

Project for the Degree of B.Sc. Engineering

Mobile Doctor

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Bangabandhu Sheikh Mujibur Rahman Science and Technology
University, Gopalganj, Bangladesh

April,2016

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by

Nur-E-Alam Jony

Student ID:20141201039

Supervised by

Saleh Ahmed

Submitted to the Department of Computer Science and
Engineering of Bangabandhu Sheikh Mujibur Rahman Science
and Technology University in partial fulfillment of the
requirements for the degree of B.Sc. Engineering

Project Evaluation Committee:

Teacher Name 1

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Teacher Name 3

Project Approval

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Student's ID:20141201039

Project Title: :Mobile Doctor

We the undersigned, recommend that the project completed by the student listed above, in partial fulfillment of B.Sc. Engineering degree requirements, be accepted by the Department of Computer Science and Engineering, Bangabandhu Sheikh Mujibur Rahman Science and Technology for deposit.

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Designation of Supervisor:Asst.Professor

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Dedicated to my parents, Md.Mokter Hossain
And
Khaleda Akter

Abstract

Mobile Doctor is a **health application**. User can store their daily health data and view them when they need. Simple diseases are also diagnosed here. Drugs index gives description of medicine. Tips bring awareness. The whole system is designed such a way that anyone can access it.

Keywords: Conditional logic, array, loop, string operation, functions, file operation, structure, graphics function.

Acknowledgment

I am very much thankful to the almighty Allah for giving me the opportunity to complete the project successfully. Then I am also thankful to my supervisor, Saleh Ahmed for allowing my idea of this project. For his supervision, I have been able to do such project.

I would like to express my heartfelt thanks to all of my friends for inspiring and supporting me to make the project success.

Nur-E-Alam Jony April, 2016

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Chapter 1

Introduction

People are very busy with their regular work.They have no time to take care of their health fitness. So,for keeping their regular health data such as weight,sugar level,body temperature and blood pressure,Mobile Doctor is helpful to them.It is useful for getting a total overview of their health.It also makes the users conscious about their body fitness.There are accounts for each users.They can store their data in their individual account and access them later. It also diagnoses diseases such as fever, diarrhea, diabetic and blood pressure.It is cost free and easy to access.

Chapter 2

Related Works

There are many apps on health and fitness(Fit-tracker,Mind and Brain,Fitness Meter etc.). These apps are different categories. Some apps are on health tips,some are on drugs index, some apps store data , some are used to chat with doctor and so on.

Chapter 3

Implementation Details

I have used basic C Programming language with the header file `graphics.h` of C++ for graphics design. First user have to **create a new account**. In time of creating a new account user have to input user name and password with other information. Then four(4) text documents are created for individual user. (1. For profile, 2. For store weight data, 3. For store sugar level data, 4. For store blood pressure data). The profile text document is named with user name and password. In time of **log in** user have to input his/her user name and password that s/he used in time of creation account. It combines password and user name and then matches with the profile text documents. If it matches, then the profile open. In **Home Page** there are **Weight Chart**, **Sugar level chart**, **Body temperature chart**, **Blood pressure chart**, **Diagnose**, **Drugs index**, **Refreshment**, **Profile** and **Log out** options. In each chart, there are two options, 1. For **data adding** and 2. For **showing**. In data adding part, user input **date**(day only) and **data**(weight/sugar level/body temperature/blood pressure). Then the data is saved with date in respective file that was created during account creation. In showing part, there are two options, one for **graphical view** and another for **calender view**. It reads data from file and show them in respective view. In **diagnose** part, user choose **symptoms** and input required **test data**. Then it matches the symptoms and test data. After matching, it gives result. In **drugs index** part, user can see various drugs **brand** with their **contains**, **manufacturing company** and **prices**. These information are kept in specified file. In **profile** part, user can see his/her personal information. There are also kept a option for **refreshment**. Here user can play **Tic-Tac-Toe** game. For this, there are

a [3][3] matrix. It is **user vs. computer** game. User click mouse in one portion, then computer gives it's move. Who makes first X-X-X (for user) or O-O-O (for computer) in any line or in any diagonal, will become winner. There are **tips** option, showing various tips according to weather and also shows health tips. And last option for **log out**.

