Tutorial Letter 101/3/2017

Human-Computer Interaction

INF1520

Semester 1 & 2

School of Computing

IMPORTANT INFORMATION:

Please activate your myUnisa and myLife e-mail addresses and make sure that you have regular access to the myUnisa module site INF1520-2017-S1 or 2017-S2, as well as your group site.

Note: This is an online module and therefore it is available on myUnisa. However, in order to support you in your learning process, you will also receive some study material in printed format.

Define tomorrow.

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1   INTRODUCTION

Dear Students

Welcome to this module on human-computer interaction (HCI). We hope that you will find it interesting and stimulating.

Please be informed that, with effect from 2013, Unisa offers online tutorials (e-tutoring) to students registered for modules at NQF level 5 and 6. This means qualifying first-year and second-year modules.

Because this is a fully online module, you need to use myUnisa to study and complete the learning activities for this course. Please visit the website for INF1520 on myUnisa frequently. The website for your module is INF1520-17-S1 or INF1520-17-S2.

Once you have been registered for a qualifying module, you will be allocated to a group of students with whom you will be interacting during the tuition period, and to an e-tutor who will be your tutorial facilitator. Thereafter you will receive an SMS informing you about the group to which you have been allocated, the name of your e-tutor and instructions on how to log on to MyUnisa in order to receive further information on the e-tutoring process.

Online tutorials are conducted by qualified e-tutors who are appointed by Unisa and are offered to students free of charge. All you need to participate in e-tutoring is a computer with an internet connection. If you live close to a Unisa regional centre or a telecentre contracted with Unisa, please feel free to visit any of these to access the internet. e-Tutoring takes place on MyUnisa, where you are expected to connect with other students in your allocated group. It is the role of the e-tutor to guide you through your study material during this interaction process. For you to get the most out of online tutoring, you need to participate in the online discussions that the e-tutor will be facilitating.

Some modules have a high failure rate, with some students failing them repeatedly. These modules are allocated face-to-face tutors and tutorials for these modules take place at the Unisa regional centres. These tutorials are also offered free of charge. However, it is important for you to register at your nearest Unisa Regional Centre to secure attendance of these classes.

This module focuses on enhancing the quality of the interaction between humans and machines and on the systematic application of knowledge about human purposes, capabilities, and limitations, as well as knowledge about machine capabilities and limitations.

The study of HCI is done to determine how we can make computer technology more usable for people. This requires an understanding of the following:

- the computer technology involved

- the people who interact with the computer technology

- the design of interactive systems and interfaces which are usable

- the broader impact of computer technology on society and on our social, personal and working environment

These four strands form the focus of this module.

We also look at the history of interactive systems. We discuss how knowledge of human cognitive and physical capabilities feeds into the design of computer technology. Design problems, guidelines and tools are discussed, as are methods for evaluating the designs. Lastly, we discuss the broader social issues and the consequences of advanced computer technology for all humans.

This module should serve as a learning curve in user-centered design, but should also be enjoyed. It is one of those modules that can provide you with valuable insight, not only into the problems of using computers, but also into the influence of bad design on everyday life. But beware! It could forever change the way you look at things around you. At least, the next time you struggle with a computer program, or cannot figure out how to open a door, or don't know how to work the remote control of your DVD player, you can console yourself with the knowledge that it might not be you that is stupid for getting it wrong; it might just be due to a bad design!

Because this is a blended module, you need to use myUnisa to study and complete the learning activities for this course. You need to visit the websites on myUnisa for INF1520 frequently. The website for your module is INF1520-15-S1 for the first semester and INF1520-15-S2 for the second semester.

1.1 Getting started…

Owing to the nature of this module, you have to go online to see your study material and read about the module. Go to the website here: https://my.unisa.ac.za and login with your student number and password. You will see INF1520-17-S1 or INF1520-17-S2 in the row of modules in

the orange blocks across the top of the webpage. Remember to check in the –more– tab as well if you cannot find the module you require in the orange blocks. Then click on the module you want to open.

You will receive this tutorial letter and a printed copy of the online study material for your module. While the printed material may appear to differ from the online study material, it is exactly the same and has been copied from the myUnisa website.

We encourage you to participate in the discussion forum as it provides an effective means of communication between students registered for this module.

We wish you success on your journey!

