Module

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DEFINITION OF THE PROBLEM

Problem definition of CERTIFICATE GENERATION SYSTEM Soft Application:

The Certificate Department works for the "ABC" institute to developing the certification system for the students who have completed the exam. For each student who goes to the "ABC" institute for register.

After that the student had registered, they must take an exam for each subject. The role of the exam center will be producing the certificate for the students.

It should also check whether the students have given the exam, if he/she has not given one exam, the certificate for the particular should not get printed instead it should generate the appropriate message to the students for that.

This means the students have one year after he/she was given one exam date, If the exam of the students has been failed or he/she has a special case and must take a pause, they will be to take one more exam. The center exam will message the students which extend the date of the exam. If that time the exam is not successful, he/she needs to return the registry for that certificate.

This form should be designed in such a way that it should contain the name of the institute, name of the student, name of the certificate and exam date.

However, they also wish that when he/she has issued a certificate for the students. So, when he/she gets a job or apply to a company. Because of the concern that students are granted a certificate at this institute, that company maybe look up the information of her/his certificate when it was contacted to the institute.

The Certificate management system application will be provided with the functions:

- Users can search Class view description of a selected Class, and Class, update Class and delete Class.
- Users will be able to search and generate a report of Certificate Type, Student, and Certificate.
- Users will be registered for the student.

	Prepared By (Student)	Approved By (Teacher)
Date: Oct 10th, 2019	Nghi Dang Quang	Anh Luong The

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CUSTOMER REQUIREMENT SPECIFICATION DOCUMENT

Client/ Project Undertaken: Certificate Generation System

1. **List of inputs to the system**

   STUDENT (**StudentID**, StudentName, Address, DOB, Phone, Email, IdentityCard, Gender)

   CERTIFICATE (**CertificateID**, CertificateName, CertificateNum)

   STUDENT_CER (**StudentID, CertificateID**, **Exam_Date,** ID_Num, Avg_Mark, Result)

   DETAIL_CER (**SubjectID**, SubjectName, *CertificateID*)

   EXAMMARK (**ID_Num, SubjectID**, Mark)

   CER_MANAGER (**No_ID**, ID_Num)

   USER (**UserID**, Fullname, Username Password, Address, DOB, Phone, Email, Gender,Roles).

   COURSES (**Exam_Date**, Course_Name)

2. **List of outputs expected from the system**
   - It should contain fields like (Student, Certificate, and Result) will be displayed in Certificate for the students.
   - After testing the student's detail of each certificate. Once the marks of the students are evaluated then the entry of the marks is done in this application system. Exam Center will be entering mark for detail of each certificate then the status of the pass or fail will be displayed (exam course, mark, detail certificate).

3. **Overview of processes involved in the system**
   - Check registry input from student and login, logout user.
   - Get the students selected by admin add to form registered.
   - Get the detail of each certificate selected by the students adds to form the result of the exam.
   - Calculate the mark of each subject for the students and check the exam of the student.
   - Check valid of the certificate for the students.
   - Users must create to list of the student who was completed or failed the exam.
   - Users must create to list of the student who needs to reserve that exam course after test date for within a year.
   - Check domain, reference of the database.

   - HELP *(It should display a short explanation of the project to guide the end-user).*

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Date: Oct 11th, 2019	Nghi Dang Quang	Anh Luong The

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4. **Hardware and software required for implementing the project**
  - **Hardware Requirements:**
    a. **Client Hardware**:
        - o CPU: Intel Core i3-2130U, 2.5GHz
        - o RAM: 2GB or higher
        - o HDD: 80GB Hard Disk space or higher
  - **Software Requirements:**
    b. Client **Software**:
        - o Windows 7 (or higher)
        - o Microsoft SQL Server 2012 (or higher).
        - o JDBC, JDBC Driver, JDK 1.8 (or higher).
        - o Netbeans IDE 8.2 (or higher)

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Date: Oct 13th, 2019	Nghi Dang Quang	Anh Luong The

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CUSTOMER'S ACCEPTANCE CRITERIA

S. No	Customer's Acceptance Criteria
1.	User Login, logout check valid of form
2.	Enter the mark detail of each certificate from form Marks
3.	Create, update, delete and edit a registry form for the students, users
4.	Design, create, update, modify, security and maintain a database system
5.	Produce the certificate for the students
6.	It should generate the appropriate message to the students for the particular should not get the certificate for the students.
7.	Here the student's result is to be displayed.
8.	Valid of certificate for the students.
9.	The database must back up, update, upgrade regularly.

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PROJECT PLAN

1. **Project Details**
   - ➢ **Name of the Client:** *Certificate Generation System*
   - ➢ **Date of Project Plan:** October 9th, 2019
   - ➢ **Project Vision/ Objectives:**

     Project Vision*: The Certificate Department works for the "ABC" institute to developing the certification system for the students who have completed the exam.*

     Project Objectives:
     - The solutions to overcome the difficult problem of current. They need to increase efficiency and accuracy.
     - Talking pressure off staff who have too much paperwork.
     - Ensuring better communication between staff and the Certificate department.
     - Reducing boring and repetitive task.
     - Reducing the loss of data.

   - ➢ **Scope:**

     We will develop and implement certificate maps for the Certificate Department to works for some center exams. Further, we will analyze and design user admin support processes and areas that increase students' ability to successfully navigate their way through their educational experience. We will be finished this project in November 2019.

   - ➢ **Our understanding of the client organization:**

     To overcome the above problem the organization had finally decided to computerize its certificate department. The organization wants the following things to be implemented in the system. Here should be two logins.
     - ▪ Admin registry for the student, and management system about certificate, subject and courses of exam and result of the students pass or fail.
     - ▪ User entry mark of the student who has registered.

   - ➢ **Project Organization with Responsibilities and Authorities:**

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Members	Role and Responsibilities
Nghi Dang Quang	**Leader/ Analyst/ Designer/ Developer/ Tester/ Implementation**
Khanh Nguyen Le	**Analyst/ Implementation / Developer/ Tester**
Thang To Toan	**Analyst/ Designer/ Developer/ Tester**
Thanh Nguyen Phuoc	**Analyst/ Implementation** / **Developer/ Tester**

2. **Project Initiation/ Requirement Documents**

   Generate information about Certificate for the students.

   [1] SQL for smarties advanced SQL programming https://epdf.pub/joe-celkos-sql-for-smarties-advanced-sql-programming7145.html

   [2] Data Management Using Microsoft SQL Server – Aptech Limited.

   [3] A Programmer's Guide to Java SCJP Certification - A Comprehensive Primer, 3rd edition (Addison-We).

   [4] Lab Java Programming with JDBC SQL Server – HUTECH.

   [5] How to Use JDateChooser or JCalendar in Java - https://www.youtube.com/watch?v=C0ZZpkliwVk

   [6] Java Code Examples for org.apache.poi.xssf.usermodel.XSSFSheet - https://www.programcreek.com/java-api-examples/?api=org.apache.poi.xssf.usermodel.XSSFSheet

   [7] Java and DPF with iText - https://www.vogella.com/tutorials/JavaPDF/article.html?fbclid=IwAR1bWzE3oXl0YmAxgghObKri0wSi1nTMq50U_Qq6bb225IYhNQEb84VanqE

   [8] Java and Apache - https://www.apache.org/dyn/closer.lua/poi/release/bin/poi-bin-4.1.1-20191023.tar.gz - https://www.youtube.com/watch?v=RyvrpTelJ4w

3. **Deliverables**
   - Drive google store about Documents and Source code: https://drive.google.com/open?id=1d15liqbwws5qoIdXTuiuqLT6ouRZ73fy
   - All files *.exe, *.jar, *.sql, *.mdf, *.ldf

4. **Project Dependencies**
   - Depend on Data input
   - Depend on System performance
   - Depend on Users
   - Depend on Security Procedures

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5. Major Project Milestones

- Keep Satisfied
- Keep Interested
- Data entry Staff Receptionists
- Manage closely

6. Quality Plan

➢ **Review Activities:** We will be meet participants about at least twice a week, each meeting there is a check for each member in groups to review processing, help to solve and trouble.

➢ **Testing Activities**: Test spell design document, test case design DFD and database, Function, Coding, and Demo.

➢ **Backup and recovery strategies:** Save files on-device storage (USB, HDD) and use GitHub to synchronize all document relative of project. Each member store a copy of project on their computer and one in their mail drive.

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DOCUMENT DESIGN
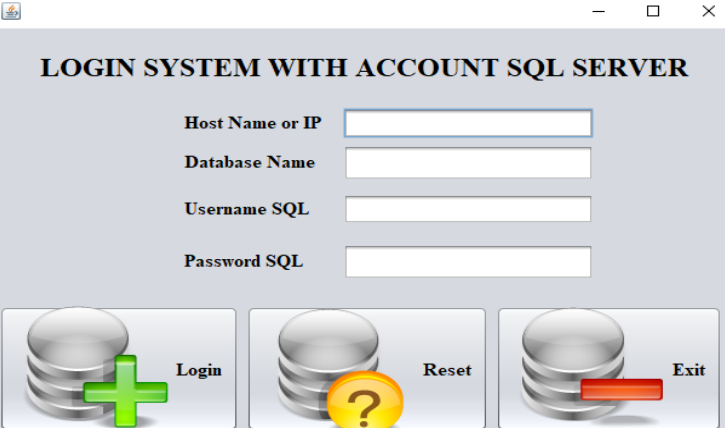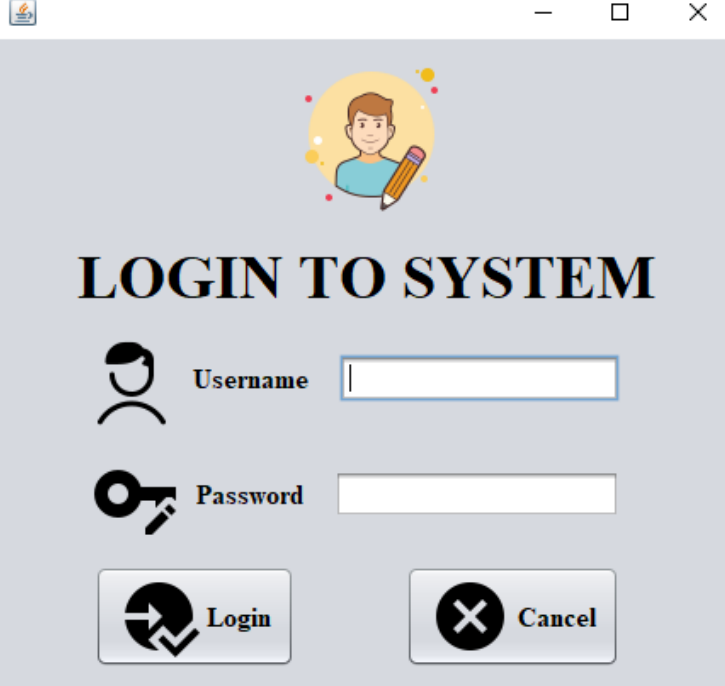
PROPERTIY	VALUE
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Form-Background color	Light Gray
Title-Font Size	16
Title-Font Color	Black
Title-Font Style	Times New Roman
Title-Alignment	Center
Background color of Controls on the form	White
Foreground color of Controls on the form	Black
Control Caption – Font Size	16
Control Caption – Font Color	Black
Control Caption – Font Style	Times New Roman
Control caption and controls-Alignment	Left
Command button-Alignment	Center

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Date: Oct 18th, 2019	Nghi Dang Quang	Anh Luong The

