

# **“Employee Management System”**



Department of Computer Science and Engineering  
**Bangladesh University of Business and Technology (BUBT)**

March 2022



# Bangladesh University of Business and Technology

*Fall 2021-2022*

## Employee Management System

*A Project*

*submitted to the Department of Computer Science and Engineering in partial fulfilment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering*

Submitted By

**Sadia Afrin Akhi**

ID: 19202103125

Section: 04

Intake: 44

**Nahida Fatme (L)**

ID: 19202103127

Section: 04

Intake: 44

**Ehtashamul Haque**

ID: 19202103130

Section: 04

Intake: 44

**Md. Shahriar Emon**

ID: 19202103154

Section: 04

Intake: 44

**Md. Tahmidul Huque**

ID: 19202103158

Section: 04

Intake: 44

Supervised by

**Badhan Chandra Das**

Lecturer

Department of CSE, BUBT

## Contents

<b>DECLARATION OF AUTHORSHIP</b>	<b>I</b>
<b>APPROVAL</b>	<b>II</b>
<b>ACKNOWLEDGEMENT</b>	<b>III</b>
<b>ABSTRACT</b>	<b>IV</b>

<b>1. Chapter 1</b>	<b>1</b>
1.1 Introduction	1
<b>2. Chapter 2</b>	<b>2</b>
2.1 Problem Statement	2
<b>3. Chapter 3</b>	<b>3</b>
3.1 Objective	3
<b>4. Chapter 4</b>	<b>4</b>
4.1 Specific Requirement	4
<b>5. Chapter 5</b>	<b>5</b>
5.1 Diagram	5
<b>6. Chapter 6</b>	<b>6</b>
6.1 Features	6
<b>7. Chapter 7</b>	<b>7</b>
7.1 Outcome	7
<b>8. Chapter 8</b>	<b>16</b>
8.1 Conclusion	16
8.2 Future work	16
<b>9. Chapter 9</b>	<b>17</b>
9.1 Reference	17

## DECLARATION OF AUTHORSHIP

We hereby declare that this project titled “**Employee Management System**” and the work presented in it are our own. We confirm that:

- This work was done wholly or mainly while in candidature for a B.Sc Engineering in CSE degree at this University.
- This software development project has been explicitly stated where some part of it has previously been applied for a degree or other certification at this University or another institution.
- Where we have quoted from the work of others, the source is always given. With the exception of such quotations, this project is entirely our own work.
- We have acknowledged all primary sources of help.
- The project is based on work done by ourselves jointly with others; we have made clear exactly what was done by others and what we have contributed ourselves.

**Sadia Afrin Akhi**

ID: 19202103125

**Nahida Fatme (L)**

ID: 19202103127

**Ehtashamul Haque**

ID: 19202103130

**Md. Shahriar Emon**

ID: 19202103154

**Md. Tahmidul Huque**

ID: 19202103158

## APPROVAL

This project “Employee Management System” Submitted by **Sadia Afrin Akhi, Nahida Fatme (L), Ehtashamul Haque, Md. Shahriar Emon, Md. Tahmidul Huque** ID No. 19202103125, 19202103127, 19202103130, 19202103154, 19202103158 Department of Computer Science and Engineering (CSE), Bangladesh University of Business and Technology (BUBT) under the supervision of Badhan Chandra Das ; Lecturer, Department of Computer Science and Engineering has been accepted as satisfactory for the partial fulfilment of the requirement for the degree of Bachelor of Science (B.Sc. Eng.) in Computer Science and Engineering and approved as to its style and contents.

---

**Supervisor:**

Badhan Chandra Das

Lecturer

Department of CSE, BUBT

## **ACKNOWLEDGEMENT**

We would like to pay our gratitude to the Almighty Allah who created us with all the abilities to understand analysis and develop the process with patience.

