



FITNESS360

A GYM MANAGEMENT SYSTEM



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DBMS Project Report

INTRODUCTION:

For our Database Management System semester project, we have built an online gym management system called Fitness 360. It is aimed to revolutionize the archaic gym management system currently present. In the current system, there is only one user the admin is forced to enter data in a paper based scheme due to lack of better resources. He is also unable to gain any useful reports from this method.

We are building the online gym management system of the future keeping in mind the requirements of our users.

Note that we are building a website solely for the admin because our project domain requires that only the admin has the authority to enter, modify and delete data.

IMPLEMENTED FEATURES:

Implemented Features	
Login	Login Page Validation
Dashboard	<ul style="list-style-type: none">• Display total members• Display total trainers• Display total coaches• Display total male members• Display total female members• Donut chart shows the popular sport among members
Trainer	<ul style="list-style-type: none">• Add new Trainer using form• Display list of trainers• Delete a trainer
Coach	<ul style="list-style-type: none">• Add new Coach using form• Display list of coaches• Delete a coach
Member	<ul style="list-style-type: none">• Add new Member using form• Display list members• Assign members to different trainers• Display list of members against each trainer• Delete a member
Locker	<ul style="list-style-type: none">• Assign lockers to members• Set member to NULL where locker no longer belongs to member.• Display list of lockers assigned to members.
Sports	<ul style="list-style-type: none">• Display a list of sports played in gym• Assign coaches to sports
Entries	<ul style="list-style-type: none">• Keep a record of daily gym entries.

	<ul style="list-style-type: none"> Keep a record of daily court entries.
Reports	<p>Our system generates two daily reports:</p> <ul style="list-style-type: none"> Popular sport among the members Total members, total trainers, total trainers, total male and female members

KNOWN ISSUES:

The known issues in our program are:

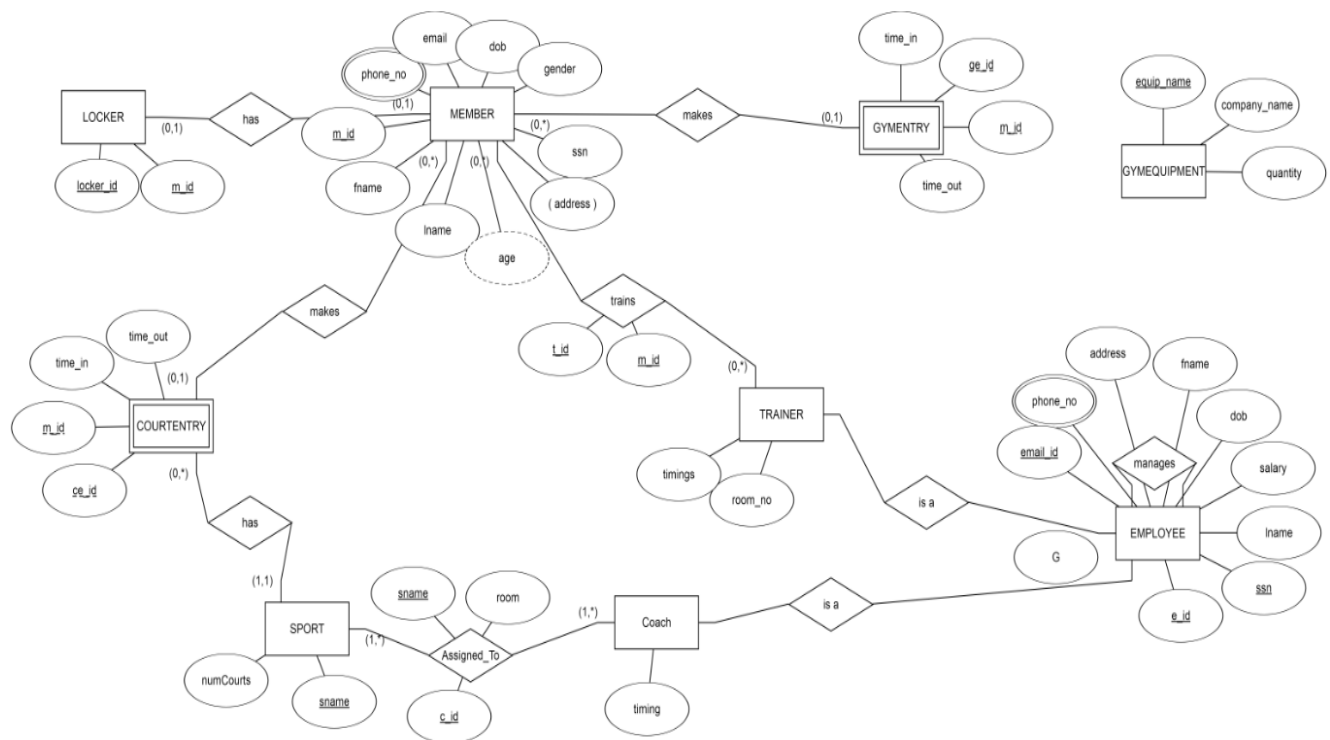
- The table **GYM_EQUIPMENT** currently has no connection with the front-end and is not displayed on the dashboard.
- Admin cannot update a specific attribute of member, coach and trainer.

