Student Managment System

let's make the future easy to manage

Acknowledgment

We would like to express our gratitude to everyone engaged in this initiative for their cooperation in ensuring its success. We would like to offer our heartfelt appreciation to everyone who assisted us in completing our project efficiently.

The cooperated degree with **Plymouth University** gave us an excellent output to contribute to the group project. We especially thank **NSBM Green University** for allowing completing a UK degree in Sri Lanka.

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Team Members;

1. Bhuvan. A – **Group Leader**
2. Chandramouli. N
3. Kushal. S
4. Maruthi. C.R

Preface

A student management system **"SMS"** alternatively referred to as a student information system or SIS supports universities in managing data, communications, and scheduling. A school system creates and utilizes a great deal of information. This information must be provided to students, educators, and parents in a suitable manner. A student management system facilitates universities in storing, managing, and disseminating this data.*(Zhang, 2019)*

So many universities have started they on student management system such as digital learning platform and learning management systems. They can contact the students online through the system and manage exams, quizzes and keep seminars. There are many facilities available in these platforms.

Positions allocated while handling the project;

1. Bhuvan. A	**System developer**
2. Chandramouli. N	**Project Coordinator**
3. Kushal. S	**Database Developer,**
4. Maruthi. C.R	**Project Analyzer**

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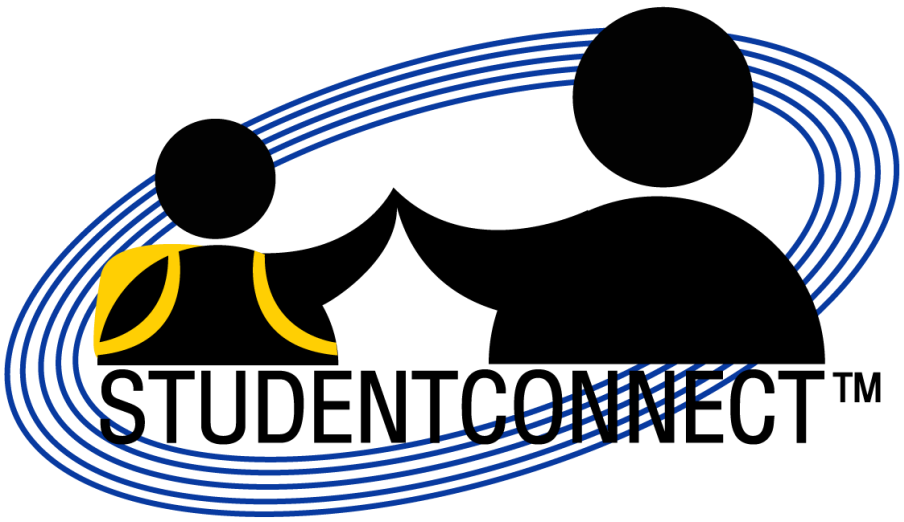


Section 01

Introduction

A **Student Management System** is an environment that manages all the data of the students who are studying in an educational institution. This data is computerized through an automated system. Here, computerization is more advantageous than the usual method. Thus, a student management system offers many benefits to an educational institution. It allows teachers to easily change and access student data, and parents can easily focus on children with a clear environment to meet state level compliance and other regulatory requirements.

This system we have created also facilitates the entry, maintenance and viewing and of all authorized student details. Here we mainly focus on the examination of students, their subjects, the registration department which conducts the registration process, the examination department which conducts the examinations, the IT division which is important component of the result and the smart ID components. The special thing is that we have given all the students a unique ID and the degree program they are involved in has also focused on age, gender and contact number. Each department has a unique ID. For convenience, a designated location and e-mail address are also used. *(Zhang, 2019)*

Two types of exams are included considering the unique number for the exam. As well as, the fact that the exam is conducted online and the physical as well as the date of the exam and the room where the exam is held are also important. When considering the result of the students in an exam, it is imperative that the result release date. As well as, the index number and module code be correct. This result is checked by the IT division. The division also has a unique password for this purpose.

The IT division has issued a smart ID for all students. It makes all the tasks very accurate and easy. This includes a picture of the student and a smart chip. Every smart ID has a unique e-mail address and password. The main uses of this are DLE and WIFI. It also has a key effect on gate access. It allows students to easily capture the date and time of entry and exit. This also helps in the safety of the student.

Project Objectives

- All the information of the students can be managed as the main objective of a student management system. For example, information about the students' exams, their exam fees, courses as well as the personal profile of the students can be obtained by creating such a system.

- Creating a system like this can reduce unnecessary data collection using paper. Therefore, such a system is very important in managing time.

- Similarly, the use of such a system makes it easy to access student information at any time

- Also, the number of students who come in a year, as well as the daily attendance of those students as well as the data can be taken from the system to provide the necessary facilities for students.

- Using such a student management system enables students to maintain their information, as well as easy access and secure information over a long period of time without any changes.

- Also, when retrieving a book from a library, students' data can be easily entered, and in some cases, such a system helps to obtain information about the students who obtained the books or who the students are. Managing a library using such a system also makes it easier to manage time.

- Using such a system, student result management can be done, and the information related to the exams can be found easily when required.

- Exam scheduling. Exams can also be managed by not only correct dates but also notifying students.

- As well as can maintain the data accuracy.

- Also make it easy for students to enter information, modify entered information, or remove certain information. This can be done easily using a student management system.

Scope of the Project

At present, everyone is looking for a system that is superior to the facilities provided by higher education institutions such as universities, without being limited to the basic facilities The purpose of this student management system is to create a user-friendly and user-friendly management system. This system makes it easy to manage student administration, university administration, as well as other internal affairs such as student exams, fee payments, etc.

At present such systems are accepted by many educational institutions such as universities and the main objective is to facilitate the work efficiently and modernize the use of such a system based on smart technology. When we create this system, we used better techniques for a get high output. For an example we used Database Tigger function for this system. It is very efficient and useful system to keep all the data accurately and can be accessed just in seconds.

Data Requirements

Entities	Attributes
1. Student	Name email password course academic year
3. Administrator	User_Name Password
6. Registration Department	Dep_ID Dep_Name

Table 1(Data Requirement Table)

Entity Relationships Diagram

An entity relationship diagram is also known as an entity relationship model. The key here is to graphically depict the relationship between people, objects, location, concepts or events in an IT system. It also represents the contacts in the set of entities stored in the database. In this section, an organization is referred to as an object, a data component. One of the similar entities is defined as a set of entities. And these entities may have attributes. This is because there are definitions of attributes. An ER diagram is a logical structure of a database that defines organizations, their properties, and the relationships between them. ER is also used to design the database. *(Anon., 2016)*

The ER diagram communicates all the entities, relationships and attributes. It has four main parts. Entities are the physical existence and the existence of a set of conceptual objects. It is represented by the rectangle symbol. Entities that do not have strong relationships are called week entities. The characteristics of an object are represented by the oval symbol. These attributes are composite attributes, single value attributes, multi value attributes and derived attributes. In this note, you can specially identify a primary key. It refers to a column or column combination that usually contains uniquely identifiable values for each row in that table. The primary key enables the institutional integrity of the table.

Figure 2 (Relationship Cardinality)

