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Directorate of Distance Education

Authorized Learning Center (Code:- 1537)

College for Professional Studies

Opp.Maitidevi Temple,Kathmandu,Nepal

Student Record Management System

By

Yuba Raj Kalathoki

Roll No: 1402011772

A project report submitted in partial fulfillment of the requirements for

MSc.IT 4th Semester

of Sikkim Manipal University, DDE INDIA

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Directorate of Distance Education

Manipal, India.

Date of Submission:-2016/01/04

COLLEGE FOR PROFESSIONAL STUDIES

LC of Sikkim Manipal University (01537)

VIVA VOCE SHEET

We have examined the viva-voce examination of the graduate research report presented by

Yuba Raj Kalathoki

Entitled

Student Record Management System

And found the report to be original work of the student and written according to the prescribed format of the University. We recommend the report to be accepted as partial fulfillment of the requirements for the MSCIT/4th.

Viva-Voce Committee

1. Supervisor/Project Guide
2. Program Coordinator
3. Chief Program Coordinator
4. External Examiner

Date: Jan 2016

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BONAFIDE CERTIFICATE

Certified that this project report titled "**Student Record Management System"** is the confide work of "**Yuba Raj Kalathoki"** who carried out the project work under my supervision.

CERTIFIED

……..

<<Project Supervisor Name>>

Project Supervisor

Department of Computer Science

College for Professional Studies

LC of Sikkim Manipal University

LC Code: 01537

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Certificate from University Learning Centre

This is to certify that **Yuba Raj Kalathoki** of MSCIT has worked on the project as per the course curriculum of MSCIT/4th Semester. This project entitled "**STUDENT RECORD MANAGEMENT SYSTEM**" is the original work of Yuba Raj Kalathoki and was carried out under the supervision of **Aryan Thakur** as per the guidelines provided by the university. As per the student's declaration this is certified that his project has not been presented anywhere as a part of any other academic work.

……	……	……
P. Kejriwal	**Er. Pankaj Jalan**	**Er. Prakash Kumar**

Sikkim Manipal University
Directorate of Distance Education

Student declaration

I hereby declare that the project report entitled

Student Record Management System

Submitted in partial fulfillment of the requirements for the degree of

MSCIT/4th

To Sikkim-Manipal University, India, is my original work and not submitted for the award of any other degree, diploma, fellowship, or any other similar title or prizes

Place: Kathmandu

Yuba Raj Kalathoki

Date: 2016-01-04

Reg. No: 1402011772

ACKNOWLEDGEMENT

The success and final outcome of this project required a lot of guidance and assistance from many people and I am extremely fortunate to have got this all along the completion of my project work. Whatever I have done is only due to such guidance and assistance and I would not forget to thank them.

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I am thankful to and fortunate enough to get constant encouragement, support and guidance from all Teaching staffs of Department of computer science which helped us in successfully completing my project work. Also, I would like to extend my sincere regards to all the non-teaching staff of department of computer science for their timely support.

Abstract

Student Record Management System deals with all kind of student details, academic related reports, college details, course details, curriculum, batch details and other resource related details too. It tracks all the details of a student from the day one to the end of his course which can be used for all reporting purpose, tracking of attendance, progress in the course, completed semesters years, coming semester year curriculum details, exam details, project or any other assignment details, final exam result; and all these will be available for future references too.

My program will have the databases of Courses offered by the college/school under all levels of graduation or main streams, teacher or faculty's details, batch execution details, students' details in all aspects.

This program can facilitate us explore all the activities happening in the college, even we can get to know which teacher / faculty is assigned to which batch, the current status of a batch, attendance percentage of a batch and upcoming requirements of a batch.

Different reports and Queries can be generated based of vast options related to students, batch, course, teacher / faculty, exams, semesters, certification and even for the entire college.

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ABBREVIATION

DFD	=	Data Flow Diagram
ERD	=	Entity Relationship Diagram
SQL	=	Structured Query Language
SRMS	=	Student Record Management System

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1. Introduction

Student record management system project is implemented in java platform. Main aim of this project is to develop a software application for colleges for managing student's attendance information, marks information, student's internal and external marks managing system, generate reports, etc.

This S.R.M.S system will be useful for all colleges and schools. Front end part is developed using swing and business logic is implemented at middle layer. These two layers will communicate with database for retrieving and updating data to database. In order to implementing this application server must have MySQL database with java runtime environment as development environment.

In existing system there are no specific software applications for school/colleges to organize data in a single application and students and guardant need to visit lecturers and administration block to know about fees, attendance and marks details and they will see one by one file to know all information which a time is taking process. In order to overcome this process I develop a software application.

The student record management system is an automated version of manual Student Management System. It can handle all details about a student. The details include college details, subject details, student personnel details, academic details, exam details etc.

In case of manual system they need a lot of time, manpower etc. Here almost all work is computerized. So the accuracy is maintained. Maintaining backup is very easy. It can do within a few minutes. Student Record Management System is managed by an administrator. It is the job of the administrator to insert update and monitor the whole process. When a user login to the system, he/she can see all details of the student. He can perform any changes. The system has four modules. They are

- ✓ Department details
- ✓ Subject
- ✓ Student Details
- ✓ Exam Details

2. Scope and Objectives

2.1. Scope:

The following are the scope of the software:

- ✓ First main aim of this project is to reduce unnecessary paper work.
- ✓ Make easy and faster to maintain and search all records.
- ✓ Easy to generate report if required.

2.2. Objectives:

The system has following objectives:

- ✓ To manage students' information during admission and examination.
- ✓ To efficient utilization of human resource.
- ✓ To reduce unnecessary paper work in maintaining students' information

3. Theoretical Background

Student Record Management System (SRMS) is the web based application which helps School/Colleges to manage their task in the good manner and under the fixed and reliable System. The system now is hand written system which is not good in this age of computer.