2 OVERVIEW OF THIS MODULE: INF1520

2.1 Purpose

Students who successfully complete this module will have

- an awareness of user-centered design
- been introduced to some of the social, security, and safety aspects of computing and of using computers as a tools
- studied various interaction devices and aspects relating to the design and evaluation of interactive systems

This module is delivered through myUnisa and the internet as well as peer group interaction. Community engagement is also included in some of the activities. Your lecturers will interact with you on myUnisa and via e-mail.

2.2 Outcomes

By the end of the course, you should be able to

- define human-computer interaction
- describe the process of designing usable systems by focusing on the intended user
- describe the physiological, psychological, social and cognitive characteristics of users that may influence their interaction with computers
- determine what users want from a system
- describe, compare and contrast the different interaction styles in HCI
- describe and analyse the main methods of interface evaluation

2.3 Syllabus

The syllabus for this module is covered in the five units of the Study Guide and includes:

Syllabus

❖ Introduction to human-computer interaction (HCI)

❖ Cognition, perception, and memory

❖ The role of age, gender, personality and culture in HCI

❖ The errors people make when interacting with computers

❖ Common design problems

❖ Design guidelines, principles and standards

❖ Interaction styles and interface types

❖ Evaluation of interactive systems

❖ Social aspects of computer use

2.4   How to approach your studies

This section serves as a general guideline on how to approach your studies in this module:

- The first step is to draw up a study programme. Take the assignment due dates of all the modules you are enrolled for and draw up a study programme that covers and makes allowance for all your modules combined, using these dates as guidelines. The study programme should make provision for studying the material as well as doing the assignments.

- Each module unit has various outcomes. Read through these first, and keep them in mind while working through the material. Make study notes as you go along.

- When you reach the end of a unit, return to the outcomes and check whether you have achieved them. If not, revise the material.

- Only after you have a good understanding of the material covered in each unit, should you attempt to do the assignments. Many students look at the questions in the assignments and then scan the course material for the correct answers. This might work in the short-term for getting the assignment questions correct but, in the long run and when it comes to the examination, you might well be at the losing end.

- When doing assignments, first try to do them without looking at the course material. This will show how well you have mastered the material. In this way you will be able to learn a whole lot more and much faster than just scanning the material for the correct answers.

- Submit your assignments before the due dates. Schedules are extremely tight in the semester system.
  - Assignment 01 consists of a set of multiple-choice questions. You must indicate your choice of option for each question on mark-reading sheets, which will be marked electronically shortly after the due date of the assignment.
  - Assignment 02 is a written assignment which consists of short questions. You MUST submit your solutions to this assignment online via myUnisa.

Your semester mark will be determined from the marks you obtain for these two assignments. The exact composition of the semester mark is explained in Section 8 of this

tutorial letter. Assignment 03 is for self-evaluation. Please DO ANSWER these questions since they are good examination practice, but do not submit them.

- Shortly after the due dates for Assignments 01 and 02 you will receive a set of model solutions. You should check your answers against the answers provided in order to ascertain where you went wrong and why. Note the differences, if any, and revise the material where necessary. Doing questions in two different formats should prepare you for the examination as it will include both types of questions.

- Assignment 03 is a vitally important revision assignment. Due to the tight deadlines in the new semester system, there is not enough time for this to be submitted and marked, but you will receive solutions in Tutorial Letter 203. Challenge yourself by doing this assignment and do not work through the solutions until you have tackled it on your own!

Support from fellow students in study groups.
An excellent means of gaining help and support comes from forming your own study group. For names and addresses of students in your area send an e-mail to the following e-mail address:
study-info@unisa.ac.za

- Every student his/her their own methods for studying different kinds of modules. Some modules require memorisation and others require practice. One way to learn the material presented in this module is to visualise it being applied in real world scenarios. An example of this would be if you are asked to explain the steps you use when you make coffee. You do not simply sit and enumerate a list you memorised as a kid. What usually happens is that you immediately form a mental picture of you making coffee. You then see things happening in this mental picture and this allows you to write those things down in the sequence the steps) that you would follow to make the coffee. This process allows you to draw information from experience. The reason it is easy to remember is because you are not trying to remember a long list of steps that means nothing to you.

  You can use a similar strategy to learn and memorise the work presented in this module. The process you follow is to take the part of the work you need to memorise and visualise a real world scenario in which the content applies. You may, for example, consider MS Word and look at how its designers have implemented good or bad user

interface design principles. Now close your eyes and visualise how the designers implemented those principles and what is right and wrong with them as per the points you are trying to memorise from the study guide. The next time you need to remember those points, close your eyes again and replay the little scenario in your head. This will allow you to easily remember the content as it is now not meaningless facts on a sheet of paper but something you can visualise as real and practical.

