# COMPUTER UNIVERSITY (MANDALAY)

**FINAL YEAR PROJECT REPORT**

**ON**

# ONLINE ENROLLMENT SYSTEM FOR MATRICULATED STUDENTS

**Bachelor of Computer Science**

**(B.C.Sc)**

**Presented by Group (7)**

**2014-2015**

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# Project Schedule

**Project Proposal : : March,2015**

**First Seminar : : 10.6.2015**

**Second Semiar : : 15.6.2015**

**Third Seminar : : 20.8.2015**

**Book Submission : : 20.8.2015**

| Time Schedule | March 2015 | May 2015 | June 2015 | July 2015 | August 2015 |
|---|---|---|---|---|---|
| Project Proposal | | | | | |
| First Seminar | | | | | |
| Second Seminar | | | | | |
| Third Seminar | | | | | |
| Book Submission | | | | | |

## Abstract

This project is online enrollment system for matriculated students. If the user is a matriculated student, he/she chooses the majors as he/she likes. After choosing process, the student would be accepted for the respective major. The project would be arranged students' marks by using Bubble sort method. Finally, it would be issue the students to register in the desired university /collage /major. It would be implemented by using PHP.

# CHAPTER 1

# INTRODUCTION

## 1.1 Introduction

Nowadays, the internet has been the hot topic and it doesn't seem likely that topic will cool down in the near future. The internet is a world wide web collection of interconnected computer system and series of several different types of Computer series. Web creation is very popular in these days and people use web sites to advertise their business and to expand marketing. Computer and Web application bring a significant revolution in the social life, especially to the traditional mechanism education. In this project, the web based on enrollment system for matriculated students is the main target. This project granted to enroll the students in everywhere if they can access the internet. This project helped students to enroll more easier and faster than the manual enrol system.

## 1.2 Objectives of the Project

- To enroll in everywhere if they can access the internet.
- To save the extra bit of time for enrollment and to minimize unnecessary paper work.
- No need to go to the post office and to be more convince.
- To understand database and web-based client server system by using internet.
- To understand administrators how to maintain and manage their role and the users.

**1.3 Project Requirements**

**1.3.1 Hardware Requirements**

Processor – Pentium P4 1.8 GHz

Memory -4GB DDR3

H D D -500 GB

**1.3.2 Software Requirements**

Application Software - NewSphere PHP

Database Software - MySQL server5.1

Programming Language - PHP

# CHAPTER 2

# BUBBLE SORT

## 2.1 Data Structure

A data structure is an arrangement of data in a computer's memory (or sometimes on a disk). Data structures include array, linked list, stacks, binary trees, and hash tables, among orders. Algorithm manipulates the data in various ways. Such as searching for a particular data item and sorting the data.

## 2.2 Sorting

Sorting is arranging an element in some type of order. It is also arranging numerical data in decreasing or increasing order and arranging non-numerical data in alphabetical order. Sorting is very important and time consuming, potentially it has been the subject of extensive research in computer science. Sorting may seem to be a trivial task, sorting efficiently may be quite complicated. In fact, there are many many different sorting algorithms; some of these algorithms – they are Bubble sort, Selection sort, Insertion sort, Merge sort, etc and so on. This project is applied by using Bubble Sort method from Sorting theory.

## 2.3 Bubble sort

A bubble sort, a sorting algorithm that continuously steps through a list, **swapping** items until they appear in the correct order. **Bubble Sort** is the simplest sorting algorithm that works by repeatedly swapping the adjacent elements if they are in wrong order. Although bubble sort is one of the simplest sorting algorithms to understand and implement, its **O(n$^2$)** complexity means that its efficiency decreases dramatically on lists of more than a small number of elements.

**Bubble sort**, sometimes referred to as **sinking sort**, is a simple sorting algorithm that repeatedly steps through the list to be sorted, compares each pair of adjacent items and swaps them if they are in the wrong order. The pass through the list is repeated until no swaps are needed, which indicates that the list is sorted. The algorithm, which is a comparison sort, is named for the way smaller elements "bubble" to the top of the list.

It can be practical if the input is usually in sort order but may occasionally have some out-of-order elements nearly in position.

### 2.3.1 Performance

Bubble sort has worst-case and average complexity both **O($n^2$),** where *n* is the number of items being sorted. There exist many sorting algorithms with substantially better worst-case or average complexity of O (n log n). Even other O ($n^2$) sorting algorithms, such as **insertion sort**, tend to have better performance than bubble sort. Therefore, bubble sort is not a practical sorting algorithm when n is large.

| | |
|---|---|
| **Worst case performance** | $O(n^2)$ |
| **Best case performance** | $O(n)$ |
| **Average case performance** | $O(n^2)$ |
| **Worst case space complexity** | $O(1)$auxiliary |

The only significant advantage is that bubble sort has over most other implementations, even **quicksort**, but not **insertion sort**, is that the ability to detect that the list is sorted is efficiently built into the algorithm. When the list is already sorted (best-case), the complexity of bubble sort is only O(*n*). By contrast, most other algorithms, even those with better **average-case complexity,** perform their entire sorting process on the set and thus are more complex. However, not only does **insertion sort** have this mechanism too, but it also performs better on a list that is substantially sorted (having a small number of **inversions**).

It requires at least twice as many writes as insertion sort, twice as many cache misses, and asymptotically more **branch mispredictions.** Bubble sort is **asymptotically** equivalent in running time to insertion sort in the worst case, but the two algorithms differ greatly in the number of swaps necessary. For these reasons many modern algorithm textbooks avoid using the bubble sort algorithm in favor of insertion sort.

Due to its simplicity, bubble sort is often used to introduce the concept of an algorithm, or a sorting algorithm, to introductory **computer science** students.