The purposed system will be easy and fast. So the applicant (Student or Parents) of the SRMS doesn't need to wait for long time to get the details or reports.

In this system there are two main users the current system. A super user who creates and manages the application user. And the next is an application user who uses this entire application to manage students' information.

4. Definition of Problem

In our country all information of students are keeping manually in file system and goes to one corner especially after the end of every semester or session. This makes it difficult to search data after a good number of years when a student needs to know some of his/her details. It takes time to search on the pile of files. Also there are some questions which the file system cannot answer which has to be done manually like if asked to find subjects which were done in few years back. You will have to search manually and write down which actually takes a lot of time.

5. Feasibility Study

Whatever we think need not be feasible .It is wise to think about the feasibility of any problem we undertake. Feasibility is the study of impact, which happens in the organization by the development of a system. The impact can be either positive or negative. When the positives nominate the negatives, then the system is considered feasible. Here the feasibility study can be performed in two ways such as technical feasibility and Economical Feasibility.

5.1. Economical

Development of this application is highly economically feasible .The organization needed not spend much money for the development of the system already available. The only thing is to be done is making an environment for the development with an effective supervision. If we are doing so, we can attain the maximum usability of the corresponding resources .Even after the development, the organization will not be in condition to invest more in the organization. Therefore, the system is economically feasible.

5.2. Technical

We can strongly say that it is technically feasible, since there will not be much difficulty in getting required resources for the development and maintaining the system as well. All the resources needed for the development of the software as well as the maintenance of the same is available in the organization here we are utilizing the resources which are available already.

5.3. Operational Feasibility

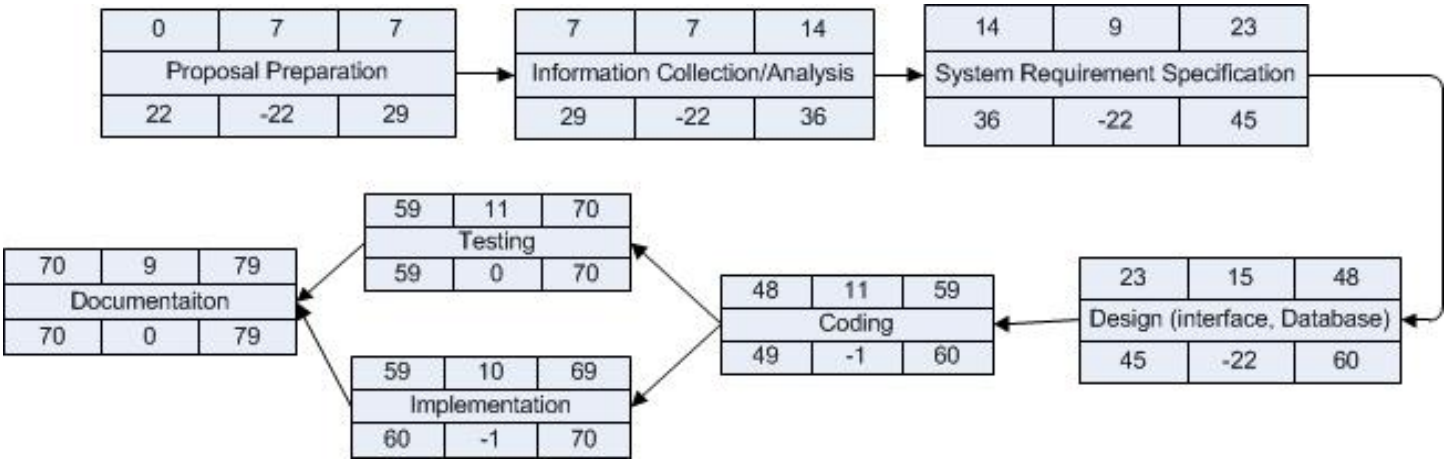
Proposed project is of course beneficial only if they can be turned into information systems that will meet the organization's operation requirements. Simply stated, this test of feasibility asks if the system will work when developed and installed. Are there major barriers to implementation? Here are questions that will help test the operational feasibility of a project.

6. System Planning

6.1. PERT chart

Detailed expected time schedule of the project is shown in the below PERT chart.

Task ID	Task Name	Predecessor	Pessimistic Time	Mostly Time	Optimistic Time	Estimate Time
1	Proposal Preparation	-	10	7	5	7
2	Information collection/Analysis	1	12	7	5	7
3	System Requirement Specification	2	14	9	7	9
4	Design(interface, Database)	3	20	15	12	15
5	Programming Coding	4	15	11	7	11
6	Testing	5	18	11	9	10
7	Implementation	5	13	11	8	10
8	Documentation	6,7	12	9	6	9



7. Methodology Adopted

7.1. Project Methodology

The methodology used for developing this system is Agile Software Development Model. This model is used here because:

- **No Detail requirement needed:**

  You don't need to have the entire requirements finalized to start the development work. Build and Test can start as soon as initial high level requirements are available.

- **Early benefit to the user/business:**

  Following Agile methodology gives an early view to the user about how the final product might look and behave. This helps them into finalizing the user requirements. It might also happen that the prototype delivers some of the requirements which use may want to use and evaluate till the final product is delivered with all the functionalities.

- **Face to face communication:**

  Agile method give more emphasis on having the face to face communication between the user/customer and project team to make sure there is no room left for any kind of confusion in understanding requirement and inputs.

- **Less time to market:**

  Using Agile method, final product is delivered to the customer in least possible time.

- **Less cost to customer:**

  It saves cost for both customer and supplier as resources are used for less time.

- **High Quality:**

  Since customer is involved in all the stages of software development, means the quality of final quality if high resulting in highly satisfied customer.