We are thankful to our project supervisor Badhan Chandra Das, Computer Science & Engineering Department, Bangladesh University of Business & Technology, for her professional guidance and motivation during this project's work, which is a significant part of it. Without her valuable support and guidance, this project could not reach this level of development from our point of view.

We would like to thank all the Faculty members, Department of CSE, Bangladesh University of Business & Technology, for their valuable time spent in requirements analysis and evaluation of the thesis work. We would like to express our sincere and warm gratitude to all those who have encouraged us directly, provided mental encouragement, and criticized our work in several phases during this project's development and for preparing this thesis indirectly

## **ABSTRACT**

Employee Management System is a distributed application, developed to maintain the details of employees working in any organization. It maintains the information about the personal details of their employees, also the details about the payroll system which enable to generate the payslip. The application is actually a suite of applications developed using Java. It is simple to understand and can be used by anyone who is not even familiar with simple employee system. It is user friendly and just asks the user to follow step by step operations by giving him few options. It is fast and can perform many operations of a company. This software package has been developed using the powerful coding tools of JAVA at Front End and Microsoft Sql Server at Back End. The software is very user friendly. The package contains different modules like Employee details. This version of the software has multi-user approach. For further enhancement or development of the package, user's feedback will be considered.

# Chapter 1

## 1.1 Introduction

This Employee Management System Project application stores all the employee's information in a database. The entire system is designed to enhance a company's operations and controls and manages the information at all levels. It also allows employees to view information in real time in order to increase productivity. Earlier systems were manual where there was no way of properly storing information. Employee records were stored manually which led to errors. There was no proper way of tracking employee records. It was very difficult and required a lot of paperwork which made the application time consuming and not secure. There was no administrator which could handle the records. In these circumstances, the updated system Employee management system is an easy to use application which is created to manage the employee data. This reduces the dependency on the manual system which could create errors. It will keep records of the company's operations where data can be found very easily using search operation and also edited and updated just in a second.

Employees are more than just labours or support operators for your thriving business. They are the central source of your productivity, which is why understanding the significance of employee performance and Employee Management Systems (EMS) can assist you further. Earlier systems were manual where there was no way of properly storing information. Employee records were stored manually which led to errors. It was very difficult and required a lot of paperwork which made the application time consuming and not secure. There was no administrator which could handle the records. So there was the need to develop a system which could manage all these things and reduce the paperwork. That's why we've established this system EMS which is an easy to use application that can manage the employee data and more operations of a company. This reduces the dependency on the manual system which could create errors. Employee Management System reduces the burden on HR Departments and further assists the company to perform more securely. In today's world where technology is considered as the key to success, we now have the opportunity to thank smart technology systems like EMS for improved performance. The EMS provides insights for your business like no other. Workers can enjoy a timely payroll and will be more efficient, all while the system regularly maintains employee attendance, working hours, tracking worker location via GPS, and supports the payroll process for companies. The system can manage a remote worker's activities, and introduce reliable methods for attendance logs and entries to admin and HR departments



## **Chapter 2**

### **2.1 Problem Statement**

- Data redundancy problem
- Records are not properly stored
- Takes up too much time and space
- There is little reuse of assets between projects.
- Inconsistency in data entry, room for errors.
- Large ongoing staff training cost.
- Duplication of data entry.
- Reduction in sharing information and customer services.
- Time consuming and costly to produce reports.
- System is dependent on good individuals.
- Lack of security of data.

## **Chapter 3**

### **3.1 Objective**

Objective of the employee management system is developing a simple, cheap and reliable system to achieve the goal of making records and salary calculation of employees easy and genuine. We aim to develop a system that prevents cheating by employees and make sure they get proper document of their information, facilities to update information or make application. This system is developed with the main objective to solve the problem of small factories and businesses that are still using pen and paper to maintain staff records. These industries even face many clashes with employees as most of the staff working here is from labour class and they really do hard work to earn, so our system will put an effort to reduce these clashes and will make sure that these workers get each penny of their work. This system will save a lot of time for the employer and reduce the tension of handling information of employees. So, they can focus on other things and developing their businesses.

