Type: Data Logging & Control – Extension range of skills	Total Marks Awarded: 24/40

FEATURES of SOFTWARE USED: Sensors and data logging and control devices; Programming commands; Data inputs; Observation of data and analysis; Outputs in textual and graphical form; External data sources.

GENERAL COMMENTS: Although this project idea seems to have been set by the teacher, it has been tackled to an extension level using the available tools. The main problem with this project is the lack of description, especially in the design and implementation stages. The project was marked using the extended range of marks and some detail is provided as to how and why marks were awarded. The student does not describe the features used. The evaluation addresses the specified criteria only briefly.

PROCESS	RANGE	EVIDENCE	COMMENTS
Identify **5 marks**	0 – 5	A clear description of problem and its effects has been stated. The user has been identified. Possible alternative ways of solving the problem are presented. A solution has been selected by giving adequate reasons. The user requirements (taken as the quantitative objectives) are stated.	
Analyse **7 marks**	0 – 9	A very good, detailed description of the hardware required for the solution has been given. Some description of the software to be used. Detail of the data flow is indicated. Details of the inputs mentioned. Although slightly inaccurate and very brief, a discussion about the processes and outputs is provided. Considerable detail about security and backups provided.	Excellent hardware detail but still gains one mark. The processes and outputs should have been described in more detail, possibly through a diagram. E.g. showing how data input is stored, analysed/ processed and output (onto a chart, or as an audible sound).

Design **4 marks**	0 – 9	Detailed designs included. Some coding of program flow included but unclear.	Initial designs should show the flow of data within the hardware to be used. Any designs of the coding/ programs should be clearly identified and annotated to show what each section does. Comments from the user could be received and some changes could be indicated. Final designs could show the changes included. A test plan showing a breakdown of the original objectives should have been created.
Implement **5 marks**	0 – 12	Printouts of the final system show results and tests as seen on the computer monitor. Annotation is unclear.	There is no detailed, step by step description of how the system was created. This should have shown the key features of the data logging equipment used. Fully annotated printouts showing tests, whether successful or unsuccessful should have been included. A description of the errors encountered and how they were corrected should have been carried out. Comments from the user during tests would have been useful.

Evaluate	0 – 5	Some comments on the overall outcome of the solution based on the original objectives.	Discussion about the software does not gain marks whereas a discussion of how well the tools used solved the problem does.
		Discussion of system limitations and any problems.	Real comments from the user would have been helpful for discussing improvements, critical review and whether the objectives were met.
3 marks		Discussion of effect of system on users.	
TOTAL 24			
<u>Comments on the Quality of Written Communication</u>: Good use of grammar, sentence structure and clear expression indicates a level 3. Possible use of spelling and grammar checker makes it difficult to comment on the original spelling and grammar of the candidate.			