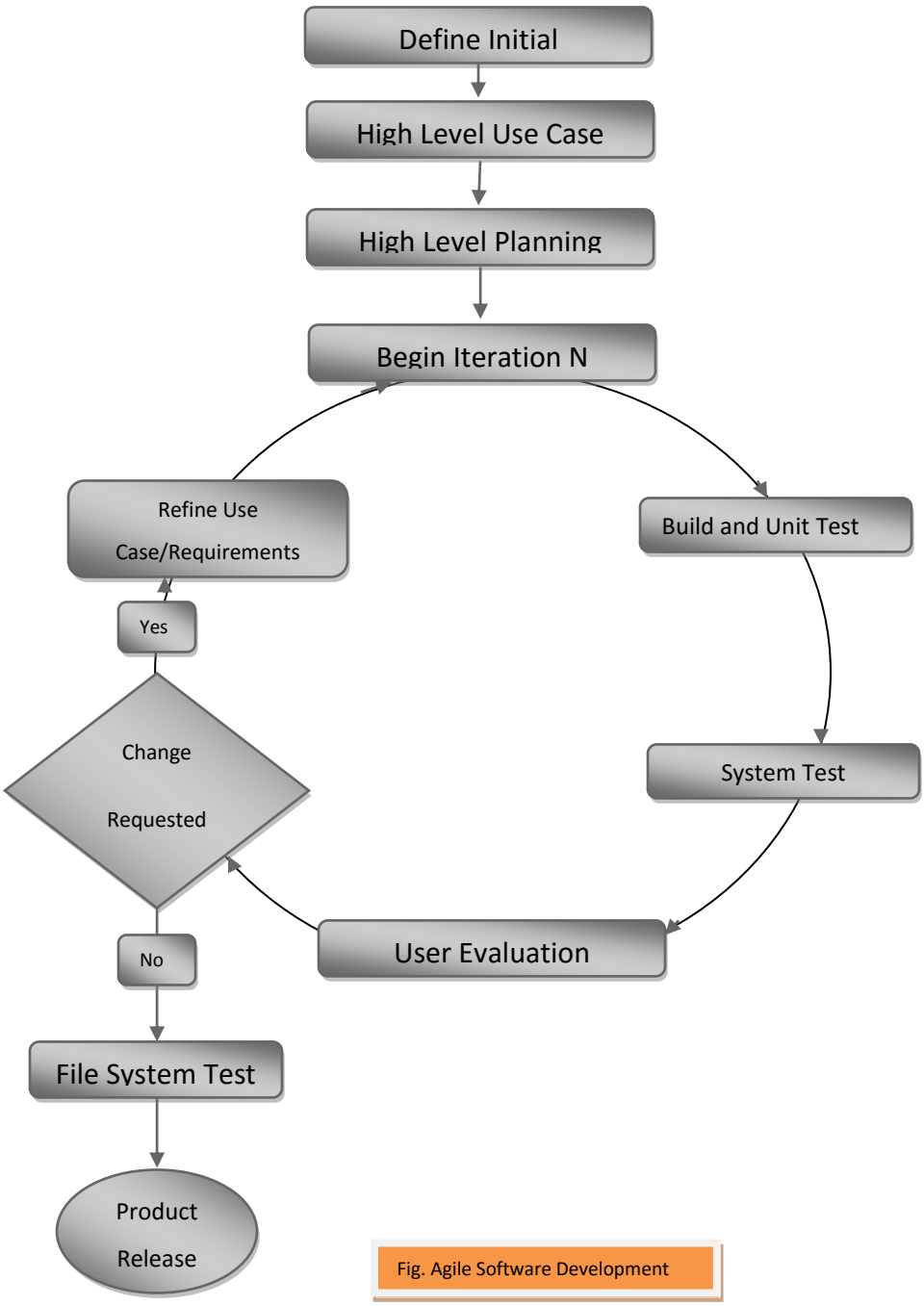


Fig. Agile Software Development

7.2 H/w and s/w used

Tools and technologies used for this purposed system on development environment are as follows:

Development Requirements:

7.2.1. Hardware:

- ✓ CPU : Pentium-IV processor
- ✓ HARDDISK : 320 GB
- ✓ RAM : 4 GB

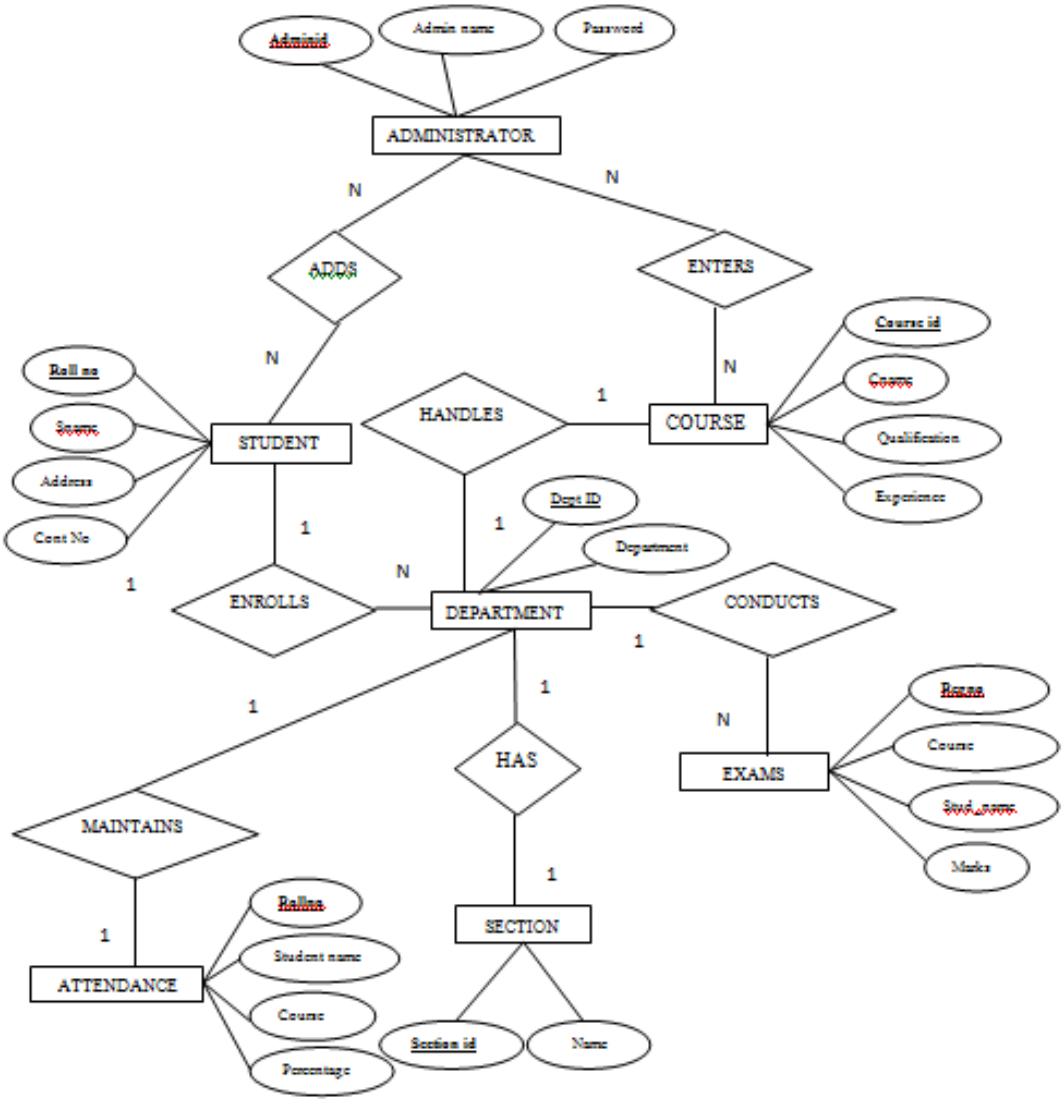
7.2.2. Software:

- ✓ Windows 7/Ubuntu 12.4 (64-bit)
- ✓ MySQL 5.5
- ✓ Enterprises architecture
- ✓ iReport
- ✓ JDK 1.7
- ✓ Netbeans7.3

8. Life cycle of the project

8.1. System Architecture overview

8.1.1 ER diagram



8.1.3. Data Flow Diagram

Data Flow Diagram Notation:

