Mobile HCI 2020-2021 Exam Feedback

ILO to Question Mapping

- **ILO1:** Q1, Q2, Q3, Q4
- **ILO2:** Q1, Q2, Q3, Q4
- **ILO3:** Q4
- **ILO4:** None (covered via coursework)
- **ILO5:** None (covered via coursework and labs)
- **ILO6:** Q1, Q2

Q1

This question asked you to demonstrate your understanding of sensor-based interactions, mobile interaction challenges, and usability.

In part (a) you were asked to consider why two levels of touch may be more usable than a touchscreen with three levels of touch. Most answers to this were reasonable. To score highly here, you needed to make several well-justified points. There was a lot of content here you could've used in your answers, including your experiences from the lab exercises on sensor-based interactions. You could cover both technical aspects (like the challenges of detecting input) and usability aspects (like the challenges of providing accurate input and understanding the interface). We wanted to see several unique points, not just repeating the same points by turning the disadvantages of 3D Touch into the advantages of Haptic Touch.

Likewise, we wanted to see nuance in your understanding: not just stating "*Haptic Touch is easier because it only has two levels of pressure*", but explaining why this is the case, e.g., "*Haptic Touch is easier because it only has two levels of pressure, which means users do not need to find and maintain an intermediate level of pressure*".

In part (b) you were asked to consider how this interaction technique could be used to improve usability when users are on the go. This required a combined understanding of the interaction challenges from being mobile and the capabilities offered by pressure-based input. Most answers were decent attempts, but to score highly you needed to present and justify many points and they needed to be clearly linked to the given scenario of a user interacting while walking, not just generic answers copied from the slides. This was the lowest scoring question in the exam.

Q2

This question asked you to demonstrate your understanding of mixed reality, show your ability to identify challenging elements of the given usage context, and show your ability to consider the technical requirements that best meet a given design spec.

In part (a) you were asked to choose and justify the tracking requirements that you believe best fit the given application scenario. To get marks here, you needed to identify *and* justify appropriate requirements. Marks were often limited here by poor (or no) justification or an incomplete set of tracking requirements. There were no 'wrong' choices; all types of mixed reality device were valid, so long as good justification was given.

In part (b) you were asked to consider sense of presence in a mixed reality experience. Unexpectedly, a lot of you chose to focus on cybersickness here and didn't fully answer the question about presence. Presence is multifaceted and was discussed during one the mixed reality units of the course, so there were many elements of presence you could've discussed here in your answers.

In part (c) you were asked to consider a usage context and its potential negative effects on the given mixed reality experience. This required you to draw on knowledge from all of the course. Many of you did a reasonable job of this. This was a challenging question worth 8 marks, and to score highly you needed to make several reasonable and well justified points.

Q3

This question asked you to think critically about whether the results of an important paper in the field are likely to still be true today, over 15 years after publication. You did not need to have read this paper to answer this question, because one of the lecture videos covered everything you needed to know about the paper and its findings, and the question text itself reminded you of the key points.

In part (a) you were asked to think about whether modern smartphones mean that these findings would still be true today. All answers were valid and there was a fairly equal split between “yes”, “no” and “it depends” answers. I was impressed by the variety in answers to this question. I expected most of you to focus on technical details of how mobile devices have changed but was impressed by some well-argued reflections on society and the role smartphones and connectivity play in everyday life, suggesting that humans have changed in addition to the devices they use. As a 10-mark question, this required several valid points showing real critical insight and understanding. Some of you chose to only write a couple of sentences; a bold strategy but an ineffective one.

In part (b) you were asked to bring together knowledge from across the course, e.g., about sensor-based interactions, mobility, social acceptability, etc, to argue why speech may not be an adequate touchscreen replacement for users on the move. Many of you raised valid points here, but as before, a good level of depth was needed here to score highly, and a lot of answers only focused on one or two points; so, whilst these shorter answers were correct, they were insufficient for a high score on a 10-mark question.

Q4

This question asked you to consider implementation choices and issues relating to a given application, covering many facets of the course (e.g., technical trade-offs, location ambiguity, and privacy). This was the highest scoring question in the exam.

In part (a) you were asked to consider trade-offs of two implementation choices for an app. Both answers were valid, and marks were awarded for strong justification of your choice. To score highly, it was important to make several well-justified and unique points, not simply restating advantages of X as disadvantages of Y.

In part (b) you were asked to discuss negative effects of location ambiguity on functionality. This was a fairly straightforward question although we wanted to see answers that were clearly linked to the given application scenario, rather than generic statements about location ambiguity: c.f., “this feature” in the question.

In part (c) you were asked to consider privacy issues relating to this app and propose potential solutions to address those concerns. This was fairly straightforward, there were a lot of things you could discuss here for the two marks.