3   LECTURER(S) AND CONTACT DETAILS

3.1   Lecturer(s)

The lecturers for this module and others may change from time to time. For this reason, the lecturers for each module and their contact details are updated every year and will be given to you in COSALL tutorial letters. These letters are issued by the School of Computing and not by individual lecturers. It will be posted to you and will also be uploaded on *myUnisa*. The tutorial letter will include up-to-date contact details of your lecturer (e-mail addresses, telephone numbers and office numbers), and the days and times s/he is available.

Please note that your lecturers are available for **academic** queries, such as enquiries about this module's academic content. You are welcome to make an appointment with your INF1520 lecturers. The lecturers for this module are generally available between 8:00 and 13:00 on weekdays. If you experience problems with this subject or have enquiries about it, please feel free to contact them. Their names and telephone numbers, as well as the e-mail address you can use for queries regarding this module are supplied in COSALL/301 Tutorial Letter.

If there is something that is not clear in the tutorial material, or in the comments we write in your assignments, or in the model solutions, you are welcome to send an e-mail. Use the module e-mail on *myUnisa.* (Please do not send it to individual lecturers.) The response time with e-mail is generally fast since we try to respond within 24 hours. Should you prefer, you may send a letter to the following address:

> The Lecturer, INF1520
> School of Computing
> P O Box 392
> Unisa
> 0003

The primary lecturer for this module is **CORNÈ VAN STADEN**

Department: School of Computing

Office C4.22

Telephone: (011) 670 9429

3.2   Department

The INF1520 module is offered by the School of Computing (SoC) which is part of the College of Science, Engineering and Technology (CSET). You can contact the School on:

- Secretary at Florida campus (Jhb):   011 471 2816
- Home page of School of Computing   http://www.cs.unisa.ac.za

There is a web server called *Osprey*, set up and maintained by the School of Computing itself, to provide information to students enrolled in the School. *Osprey* can be accessed through the address http://osprey.unisa.ac.za.

To access the Osprey web server, set up your browser as follows:

1. Access the URL: http://osprey.unisa.ac.za
2. Click on the <Registered Students> link at the left-hand side of the page.
3. There are a number of mid-page windows in the middle of the screen. Go to the window that lists all the courses.
4. Tick off all the courses that you are enrolled for. Click on <Submit>.
5. Your window should now have one or two small windows with module news and a list of the courses you are enrolled for. (If some of the mid-page windows bother you, close them, and only keep the one that lists your specific information.
6. Your left-hand side window should now contain links to the discussion forums and download areas for each of your enrolled modules. You can click on any of these to gain access to the discussion forum of that specific module.

3.3   University

To contact the University, you should follow the instructions in the brochure ***Study @ Unisa***. Remember to have your student number available whenever you contact the University.

You should also always include your student number whenever you contact the lecturer. This will help the lecturers to help you.

4   MODULE-RELATED RESOURCES

4.1   Joining myUnisa

If you have access to a computer that is linked to the internet, you can quickly access resources and information at the University. The myUnisa learning management system is Unisa's online campus that will help you to communicate with your lecturers, with other students and with the administrative departments at Unisa – all through a computer that is linked to the internet.

You can start at the main Unisa website at http://www.unisa.ac.za and then click on the myUnisa orange block. This will take you to the myUnisa website. To go to the myUnisa website directly, go to https://my.unisa.ac.za. When you are on the myUnisa website click on the "Claim UNISA Login" on the right-hand side of the screen. You will then be prompted to give your student number to claim your initial myUnisa details as well as your myLife login details.

For more information on myUnisa, consult the **_Study @ Unisa_** brochure which you received with your study material.

4.2   Other resources – printed support material

Because we want you to be successful in this online module, we also provide you with some of the study material in printed format. This will allow you to read the study material even if you are not online.

This printed study material will be sent to you at the beginning of the semester, but you do not have to wait to receive it to start studying – you can go online as soon as you register and all your study materials will be there. For this reason you do not need to wait before you start with the module. The material we will send you is merely an **offline** copy of the formal content for the online module. Having an offline copy will also give you the chance to do a lot of the studying for this module WITHOUT having to go onto the internet or to an internet café. This will save you money, of course, and you will be able to take as much time as you need to read and re-read the material and do the activities.