ASSUMPTIONS:

In our project we have made the following assumptions:

- The maximum number of lockers is supposedly 10 for now.
- Each coach must teach a sport and only one sport.
- Each member can be trained by 0, 1 or many trainers and vice versa.

EERD:



Explanation:

- Each gym member is identified by a unique member id and has a first name, last name, and email, date of birth, gender, social security number and address.
- Each member can make 0, 1 or many gym entries or court entries during the day. Each gym entry entered by the admin contains a ge_id, member id, time in and time out. Each court entry entered by the admin contains a ce_id, member id, time in and time out.
- A member may have a locker or not have a locker. Each locker has a locker id and a member id (if it belongs to a member).
- The gym admin also wants to keep track of its employees. Each employee is identified by an employee id, first name, and last name, and email, date of birth, salary, social security number, phone number and address.
- The admin wants to keep track of data of two kinds of employees; coaches and trainers.
- Each coach can only coach one sport. Every coach must teach a sport. The admin has data about the timings at which a coach coaches a sport.
- A trainer can train 0, 1 or many members and each member can be trained by 0, 1 or many trainers. Each trainer trains for a specific time and in a certain room.
- The gym admin also keeps a record of gym equipment i.e. the equipment name, company name and total quantity.

SQL DDL:

```
CREATE DATABASE FITNESS360;  
USE FITNESS360;
```

```
CREATE TABLE MEMBER(  
    M_ID INT NOT NULL PRIMARY KEY AUTO_INCREMENT,  
    FNAME VARCHAR(20),  
    LNAME VARCHAR(20),  
    PHONE_NO VARCHAR(15),  
    EMAIL VARCHAR(30),  
    DOB DATE,  
    GENDER CHAR(1),  
    SSN VARCHAR(15),  
    ADDRESS VARCHAR(50)  
);
```

```
CREATE TABLE LOCKER(  
    LOCKER_ID INT NOT NULL PRIMARY KEY,  
    M_ID INT,  
    FOREIGN KEY (M_ID) REFERENCES MEMBER(M_ID)  
    on delete set null  
    on update cascade  
);
```

```
CREATE TABLE SPORT(  
    SNAME VARCHAR(15) NOT NULL PRIMARY KEY,  
    TIMING VARCHAR (30),
```

```
    NUMCOURTS INT
);
```

```
CREATE TABLE COURT_ENTRY(
    CE_ID INT NOT NULL PRIMARY KEY AUTO_INCREMENT,
    M_ID INT,
    SPORT_NAME VARCHAR(15),
    TIME_IN DATETIME,
    TIME_OUT DATETIME,
    FOREIGN KEY (M_ID) REFERENCES MEMBER(M_ID)
    on delete cascade
    on update cascade,
    FOREIGN KEY (SPORT_NAME) REFERENCES SPORT(SNAME)
    on delete no action
    on update no action
