**PROGRESS REPORT II**

**OF**

**PERFORMANCE EVALUATING SYSTEM**

**FOR**

**TRANS-MERCH APPAREL (PVT) LTD**

**KADAWATHA**

**IMGT 3†34**

**Design & Development of Computer Based Project**

Submitted by

A.M.M.M.Abeysinghe

142033

First Supervisor: Ms.M.G.S.Dilanthi

Second Supervisor: Ms.J.M.N.M.Jayasinghe

Department of Industrial Management

Faculty of Applied Sciences

Wayamba University of Sri Lanka

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**PREFACE**

This report is submitted in the partial fulfillment of the requirements for the Bachelor of Science (Joint Major/ Special) Degree Programme offered by the Department of Industrial Management of the Faculty of Applied Sciences of Wayamba University of Sri Lanka.

Through this report the functions of a Performance Evaluation System are identified. The study is based on an apparel manufacturing company, Trans-Merch Apperal (Pvt) Ltd, Kadawatha. The inefficiency and ineffectiveness of the existing system which is currently being operated manually is analysed and a system is proposed to eliminate the drawbacks and enhance the effectiveness.

This report includes an introduction of the organization, ER diagram and the graphical interface designs that I have created for the system. And further it contains normalized database structure and also the table previews and formats of reports that are going to be generated. This is a project report which provides an analysis of performance evaluation.

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# 1. INTRODUCTION

Trans-Merch Apparel Pvt Ltd was established in Toronto, Canada in 2006 as an apparel manufacturing and design company. They manufacture and distribute to all leading customers across North America. Furthermore they have strategic partnerships with Walmart, target, Sears and Bay Company. They own and operate manufacturing and distribution locations in Toronto, New York and Sri Lanka.

The Sri Lankan branch of Trans Merch Apparel pvt Ltd was established in Kadawatha in 2015.07.02. The current owner of the organization is Mr. Welayudan Ilangeshwaran Currently about 150 workers are working there under 3 managerial levels. They are specialized in knit garments including men’s, women’s and children’s t – shirts, polo shirts, fleece tops, polar fleece, intimate wear and essentials.

## 1.1 Scope of the System

From the whole business process, performance evaluation of the factory workers of Trans-Merch Apparel (Pvt) Ltd, is selected for this project. That is under the Human Resource Department of the company. Performance evaluation consists of following processes.

1. Handling efficiency details
2. Handling damage rate details
3. Handling attendance
4. Handling machine operator grading
5. Report generation

Currently most of the functions of the Human Resource Department of this company are done manually. The proposed system suggests a computer based process for current operation of performance evaluation to make the process more efficient and productive.

# 2. SYSTEM DESIGN

## 2.1 Graphical User Interface (GUI) Design

## 2.1.1 Login

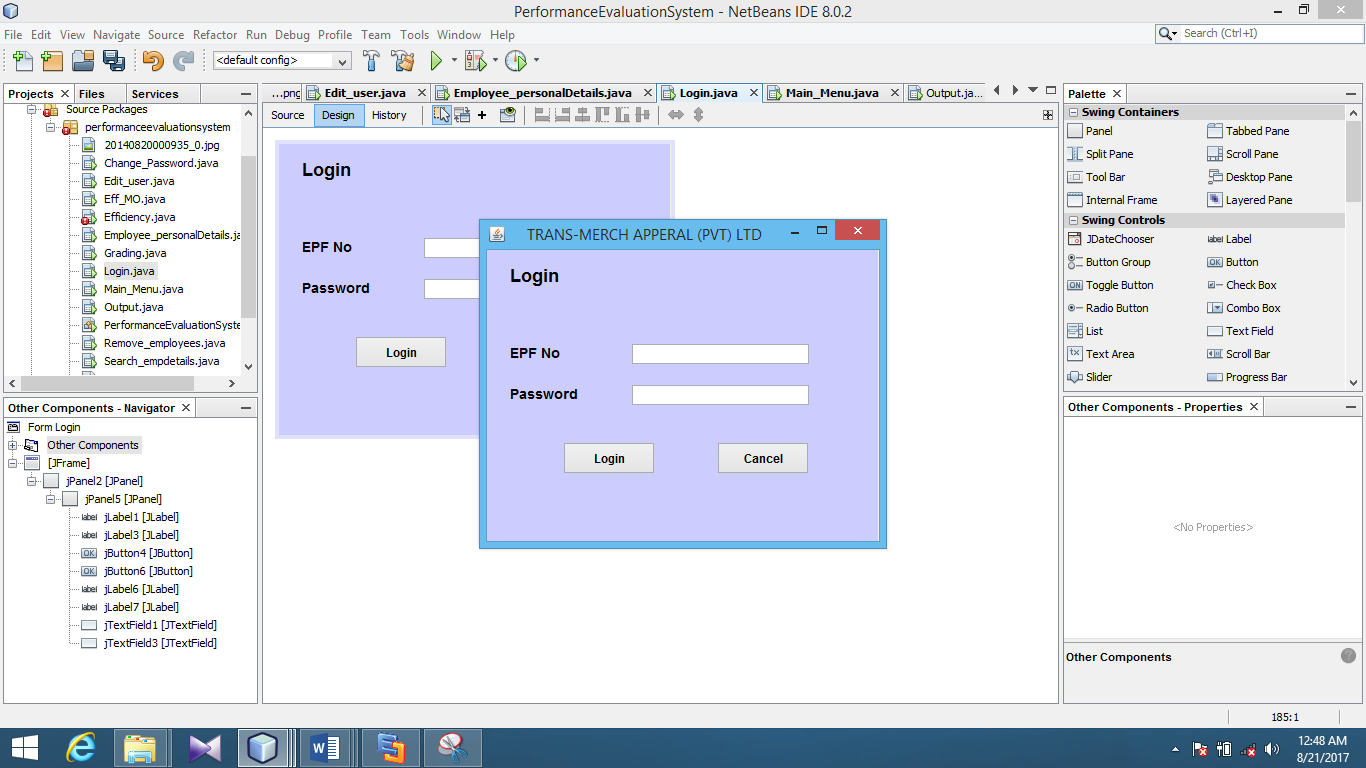
This interface is used to allow different types of authorized users to log into the system. After adding their user name and password to relevant fields users can log into the system.

Figure 1: Login

**2.1.2 Main Menu**

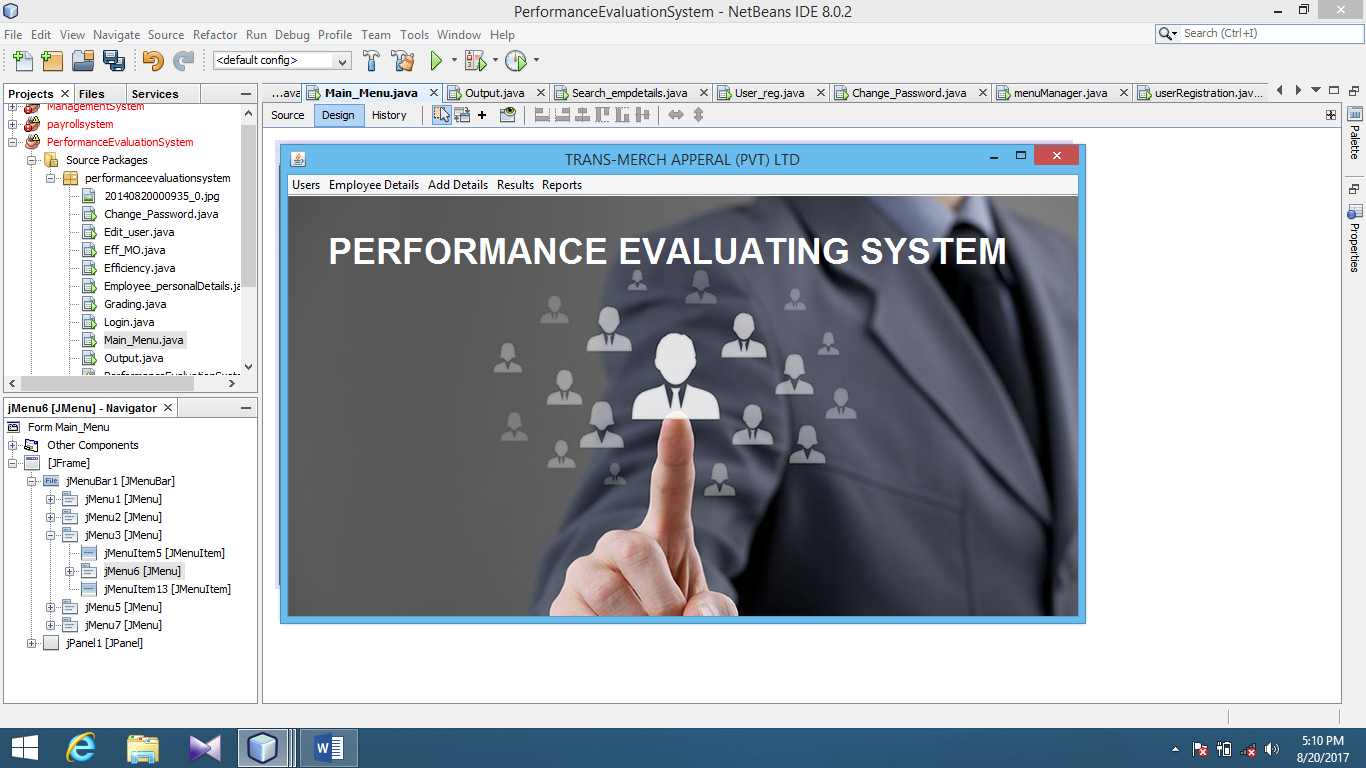
This is the key interface of the system which guides the user to perform any functionality in the system.

Figure : Main Menu

***2.2.2.1 Users***

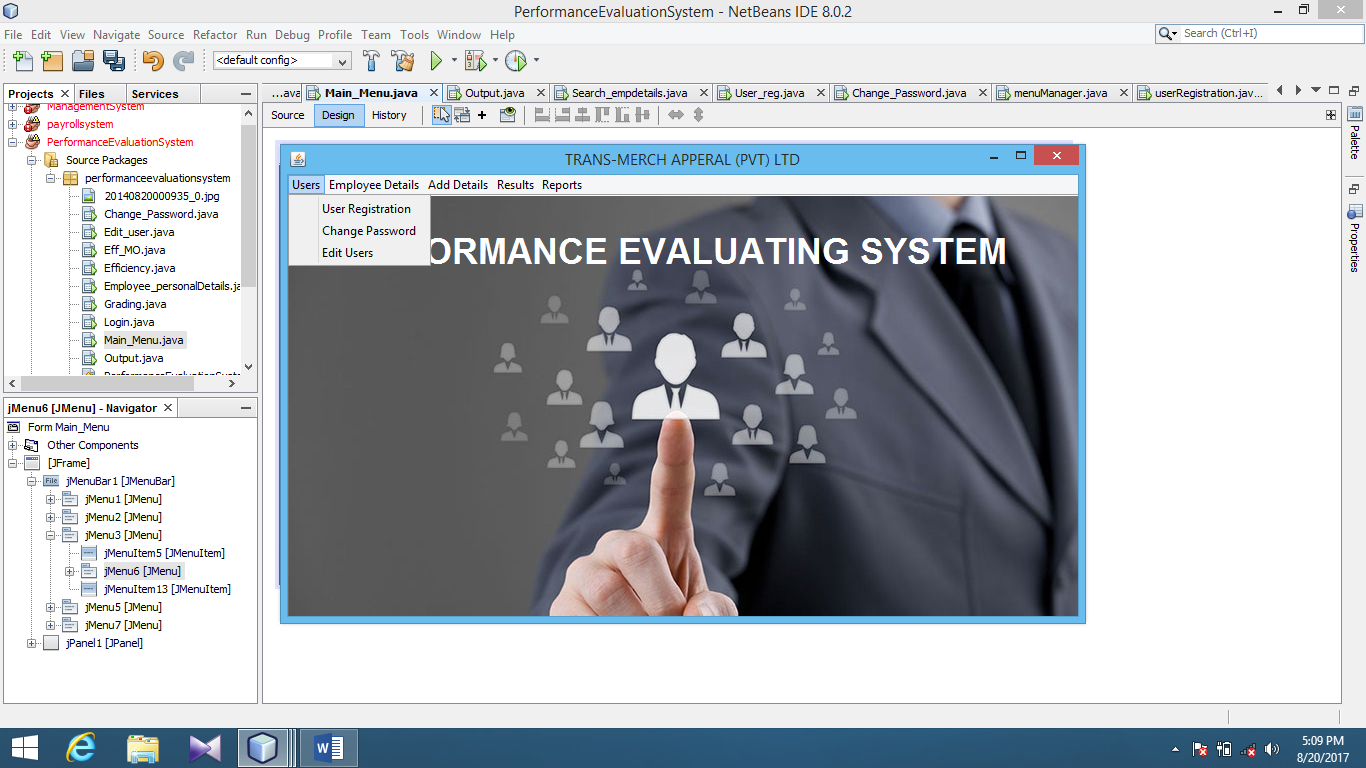
This menu contains three sub menus for user registration, changing password and editing user as shown below.

Figure : User Menu

***2.2.2.1.3 User Registration***

This menu is used for registering new users according to their designation.