## 2.3.2 Pseudocode for Bubble Sort

```
procedure bubbleSort ( A : list of sort table items )
  n = length(A)
  repeat
   swapped = false
   for i = 1 to n-1 inclusive do
    /* if this pair is out of order */
    if A[i-1] <A[i] then
     /* swap them and remember something changed */
     swap( A[i-1], A[i] )
     swapped = true
    end if
       end for
  until not swapped
end procedure
```

## 2.4 Algorithm Description

**Bubble Sort Algorithm**

BUBBLE (DATA, N)

Here DATA is an array with N elements. This algorithm sorts the elements in DATA.

1. Repeat Steps 2 and 3 for K=1 to N-1.

2. Set PTR :=1. [ Initializes pass pointer PTR. ]

3. Repeat while PTR =< N – K. [ Executes pass.]

   (a) If DATA [PTR] < DATA [PTR+1] then:

   Interchange DATA [PTR] and DATA [PTR+1].

   [End of If structure.]

   (b) Set PTR:=PTR+1.

   [ *End of inner loop.*]

   [End of Step 1 outer loop. ]

4. Exit.

## 2.5 Step-by-step example

In this task, the goal is to sort an array of elements using the bubble sort algorithm. The elements must have a total order and the index of the array can be of any discrete type. For languages where this is not possible, sort an array of integers.

Let us take the array of numbers "5 1 4 2 8", and sort the array from greatest number to lowest number using bubble sort. In each step, elements written in bold are being compared. Four passes will be required.

**First Pass:**

( 5 1 4 2 8 ) →( 5 1 4 2 8 ), Here, algorithm compares the first two elements, and swap since 5 < 1.

( 5 1 4 2 8 ) →( 5 4 1 2 8 ), Swap since 1 < 4

( 5 4 1 2 8 ) →( 5 4 2 1 8 ), Swap since 1 < 2

( 5 4 2 1 8 ) →( 5 4 2 8 1 ), Now, since these elements are already in order (1 < 8), algorithm swap them.

**Second Pass:**

( 5 4 2 8 1 ) →( 5 4 2 8 1 )

( 5 4 2 8 1 ) →( 5 4 2 8 1 )

( 5 4 2 8 1 ) →( 5 4 8 2 8 ), Swap since 2 < 8

( 5 4 8 2 1 ) →( 5 4 8 2 1 )

**Third Pass:**

( 5 4 8 2 1 ) →( 5 4 8 2 1 )

( 5 4 8 2 1 ) →( 5 8 4 2 1 ), Swap since 4 < 8

( 5 8 4 2 1 ) →( 5 8 4 2 1 )

( 5 8 4 2 1 ) →( 5 8 4 2 1 )

**Fourth Pass:**

( 5 8 4 2 1 ) →( 8 5 4 2 1 ), Swap since 5 < 8

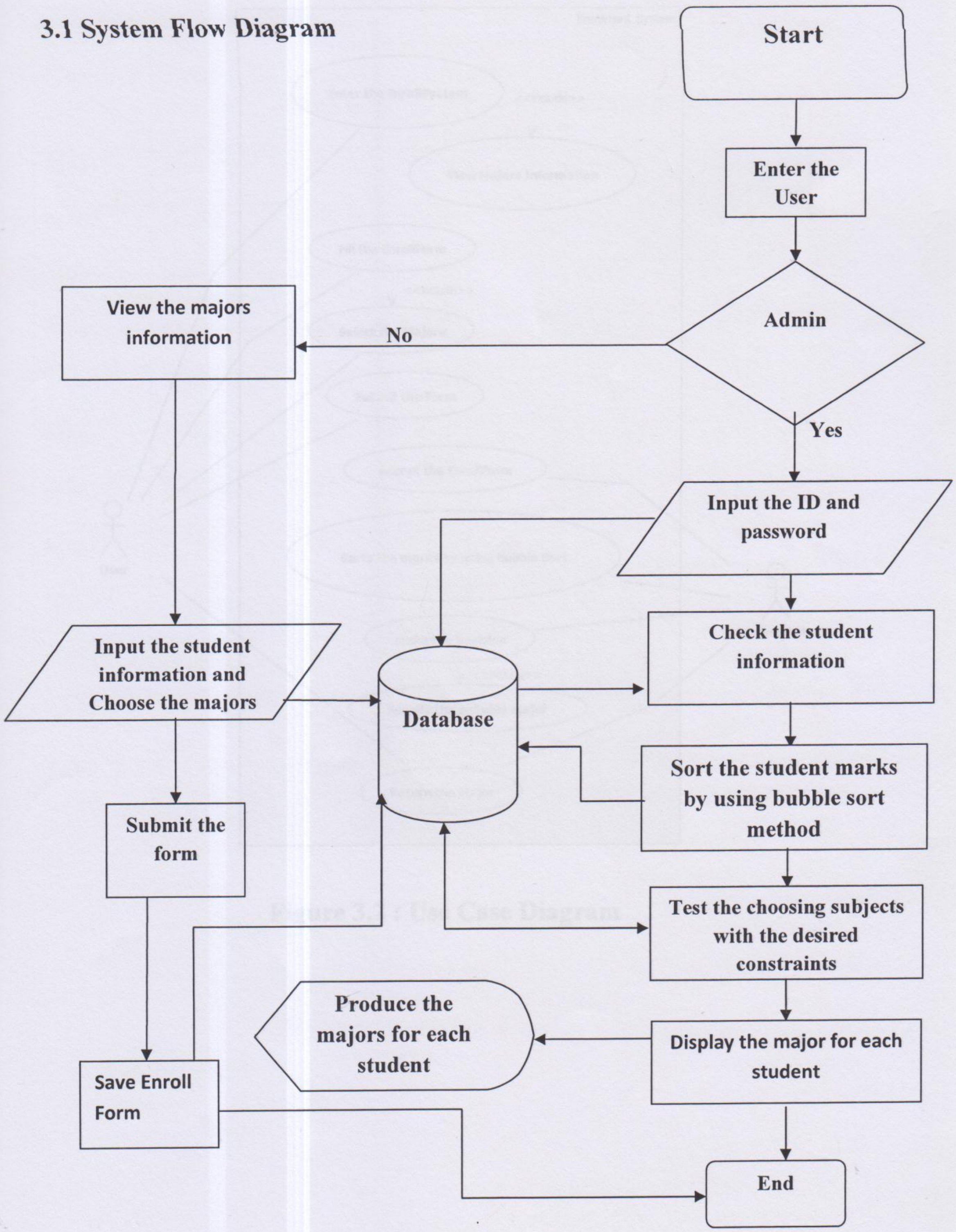
( 8 5 4 2 1 ) →( 8 5 4 2 1 )

