Criterion A: Planning

The Problem:

Although we have the IB diploma program in our school, because of the requirements of our local government's education program, all the grades of both IB and non IB students are held in a common database which is called "e-okul" ("e-school" in English). This database is maintained by the government and all teachers put students' grades into it. The system works well within Turkey but when our IB students are applying to universities in other countries, they have to meticulously convert their transcript from e-okul format to an IB format.

To get a better idea about how the process is done, I conducted an interview with my client Mustafa Aydos, our vice principal who is responsible for checking the students' documents and signing them, in our school on February 12th 2018. The interview is included in the appendix.

Students have to copy and paste each grade to their respective column, add some grades together, and change the names of most of the lessons. This process takes a long time for the students and usually error prone. After the individual students each convert their transcript our school's vice principal Mustafa Aydos then have to check the document and sign it which, when added together, makes him spend a lot of time doing this. This whole process is made worse because as my client said "in the transcript automatically given by e-okul everything is scrambled".

My client suggested that I could make a program that "could take the values from e-okul and outputs a word or pdf document."

The Product:

I decided to write a Python application that could convert an Excel file given by the e-okul system to a word file in the IB format. Python is especially good at data manipulation and I have experience with it, which made it a good choice. There are also different libraries for everything I need, which is reading and writing to excel and word documents, and creating a basic graphic interface.

Success Criteria:

- The program checks if the required files are accessible at startup.
- The program allows the client to choose an input file.
- The program needs to check if the input file is the correct variation (e-okul can output two kinds of excel documents but only one includes all the necessary data).
- The program allows the client to select between German and French lessons, which is needed for the IB document but not given in the e-okul document.
- The program allows the client to select IB lessons from group 1 to 6, which are not specified in the e-okul document.
- The program checks if all the field are selected properly before converting.

- The program converts the given input file to an output file based on the standards given by the client. The program refers to a dictionary file for checking name mappings.
- The program gives an error message if the conversion fails at any point.
- The program allows the client to choose where and with which name to save the output file.
- The program gives an error if there is an error while writing the output file.
- The program asks to try saving the output file again if there was an error.
- The program's dictionary file, which is a database which includes lesson mapping from e-okul to IB system, is possible to edit by the client (The mappings can change from year to year).

Word count: 319