Enhanced Entity–Relationship Model

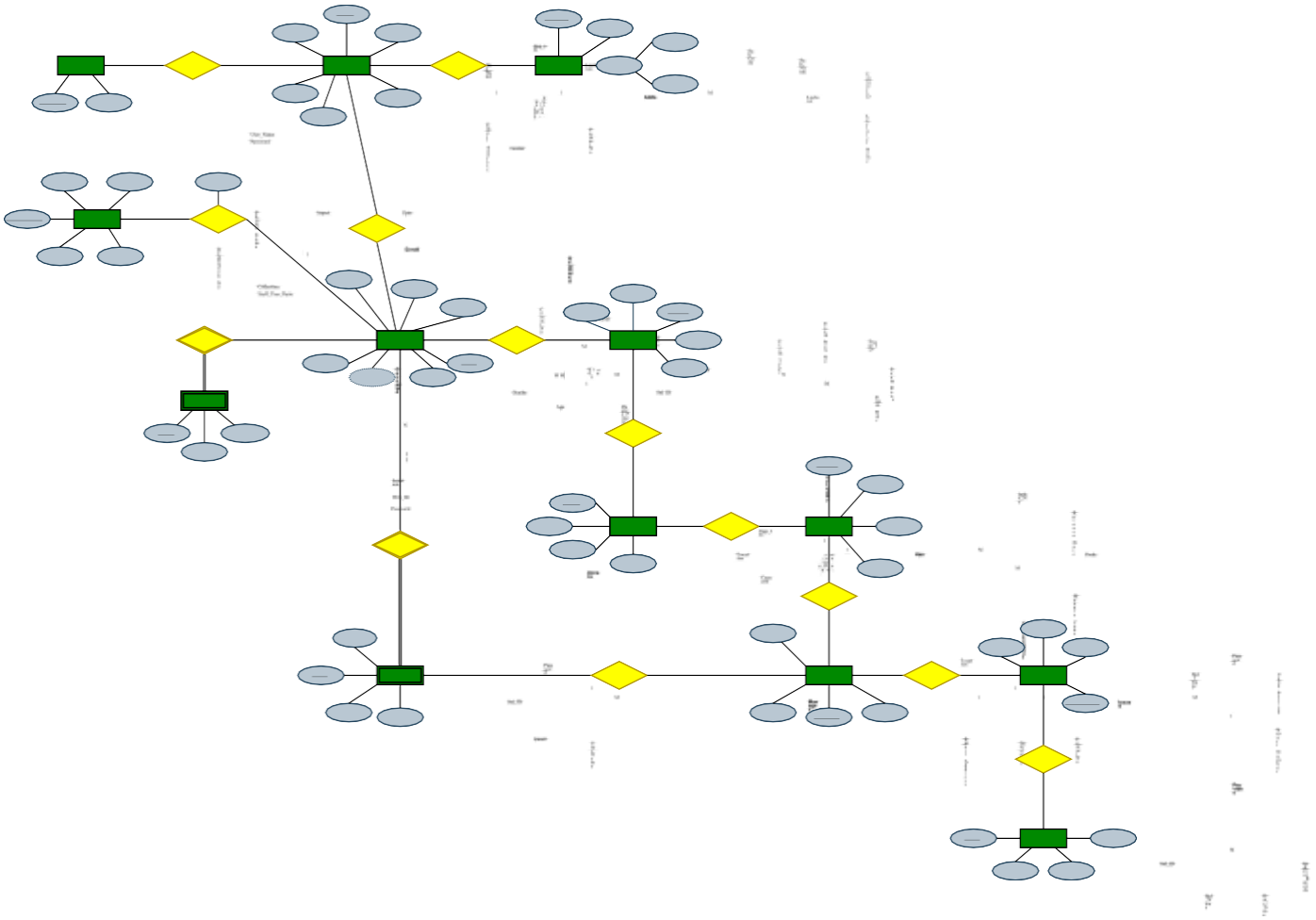
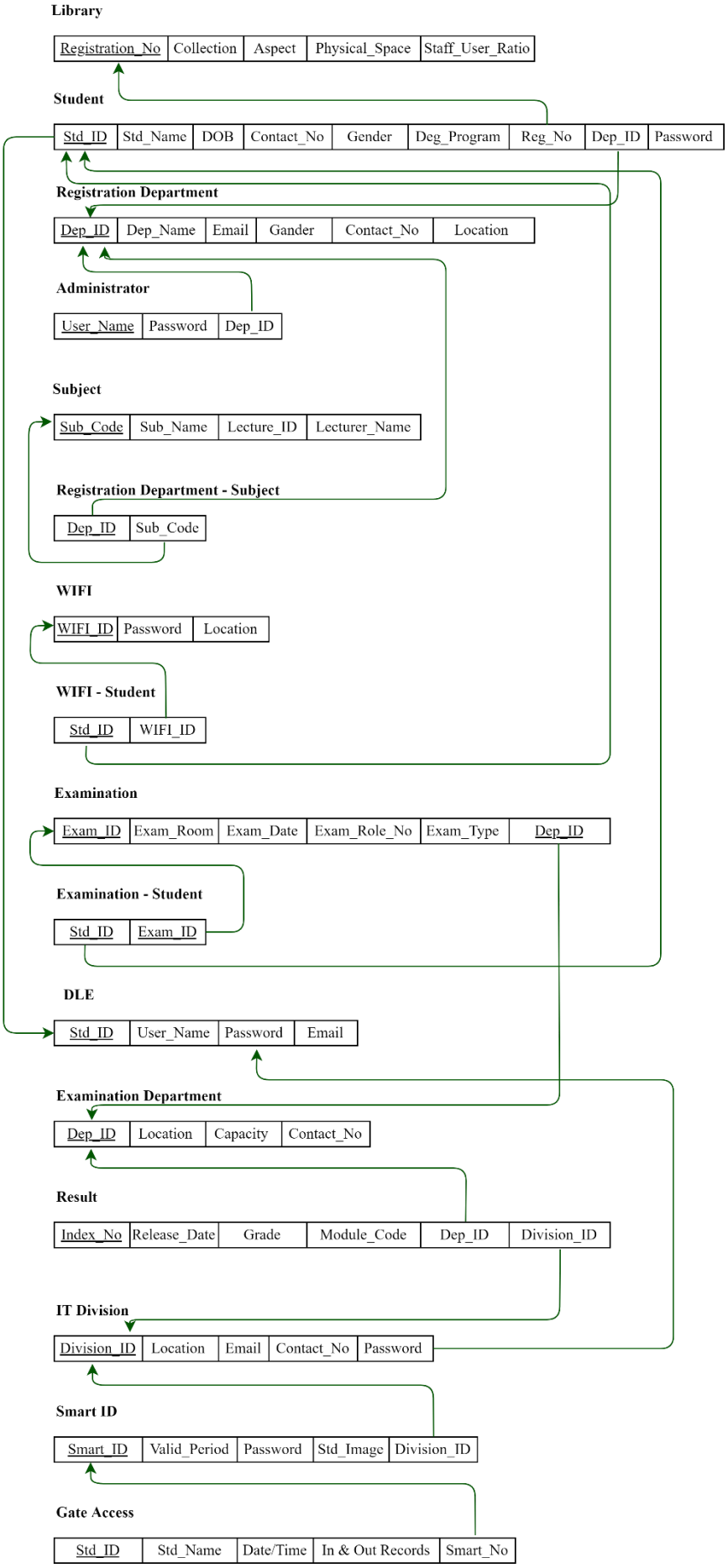


Figure 3 (Entity–Relationship Diagram)

Relational Mapping

The approach to managing data using logical structure and language for first – level forecasting is called the database management relational model. This was described in 1969 by the English computer scientist Edgar F. Codd. Relational mapping also supports any kind of contact database, database representation that corresponds to the data member of any entity. Here a conversion to a database is done.

Relational mapping allows us to map an entity model to a relational data model. The values of the existing data are categorized into relevant table names and columns. Which gives us the ability to easily create meaningful information and make it easier to understand.


Library
Registration_No
Collection
Aspect
Physical_Space
Staff_User_Ratio
Student
Std_ID
Std_Name
DOB
Contact_No
Gender
Deg_Program
Reg_No
Dep_ID
Password
Registration Department
Dep_ID
Dep_Name
Email
Gander
Contact_No
Location
Administrator
User_Name
Password
Dep_ID
Subject
Sub_Code
Sub_Name
Lecture_ID
Lecturer_Name
Registration Department - Subject
Dep_ID
Sub_Code
WIFI
WIFI_ID
Password
Location
WIFI - Student
Std_ID
WIFI_ID
Examination
Exam_ID
Exam_Room
Exam_Date
Exam_Role_No
Exam_Type
Dep_ID
Examination - Student
Std_ID
Exam_ID
DLE
Std_ID
User_Name
Password
Email
Examination Department
Dep_ID
Location
Capacity
Contact_No
Result
Index_No
Release_Date
Grade
Module_Code
Dep_ID
Division_ID
IT Division
Division_ID
Location
Email
Contact_No
Password
Smart ID
Smart_ID
Valid_Period
Password
Std_Image
Division_ID
Gate Access
Std_ID
Std_Name
Date/Time
In & Out Records
Smart_No

ies in a relational database may be stored in a single (potentially very large) ı be broken down into smaller tables as required, according to the universal ion.

s have to face all examinations.

- All students must be registered with the Department of Registration.
- All examinations are conducted by the Department of Examinations.
- Each subject has its own unique subject code.
- There are several subjects for one examination.
- The IT division checked out the results of all students.
- All smart IDs are issued by the IT division.
- The IT division has a unique password for it.
- The e-mail address is unique to the smart ID.
- Each department has its own unique ID.
- There can be several examinations for one subject.
- Smart IDs are issued to all students by IT division.
- Each student enrolls for library.
- Each smart ID gives gate access.
- The student ID is unique to the gate access.
- WIFI connect via smart ID.
- The password for the DLE is unique.

ization

ation_No	Collection	Aspect	Physical_Space	Staff_User_Ratio

0 NF – This table is in 0NF.

1 NF – Columns of this table does not hold multiple values. So, this table is in 1 NF.

2 NF – This table is in 1 NF. As well as, this table does not have any partial dependencies. So, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

2. **Student**

Std_ID	Std_Name	DOB	Contact	Gender	Deg_Program	Reg_No	Dep_ID	Email

0 NF – This table is in 0NF.

1 NF – Columns of this table does not hold multiple values. So, this table is in 1 NF.

2 NF – This table is in 1 NF. As well as, this table does not have any partial dependencies. So, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

3. **Registration Department**

Dep_ID	Dep_Name	E - mail	Gender	Contact_ No	Location

0 NF – This table is in 0NF.

1 NF – Columns of this table does not hold multiple values. So, this table is in 1 NF.

2 NF – This table is in 1 NF. As well as, this table does not have any partial dependencies. So, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

trator

Name	Password	Dep_ID

e is in 0NF.

1 NF – Columns of this table does not hold multiple values. So, this table is in 1 NF.

2 NF – This table is in 1 NF. As well as, this table does not have any partial dependencies. So, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

5. **Subject**

Sub_Code	Sub_Name	Lecturer_ID	Lecturer_Name

0 NF – This table is in 0NF.

1 NF – Columns of this table does not hold multiple values. So, this table is in 1 NF.

2 NF – This table is in 1 NF. As well as, this table does not have any partial dependencies. So, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

6. **Student – Subject**

Std_ID	Sub_Code

0 NF – This table is in 0NF.

1 NF – Columns of this table does not hold multiple values. So, this table is in 1 NF.

2 NF – This table is in 1 NF. As well as, this table does not have any partial dependencies. So, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

7. WIFI

WIFI_ID	Password	Location

e is in 0NF.

; of this table does not hold multiple values. So, this table is in 1 NF.

is table is in 1 NF. As well as, this table does not have any partial
ɔ, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

8. WIFI – Student

WIFI_ID	Std_ID

0 NF – This table is in 0NF.

1 NF – Columns of this table does not hold multiple values. So, this table is in 1 NF.

2 NF – This table is in 1 NF. As well as, this table does not have any partial dependencies. So, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

9. Examination

Exam_ID	Exam_Room	Exam_Date	Exam_Role_No	Exam_Type	Dep_Id

0 NF – This table is in 0NF.

1 NF – Columns of this table does not hold multiple values. So, this table is in 1 NF.

2 NF – This table is in 1 NF. As well as, this table does not have any partial dependencies. So, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

ıtion – Student

D	Std_ID

e is in 0NF.

1 NF – Columns of this table does not hold multiple values. So, this table is in 1 NF.

2 NF – This table is in 1 NF. As well as, this table does not have any partial dependencies. So, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

11. DLE

Email	User_Name	Password	Std_ID

0 NF – This table is in 0NF.

1 NF – Columns of this table does not hold multiple values. So, this table is in 1 NF.

2 NF – This table is in 1 NF. As well as, this table does not have any partial dependencies. So, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

12. Examination Department

Dep_ID	Location	Capacity	Contact_No

0 NF – This table is in 0NF.

1 NF – Columns of this table does not hold multiple values. So, this table is in 1 NF.

2 NF – This table is in 1 NF. As well as, this table does not have any partial dependencies. So, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

13.

Result

Index_No	Release_Date	Grade	Module_Code	Dep_ID	Division_ID

e is in 0NF.

; of this table does not hold multiple values. So, this table is in 1 NF.

is table is in 1 NF. As well as, this table does not have any partial
ɔ, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

14. IT Division

Division_ID	Location	E -mail	Contact_No	Std_ID

0 NF – This table is in 0NF.

1 NF – Columns of this table does not hold multiple values. So, this table is in 1 NF.

2 NF – This table is in 1 NF. As well as, this table does not have any partial dependencies. So, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

15. Smart ID

Smart_No	Valid_Period	Password	Std_Image	Division_ID

0 NF – This table is in 0NF.

1 NF – Columns of this table does not hold multiple values. So, this table is in 1 NF.

2 NF – This table is in 1 NF. As well as, this table does not have any partial dependencies. So, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

cess

Std_Name	Date & Time	In & Out Records	Smart_No

e is in 0NF.