);
```

```
CREATE TABLE GYM_ENTRY(
    GE_ID INT NOT NULL PRIMARY KEY AUTO_INCREMENT,
    M_ID INT,
    TIME_IN DATETIME,
    TIME_OUT DATETIME,
    FOREIGN KEY (M_ID) REFERENCES MEMBER(M_ID)
    on delete no action
    on update no action
);
```

```
CREATE TABLE GYM_EQUIPMENT(
    EQUIP_NAME VARCHAR(100) NOT NULL PRIMARY KEY,
    COMPANY_NAME VARCHAR(25),
    QUANTITY INT
);
```

```
CREATE TABLE EMPLOYEE(
    E_ID INT NOT NULL PRIMARY KEY AUTO_INCREMENT,
    SSN VARCHAR(15),
    FNAME VARCHAR(25),
    LNAME VARCHAR(25),
    DOB DATE,
    SALARY VARCHAR(25),
    ADDRESS VARCHAR(100),
    PHONE_NO VARCHAR(20),
    EMAIL_ID VARCHAR(30)
);
```

```
CREATE TABLE COACH(
    C_ID INT PRIMARY KEY,
    TIMINGS VARCHAR(30),
    SNAME VARCHAR(15),
    FOREIGN KEY (SNAME) REFERENCES SPORT(SNAME)
    on delete set null
);
```

```

on update cascade,
FOREIGN KEY (C_ID) REFERENCES EMPLOYEE(E_ID)
on delete cascade
on update cascade
);

```

```

CREATE TABLE TRAINER(
    T_ID INT PRIMARY KEY,
    TIMINGS VARCHAR(30),
    ROOM_NO VARCHAR(20),
    FOREIGN KEY (T_ID) REFERENCES EMPLOYEE(E_ID)
on delete cascade
on update cascade
);

```

```

CREATE TABLE TRAINS(
    T_ID INT,
    M_ID INT,
    primary key(T_ID,M_ID),
    FOREIGN KEY (T_ID) REFERENCES TRAINER(T_ID)
on delete cascade
on update cascade,
    FOREIGN KEY (M_ID) REFERENCES MEMBER(M_ID)
on delete cascade
on update cascade
);

```

SQL DML:

Dashboard and Reports:

```
"SELECT SPORT_NAME,COUNT(M_ID) FROM COURT_ENTRY GROUP BY SPORT_NAME"
```

```
"SELECT COUNT(M_ID) FROM member"
```

```
"SELECT COUNT(T_ID) FROM trainer"
```

```
"SELECT COUNT(C_ID) FROM coach"
```

```
"SELECT COUNT(M_ID) FROM member where gender='M'"
```

```
"SELECT COUNT(M_ID) FROM member where gender='F'"
```

Delete:

```
"DELETE ". "FROM COACH ". "WHERE c_id = $_c_id "
```

```
"DELETE ". "FROM MEMBER ". "WHERE m_id = $_m_id "
```

```
"DELETE ". "FROM TRAINER ". "WHERE t_id = $_t_id "
```

Trains:

```
"INSERT INTO TRAINS VALUES ($_t_id,$_m_id)"
```

Locker:

```
"SELECT locker_id FROM locker order by locker_id asc"
```

```
"UPDATE locker ". "SET m_id = $_m_id ". "WHERE locker_id = $_locker_id"
```

```
"SELECT m.m_id FROM member m WHERE Not Exists (Select l.m_id from locker l WHERE m.m_id = l.m_id)
UNION
SELECT l.m_id FROM locker l WHERE Not Exists (Select m.m_id from member m WHERE m.m_id = l.m_id)"
```

List:

```
"SELECT c_id FROM coach order by c_id asc"
"SELECT m_id FROM member order by m_id asc"
"SELECT t_id FROM trainer order by t_id asc"
"SELECT * FROM sport"
```

