Started on	Wednesday, 8 December 2021, 9:00 AM
State	Finished
Completed on	Wednesday, 8 December 2021, 10:55 AM
Time taken	1 hour 55 mins

Question 1

Complete

Marked out of 2.00

Which of the following best describes an implication of the central limit theorem?

- ⦿ a. Many statistical tests that assume normally distributed data can still be used on the non-normal data typical of HCI experiments
- ○ b. Experiments run with at least 30 participants will produce statistically significant results
- ○ c. All of these
- ○ d. Z-scores can be used to count number of standard deviations from the mean in data collected in an HCI study

Question 2

Not answered

Marked out of 2.00

You have just developed a series of web pages to act as an alternative checkout system for your existing online shopping site. You now want to evaluate whether your new system is an improvement over the old design. Which of the following would be the best way to partition users in order to conduct a comparison?

- ○ a. Allocate the new system to the site's most frequent users
- ○ b. Split all site users randomly between the 2 conditions
- ○ c. Show existing users the old system they are used to, but give all new users the new system
- ○ d. Allocate the new system to a small number of randomly selected users

Question 3

Complete

Marked out of
2.00

Which of the following statements is true of a 'spring model' method of producing a 2D visualisation of a multidimensional data set?

- ○ a. The length of time necessary to produce the visualisation is independent of the size of the input data set
- ○ b. A data set is visualised by drawing a large collection of springs
- ○ c. The resulting visualisation will attempt to place objects far apart if they have similar values across all their dimensions
- ⦿ d. None of these

Question 4

Complete

Marked out of
2.00

Which of the following statements can be inferred as a consequence of Fitts' Law?

- ○ a. Users will find it easier to notice a target if it is a different colour
- ⦿ b. Users will find it easier to select a target if it is larger
- ○ c. All of these
- ○ d. Users will find it harder to select a menu if it is bound to the edge of a screen

Question 5

Complete

Marked out of
2.00

Which of these would be considered good practice in running a survey study?

- ○ a. Look at responses as they come in and regularly update your questions if the results so far suggest the questions might have been worded poorly
- ○ b. Tend to put the most important questions at the end of the survey, to avoid recency bias
- ○ c. None of these
- ⦿ d. If asking multiple Likert-scale questions, always keep all options ranked from worst to best for consistency

Question 6

Complete

Marked out of 2.00

You conduct an interview study with a large group of users, to enquire about specific privacy issues you have identified in an app you have developed. You transcribe the interviews and study them to answer your privacy-focussed research questions. Which term best describes your form of analysis?

- ⚪ a. Inductive analysis
- ⚪ b. Axial coding
- 🔘 c. Deductive analysis
- ⚪ d. Grounded theory approach

Question 7

Complete

Marked out of 2.00

In VR and other eye-tracking systems, the eyes sometimes perform 'double duty' as both sensor and responder, for example by allowing users to make menu selections by fixing their gaze on a particular option for some period of time. What might be a negative issue of such a system?

- 🔘 a. Users might accidentally generate unintended selections by reading menu items
- ⚪ b. Users might have a wide variety of Just Noticable Differences between their eyes
- ⚪ c. All of these
- ⚪ d. The system would not be able to track fixations and saccades if the eye was being used as a responder

Question 8

Not answered

Marked out of 2.00

A colleague wishes to create an experiment where participants are informed that they are being timed as they try to complete a given task as quickly as possible. However, the real purpose of the experiment is to observe their responses when they encounter deliberately created problems with the interface. Participants would only learn the true nature of the experiment after they had completed it. What would you advise your colleague?

- ○ a. This would be acceptable, as long as the misleading condition is the independent rather than dependent variable
- ○ b. They cannot do this – you cannot mislead people to collect their data, or results would be invalid
- ○ c. It should be possible to conduct such an experiment, but it might require more stringent ethical approval
- ○ d. This would be acceptable, as long as you counterbalance participants between misleading conditions

Question 9

Complete

Marked out of 2.00

What is the purpose of ensuring a sound experimental method design?

- ○ a. So that collected data will always conform to a normal distribution
- ⦿ b. So that we can infer causal relationships between our interventions and observations
- ○ c. All of these
- ○ d. So that we can minimise signal and maximise noise in what we observe

Question 10

Complete

Marked out of 2.00

To study a mobile app you have developed, you intend to simultaneously trial it with 10 local users, and hundreds of global users who have downloaded it from an app store. Which of the following might be a good strategy for your study?

- ○ a. Interview the local users to investigate more thoroughly behaviour witnessed in global users
- ⦿ b. All of these
- ○ c. Survey global users to see how widespread issues might be that were reported by local users
- ○ d. Restrict certain questions to only local users

Question 11

Complete

Marked out of 2.00

You are conducting an experiment comparing two different methods of text entry. Why might you want to conduct this as a longitudinal study over a prolonged period of time?