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INTERFACE DESIGN DOCUMENT
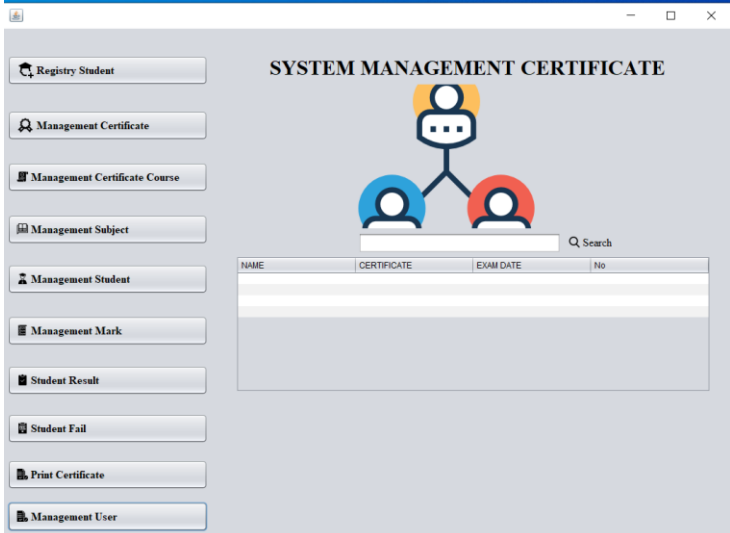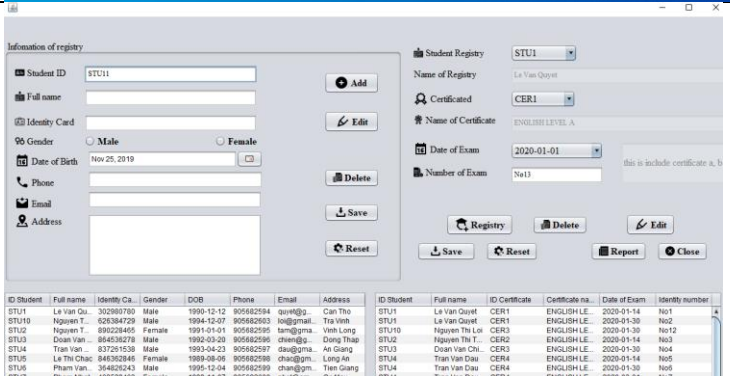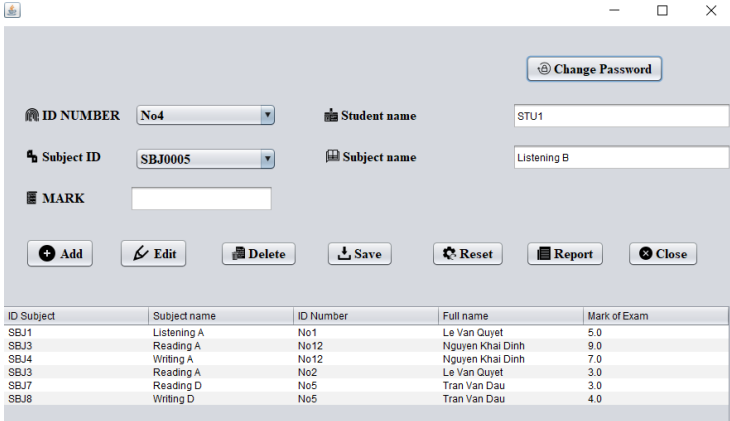
1. List of form to be created

Document Name	Description	Controls on the Document
frLogSQL	The interface used to connect the database	
frUserlogin	The interface used to log in	

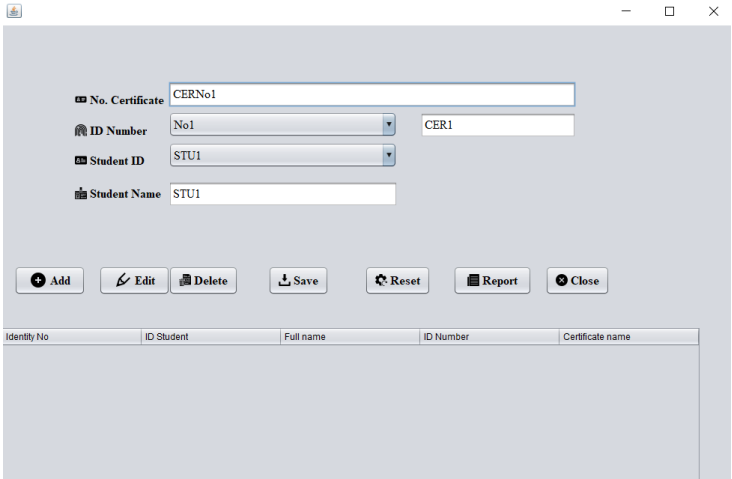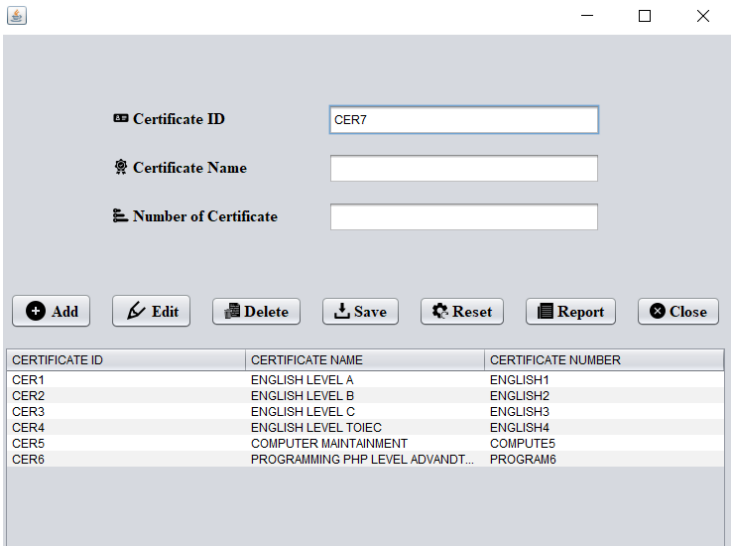|	Prepared By (Student)	Approved By (Teacher)
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frManager	The interface used to manage mains	
frRegister	The interface used to manage students register	
frMarkEntry	The interface used to manage mark	

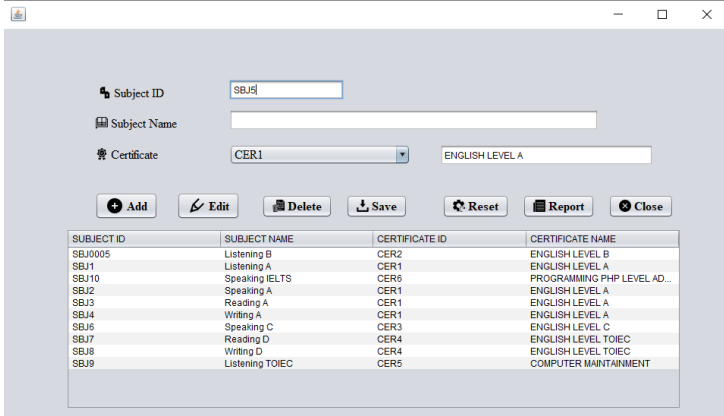|	Prepared By (Student)	Approved By (Teacher)
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frCerManager	The interface used to manage certificate store	
frMCertificate	The interface used to manage certificate	
frMStudent	The interface used to manage students	

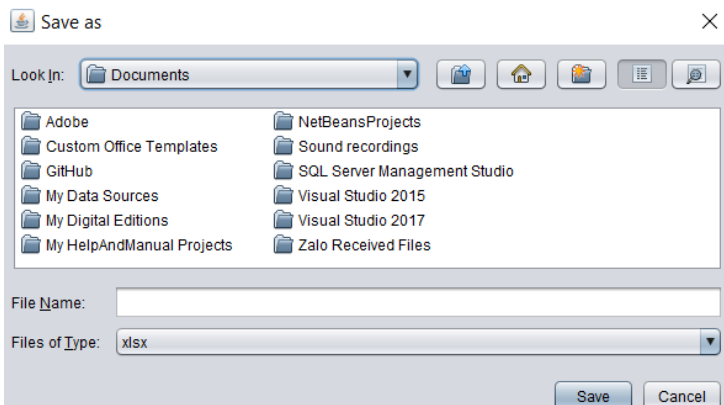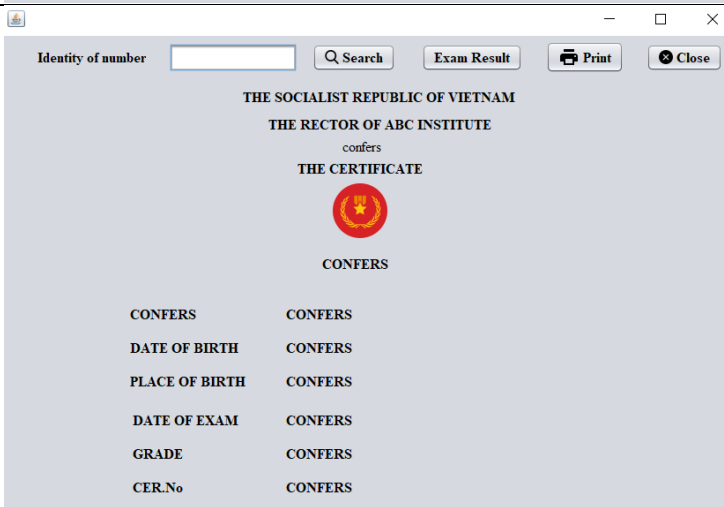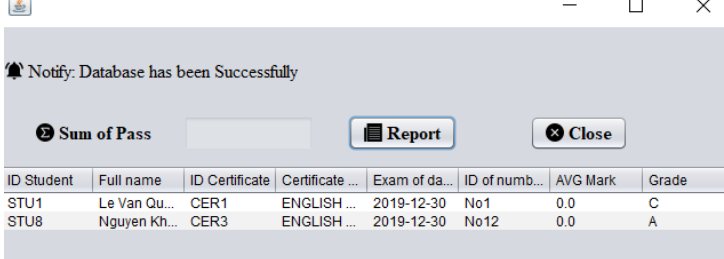|	Prepared By (Student)	Approved By (Teacher)
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frMSubject	The interface used to manage subject	
frMReport	The interface used to report	
frMPrint	The interface used to manage print certificate	
frMStudent Pass	The interface used to manage students pass the exam	

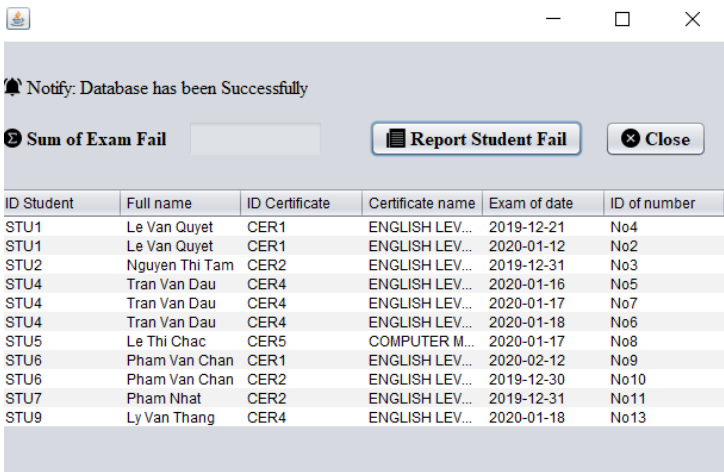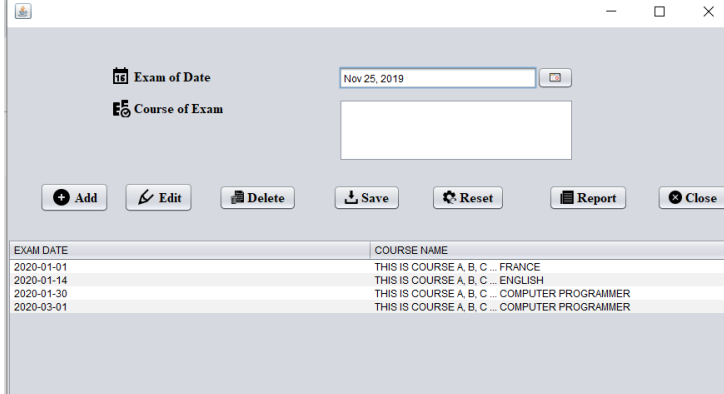|	Prepared By (Student)	Approved By (Teacher)
Date: Oct 19th, 2019	Nghi Dang Quang	Anh Luong The

Design Plan: Certificate Management System	Document Name: Interface Design Document	SWD/Form No. 5
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frMStudent fail	The interface used to manage students fail the exam	
fmCourse	The interface used to manage course exam	