## Chapter 4

### 4.1 Specific Requirement

#### Language:

- **Java:** Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. It is a general-purpose programming language intended to let programmers write once, run anywhere (WORA), meaning that compiled Java code can run on all platforms that support Java without the need for recompilation.
- **JFrame:** JFrame is a top-level container that provides a window on the screen. A-frame is actually a base window on which other components rely, namely the menu bar, panels, labels, text fields, buttons, etc. Almost every other Swing application starts with the JFrame window.

#### Software:

- **NetBeans:** NetBeans is an integrated development environment (IDE) for Java. NetBeans allows applications to be developed from a set of modular software components called modules. NetBeans runs on Windows, macOS, Linux, and Solaris. In addition to Java development, it has extensions for other languages like PHP, C, C++, HTML5, and JavaScript.
- **XAMPP:** XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible.

#### Hardware:

##### Developer:

- Processor: Intel core i7 8700K
- RAM: 8 GB DDR4
- Operating System: Windows 10 Pro 64 Bit

##### User End:

- Memory Space: Minimum – 100 , Recommended – 150 MB
- Operating System: Windows 7 32Bit
- Processor: Intel Core i3, 1GHZ or above
- Ram: 256MB or above

## Chapter 5

### 5.1 Diagram

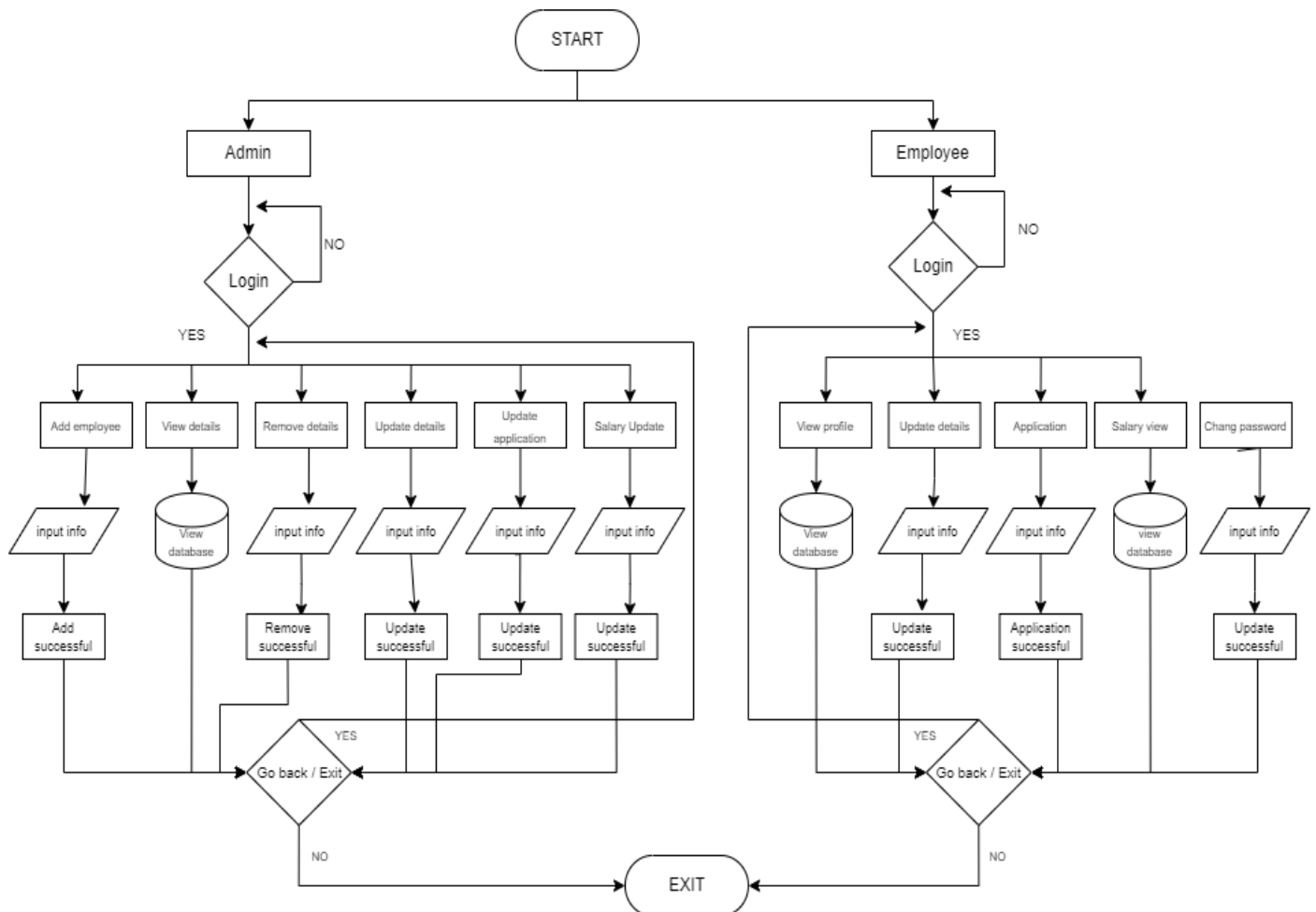


Figure 1: Diagram of Employee Management System project

## Chapter 6

### 6.1 Features

#### Admin Panel:

- **Login:** When an admin tries to use the system, he must login in order to use it.
- **Dashboard:** After login, a dashboard is showed having many options to choose.
