Attendance Management System for My School

Criteria A – Planning

Defining the Problem

The client Ms. Hema Rajan is the IB Coordinator of my school. She oversees the students' academics and attendance.

Currently, manually records attendance using pen and paper. The Assistant Coordinator moves around classes to take attendance. She uses printed records and then checks if students are physically present. However, this is only done at the start of the day (refer Appendix).

The current system is inadequate as the number of students in the school for IB Grade 11 have doubled. Hence it is very hard to manage attendance for the high number of students in the Grade. This ends up being a waste of resources such as paper, printer ink and proves counterproductive for the Assistant Coordinator who must move to multiple classes. There underlies the issue that students are hard to track quickly between lectures (refer Appendix).

The teachers and the Coordinator have requested that the solution be user-friendly with clear documentation as not all teachers may have the same level of computer skills (refer Appendix).

Rationale for the Proposed Solution

I decided to use Microsoft Visual Studio to create the solution. This software uses C#, HTML and relational databases from SQL Server. The choice of using a web-based application is due to the reports of attendance require live updates to the coordinator after every given lecture. Hence, by making a web-based application I could make a live attendance management system which would solve the need to have an attendance for every lecture with the security that only the teacher's class within a given slot (means of distinguishing between various simultaneously occurring classes) would be shown to mark attendance. This would also reduce the possibility of human error wherein the teachers may mark another child who may not be in their given class as absent or present.

The Assistant Coordinator will no longer have to move between classes to mark attendance. As this is a web application, it will be up on all the computers in the classrooms. Resources such as paper and ink are also conserved using this application.

The issue of students being hard to track within the campus gets solved by this solution. This is because the students are being tracked during every lecture. This means that failure of coherence in terms of attendance of lectures would mean that students will be caught missing lectures.

Success Criteria of the Solution

1. A data entry form that adds a student with their specific subject selection.
2. A data entry for marking them present or absent based on user input.
3. A daily user generatable report which shows the attendance of students during all lectures within a day.
4. An algorithm which validates and verifies user input.
5. Administrator has the rights to add/delete any data on the general database with regards to students and teachers.
6. The ability to view teacher and student details.
7. Any entry or modification of any data of the system is password protected.
8. The solution must have an interface wherein the teacher can record the attendance by just mouse clicking.
9. A digital manual giving full instructions on how to operate the system.

Word Count (excluding success criteria): 395