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DBMS Project :- GYM Management System -Preliminary Report

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Introduction

The Gym Management Software is meant to automate the existing pen-paper based system. This software includes keeping track of the details of the users of gym including their personal details, dietary habits, attendance and fee status. It also keeps track of their performance daily as well as monthly and creates Report thus helping the instructors gauge the candidates more minutely. This system is supposed to be applied in the gym which will ease the work of the gym manager.

Objective

1. The main objective of the software is to develop the software that facilitates the data storage, data maintenance and its retrieval for the gym in in igneous way.
2. To store the record of the users, the Instructors and Manager who have privileges to access, modify and delete any record.
3. To develop a user-friendly system that requires minimal user training

Requirement Analysis

For this software to be built, it involves thorough study of the Gym and how the data was kept in earlier records. We parallelly created the tables in our database of software so that all possible kinds of data can be stored without any loss.

Users :
The software will be used by three kinds of users:
1. Gym Manager: Admin
2. Instructors
3. Gym Users

Details Of Modules :

A. The Admin makes use of the following functionalities:
1. He will have details of all the instructors and users of the gym.
2. He can add new users as well as new instructors by assigning them a unique
id and password.
3. He keeps the track of the fee payment details of all the gym users.
4. He analyses the monthly reports to decide the top 3 gymmers of the month and provides them with the fee waivers and offers.
5. He also manages the salary details of the instructors.

B. The Gym Users can utilise the software in following manner:
1. He can keep a track of his attendance status daily.
2. He can also check his fee payment details.
3. He can compare his performances using Daily Reports.
4. At the end of the month, he can also find his Monthly Report card.

C. The software will benefit the Instructor in the following ways:
1.He will have a list of all the users practising under him with their details and daily reports.
2. At the end of the month, He can add suggestions regarding food, medicines etc. in the monthly report.
3. He can check his own details including salary and personal information.

Existing System

In the existing system all the work is done manually and is thus time consuming but in proposed system we have computerised everything making our life easier.

Following are the limitations of existing system

- Lack of security of data
- More manpower.
- Time consuming
- Consumes large amount of paper work
- Needs manual calculations.
- No direct role for the higher Authorities

Proposed System

The aim of the proposed System is to develop a system with improved facilities .The proposed system can overcome all the limitations of existing system. The proposed system provides proper security and reduces the manual work making everything computerised.

Following are the advantages of proposed system over existing system.

- Security of data
- Ensure data Accuracy
- Proper control of the higher officials
- Minimized manual calculations and only Involve manual Data entry
- Greater efficiency
- Better Service
- User Friendliness and Interactive
- Minimum time required and thus time saving

Design

Before directly jumping to the coding its necessary to have detailed Entity Relationship Diagram and Normalized Relational Schema. So, Here are the ER diagram and Schema diagram :