1. At first the front page will appear. User can choose log in and new account option.

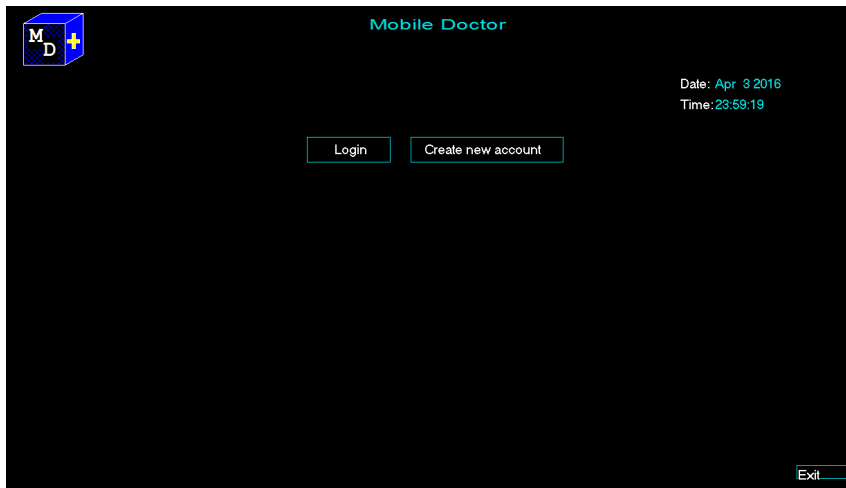
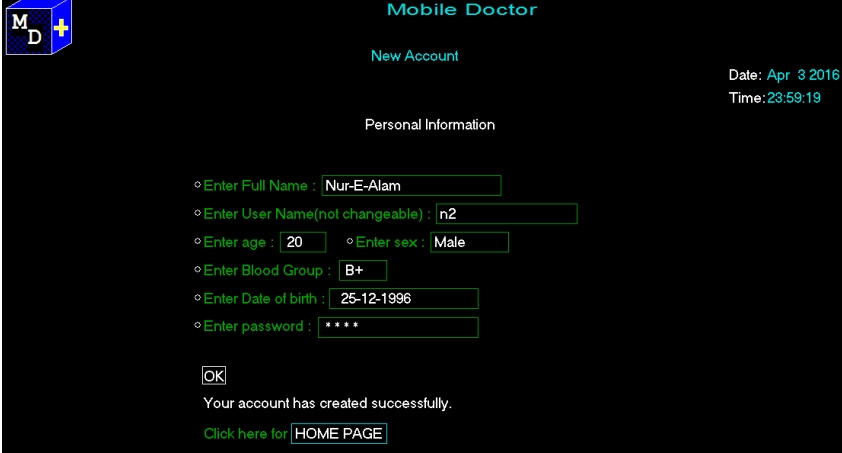


Figure 4.1: Front Page

2. If user has no previous account, s/he has to create a new account.
3. If user has a previous account, user can log in with user name and password.
4. After log in, the home page will appear. There user gets all options.
5. In every chart, there are two options (1. Adding data 2. View data). To add data user inputs date and data.
6. User can see the data of previous month in calendar view.
7. Graphical view
8. Diagnose option
9. Symptoms choose



The screenshot shows the 'Mobile Doctor' application interface for creating a new account. The title 'Mobile Doctor' is at the top center. Below it, 'New Account' is displayed. In the top right corner, the date 'Date: Apr 3 2016' and time 'Time: 23:59:19' are shown. A logo with 'M D' and a plus sign is in the top left. The section 'Personal Information' contains several input fields: 'Enter Full Name' (filled with 'Nur-E-Alam'), 'Enter User Name(not changeable)' (filled with 'n2'), 'Enter age' (filled with '20'), 'Enter sex' (filled with 'Male'), 'Enter Blood Group' (filled with 'B+'), 'Enter Date of birth' (filled with '25-12-1996'), and 'Enter password' (filled with '****'). Below these fields is an 'OK' button. A message states 'Your account has created successfully.' and a link 'Click here for HOME PAGE' is provided.