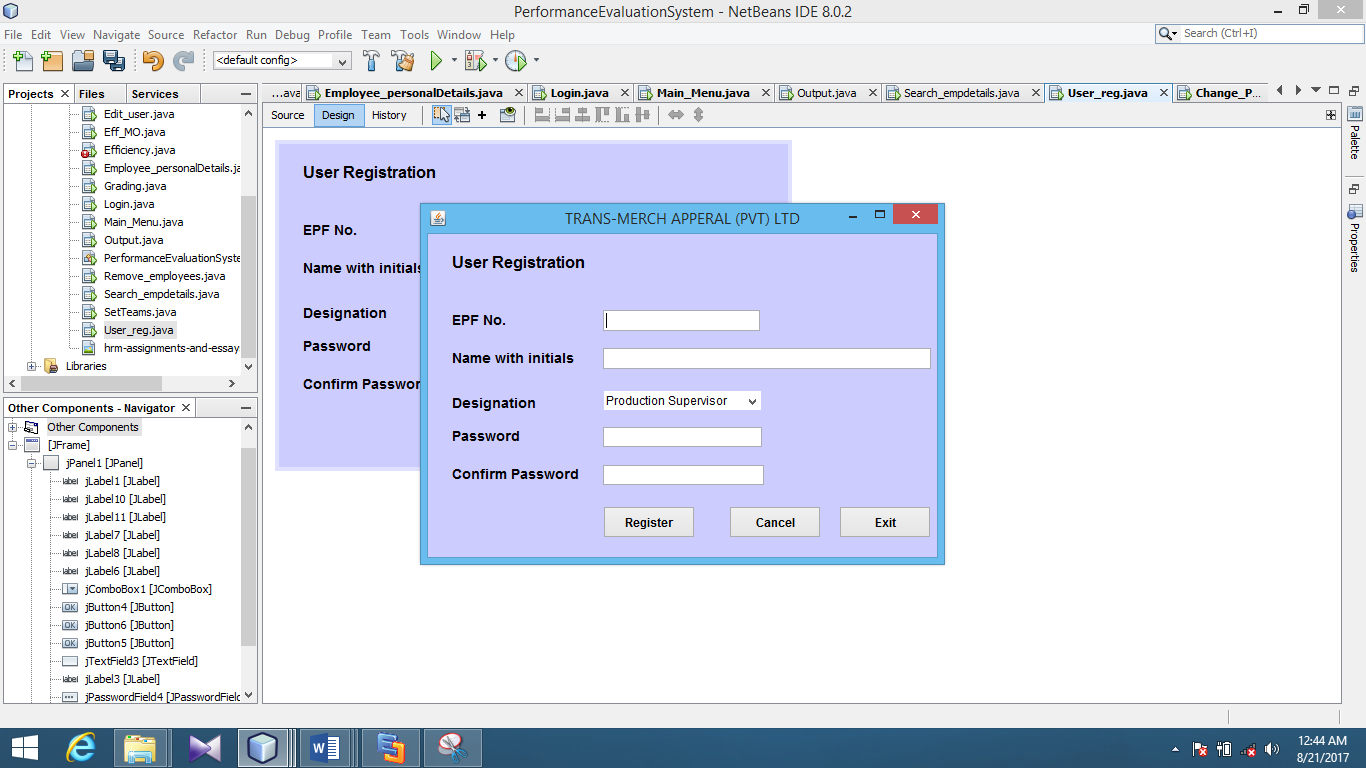


Figure : User Registration

***2.2.2.1.4 Change password***

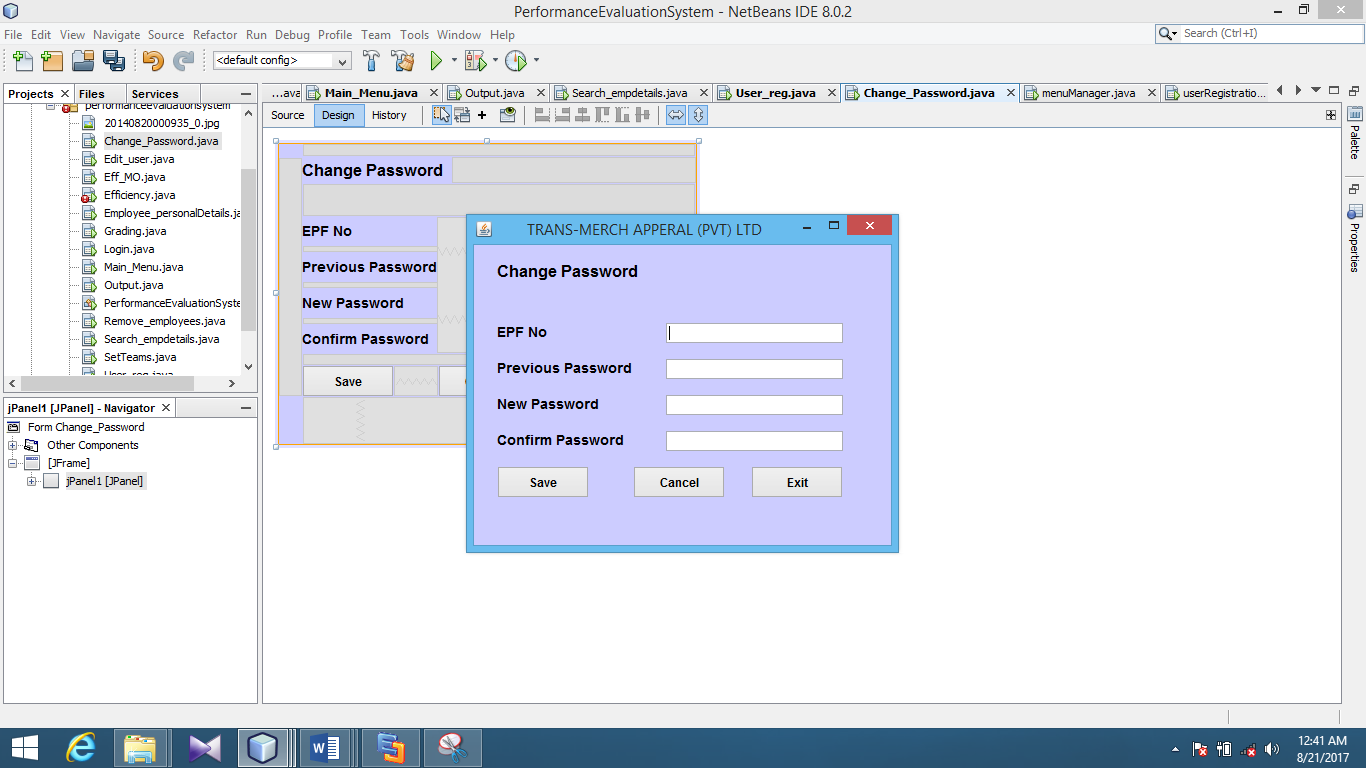
Current users of the system can change their passwords whenever needed by using this interface.

Figure : Change Password

***2.2.2.1.3 Edit Users***

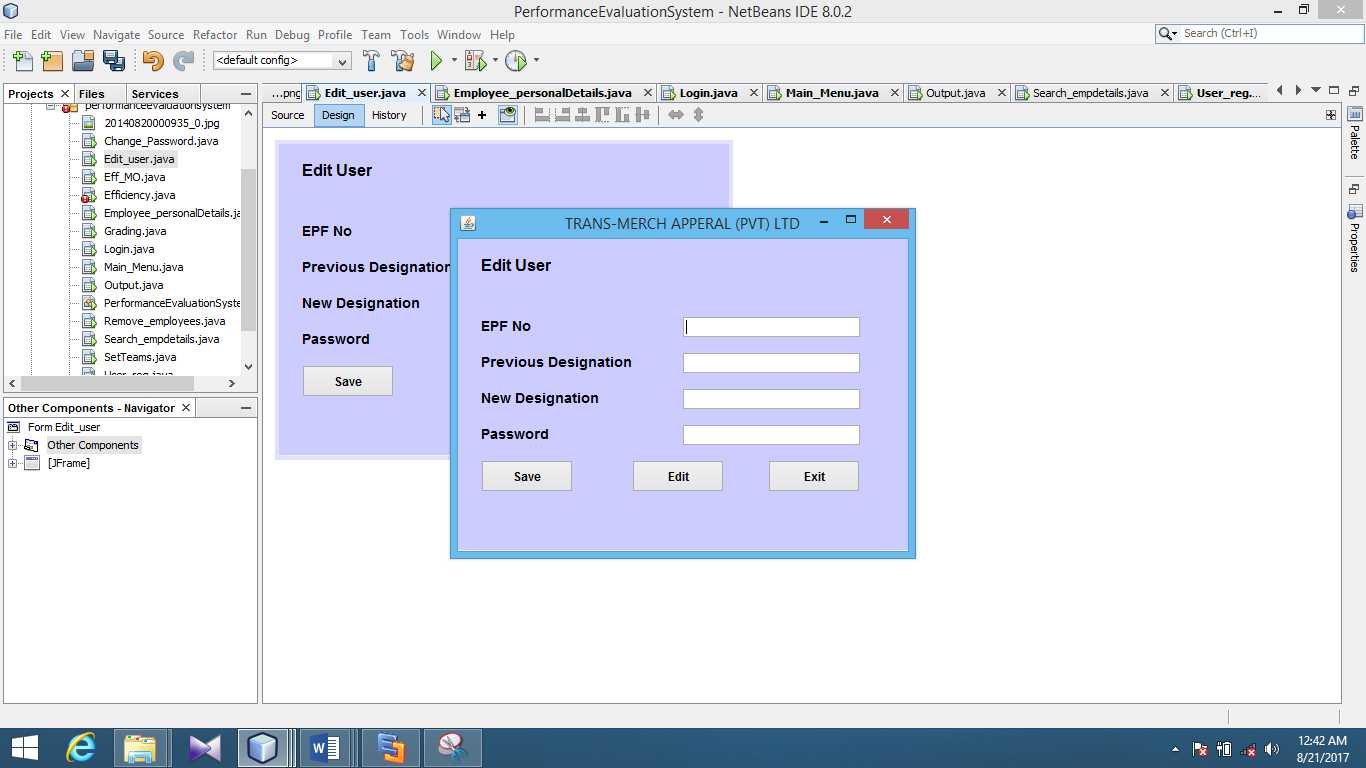
When the current employees get promoted or demoted their designations are needed to be changed since only a limited number of designations have the access to the system. This interface is used for that purpose.

Figure : Edit User

### 2.2.2.2 Employee Details

This menu contains three sub menus for adding, searching and removing employee details.

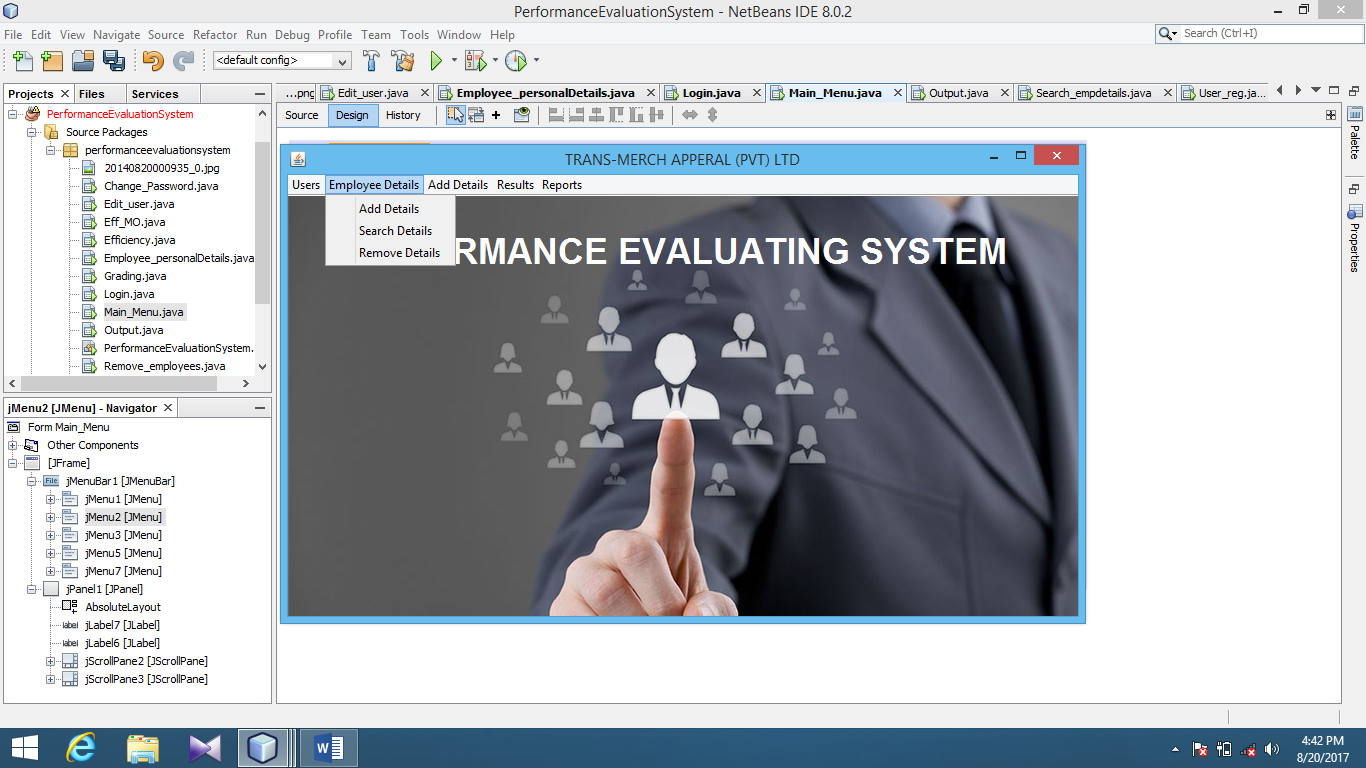


Figure : Employee Details Menu

#### 2.2.2.2.1 Add Details

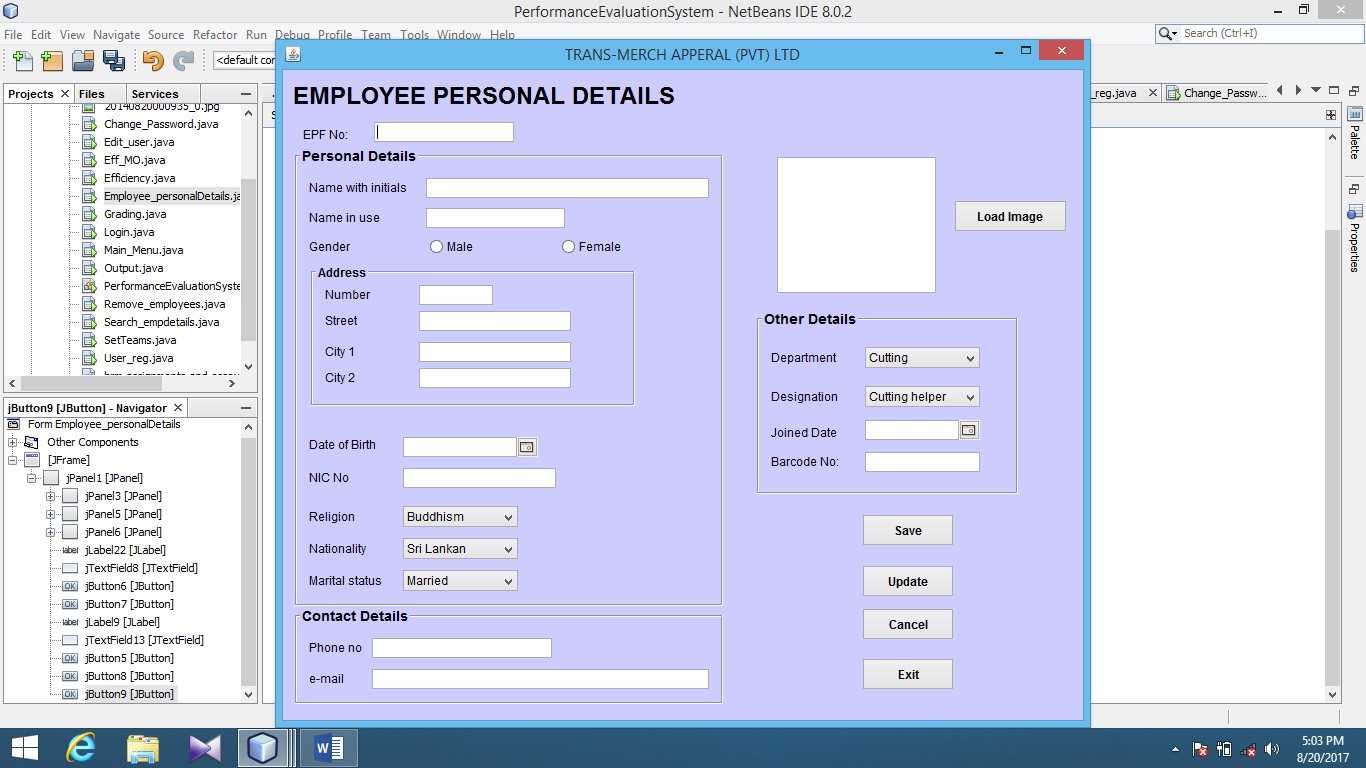
This interface is used to add employee personal details.

Figure : Add Details

#### 2.2.2.2.2 Search Details

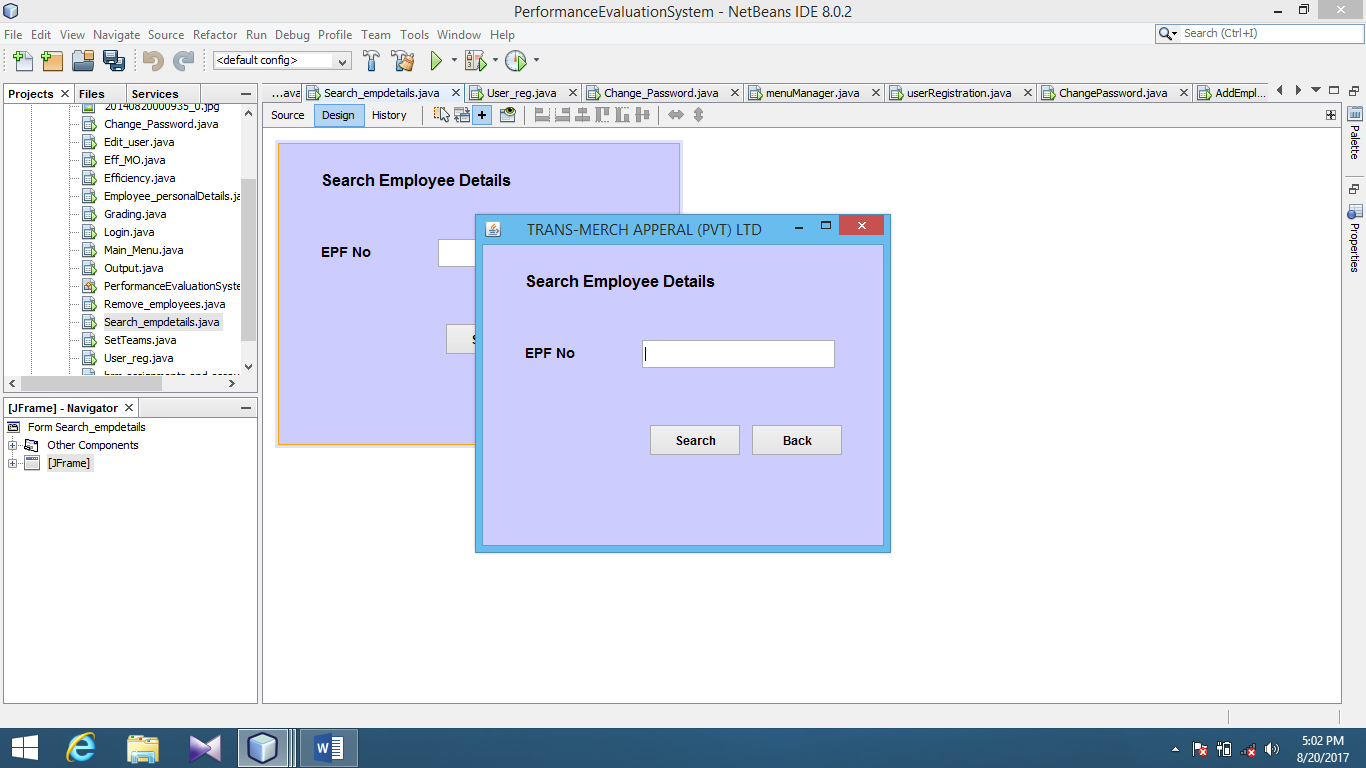
This interface is used for searching employee details by providing their EPF number.