Forms:

```
"INSERT into member(FNAME,LNAME,PHONE_NO,EMAIL,DOB,GENDER,SSN,ADDRESS) VALUES
('$_fname','$_lname','$_phonenumner','$_email','$_dob','$_gender','$_cnic','$_address')"
```

```
"INSERT into employee(SSN,FNAME,LNAME,DOB,SALARY,ADDRESS,PHONE_NO,EMAIL_ID) VALUES
('$_ssn','$_fname','$_lname','$_dob','$_salary','$_address','$_phonenumner','$_email')"
```

```
"SELECT E_ID FROM employee WHERE SSN = '$_ssn'"
```

```
"INSERT INTO coach(C_ID,TIMINGS,SNAME) VALUES ($result2,'$_timings','$_sname')"
```

```
"INSERT into employee(SSN,FNAME,LNAME,DOB,SALARY,ADDRESS,PHONE_NO,EMAIL_ID) VALUES
('$_ssn','$_fname','$_lname','$_dob','$_salary','$_address','$_phonenumner','$_email')"
```

```
"SELECT E_ID FROM employee WHERE SSN = '$_ssn'"
```

```
"INSERT INTO trainer(T_ID,TIMINGS,ROOM_NO) VALUES ($result2,'$_timings','$_room')"
```

Entries:

```
"INSERT INTO COURT_ENTRY(M_ID,SPORT_NAME, TIME_IN, TIME_OUT) VALUES
```

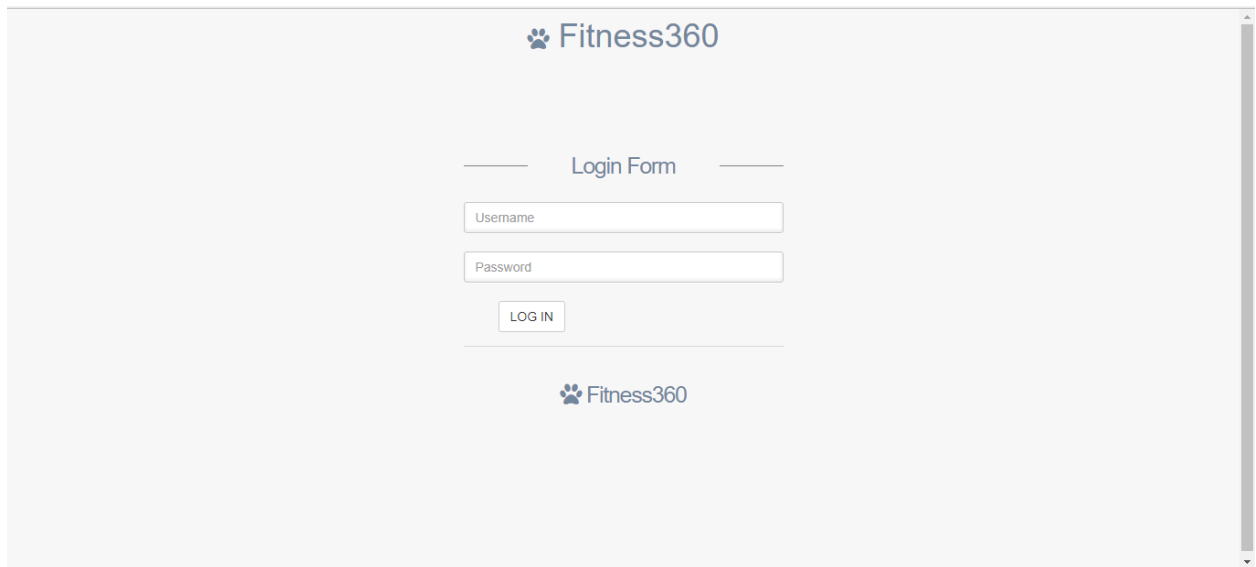
```
('$_m_id','$_sport_name','$_time_in','$_time_out')"
```

```
"INSERT INTO GYM_ENTRY(M_ID, TIME_IN, TIME_OUT) VALUES ('$_m_id','$_time_in','$_time_out')"
```

USER MANUAL:

For Admin:

- First go to login page and type the id and password. There is a login validation on the page and only right credentials led to the dashboard.