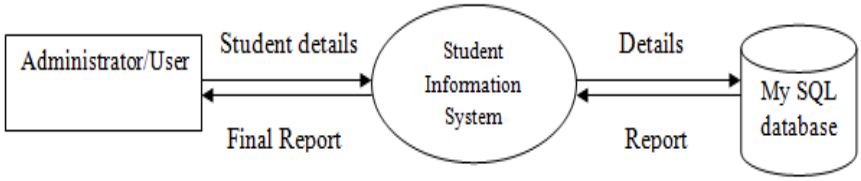
Function/Process

File/Database

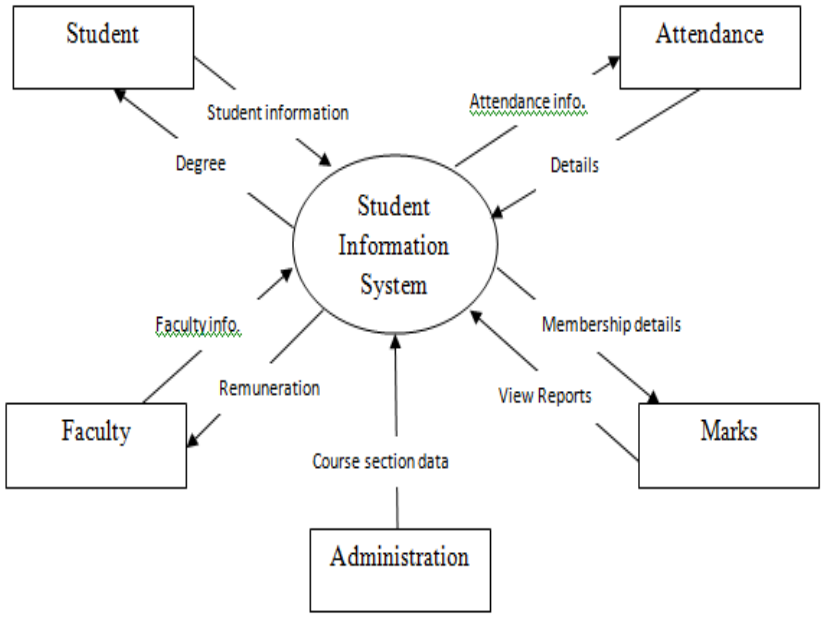
Input/output

Flow

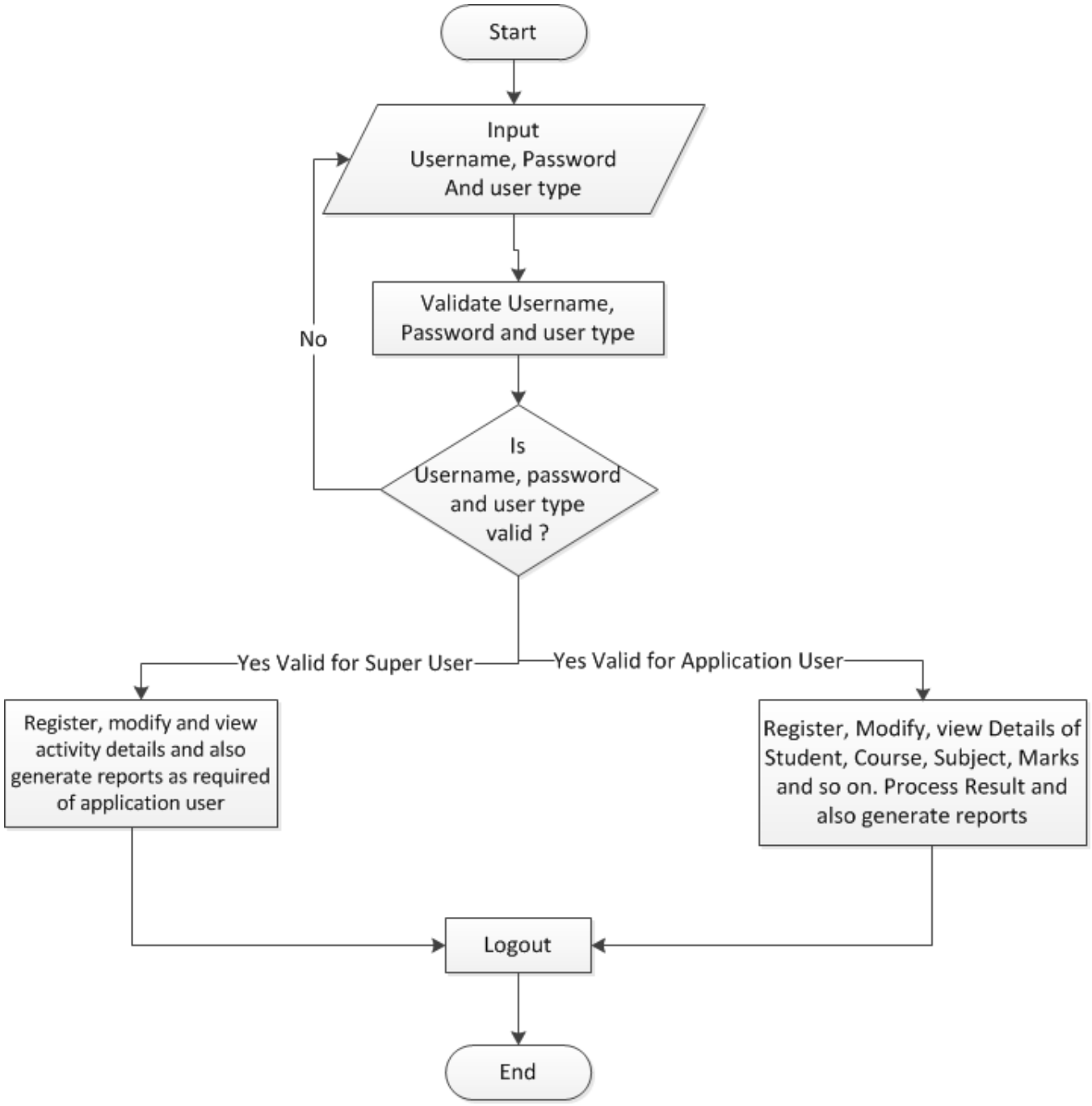
Level 0 DFD :



Level 1 DFD:



8.1.4. System Flow Chart



8.2. Testing Methods

Testing methods that will be applied for this system are as follows:

8.2.1 Coding Tools

✓ Back End Tools: MySQL 5.5

MySQL Server is software that implements a self-contained, server less, zero-configuration, transactional SQL database engine. MySQL Server is the most widely deployed SQL database engine in the world. The source code for SQL Server is in the public domain.

✓ Front End Tools: Netbeans 7.3

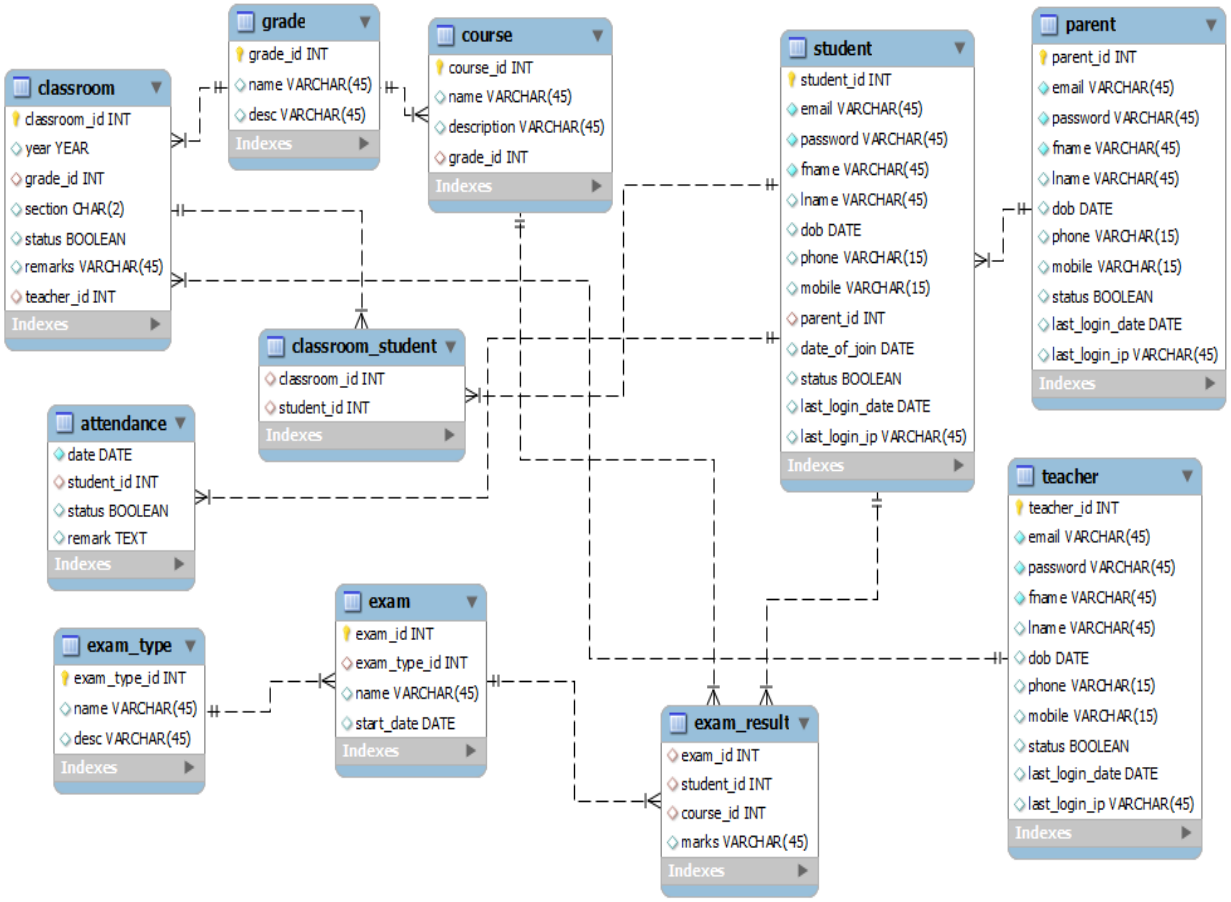
NetBeans IDE is an open-source integrated development environment. NetBeans IDE supports development of all Java application types (Java SE (including JavaFX), Java ME, web, EJB and mobile applications) out of the box. Among other features are an Ant-based project system, Maven support, refactoring, and version control (supporting CVS, Subversion, Git, Mercurial and Clearcase). It is free and open source and has a large community of users and developers around the world.