Figure : Search Employee Details

#### 2.2.2.2.3 Remove Details

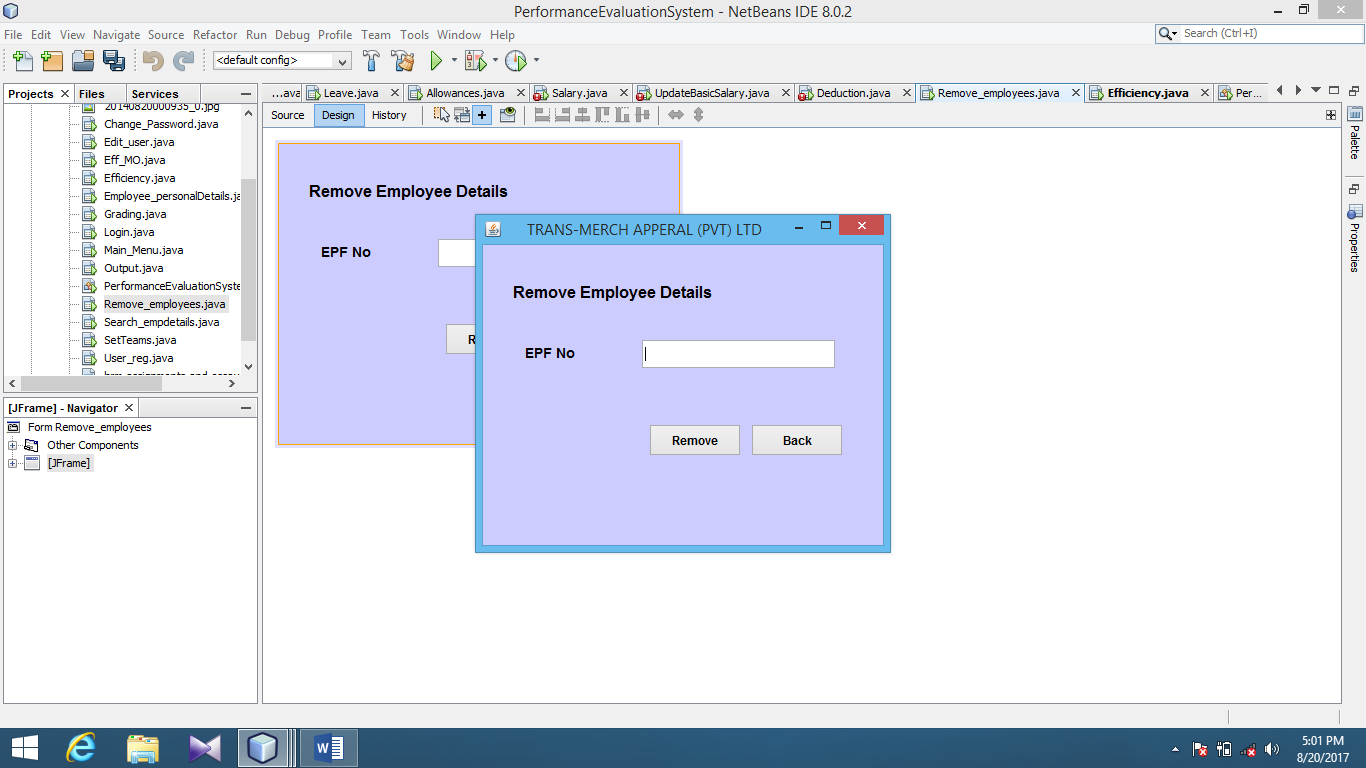
When the employees are resigned from their job it is needed to remove their d details. This interface is used for that purpose.

Figure : Remove Employee Details

### 2.2.2.3 Add Details

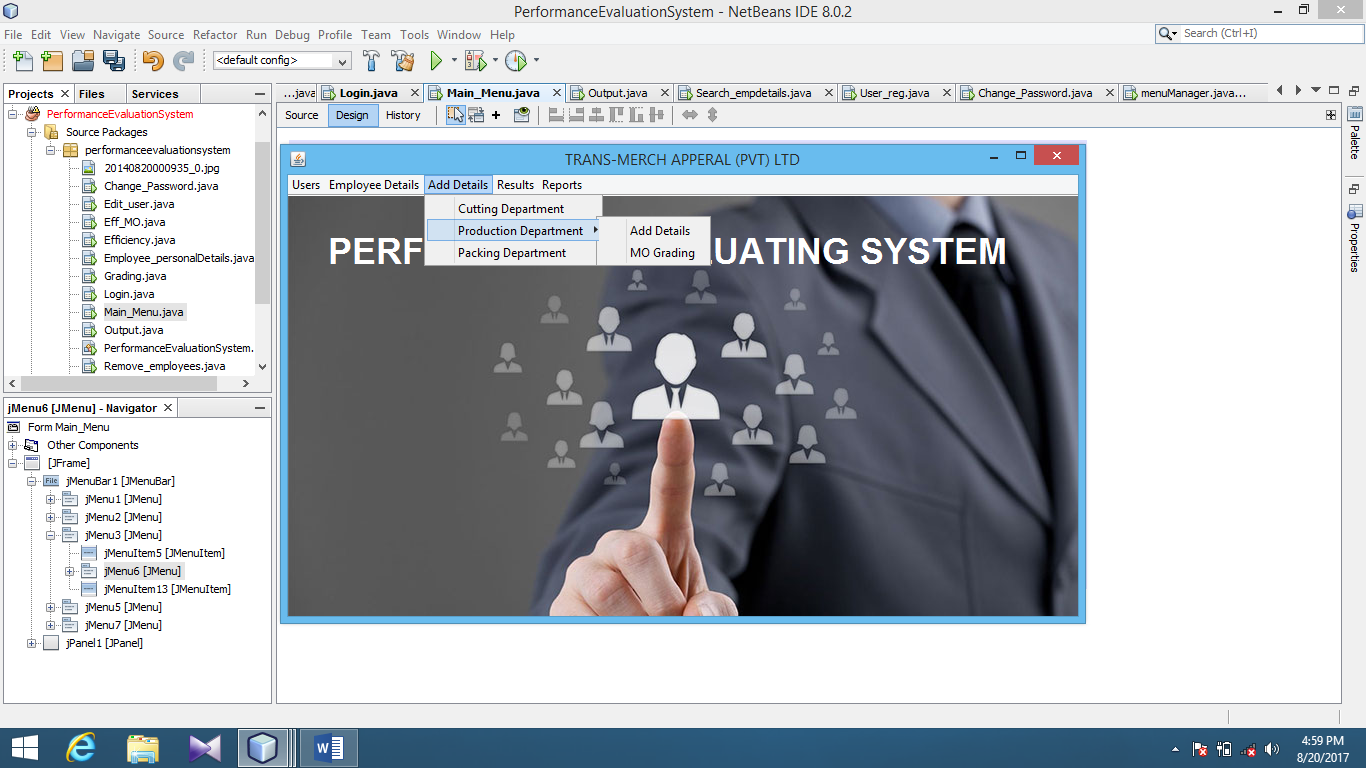
This menu is used for adding employee performance details according to their department.

Figure : Add Details Menu

#### 2.2.2.3.2Cutting Department

This menu is used for adding efficiency details, damage percentage and attendance details of the cutters and cutting helpers of the Cutting Department.

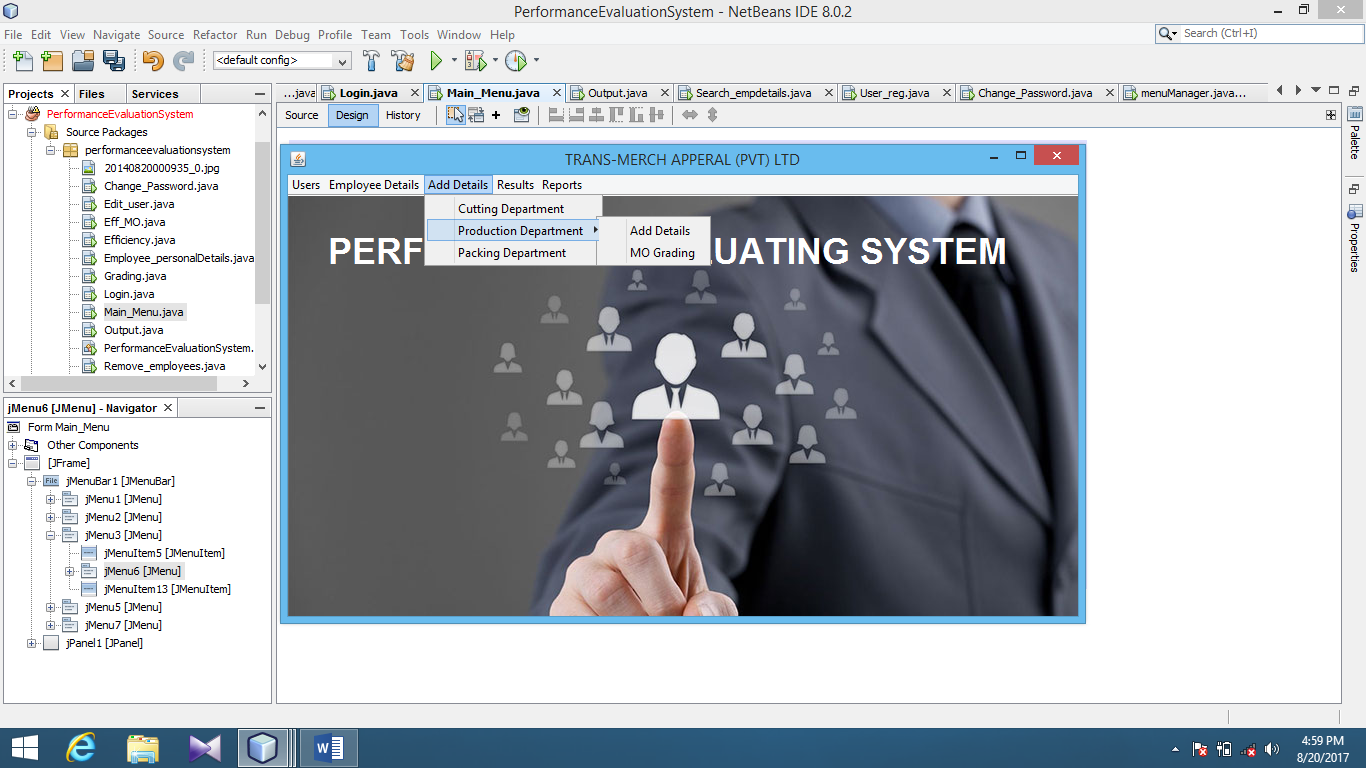


Figure : Cutting Department

#### 2.2.2.3.1.1 Efficiency

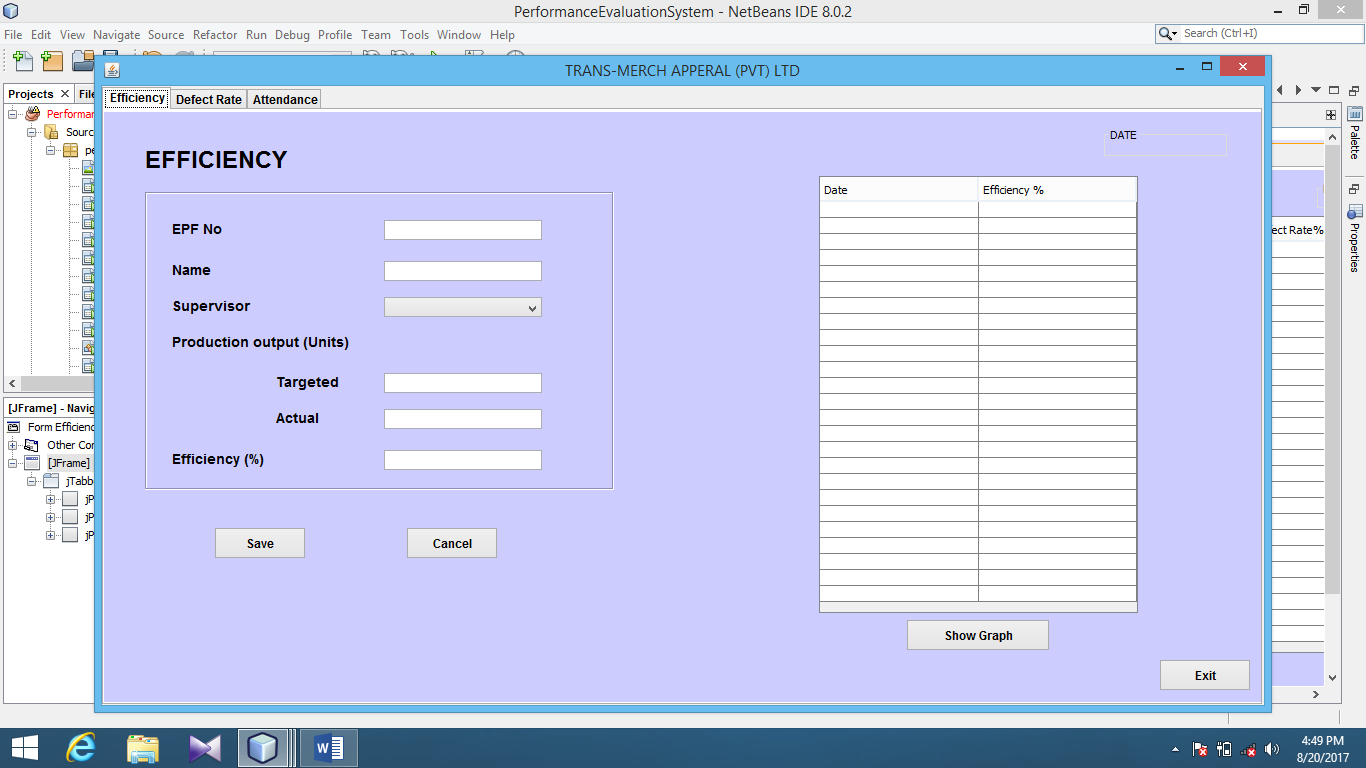
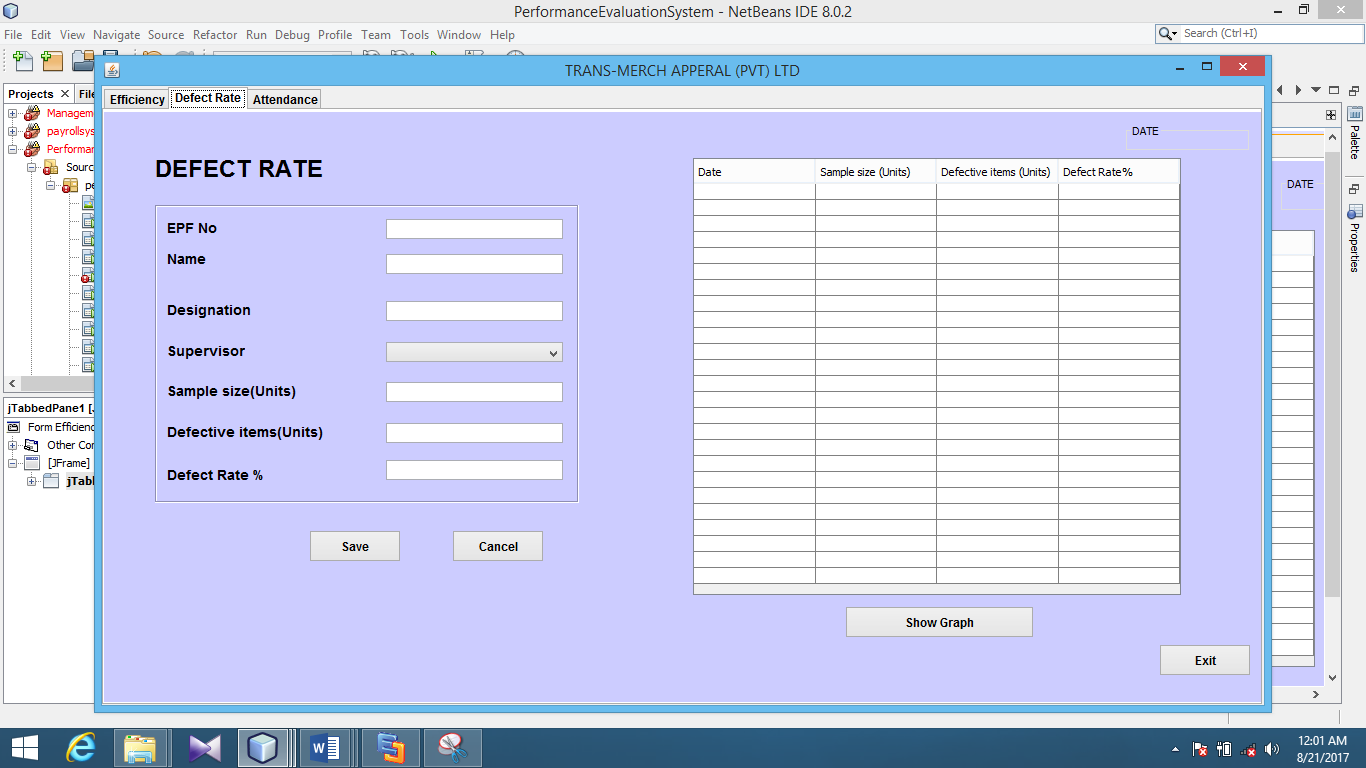
This interface is used for recording the details relevant for the efficiency of the workers of the Cutting Department.

