



Students Management Documentation

Group 3	
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INDEX

Problem Definition	2
Problem Abstraction	3
The Current System	3
The Proposed System	3
Hardware and Software Requirements	3
Minimum Requirements	3
Recommended Requirements	4
Customer Requirements Specification	5
Users of the System	5
Administrator	5
Teachers	5
System functions	5
Administrator	5
Teachers	11
Architecture & Design of Project	13
Data Flow Diagram	13
Entity Relationship Diagram	13
Database Structure	14
Table Design	14
Database Diagram	16
Screen Design	17
Department Management	17
Subject Management	17
Class Management	18
Student Management	18
Mark Management	19
Task Sheet	20
Checklists	20
Check List of Validation	20
Submission Checklist	20

1. Problem Definition

1.1. Problem Abstraction

Currently, many schools in our country are still governed by traditional methods. That is to manage and store on paper or on excel. This method has many limitations. To manage the full, detailed, and accurate - every year schools take a rather large expenditure for the purchase of raw materials (papers, books, documents). Furthermore, tools like excel don't fully support the school system and due to the material characteristics of the paper, easily broken, are replaced frequently, upgrades, each change is made to copy books, preserve the material, etc. costly both in terms of investment cost, just takes more time and effort.

The sense of importance, we have built a software product to manage schools, to serve for the computerization, and modernization of the school system.

1.2. The Current System

- Too much un-needed information
- Unfriendly interface
- Lack of coherence

1.3. The Proposed System

- Suitable for the school system
- The information is more specific
- Each operation (manage subjects, classes, students, etc.) is divided clearly
- Improve the interface, make it more friendly to the user

1.4. Hardware and Software Requirements

1.4.1. Minimum Requirements

<i>Hardware</i>	<ul style="list-style-type: none">- Minimum of a Pentium 166 PC or higher.- 128MB RAM or higher
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<i>Software</i>	<ul style="list-style-type: none">- OS: Windows7- Java Virtual Machine- Java SE 6- Net beans 6.1- DBMS: XAMPP
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1.4.2. Recommended Requirements

Hardware	<ul style="list-style-type: none">- Minimum of Core2 Duo or higher- 3G of RAM or higher- HDD 10G free space available
Software	<ul style="list-style-type: none">- OS: Windows 10- Java Virtual Machine- Java SE 8 OS: Windows10- Java Virtual Machine- Java SE 8- Net beans 8.1- DBMS: XAMPP

2. Customer Requirements Specification

2.1. Users of the System

- Administrator

- The administrator has permission to manage departments.
- The administrator has permission to manage subjects.
- The administrator has permission to manage classes.
- The administrator has permission to manage students
- The administrator has permission to view the marks of students.

- Teachers

- The teacher has permission to add, edit, and delete all the marks of the students.

2.2. System functions

2.2.1. Administrator

Login:

Description	Administrator can log in to the system with User and Password into the form.
Input	Input User and Password
Process	Check data in the Database.
Output	<ul style="list-style-type: none">- Move to the dashboard if successful login.- Return to the login if failure

Change password:

Description	Administrator must login on system by his/her account, they can change his/her password.
Input	Input the new password into form.
Process	<ul style="list-style-type: none">- Check the information.- Connect to database, Update new password.
Output	<ul style="list-style-type: none">- Move to the manage administrator if successful login.- Return to the login if failure

Management departments:

Description	Admin has permissions to view information, edit or delete a department.
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Input	Choose a department that needs to interact with.
Process	<ul style="list-style-type: none">- Add: Add a new subject to the database.- Edit: Edit information about the subject, and update the database.- Delete:<ul style="list-style-type: none">+ If there is a student studying in this department, failed to delete.+ Else: Delete and update the database.
Output	Show the report successfully or failed.

Management Subjects

Description	Admin has permissions to add, edit, and delete subjects.
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Input	Choose a subject that needs to interact with.
Process	<ul style="list-style-type: none">- Add: Add a new subject to the database.- Edit: Edit information about the subject, and update the database.- Delete:<ul style="list-style-type: none">+ If there is a student studying this subject, failed to delete.+ Else: Delete and update the database.
Output	Show the report successfully or failed.