8.2.1 Testing Cases

Testing methods that will be applied for this system are as follows:

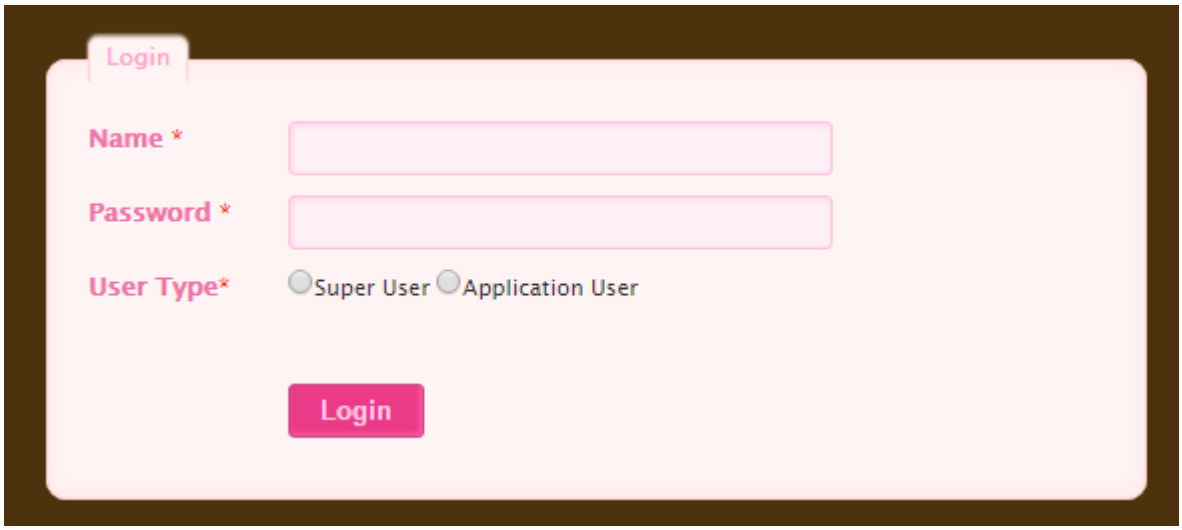
- ✓ **Unit Testing:** Unit testing of functional testing will be conducted to ensure that the every module of the system will work properly.
- ✓ **Integration Testing:** Under this testing method system will be integrated with the operational environment and ensure the applicability.
- ✓ **System Testing:** System testing tests a completely integrated system to verify that it meets its requirements.

