**F28ED User-Centered Experimental Design Report Outline**

Worth 20 MARKS (marked out of 100 here)

Page min: 4, page max 8 (not including references and appendices), Min font 11pt

List Group Name and Number

List Names of All Group Members who contributed  
**Abstract (5 marks):** short 200 word summary that includes the goal of the study and the outcome.

1. **Introduction (20 marks):**
   1. Summarise your system’s conceptual design.
   2. What is the problem space?
   3. Specify the ideal population to be studied (e.g. practitioners, students, novices, etc.)
   4. What are the user requirements and how does your design fulfil these requirements? Include images or screenshots of your prototype, whichever is applicable. If the user requirements list is long you can put it in the appendix.
   5. Design- discuss the ultimate design of your system (don’t limit yourself to current technology) and describe the prototype that you developed and its level of fidelity.
2. **Prior work (5):** identify previous research on the topic. Use proper references and cite at least 3 peer reviewed papers.
3. **Research Question and Hypotheses (10):** define the research question being addressed by the study along with the associated hypothesis and null hypothesis.
4. **Experiment Design (20)**:
   1. Specify the conditions.
   2. Specify the form of the study (between-subject or within-subject).
   3. Specify how the participants were allocated to conditions, such as the randomisation mechanism used.
   4. Discuss the task that the subject was asked to do.
   5. Specify the independent and dependent variables and how they are measured, state if these are qualitative/quantitative and subjective/objective. If Quantitative- specify whether the data is nominal/interval/ordinal/ratio.
   6. Discuss confounding variables that you took into account when designing the experiment and any measures you took to counter the effect.
   7. Discuss any questionnaires and when they were given to the subjects.
5. **Data Collection (10):** 
   1. Describe the WoZ process- include images/screenshots.
   2. Describe how the data was stored.
   3. Describe your subjects, the number of subjects and their demographics, give any descriptive statistics (e.g. mean age, gender). Use graphs if you wish.
6. **Analysis (25):** 
   1. Identify which dependent variables were used to address the research question.
   2. Give your results in a table and provide at least one graph. Make sure the correct graph is picked with respect to the data type (continuous, discrete).
   3. List some descriptive statistics that back up your claim. Make sure that the statistics you report are appropriate for that variable’s data type.
   4. Run your statistical test. Describe why you picked that test. Report the statistical results using the correct wording. Are you rejecting or accepting your null hypothesis?
   5. Report on any qualitative themes if you collected qualitative data.
7. **Conclusion and future work (5 marks):** summarise your findings and suggest future developments/studies.
8. **References:** Include your references here.

**Appendices:**

1. (Updated with respect to CW1) Experimental plan
2. Experimental protocol
3. Blank ethics form
4. Blank questionnaires
5. Any other documents given to the subjects, such as a scenario description or written instructions.

**Ways to lose marks:**

* Use unscientific terminology e.g., “our system is awesome”.
* Don’t reference properly: make sure you use Harvard citation style or something similar.
* Create confusing hypotheses e.g., “the chatbot is better at telling jokes and talking”
* Wrong interpretation of statistics- be careful around accepting or rejecting the null hypothesis. What does p<0.05 mean for you?
* Making statements without evidence and statistics to back it up e.g., “our system is the best system of all time”.
* Not addressing confounding variables. Confounding variables can raise their ugly heads expectantly but it is key to acknowledge them in the report and write in future work proposed experimental methods to remove them next time.
* Messing up and creating bad data. As with confounding variables, it’s best to address this in your report. If you have to remove some data because of a mistake (e.g., the subject saw the answer sheet), then so be it. You may not lose marks for this but if it happened and you don’t explain it properly then you will.
* Missing captions for figures and tables and not referring to tables/figures in the text.
* Missing information, e.g., report all aspects of the data collection including the demographics of the subject group, even if you don’t think it contributes to the hypothesis.
* Don’t worry if your p>0.05, this is science! As long as you ran a valid experiment and analysis you won’t lose marks.