Mobile Doctor

New Account

Date: Apr 3 2016
Time: 23:59:19

Personal Information

◦ Enter Full Name : Nur-E-Alam

◦ Enter User Name(not changeable) : n2

◦ Enter age : 20 ◦ Enter sex : Male

◦ Enter Blood Group : B+

◦ Enter Date of birth : 25-12-1996

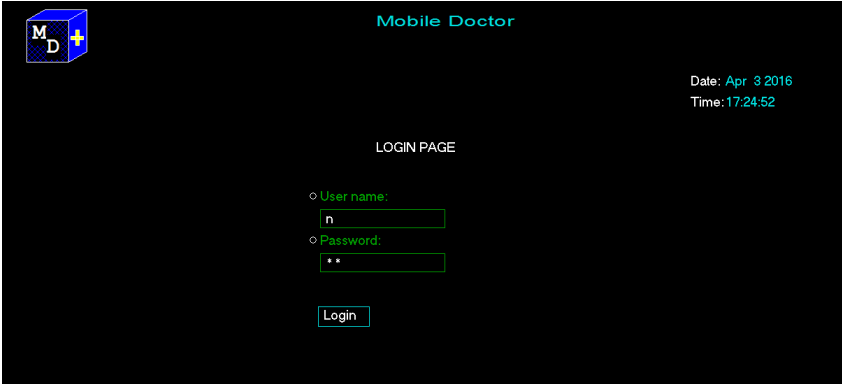
◦ Enter password : ****

OK

Your account has created successfully.

Click here for [HOME PAGE](#)

Figure 4.2: New account creation



The screenshot shows the 'Mobile Doctor' application interface for the login page. The title 'Mobile Doctor' is at the top center. In the top right corner, the date 'Date: Apr 3 2016' and time 'Time: 17:24:52' are shown. A logo with 'M D' and a plus sign is in the top left. The section 'LOGIN PAGE' contains two input fields: 'User name:' (filled with 'n') and 'Password:' (filled with '**'). Below these fields is a 'Login' button.