After sort: 8 5 4 2 1

# CHAPTER 3

# DESIGN AND IMPLEMENTATION

## 3.1 System Flow Diagram



## 3.2 Use Case Diagram

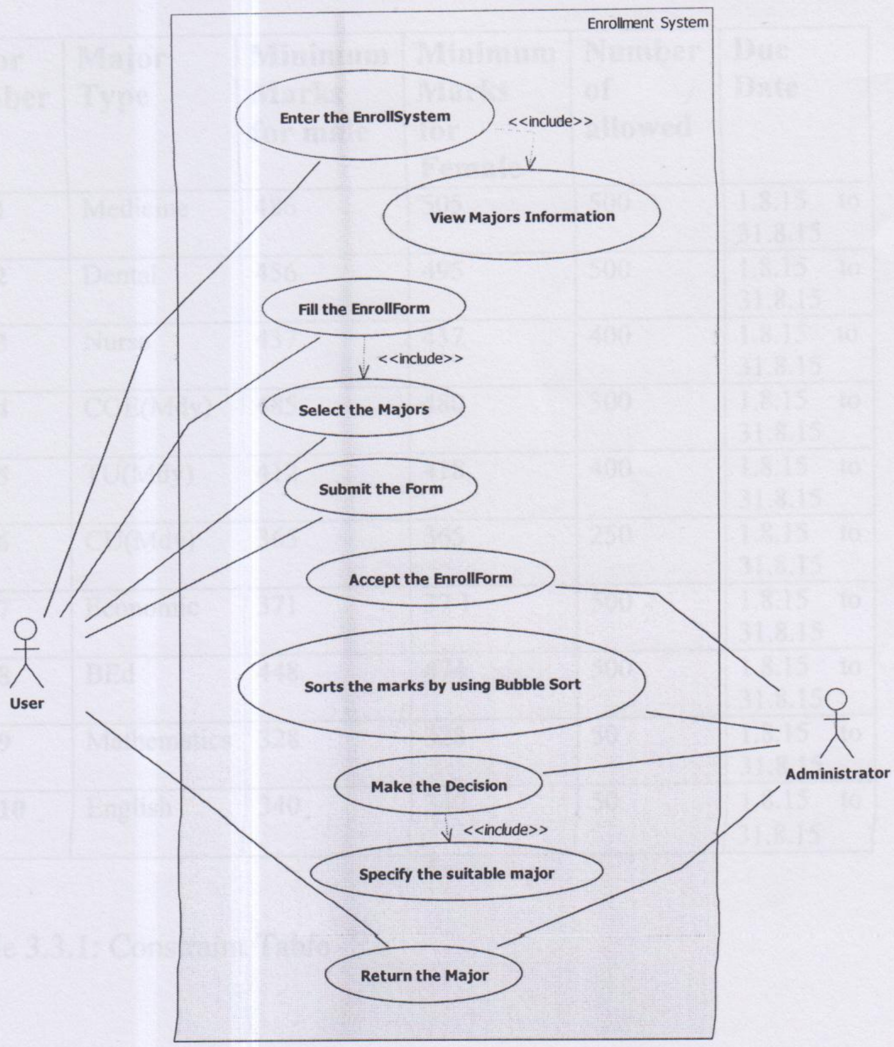



**Figure 3.2 : Use Case Diagram**

## 3.3 Data Set Tables

**DataSet**

| Major Number | Major Type | Minimum Marks for male | Minimum Marks for Female | Number of allowed | Due Date |
|---|---|---|---|---|---|
| **M001** | Medicine | 486 | 505 | 500 | 1.8.15 to 31.8.15 |
| **M002** | Dental | 456 | 495 | 500 | 1.8.15 to 31.8.15 |
| **M003** | Nurse | 437 | 437 | 400 | 1.8.15 to 31.8.15 |
| **M004** | COE(Mdy) | 485 | 480 | 300 | 1.8.15 to 31.8.15 |
| **M005** | TU(Mdy) | 412 | 418 | 400 | 1.8.15 to 31.8.15 |
| **M006** | CU(Mdy) | 365 | 365 | 250 | 1.8.15 to 31.8.15 |
| **M007** | Economic | 371 | 37 1 | 500 | 1.8.15 to 31.8.15 |
| **M008** | BEd | 448 | 474 | 500 | 1.8.15 to 31.8.15 |
| **M009** | Mathematics | 328 | 328 | 50 | 1.8.15 to 31.8.15 |
| **M0010** | English | 340 | 340 | 50 | 1.8.15 to 31.8.15 |