- **View employee details:** Admin can view all the details of each employee.
- **Add employee details:** When a new employee joins the company, his record is saved in the database.
- **Delete employee details:** When a employee leaves the company, his record is deleted in the database.
- **Update employee details:** Whenever an employee needs to change his details, admin can update it in the database.
- **Employee leave application:** Admin can view and update the status of every application from employees.
- **View/Update/Delete employee salary:** Here salary information is stored for each employee based on their working days and admin can view, search, update and delete them.

#### User Panel:

- **Signup:** When a new user tries to use the system, first he has to fill-up the registration form and then he can enter the login page to login into the system.
- **Login:** After registration process the user must login with ID and Password.
- **Dashboard:** After login, a user dashboard is showed including some options.
- **View details:** User will be able to view every detail stored in the system.
- **Update profile details:** User can update his personal details here
- **Apply for leave:** If the user wants a leave from the company he'll fill-up this form which will be directly shown in the admin panel for future procedure. He can also view status of his application from here.
- **View salary details:** Here salary details can be seen.
- **Change password:** Password can be changed if needed.

## Chapter 7

### 7.1 Outcome

- a. **Index:** This is the first page of the system.

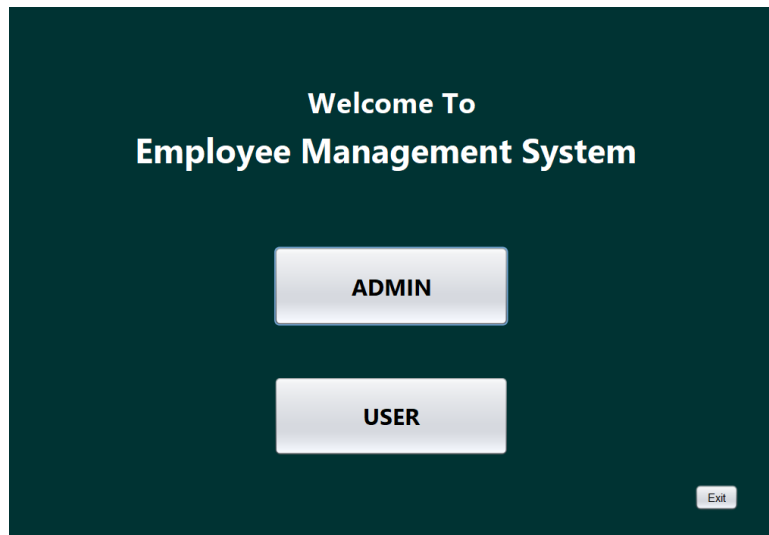


Figure 2: Index page of project

- b. **Admin login:** This is the admin login page.

