# Task 1:

Below are revision questions based on those used in the lectures. Some of these questions are similar to those in the actual quiz in the Week 6 lecture.

# Question 1. (Rationale: tests a key idea in Lecture 2)

Complete the following statement:

Security experts recommend that IT departments regularly carry out penetration tests that use social engineering techniques. This means that an organisation’s security administration group sends:

*Security administration group send social engineering attacks to their own employees, and help administrators learn which types of users pose the most risk for specific types of attacks while also identifying which employees require additional training.*

# Question 2. (Rationale: as above)

Complete the following statement:

When doing research for the analysis phase of HCI, a key advantage of ethnographic observing rather monitoring people is:

*It can give much richer data that simple monitoring of online behaviour.*

# Question 3 (Rationale: tests a key idea in Lecture 3, linking to the assignment, and the definition of usability and utility in Week 1)

In Assignment 1, you need to design and evaluate an interface than can “provide new approaches to phishing education for students at University of Sydney”.

Evaluation of this should include a pre- and post-test. The ***main reason*** for this is to test

*The main reason is to test how that interface helps student to learn more knowledge about phishing. In other words, how well the usability of this interface is.*

# Question 4 (Rationale: tests a key idea in Lecture 3)

One of the main benefits of think-aloud is that it is very effective in testing the user satisfaction with an interface.

*True*

*In a well conducted think aloud, users will express their feelings on the interface, and that’s the evidence of their satisfaction.*

*Eg. If they are happy, they are satisfied.*

*If they are confused or frustrated, they are not.*

# Question 5 (Rationale: tests a key idea in Lecture 4)

What is the difference between open and closed card sorting?

*Open card sorting requires participants to create their own new categories to group different cards.*

*Closed card sorting requires participants to sort different cards into pre-defined categories.*

# Question 6 (Rationale: example of a design guideline in Lecture 4)

One design guideline recommends limiting the number of fonts to 3. Explain the rationale for this answer.

*Because people tend to pay attention to the fonts that stand out, and trying to make sense for them. That increases working load and make people more tired.*

# Question 7 (Rationale: tests a key idea in Lecture 5, one cognitive bias and HCI)

Complete the following statement:

Confirmation bias is important for interface designers because

*Because it may be hard to change people’s belief, and in some case, even contradict evidence to their belief will help strengthen it. It will be hard for designers to give people information in some case, like when that information is contradicting to users’ mental model.*

# Question 8 (Rationale: tests a key idea in Lecture 5)

Social desirability bias means that a software engineer who is evaluating an interface in a think-aloud study needs to take care when interpreting which observations and comments?

*Engineers need to take care of those data collected from study, when the study participants know they are being observed, since they are likely to act differently to daily life context. For example, a participant may pay extra attention to the user interface if he knows he is being observed, while he may not when in real life.*

**Human factor**: develop a mindset that recognize importance of user, work practice, organizational context

**HCI**: study of human interaction with digital tech, includes creating effective interface and system to meet people’s needs.

**Usability**: learnability(how ez first), memorability(how ez after break), efficiency(how quick), errors(how many, how quick recover, how severity), satisfaction(how pleasant)

Why **security** is important: human vulnerability, important for user, design fail in human factor

**Context**: a certain situation. Solution for one isn’t for another, solution not for one is not effective.

**Think like user**: understand domain, context of use, user knowledge, user experience, what to see

To **design test**: define what they need/want, need analysis of user goal

**Aesthetic**: may not be effective/efficient. Screen design is gud for aes/use but limited

**Mental model**: world view, current knowledge, detailed goals

**SSM:**  approach to solve problem involving soft system, start by identify **user needs, key factors, stackholders**. We consider **situation of concern, CATWOE(SSM2222)** ,to get over challenge of **describing** and **understanding** problem.

**Soft system**: no clear defined solution, we don’t find for optimal solution, we find good enough solution created by iterative approach(create&test), introducing change will alter system.

**Concern for us**: phishing and social engineering, spoofing techniques to impersonate a trusted entity to conduct highly deceptive phishing attacks, by careful design and timing of a message, use people’s curious and interest.