Table 3.3.1: Constraint Table

## 3.4 Implementation of the Project

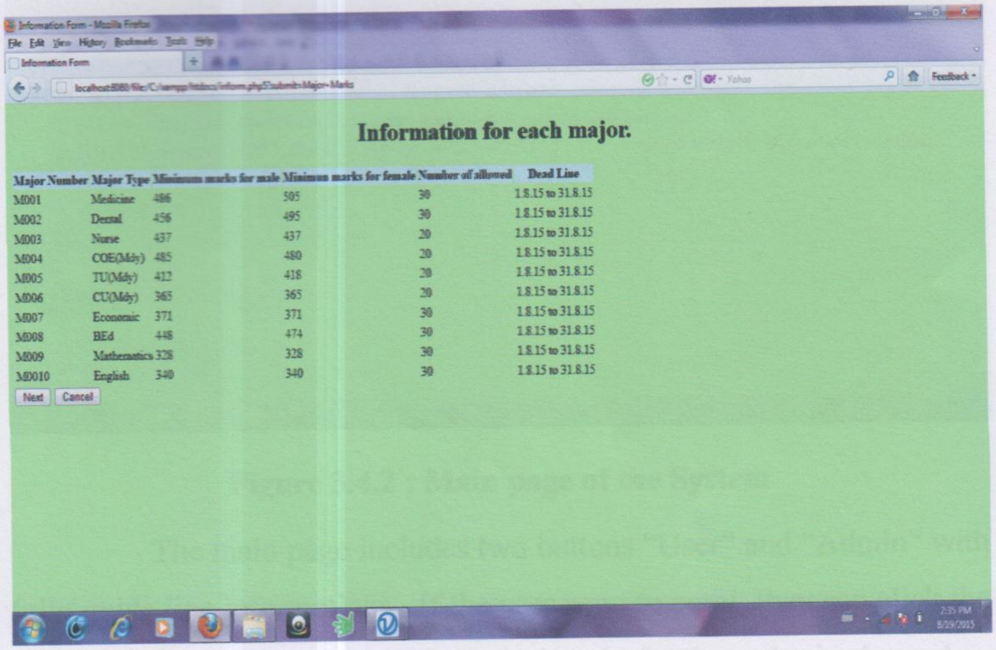



**Figure 3.4.1 : Information page of the system**

In the information page, the informations are fully declared. User can be seen every desired information and the “Next” button can be performed if the user want to see more. If not, the “Cancel” button may be click to leave from the web page.

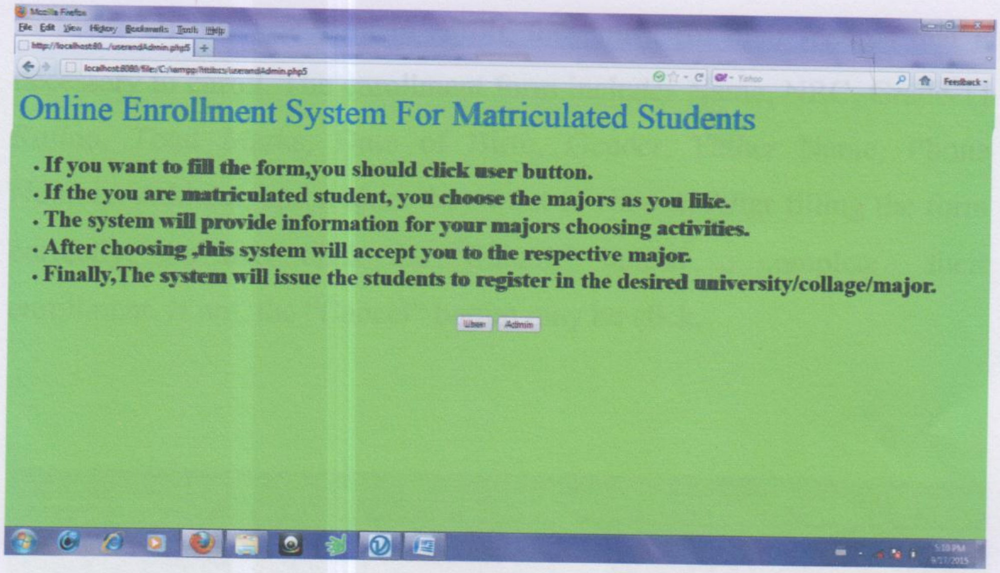



**Figure 3.4.2 : Main page of the System**

The main page includes two buttons "User" and "Admin" with fully guide line informations. If the user want to enrol, they can click the "User" button. And the "admin" button is only for the authorized people.

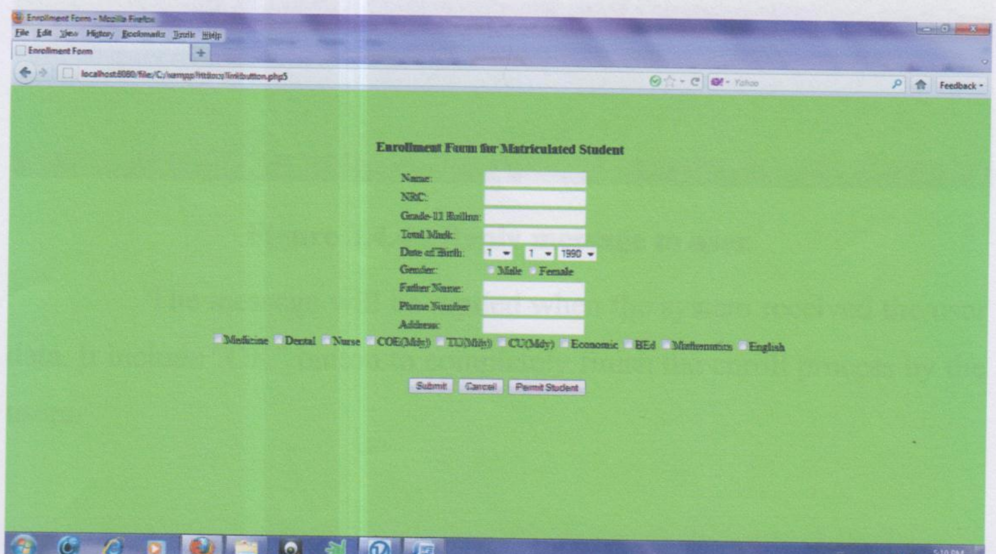



**Figure 3.4.3 : Enrollment form**

If the user want to enroll, they must fill their records that is necessary to enroll. The enrollment form includes Name, NRC, Grade-11 Rollno, Total Marks, Date of Birth, Gender, Father Name, Phone Number, Address, and majors they want to choose. After filling the form correctly, the user click the "Submit" button to complete their enrollment. If not, the "Cancel" button may be click.