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Design Plan: Certificate Management System	Document Name: Table Design Document	SWD/Form No. 6
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1. Database Structure

Name of the Table	Table Description	Number of Fields	Primary Key	Related Tables	Foreign Key
Student		8	**StudentID**	Detail_Certificate, Exammark, Cer_manager	
Certificate		3	**CertificateID**	Student_Cer, Detail_Certificate, Exammark	
Student_Cer		6	**StudentID, ExamDate CertificateID**	Student, Certificate, Cer_manager, Exammark	*StudentID, CertificateID ExamDate*
Detail_Certificate		3	**SubjectID**	Certificate, Examresult, Exammark	*CertificateID*
ExamMark		5	**ID_Num, SubjectID**	Student_Cer, Detail_Certificate	*ID_Num, SubjectID*
Cer_manager		3	**No_ID**	Student_Cer,	
Users		10	**UserID**		
Courses		2	**Exam_Date**	Student_Cer	

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2. Algorithms and data structures
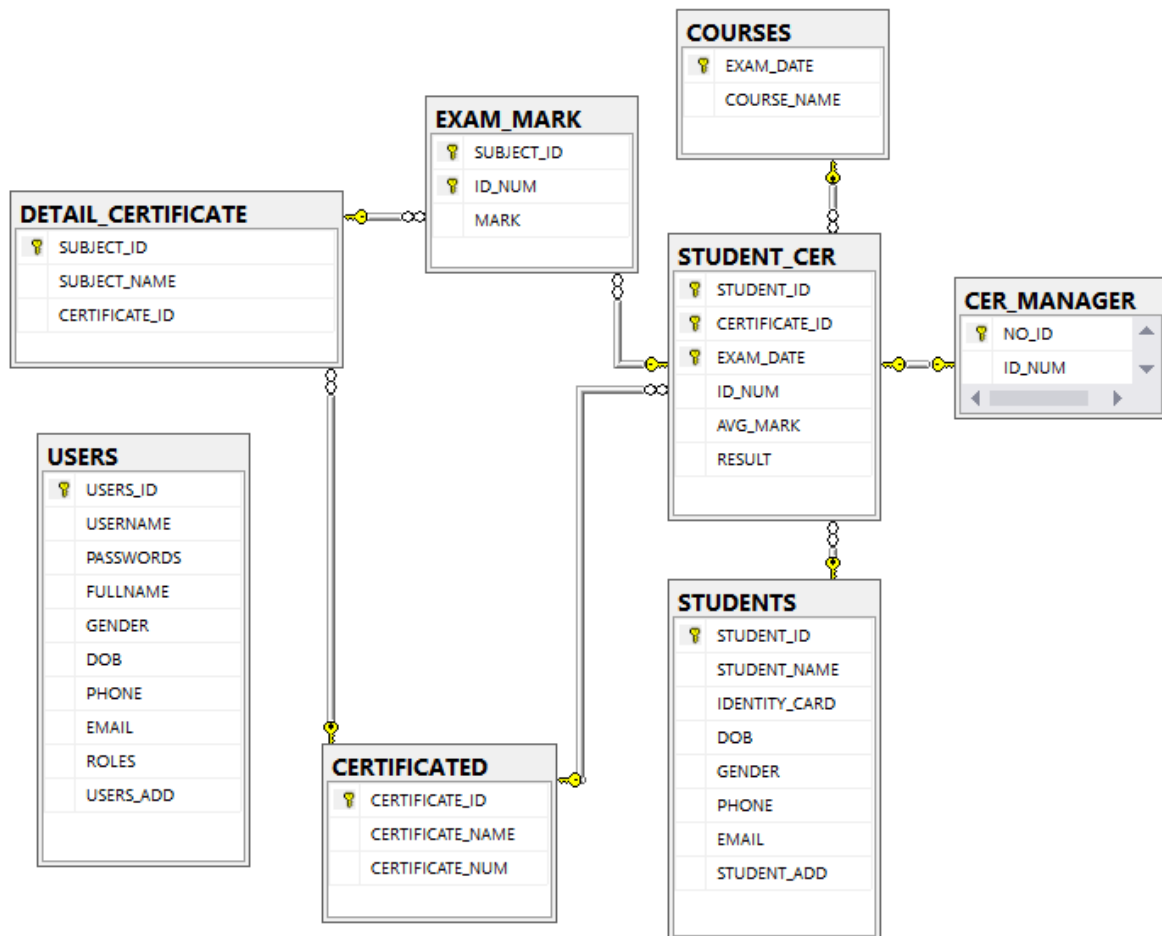
Figure 2.1 Database Diagrams

Field name	Data type	Key	Constraint	description
Table USERS				
USERS_ID	varchar(20)	Primary key	not null	
USERNAME	nvarchar(40)		not null	
PASSWORDS	nvarchar(40)		not null	
FULLNAME	nvarchar(100)		not null	
GENDER	nvarchar(10)		not null	
DOB	Date		not null	
PHONE	varchar(20)		not null, UNIQUE	
EMAIL	nvarchar(40)		not null	
ROLSE	nvarchar(40)		not null	
USERS_ADD	nvarchar(100)		not null	

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Date: Oct 22th, 2019	Nghi Dang Quang	Anh Luong The

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Field name	Data type	Key	Constraint	description
Table STUDENTS				
STUDENT_ID	varchar(20)	Primary key	not null	
STUDENT_NAME	nvarchar(100)		not null	
GENDER	nvarchar(10)		not null	
DOB	Date		not null	
PHONE	varchar(20)		not null, UNIQUE	
EMAIL	nvarchar(20)		not null	
INDENTITY_CARD	varchar(20)		not null, UNIQUE	
STUDENT_ADD	nvarchar(100)		not null	
Field name	**Data type**	**Key**	**Constraint**	**description**
Table COURSES				
EXAM_DATE	Date	Primary key	not null	
COURSE_NAME	nvarchar(100)		not null	
Field name	**Data type**	**Key**	**Constraint**	**description**
Table CERTIFICATED				
CERTIFICATE_ID	varchar(20)	Primary key	not null	
CERTIFICATE_NAME	nvarchar(100)		not null	
CERTIFICATE_NUM	nvarchar(20)		not null	
Field name	**Data type**	**Key**	**Constraint**	**description**
Table STUDENT_CER				
STUDENT_ID	nvarchar(20)	Primary key	not null, foreign key, on delete, update cascade	
CERTIFICATE_ID	nvarchar(20)	Primary key	not null, foreign key, on delete, update cascade	
EXAM_DATE	Date	Primary key	not null, foreign key, on	

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			delete, update cascade	
ID_NUM	nvarchar(20)		not null, UNIQUE	
AVG_MARK	float		null	
RESULT	nvarchar(20)		null	
Field name	**Data type**	**Key**	**Constraint**	**description**
Table CER_MANAGER				
NO_ID	nvarchar(20)	Primary key	not null	
ID_NUM	nvarchar(20)		not null, UNIQUE, foreign key, on delete, update no action	
Field name	**Data type**	**Key**	**Constraint**	**description**
Table DETAIL_CERTIFICATE				
SUBJECT_ID	varchar(20)	Primary key	not null	
SUBJECT_NAME	nvarchar(100)		not null	
CERTIFICATE_ID	nvarchar(20)		not null, foreign key, on delete, update cascade	
Field name	**Data type**	**Key**	**Constraint**	**description**
Table EXAM_MARK				
SUBJECT_ID	nvarchar(20)	Primary key	not null, foreign key, on delete, update cascade	
ID_NUM	nvarchar(20)	Primary key	not null, foreign key, on delete, update cascade	
MARK	float		null	

	Prepared By (Student)	Approved By (Teacher)
Date: Oct 19th, 2019	Nghi Dang Quang	Anh Luong The

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PROCESS DESCRIPTION DOCUMENT

1. ER Diagram

Figure FormNo7.1: ERD

	Prepared By (Student)	Approved By (Teacher)
Date: Oct 26th, 2019	Nghi Dang Quang	Anh Luong The

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2. **Data Flow Diagram Context.**
   Process Name: DFD context.

Figure FormNo7.2: DFD Level 1

	Prepared By (Student)	Approved By (Teacher)
Date: Oct 28th, 2019	Nghi Dang Quang	Anh Luong The

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Process Description and Details:

2.1 DFD System:
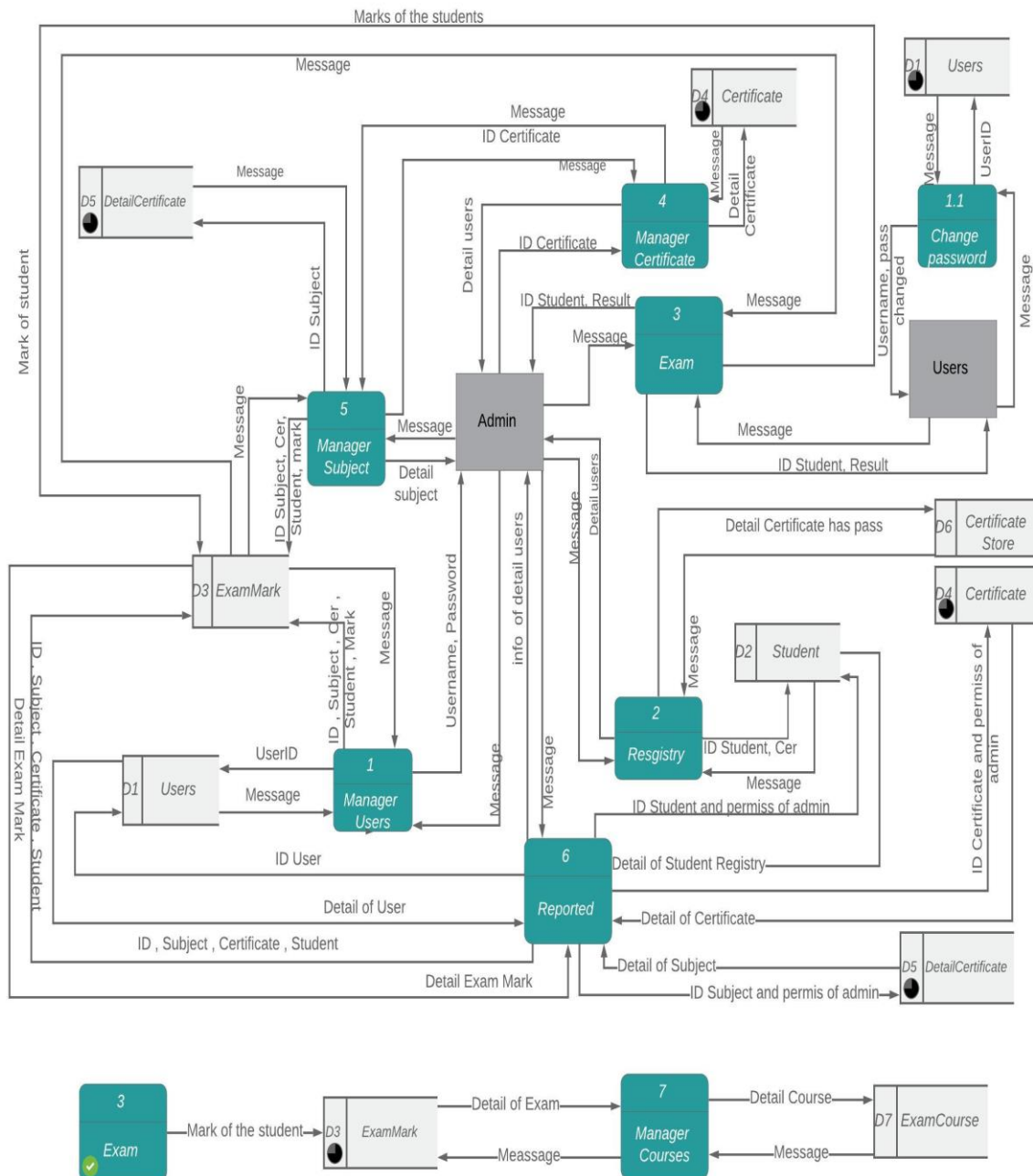
Figure FormNo7.2: DFD Level 1

	Prepared By (Student)	Approved By (Teacher)
Date: Oct 19th, 2019	Nghi Dang Quang	Anh Luong The