Figure : Efficiency of other employees

#### 2.2.2.3.1.2 Defect Rate

This interface is used for recording the details relevant for the defect rates of the workers of the Cutting Department. Furthermore it is useful for determining the quality of their work.

Figure : Defect Rate of Other Employees



#### 2.2.2.3.1.3 Attendance

This interface is used for saving the details relevant for the attendance of the workers of the Cutting Department.

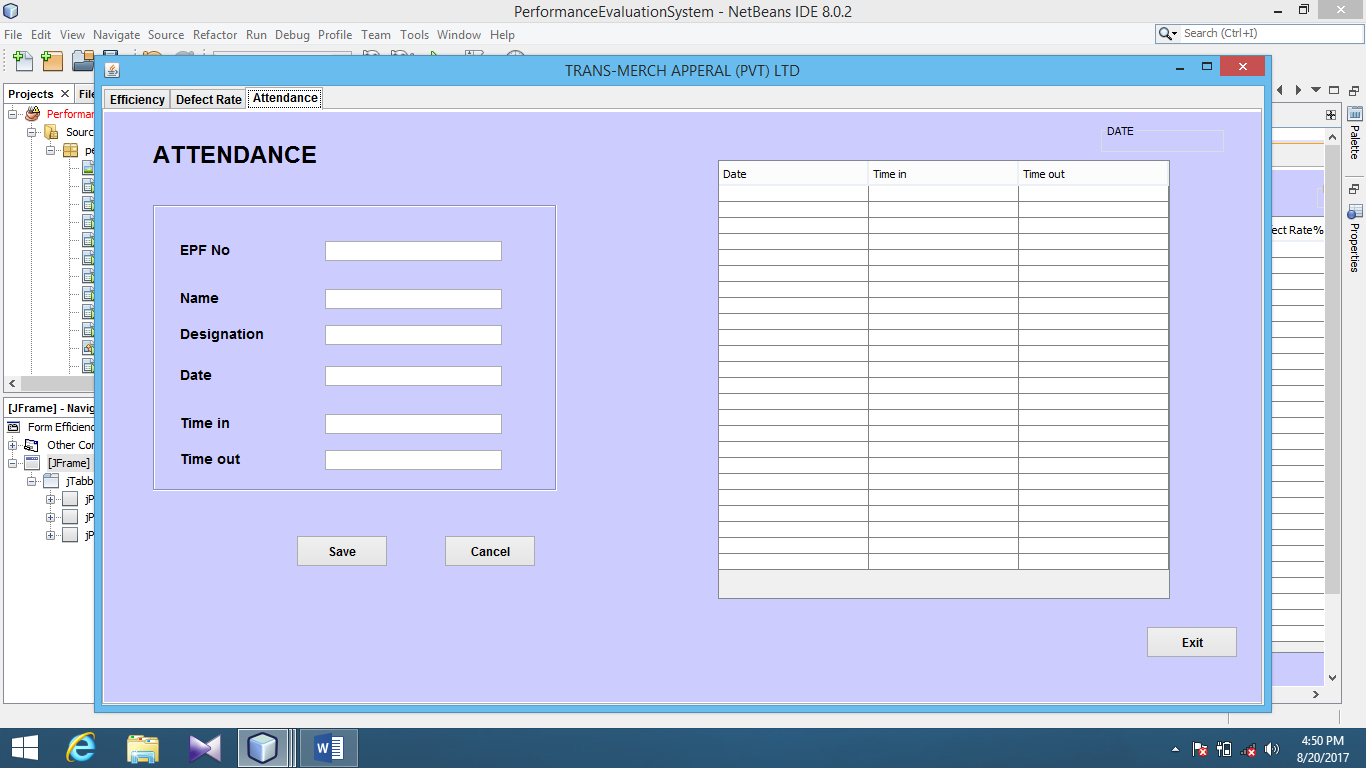


Figure : Attendance

#### 2.2.2.3.2 Production Department

This menu is used for adding efficiency details, damage percentage and attendance details of the machine operators and their helpers of the Production Department.

**2.2.2.3.2.1 Efficiency**

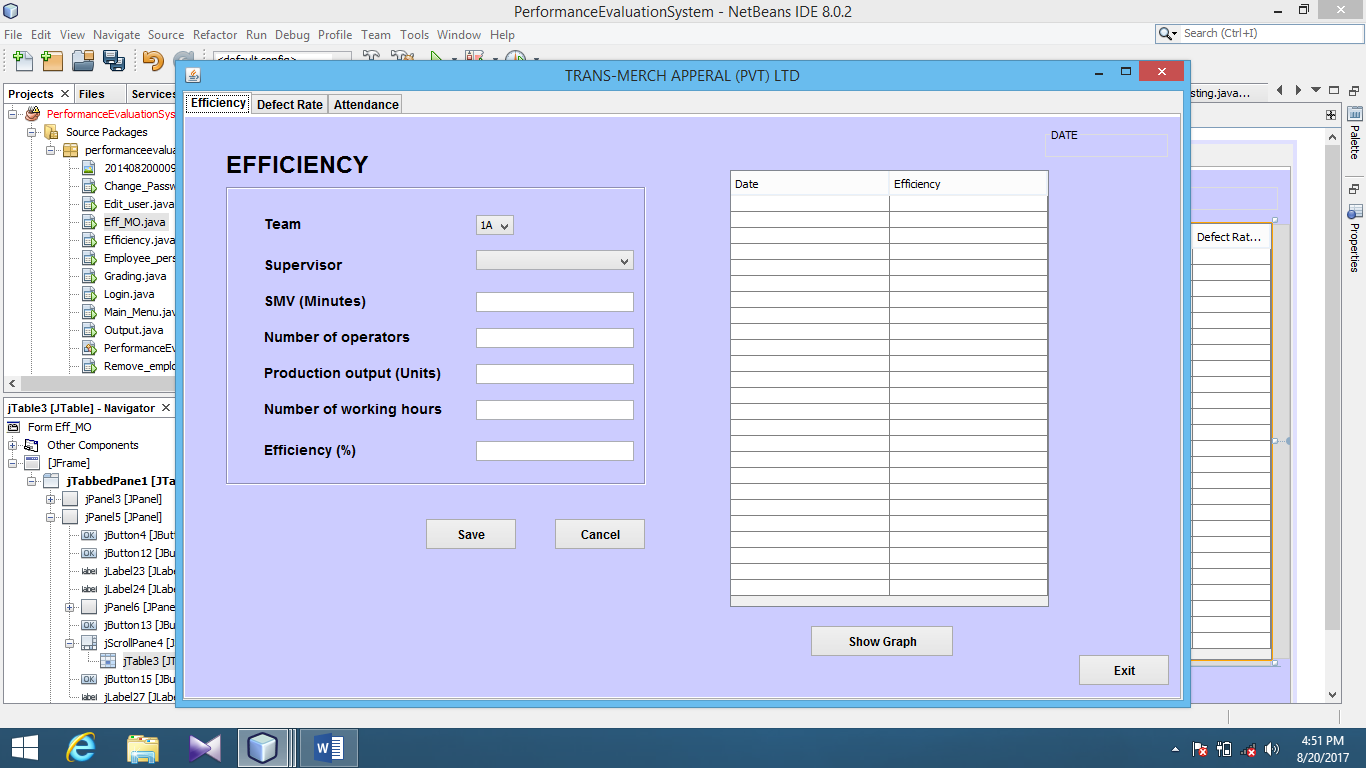
This interface is used for recording the details relevant for the efficiency of the workers of the Production Department. Since there is a large number of machine operators and helpers their efficiency is calculated according to their team.

Figure : Efficiency of Machine Operators

#### 2.2.2.3.2.2 Defect Rate

This interface is used for recording the details relevant for the defect rate of the workers of the Production Department. It is useful for determining the quality of their work.

Figure : Defect Rate of Other Employees

#### 2.2.2.3.2.3 Grading Machine Operators

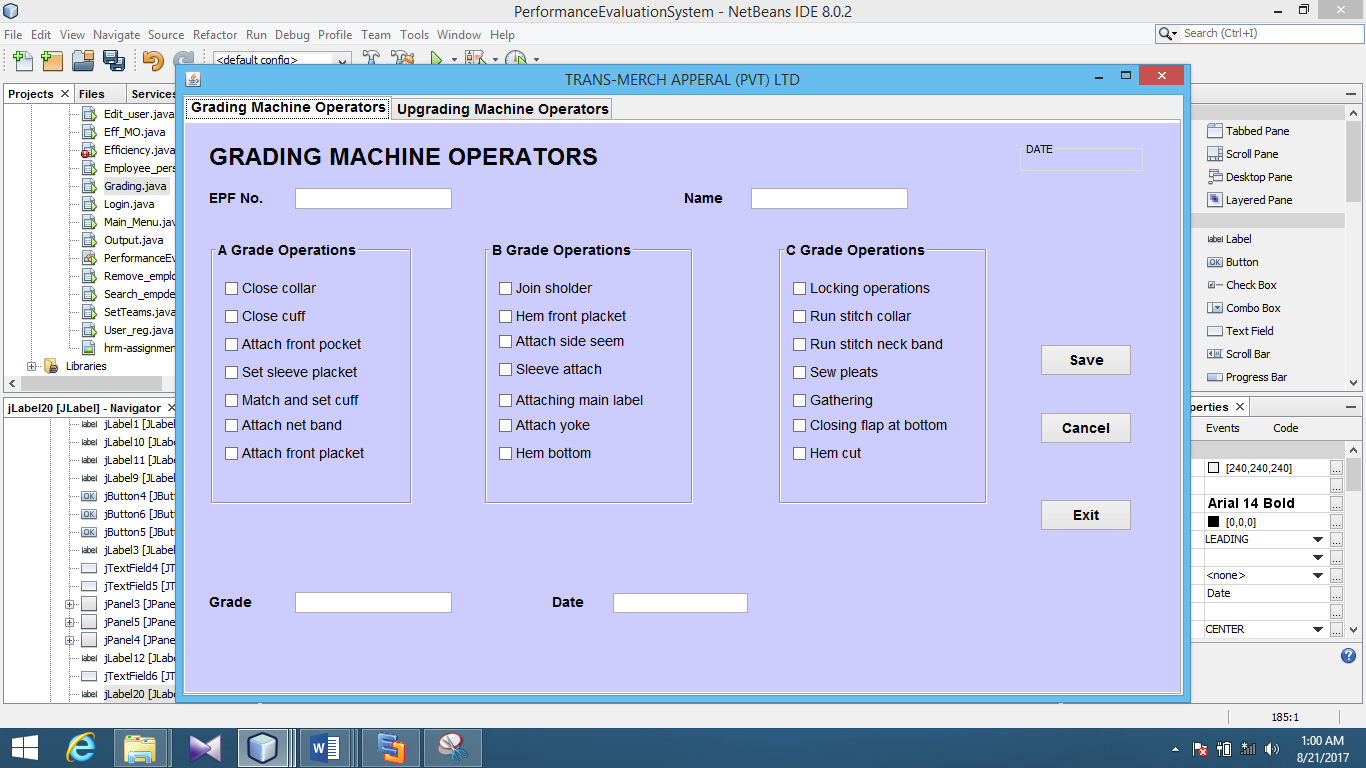
Machine operators are graded according to their operation capabilities. This interface is used for that purpose.

Figure : Grading Machine Operators

#### 2.2.2.3.2.4 Upgrading Machine Operators

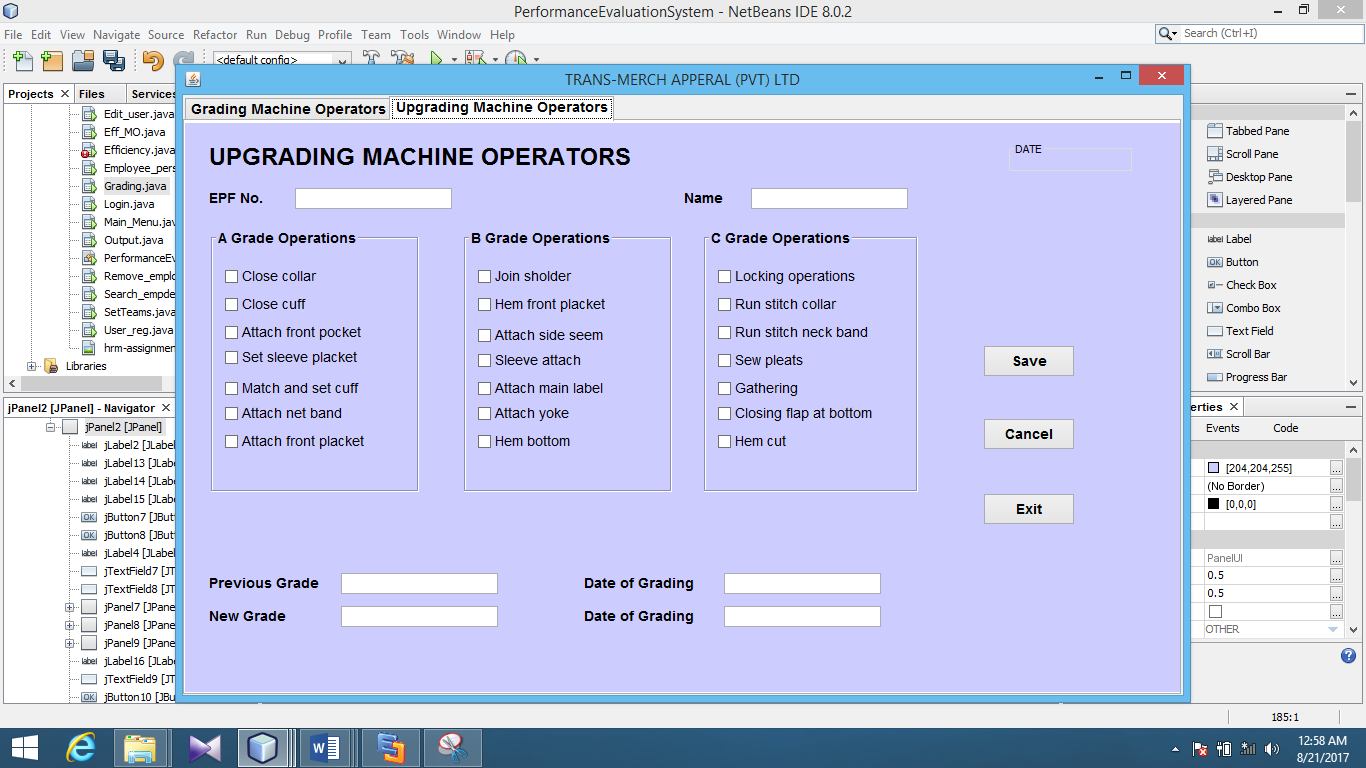
This interface is used for upgrading machine operators.