ER Diagram
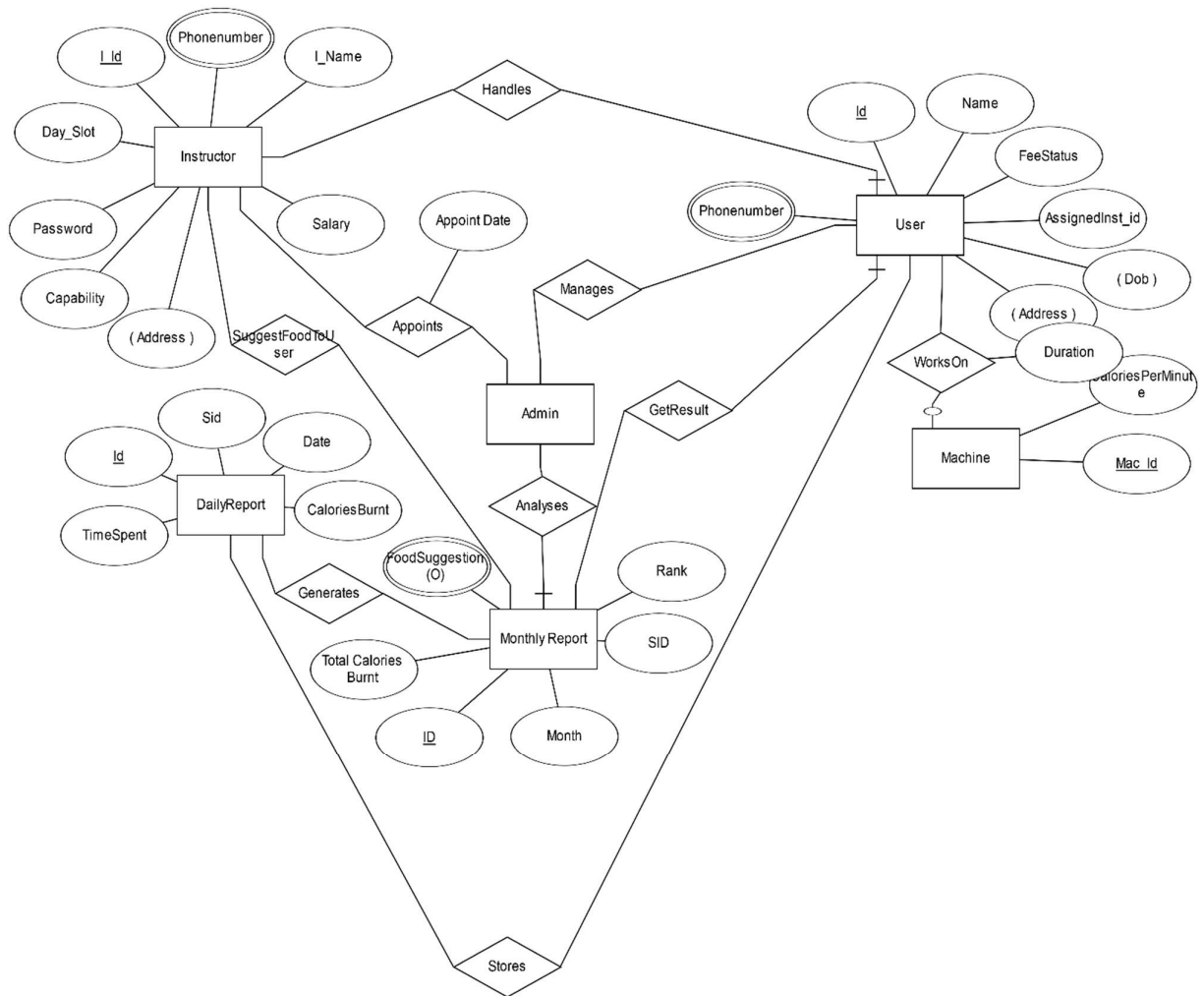
Schema Diagram

Database Relation Schema

1. Instructor

Inst_id	Password	Name	Ph. No.	Address	Day Slot	Salary	Capacity	Appoi_on

2.User

User_Id	Password	Name	Ph. No.	Inst_Id	Fee_Status	Address	DOB

3. Daily_Report

Id	User_Id	Date_Of_Report	Time_Spent	Calories_Burnt

4.Monthly_Report

Rep_Id	Month	User_Id	Tot_Cal_Bur	Food_Sugg	Inst_Id	Rank

5.Machines

Mac_Id	Calories_Burnt

6.Work_Out

Id	Date_Of_Work	User_Id	Mac_Id	Time

Implementation:

1. For the front-end, we have used java awt (Abstract Toolkit Window) and swing packages and implemented our classes in Eclipse IDE.
2. For the back-end , we have used mysql to save our data in database.
3. For the connections, we have used JDBC, ODBC services of java.

Description about classes:

Here is the list of all the classes:

AddInstructor Accessed by Administrator to add new Instructor to the GYM.

AddStudent Accessed by Administrator to add new User to the GYM.

Admin Contains the functionalities menu of the Admin. Appears once the admin logs in.

CheckUserDaily Accessed by Instructor check Daily Reports of all Users under him.

CheckUserDailyAdmin Accessed by Admin to check Daily Reports of all Users of the GYM.

FeePortal Accessed by Admin to manage fee details like mark fee paid, activate inactive users, Change User fee status at the beginning of the month.

InstDetail Accessed by Administrator and search for certain Instructor Profile.

Instructor Accessed by Instructor opens this menu when Instructor Logs In.

InstructorMonthly Accessed by Instructor check Monthly Reports of all Users under him.

InstuctorProfile Accessed by Instructor to change his own personal details.

ListInstProfile Accessed by Administrator to list all Instructor.

ListUserProfile Accessed by Administrator to list all Instructor.

ListUsers Accessed by Instructor to list required details of all users under him.

LoginPage common login page for all Users, Instructor, Admin.

MonthlyReport Admin can Generate and view monthly reports of all users in the GYM.