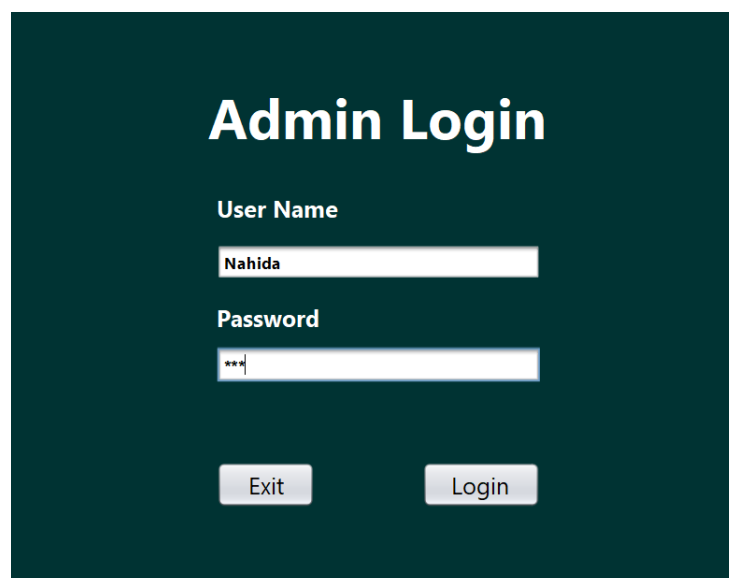


Figure 3: Admin login page

- c. **Admin dashboard:** This is the admin dashboard where all module under admin panel is shown.

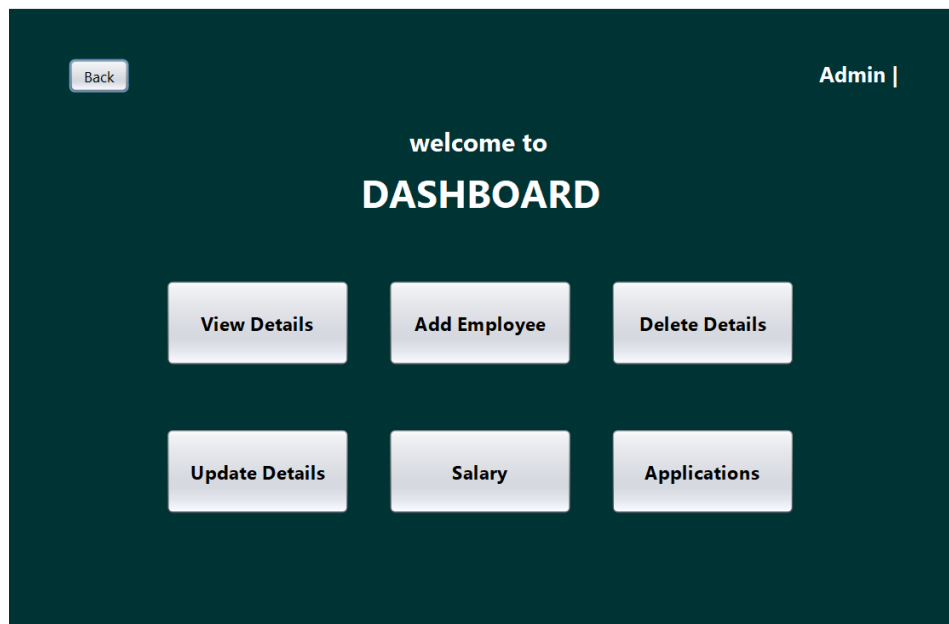


Figure 4: Admin dashboard

- d. **View details:** Here admin will be able to view any employee's details by searching with their ID.

