Sports Club – Software Application Proposal

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1. Overview

Modern companies have been carved by technology, for the better good and many issues have been resolved with the right program. To help your club take the lead, I have developed a software that would solve many of your current management issues and will also automate many functionalities. This software would manage your customers' data efficiently - where you can register new members, update their entries and also delete old/unwanted entries. Keeping in mind of your already existing data (in the CSV file), this software also manages that data, so you don't have to worry about loosing old data. This software will also calculate the income of the club and you would get a direct overview about the whole income(yearly) without having to manually do anything! Below is a detailed description of the software developed and also a guide on how to use it.

2. Development of 'Sports Club' software

The theme of the software is black, grey and white which are mild and soothing colours and give the software an aesthetic feel. The software opens by launching on the login page. I developed this just so we can attain some security to the system and that no unauthorised person tries to access the system. The current username is set to 'admin' and password is 'password'. Failing to verify these credentials would result in an error message which wouldn't let the user enter the main system until correctly entered. The credentials can later be changed to your confidential and preferred credentials.

2.1. Dashboard

On success of the log in, we land on the dashboard which displays all the functionalities of the software that I think would smoothen your whole management. The dashboard displays four main functionalities i.e. to obtain a 'New Membership', to 'Search Members' new or old, to keep records of 'Visitor's Entry' and finally to 'Check Income' of the company. The Dashboard also has a button to log out, so once the system is not in use, the user can easily log out and keep the system safe.
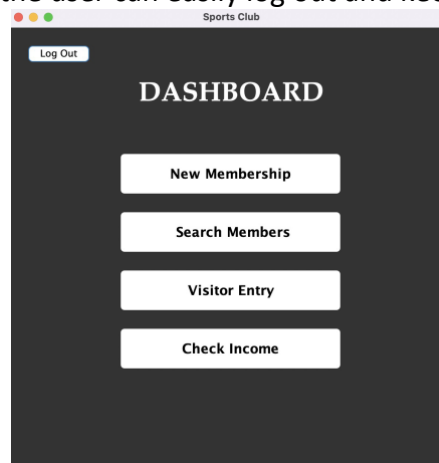

Fig.1. Dashboard Page

2.2. New Membership

The first main feature of the system is to register the members. Members are customers who would need a subscription for a certain period and who would visit the club often. The system manages individual and also family members who would like to register the whole family i.e. the spouse and children.

On entering the 'New Membership' page, you will see a form where you enter all the details of the customer. We start by asking basic details like the customer's name, gender, address etc. We then ask for the date of birth of the customer. The three fields of the date take number values such as 1 for day, 12 for month and 2021 for year respectively. Making it '1/12/2021'. This field has been validated to check the age of the customer. If the customer is registering individually, they would have to be above 12 years old to register. And if the customer is a family member, they would have to be above 18 years old to register. If the customer doesn't meet these requirements, they would not be registered by the system. Note that the age is not manually entered but will be calculated automatically by the system. We then try getting a few more personal details of the customer by asking them their allergies info and health info. The health and allergies info, in their respective fields, can be separated by a comma for eg: 'pollen,dust,nuts' indicating the different allergies or health info. We then ask what membership type does the customer need (Individual or Family). If the family option is selected, another field is made visible which asks for the family member names. The family member names can be entered by separating them with a comma For Eg:- 'Hellen Luis, Marie, Anna'. The membership start date is then entered, following the payment method in case the customer wishes to pay monthly, yearly or quarterly.

Fig.2. New Member Page (An example of how to enter the data)

On successfully entering all the details, a dialog box pops up which shows if the customer has been successfully registered and also shows the end date of the subscription which is automatically calculated based on the payment type (yearly, monthly, quarterly) and start date. It then also shows the total fees of the customer, again based on the payment type and type of the membership. With this, the customer is now a member and is ready to use any of the facilities of free for the given subscription period! A UID is internally generated for the member uniquely which will help to keep track of the member. Note: a member will be allowed to only register once, if tried to register again, an unsuccessful dialog will pop up saying the member already exists. This way we make sure no member is registered more than once hence no duplicates. The system then takes you back to the Dashboard where you can perform other functionalities.