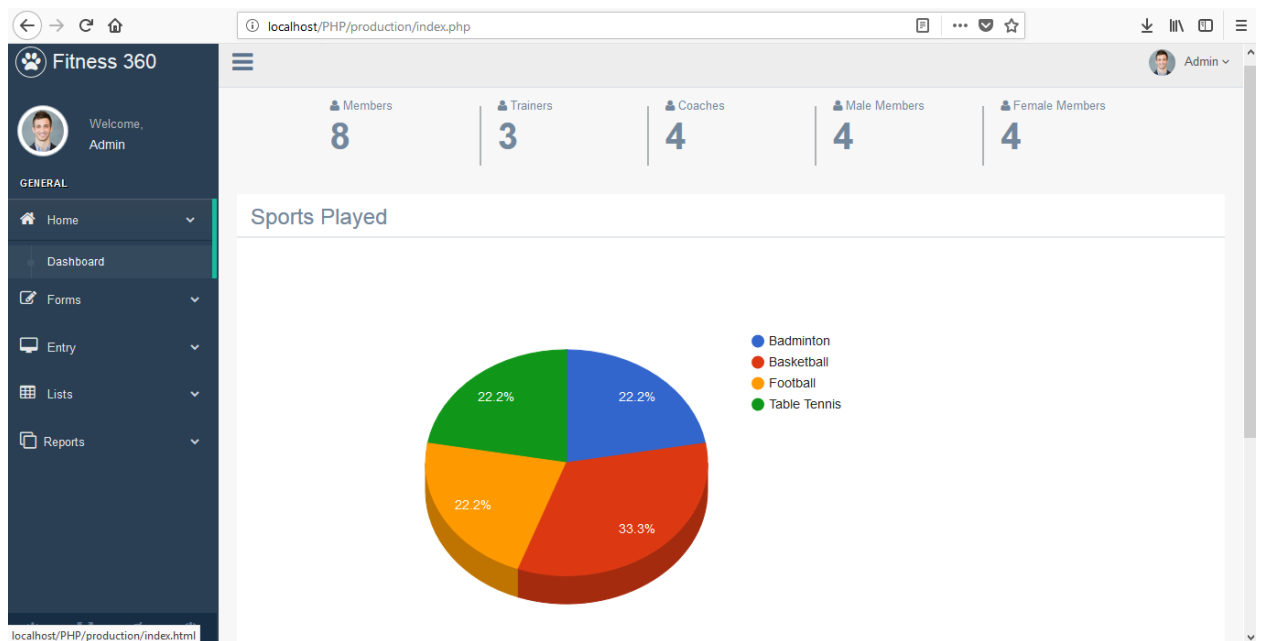


Fitness360

Login Form

Fitness360

- In the Dashboard, the admin can see a 3D pie chart showing popular sports among the members. Admin can also see the total members, total coaches, total trainers, total female members and total male members.



- There is a side menu-bar on the left most having several dropdowns including **Forms, Lists, Entries and Reports**.
- On clicking **Forms** a dropdown menu appears listing Member Registration Form, Trainer Registration Form and Coach Registration Form.
- On opening one of the above forms the admin can fill in the credentials and click **Submit** to add a trainer, coach or member.

Add Trainer

Trainer Info

First Name * Jon

Last Name * Doe

Room No *

Timings *

Email *

Date of Birth * mm/dd/yyyy

CNIC * 00000-0000000-0

Address *

Telephone *

Salary *

Cancel Submit

- On clicking **List** on the side menu-bar a dropdown menu appears listing Member List, Locker List, Trainer list and Sport List where the admin can see the members, coaches and trainers and also has the ability to delete the coaches, members and trainers.