1 NF – Columns of this table does not hold multiple values. So, this table is in 1 NF.

2 NF – This table is in 1 NF. As well as, this table does not have any partial dependencies. So, this table is in 2 NF.

3 NF – This table is in 2 NF. This table does not have any transitive dependencies. So, this table is in 3 NF.

ıry

› create a Data Dictionary by compiling a list of names, definitions, and rious types of data in a database, information system, or other research ;ives direction on the interpretation, acceptable interpretations, and f data items in the context of a project.

Library Table

Column Name	Data Type	No of Characters	Constraint
Registration_No	Char	10	Primary Key
Collection	Varchar	15	Not Null
Aspect	Varchar	15	Not Null
Physical_Space	Varchar	15	Not Null
Staff_User_Ratio	Varchar	15	Not Null

Student Table

Column Name	Data Type	No of Characters	Constraint
Std_ID	int	10	Primary Key
Std_Name	Varchar	25	Not Null
DOB	Char	10	Not Null
Contact_No	Char	10	Not Null
Gender	Varchar	10	Not Null
Degree_Program	Varchar	30	Not Null
Registration_No	Char	10	Foreign Key
Dep_ID	int	10	Foreign Key
Email	Char	10	Foreign Key

Registration Department Table

Column Name	Data Type	No of Characters	Constraint
Dep_ID	Char	10	Primary Key
Dep_Name	Varchar	25	Not Null
Email_Address	Varchar	15	Not Null
Gender	Varchar	10	Not Null
Contact_No	Char	10	Not Null
Location	Varchar	15	Not Null

Administrator Table

Column Name	Data Type	No of Characters	Constraint
User_Name	Varchar	15	Primary Key
Password	Varchar	10	Not Null

Dep_ID	Char	10	Foreign Key

Subject

Column Name	Data Type	No of Characters	Constraint
Sub_Code	Char	10	Primary Key
Sub_Name	Varchar	15	Not Null
Lecture_ID	Char	10	Not Null
Lecturer_Name	Varchar	25	Not Null

me	Data Type	No of Characters	Constraint
)	Char	10	Primary Key
d	Varchar	10	Not Null
n	Varchar	15	Not Null

Examination Table

Column Name	Data Type	No of Characters	Constraint
Exam_ID	Char	10	Primary Key
Exam_Room	Varchar	15	Not Null
Exam_Date	Char	10	Not Null
Exam_Role_No	Char	10	Not Null
Exam_Type	Varchar	15	Not Null
Dep_ID	Char	10	Foreign Key

DLE Table

Column Name	Data Type	No of Characters	Constraint
Email	Varchar	10	Primary Key
User_Name	Varchar	15	Not Null
Std_ID	Char	10	Not Null
Password	Varchar	15	Not Null

Examination Department Table

Column Name	Data Type	No of Characters	Constraint
Dep_ID	Char	10	Primary Key
Location	Varchar	15	Not Null
Capacity	Varchar	15	Not Null
Contact_No	Char	10	Not Null

Column Name	Data Type	No of Characters	Constraint
Index_No	Char	10	Primary Key
Release_Date	Date	10	Not Null
Grade	Char	10	Not Null
Module_Code	Varchar	15	Not Null
Dep_ID	Char	10	Foreign Key
Division_ID	Char	10	Foreign Key

IT Division Table

Column Name	Data Type	No of Characters	Constraint
Division_ID	Char	10	Primary Key
Std_ID	Char	10	Not Null
Email_Address	Varchar	15	Not Null
Contact_No	Char	10	Not Null
Location	Varchar	15	Foreign Key

Smart ID Table

Column Name	Data Type	No of Characters	Constraint
Smart_No	Char	10	Primary Key
Valid_Period	Varchar	15	Not Null
Password	Varchar	10	Not Null
Std_Image	Blob	-	Not Null
Division_ID	Char	10	Foreign Key

Gate Access Table

Column Name	Data Type	No of Characters	Constraint
Std_ID	Char	10	Primary Key
Std_Name	Varchar	25	Not Null
Date & Time	Date	15	Not Null
In & Out Records	Varchar	25	Not Null
Smart_ No	Char	10	Foreign Key

```
ults] (
T NULL,
T NULL,
T NULL,
([stuid] ASC, [subid] ASC),
REFERENCES [dbo].[students] ([stuid]),
REFERENCES [dbo].[subjects] ([subid])
```

onstrains

```
[dbo].[students] (
    [stuid]      INT         NOT NULL,
    [name]       NCHAR (100) NULL,
    [dob]        DATE        NULL,
    [conno]      NCHAR (100) NULL,
    [gender]     NCHAR (10)  NULL,
    [degid]      INT         NULL,
    [department] NCHAR (50)  NULL,
    PRIMARY KEY CLUSTERED ([stuid] ASC)
);
```

Figure 4 (Create Student Table)

```
CREATE TABLE [dbo].[studentpassword] (
    [stuid] INT        NOT NULL,
    [pwd]   NCHAR (50) NOT NULL,
    PRIMARY KEY CLUSTERED ([stuid] ASC),
    FOREIGN KEY ([stuid]) REFERENCES [dbo].[students] ([stuid])
);
```

Figure 5 (Create Student Logins)

```
CREATE TABLE [dbo].[studentsubject] (
    [stuid] INT NOT NULL,
    [subid] INT NOT NULL,
    PRIMARY KEY CLUSTERED ([stuid] ASC, [subid] ASC),
    FOREIGN KEY ([stuid]) REFERENCES [dbo].[students] ([stuid]),
    FOREIGN KEY ([subid]) REFERENCES [dbo].[subjects] ([subid])
);
```

Figure 6 (Create Student Subject)

Figure 7 (Create Student Results)

```
CREATE TABLE [dbo].[delstudents] (
    [stuid]      INT           NOT NULL,
    [name]       NCHAR (100)   NULL,
    [dob]        DATE          NULL,
    [conno]      NCHAR (100)   NULL,
    [gender]     NCHAR (10)    NULL,
    [degid]      INT           NULL,
    [department] VARCHAR (100) NULL,
    PRIMARY KEY CLUSTERED ([stuid] ASC)
);
```

Figure 8 (Create Student Delete Table)

```
CREATE TABLE [dbo].[itdeplogin] (
    [userid]   INT        NOT NULL,
    [password] NCHAR (50) NULL,
    PRIMARY KEY CLUSTERED ([userid] ASC)
);
```

Figure 9 (Create IT Department Login)

```
CREATE TABLE [dbo].[examdeplogin] (
    [userid]   INT        NOT NULL,
    [password] NCHAR (50) NULL,
    PRIMARY KEY CLUSTERED ([userid] ASC)
);
```

Figure 10 (Create Library Login)

```
CREATE TABLE [dbo].[regdeplogin] (
    [userid]   INT        NOT NULL,
    [password] NCHAR (50) NULL,
    PRIMARY KEY CLUSTERED ([userid] ASC)
);
```

Figure 11 (Create Registration Login)

```
CREATE TABLE [dbo].[liblogin] (
    [userid]   INT        NOT NULL,
    [password] NCHAR (50) NULL,
    PRIMARY KEY CLUSTERED ([userid] ASC)
);
```

Figure 12 (Create Exam Department Login)

```
CREATE TABLE [dbo].[books] (
    [bookid]   INT        NOT NULL,
    [bookname] NCHAR (55) NOT NULL,
    [booktype] NCHAR (55) NOT NULL,
    PRIMARY KEY CLUSTERED ([bookid] ASC)
);
```

Figure 13 (Create Books Table)

```
CREATE TABLE [dbo].[givebooks] (
    [stuid]  INT  NOT NULL,
    [bookid] INT  NOT NULL,
    [date]   DATE NOT NULL,
    PRIMARY KEY CLUSTERED ([stuid] ASC, [bookid] ASC),
    FOREIGN KEY ([bookid]) REFERENCES [dbo].[books] ([bookid]),
    FOREIGN KEY ([stuid]) REFERENCES [dbo].[students] ([stuid])
);
```

Figure 14 (Create Give Books)

```
CREATE TABLE [dbo].[subjects] (
    [subid]   INT        NOT NULL,
    [subname] NCHAR (55) NULL,
    [lecid]   INT        NULL,
    [degid]   INT        NULL,
    PRIMARY KEY CLUSTERED ([subid] ASC),
    FOREIGN KEY ([lecid]) REFERENCES [dbo].[lecturers] ([lecid])
);
```

Figure 15 (Create Subject Tables)

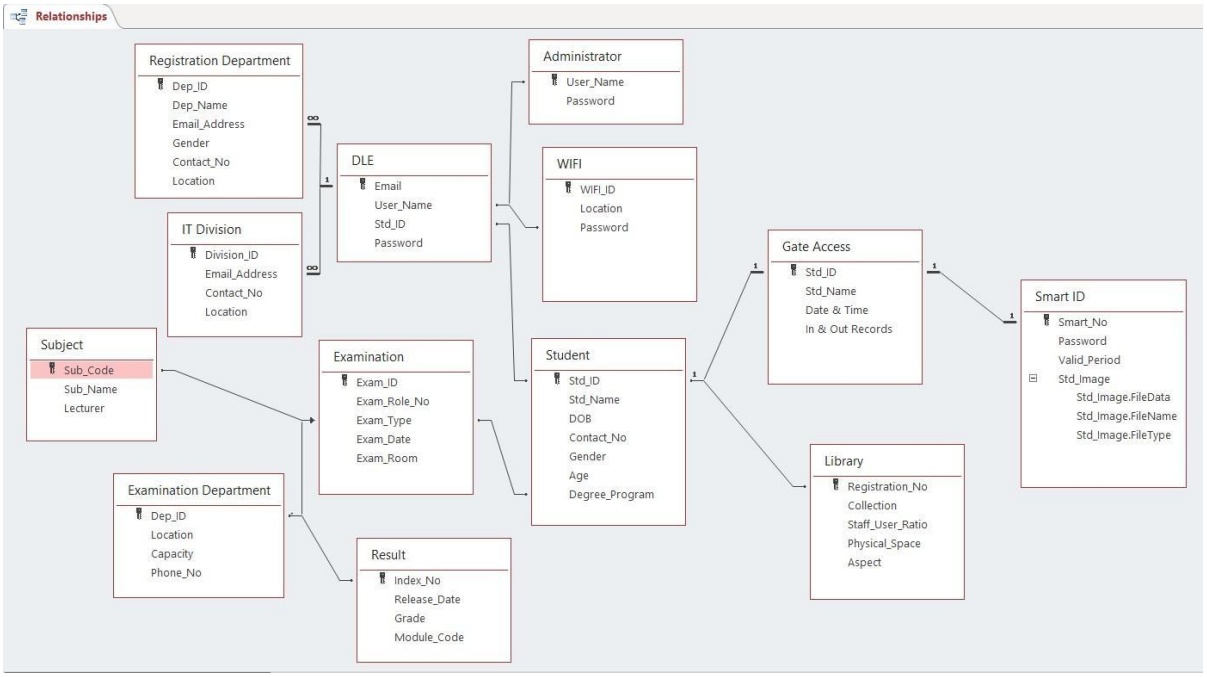
```
CREATE TABLE [dbo].[aplusresult] (
    [stuid] INT NOT NULL,
    [subid] INT NOT NULL,
    PRIMARY KEY CLUSTERED ([subid] ASC, [stuid] ASC),
    FOREIGN KEY ([stuid]) REFERENCES [dbo].[students] ([stuid]),
    FOREIGN KEY ([subid]) REFERENCES [dbo].[subjects] ([subid])
```