Management Classes:

Description	Admin has permissions to add, edit, and delete classes.
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Input	Choose a class that needs to interact with.
Process	<ul style="list-style-type: none">- Add: Add a new class to the database.- Edit: Edit information about the class, and update the database.- Delete:<ul style="list-style-type: none">+ If there is a student studying in this class, failed to delete.+ Else: Delete and update the database.
Output	Show the report successfully or failed.

Management Students:

Description	Admin has permission to add, delete students, and edit their information.
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Input	Choose the student that needs to interact with.
Process	<ul style="list-style-type: none">- Add: Add a new student to the database.- Edit: Edit information about the student, and update the database.- Delete: Delete the chosen student and all their information, including all marks
Output	Show the report successfully or failed.

View Marks:

Description	Admin has permission to view the student's marks.
Input	Choose a student that needs to interact with.
Process	<ul style="list-style-type: none">- Get all the marks of the student from the database and show them to the user

Output	Show the report successfully or failed.
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2.2.2. Teachers

Login:

Description	Teachers can log in to the system with User and Password into the form.
Input	Input User and Password
Process	Check data in the Database.
Output	<ul style="list-style-type: none">- Move to the dashboard if successful login.- Return to the login if failure

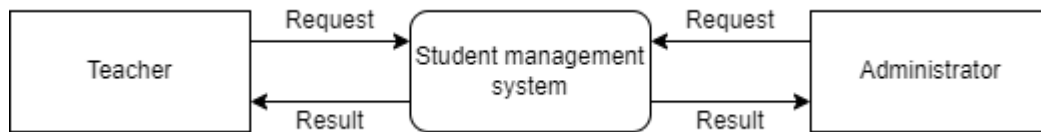
Management Students' marks:

Description	Teacher has permission to add, delete and update the marks of all students
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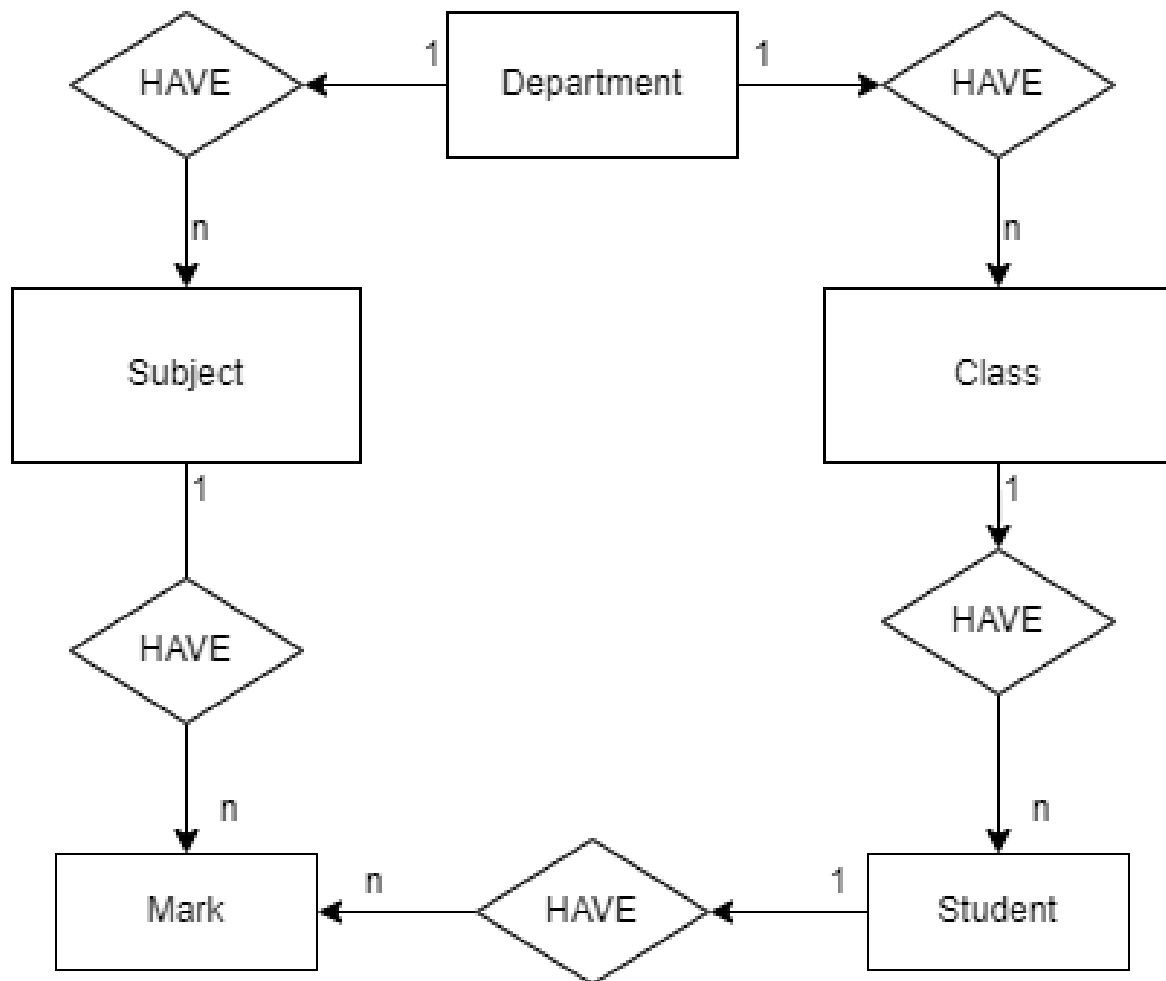
Input	Choose the subject that needs to interact with.
Process	<ul style="list-style-type: none">- Add: Add a new mark for a student to the database.- Edit: Change the mark of a student, and update the database.- Delete: Delete the chosen mark of a student from the database
Output	Show the report successfully or failed.