9. Data Dictionary

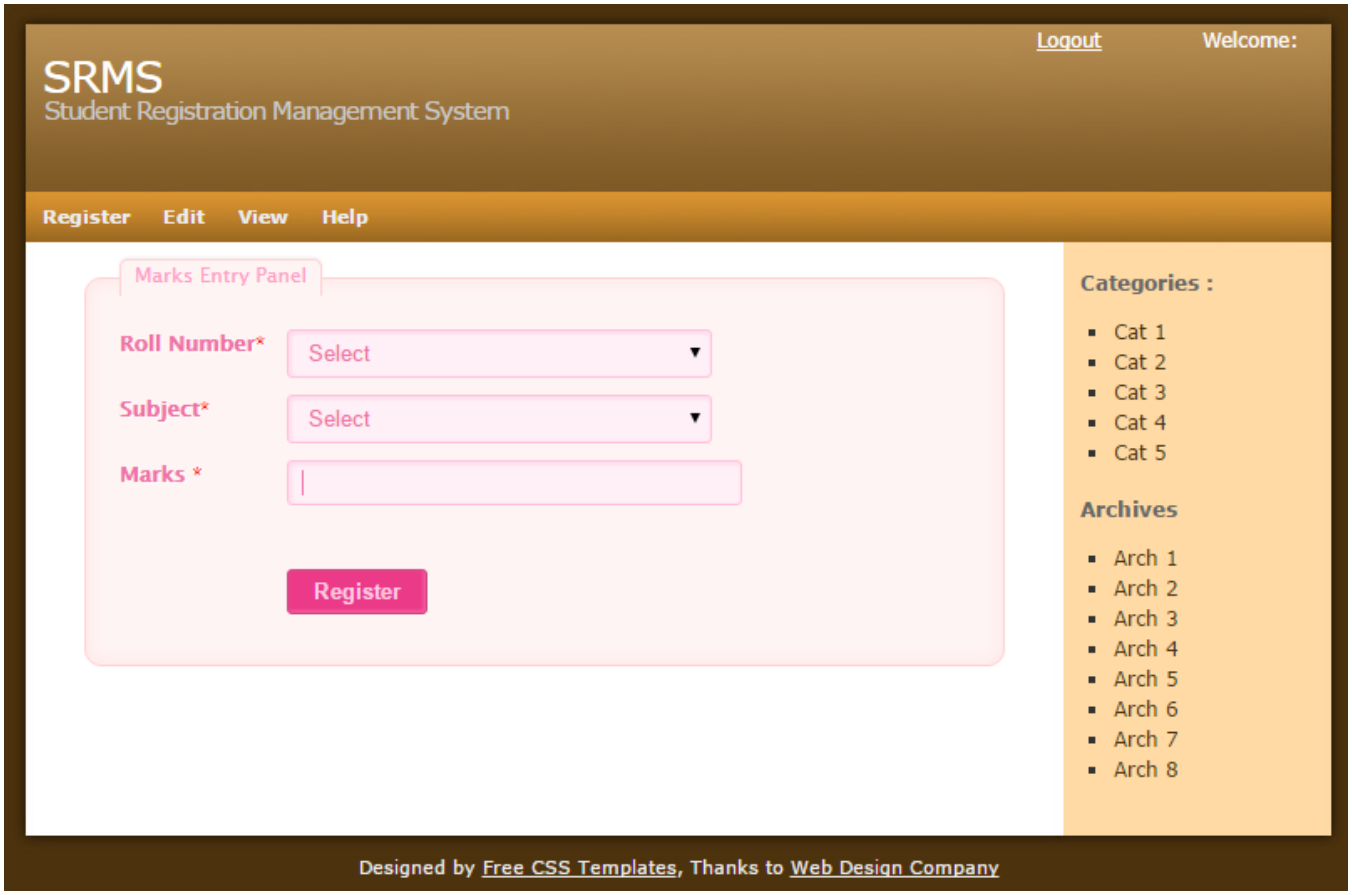


10. Detail of the project with snapshot and codes

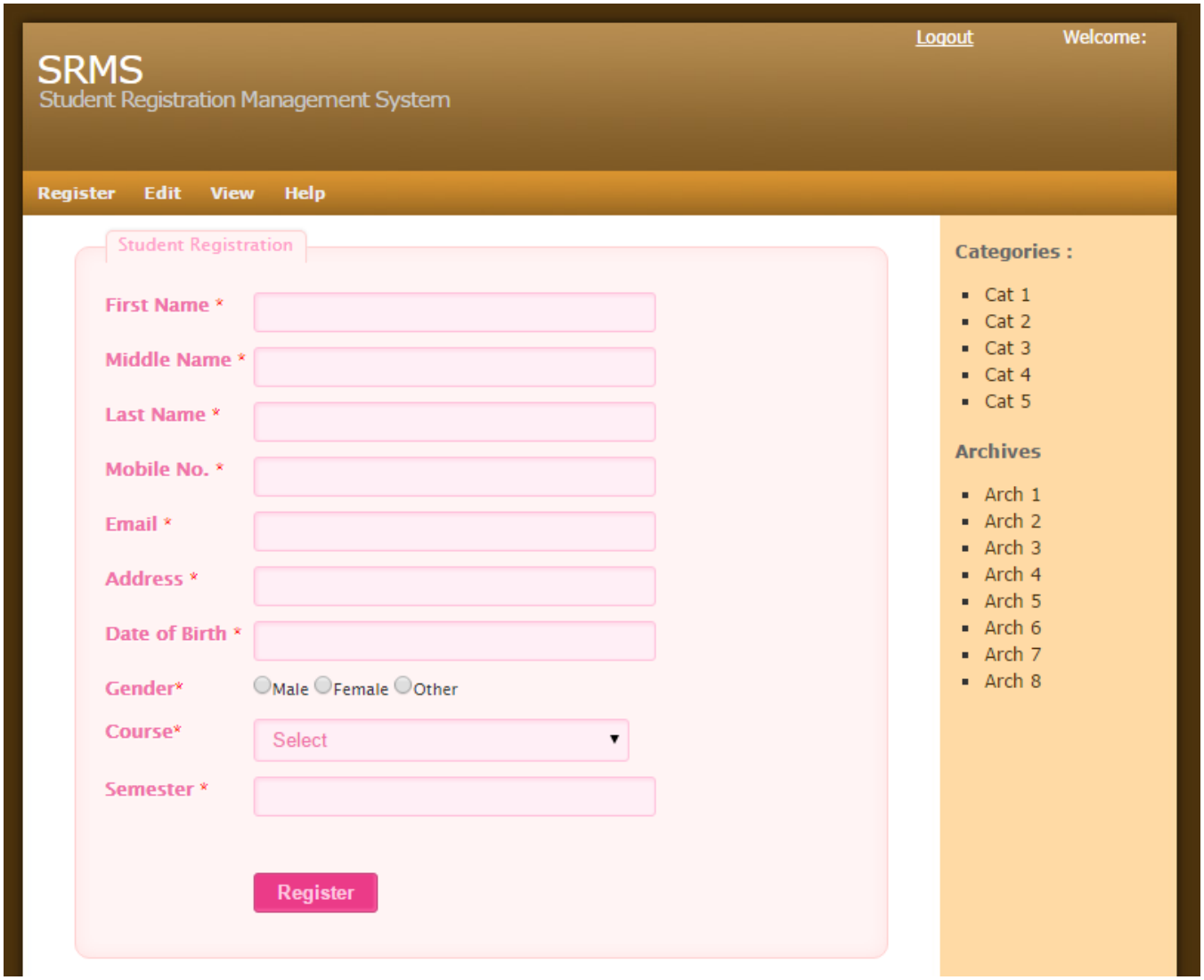
Login Page:



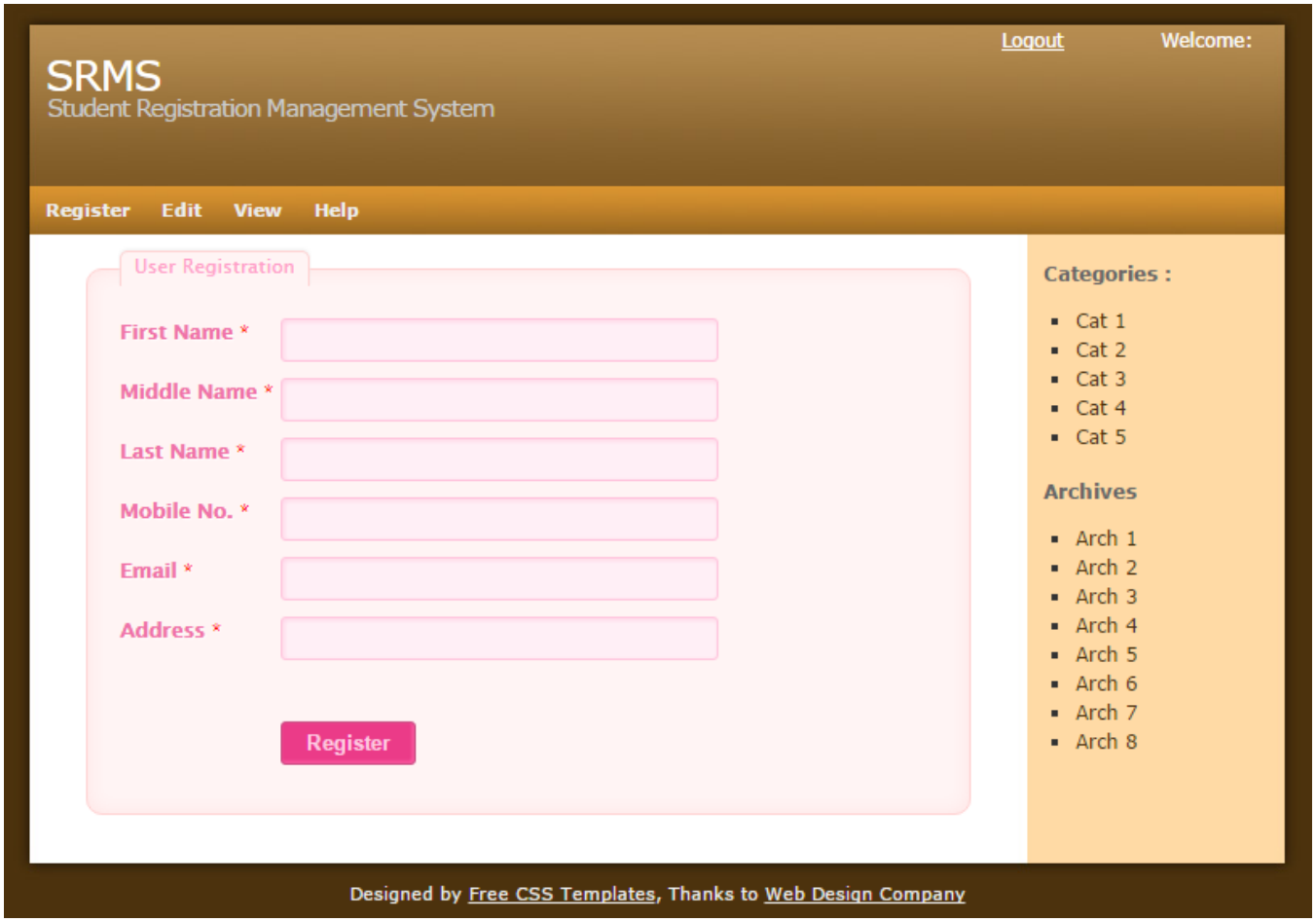
Marks Entry:


Logout
Welcome:
SRMS
Student Registration Management System
Register
Edit
View
Help
Marks Entry Panel
Roll Number*
Select
Subject*
Select
Marks *
Register
Categories :
Cat 1
Cat 2
Cat 3
Cat 4
Cat 5
Archives
Arch 1
Arch 2
Arch 3
Arch 4
Arch 5
Arch 6
Arch 7
Arch 8
Designed by Free CSS Templates, Thanks to Web Design Company

Student Registration:



User Registration:



Note: More screen shots will be added later.

11. User Operation Manual

11.1. Support and Maintenance

Software maintenance is used to describe the software engineering activities that occurs following delivery of the software life cycle is time period in which software performs useful work. It may define by describing fare activities that are undertaken after a program is released for use. During the use of the large programs, error will occur and supported to the developer. The program that includes the diagnosis and correction of one or more errors are called corrective maintenance. The other activities that contribute to the definition of maintenance occur when

There occurs a rapid change that is encountered in every aspects of computing. An activity that modifies software to properly interface with the changing environment is adaptive maintenance.

11.2 Future Scope

At a later point of time we plan to enhance our software. The following points would be given emphasis on:

- Student will login to system by making online access.
- And also provides to access from mobile phones

11.3. Backup and Recovery

It is always good practice to back up your all-important file and data. And even important to back up your data which is in the software for future use or disaster recovery or for changing to different machine. That why I have added a feature for backing up data and recovering or importing data to software. Backup and Recovery are not automatic in this software rather you have backup and recovery your data manual by clicking button.

11.4. Security

Security is the one of the most important part of software development. In this project two security levels are there .Since; this software cannot be used without authentication user. And another this software first check if username and password is valid or not. Then only gives access to user to work in software.