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2.2 DFD process 1
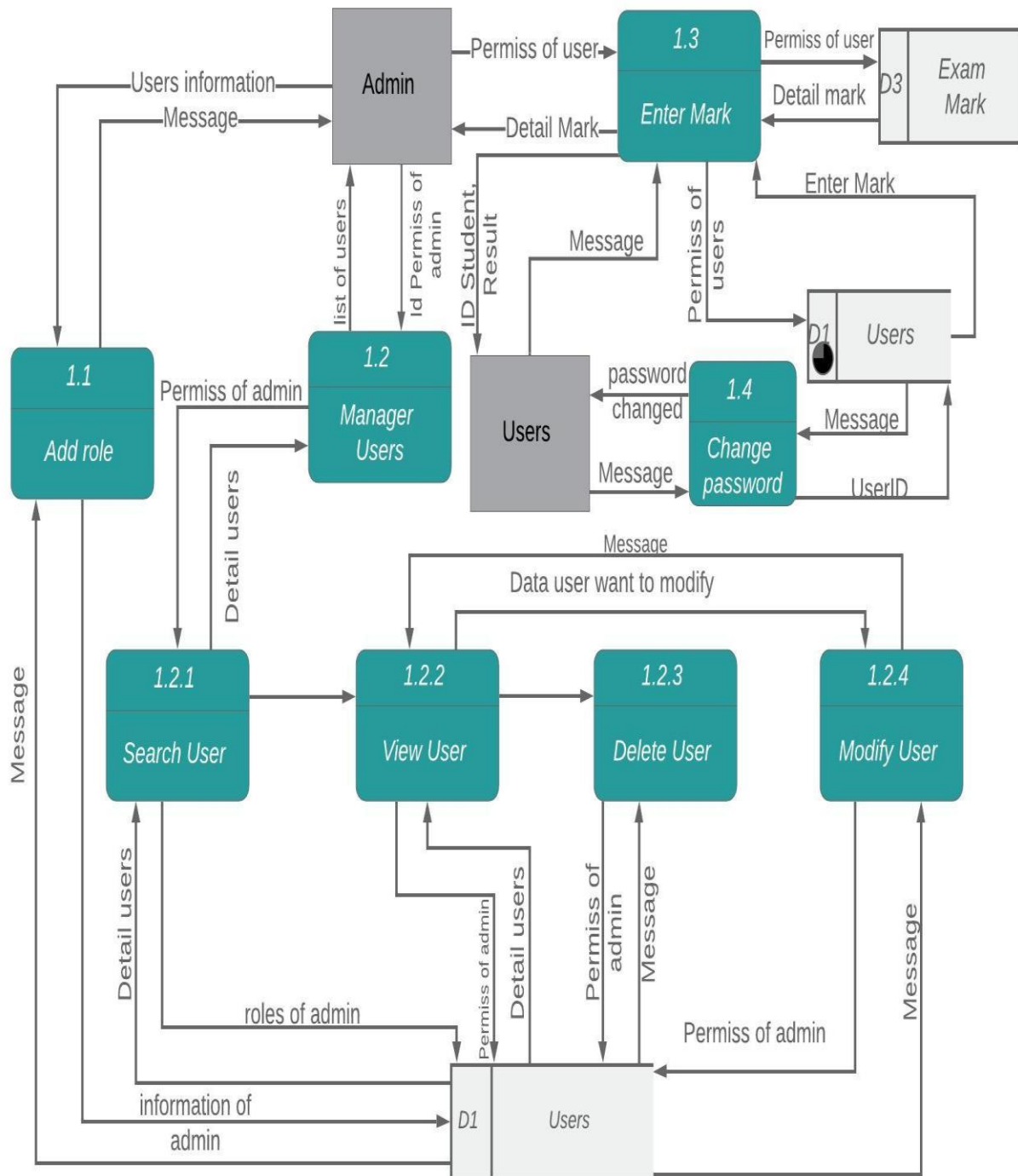
Figure FormNo7.2: DFD Level 1.1

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Date: Oct 28th, 2019	Nghi Dang Quang	Anh Luong The

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2.3 DFD process 2
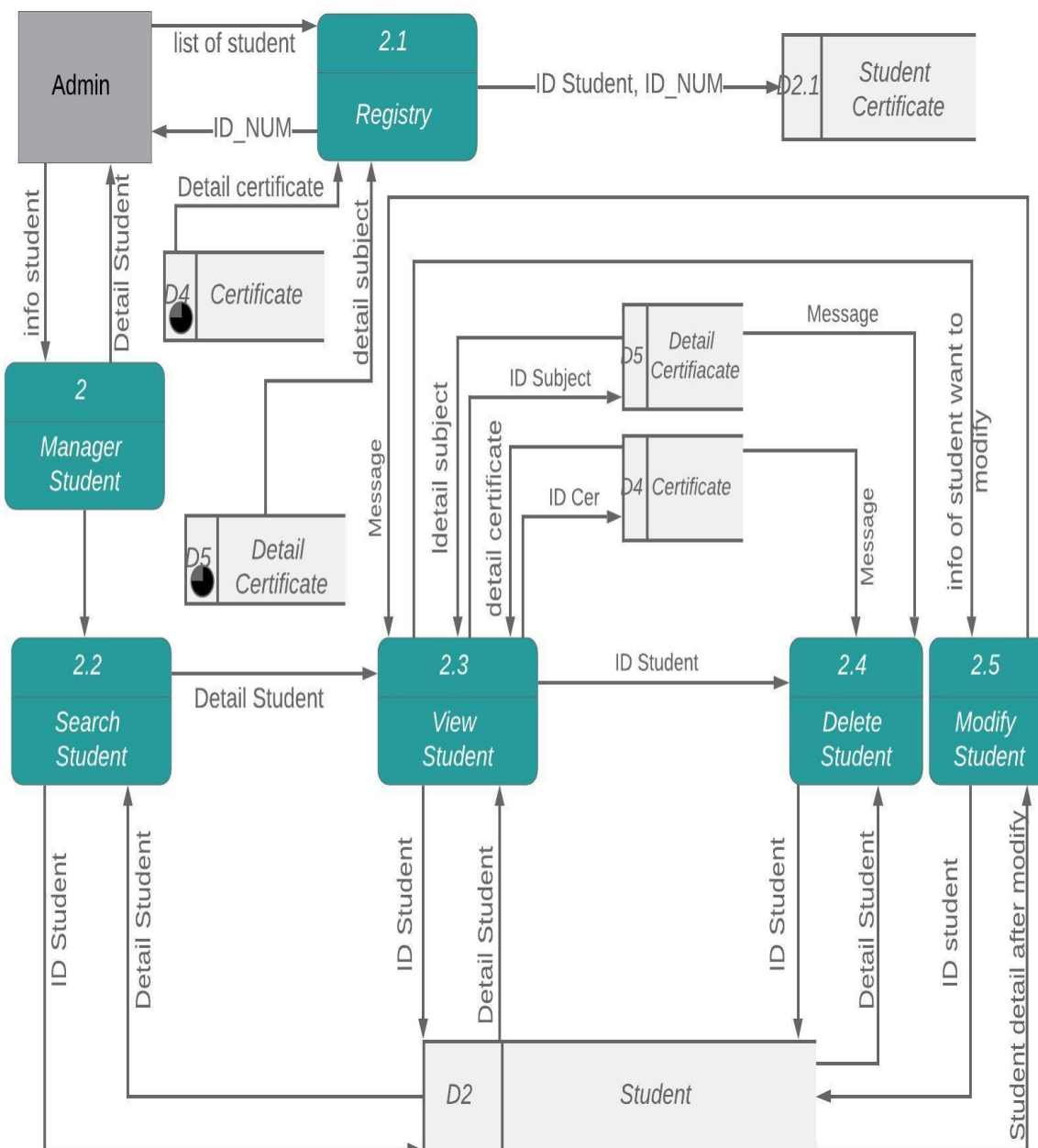
Figure FormNo7.2: DFD Level 1.2

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2.4 DFD process 3
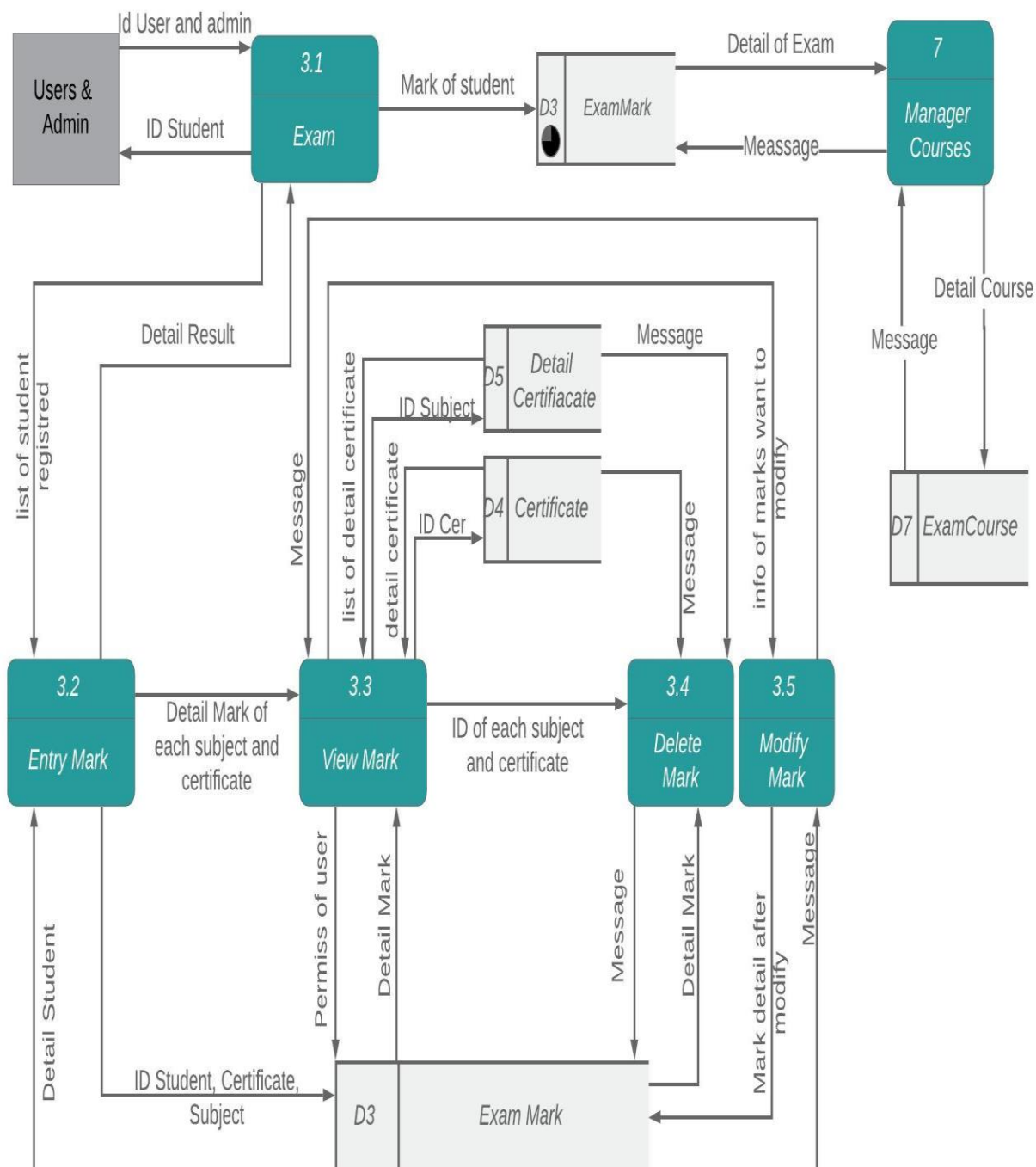
Figure FormNo7.2: DFD Level 1.3

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Date: Oct 15th, 2019	Nghi Dang Quang	Anh Luong The

