

Panchayat Ghar Student Management System

Defining the problem

The client, Mrs Amrit Burrett, is the Master-in-Charge of Social Service at The Doon School, Dehradun. She is responsible for the smooth running of the various social service projects run by the School. She has a project named the Panchayat Ghar which allows children from the surrounding slum areas to come to our School campus and play sports, attend extra-curricular activities and receive help from Doon School students in their school work. Mrs Burrett required a system to keep a track of the students attending the project and what activities and subjects they are attending.

The current system is to write the names of the children in an attendance register and/or on sheets of paper. However, this existing system is inefficient and unreliable. In addition to the inefficiency of the system, this system becomes rather complicated with the number of students increasing and it is very difficult to maintain the physical state of the register. There are also possibilities of errors in this process as the written entries are often found to be illegible. It is a daunting task to keep a track of these children and their activities.

Mrs Burrett approached me to take over this project and set in place a more convenient and efficient system to ensure the project runs smoothly. The task was to create a system, preferably computerized, to make this task of keeping track and updating student information simpler for both students and teachers. Since multiple people are intended to use this system, it has to be simple to learn and very straight forward.

I approached my computer science teacher and project advisor for suggestions. After a lengthy discussion on the problem, we evaluated a java program to be the most straight forward and simplest method of implementing the solution. I thus set on designing a simple GUI/CLI program.

Rationale for the Solution

After the discussion, I came to the conclusion of creating the solution in the form of a Java program. I chose java to be the most viable solution because of the financial constraints we had on this project. As we couldn't afford to spend money on licenses for professional softwares, I left making a java program would suffice our needs.

I also decided to go ahead with the program using a CLI (Command Line Interface) instead of a GUI (Graphic User Interface) as the computers available at the Panchayat Ghar were rather old and faced frequent running issues when confronted with heavy programs. I also felt that since the availability of time wasn't as much the development of a GUI would have become a very daunting task, possibly deterring me from perfecting the program.

I also felt that the data wasn't sensitive and was actually open source so there wasn't any requirement for any sort of security settings. Thus I decided to write and read from using the file writer function available in the Java Library.

I also considered an online solution but soon came to realize that there is no internet connectivity at the Panchayat Ghar location making this an impossible task. Additionally, I felt that it was important for the product to be able to run independently without any limitations of connectivity.

Success Criteria

1. The ability for the teachers at the classroom to enter student information
2. The ability for Mrs Burrett and other students to be able to view each student along with their activities, subjects and classes
3. The ability to add, remove, modify students in the data base.
4. The ability for a student to view his/her personal information at anytime
5. A user friendly solution allowing multiple users to navigate through it without any hinderance or complications.