Figure : Upgrading Machine Operators

*2.2.2.3.2.5 Set Teams*

This interface is used for uploading the information about the teams which are arranged by the Planning Department according to their capabilities.

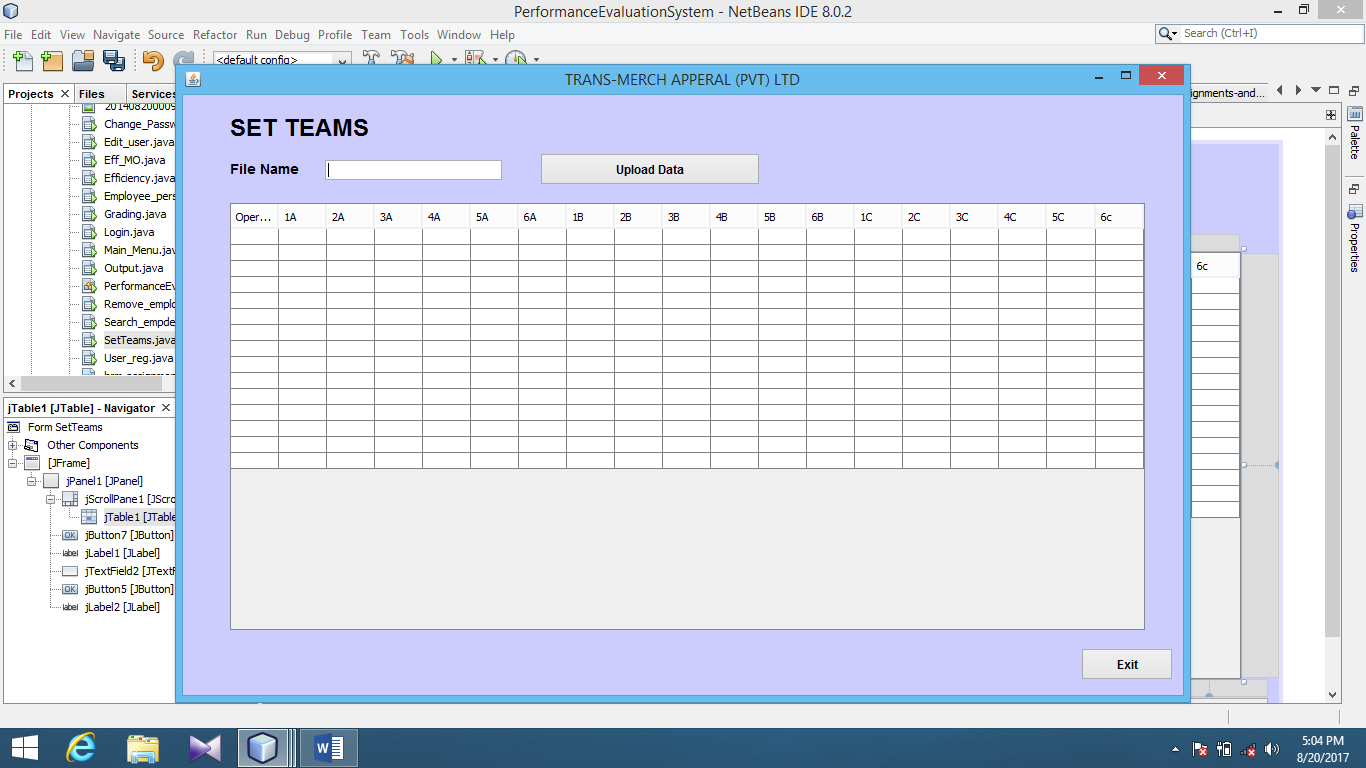


Figure : Set Teams

### 2.2.2.4 Results

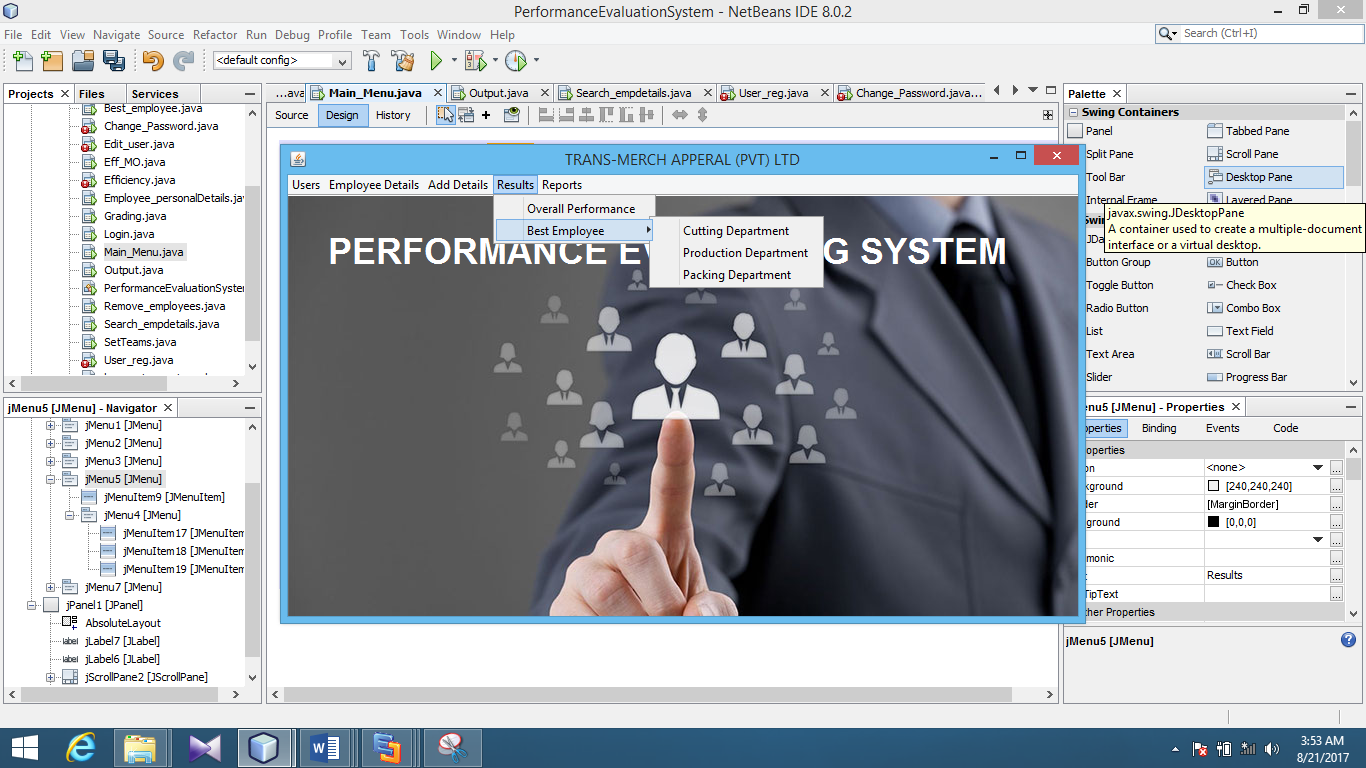
This menu is used for the purpose of representing the results of the performance evaluation.

Figure : Results Menu

#### 2.2.2.4.1 Overall Performance

This interface is used for evaluating the overall performance of an employee.

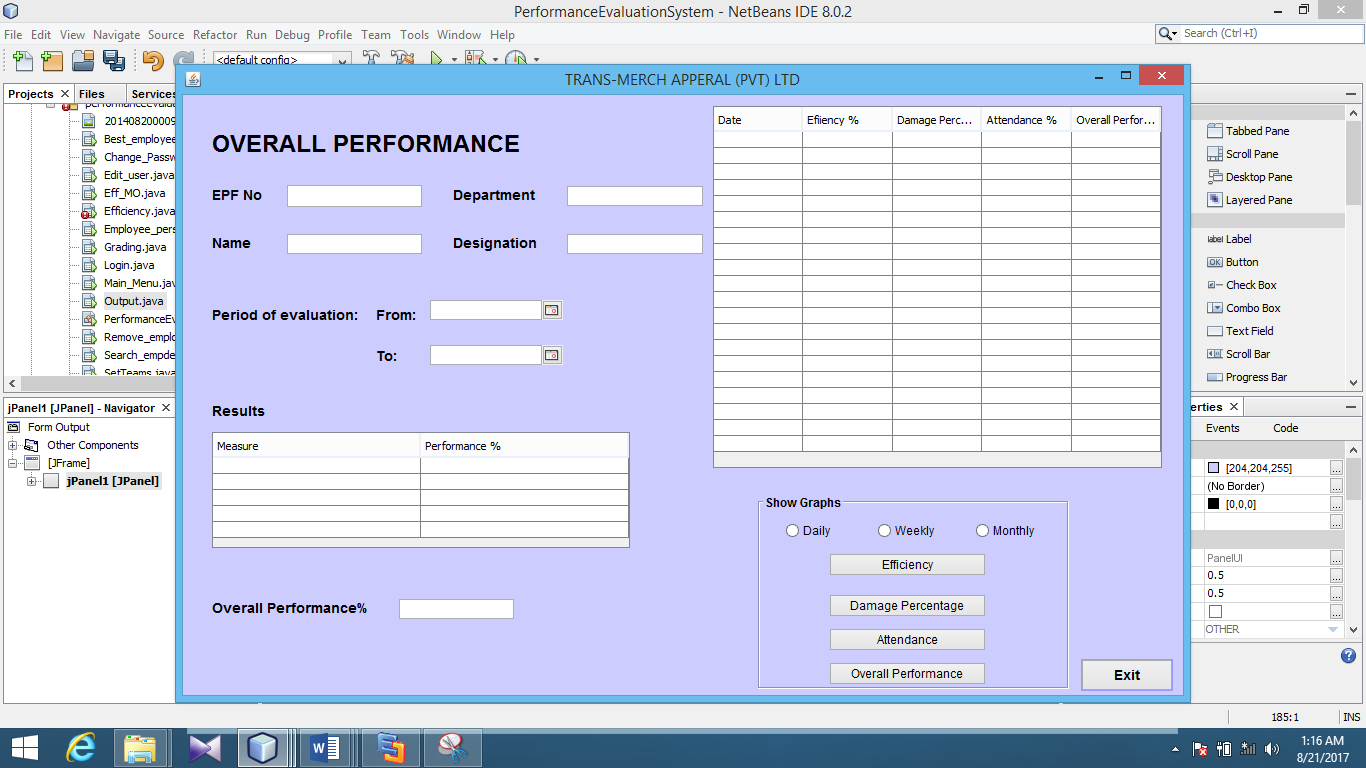


Figure : Overall Performance

#### 2.2.2.4.1 Best Employee

This menu is used for selecting the best employee within a certain period according to their department.



Figure : Best Employee

# 3. DATABASE DESIGN

## 3.1 Entity Relationship Diagram

In entity-relationship diagram, Entities are shown as points, polygons, circles, or ovals. Relationships are shown as lines connecting the points, polygons, circles, or ovals. ER diagram has an equivalent relational table, and any relational table has an equivalent ER diagram.

ER diagramming is an important to engineers in the design, optimization.

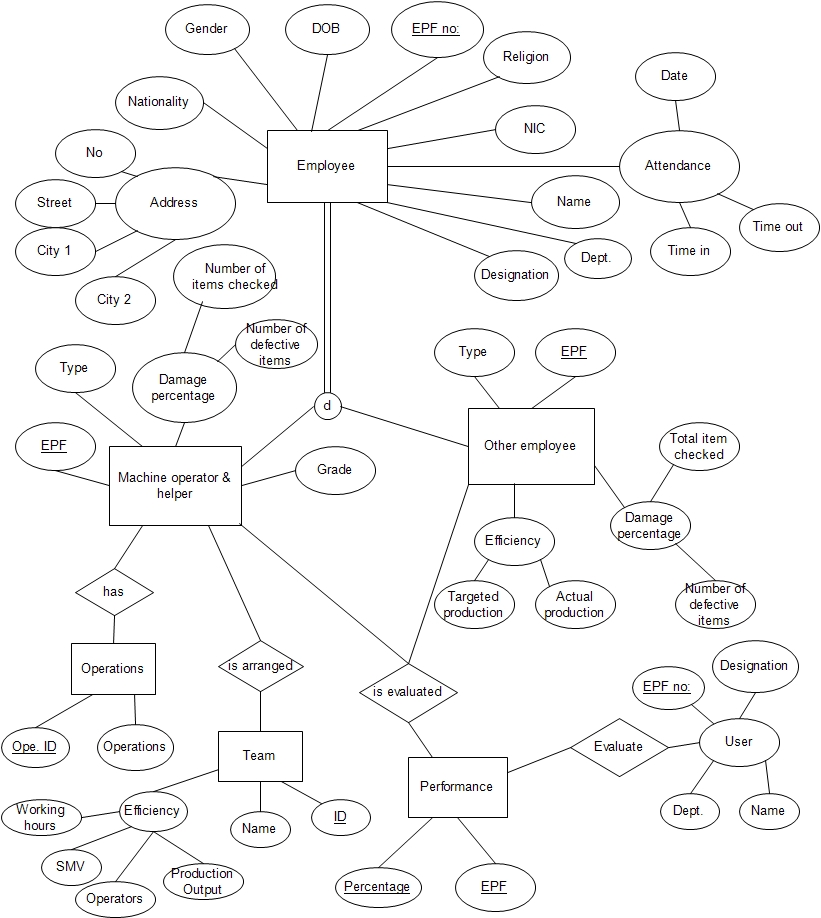


Figure : ER Diagram

3.2 Normalized Database Structure (3rd Normal Form)

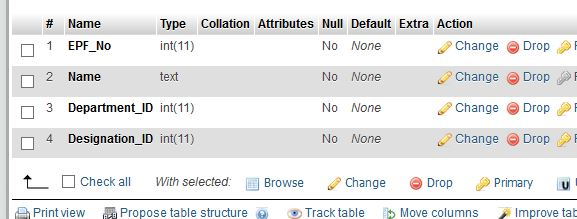
* Composite and non-prime attributes of the tables are decomposed. Therefore the first normal form is acquired.
* All the non-prime attributes of the relations are dependent completely on the full key; the tables are in the second normal form.
* Transitive dependencies of all tables have been removed and normalized into the third normal form.
* The primary keys and the foreign keys are marked according to the standard structure.

The normalized tables are as follows.