The image shows a 'View Employee Details' form on a dark background. At the top left is the title '| View Employee Details' and at the top right is 'Admin |'. Below the title, there is a search section with an input field containing '1001' and a 'Search' button. The form contains two columns of fields. The left column has: 'Name' (Nahida), 'ID' (1001), 'Department' (IT), 'Number' (88888), and 'Email' (nahida@gmail.com). The right column has: 'Position' (Head of Department), 'Joining Date' (6.11.19), 'Date of Birth' (16.05.02), 'Address' (Dhaka), and 'Blood Group' (A+). At the bottom left is a 'Back' button.

Figure 5: View details page

- e. **Add employee:** Admin can add new employee in the database from here.

**| Add Employee** Admin |

Name Rafsan Position Intern

ID 1011 Joining Date 16.02.22

Department Creative Date of Birth 29.12.96

Number 2165486 Address Dhaka

Email rafsan@gmail.com Blood Group A+

Back Add

Figure 6: Add employee page

- f. **Delete details:** Admin can delete any employee's information from database with this feature.

**| Delete Employee** Admin |

Select a row to delete employee details

ID	Name	Position	Department
1001	Nahida	Head of Department	IT
1004	Jovan	Executive	HR
1005	Emon	Executive	HR
1006	Sadia	Senior Executive	IT
1007	Akash	Senior Executive	Sales
1008	Hridoy	Manager	Marketing
1009	Abir	General Manager	Creative
1003	Akib	Intern	Sales
1002	Samiya	Intern	HR
1011	Rafsan	Intern	Creative

Back Delete

Figure 7: Delete employee page



- g. **Update details:** Admin can update information of any employee from here.

Figure 7: Delete employee page

- h. **Salary:** Admin see salary details of every employee from here and he can also add, update and delete them. He can also search details by ID.

No.	ID	Year	Month	Salary
10	1002	2020	March	20000
11	1002	2020	April	20000
12	1002	2020	May	15000
22	1002	2020	June	30000
23	1002	2020	July	29000

Figure 8: Salary page

- i. **Applications:** Application made by user will be shown here and admin can change the status to approved or declined.

No.	ID	From	To	Reason	Status
1	0	5.02.22	10.02.22	I have to go ou...	Approved
2	0	6.02.22	15.02.22	I am very sick	Declined
3	1001	03.05.20	07.05.20	Sick Leave	Approved
4	1001	5.03.22	20.03.22	Going outside ...	Approved
6	132 45	56	46565		
7	1001	20.03.22	30.03.22	Exam in univer...	Declined

Back 6 Approved Update

Figure 9: Leave application page

- j. **User login:** This is the user login page.