3. Architecture & Design of Project

3.1. Data Flow Diagram



3.2. Entity Relationship Diagram



3.3. Database Structure

3.3.1. Table Design

a. Department Table

Key	Field Name	Data Type	Length
Primary Key	idDepartment	varchar	8
	departmentName	varchar	8

b. Subject Table

Key	Field Name	Data Type	Length
Primary Key	idSubject	varchar	8
	subjectName	varchar	40
Foreign Key	idDepartment	varchar	8

c. Class Table

Key	Field Name	Data Type	Length
Primary Key	idClass	varchar	8
	className	varchar	40
Foreign Key	idDepartment	varchar	8

d. Student Table

Key	Field Name	Data Type	Length
Primary Key	idStudent	varchar	8
	studentName	varchar	40
Foreign Key	idClass	varchar	8
	course	varchar	50
	birthday	varchar	10
	address	varchar	200
	sex	int	11
	tel	varchar	10

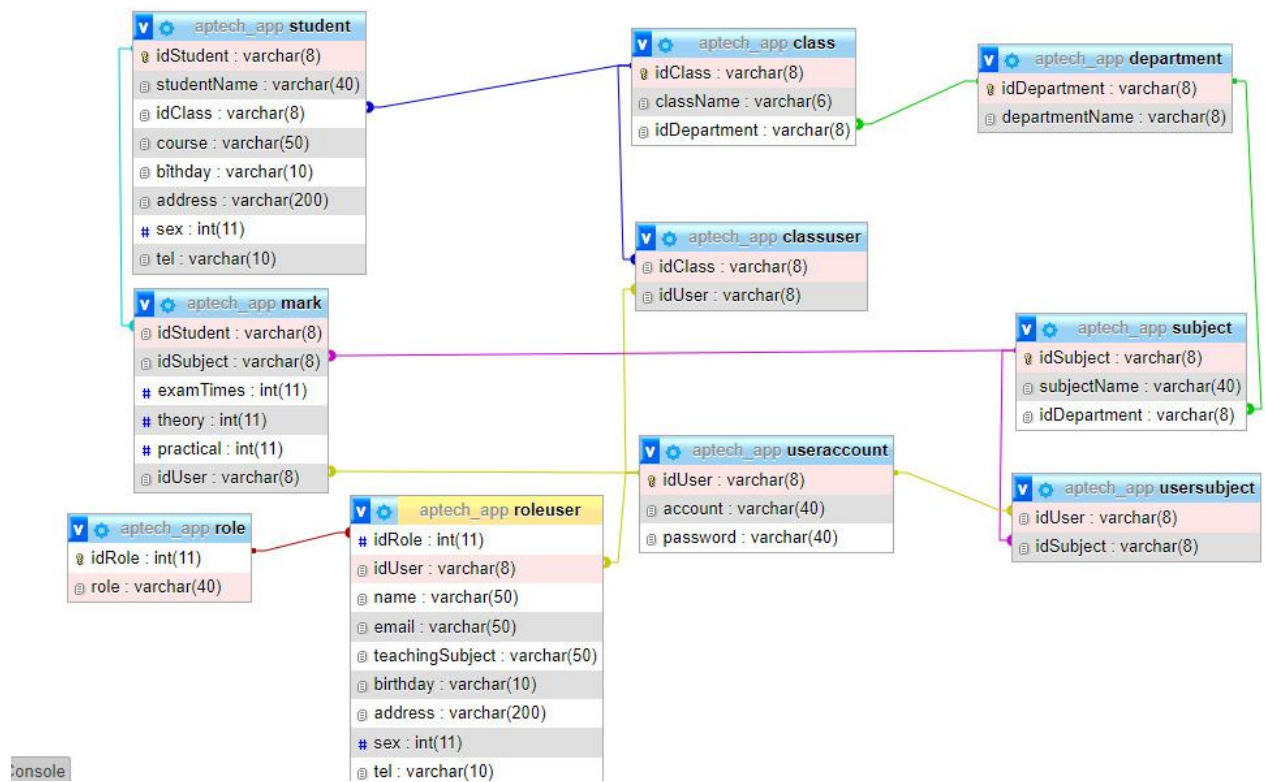
e. Mark Table

Key	Field Name	Data Type	Length
Foreign Key	idStudent	varchar	8
Foreign Key	idSubject	varchar	8
	examTimes	int	11
	theory	int	8
	practical	int	8
	idUser	varchar	11

f. User Table

Key	Field Name	Data Type	Length
Primary Key	idUser	varchar	8
	account	varchar	40
	password	varchar	40
	role	varchar	40

3.3.2. Database Diagram



3.4. Screen Design

a. Department Management