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2.5 DFD process 6

Figure FormNo7.2: DFD Level 1.6

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2.6 DFD process 5
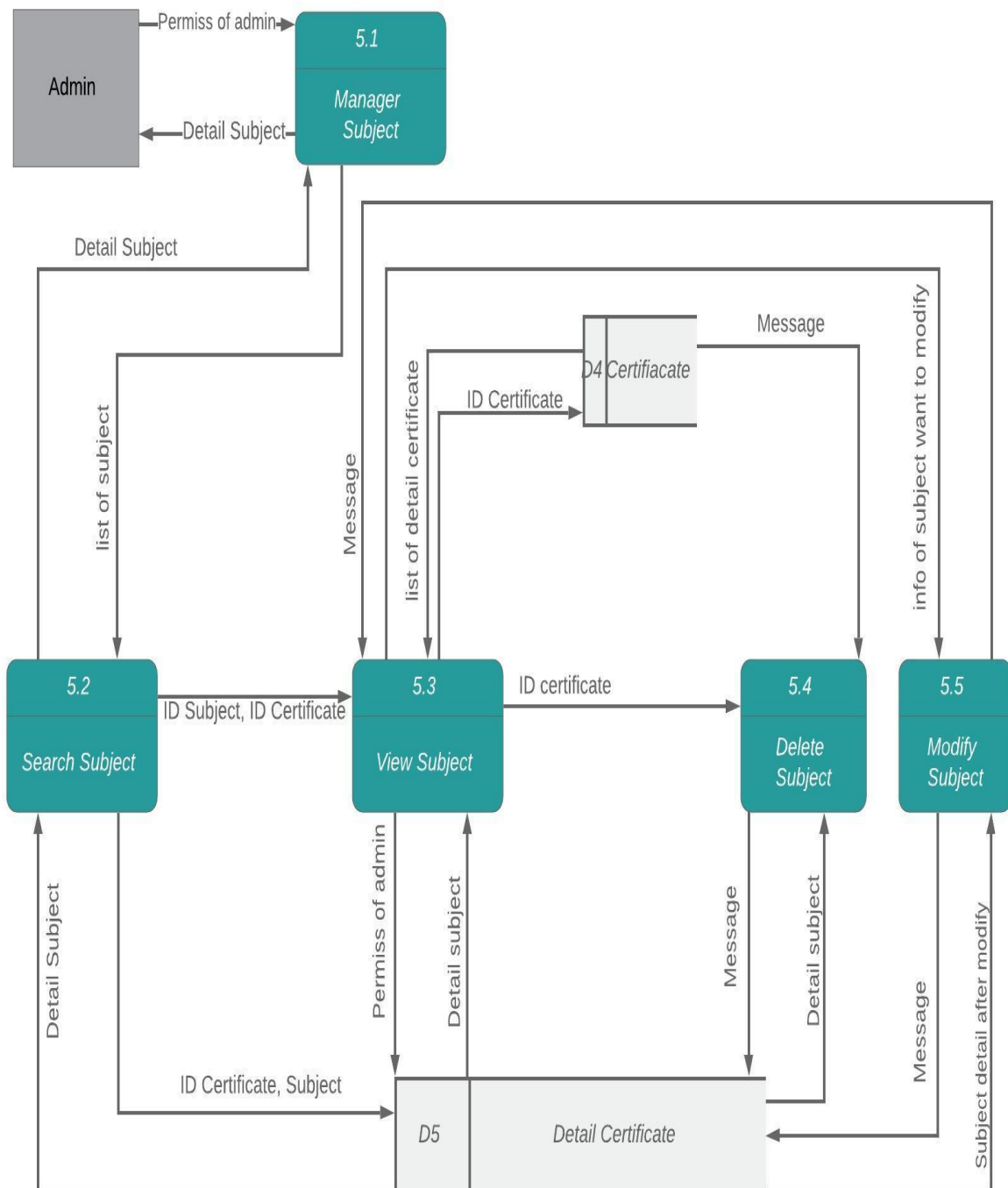
Figure FormNo7.2: DFD Level 1.5

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Design Plan: Certificate Management System	Document Name: Process Description Document	SWD/Form No. 7
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2.7 DFD process 7
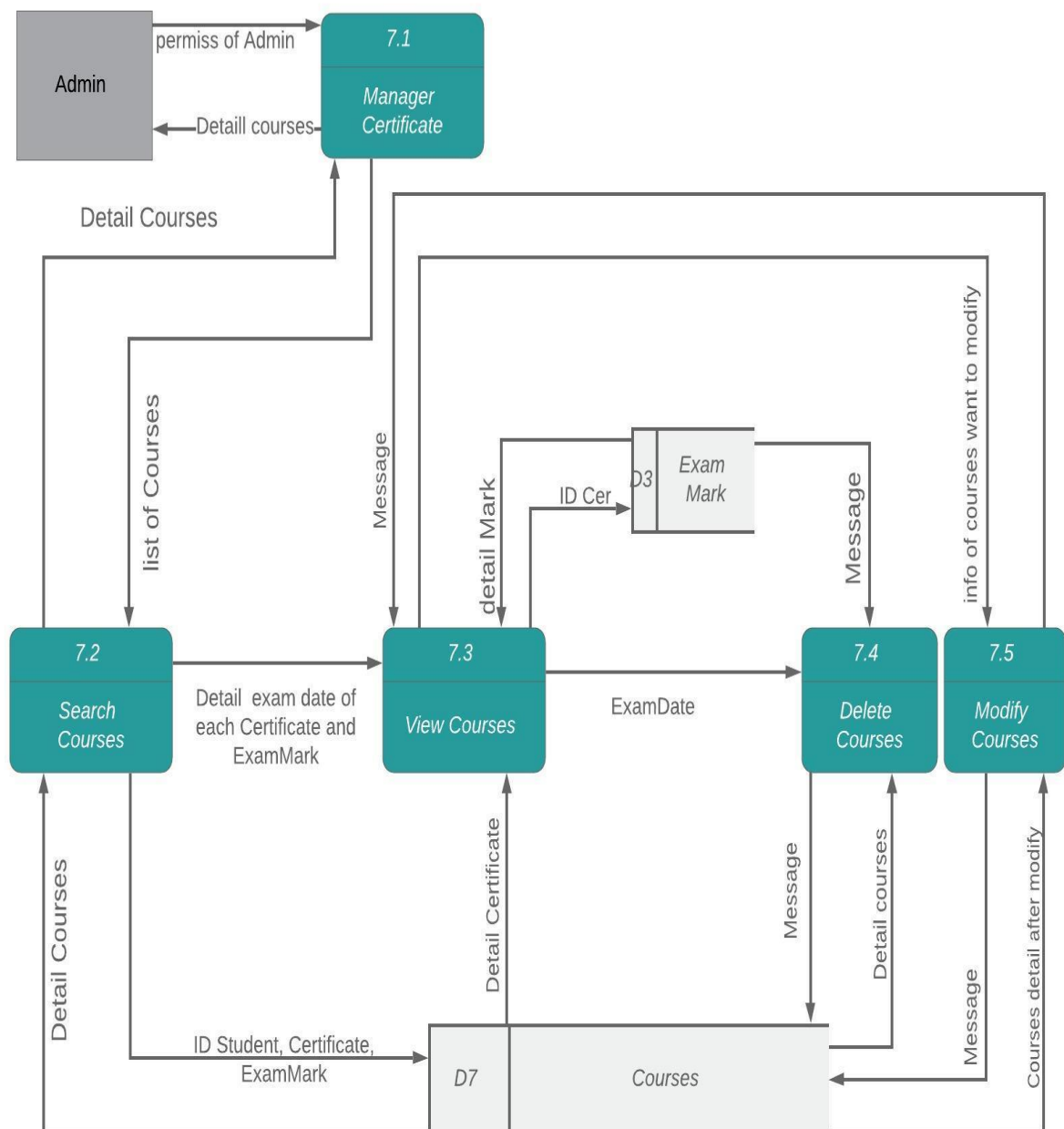
Figure FormNo7.2: DFD Level 1.7

	Prepared By (Student)	Approved By (Teacher)
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2.8 DFD process 6

Figure FormNo7.2: DFD Level 1.6

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Date: Oct 15th, 2019	Nghi Dang Quang	Anh Luong The

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3.1 Process Name Flow Chart:

   Process Description and Details:

