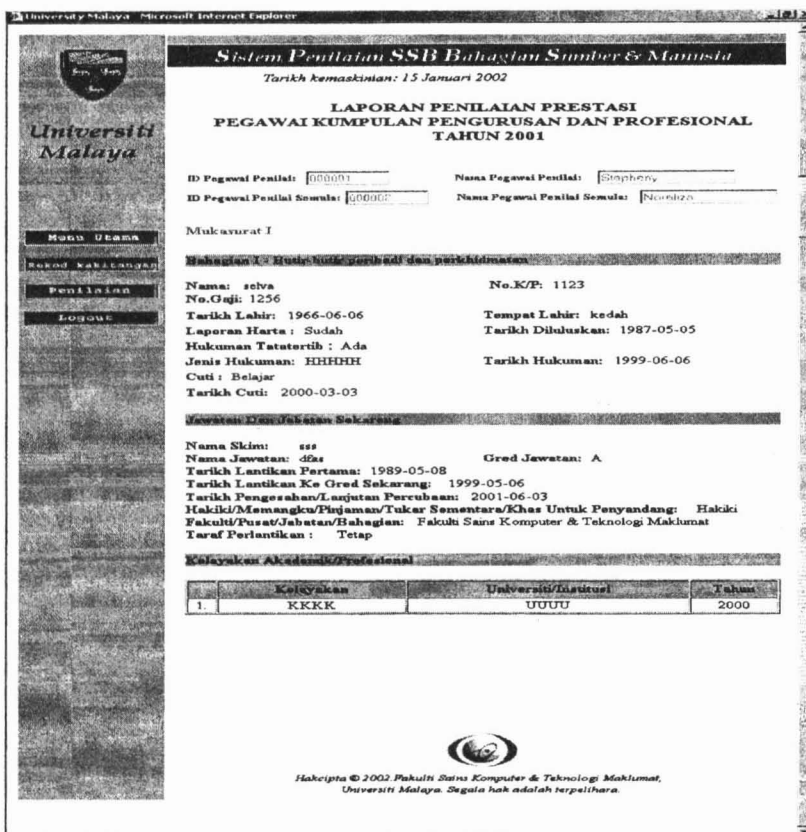
Figure 4: Staff login page

Figure 5: First page of staff record.

Supervisor section

The purpose of this section are to display the staff's record according to the selected staff ID by supervisor and allow the supervisor to fill in their comments in the assessment page. In order to access this section, the supervisor will be required to enter their staff ID, login name and password and also identify themselves whether they are first supervisor (*Pegawai Penilai*) or second supervisor (*Pegawai Penilai Semula*). Then, the supervisor will be required to answer a question, which is the same process as in the staff section. If the login's particulars have been entered correctly, the ID and name of the staffs under supervision of this supervisor will be listed as shown in Figure 6 below. The supervisor then can assess the relevant staff's form and evaluate the staff.
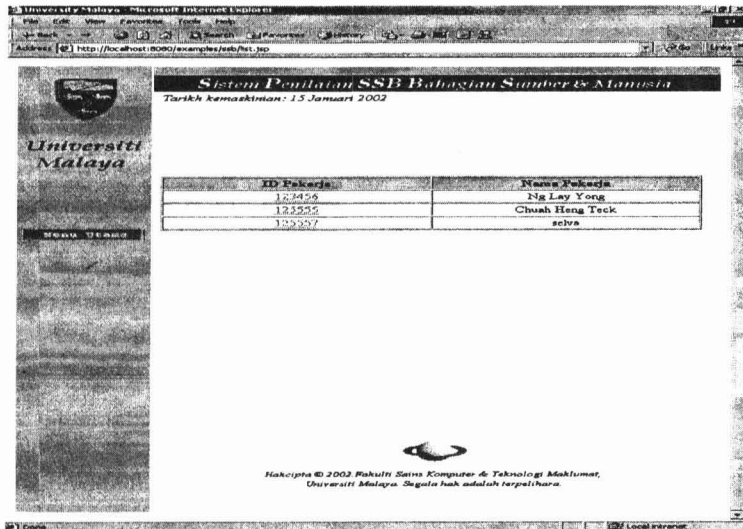
Figure 6: Staff's list of supervisor section