* Employee (EPF No, Name with initials, Name in use, Number, Street, City 1, City 2, Gender, Religion, DOB, Nationality, Marital Status, Phone no. e-mail, Dept\_ID, Designation\_ID)
* Department (Dept\_ID,Department)
* Designation (Desg\_ID,Type)
* User (EPF No,Name)
* Operation (Operation\_ID,Operation,Grade)
* Attendance (EPF No, Date, Time in, Time out)
* Efficiency\_other (EPF No, Targeted output, Actual output, Efficiency)
* Efficiency\_MO (Team\_ID, Name, SMV, Number of operators, Production output, Number of working hours, Efficiency)
* DefectRate\_O(EPF No, Sample size, Defective items, Defect rate, Dept\_ID,Desg\_ID)
* DefectRate\_MO(TeamID,Sample size, Defective items, Defect rate, Dept\_ID,Desg\_ID)
* Performancedetails(EPF No, Percentage)

## 3.3 Database Table Previews

Table : User Table



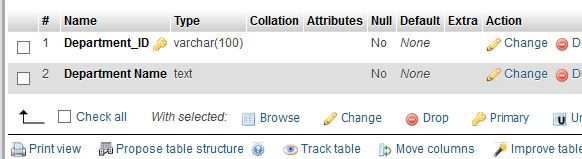
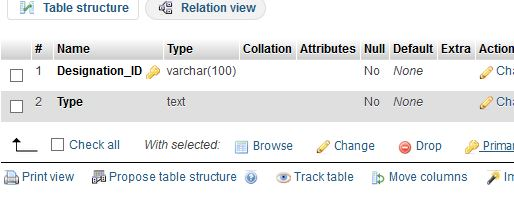


Table : Department Table

Table : Designation Table



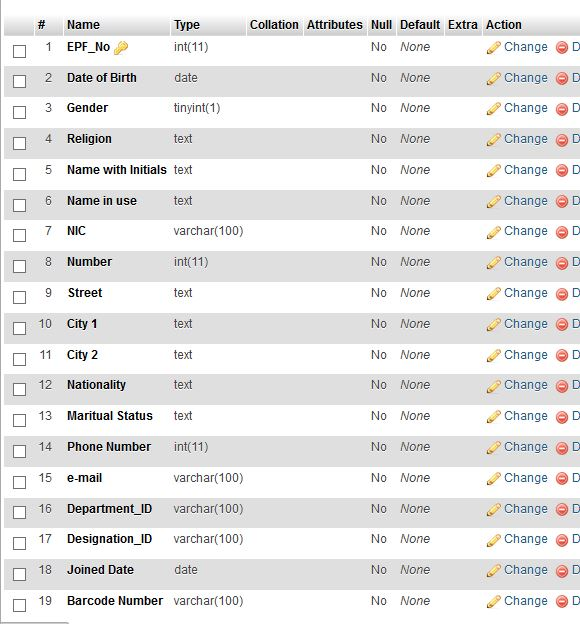


Table : Employee Detail Table

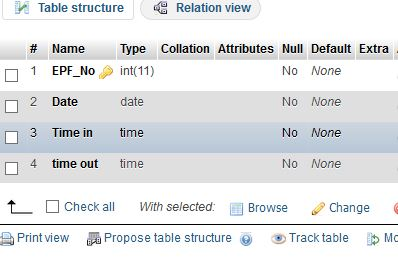


Table : Attendance ID

Table : Operation Table

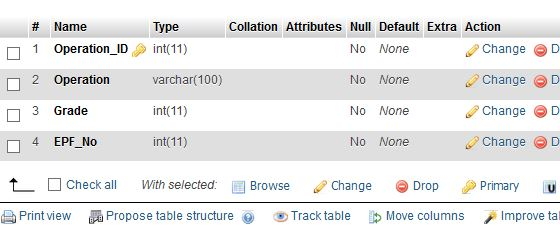
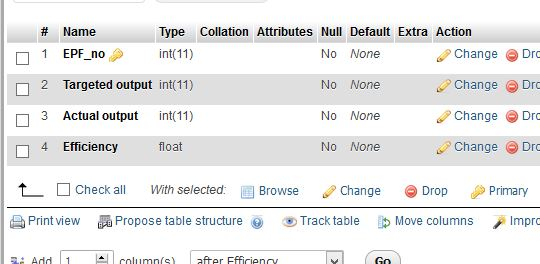


Table : Other Employee Efficiency Table



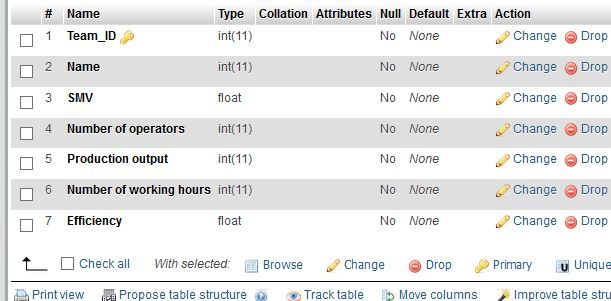


Table : Machine Operator Efficiency Table

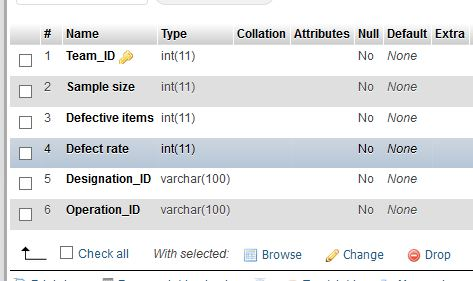
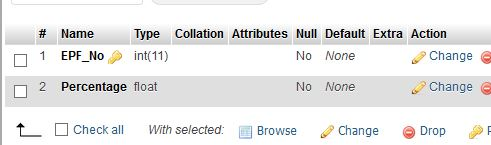


Table : Defect Rate Table

Table : Performance Table



## 3.4 Relational Schema

The relationships of above mentioned tables are shown under the Enhanced Entity Relationship diagram.

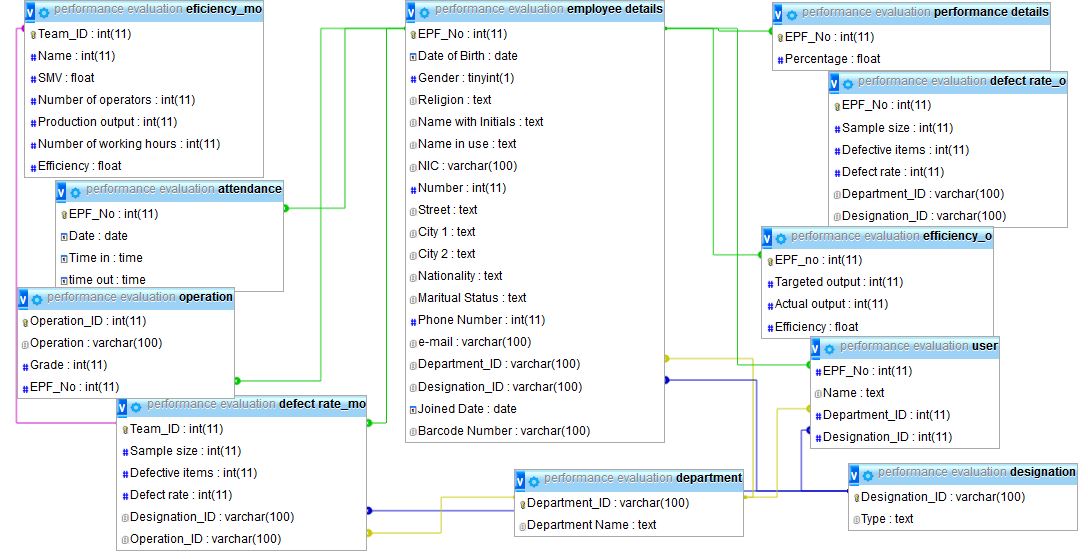
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Figure : Relational Schema

# 4. FORMATS OF REPORTS

Two types of reports are generated in this system. They are detailed reports and summarized reports. Furthermore these data are represented graphically for the easy understand of the users.

## 4.1 Detailed Reports

There are several types of detailed reports as shown below.