**Penetration test, Security awareness training**, : learn which types of users pose the most risk for specific types of attacks while also identifying which employees require additional training. If people know what forms social engineering attacks are likely to take, they will be less likely to become victims.

**Spear phishing**: send a specially crafted email to very select individuals, by research targets, create customised email, for high value target.

**SSM2222**: concern, transformation(new system objective), stackholders’ worldview(mental model, what they think), context, environmental constraint.

**3 key methods for user need&pref**: study behaviour, what they say, trustworthy previous work

**Behaviour**: automated monitor- track behaviour, used for embedded training|ethnographic-observe in context and observer immerses themselves in small number ppl to get deep qualitied result,give richer data to auto monitor, works only if observers can present on time, need training|lab study- bring ppl into lab.

**Say**: in context-questionaire, out context-after lab, small group, hybrid

**Asking**: self awareness, self censorship, politeness, joke or lie

**high level user goals**: identify the goal based on all methods

**persona**: a representation of user group, need&expectation, how likely to use system, universal feature&functionality, real ppl with background, goal, value. Used as communication tool, discussion, design trade off. Do user need research, study similar&diff, identify group.

**Thinkaloud**: ask users to do concrete task and record what they say. dont help unless they are unhappy. Need to consider representative. Record success, time, did, said. Tells mental model.

**Why important**: effective with learnability and error, inexpensive, why they feel hard, where they feel hard, how satisfied, effective for inexpert evaluators

**In the wild**: study of ppl daily live. Have many user, produce quantity result, easy to know what but hard to know why

**Qualitive and quantitive**: non-numbers and numbers.

**Link to mental model**: think aloud tells mental model, fix the system or fix the user(mental model)

**Prototype**: draft that allow u to explore idea and show intention behind feature or design concept. Do evaluation to inform next version(iterative)

**Lofi**: quick, many alternative, help communicate, willing to criticize, limit test possible

**Hifi:** actual working system, enable explore, costly, reluctance to change

**IA:** organization of information, match mental model, take account of user, context, domain. eg. Alphabedical, chronological, geographical, topical, task oriented, metaphor-driven, sitemap.

**Card sorting:** group cards. Open for creating own category, closed for pre-defined category.

**Mood board**: collect ideas useful, like comic, games, videos, to explore way to teach

**Screen design guidelines:** line length-ppl scanread cuz retina range is small, recommend 60 char&ppl may resize->responsive design. Fonts-> no more than 3, standard cuz more familiar, read faster. Use mixed case, line spacing, white space, text-background contrast, color blind, avoid blinking text-distract

**Ppl’s attribute**: mental&physical, which can be mostly similar or individual differ. And context which one ppl differ at different time.

**Physical**: perceive: see, hear, feel --- action: type, touch, speak

**Visual perception**: retina range, color sensitivity, color blindness-5%

**Cognitive bias**: ways human reasoning may not be rational.

**Google effect**- forget things easy to search on google

**Over confidence**- about performance, designers can be over confident about usability, think aloud can help them

**Stereotyping**: gud-> simplify complex stuff, reason based on incomplete evidence, make fast decisions. Interface designers/programmers may make many  assumptions about the users of their system. Do more user research and evaluate think aloud can help.

**Confirmation bia**s: ppl tend to believe what they already believe. it may be hard to change people’s belief, and in some case, even contradict evidence to their belief will help strengthen it. It will be hard for designers to give people information in some case, like when that information is contradicting to users’ mental model.

**Social desirability bias**: People tend to answer questions in a way that ensures the questioner will take a positive view of them. this makes it hard to observe/ask when they know they are being researched. Field trail will help.

**Problem ppl may meet:** information overload, world is confusing, we need to act quickly, we cant remember everything.

**How cog-bias help**: ppl don’t perceive everything, ppl search for meaning, ppl think quick, memory can make error

**Intuitive**: ez to learn, ez to remember, ez for errors, pleasant to use -> ppl need background knowledge to use

**Usability for all**: focus on special need, but also include all requirement. Eg: physical, cognitive, social, cultural