User Login

User ID  
1011

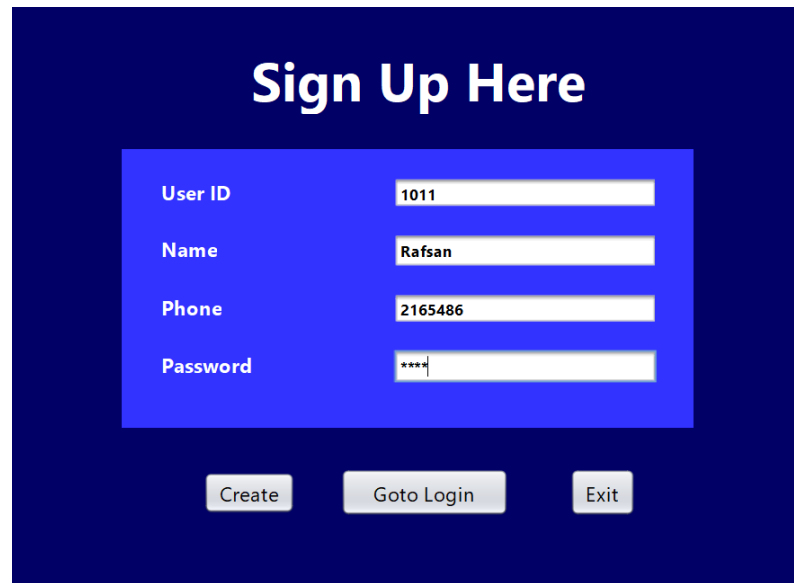
Password  
\*\*\*

Login

Exit Forget Password Signup

Figure 10: User login page

**k. User signup:** From here new user can register their account.



The image shows a 'Sign Up Here' page with a dark blue background. A central light blue box contains four input fields: 'User ID' with the value '1011', 'Name' with the value 'Rafsan', 'Phone' with the value '2165486', and 'Password' with the value '\*\*\*\*'. Below the input fields are three buttons: 'Create', 'Goto Login', and 'Exit'.

Field	Value
User ID	1011
Name	Rafsan
Phone	2165486
Password	****

Buttons: Create, Goto Login, Exit

Figure 11: User signup page

**l. Change password:** This is here user can change their password if needed.



The image shows a 'Change Password' page with a dark blue background. A central light blue box contains three input fields: 'ID' with the value '1011', 'Phone' with the value '2165486', and 'New Password' with the value '111'. Below the input fields are two buttons: 'Back' and 'Change'. In the top right corner, there is a link labeled 'User |'.

Field	Value
ID	1011
Phone	2165486
New Password	111

Buttons: Back, Change

User |

Figure 12: Change password page

**m. User dashboard:** This is user dashboard where all features are shown.

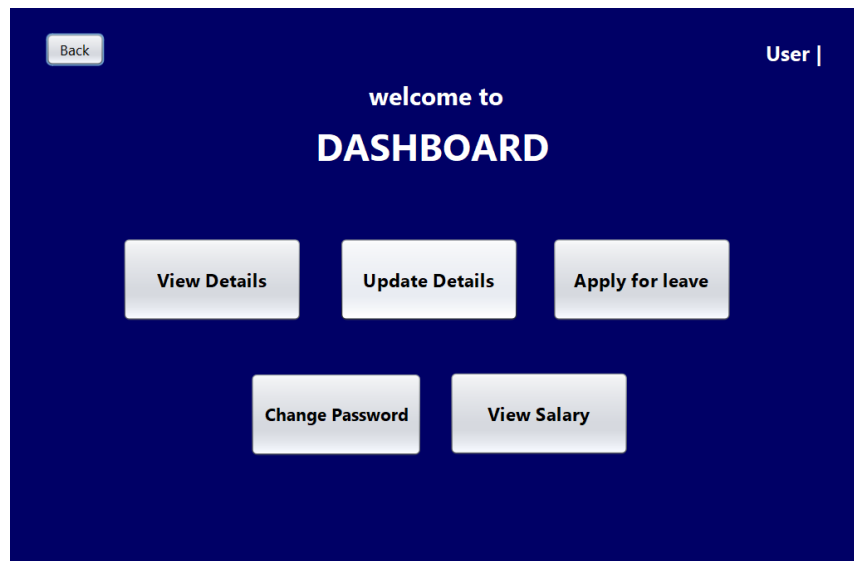


Figure 13: User dashboard

**n. View details:** Here user will be able to see only his details stored in company database.

The image shows a 'View Employee Details' page with a dark blue background. At the top left is a '| View Employee Details' header. At the top right is a 'User |' label. Below the header is a blue bar with the text 'Your details are shown below'. The details are displayed in a two-column grid. The first column contains: Name (Rafsan), ID (1011), Department (Creative), Number (2165486), and Email (rafsan@gmail.com). The second column contains: Position (Intern), Joining Date (16.02.22), Birth Date (29.12.96), Address (Dhaka), and Blood Group (A+). At the bottom left is a 'Back' button.

