Database Design SOFT7022 Project

Task: Develop a robust standalone application using a general purpose procedural language that uses an external DBMS to store data.

You must investigate, organise and implement all technical aspects of the application (called a tiered architecture e.g. client-server is minimum 2 tiers).

The project will run over a number of weeks, therefore some aspect of marking will be project management. As manager/supervisor, I require inter alia

- An overall project mgmt. plan and an activity log. Each log entry must be dated. A google Doc is to be used as a proj mgmt. tool. This must be **shared with the lecturer**, Byron.treacy@cit.ie **as editor.** **Naming scheme: Class.Surname.initial e.g. ITMTreacyBProject**
- Well managed time allocation to solve the problem. You should devise an overall project plan of action (with stages/milestones), as well as a log with weekly plan and progress updates so that at each stage I (as project supervisor) can be confident that the project will be completed on time i.e. not crammed at the end. **You must minimise risk of the project not being delivered**
- Discussion on problems/issues in a timely manner. These supplement the plan i.e. details on activity, so this is part of the activity log/diary/journal.
- Technical report (word document) on **all application technical details**. You **must include** references where you sourced code and any explanations of concepts.
- Verifiable work by you (see items 3,4,5 below)

Final handup/deliverable

1. Documentation: Well organised document(e.g. index, page numbers, neat etc) to include
   a. Firstname, Surname, Student Number, Class (e.g. ITM2, SD2)
   b. Project description,
   c. Technical issues of software development of a client server application using a high level programming language using a connection to an external multi-user database e.g. embedded SQL, API/connector, IDE, installers, versions
   d. Code explanation with possible references to code (see item 2 below)
   e. Conclusions/review/evaluation e.g. decisions made and lessons learn. This should also include a copy of your original (first) plan with a review of changes.
   f. References: you need two different references for each component used in the application/stack, e.g. to **explain your choices and alternatives.**
2. Final code (add as an appendix to the project Doc)
   a. Code to include a menu driven single executable application that includes data I/O to DBMS: SQL insert of data input from keyboard, update of data using data input from the keyboard. A Graphic user interface is not required.
   b. select (display rows)
3. Declaration of work and Sign off of own work (see sample below) & review CIT plagiarism policy http://www.mycit.ie/contentfiles/exams/Policy%20Doc%20-%20academic%20honesty%20plagiarism%20and%20infringements%2014-6-2013.pdf
4. A demo of the working code, may be virtual via zoom, or via recording.

5. In addition, there may be a test in week 12 to investigate that the project is your own work e.g. asked to explain examine the code; make change to code.

NB: major risks in this project are the IT unknowns e.g. connection to remote DB, version & compatibility issues (software and use of laptops).

Marking:

The project is not just the programming application implementation. It is the project management and technical report surrounding a **robust <u>standalone</u> application** that uses a procedural general purpose programming language in a system configuration that uses an external ('backend' DBMS to store the data i.e. a tiered architecture. NB: robust, standalone.

In overall terms, the project is 30% broken down into 3 sub sections:

1. Implementation including the program/demo/testing
2. Report, tech understanding of issues.
3. Project mgmt.

Build your log as a stack of entries so that the supervisor can see recent work without scrolling. This is part of your shared Google Doc. By Stack, I mean

- Add new entries at the top. (just below your overall plan). NB Date every entry

e.g.

Oct 4th: didn't complete import in the estimated time due to problems with another subject, got sick, managed 60% but will need to redo the plan etc..... Tech issue with my PC relating to database install, found a solution at abc.com etc

Oct 2th: plan to work 4 hours on the import function of the app this week, need to review the Embedded SQL video and notes and maybe research a different explanation etc.

Sample Student statement to be included in your project report.

I hereby certify that this material which I now submit for assessment, is entirely my own work and has not been taken from the work of others, save and to the extent, that such work has been cited and acknowledged within the text of my work. I confirm that I have read and abided by the CIT policy on plagiarism.

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Signed

https://en.wikipedia.org/wiki/Integrated_development_environment
Project mgmt. & scheduling help: https://www.thebalancecareers.com/time-management-techniques-2276138
https://www.thebalancecareers.com/planning-a-project-the-basics-2276106
https://www.dummies.com/careers/project-management/agile-project-management-for-dummies-cheat-sheet/
https://dev.mysql.com/doc/connector-python/en/connector-python-introduction.html   and NB also the guidelines page(s).
http://www.mysqltutorial.org/calling-mysql-stored-procedures-from-jdbc/
https://trello.com/   an online project mgmt. tool that allows you collaborate
https://www.ascendle.com/blog/14-skills-your-app-development-team-must-have
https://www.pcma.org/what-job-skills-will-you-need-in-2020/
Java only: https://dev.mysql.com/doc/connector-j/5.1/en/connector-j-overview.html
http://www.mysqltutorial.org/mysql-jdbc-tutorial/