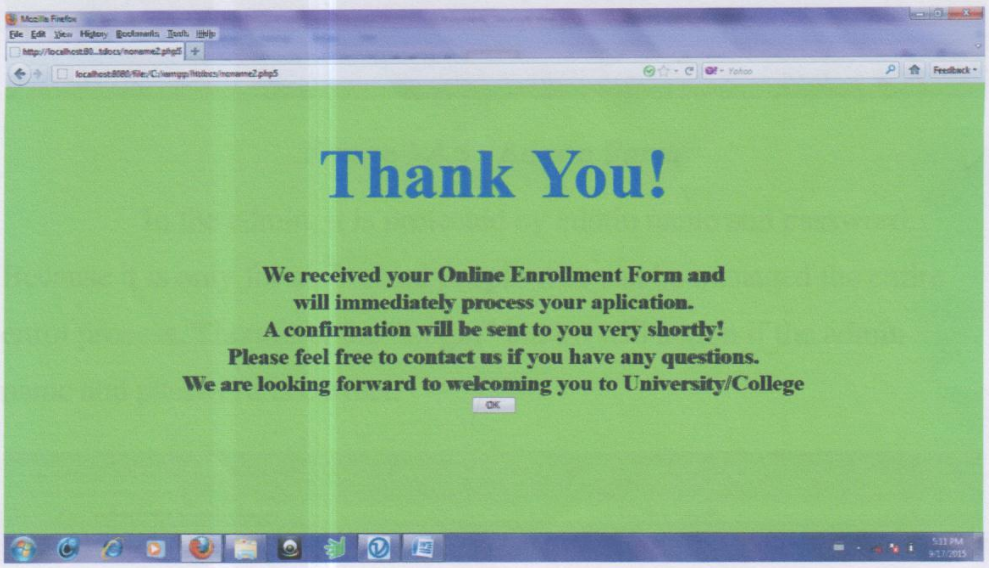



**Figure 3.4.4 : Reply message to user**

The message will be replied when the system received the user data. It include "OK" button to completely finish the enroll process by the users.

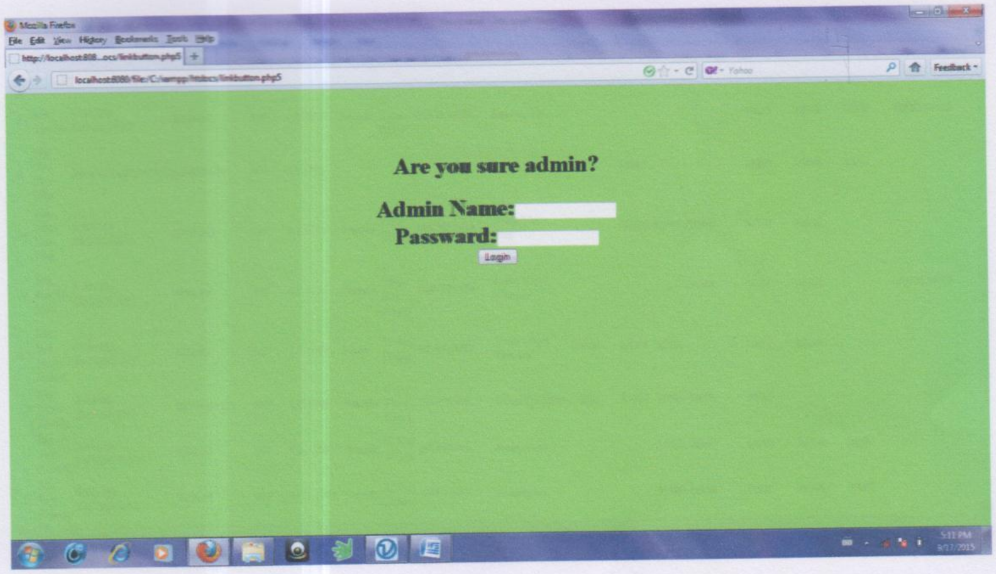
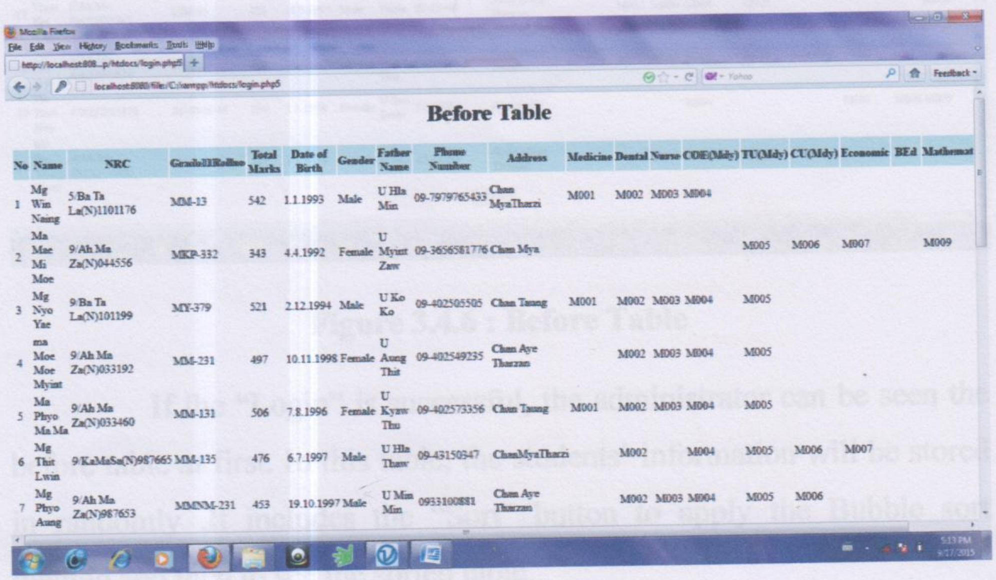