Figure 14: View details page

- o. **Update details:** User change or update his details from this module.

**| Update Details** User |

<b>Name</b>	Rafsan	<b>Position</b>	Intern
<b>ID</b>	1011	<b>Joining Date</b>	16.02.22
<b>Department</b>	Creative	<b>Date of Birth</b>	29.12.96
<b>Number</b>	3565656	<b>Address</b>	Dhaka
<b>Email</b>	rafsan@gmail.com	<b>Blood Group</b>	A+

Back Update

Figure 15: Update details page

- p. **Apply for leave:** User can apply for a leave with this option. Also, he can see the status of his application.

**| Leave Application** User |

<b>ID</b>	1011
<b>From Date</b>	07.03.22
<b>To Date</b>	10.03.22
<b>Reason</b>	Going outside country

Back Apply

**Status of previous applications**

Id	From	To	Status
1011	15.03.22	20.03.22	Declined
1011	02.03.22	08.03.22	Approved
1011	07.03.22	10.03.22	Approved

Figure 16: Application page

- q. **View salary:** From here user will be able to see detailed information about his salary with year and month.

**| Your Salary**

User |

Your salary record is shown below

ID	Year	Month	Salary
1011	2022	March	20000
1011	2022	April	20000
1011	2022	May	20000
1011	2022	June	25000

Back

Figure 17: Salary details page

## **Chapter 8**

### **8.1 Conclusion**

In this report, an information system's development has been presented. It was emphasized on the basic steps, consequently taken during the project's development course as a particular attention was turned to the basic operative functions performed upon the data into the database. The report's content comprises the whole task solution, starting from the programming environments have been selected, going through the database, the application's analysis and construction, and finishing with the code-implementation and test-samples, shown separately in Appendix chapters. As a future work, some additional stuff could be implemented and integrated into the application code making it much more reliable and flexible; especially what concerns a pay-roll module, for instance. Apparently, the role of such systems is basic and essential within each company that wants to keep a really good control and record concerning its personnel data, functionality and performance on all levels in its structure. Every organization, nowadays, has the necessity of managing its staff on a really good level as the staff has definitely the greatest merit of building up a company as such as it is. The well managed staff means giving the appropriate financial award-ness and all kinds of benefits as such as they have been deserved. That's why the development of such systems is not just a programming business – a lot of people are ordinarily involved in such projects and one of the basic requirements is the reliability of the system, especially what concerns the storage of data and all of the operations that will be performed upon it.

### **8.2 Future work**

As a future work, some additional stuff could be implemented and integrated into the application code making it much more reliable and flexible; especially what concerns a pay-roll module, for instance. Apparently, the role of such systems is basic and essential within each company that wants to keep a really good control and record concerning its personnel data, functionality and performance on all levels in its structure. Moreover, we can improve the interface of the system in future for better management. We can connect the system with network so the system can be used worldwide by anyone and have better usage

## Chapter 9

### 9.1 Reference

- References [1] – Begg Carolyn, Connolly Thomas, Database systems (a Practical approach to Design, Implementation, and Management), Addison-Wesley, an imprint of Pearson Education, University of Paisley (U.K.), Fourth edition 2005
- Bodnar George /Duquesne University/, Hopwood William /Florida Atlantic University/, Accounting Information systems, Eighth Edition, Prentice Hall, Upper Saddle River, New Jersey .
- Andersen Virginia, Access 2000: The Complete Reference, Blacklick, OH, USA: McGraw-Hill Professional Book Group, 2001, <http://site.ebrary.com/lib/vaxjo/Doc?id=5002842> (2006-05-25).
- Andersson Tobias, [DAB744] C# Course Lectures, School of Mathematics and System Engineering, Växjö University.