# *THE UNIVERSITY OF AUCKLAND*

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***SEMESTER TWO 2018***
***Campus: City***

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***COMPUTER SCIENCE and SOFTWARE ENGINEERING***

***Advanced Topics in Human Computer Interaction***

***(Time Allowed: TWO hours)***

***NOTE:*** ***This exam is worth 100 marks and counts for 40% of your final grade. Answer Questions 1, 2, 3, 4.1, and 4.2. For Question 5, answer either i or ii. For all questions, you may include a note of any assumptions you have made.***

1. ***User study design. A laptop producer asks you to evaluate their new improved trackpad on their new laptop model. Propose two different approaches for this evaluation and for each approach, describe key aspects of the user study design. Compare the merits and problems of both approaches in terms of validity.***

   ***(20 marks)***

2. ***Ethics and the participant research experience. Describe three research incidents that shaped*** today's ***standards for research with human participants. Describe six ways that these standards are demonstrated in typical*** "***Participant Information Sheets***" for user ***studies.***

   ***(20 marks)***

3. ***Epistemology and qualitative research. What is the epistemological paradigm for your research project? Describe how the*** project's ***research question, methods, data and findings relate to an epistemological position.***
   ***Consider the implications if your research was approached from a constructivist perspective. For the topic of your project, provide a constructivist research question, constructivist methods, example data, constructivist data analysis process, and an example of a finding.***

   ***(20 marks)***

4. ***Projects by other groups in this course. Answer both 4.1 and 4.2. You may discuss the same project for 4.1 and 4.2 or you can discuss two different projects. You must not pick your own project or project*** topic (for example a member of 4a cannot discuss team 4b's ***project).***

   ***4.1 Literature review. Describe a scientific advance in the prior work that was particularly notable for you, and describe why it was notable.***

   ***(15 marks)***

   ***4.2 User study. What result of this project did you find interesting from a research perspective, and why did you find it interesting, and what are further questions that you would have in this area?***

   ***(10 marks)***

5. ***Guest lectures. Answer only one question: i or ii.***

   ***(15 marks)***

   ***i. Gaze tracking. Assume a future scenario where many smartphones have good gaze trackers. Describe 2 challenges for using gaze trackers as the main input technique for these devices and discuss how these gaze trackers can be utilized for interaction.***

   ***ii. Beta testing. Define*** 'b***eta testing' with 5 key aspects. Describe the goals of beta testing. Describe how beta testing fits into a product lifecycle. If you were beta testing a new smartphone app, provide three examples of qualitative data and three examples of quantitative data that you would gather. Provide two examples of issues beta testing could enable you to find.***