Figure 16 (Create A+ Result Table)

```
CREATE TABLE [dbo].[lecturers] (
    [lecid]      INT        NOT NULL,
    [name]       NCHAR (50) NULL,
    [dob]        NCHAR (50) NULL,
    [conno]      NCHAR (50) NULL,
    [gender]     NCHAR (50) NULL,
    [department] NCHAR (50) NULL,
    PRIMARY KEY CLUSTERED ([lecid] ASC)
);
```

Figure 17 (Create Lectures Table)

Database Relationship View



Student Management System

stuid	pwd
21444	student

Table 4 DLE User Name & Password

Student Management System

stuid	subid	result
21444	100	A+
21444	101	C
21444	102	B-
21444	103	B

Table 3 Student Results

Student Management System

SubjectID	Name	LecturerID	DegID
SubjectID	SubjectName	LectureID	DegreeID
100	Programming with C# ...	1000	10
101	Information Management a...	1001	10
102	Programming with C ...	1002	10
103	Web App Development with...	1003	10

Table 2 Subject Details

Student Management System

bookname	date
Siripala Mama	25-Dec-21
Sherlock Holmes	16-Dec-21
Harry Potter 1	09-Dec-21

Table 5 Book Due Date

DOB	ContactNo	Gender	Department
12/16/1995	0774463612	Male	FOC
12/16/1990	0774463612	Male	FOC
12/16/1990	0774463612	Male	FOC
12/16/1990	0774463612	Male	FOC

Student Management System

StudentID	Name	DOB	ContactNo	Gender	Degid	Department
18132	Sasanka Lakshan	09-Jul-01	0775897468	Male	10017	FOE
20925	Malinga Gunarathna	09-Nov-00	0789865472	Male	10017	FOC
21183	Parinda Siriwardhana	09-Apr-99	0775811724	Female	10017	FOB
21376	Awanthika Madushani	23-Sep-00	0701292181	Female	100	FOC
21444	Vishwa Pinnawala	07-Oct-01	0774463612	Male	10	FOC
21447	Savindu Rachintha	12-Mar-01	0766201950	Male	10	FOC
21453	Viveka Umesh	28-Jul-01	0737945624	Male	10946	FOE
21456	Amila Achinthya	12-Jun-97	0789861247	Male	10074	FOB
21571	Yasiru Tishan	06-Sep-00	0717860780	Male	457	FOC
21763	Sayumdi Dinuli	05-Mar-98	0759825475	Female	10257	FOC
21786	Kamal Priyankara	07-Nov-98	0789861247	Male	10078	FOB
21856	Amasha Amandi	03-Apr-00	0758438358	Female	10674	FOC

Table 8 Library Books

Student Management System

StudentID SubjectID

StudentID	SubjectID
20925	100
21183	100
21444	100
21444	102
21444	103
21447	101
21447	103
21571	100

Table 7 Student & Subject Details

Table 6 Lecturer Details

bookid	bookname		booktype
1	Aba Yaluwo	...	SInhala Story
2	Siripala Mama	...	SInhala Story
3	Mahatha Namathi Wanababara	...	SInhala Story
4	Nadagankarayo	...	SInhala Story
5	Kundalakesi	...	Tamil Story
6	Adareta Kiyana Katha	...	Sinhala Love Story
7	Obata Newi Priye Adare	...	Sinhala Love Story
8	Ai Oya Ohoma...?	...	Love Story
9	Mata Yanana Denna	...	Love Story
10	Sasara Wasana Thuru	...	Religious
11	Wani Meheyuma	...	Action
12	Madol Duwa	...	SInhala Story
16	Oba Yana Ithin Piyaba	...	Action
17	Pinnawala Athu	...	Action

Table 10 Library Books Information

stuid	subid	result
21444	100	A+
21444	101	C
21444	102	B-
21444	103	B

Table 9 Student Results

stuid	subid
21444	100
21376	101
21571	101
21447	103

Table 11 Student and Subject Details

Section 03

ments

```
USE [C:\USERS\WUSC SRILANKA\DOCUMENTS\STUMANAGE.MDF]
GO
/****** Object:  Trigger [dbo].[aplusresulttrig]  Vishwa Pinnawala Script Date: 12/22/2021 11
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
ALTER TRIGGER [dbo].[aplusresulttrig] ON [dbo].[sturesults]
    After INSERT
    AS
    BEGIN
       INSERT INTO dbo.aplusresult(stuid,subid)
       SELECT d.stuid,d.subid
       FROM inserted d
       WHERE d.result in ('a+','A+')
    END
```


Figure 18 (A+ Result Triggers Statement)

```
USE [C:\USERS\WUSC SRILANKA\DOCUMENTS\STUMANAGE.MDF]
GO
/****** Object:  Trigger [dbo].[Trigger]  Vishwa Pinnawala   Script Date: 12/23/2021 1:08:21 PM
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
ALTER TRIGGER [dbo].[Trigger] ON [dbo].[students]
    After Delete
    AS
    BEGIN
        --SET NOCOUNT ON--
        INSERT INTO dbo.delstudents(stuid, name, dob,conno,gender,degid,department)
        SELECT d.stuid, d.name, d.dob,d.conno,d.gender,d.degid,d.department
        FROM Deleted d
    END
```

Figure 19 (Deleted Student Trigger Statement)

```
DOCUMENTS\STUMANAGE.MDF]

dure [dbo].[spcountsubjects]  Vishwa Pinnawala  Script Date: 12/23
```

```
create proce
as
begin
 set nocount
 select COUN
 end

GO
```

```
create procedure dbo.spcountstudents
as
begin
 set nocount on;
 select COUNT (*) from students
 end
```

Figure 20 (Count Student Procedure Statement)

```
create procedure dbo.spduestudents
as
begin
 set nocount on;

 select * from givebooks s where ((DATEDIFF(DAY, s.date, CAST( GETDATE() AS Date )))>=7);
 end
```

Figure 21 (Due Books Procedure Statement)

```
create procedure dbo.sphowmanyduebooks
as
begin
 set nocount on;
 select COUNT (*) from givebooks s where ((DATEDIFF(DAY, s.date, CAST( GETDATE() AS Date )))>=7)
 end
```

Figure 22 (Count Due Books Procedure Statement)

Figure 23 (Count Subjects Procedure Statement)

```
\DOCUMENTS\STUMANAGE.MDF]

dFunction [dbo].[getage]  Vishwa Pinnawala   Script Date: 12/23/
```

```
USE [C:\USERS\WUSC SRILANKA\DOCUMENTS\STUMANAGE.MDF]
GO

/****** Object:  UserDefinedFunction [dbo].[findconno]  Vishwa Pinnawala  Script Date: 12/
SET ANSI_NULLS ON
GO

SET QUOTED_IDENTIFIER ON
GO

CREATE function [dbo].[findconno](@a int)
RETURNS TABLE AS
RETURN SELECT conno FROM students WHERE stuid=@a;
GO
```

```
CREATE FUNCT
RETURNS INT
AS
BEGIN

declare @dob
declare @dob
select @dob=
set @dobb= D
--print @dob

declare @tda
Set @tdate=
--print @tda

    DECLARE

    SET @vAge = (@tdate-@dobb)

    RETURN @vAge
END

GO
```

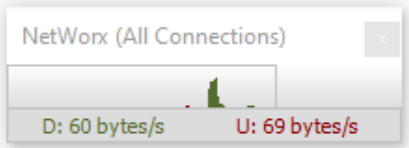


Figure 25 (Student Age User Defined Functions)