The screenshot shows the 'MARK MANAGER SYSTEM' window. The title bar reads 'Quản Lý Điểm Học Sinh'. The menu bar includes 'Quản Lý', 'Hệ Thống', 'Trợ Giúp', and 'About Us'. A sidebar on the left contains a 'Menu' with buttons: 'Nhập Khoa', 'Nhập Môn Học', 'Nhập Lớp Học', 'Sinh Viên', 'Điểm', and 'Tìm kiếm'. The main area has a blue header 'MARK MANAGER SYSTEM' with a graduation cap icon. Below it are tabs: 'Thông tin khoa', 'Thông tin môn học', 'Thông tin lớp học', 'Thông tin học viên', and 'Thông tin điểm'. The 'Thông tin khoa' tab is active, showing a table with columns 'Mã Khoa' and 'Tên Khoa'. Below the table are input fields for 'Mã Khoa' and 'Tên Khoa', and buttons 'Lưu', 'Cập nhật', 'Reset', and 'Xóa'.

b. Subject Management

The screenshot shows the 'MARK MANAGER SYSTEM' window with the 'Thông tin môn học' tab active. The sidebar menu is the same as in the previous screenshot. The main area has a blue header 'Subject Information'. Below it is a table with columns 'Mã Môn Học', 'Tên Môn Học', and 'Mã Khoa'. Below the table are input fields for 'Mã Môn Học', 'Tên Môn Học', and a dropdown for 'Mã Khoa' (currently showing 'Item 1'). To the right of these fields are buttons 'Lưu', 'Cập nhật', 'Reset', and 'Xóa'.