### 4.1.1 Personal Details

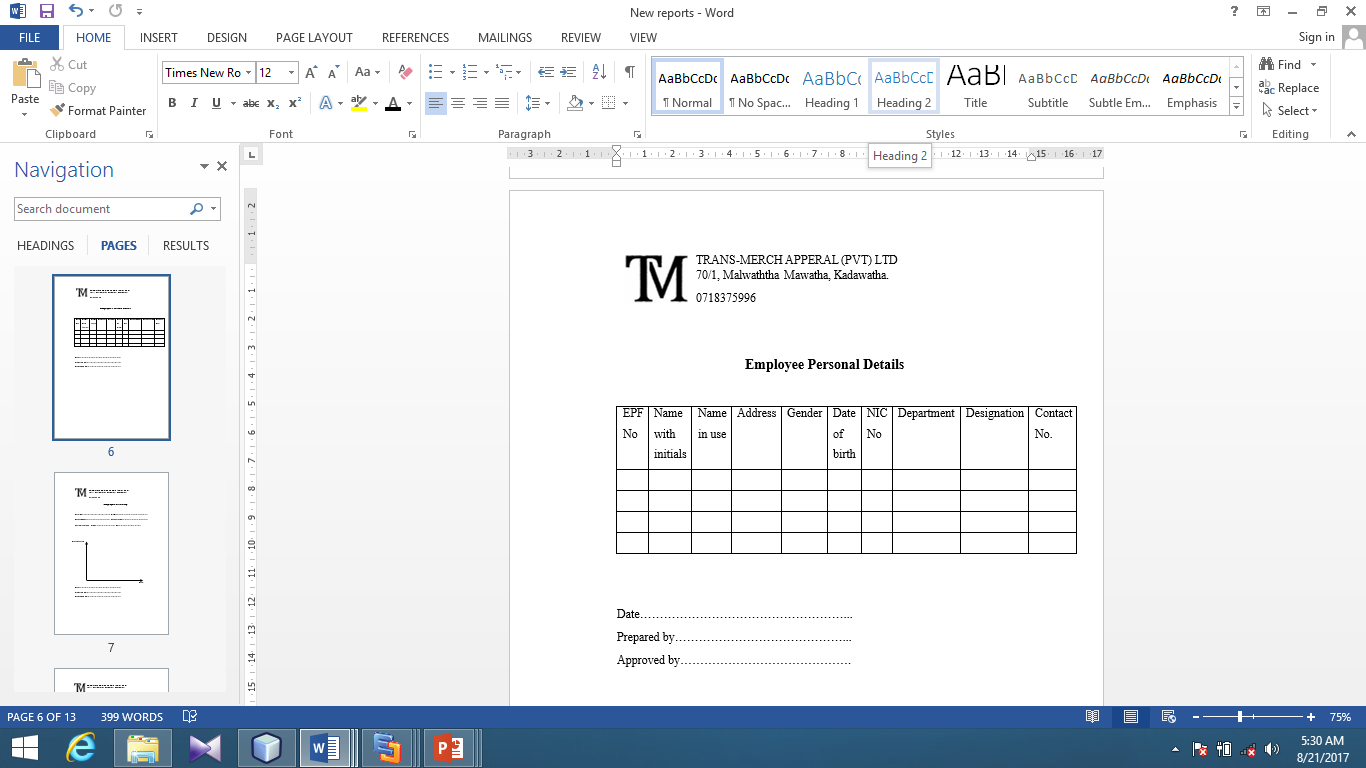


Figure : Personal Details

### 4.1.2 Attendance Details

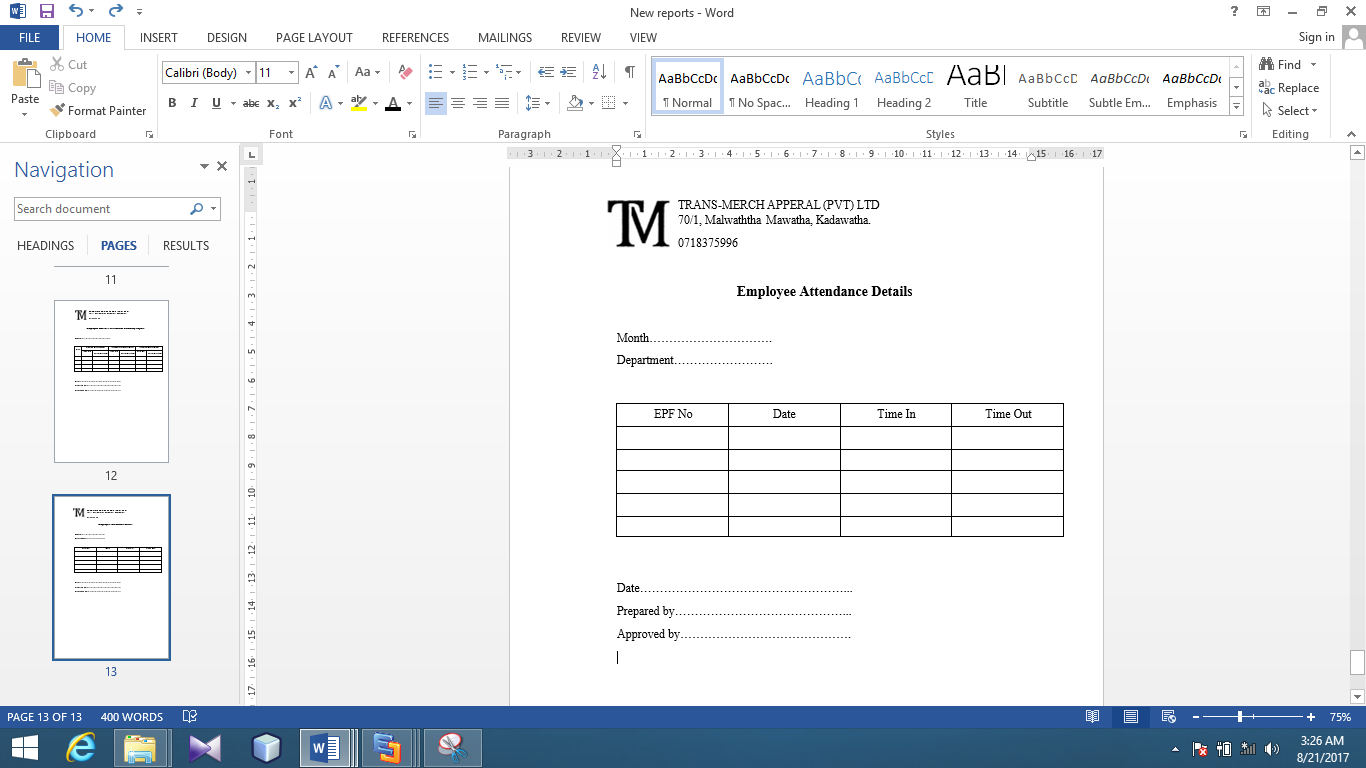


Figure : Attendance Details

### 4.1.3 Efficiency

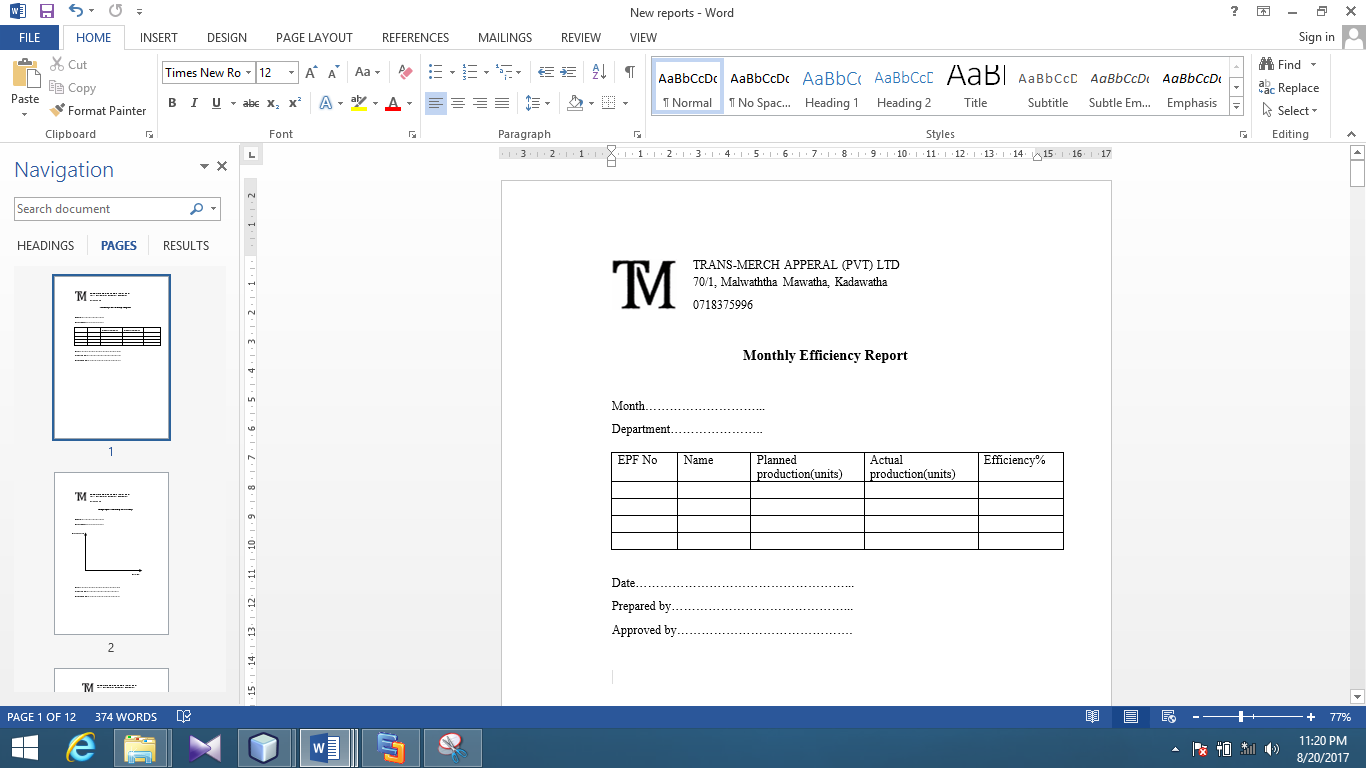


Figure : Efficiency Details

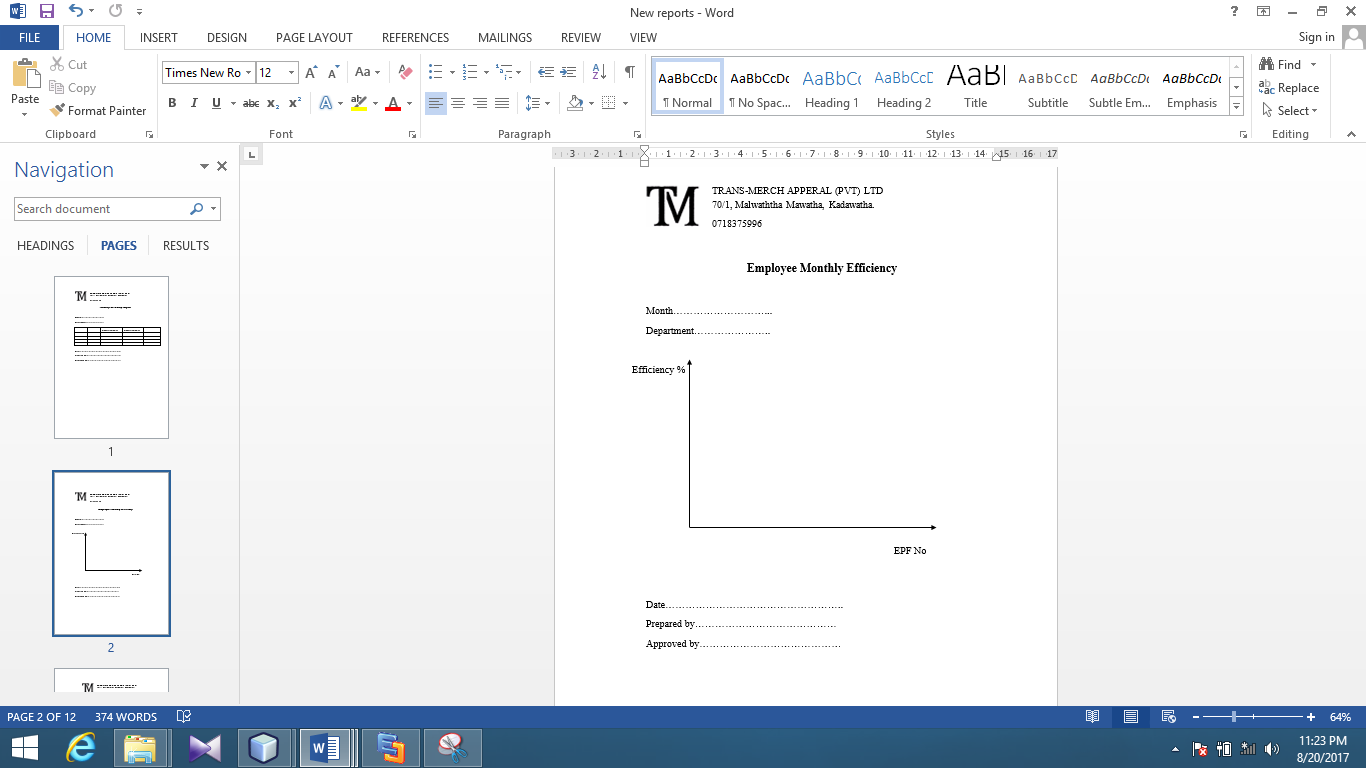


Figure : Efficiency Details (Graph)

### 4.1.4 Defect Rate

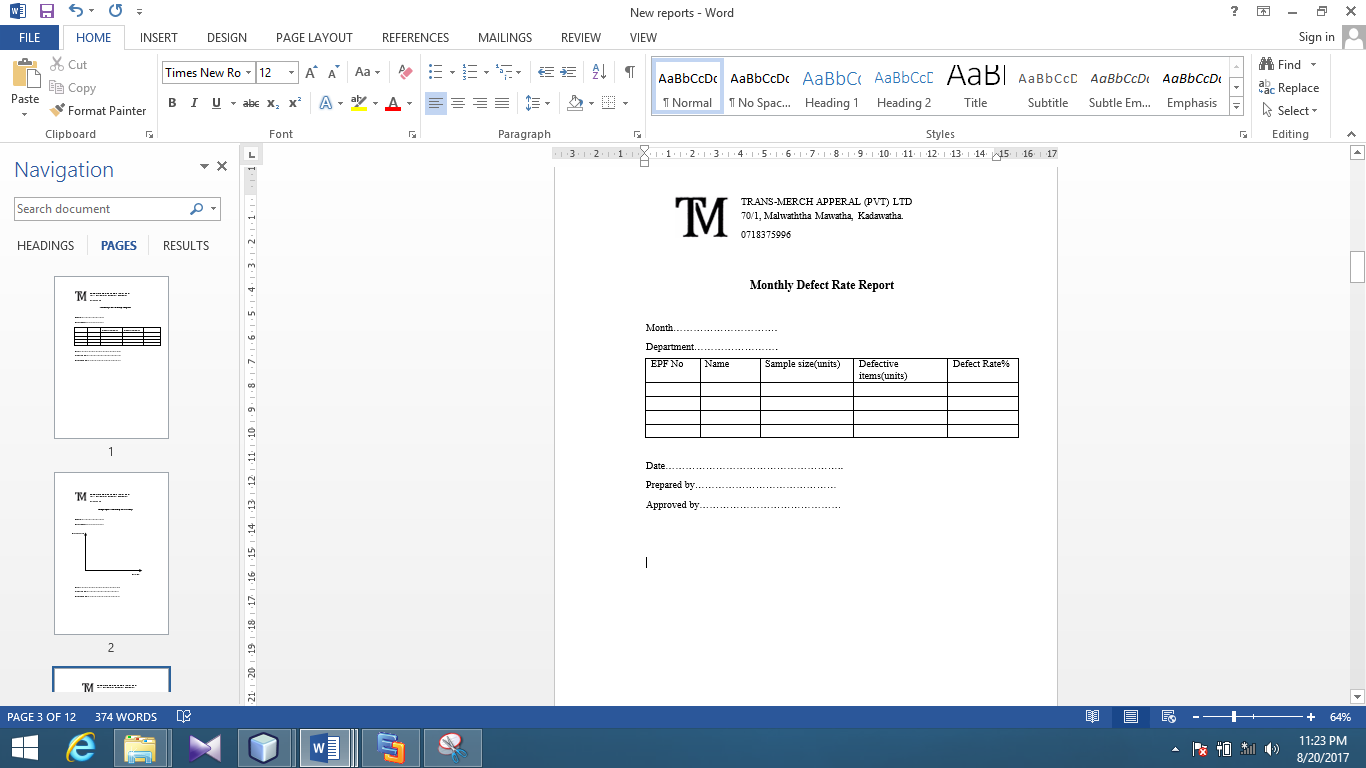


Figure : Defect Rate

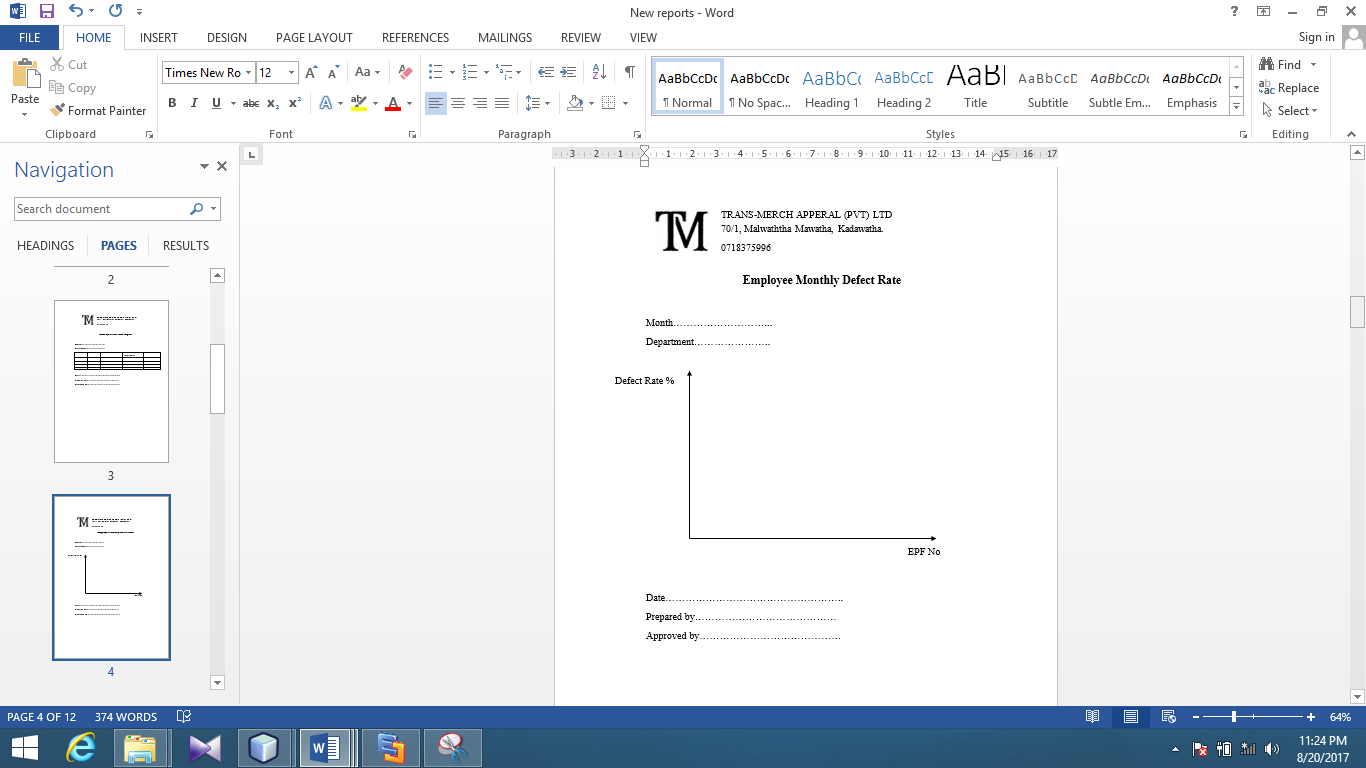


Figure : Defect Rate (Graph)

4.1.5 Employee Efficiency

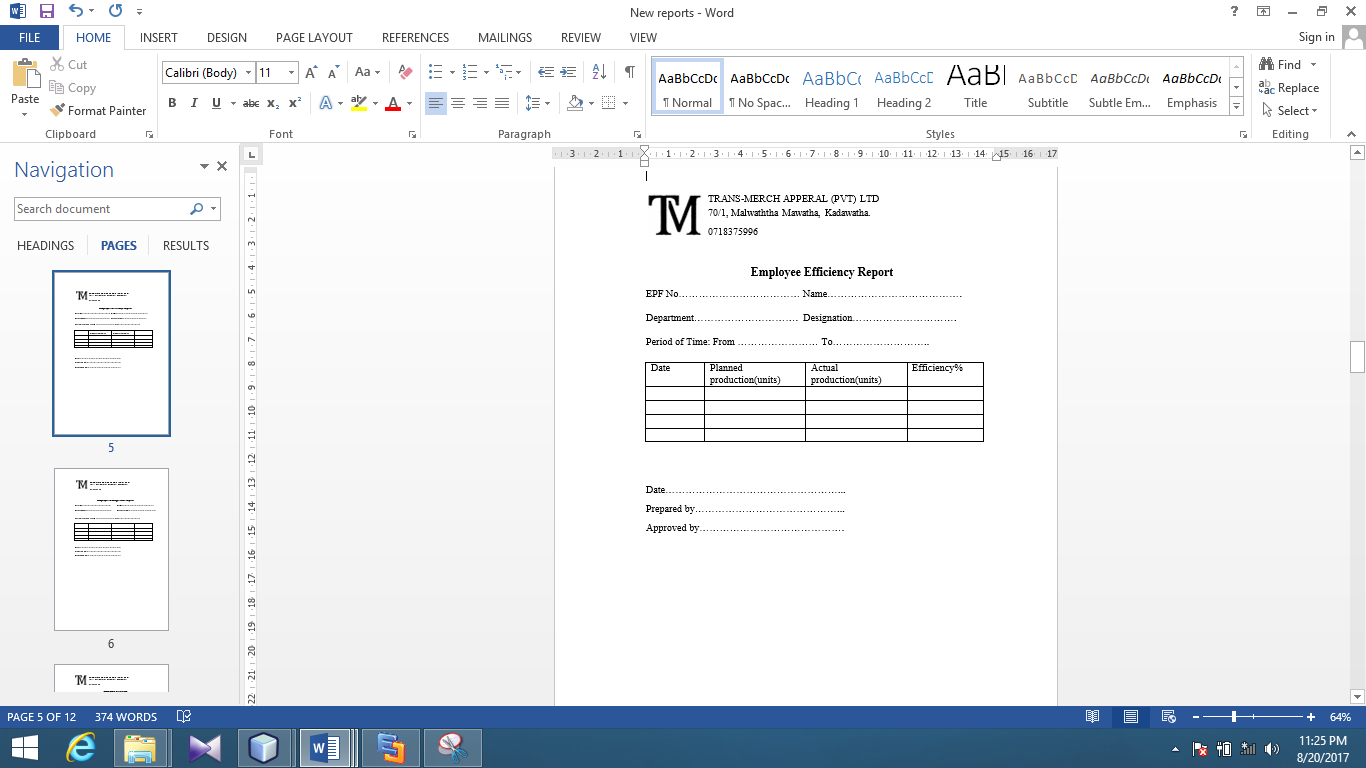


Figure : Efficiency

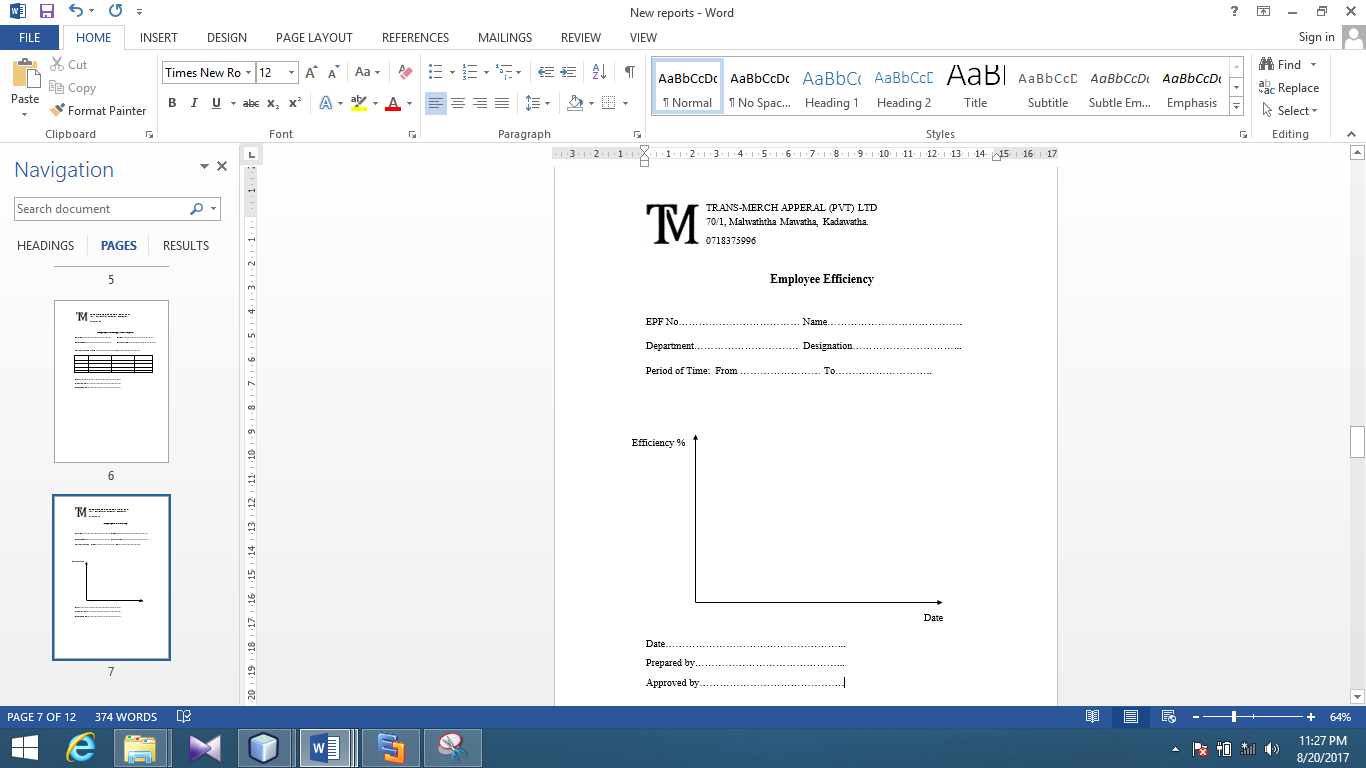


Figure : Efficiency (Graph)