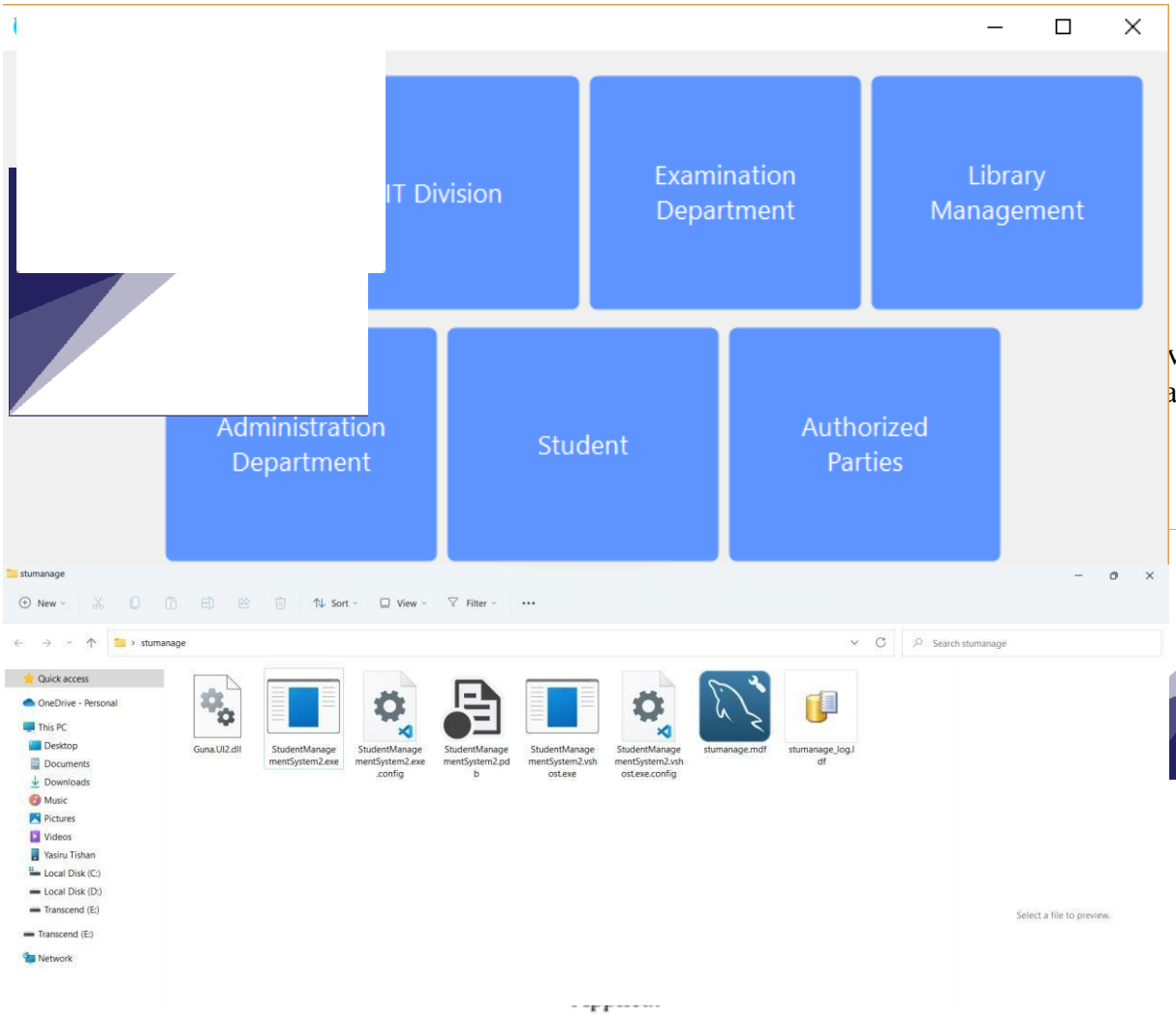
Views

```
CREATE VIEW [dbo].[resultdetails]
    AS select r.stuid as StudentID, r.subid as SubjectID,sub.subname as SubjectName,
    s.name as StudentName,r.result from sturesults r,students s,subjects sub
    where s.stuid=r.stuid and r.subid=sub.subid;
```

Figure 26 (Student Result Details View)

```
CREATE VIEW [dbo].[subjectLec]
    AS select s.subid as SubjectID,s.subname as Subjectname,l.name as LecturerName,
    s.degid as DigreeID from subjects s,lecturers l where s.lecid=l.lecid;
```

Figure 27 (Subject Related Lecturer View)



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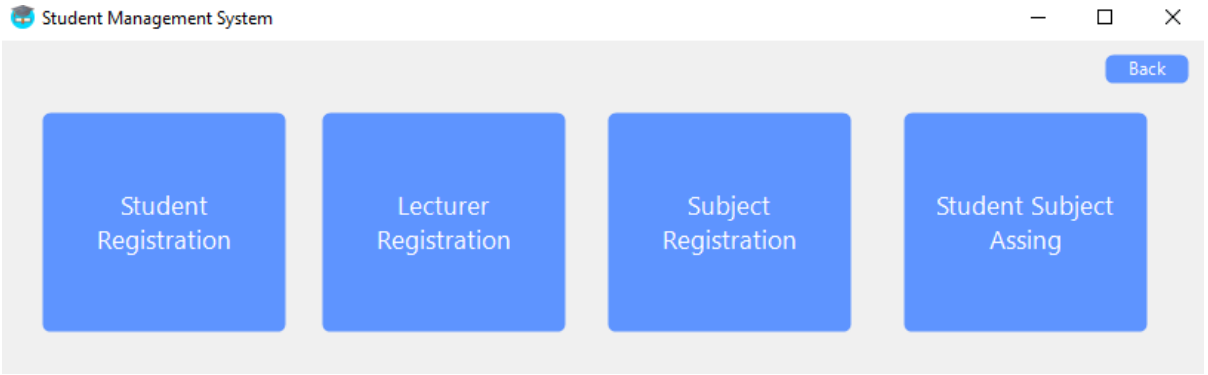
ion

This is the application of our project of Student Management System. In this system, you can see a database running, which is programmed by Visual studio 2019. MySQL for the database and the language was used for this system is programming C#. The interface was built using forms framework.net.

Home page

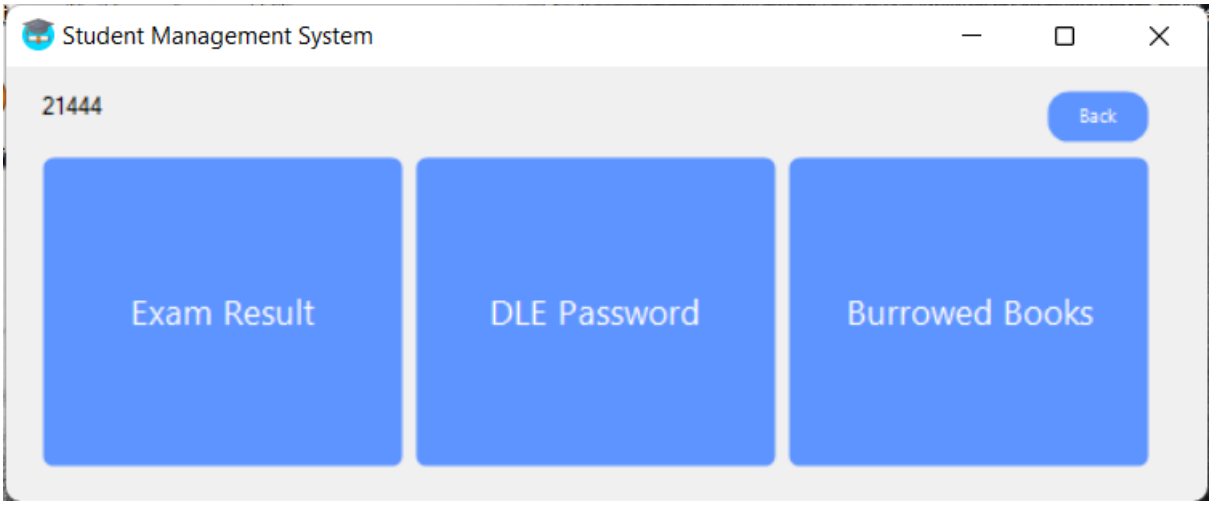
Ianagement system, this is the project's home page. In this system, a student our system as giving their all details. And there are many eventrations as an :amination Department, Library Management, Administration Department, ies' unique words can do in this Student Management System is easy to ent details in the best way.

Registration Department



In the Registration system, there are 'Student Registration' and 'Lecturer Registration' because the new student and lecturers can register in this system. The lecturers also can registration their subjects to this system. It is also available as a system form of 'Subject Registration.'

Student



In this case, the student (21444) KPVS Pinnawala was registered into this system and this student was faced to Exam Result and DLE website, and the student had got a Password also. The student that registers to this Student Management System they can Exam Results also and they can see DLE Password on this system. The student also can burrow the books and the admin can see that they burrow, and the student also can see.

This is the student Exam Result sheet, and this is the student 21444 (KPVS Pinnawala) Exam Result.

DLE Password Sheet

This is the student DLE password sheet, and this is the student 21444 (KPVS Pinnawala) DLE password.

ɔoks

This is the Burrowing Book sheet; in this, you can see how many books were borrowed and which date you have burrowed the books.

Contact Information

You can enter the student's ID number and search for the student contact details in our system.

ement Tool System

The student will get an e-mail and password to access. This system holds all the details which are entered into the database. This field is Consists of Student Detail Student Marks, student Many events system Access, Remember student. A student, Student Count get student age and find student can. In this we can see student Details, Student Marks, Student Management System Access, Removed Students, A + Student, Student Count, Get Student Age, and Find Student Contact NO.

Removed
Students

Student
Counts

Removed Students

In Removed Students, you can see the number of how many have left and the details the students them.

Student Counts

In this, we can count out the student and how many have registered in this system**.**

Mainly student management system was encouraging with IT Division because all the system of a university was running under IT Division. In our system, the IT Division is also divided into too many two categories as 'Student logins & DLE' and 'WIFI'.

Examination Department

In the Examination department, the student can visit it and get to see the Result of her/him. And the lecture has assessed to Add Results to the Examination department system. Not only that the student can also see the Subject Details. Ex. Subject number, all the subjects that you must be faced.

Add Results

In this, we can see all the results of the student when you enter the student ID number. And, the admin can save, update and delete the student details.

View Subject Details

There is a subject details tool also in there we can see the subject details as, Lecture name, Subject name, Subject ID.

All Results

In this, you can see the result of the students and details of the Student ID, Subject ID, Subject number, Student Name, and their result of the students.

Library Management

gives books and their return in a separate book at the same time it will be But in our Library Management, it goes to a database, and it is visited by ment admin only in this ware student can barrow book at a time and with the anagement will notices that a book must come. This is where we can Add books to our system.

Library Management (Add Books Sheet)

In Library Management there is an Add Books sheet in this there is a Book ID, book Name, Book types, and the admin can add the same as Save, update and delete the books. When one student has borrowed a book, it also can see from this system.

Library Management (Lend Books Sheet)

In the Lend Books sheet, we can see student ID, Book ID, which date it's borrowed. In this have the best quality its "Checking all the due" it will show all the books have borrowed and with student ID, Book ID, and the borrowed date.

Login

In login, here we can give a username and the best password that u can remember it. Login is the main part in the Student Management System where a candidate can enter his/her user ID and password then enter to the database login access only for the correct user ID and password.

uation

described in detail as a student management system, a system that assists tutions such as universities in managing student information and all relevant he main objective is to manage the relevant systems through a well-designed ed system for all aspects such as student exam management, student information management, registration, library system management, IT, etc.

All students have their own smart ID. Here you can get a lot of information related to them such as their student number, name, gender, phone number and the relevant degree. All students have their own email address and password. The main uses here are access to DLE and Wi-Fi. The smart ID can provide a lot of information such as the time students arrived at the university and the time they left. The library system can also help students learn about library use, registration, books available in the library, and related information.

This makes library system management much easier. There are also several activities that students can easily enter, remove, and update their information on the system. And this system is very important because it can keep the data safe for a long time. The features that are a part of this handset are quite sophisticated, to say the least.

