Computer Science IA
Criterion A

Description of project

My client, Ms Anderson-Au, is a teacher at my school who is in charge of the effort awards. This is when during the school year subject teachers choose the students that they believe to be putting in the most effort to receive an award. However, students are only allowed to 'receive up to 2 awards'[line 14]. Currently awards are chosen through a google 'spreadsheet that is released'[line 9] and the 'heads of department then choose who they want to give the award to'[line 10]. The problem with this current system is that if a student has been chosen for more than 2 subjects then ' the head of year would go to all of those … subjects heads of departments'[line 12] have to talk it through with them. This means that a lot 'is left up to the heads of years to organise'[line 13] which makes it not only a lot of work for the heads of years but also the departmental heads to organise. Also, this method takes a lot of time and is error prone.

Line numbers refer to appendix A transcript.
Please refer to appendix A to see current system

Rationale

The solution to the aforementioned problems is to create a program that will automatically check that a student is only receiving a maximum of 2 awards and if not having a backup choice to give the award to. The program would then have to check that this backup doesn't clash with other awards and if so have an 'algorithm to determine who gets to choose their second choice instead of their third, otherwise it just isn't fair'[line 28] and in this case make sure it outputs a message saying 'please could you consider choosing someone else'[line 30]. This system would replace the current google sheets system entirely and so it would have to be able to input students names as well as a 'citation to explain why this student had won this award'[line 22]. To make sure that only the heads of department can use this there also needs to be a log in. This would be an improvement to the current system because it would no longer be up to the teachers to notice when a student it getting lots of awards and then solve it, this would make the process more efficient and effortless for the teachers involved.

In terms of software used, the plan is to use PHP to create an online system. This software is preferable over the alternatives because it is very supported and it creates a dynamic website so it is very flexible and can change user specific content easily, meaning that any changes to come will be easier to solve. Furthermore, it can be accessed anywhere with an internet connection, not just by a specific computer. This makes it easier for me to create but also for users to access. PHP is also a cross-platform compatible language so HTML can be coded into the PHP code, making it more efficient as the HTML doesn't have to be written separately. As well as PHP and HTML I will also be utilising SQL because this is a high speed database that can sync data instantly and is easy to manage.

Line numbers refer to appendix A transcript.

Success Criteria

1. The product should allow for the names of students as well as a citation to be inputted
2. The product should allow for two names to be chosen, a first choice and a backup
3. The product should only allow up to 2 awards per person
4. The product should output a message if the backup cannot be used asking them to choose someone else
5. The product should determine who gets their first choice or second choice randomly each time to keep it fair
6. The product should have a login page and be able to verify the head of department that is logging in
7. The product should be accessible online anywhere provided the login details are correct
8. The product should randomly choose who has to choose their third choice instead of their backup
9. The product should have a clear separation between attainment and effort awards so that the teachers are less likely to make mistakes
10. The product should have a submit button

Word count: 536