2.3.   Search Members

The second main functionality of the system is to search for members that have been registered. This page can be used to search for any member that was registered using the current system or was previously registered manually in the spreadsheet(in CSV). The search is done based on the first and last name of the member to be searched. All the matched results are then displayed in a table that shows the whole data of the member in the columns. This is a great way to check for, and manage duplicate records that existed in the previous spreadsheet. There are two functions that are possible after searching the records. You could firstly, delete a specific record, either cause it's a duplicate or maybe the member isn't a member anymore. To do this you first select the row that you wish to delete and then click on the 'Delete Selected Row' button which will then delete the record. The second functionality available is to update the records of the member. Either because the member's details are from the previous system and it has many missing values which need to be filled in or maybe you wish to update some data of a member. This is done by selecting the specific row you wish to update and then clicking on the 'Update Selected Row' button.

Fig.3. Search Page(Shows how to search with the first and last name)

2.3.1.   Update members

On clicking on 'Update Selected Row', you will be redirected to a new page which consists of all the member's information present. The data that was present in the system is directly pre-filled in the input fields. You can then update the values or add the missing values in the input fields. Notice that this page looks the same as the 'New Membership' page. This is because this page also performs all the functions and checks as the 'New Membership' page. Making the database more consistent. The member record is then efficiently stored in the database (CSV file), if successful. You are then sent back to the dashboard to perform other functionalities.
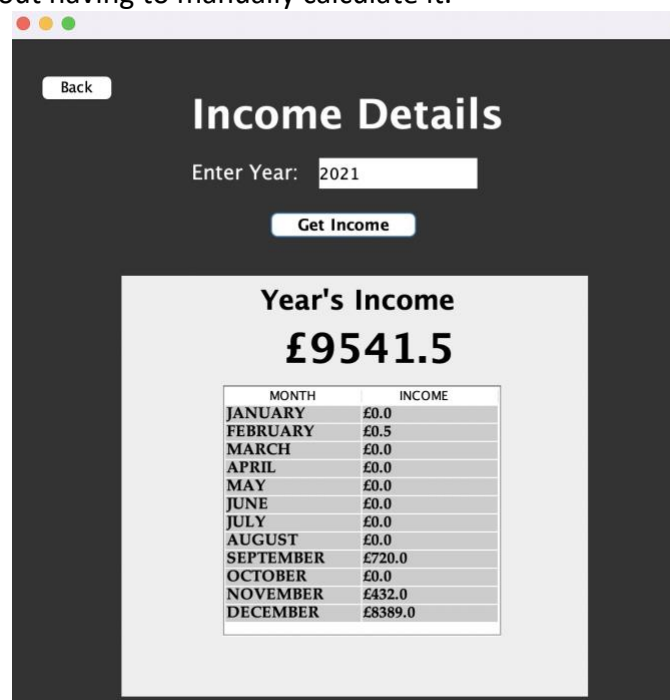
2.4.   Visitor Entry

Visitors are customers who would like to use your club's facilities without wanting to take a membership of the club either because they won't frequently be using the club or they are just visiting it once for the day. The visitors however pay a lot more than what a member would pay. This system also manages visitors to make sure we keep track of all customers and help in keeping accounts of the income.

On clicking the 'Visitor Entry' button on the dashboard, you are taken to the visitor's entry page where you enter the visitors' details. We only ask for general information from the visitor such as their name or gender. We then ask for the date of birth (In the order - day, month, year) which then calculates the age internally. Since the visitor isn't a member, they would have to pay for the facilities that they wish to use. You can select the types of facilities that the visitor would like to use, which are priced differently. We then enter the date of which the visitor wants to use the club. On successfully entering all the details, the visitor can be entered. A UID is internally generated for the visitor uniquely which will help to keep track of the visitor.

Visitors who are less than 12 years old can enter the club only if they are accompanied with an existing member. To check this, the system verifies the age of the member which is automatically calculated from the date of birth and checks if the visitor is less than 12 years old. If yes, a new section is made visible that asks for the members details with whom the visitor wishes to enter the club. The system searches the member based on their first name, last name and if they are a family or individual member. If the member is found, the visitor can enter the club for free without having to pay for any facilities. If the member is not found, the minor visitor, unfortunately, cannot use the club.