   3.1.1   Login System.
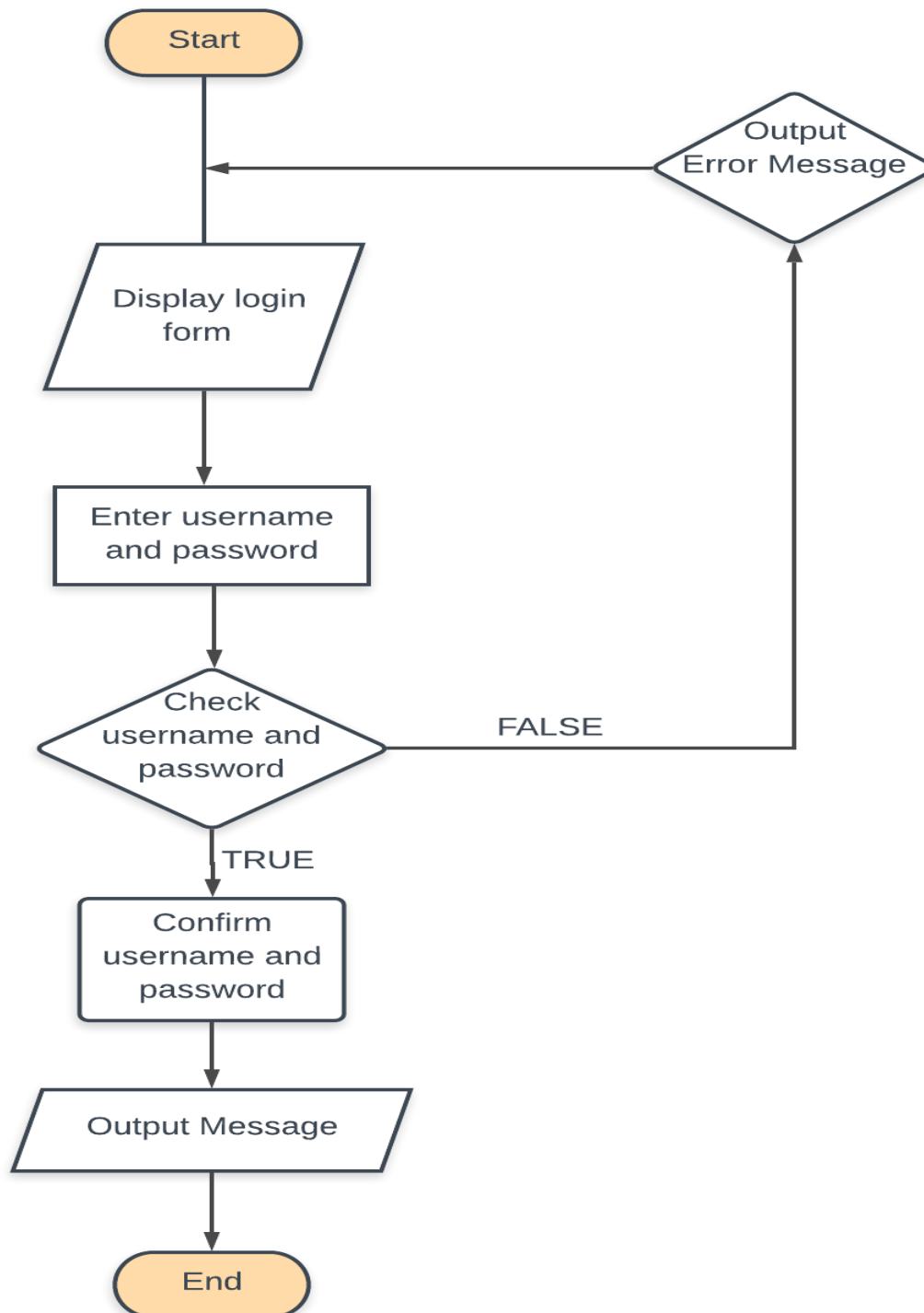
Figure FormNo7.3: DFD Level 3.1

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3.1.2 User management
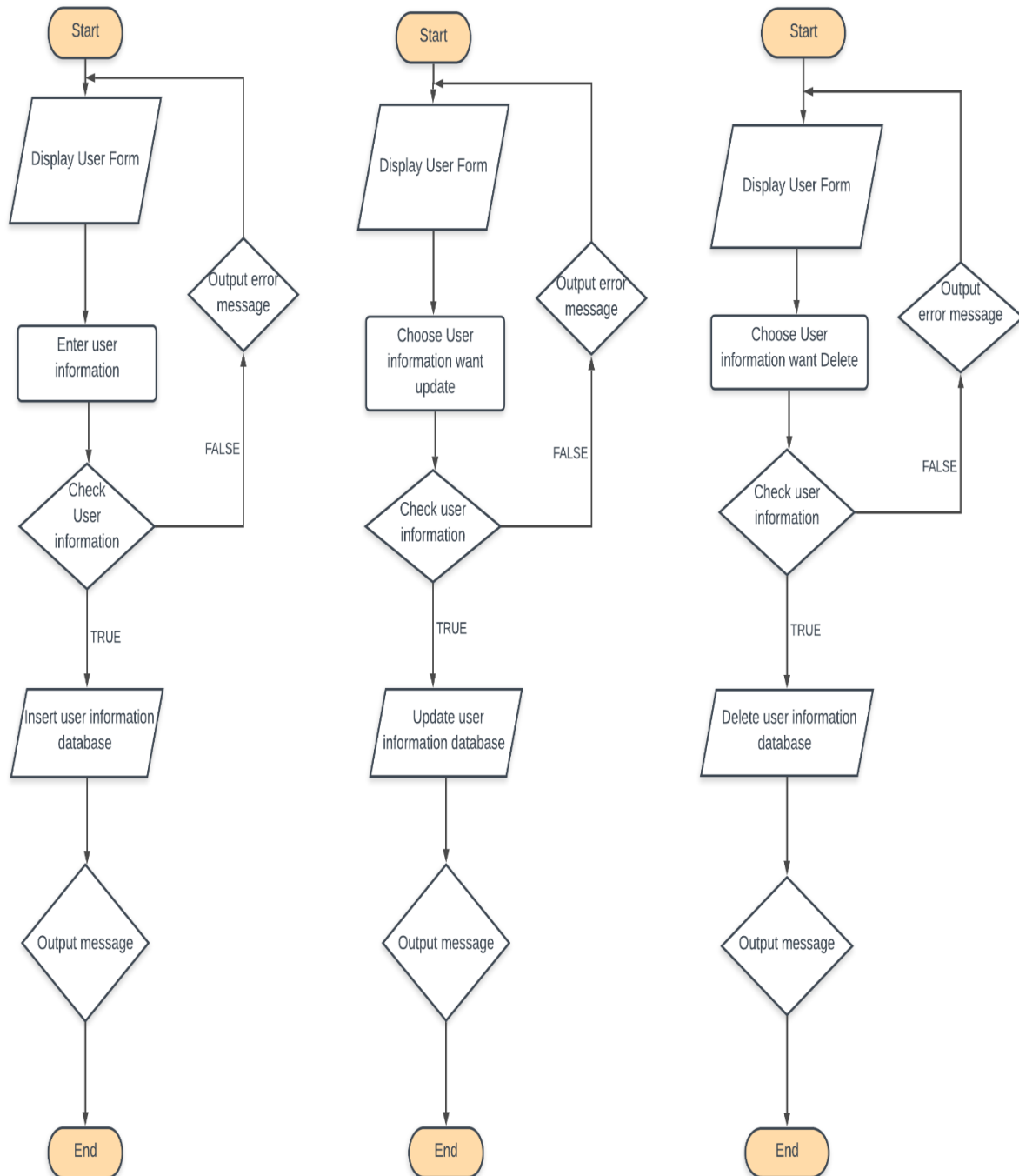
Figure FormNo7.3: DFD Level 3.2

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Date: Oct 19th, 2019	Nghi Dang Quang	Anh Luong The

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3.1.3 Permits management
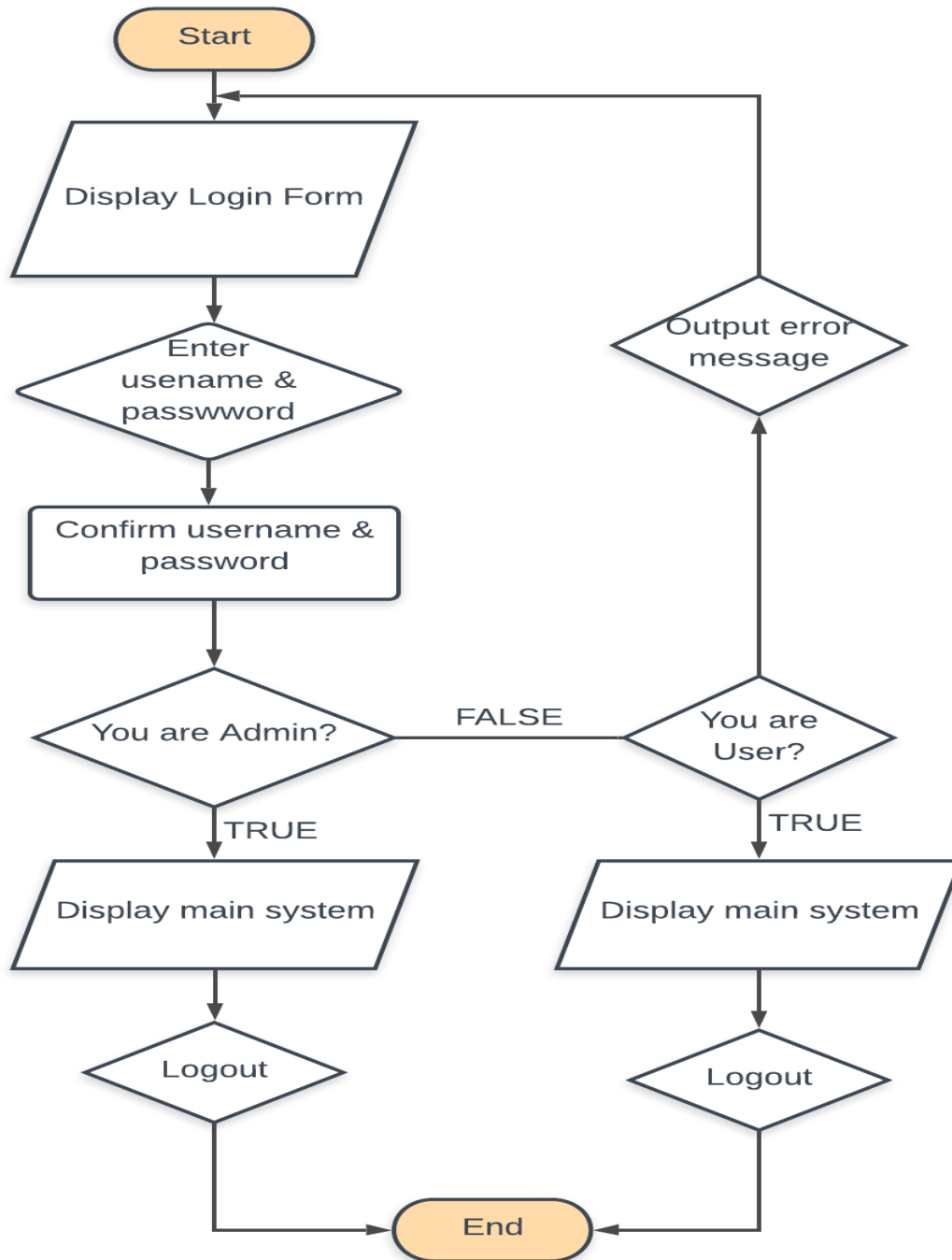
Figure FormNo7.3: DFD Level 3.3

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3.1.4 Management certificate
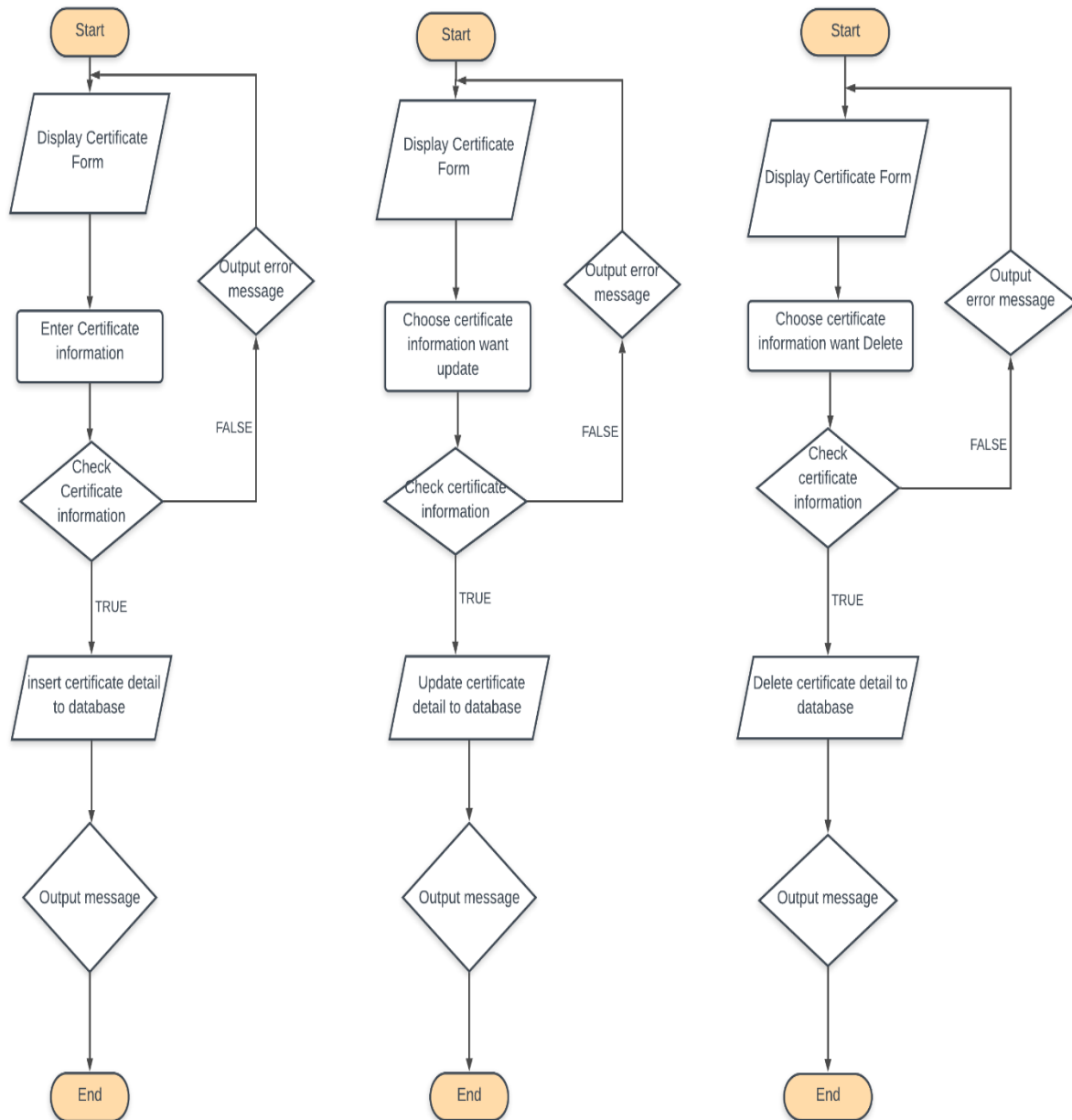
Figure FormNo7.3: DFD Level 3.4