Fitness 360

Welcome, Admin

Sports

Sports And Timings

Show 10 entries Copy CSV Print Search:

Sport Name	Timing	Number of Courts
Badminton	9:00AM to 9:00PM	4
Basketball	9:00AM to 9:00PM	3
Football	12:00PM to 9:00PM	2
Table Tennis	9:00AM to 9:00PM	1

Showing 1 to 4 of 4 entries Previous 1 Next

localhost/PHP/production/member_list.php

Member List

Welcome, Admin

GENERAL

- Home
- Forms
- Entry
- Lists
 - Member List
 - Coach List
 - Trainer List
 - Sports
- Reports

Member Info

Delete Member

Member ID *

[Delete](#)

Show entries

[Copy](#) [CSV](#) [Print](#)

Search:

Member ID	First Name	Last Name	Phone No.	Email	DOB	Gender	CNIC
1	George	King	03340135230	gk@gmail.com	1987-04-03	M	12345-6789323-3
2	Allison	Tyers	03450111230	at25@gmail.com	1990-02-04	F	52445-6789123-4
3	Percy	Jackson	03340111551	pjj@gmail.com	1997-04-02	M	12135-7892423-4
5	Johnny	Bravo	03340428589	jb246@gmail.com	1993-06-25	M	12315-6715123-1
6	Carlo	Devinson	03135611230	cd325@gmail.com	1994-05-14	M	12145-6364123-5
7	Maya	Angelo	03223566230	ma16@gmail.com	1993-07-19	F	11345-6781353-1
8	Miya	Carter	06840111230	mc136@gmail.com	1997-04-23	F	13524-1717177-1
9	Maliha	Sameen	03349911230	ms@gmail.com	2018-01-23	F	09015-315631-5

Showing 1 to 8 of 8 entries

[Previous](#) [Next](#)

- The system generates two reports daily. One report shows the total members, coaches and trainers and the other shows the popular sport among the members. The admin can see the daily reports by clicking **Reports** which shows a dropdown menu listing the above two reports.

localhost/PHP/production/invoice.php

Report

Welcome, Admin

GENERAL

- Home
- Forms
- Entry
- Lists
- Reports
 - Total People Invoice
 - Sports Invoice

Invoice Design

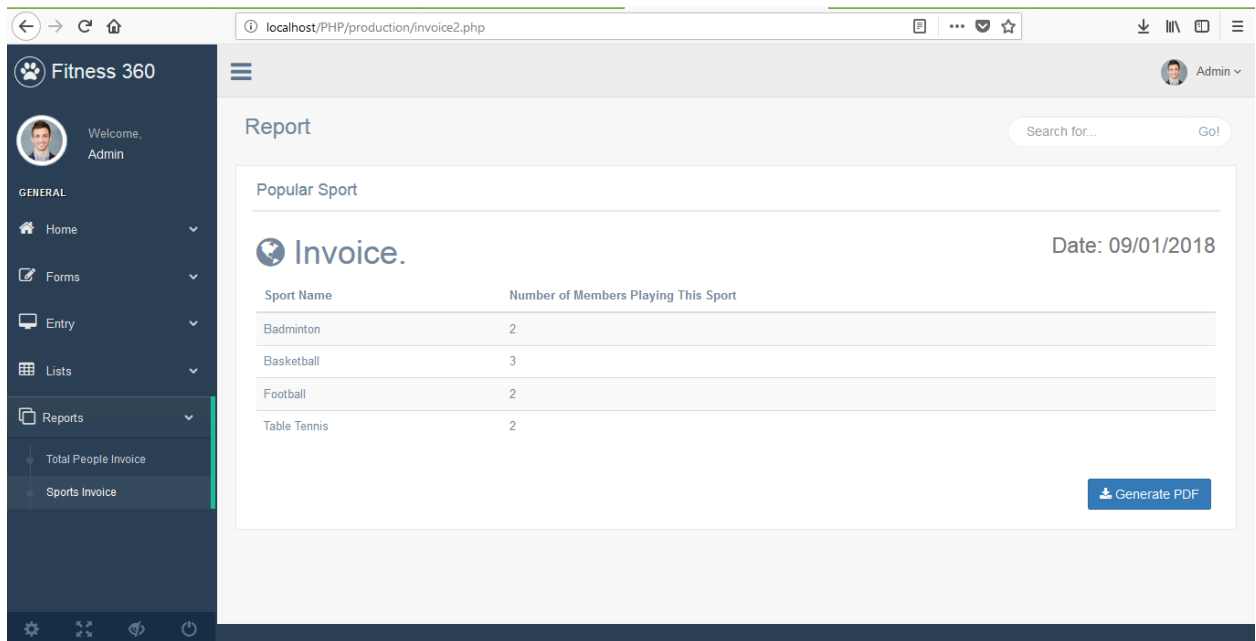
Search for... [Go!](#)