2.5. Check Income

This is the final feature of the software. Here we check the income generated of the club yearly and monthly. On clicking the 'Check Income' button on the dashboard, you are taken to the Income page. Here you are asked to enter the year of which you would like to check the income. The income of that year is then calculated and displayed in the section. It displays the whole year's income and also the income generated monthly for that year. With this you can keep track of all the income generated without having to manually calculate it.
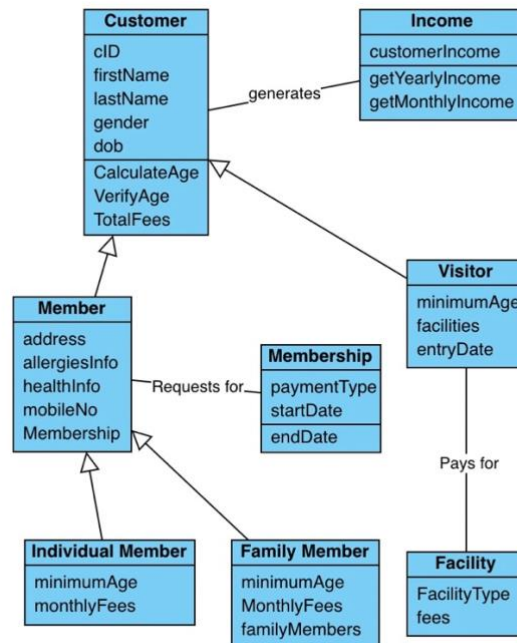

Fig.4. Income Page

Every page consists of a back button which redirects to the dashboard making it easier to navigate through all the pages and hence a smooth flow.
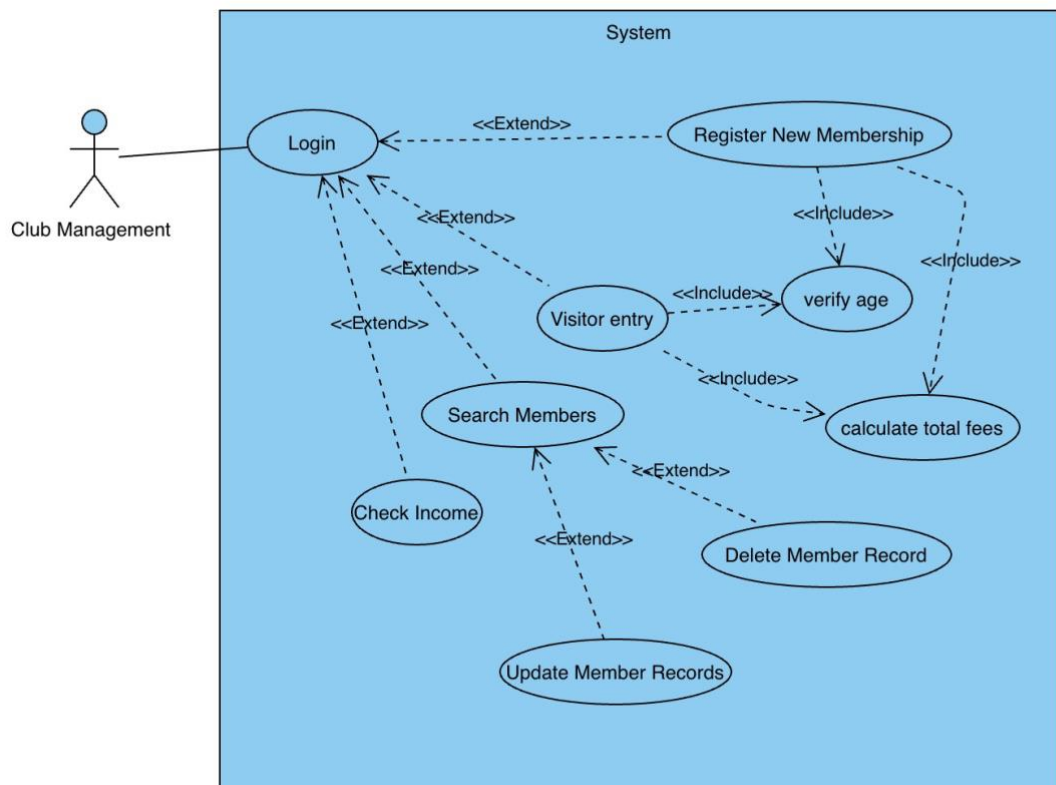
3. UML Diagrams

Below are the UML diagrams that would help in understanding the system more technically.

3.1. Class Diagram

3.2. Use Case Diagram

-Thank You-