Mobile Doctor

Date: Apr 3 2016
Time: 17:24:52

LOGIN PAGE

◦ User name: n

◦ Password: **

Login

Figure 4.3: Log in page

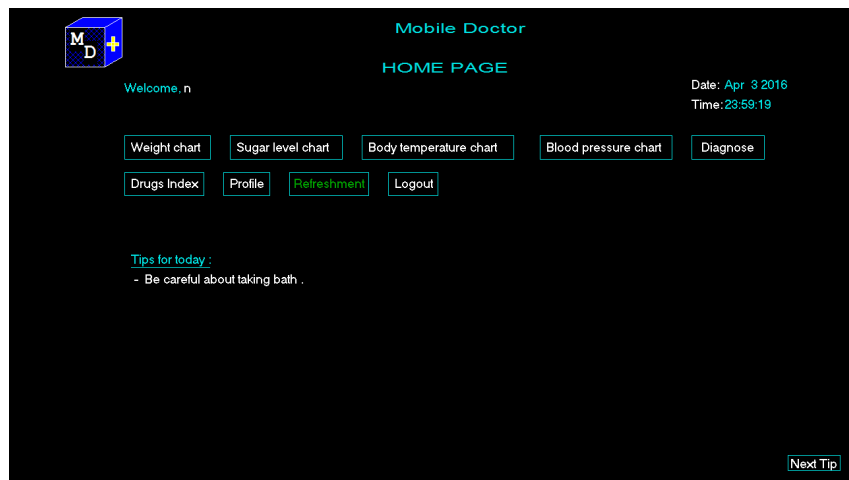


Figure 4.4: Home page

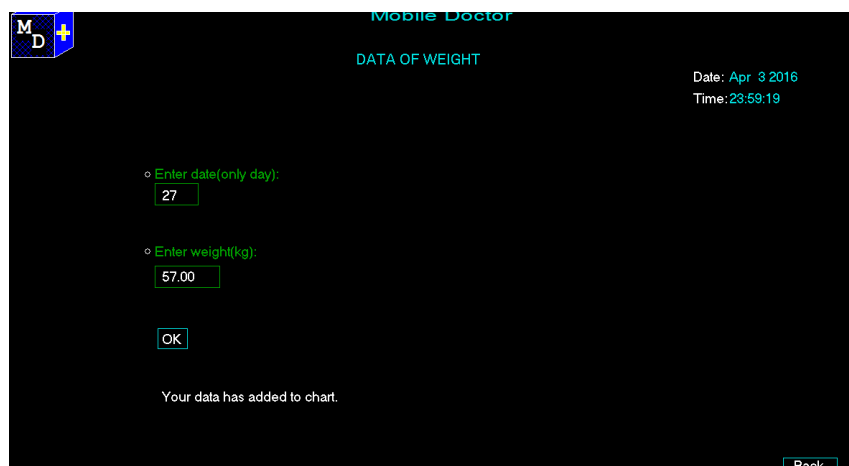
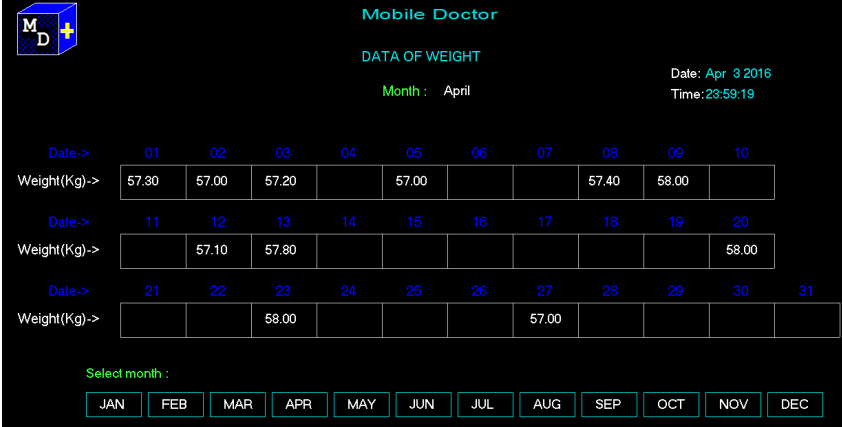


Figure 4.5: Data input



Mobile Doctor

DATA OF WEIGHT

Month : April

Date: Apr 3 2016
Time: 23:59:19

Date->	01	02	03	04	05	06	07	08	09	10	
Weight(Kg)->	57.30	57.00	57.20		57.00			57.40	58.00		
Date->	11	12	13	14	15	16	17	18	19	20	
Weight(Kg)->		57.10	57.80							58.00	
Date->	21	22	23	24	25	26	27	28	29	30	31
Weight(Kg)->			58.00				57.00				

Select month :

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

Figure 4.6: Calender-wise view

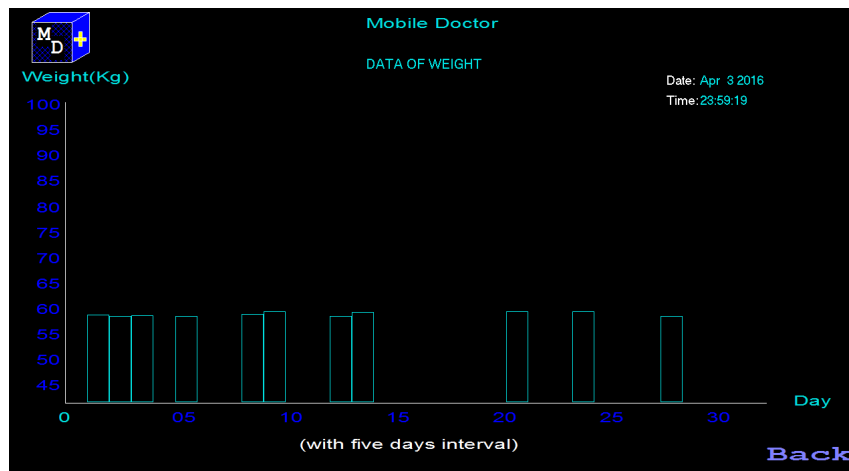
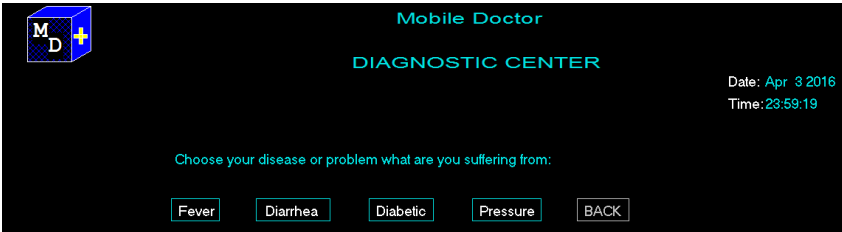