## 4.2 Summarized Reports

These reports give the summary of the above detailed reports.

### 4.2.1 Attendance

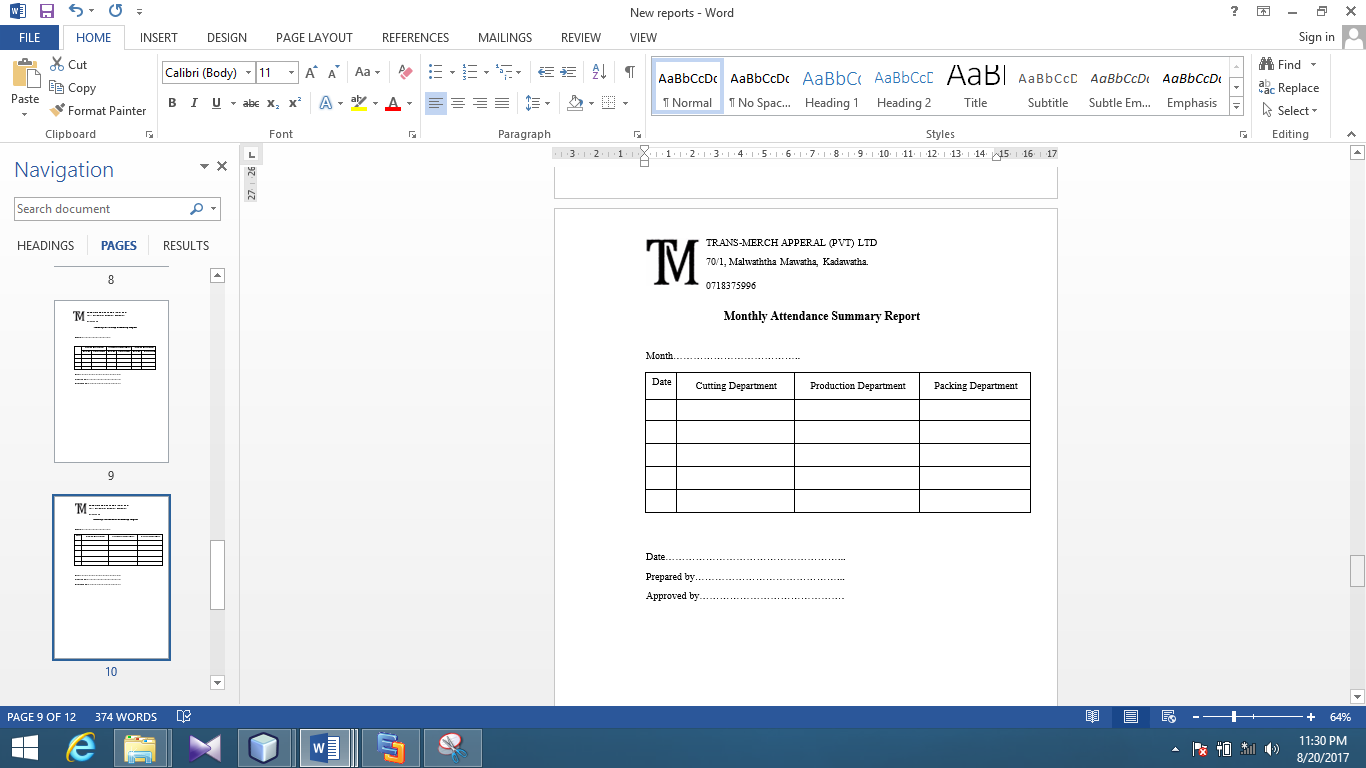


Figure : Attendance

### 4.2.2 Efficiency

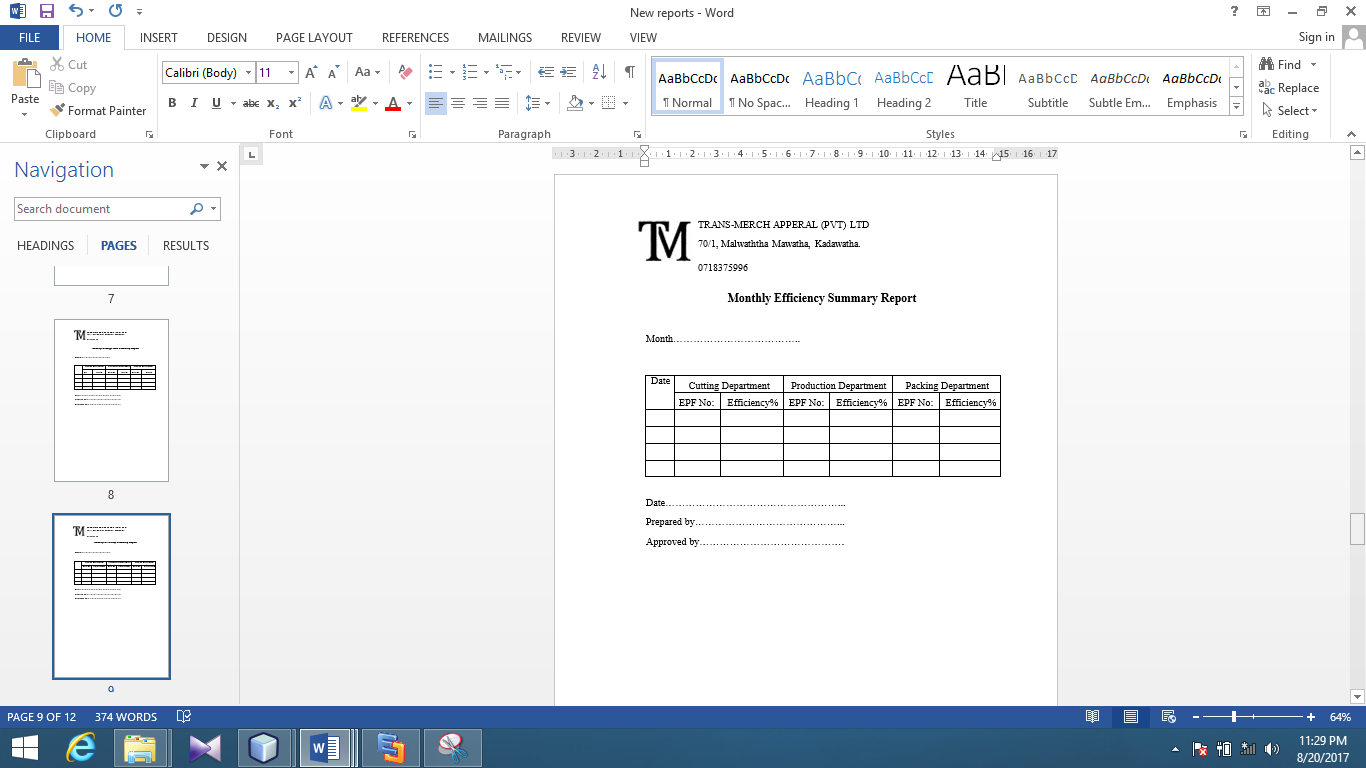


Figure : Efficiency

### 4.2.3 Damage Rate

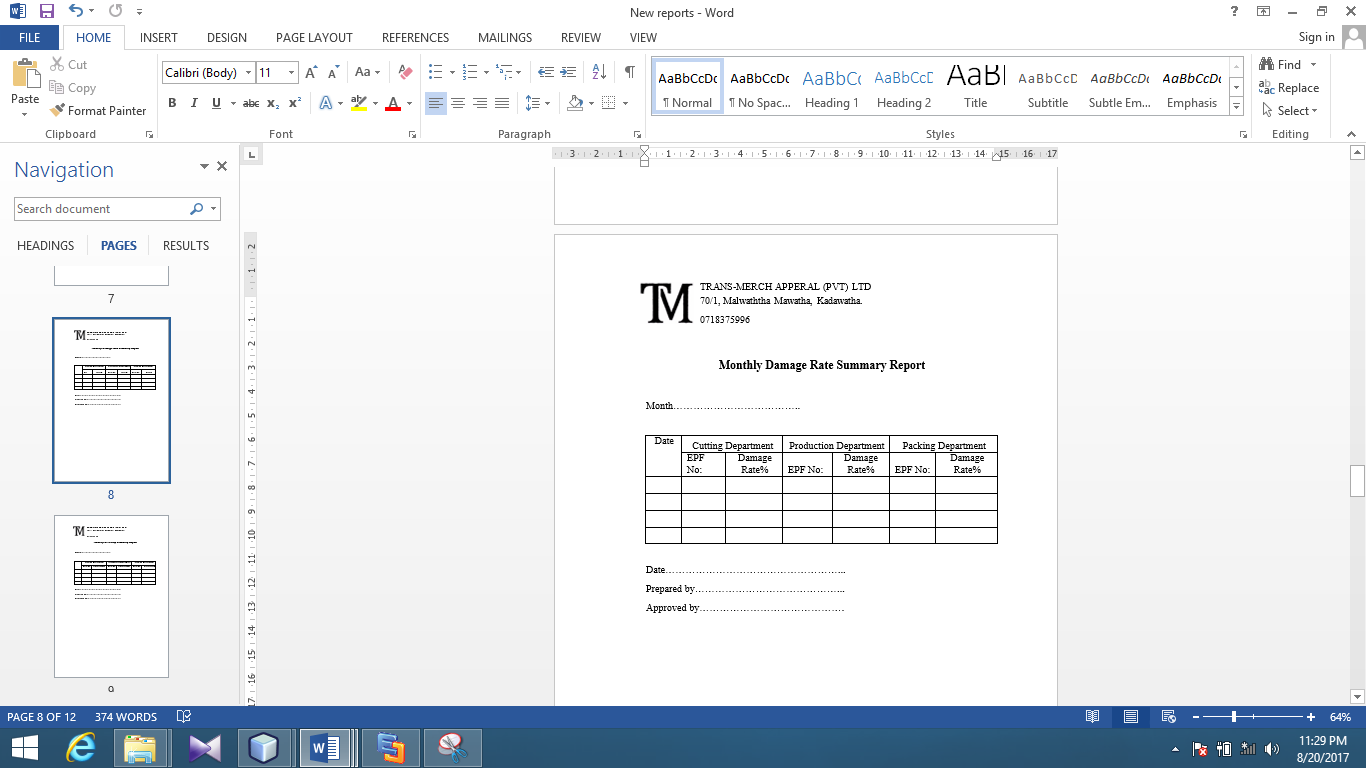
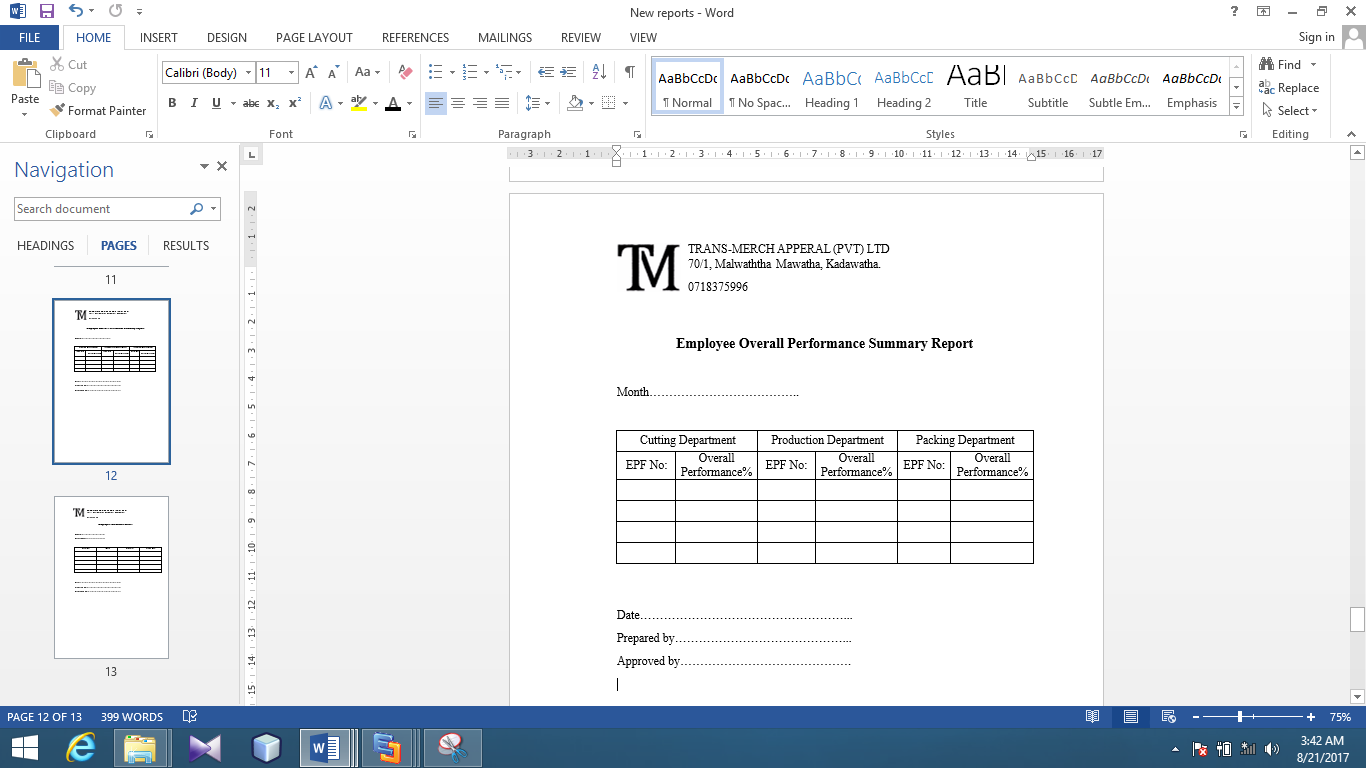


Figure : Damage Rate

### 4.2.3 Employee Performance



### 4***.2.4 Employee Overall Performance***

Figure : Overall Performance