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3.1.5 Management Student
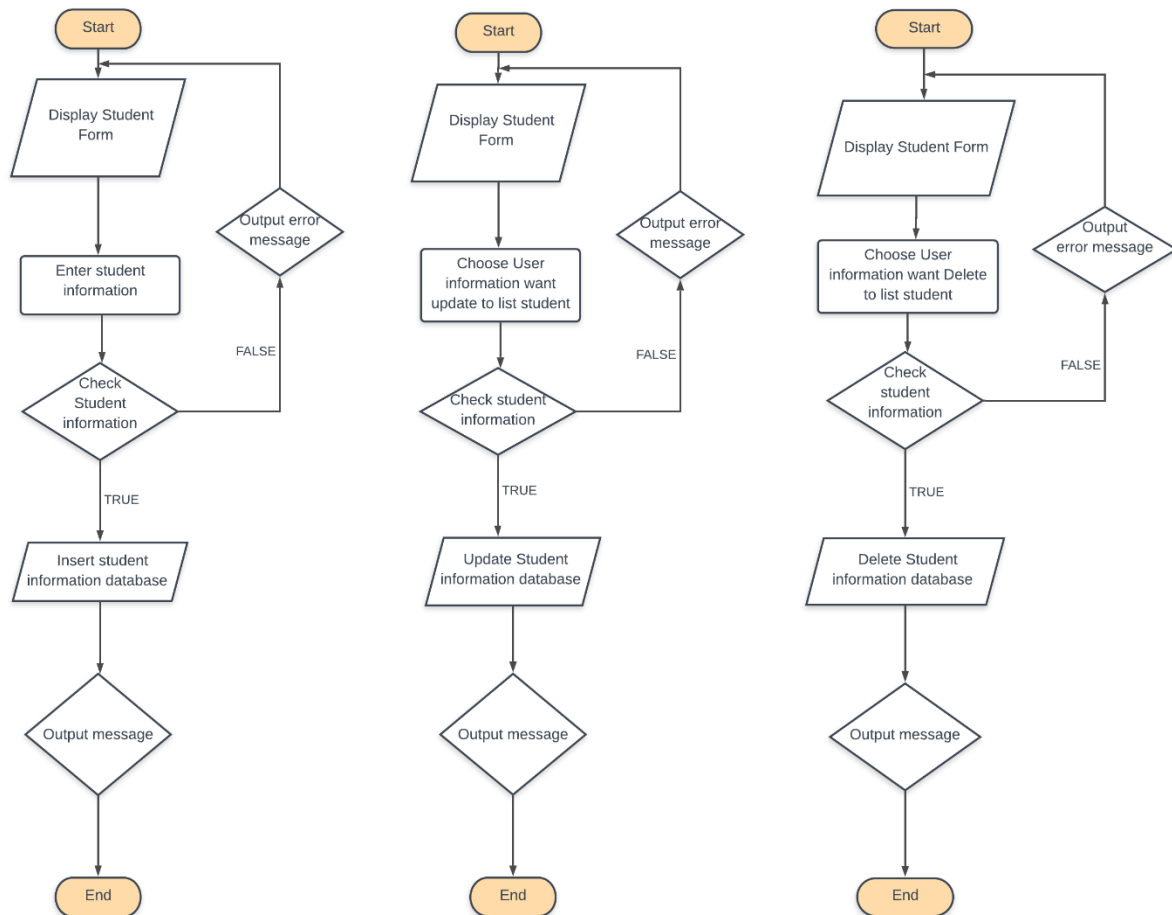
Figure FormNo7.3: DFD Level 3.5

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Date: Oct 19th, 2019	Nghi Dang Quang	Anh Luong The

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3.1.6 Management Registry
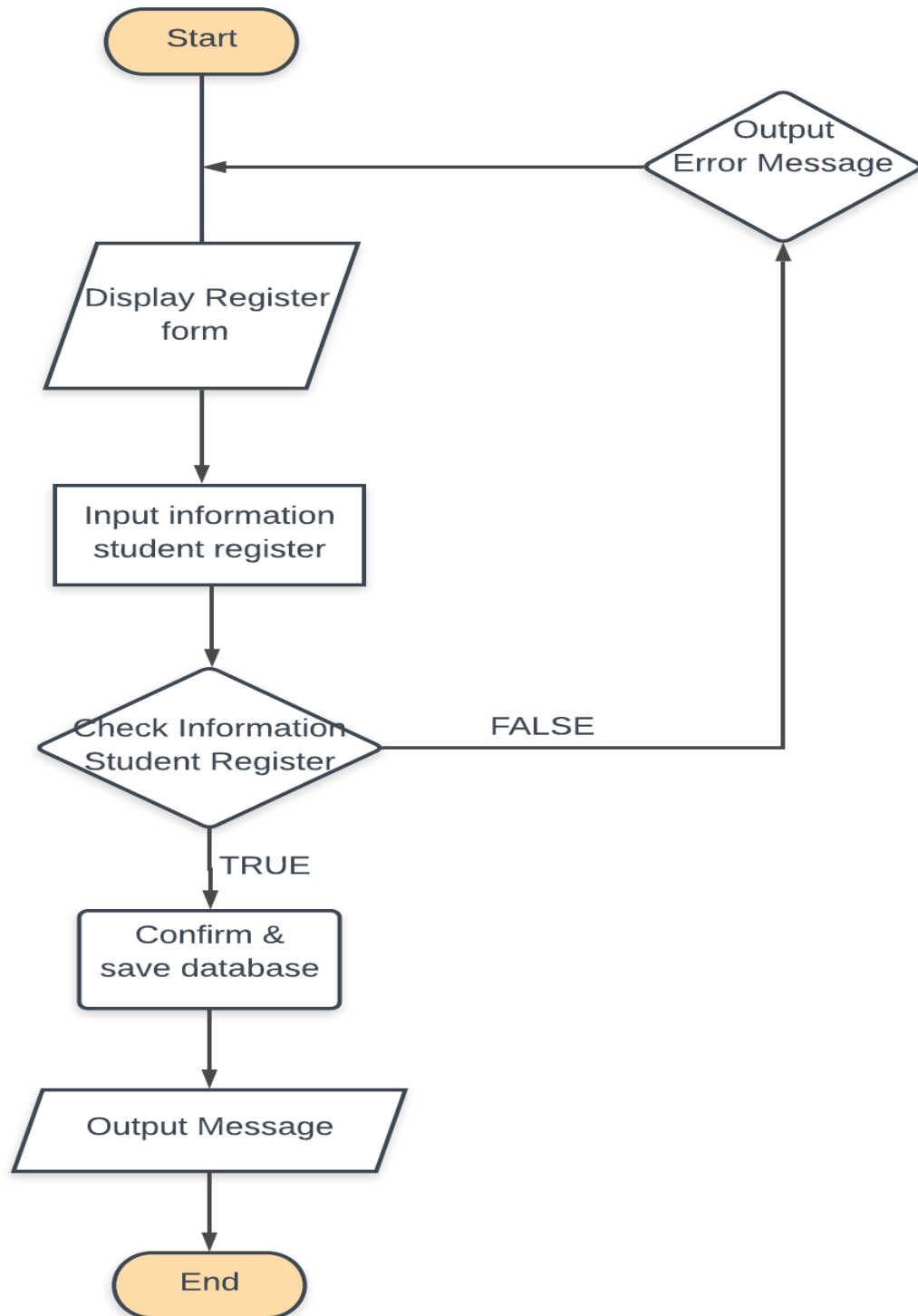
Figure FormNo7.3: DFD Level 3.6

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3.1.7 Management Exam Mark
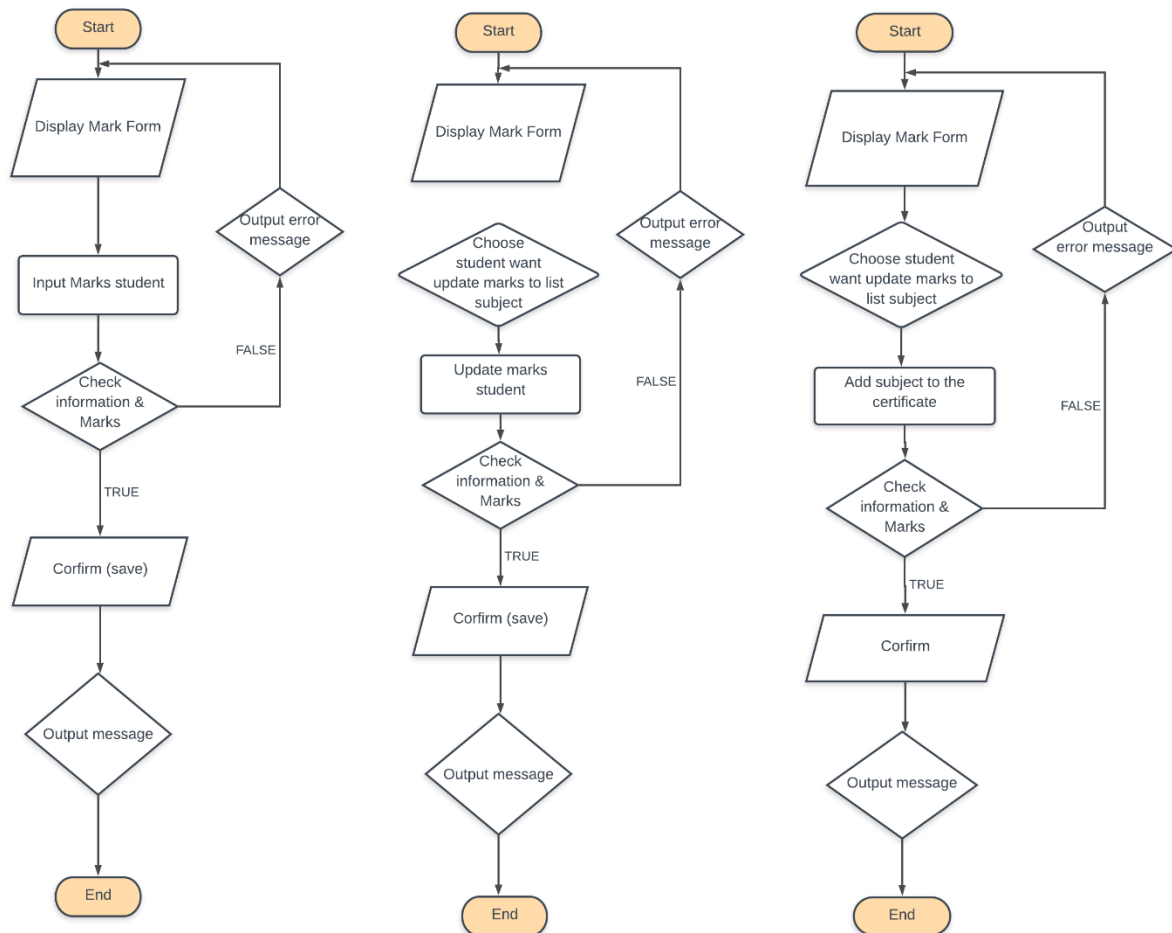
Figure FormNo7.3: DFD Level 3.7