Date: 09/01/2018

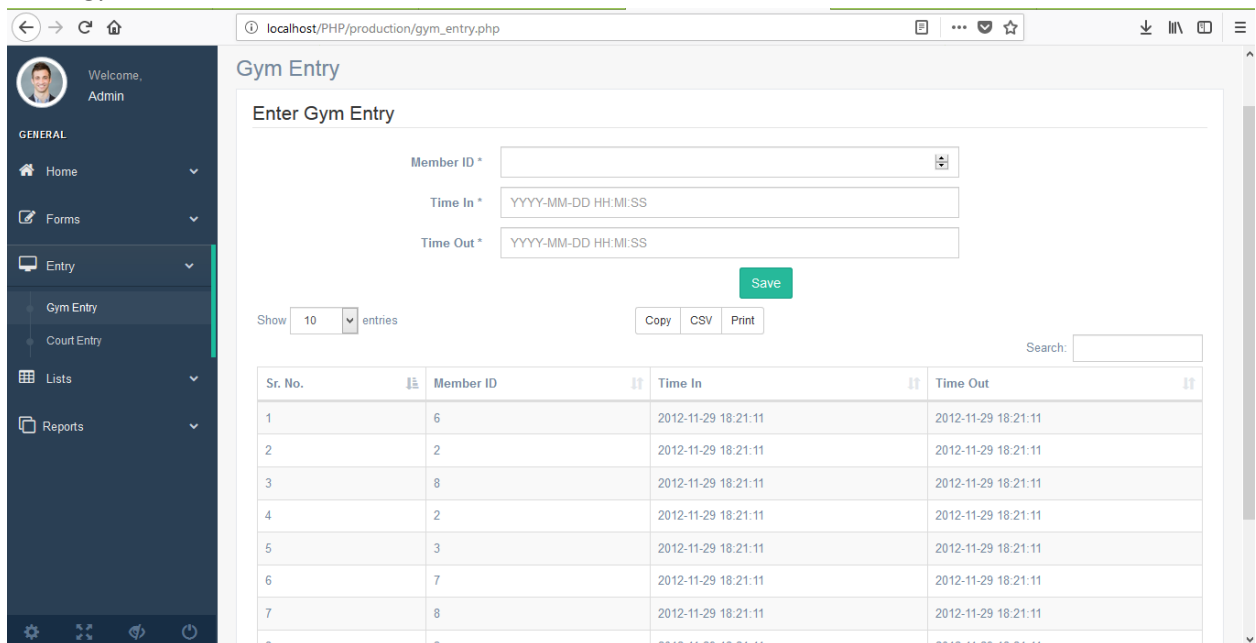
Title	Count
Total Members	8
Total Coaches	4
Total Trainers	3
Total Female Members	4
Total Male Members	4

[Generate PDF](#)

localhost/PHP/production/index.html



- The admin can also see the court and gym entries and can also do the entries for members going in the gym or court.



CONCLUSION:

Our fitness360 project is a complete automated gym management system having the functionalities a gym requires.