Figure 4.7: Graphical view



Mobile Doctor

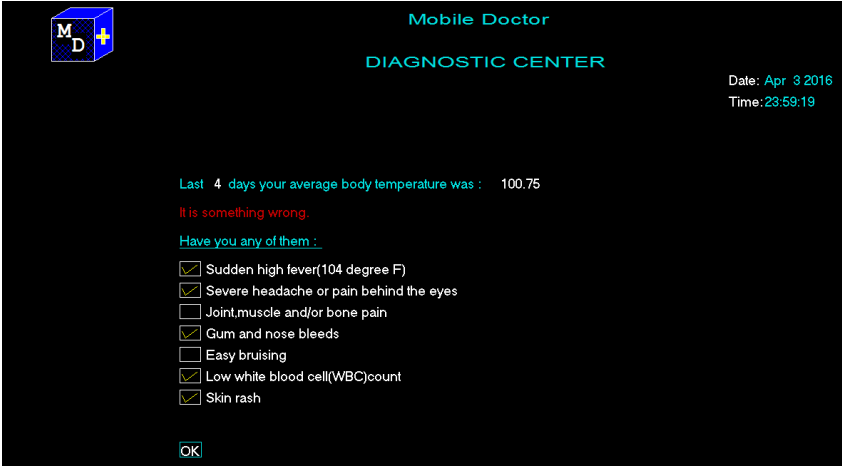
DIAGNOSTIC CENTER

Date: Apr 3 2016
Time: 23:59:19

Choose your disease or problem what are you suffering from:

Fever Diarrhea Diabetic Pressure BACK

Figure 4.8: Diagnose Part:Diseases



Mobile Doctor
DIAGNOSTIC CENTER

Date: Apr 3 2016
Time: 23:59:19

Last 4 days your average body temperature was : 100.75

It is something wrong.

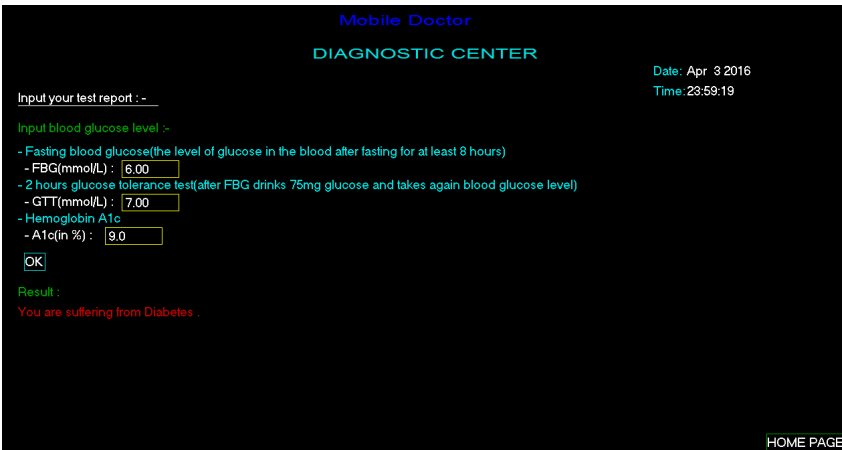
Have you any of them :

- ☒ Sudden high fever(104 degree F)
- ☒ Severe headache or pain behind the eyes
- ☐ Joint,muscle and/or bone pain
- ☒ Gum and nose bleeds
- ☐ Easy bruising
- ☒ Low white blood cell(WBC)count
- ☒ Skin rash

OK

Figure 4.9: Diagnose Part-Symptoms choose

10.Input test data and showing result



Mobile Doctor
DIAGNOSTIC CENTER

Date: Apr 3 2016
Time: 23:59:19

Input your test report :-

Input blood glucose level :-

- Fasting blood glucose(the level of glucose in the blood after fasting for at least 8 hours)
- FBG(mmol/L) : 6.00
- 2 hours glucose tolerance test(after FBG drinks 75mg glucose and takes again blood glucose level)
- GTT(mmol/L) : 7.00
- Hemoglobin A1c
- A1c(in %) : 9.0

OK

Result:

You are suffering from Diabetes .