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3.1.8 Management subject
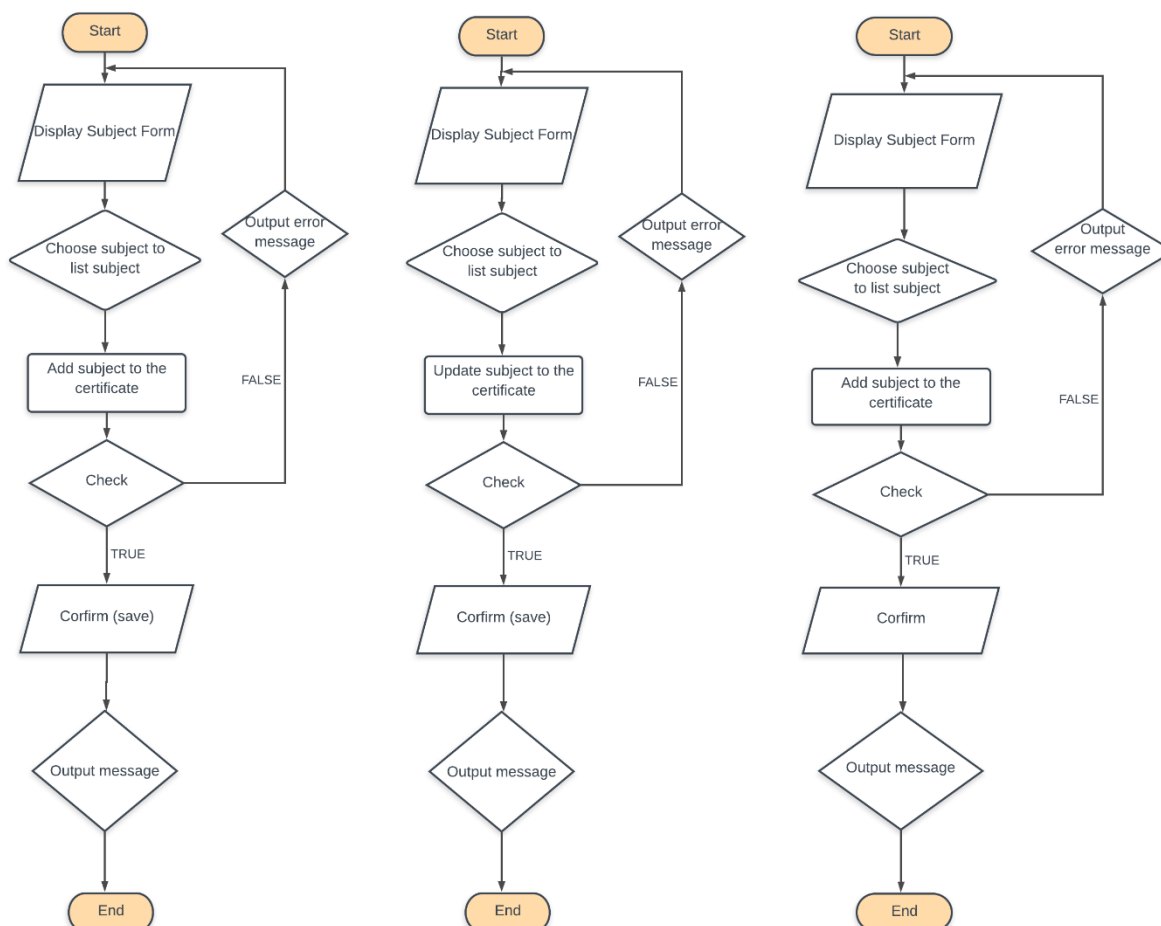
Figure FormNo7.3: DFD Level 3.8

	Prepared By (Student)	Approved By (Teacher)
Date: Oct 15th, 2019	Nghi Dang Quang	Anh Luong The

Design Plan: Certificate Management System	Document Name: Coding Standards Document	SWD/Form No. 8
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CODING STANDARDS DOCUMENT

1. Programming Standards

➢ Every button and label should have an Icon for expressing. It must set before a text, image icons have to store in the folder img in source "[Project_Name]/src/img" and they are imported using "Image chooser, Image within Project, Image using for project have extension *.png.

➢ File, module guidelines and code layout: Code is in the Application folder including the folders (build, nbproject, src, test, build. xml, mainfest.mf, config.properties, and USERGUIDE.pdf).

➢ In the src folder it contains (application, database, and interfaces):
  o In application package: Contains the object class *.java
  o In database package: Contains the class *.java connect the database (manipulating queries on the database, add edit delete DATABASE).
  o In interfaces package: Contains the words using the Java Swing

➢ Must have declaration part for classes, packages using for the project.

2. Standards for code writing style:

➢ Statement of each group must indent a Tab.

➢ Using "{}" to block a group of statements or only one statement even and the "{" is right after the declaration. For example:
  o if (a == 0){
    ▪ return 0;
  o }

➢ Each group of a work should have a line gap.

➢ Database guidelines: database name, table name and column name in the database are capitalize each word. If the two become separated by underscore. The SQL statements are all required to uppercase completely.

➢ Comment line descrying the variable declaration function mode and end command. For example:

// Comment here
/**

@Author
@Date writing
@Author modify
@Date modify

*/

3. Standards for declaring Variables:

Every Variables are meaningful, the first word is lowercase and each meaning word later has the first letter is uppercase. For example: String studentID

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Date: Oct 15th, 2019	Nghi Dang Quang	Anh Luong The

Design Plan: Certificate Management System	Document Name: Coding Standards Document	SWD/Form No. 8
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Variables are using for loop can be "i" (Index) and loops inner can use "j" and then "k", "m", "n". For example:

```
for (int i = 0; i < n; i++){
        for (int j = 0; …        //Allowed
                for (int n = 0; …       //Now allowed, next of "j" is "k"
}// end for
```

In addition, in some cases, the variable name needs to clearly represent the data type of that variable. For example, a variable of type List should be named studentList, a variable of type Set should be named studentSet, a variable of type Map should be named studentMap, and a variable of type Array should be named studentArray.

4. **Standards for Function Declarations:**

Must have a declaration for any functions and it declares return value, parameters if necessary. For example:

```
//function return age
public int getAge (int n) {
        return n;
}// end getAge
```

Any lines have to fix in 80 characters, if not, detach it.

5. **Other Standards:**

The name of the constant must follow the general rule and must be capitalized. If the constant name has two words or more, there must be an underscore between words. For example: PI, NO_FIBONACCI.

The first letter of the first word in the method name must be lowercase and a verb, and the first letter of the next words must be capitalized (*like the variable naming rule*). For example: addStudent.

Package names must follow the general rule and must be in lowercase.

Class names should have words that have suffixes to make them more expressive, such as AddTwoNumber.

Rules for coding: Required comments (author, date of writing, note).

If explicit edit, write to comment (author edit, day edit).

If using the try–catch should use display error messages.

	Prepared By (Student)	Approved By (Teacher)
Date: Oct 15th, 2019	Nghi Dang Quang	Anh Luong The

Design Plan: Certificate Management System	Document Name: Task Sheet		SWD/Form No. 9
Effective Date: Oct 15th, 2019	Version: 1		Page No. 1 of 2

TASK SHEET

Project Ref. No.:	Project Title:	Activity Plan Prepared By: Nghi Dang Quang		Date of Preparation of Activity Plan: Oct 9th, 2019		
Task Sub division	Description	Planned Start Date	Actual Start Date	Actual Days	Team Member Names	Status
Form No: 1	Problem Definition	Oct 9th, 2019	Oct 10th, 2019	2	All member	Done
Form No: 2A	CRS	Oct 11th, 2019	Oct 13th, 2019	3	All member	Done
Form No: 2B	Customer Acceptance Criteria	Oct 14th, 2019	Oct 15th, 2019	2	All member	Done
Form No: 9	Task Sheet	Oct 15th, 2019	Oct 15th, 2019	1	Nghi Dang Quang	Done
Form No: 3	Project Plan	Oct 16th, 2019	Oct 16th, 2019	1	Nghi Dang Quang, Khanh Nguyen Le	Done
Form No: 4	Process Design Document	Oct 17th, 2019	Oct 18th, 2019	2	Thang To Toan, Thanh Nguyen Phuoc	Done
Form No: 5	Process Description Document	Oct 19th, 2019	Oct 19th, 2019	1	Khanh Nguyen Le	Done
Form No: 6	Interface Design Document	Oct 20th, 2019	Oct 25th, 2019	6	All member	Done
Form No: 7	Table Design Document	Oct 26th, 2019	Oct 29th, 2019	4	All member	Done
Form No: 8	GUI Standards Document	Oct 30th, 2019	Oct 30th, 2019	1	Thang To Toan	Done

	Prepared By (Student)	Approved By (Teacher)
Date: Oct 15th, 2019	Nghi Dang Quang	Anh Luong The

Design Plan: Certificate Management System	Document Name: Task Sheet	SWD/Form No. 9
Effective Date: Oct 15th, 2019	Version: 1	Page No. 2 of 2

Form No: 10	Coding Standards Document	Oct 31st, 2019	Nov 12th,2019	13	Thanh Nguyen Phuoc	Done
Form No: 11	Integration Testing Report	Nov 13th,2019	Nov 17th,2019	5	All member	Done
Form No: 12	Review Report	Nov 18th,2019	Nov 18th,2019	1	Khanh Nguyen Le	Done
Form No: 13	Final Checklist	Nov 19th,2019	Nov 26th,2019	8	All member	Done

	Prepared By (Student)	Approved By (Teacher)
Date: Nov 26th, 2019	Nghi Dang Quang	Anh Luong The

Test Document: Certificate Management System	Document Name: Testing Document	SWD/Form No. 10
Effective Date: Oct 15th, 2019	Version: 1	Page No. 1 of 1

INTEGRATION TESTING REPORT

S. No.	Features Tested	Remarks
1	Design all form	Not good (maximize …)
2	Design database	Not create trigger, view, identity, and function.
3	Design and Coding form connect to database	Using Resource Bundle *.properties
4	Design and coding form users login	Not option each role.
5	Design and coding form home	Not responsive and note date coding modify, search for an identity card
6	Design and coding form management student for add, delete, edit and report	Not create a transaction for student impact of an online system. Not responsive
7	Design and coding form management certificate for add, delete, edit and report	Verify that the graphical displays use color to the maximum extent possible.
8	Design and coding form management subject for add, delete, edit and report	Verify that the graphical displays use color to the maximum extent possible and trigger
9	Design and coding form management course of the exam for add, delete, edit and report	Done, a date must days 21 to 1 year.
10	Design and coding form management registry for add, delete, edit and report the list of students.	Not login with student must add student first.
11	Design and coding form management exam mark for add, delete, edit and report	Must registry first.
12	Design and coding form management certificate store for add, delete, edit and report all.	Cannot insert duplicate key in the object (unique, primary key)
13	Report List student fail	Yes, title on file *.xlsx
14	Report List student pass	Yes, title on file *.xlsx
15	Print certificate by Roll No	Files Save as *.pdf
16	Verify that offline help is available for all features.	Display file *.pdf
17	Design user guide document	Include files *.docx, *.pdf
18	Setup and training for customer.	Include files *.exe, *.pptx

	Prepared By (Student)	Approved By (Teacher)
Date: Oct 19th, 2019	Nghi Dang Quang	Anh Luong The

Review Report: Certificate Management System	Document Name: Project Review	SWD/Form No. 11
Effective Date: Oct 15th, 2019	Version: 1	Page No. 1 of 1

REVIEW REPORT

Date:	Project Plan Activity/ Milestone	Work Specification	Status of the Activity	Remarks	Responsibility
Oct 9th, 2019	Oct 15th, 2019	Take Customer's information	Done		Thang To Toan
Oct 16th, 2019	Oct 30th, 2019	Design	Done		Thanh Nguyen Phuoc
Oct 31th, 2019	Nov 12th,2019	Coding	Done		Nghi Dang Quang
Nov 13th,2019	Nov 24th,2019	Testing	Done		Nghi Dang Quang
Nov 25th,2019	Nov 26th,2019	Training	Done		Khanh Nguyen Le

	Prepared By (Student)	Approved By (Teacher)
Date: Nov 26th, 2019	Nghi Dang Quang	Anh Luong The

Test Document: Certificate Management System	Document Name: Final Check List	SWD/Form No. 12
Effective Date: Oct 15th, 2019	Version: 1	Page No. 1 of 1

FINAL CHECKLIST

(This document has to be filled by the teacher only. The teacher will do a complete functionality testing of the application and his/ her findings and suggestions to this form.)

S. No.	Aspect tested	Suggestion/ Remarks
1.	Have all the modules been properly integrated and are they completely functional?	
2.	Does each unit meet its objective and purpose? Are all the validations happening as specified in Process Design?	
3.	Have all Design and Coding standards been followed and implemented?	
4.	Is the GUI design consistent all over?	
5.	Are the codes working as per the specification?	
6.	Does the application's functionality resolve the client problem, and satisfy his needs completely?	
7.	Have the hardware and software been correctly chosen?	
8.	Additional features and utilities that give value addition to the entire project.	

	Prepared By (Student)	Approved By (Teacher)
Date: Oct 19th, 2019	Nghi Dang Quang	Anh Luong The

Review Report: Certificate Management System	Document Name: User guide	SWD/Form No. 13
Effective Date: Nov 26th, 2019	Version: 1	Page No. 1 of 1

USER GUIDE

	Prepared By (Student)	Approved By (Teacher)
Date: Nov 26th, 2019	Nghi Dang Quang	Anh Luong The