When the system was set up and finally activated, some computers did not have the software to activate it, so it did not work and had to be activated. It can be pointed out as a shortcoming in us in setting up this system. It is quite clear that such a system would be a great help in carrying out well-managed work in institutions such as an educational institution.

mentation

mation system is simply called a **Student Management System**. Such a es communication coordination. Such a system makes it easy for aff as well as parents to find information.

The system we have designed above gives the user several easily identifiable interfaces as well as easy access to it. All you'll need is a user ID and a password to get started. We hope to make this interface even more attractive. And this system we have designed can be customized to maximize its security. We have not yet applied such development to this system within the time frame given to us. We also hope to include SMS Alert system to further validate the validity of such a system. This allows the user to see the accuracy of the work he or she has done, as well as easily identify any flaws and fix them again in a very short time. Simply put, the idea here is to prove authenticity. (v. Forrester, 2019)

We hope to include some more important icons for these interfaces as well. We think it would be more appropriate to include the Back, Min and Esc icons for the peace interface itself. Here we hope for the convenience of the user. We also intend to include validations for such sections in order to obtain accurate data without error for data entry instances. For example, it is best to use an email address. And as we have used, all the relevant data should be provided to all the users themselves.

We know that all the data entered by the user is contained in a database. We also want to make sure that the user sees and analyzes all of this data. We feel it is appropriate to allow a selection to enter data in some cases. For example, suppose a user enters a degree program. It needs to be typed and it will take some time. But with selection, it can be easily done right.

This system works on a number of selected application areas. They are the Registration Department, IT Division, Examination Department, Library Management and Administration Department. The system created above provides a good connection for all these areas. This method is more suitable and practical for all existing educational institutions. The Student Management System can be described as the **only** and **best** solution available for the entire college management. By improving this system, we hope effectively manage student data. The above enhancements are the reason for providing a higher level of quality service.

[1]. v. Forrester, V. (2019) “SCHOOL MANAGEMENT INFORMATION SYSTEMS: CHALLENGES TO EDUCATIONAL DECISIONMAKING IN THE BIG DATA ERA,” *International Journal on Integrating Technology in Education*, 08(01), pp. 01–11. doi:10.5121/ijite.2019.8101.

[2]. Zhang, H. (2019) *Research on the Information Management System of University Student*

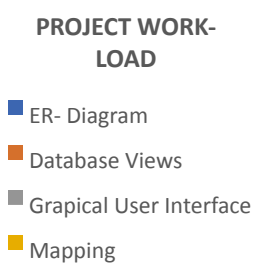
. *Status Archives*.

[3]. Anon., 2016. Library Ucmerced. [Online]
Available at: https://library.ucmerced.edu/data-dictionaries

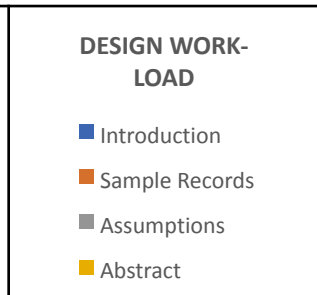
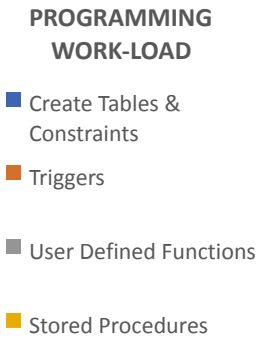
[4]. **Student Management Syetem** Modeling Diagram – (Google Drive Link)
https://drive.google.com/drive/folders/1NcZwCNNsgRdq8AMlh1MQv82-7vDSMeF4?usp=sharing

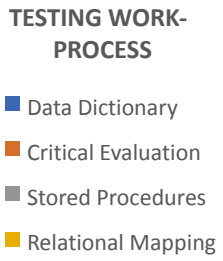
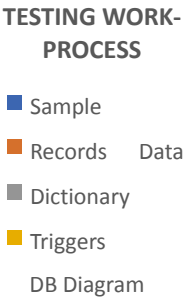
ı & Responsibility Matrix

*'his project is a part of **Group-03** and, as the group leader, the work-load is divided very member as assigned in the below chart.*

Contributor Name	Plymouth ID	Group Position	Individual Contribution	
			Graphically Chart	Description
S.Y.T Silva	10749896	Project Coordinator		When this project was starting the group leader, I divided the work-load equal among the group members and gave them professions to work professionally. Here we build up an **GUI** to input, update & delete the recorded values. There were so many things to cover up. The student management system must be matched to the system that we develop. *"As the leader I thank my group members, to complete the project a success."*

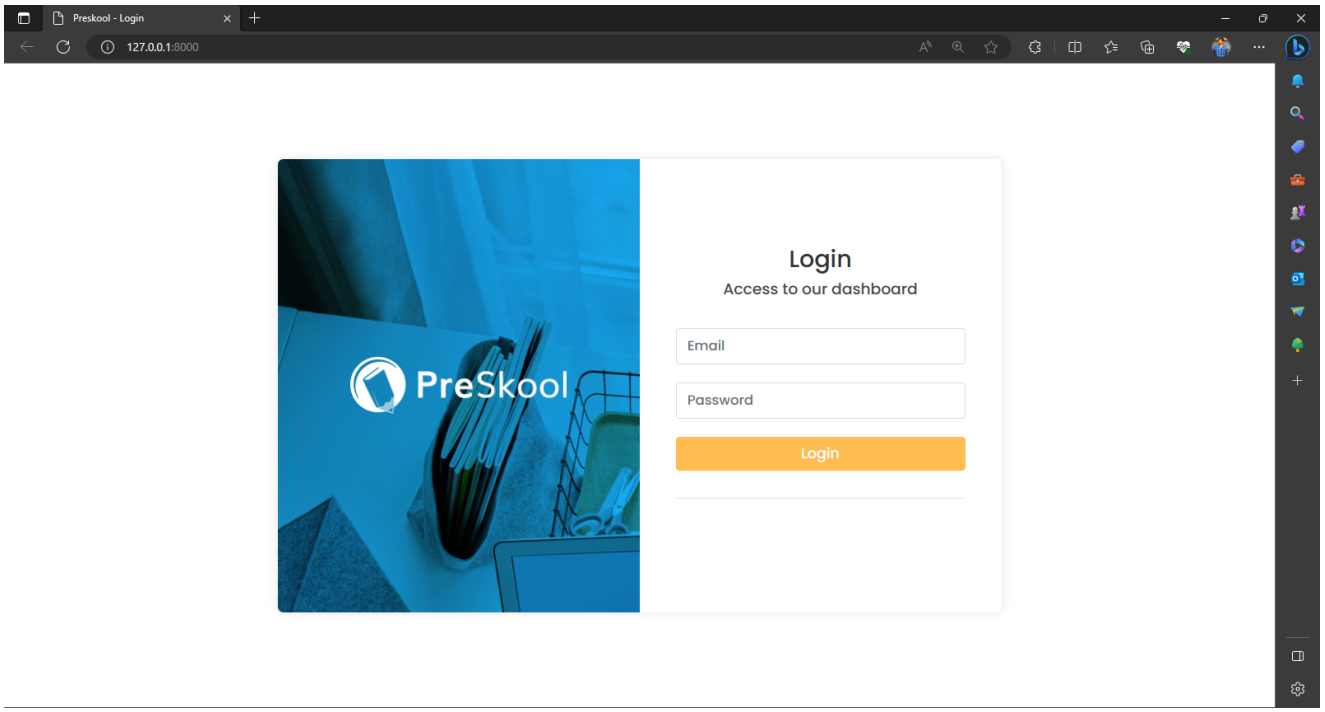
H.A.A Madhushani	10749947	Database Developer	**REPORT WORK-LOAD** Database Development Intoduction Futuer Implemantation Normalization	While making the database I, had to face in to manys incidents such as preparing the data dictionary and making the tables same as in **database development**. While starting the introduction i had a good idea sharing with the group leader. he guide me to plan the furtuer implementation. "*Here we have developed an application to preview in viva so we can demonstrate the session a success."*

I.G.I.S Lakshan	10748094	Technical Supporter		Technical support is a type of advisory service that is frequently delivered over the phone to clients who are having Computer problems. Most Major and mid-sized businesses have outsourced their tech support operation at these times. In this, I did Design word and the load in this I did the Introduction, sample Records, Assumptions, and abstract. *"In this group project, we got good group implementations about the group members and member are did there work best as they can to the project."*
K.P.V.S Pinnawala	10749954	System Developer		I have created the Database and its constraints, Stored Procedures, Views and functions from Microsoft SQL server and then I've created the C# based WinForms application from visual studio and integrated it with our database "It was a very nice experience working as a team on this project"