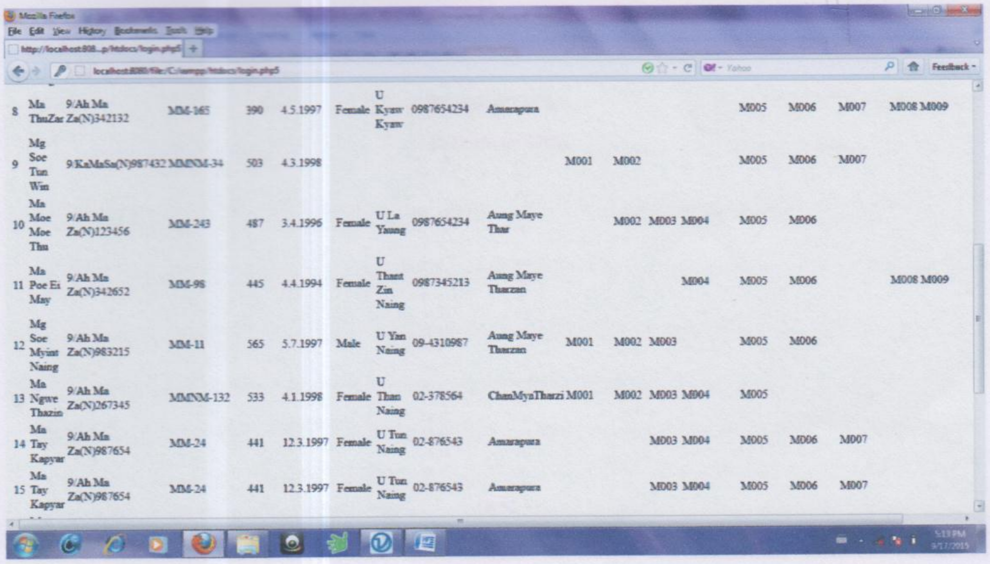

**Figure 3.4.5 : Admin Form**

In the admin, it is protected by admin name and password. Because it is only for authorized people who can be managed the entire enrol process. Therefore, the "Login" button will action if the admin name and password is correct.

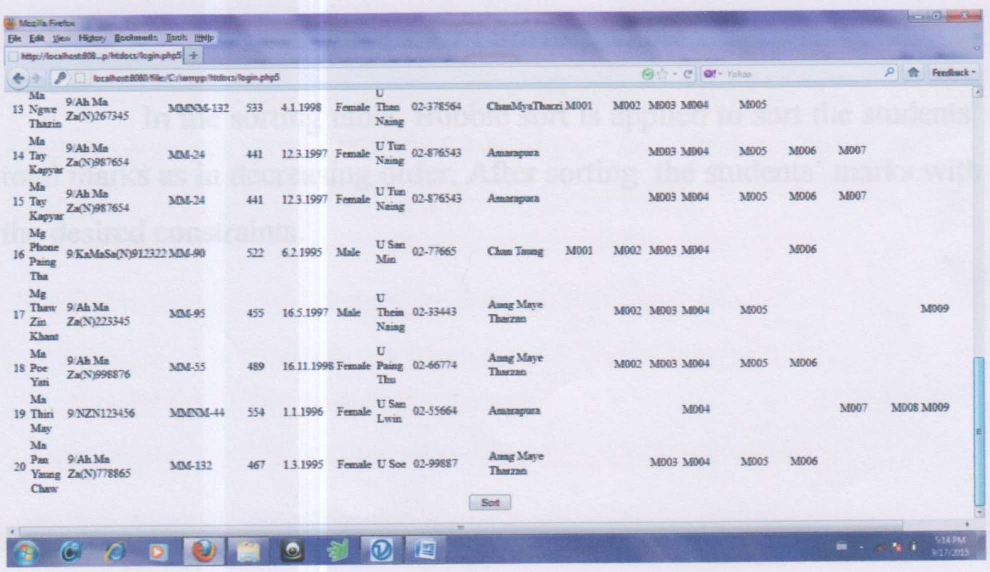


**Before Table**

| No | Name | NRC | Grade11Rollno | Total Marks | Date of Birth | Gender | Father Name | Phone Number | Address | Medicine | Dental | Nurse | COE(Mdy) | TU(Mdy) | CU(Mdy) | Economic | BEd | Mathemat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Mg Win Naing | 5/Ba Ta La(N)1101176 | MM-13 | 542 | 1.1.1993 | Male | U Hla Min | 09-7979765433 | Chan MyaTharzi | M001 | M002 | M003 | M004 | | | | | |
| 2 | Ma Mae Mi Moe | 9/Ah Ma Za(N)044556 | MKP-332 | 343 | 4.4.1992 | Female | U Myint Zaw | 09-3656581776 | Chan Mya | | | | | M005 | M006 | M007 | | M009 |
| 3 | Mg Nyo Yae | 9/Ba Ta La(N)101199 | MY-379 | 521 | 2.12.1994 | Male | U Ko Ko | 09-402505505 | Chan Taung | M001 | M002 | M003 | M004 | M005 | | | | |
| 4 | ma Moe Moe Myint | 9/Ah Ma Za(N)033192 | MM-231 | 497 | 10.11.1998 | Female | U Aung Thit | 09-402549235 | Chan Aye Tharzan | | M002 | M003 | M004 | M005 | | | | |
| 5 | Ma Phyo Ma Ma | 9/Ah Ma Za(N)033460 | MM-131 | 506 | 7.8.1996 | Female | U Kyaw Thu | 09-402573356 | Chan Taung | M001 | M002 | M003 | M004 | M005 | | | | |
| 6 | Mg Thit Lwin | 9/KaMaSa(N)987665 | MM-135 | 476 | 6.7.1997 | Male | U Hla Thaw | 09-43150347 | ChanMyaTharzi | | M002 | | M004 | M005 | M006 | M007 | | |
| 7 | Mg Phyo Aung | 9/Ah Ma Za(N)987653 | MMNM-231 | 453 | 19.10.1997 | Male | U Min Min | 0933100881 | Chan Aye Tharzan | | M002 | M003 | M004 | M005 | M006 | | | |



| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8 | Ma ThuZar | 9/Ah Ma Za(N)342132 | MM-165 | 390 | 4.5.1997 | Female | U Kyaw Kyaw | 0987654234 | Amarapura | | | | | M005 | M006 | M007 | M008 | M009 |
| 9 | Mg Soe Tun Win | 9/KaMaSa(N)987432 | MMNM-34 | 503 | 4.3.1998 | | | | | M001 | M002 | | | M005 | M006 | M007 | | |
| 10 | Ma Moe Moe Thu | 9/Ah Ma Za(N)123456 | MM-243 | 487 | 3.4.1996 | Female | U La Yaung | 0987654234 | Aung Maye Thar | | M002 | M003 | M004 | M005 | M006 | | | |
| 11 | Ma Poe Ei May | 9/Ah Ma Za(N)342652 | MM-98 | 445 | 4.4.1994 | Female | U Thant Zin Naing | 0987345213 | Aung Maye Tharzan | | | | M004 | M005 | M006 | | M008 | M009 |
| 12 | Mg Soe Myint Naing | 9/Ah Ma Za(N)983215 | MM-11 | 565 | 5.7.1997 | Male | U Yan Naing | 09-4310987 | Aung Maye Tharzan | M001 | M002 | M003 | | M005 | M006 | | | |
| 13 | Ma Ngwe Thazin | 9/Ah Ma Za(N)267345 | MMNM-132 | 533 | 4.1.1998 | Female | U Than Naing | 02-378564 | ChanMyaTharzi | M001 | M002 | M003 | M004 | M005 | | | | |
| 14 | Ma Tay Kapyar | 9/Ah Ma Za(N)987654 | MM-24 | 441 | 12.3.1997 | Female | U Tun Naing | 02-876543 | Amarapura | | | M003 | M004 | M005 | M006 | M007 | | |
| 15 | Ma Tay Kapyar | 9/Ah Ma Za(N)987654 | MM-24 | 441 | 12.3.1997 | Female | U Tun Naing | 02-876543 | Amarapura | | | M003 | M004 | M005 | M006 | M007 | | |



| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | Ma Ngwe Thazin | 9/Ah Ma Za(N)267345 | MMNM-132 | 533 | 4.1.1998 | Female | U Than Naing | 02-378564 | ChanMyaTharzi | M001 | M002 | M003 | M004 | M005 | | | | |
| 14 | Ma Tay Kapyar | 9/Ah Ma Za(N)987654 | MM-24 | 441 | 12.3.1997 | Female | U Tun Naing | 02-876543 | Amarapura | | | M003 | M004 | M005 | M006 | M007 | | |
| 15 | Ma Tay Kapyar | 9/Ah Ma Za(N)987654 | MM-24 | 441 | 12.3.1997 | Female | U Tun Naing | 02-876543 | Amarapura | | | M003 | M004 | M005 | M006 | M007 | | |
| 16 | Mg Phone Paing Tha | 9/KaMaSa(N)912322 | MM-90 | 522 | 6.2.1995 | Male | U San Min | 02-77665 | Chan Taung | M001 | M002 | M003 | M004 | | M006 | | | |
| 17 | Mg Thaw Zin Khant | 9/Ah Ma Za(N)223345 | MM-95 | 455 | 16.5.1997 | Male | U Thein Naing | 02-33443 | Aung Maye Tharzan | | M002 | M003 | M004 | M005 | | | | M009 |
| 18 | Ma Poe Yati | 9/Ah Ma Za(N)998876 | MM-55 | 489 | 16.11.1998 | Female | U Paing Thu | 02-66774 | Aung Maye Tharzan | | M002 | M003 | M004 | M005 | M006 | | | |
| 19 | Ma Thiri May | 9/NZN123456 | MMNM-44 | 554 | 1.1.1996 | Female | U San Lwin | 02-55664 | Amarapura | | | | M004 | | | M007 | M008 | M009 |
| 20 | Ma Pan Yaung Chaw | 9/Ah Ma Za(N)778865 | MM-132 | 467 | 1.3.1995 | Female | U Soe | 02-99887 | Aung Maye Tharzan | | | M003 | M004 | M005 | M006 | | | |

Sort

**Figure 3.4.6 : Before Table**

If the "Login" is successful, the administrator can be seen the before table at first. In this table, the students' information will be stored in randomly .It includes the "Sort" button to apply the Bubble sort method and then to see the sorted table.