c. Class Management

The screenshot shows the 'Class Manager' interface of the MARK MANAGER SYSTEM. The window title is 'Quản Lý Điểm Học Sinh'. The top navigation bar includes 'Quản Lý', 'Hệ Thống', 'Trợ Giúp', and 'About Us'. A sidebar menu on the left contains 'Xin Chào,', 'Menu', 'Nhập Khoa', 'Nhập Môn Học', 'Nhập Lớp Học', 'Sinh Viên', 'Điểm', and 'Tìm kiếm'. The main content area has tabs for 'Thông tin khoa', 'Thông tin môn học', 'Thông tin lớp học', 'Thông tin học viên', and 'Thông tin điểm'. The 'Thông tin lớp học' tab is active, displaying a table with columns 'Mã Lớp', 'Tên Lớp', and 'Mã Khoa'. Below the table is a form with input fields for 'Mã Lớp', 'Tên Lớp', and a dropdown for 'Mã Khoa' (currently showing 'Item 1'). To the right of the form are buttons for 'Lưu', 'Cập nhật', 'Reset', and 'Xóa'.

d. Student Management

The screenshot shows the 'Student Information' interface of the MARK MANAGER SYSTEM. The window title is 'Quản Lý Điểm Học Sinh'. The top navigation bar includes 'Quản Lý', 'Hệ Thống', 'Trợ Giúp', and 'About Us'. A sidebar menu on the left contains 'Xin Chào,', 'Menu', 'Nhập Khoa', 'Nhập Môn Học', 'Nhập Lớp Học', 'Sinh Viên', 'Điểm', and 'Tìm kiếm'. The main content area has tabs for 'Thông tin khoa', 'Thông tin môn học', 'Thông tin lớp học', 'Thông tin học viên', and 'Thông tin điểm'. The 'Thông tin học viên' tab is active, displaying a table with columns: 'Mã Sinh Viên', 'Tên Sinh Viên', 'Mã lớp', 'Khóa Học', 'Ngày Sinh', 'Địa Chỉ', 'Giới Tính', and 'Số Điện Thoại'. Below the table is a form with input fields for 'Mã sinh viên', 'Ngày sinh', 'Họ Tên', 'Địa chỉ', 'Lớp' (dropdown showing 'Item 1'), 'Giới tính' (radio buttons for 'Nam' and 'Nữ'), 'Khóa học', and 'Số điện thoại'. To the right of the form are buttons for 'Tạo mới', 'Lưu', 'Cập nhật', and 'Xóa'.

e. Mark Management

Quản Lý Điểm Học Sinh

Quản Lý Hệ Thống Trợ Giúp About Us

Xin Chào,

Menu

Nhập Khoa

Nhập Môn Học

Nhập Lớp Học

Sinh Viên

Điểm

Tìm kiếm

MARK MANAGER SYSTEM

Thông tin khoa Thông tin môn học Thông tin lớp học Thông tin học viên Thông tin điểm

MARK INFORMATION

Mã Lớp Item 1 Lần Thi

Mã Sinh Viên Item 1 Điểm lý thuyết

Mã Môn Học Item 1 Điểm thực hành

Lưu
Cập nhật
Reset
Xóa

Title 1	Title 2	Title 3	Title 4
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4. Task Sheet

No.	Task	Member
1	Document	<ul style="list-style-type: none"> • Trần Bảo Huy • Nguyễn Khắc Ngọc Phát
2	Development	<ul style="list-style-type: none"> • Trần Bảo Huy (TeacherManagerPanel & ClassManagerPanel) • Nguyễn Khắc Ngọc Phát (KhoaManagerPanel & SubjectManagerPanel) • Nguyễn Văn Chính - main coder (the rest)
3	Test	<ul style="list-style-type: none"> • Nguyễn Văn Chính • Trần Bảo Huy

5. Checklists

5.1. Check List of Validation

Option	Validate
Form fields cannot be empty?	✓
Check input data?	✓
User name is unique?	✓
Enter the application after logging in?	✓
Do all the options present in the application display the correct result?	✓
Does the application's functionality resolve the user problem, and satisfy their needs?	✓

5.2. Submission Checklist

No	Particulars	Yes	No	NA	Comments
1	Are the user able to log in to the application after validation is performed on the user name and password?	✓			
2	Are all the screen contents devoid of spelling mistakes?	✓			
4	is the application user-friendly?	✓			
5	Are all the screen contents devoid of spelling mistakes?	✓			