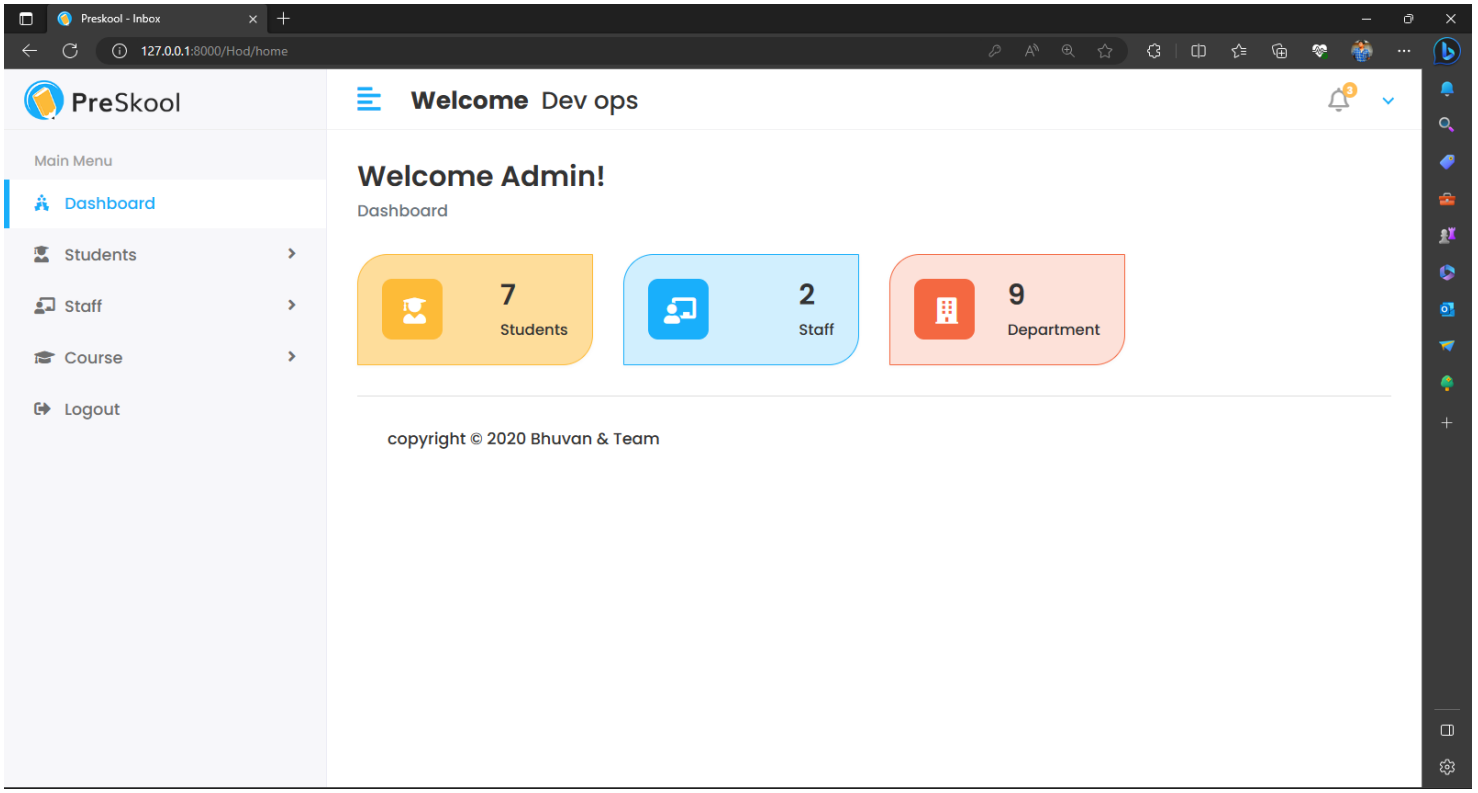
P.S.R Siriwardhana	10749948	Project Analyzer		In this project I worked as a project analyzer. Under the guidance of the team leader, I was able to complete the assignments on time. I did some parts of the project. As a project analyzer, I expected my work to be done properly within my group.
A.M.D Gunarathna	10749990	Database Supporter		After our group leader divided the work among the members, I was appointed to be the database supporter in this project. While referring the information I learned some interesting facts about how to manage database system by using ER technology, and also my group leader and members helped me in difficult situations and finish this project in time. “I am very happy to say that working with such cooperative group is the reason to success of this project.”