HRD section

This section allow the authorize person from Human Resource Department to enter the percentage of PRS and also *Akuan PPG* of the staffs for the selected *Pusat Tanggungjawab*. It will also display the SSB Evaluation report for the selected category of salary increment and also the staff's SSB Evaluation form for reference and promotion purposes. See Figure 7 below.
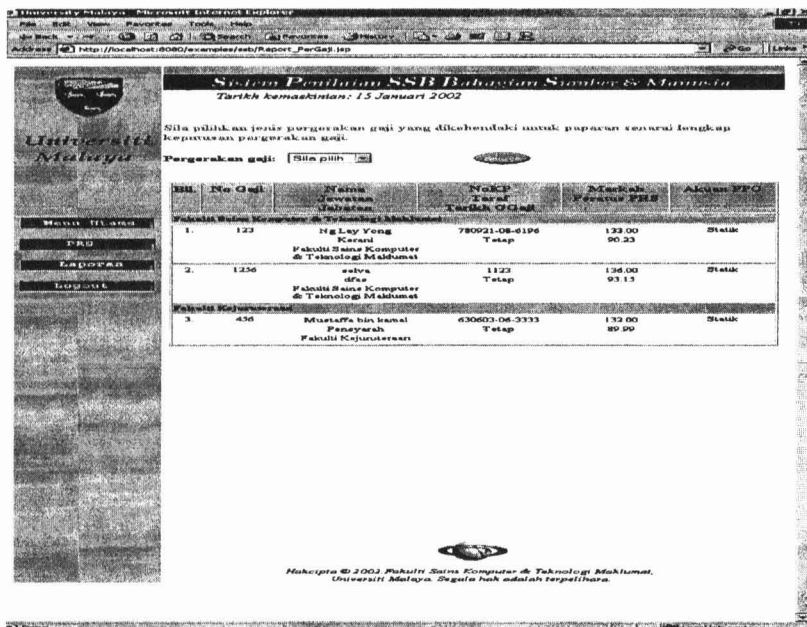

Figure 7: Salary increment report

Administrator section

This section enables the administrator to keep track of the staffs who have submitted the SSB Evaluation Form on the selected date. Administrator can also select the desired date from the calendar and then click on search button in order to view the staff's list of the selected date. Figure 8 shows the Staff's list in the administrator section.
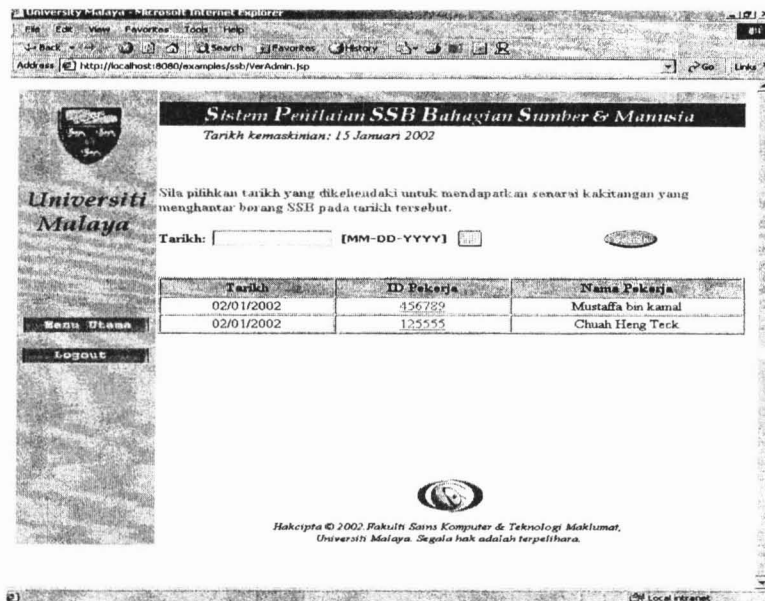
Figure 8: Staff's list of administrator section

CONCLUSIONS

As a summary, this paper has discussed the benefits of having a web-based remuneration system as compared to the manual paper-based system. Two of the main benefits that we could get from the implementation of the systems are cost and time saving. For a large organization such as University of Malaya which has about 8,000 employees, this system will definitely help the UM's management in achieving the objectives of ISO 9000-2001qualifications.

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