HOME PAGE

Figure 4.10: Diagnose Part-Input test data and showing result

11.Drugs Index

12.Refreshment:Tic-Tac-Toe game,it user vs. computer game

Mobile Doctor
Description

Brand Name	Contains	Dosage Form	Manufacturer	Price(Tk)
MAGNASON	Magnesium-hydroxide-BP	Suspension	Jayson-Pharmaceuticals	12.50
MILK-OF-MAGNESIA	Magnesium-hydroxide-BP	Suspension	Doctor's-Chemical	13.00
MILK-OF-MAGNESIA	Magnesium-hydroxide-BP	Suspension	Gaco-Pharmaceutical	12.60
MILK-OF-MAGNESIA	Magnesium-hydroxide-BP	Suspension	Millat-Pharmaceuticals	19.50
MILK-OF-MAGNESIA	Magnesium-hydroxide-BP	Suspension	Modern-Pharmaceuticals	15.00
MILK-OF-MAGNESIA	Magnesium-hydroxide-BP	Suspension	Orion-Laboratories	11.55
MILK-OF-MAGNESIA	Magnesium-hydroxide	Suspension	Pharmadesh-Laboratories	14.00
MILK-OF-MAGNESIA	Magnesium-hydroxide	Suspension	Seema-Pharmaceuticals	15.00
MILK-OF-MAGNESIA-AL	Magnesium-hydroxide-BP	Suspension	Aexim-Pharmaceuticals	13.00
MILK-OF-MAGNESIA	Magnesium-hydroxide400mg/5ml	Suspension	Acme-Laboratories	13.14

[HOME PAGE](#)

Figure 4.11: Drugs index



Figure 4.12: Tic-Tac-Toe game

Chapter 5

Limitations and Future Work

It is very sensitive for diagnosing diseases. The data vary from region to region, age to age, person to person. So, it can not give proper result. In future for developing this, I will work with doctors and analyze more test datas for getting more accurate result. I will also add a option for analyzing user health data and it will also suggest user what food or exercise s/he take should.

This project will be useful and helpful for general people. It grows awareness among them about their health fitness. Simple diseases can be diagnosed without any cost. I will develop it more to get more accurate result.

Bibliography

International Journal Papers

1. **Sajal Halder**, Yongkoo Han, A. M. Jehad Sarkar and Young-Koo Lee. *An Entertainment Recommendation System using the Dynamics of User Behavior over Time*. Decision in process in the Journal of Systems and Software.
2. Md. Rezaul Karim, **Sajal Halder** , Byeong-Soo Jeong, and Ho-Jin Choi. *Efficient Mining Frequently Correlated, Associated-correlated and Independent Patterns Synchronously by Removing Null Transactions*. Human Centric Technology and Service in Smart Space, pages 93-103, 2012.
3. **Sajal Halder**, A. M. Jehad Sarkar and Young-Koo Lee. *A synthetic trajectory-based moving objects generator*. Under review in International Journal of Artificial Intelligence Tools.
4. **Sajal Halder**, Md. Mostofa Kamal Rasel, Yongkoo Han, and Young-Koo Lee. *Mining Spatiotemporal Moving Objects Swarm*. Under review in Kyung Hee University Journal..

International Conference Papers

5. Sajal Halder, Yongkoo Han and Young-Koo Lee. *Discovering Periodic Patterns using Supergraph in Dynamic Networks*. Accepted in 5th International Conference on Data Mining and Intelligent Information Technology Applications (ICMIA), Jun 18-20, South Korea, 2013.
6. Sajal Halder, A. M. Jehad Sarkar and Young-Koo Lee. *Movie Recommendation System Based on Movie Swarm*. Second International Conference on Cloud and Green Computing (CGC), China, Nov 1-3, 2012.
7. Sajal Halder, Md. Samiullah, A. M. Jehad Sarkar and Young-Koo Lee. *MovieSwarm: Information Mining technique for Movie Recommendation System*. In the 7th International Conference on Electrical and Computer Engineering (ICECE), Bangladesh, Dec 20-22, 2012.

Thesis/Project Works

8. Sajal Halder, Uzzal Kumar Dutta, Uttam Kumer Biswas and Asish Kumar Biswas “Classification of Multiple Protein Sequences by means of Irredundant Patterns”, B.Sc. Final Year Project, Department of Computer Science and Engineering (CSE), University of Dhaka (DU), Bangladesh, February, 2011.