

Interim Exam

CS4015 Behaviour Change Support Systems

Friday 2 February 2018, 13:30 – 16:30 hr

- This interim exam includes 10 multiple-choice questions and 5 open questions
- The minimal and maximal points that can be obtained are as follows:

Question	Points
Participation interim exam	10
Multiple-choice questions (Question 1 till 10)	0-40
11	0-10
12	0-10
13	0-10
14	0-10
15	0-10
Total	10-100

- Points for the Multiple-choice part is equally weighted with change correction.
- Minimal number of points needed for a positive mark: 58 points
- Use the first sheet to provide your answers for the multiple-choice questions. Write down the number of questions and letter of your answer (A, B, C, or D).
- Each multiple-choice question only has one correct answer
- This is a closed book examination, the use of books, readers or lecture notes is not allowed, the use of calculators, computers, mobile devices are also not permitted
- For the open questions, write clearly and avoid verbose explanations, and explain your answers
- Write on each sheet your name, student number and course code (CS4015)
- For each answer, clearly indicate the question number
- Total number of pages: 6

Multiple-choice part

Question 1

Which is *NOT* an approach suggested by Karppinen and Oinas-Kukkonen to address ethical considerations in the design of a behaviour change support system.

- A Guideline-based approach
- B Behavioural economics
- C Stakeholder analysis
- D Involving users in design process

Question 2

In his book "Designing for Behavior Change: Applying Psychology and Behavioral Economics" Wendel introduces the concept of Action Funnel, and the strategies (1) cheat, (2) make or change habits, and (3) support conscious actions as three strategies to support people to get through the Action Funnel. Which example, can best be classified as a cheat strategy?

- A To reduce the time spend on WhatsApp, set all groups on silence so a user does not receive a sound trigger when he or she receives a new WhatsApp message

Question 4

The idea that people are influenced by their belief of social pressure to perform or not to perform a specific behaviour is a core tenet of which theory?

- A Self-Determination theory
- B Theory of reasoned action
- C Goal setting theory
- D Protection motivation theory

Question 5

A person needs a French dictionary. Because she is very positive about her English Oxford dictionary, she decides to buy a French Oxford dictionary as well. How can this choice be classified according to the ASPECT Model of choice patterns?

- A Attribute-based choice
- B Policy-based choice
- C Experience-based choice
- D "Trial and error"-based choice

Question 6

Which three strategies does Wendel suggest in his book "Designing for Behavior Change: Applying Psychology and Behavioral Economics" to prepare the user for performing the targeted behaviour in the future?

- A Change the self-narrative, associate target behaviour with the positive and the familiar, and educate the user
- B Generate a feedback loop, cue user to action, and educate the user
- C Change the self-narrative, remove obstacles, and remove competition
- D Generate a feedback loop, cue user to action, and remove competition

Question 7

The mechanism why people keep using a system as presented by Nir Eyal in his Hook model can best be associated with which learning principle?

- A Behaviourism
- B Cognitive information processing principles
- C Constructivism
- D Social Cognitive Theory

Question 8

Which gamification principle best describes the idea that a game starts out with providing a great deal of guidance and giving users less complex challenges, but offers less guidance and confronts users with more complex challenges when they enter the more advanced levels in the game?

- A Distributed practice
- B Scaffolding
- C Episodic memory
- D Curve of interest

Question 9

When considering the psychology of persuasion, what are the six principles of influence according to Robert Cialdini?

- A Reciprocity, Social validation (social proof), Consistency (commitment), Liking, Scarcity, and Authority
- B Reduction, Social validation (social proof), Consistency (commitment), Liking, Scarcity, and Authority
- C Reciprocity, Reduction, Consistency (commitment), Liking, Scarcity, and Authority
- D Reduction, Social validation (social proof), Tunnelling, Liking, Tailoring, and Surveillance

Question 10

Using the ideas from the MINDSPACE framework and the Protection Motivation Theory, what questions should be addressed to enhance users coping appraisals related to the *response cost* when it comes to cybersecurity?

- A Messenger (who sends threat alerts or conduct training?), Salience (is on-going threat made obvious?), Social Norm (how are risk perceptions shared with peers?)
- B Affect (do users worry about cyberthreat?), Ego (are personal responsibilities for threat detection clear?) Commitment (are users asked to commit to secure behaviour online?)
- C Messenger (do bosses prioritize cybersecurity?), Incentive (what rewards and sanctions reinforce action?), Defaults (is appropriate action made quick and easy?)
- D Messenger (who teaches what action to take?), Norms (does a "shadow security" culture differ from organizational policy?), Ego/Affect (are users empowered/confident to act?)

Open questions part

Question 11

A designer of a website where people can buy home-delivered meals is considering persuading people to order meals more often or more extensive meals (e.g. more dishes). Describe how the designer can use the following persuasive strategy from Fogg to accomplish this: (A) reduction, (B) tunnelling, (C) tailoring, (D) suggestion, and (E) conditioning. For each strategy, explain Fogg's idea of the strategy, and give an example of how the designer can use it in the context of the home-delivered meal website.

Question 12

Researchers are studying renal transplant patients' behaviour on how they monitor their own health. For this they have given patients a device to examine their blood. The measurement obtained from the device needs to be entered into a website by the patients. The website analyses the measurement data and advises patients whether or not it is necessary to redo the measurement or to contact the hospital if there are signs that their renal function is deteriorating. After collecting data from 45 patients the researchers notice that patients often delay entering the measure data into website for several days, making the advice given by the website out of date. Use Fogg's behaviour model to suggest how this behaviour can be changed. (A) First, make a drawing of Fogg's behaviour model, (B) explain the model, (C) use the model to give three strategies how these researchers can increase the chance that patients will enter the measurement online at the same day as they conduct the self-measurement.

Question 13

A developer of a new health application is considering Rogers idea about diffusion of innovation for speeding up the rate that her new innovation will be spread. The developer wants to focus on the communication towards early adopters. (A) Name five key characteristics of technological innovation that the developer needs to communicate which Rogers has identified as determinants for the rate of adoption. (B) Next, name three types of individuals in the social system that Rogers identifies as individuals that influence the adaption.

Question 14

(A) Name and describe the stages of change as formulated in the Trans-theoretical model (TTM) of change. (B) Indicate in which stage(s) of TTM each of the following ten Processes (techniques) of change would be effective: Conscious raising, Dramatic relief, Self-reevaluation, Environmental reevaluation, Self-liberation, helping relationships, counterconditioning, reinforcement management, stimulus control, and social liberation.

Question 15

A designer of a mobile app for helping people quit smoking wants to increase the chance that people install the app on their mobile phone and start with the first session. The designer wants to use the idea of Cognitive dissonance and Nudge Theory to achieve this. (A) Describe the concept of cognitive dissonance, and (B) give an example how the designer could use this concept to achieve the goal. Next, (C) describe the Nudge theory, and (D) give an example how the designer could use this theory to achieve the goal.

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