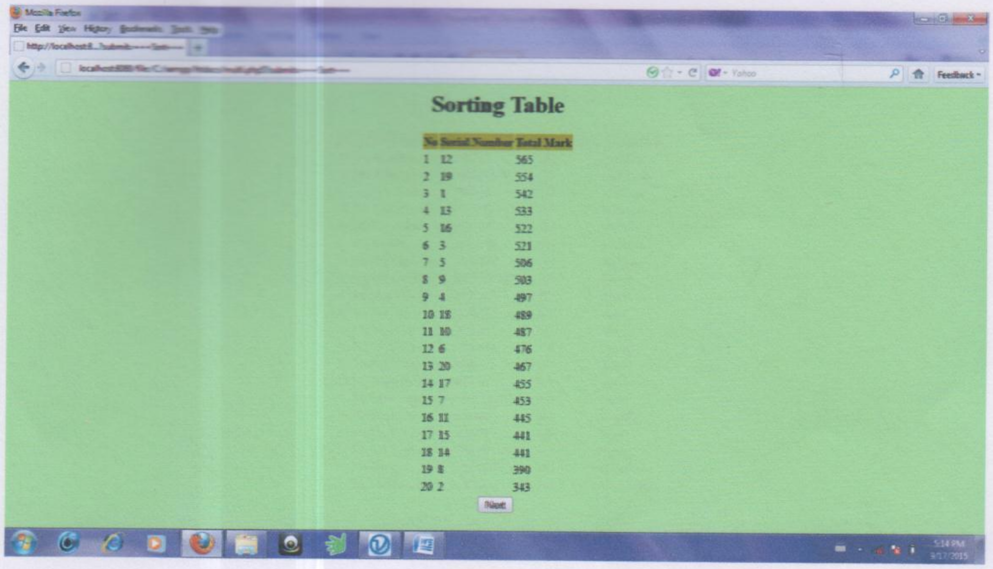
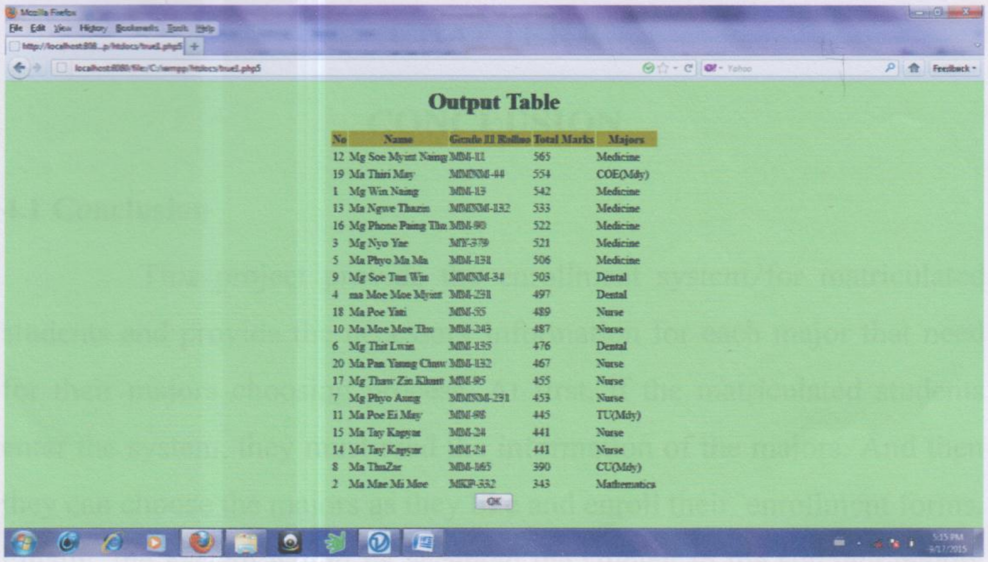



**Figure 3.4.7 : Sorting Table**

In the sorting table, Bubble sort is applied to sort the students' total marks as in decreasing order. After sorting the students' marks with the desired constraints.




| No | Name | Grade 11 Rollno | Total Marks | Majors |
|---|---|---|---|---|
| 12 | Mg Soe Myint Naing | MBM-11 | 565 | Medicine |
| 19 | Ma Thiri May | MMMNM-44 | 554 | COE(Mdy) |
| 1 | Mg Win Naing | MBM-13 | 542 | Medicine |
| 13 | Ma Ngwe Thazin | MMMNM-132 | 533 | Medicine |
| 16 | Mg Phone Paing Thu | MBM-90 | 522 | Medicine |
| 3 | Mg Nyo Yae | MYK-379 | 521 | Medicine |
| 5 | Ma Phyo Ma Ma | MBM-131 | 506 | Medicine |
| 9 | Mg Soe Tun Win | MMMNM-34 | 503 | Dental |
| 4 | ma Moe Moe Myint | MBM-231 | 497 | Dental |
| 18 | Ma Poe Yati | MBM-55 | 489 | Nurse |
| 10 | Ma Moe Moe Thu | MBM-243 | 487 | Nurse |
| 6 | Mg Thit Lwin | MBM-135 | 476 | Dental |
| 20 | Ma Pan Yaung Chaw | MBM-132 | 467 | Nurse |
| 17 | Mg Thaw Zin Khant | MBM-95 | 455 | Nurse |
| 7 | Mg Phyo Aung | MMMNM-231 | 453 | Nurse |
| 11 | Ma Poe Ei May | MBM-98 | 445 | TU(Mdy) |
| 15 | Ma Tay Kapyar | MBM-24 | 441 | Nurse |
| 14 | Ma Tay Kapyar | MBM-24 | 441 | Nurse |
| 8 | Ma ThuZar | MBM-165 | 390 | CU(Mdy) |
| 2 | Ma Mae Mi Moe | MKP-332 | 343 | Mathematics |

**Figure 3.4.8 : Output table**

Finally, the system produce the output table for each student together with No, Name, Grade-11 Rollno, Total Marks, Majors and the administrators can easily be seen the students' major.

## 4.2 Advantages of the Project

By using this system, informations about educational center can be seen easily. As a result, students enrollment can be made in a timely manner without needing to go anywhere. The system provides placing students in the suitable universities /colleges/majors respectively. The perfect services and extra information are provided by the educational center can be looked in this system.

## 4.3 Further Extension

This project can go on butter situation by updating the constraints information by the administrators in every year . This project can be reduced online traffic by using concurrency control technique.

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DATA STRUCTURE_SF

ISBN-0-07-099130-8

2. JANET VALADE

PHP5 FOR DUMMIES

ISBN-0-7645-4166-8

3. C.J.DATE

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