User Menu page that appears after User Logs in.

UserDaily User Can update and check current date's workout.

UserDetail Administrator can search and view profiles of every User in the gym.

UserProfile User can update his profile details in the system.

UserMonthly User can check his monthly report for all months in this page.

Data To be stored in Database :

To keep the track of data we have implemented various tables:

1. **Users**: It stores the details of users like name, date of birth, address, fee payment status, user-id, instructor assigned.

2. **Instructor**: This table stores the details of the various instructors, like name, instructor-id, his slot, salary, date of birth etc.

3. **Daily_Report**: This table will keep track of the daily reports of the users including their calories burnt machines used etc.

4. **Monthly_Report**: This table will be used to keep the performance of the users over a month including their total calories burnt, attendance status, suggestions from instructor etc. This table will refer other tables like Users, Instructors, Daily Report.

5. **Machines**: This table will be used to store machine specific details like machine_id, calories burnt per minute, purchasing date.

Conclusion and Future Work

The proposed project has successfully made the system computerized and achieved the objective of reducing most of the manual work but there are still lot to improve with respect to functionalities, Interface, robustness etc. The Software developed is just a basic one but accomplishes all the basic requirements stated and is thus much better than the existing manual pen-paper system. Some of the possible advancements are sensors installed in machines for auto detection of time, implementing biometric attendance system, online transaction for fee payment, App development for remote access etc
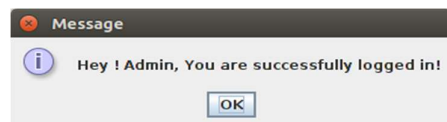
Code and Screenshots.

The code for the project is available at https://github.com/Gauthamm-sophos/Gym-management-system

Administrator

Login
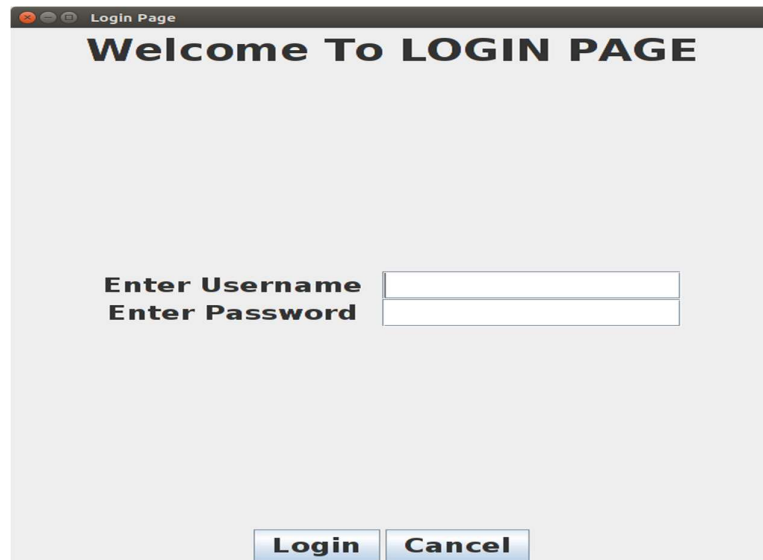
Admin Successfully logs in

Admin Menu

Welcome Admin

Create Instructor	Create User
List Instructors	List Users
Check Daily Report	Generate Monthly Report
Fee Management	Generate Rank

Create Instructor

Add New Instruc3tor

Enter Name	aditya
Enter Username	107
Enter Password	••••••
Enter Salary	10000
Enter Day slot	fri
Enter Capacity	100

Add

Create User

Enter Name	saourab	select Instructor aditya ▾
Enter Username	80	
Enter Password	•••••	

User id value should be suggested not to change

Add

List Users

Search

List of Users

Name	User ID
Ram	101
gautham	102
test	103
Nevil	104
Venkatesh	105
abc	106
aditya	107

View Instructor Details

Instructor Data ofInstructor 101

Name	Ram
Instructor ID	101
capacity	10
Instructor Day ...	mon
Date Of Appoin...	1997-08-04
Address	Address
Phone Number	2408057
salary	12000.00

View Complete Details of User

User Data of User 1

Name	Ram
User ID	1
Instructor ID	101
Fee Status	paid
Date Of Birth	1997-04-08
Address	Kul mang
Phone Number	2408057