- ○ a. All of these
- ○ b. Text entry falls under the social band of Newell's 'time scale of human action'
- ○ c. To collect sufficient data to allow use of a Kruskal-Wallis statistical test
- ◉ d. Allow users practice to overcome a pre-existing familiarity with one of the input methods

Question 12

Complete

Marked out of 2.00

You wish to conduct an ethnographic study of a particular community. However, you have studied this community before and already formed opinions that could bias your work. Which of the following would be good advice on how to proceed?

- ○ a. Concentrate the ethnographic study more on surveys, where the bias will be less of an issue
- ○ b. Treat potential bias as a confounding variable, and mitigate with a between-subjects study design
- ◉ c. As long as you acknowledge potential biases this should not be a problem
- ○ d. Ensure you find an unbiased researcher to perform this work instead of you

Question 13

Complete

Marked out of 2.00

Which of the following statements is true in relation to the human-centred design cycle for interactive system?

- ○ a. A product should be released before an evaluation can occur
- ○ b. None of these
- ○ c. Ideas should only come from observation of usage
- ◉ d. Prototyping should be performed early and often

Question 14

Complete

Marked out of
2.00

You have run an experiment where you are evaluating the speeds of 3 forms of text entry on a phone: a standard typing keyboard, a swiping keyboard and speech recognition. 30 participants are each timed using all of these forms. What statistical test could you run to determine whether any significant performance differences were apparent between the conditions?
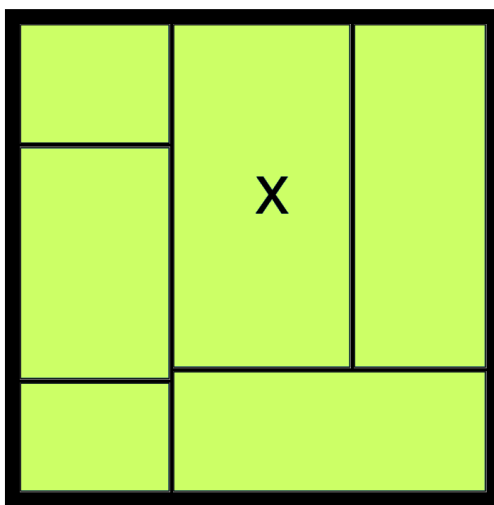
- ○ a.   None of these

- ◉ b.   One-way ANOVA

- ○ c.   Kruskal-Wallis

- ○ d.   Mann-Whitney test

Question 15

Complete

Marked out of
2.00

In the TreeMap visualisation shown below, what does the size of the rectangle marked X represent?

- ○ a.   Number of sibling nodes of X

- ○ b.   Number of child nodes of X

- ○ c.   The depth of X in the hierarchy

- ◉ d.   None of these

Question 16

Complete

Marked out of 2.00

On a web site you're developing, you decide that a new button you are placing on a page should have similar visual appearance to the buttons currently on the same page, and buttons on other pages of the site. What is this an example of?

- ○ a. External consistency
- ○ b. Both internal and external consistency
- ○ c. None of these
- ⦿ d. Internal consistency

Question 17

Complete

Marked out of 2.00

You run a lab-based HCI experiment comparing two conditions, and perform a t-test on the collected data. The test produces a p-value greater than your chosen target. Which of the following would describe your results?

- ⦿ a. The two samples of data collected under the experiment are unlikely to have been drawn from the same population
- ○ b. None of these
- ○ c. You have detected a Type 1 statistical testing error
- ○ d. The results have a very visible effect size

Question 18

Complete

Marked out of 2.00

A survey contains the following question: "How efficient and enjoyable did you find the use of the interface?" What could be a fault in this question?

- ⦿ a. Inclusion of more than one construct
- ○ b. All of these
- ○ c. A survey is not the correct instrument to ask about user enjoyment
- ○ d. Respondents might be affected by social desirability bias

Question 19

Complete

Marked out of
2.00

When a survey participant is completing a questionnaire, which of the following would NOT be an example of satisficing?

- ○ a. All of these are example of satisficing
- ○ b. Failing to think about the question sufficiently
- ○ c. Answering all Likert-scale questions with the same value
- ◉ d. Refusing to answer a question on privacy grounds

Question 20

Complete

Marked out of
2.00

You are designing an app where you want users to login or register on first launch before any other action can be taken. You therefore disable all controls on the page at this stage except for login and register buttons. What is this an example of?

- ○ a. Semantic constraint
- ○ b. Cultural constraint
- ○ c. Physical constraint
- ◉ d. Logical constraint