Project Photos

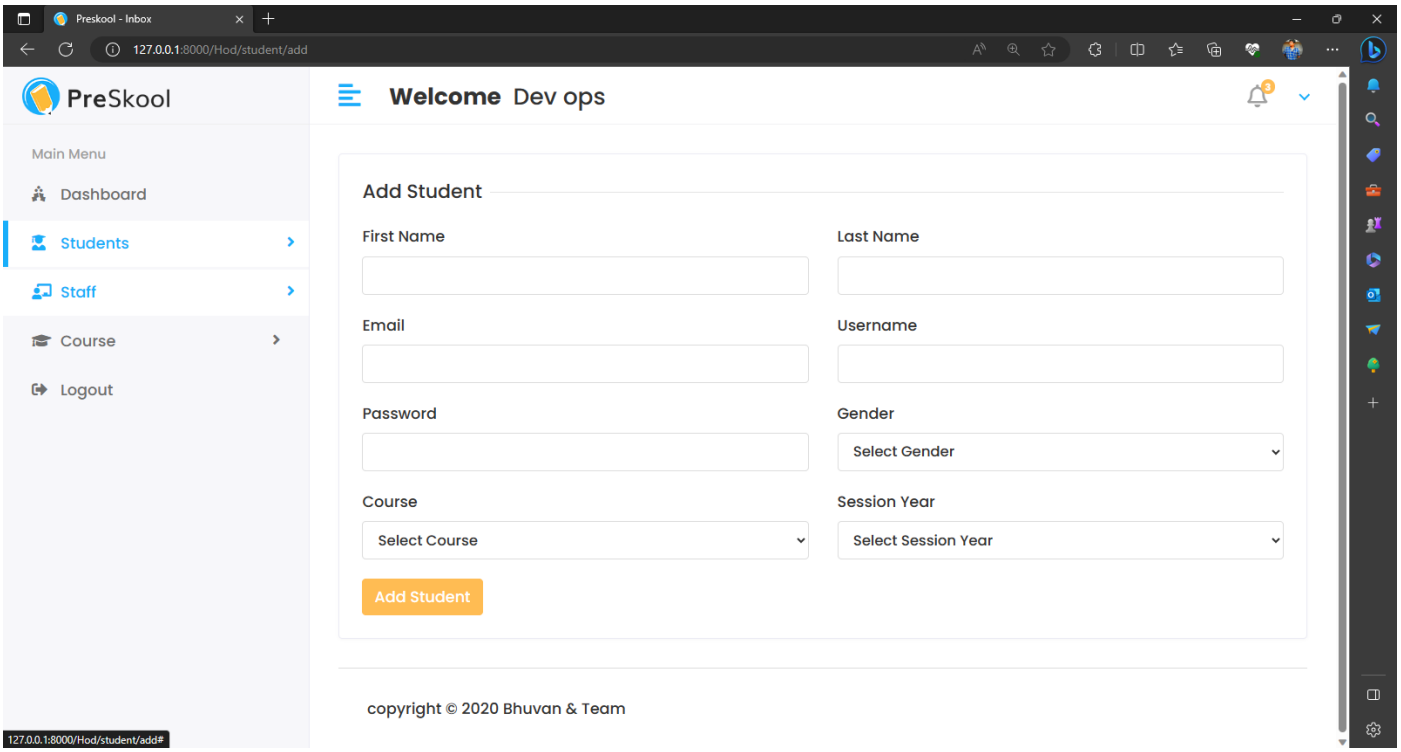
Login Page



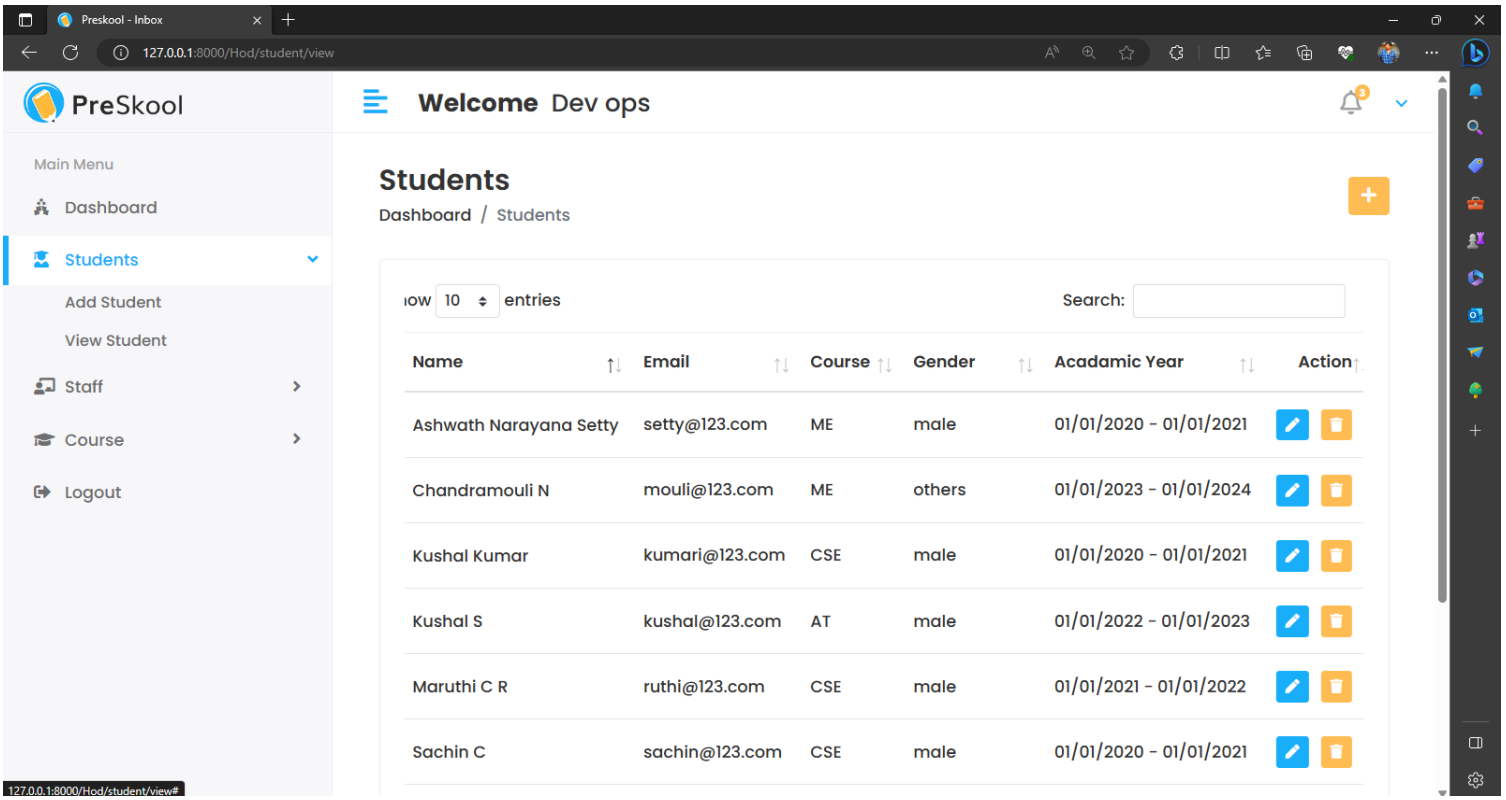
Dashboard



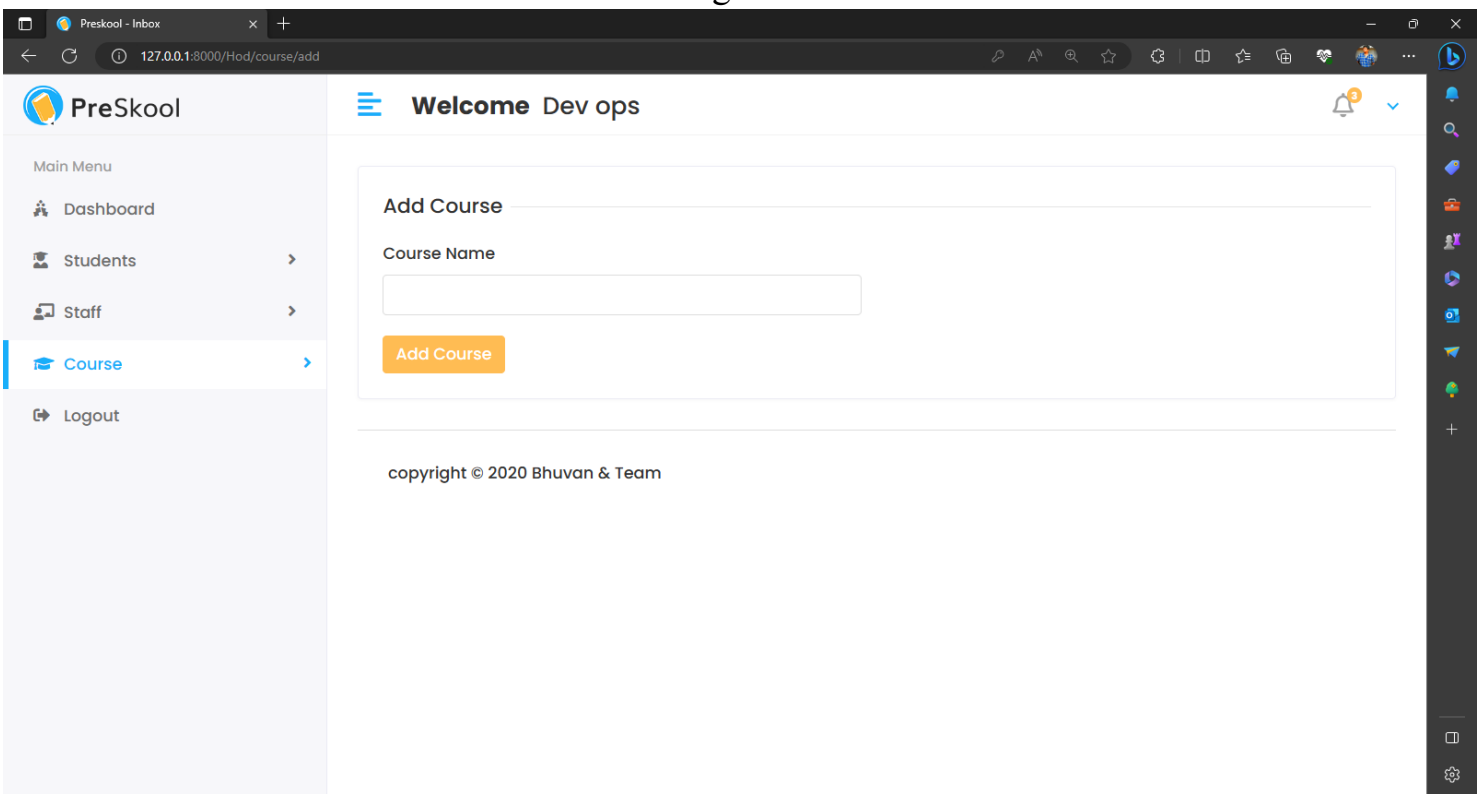
Adding Students



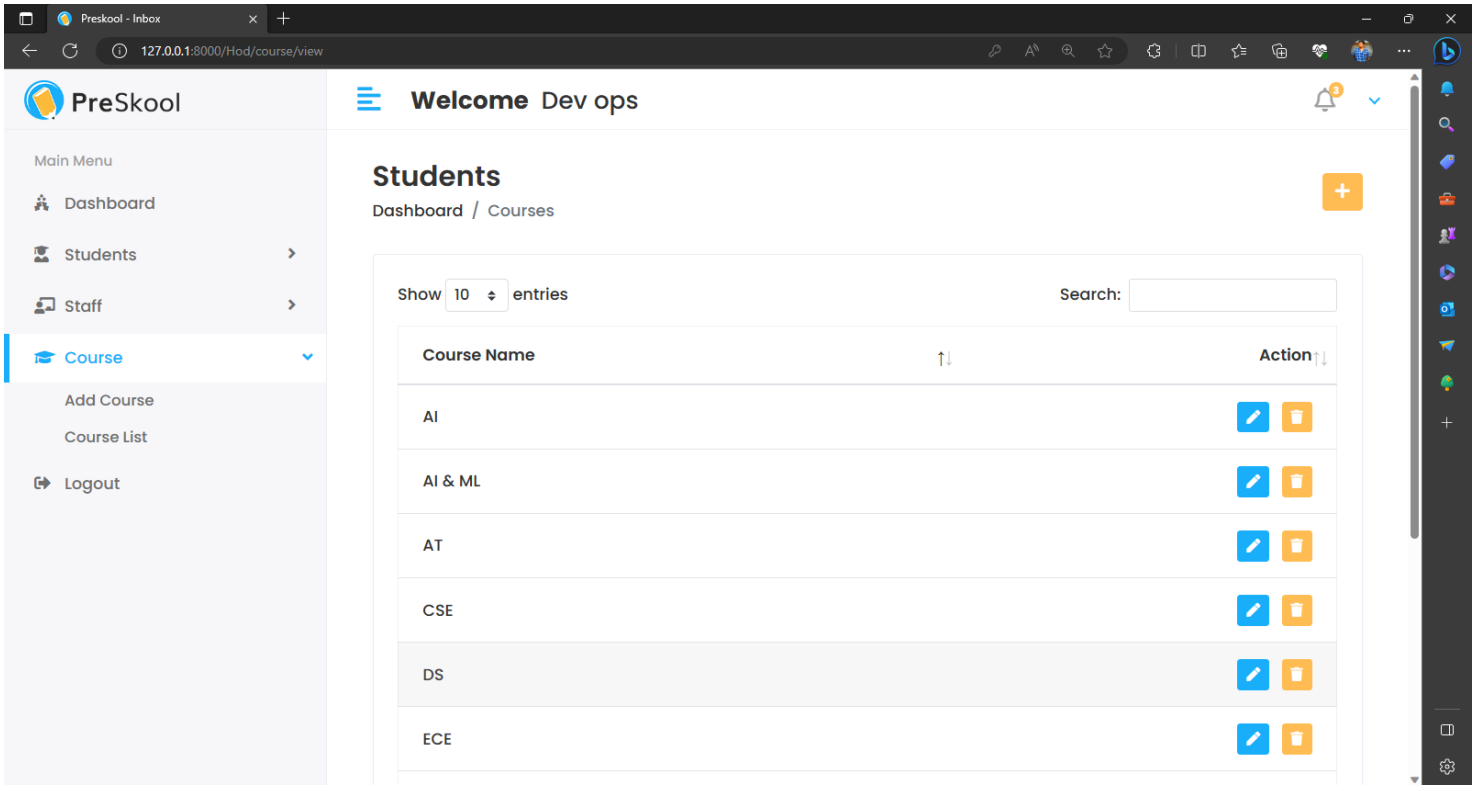
Viewing Students



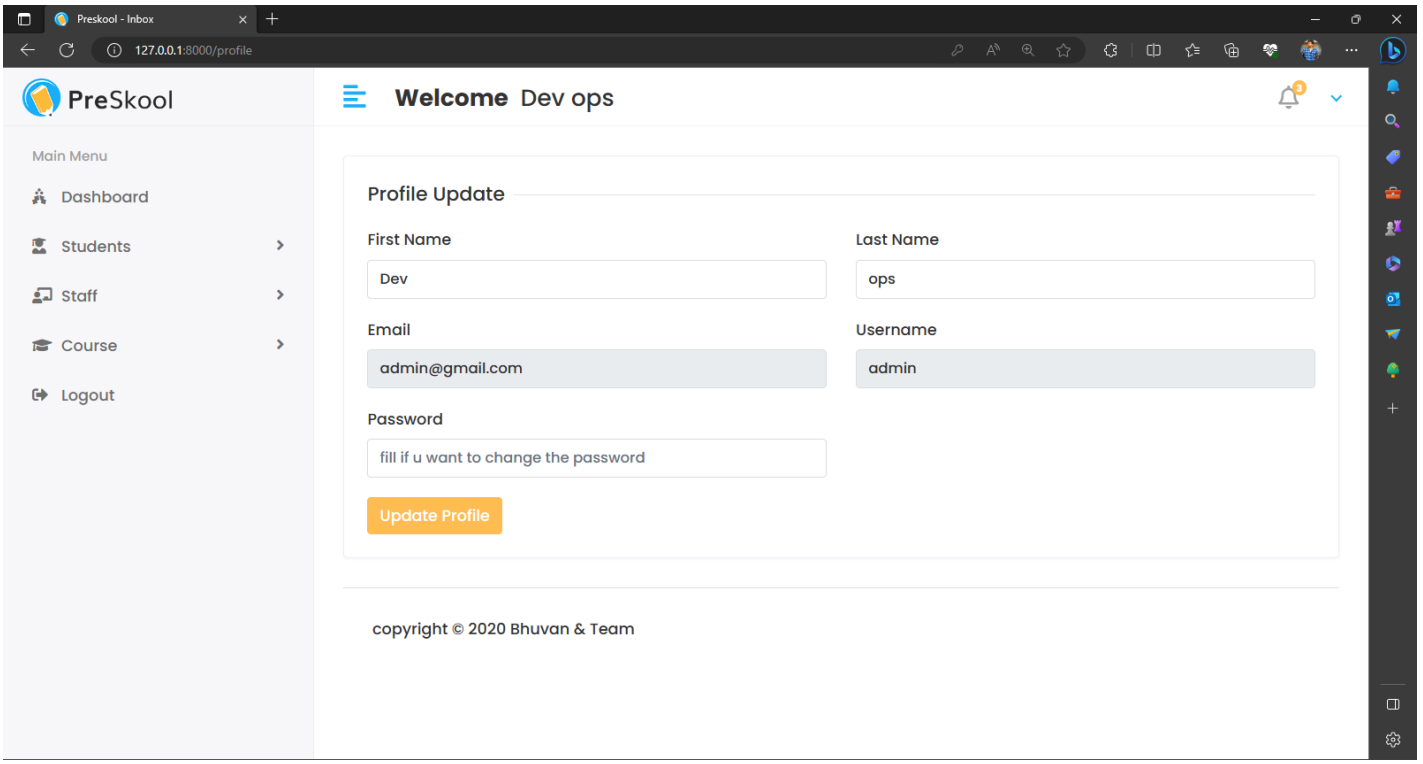
Adding Courses



Viewing Courses



Adding staff



Viewing Staff