Check Daily Report

Your Students Daily Reports

id	User Id	Name	Date	time	calories
19	1	Ram	2017-11-04	20	6000
18	1	Ram	2017-11-01	0	0
9	2	Varun	2017-10-31	25	9000
8	1	Ram	2017-10-31	10	2000
3	1	Ram	2017-10-30	0	0
2	1	Ram	2017-10-29	0	0
1	1	Ram	2017-10-29	0	0
12	2	Varun	2016-10-08	40	1200
11	2	Varun	2016-04-08	40	1200

Monthly Report Generation

Monthly Report

Reset   View

View Monthly Report

Monthly Reports

id	User id	Name	Instructor Name	Month	calories	food suggestions	Rank
6	1	Ram	Ram	11	0		
7	10	reddy	Venkatesh	11	0		
8	78	Saurabh	gautham	11	0		
5	10	reddy	Venkatesh	10	5400		1
1	1	Ram	Ram	10	2000	milk and egg	2
3	3	Raj	gautham	10	1400		3
2	2	Varun	Ram	10	1200	drink only hot water	4
4	4	sam	gautham	10	1200		5

Fee Portal

Fee Status

Paid		Unpaid		Inactive		
Name	User ID	Name	User ID	Name	User ID	
Ram	1	Raj	3	Varun	2	**Reset**
cde	79	sam	4	yash	5	
		saourab	80	Venki	6	
				venkat	7	
				sankat	8	
				siddarth	9	**Activate**
				reddy	10	
				kiran	11	
				Saurabh	78	
						PAY

User Login

Welcome To LOGIN PAGE

Message
(i) Hey ! User, you are successfully logged in!
OK

Enter Username   1
Enter Password   ••••••

Login   Cancel
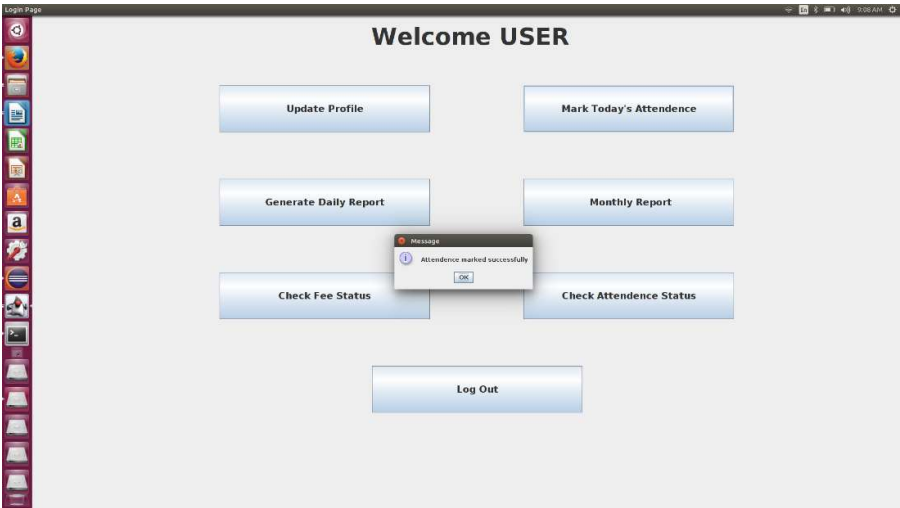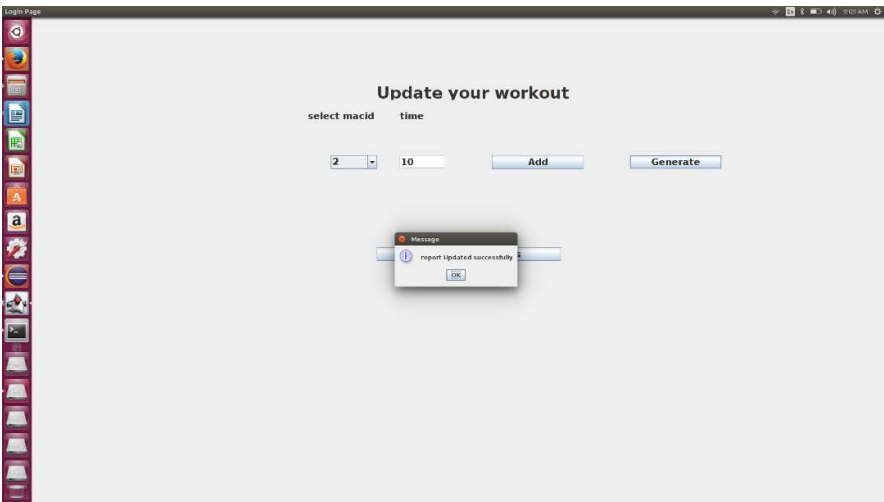
User Menu

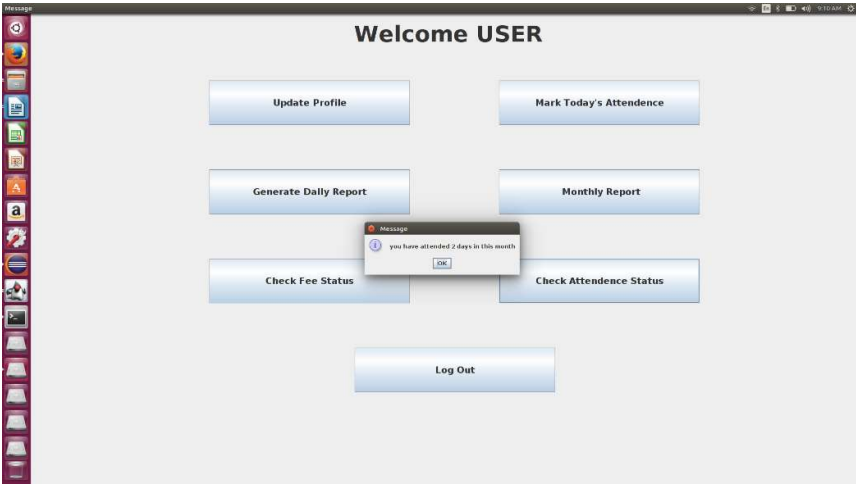## Update User Profile
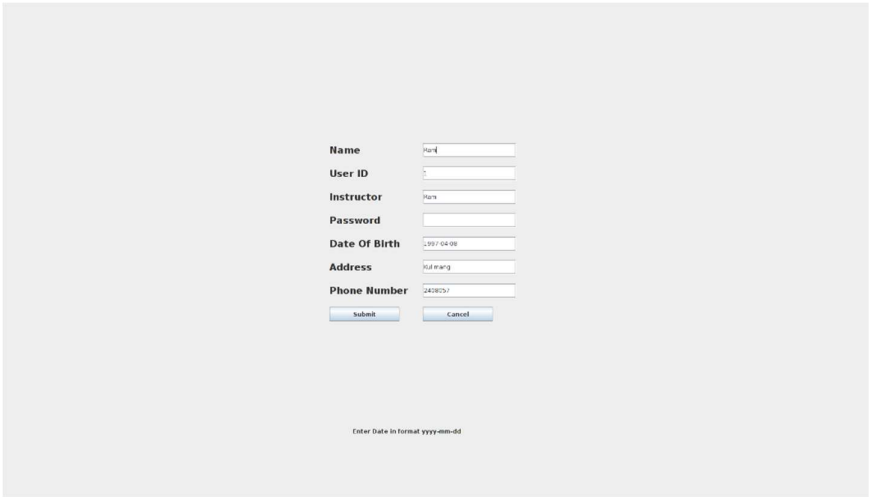
Mark Attendance

Generate Daily Report

View User Daily Report

Check your Attendance Status

User Fee Status

User Monthly Report

Instructor Login

Instructor Menu

Welcome Instructor

Update Profile	List Users

Check Daily Report	Check Monthly Report

Log Out

Instructor Update Profile

Name	Ram
Instructor ID	101
Password	
Address	Address
Phone Number	2408057

Submit   Cancel

List Users Under Instructor

List of Users Under Instructor

Name	User ID	Phone Number	Date Of Birth	Address
Ram	1	2408057	1997-04-08	Kul mang
Varun	2	7777777	1990-09-02	Home
kiran	11			

Check Daily Report

Your Students Daily Reports

id	User id	Name	Date	time	calories
19	1	Ram	2017-11-04	20	6000
18	1	Ram	2017-11-01	0	0
9	2	Varun	2017-10-31	25	9000
8	1	Ram	2017-10-31	10	2000
3	1	Ram	2017-10-30	0	0
2	1	Ram	2017-10-29	0	0
1	1	Ram	2017-10-29	0	0
12	2	Varun	2016-10-08	40	1200
11	2	Varun	2016-04-08	40	1200

Add food suggestions in Monthly Report

References

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