It is very important that you log in to myUnisa regularly. We recommend that you do this once a week or at least once every 10 days to do the following:

- **Check for new announcements.** You can also set up your myLife e-mail so that you receive the announcement e-mails on your cell phone.

- **Do the discussion forum activities.** When you do the activities for each unit, we want you to share them with the other people in your group. You can read the instructions and even prepare your answers but you need to go online to post your messages.
- **Do other online activities.** For some of the unit activities you will need to post something on the Blog, take a quiz or complete a survey in **Self-Assessment**. Don't skip these activities; they will help you to complete the assignments and the activities for the module.

We hope that this system will help you to succeed in this online module by giving you extra ways to study the material and practise all of the activities. At the same time, you **MUST** go online regularly in order to complete the activities and assignments on time and to get the most out of the online course.

Remember, the printed support material is a backup to everything that is found online on myUnisa. It does not contain any extra information. **In other words, you should NOT wait for the printed support material to arrive before you start studying.**

4.3 Library services and resources information

For brief information go to: http://www.unisa.ac.za/contents/studies/docs/myStudies-at-Unisa2017-brochure.pdf

For more detailed information, go to the Unisa website: http://www.unisa.ac.za/, click on Library.

For research support and services of Personal Librarians, go to:

http://www.unisa.ac.za/Default.asp?Cmd=ViewContent&ContentID=7102

The Library has compiled numerous library guides:

- find recommended reading in the print collection and e-reserves – http://libguides.unisa.ac.za/request/undergrad
- request material – http://libguides.unisa.ac.za/request/request
- postgraduate information services – http://libguides.unisa.ac.za/request/postgrad
- finding, obtaining and using library resources and tools to assist in doing research – http://libguides.unisa.ac.za/Research_Skills
- how to contact the Library / find us on social media / frequently asked questions – http://libguides.unisa.ac.za/ask

4.4 Prescribed books

There is no prescribed book for this module.

4.5   Study guides

There is ONLY one study guide for this module. It will be provided to you with the study package that you will receive after registration. The study guide can be downloaded from the INF1520 website.

4.6   Recommended books

There are no recommended books for this module.

5   HOW TO STUDY THIS MODULE ONLINE

5.1   What does it mean to study fully online?

Studying modules that are fully online is totally different from studying some of your other modules at Unisa.

- *All your study material and learning activities for online modules are designed to be delivered online on myUnisa.* Although we give you a printed copy to support your studies, the module is designed to be delivered online.
- *All your assignments must be submitted online*. This means that you do all your activities and submit all your assignment on myUnisa. In other words, you may **NOT** post your assignments to Unisa via the South African Post Office.
- *All of the communication between you and the university happens online* by e-mail, in the discussions, and through the Questions and Answers section. You can use all of these ways to ask questions and contact your lecturers. This also means that your lecturers will communicate with you in the same way – through e-mail, with announcements, in discussions, and with questions and answers.

5.2   The myUnisa tools you will use

All of the information about myUnisa tools is located in Unit 0 on the myUnisa website for this module. However, we thought it was important to stress the tools that will be used for your formal assignments.

In this module, there are three different types of assessment, each using different myUnisa tools:

- **Discussions**: This tool is the place for online discussion forums, where you share your ideas and insights with the other students in your small groups. Many activities also use discussion forums, but there are five that will count as assignments for this module. For

these assignments to be submitted, the Teaching Assistant (TA) for the site needs to create a forum with a topic, for example a forum "Assignment 01" in **Discussions".** When you click on this you should find the **topic** "Assignment 01: Language Diversity". Here you should go to **Reply** and click on it to get a message box in which you do your assignment. Then scroll down to **Publish** to finalise the assignment. Never create a new topic by yourself unless requested to do so by the TA. For the activities which need to be done in the "Discussions", the TA will create a forum "Unit 1" and then a topic for the activity. Again, you do the activity as a reply under the topic created by the TA and not as a separate topic.

- **Assignments**: The assignments that are not done in "Discussions" are what we call written assignments. These have to be typed in a Word document and submitted online in the same way as you submitted all the other assignments online. The assignments will be routed to your TA who will mark them. Depending on the assignment, you may be asked to fill in a form or type a document. These typed assignments must be submitted as Word documents using the online **Assignments** tool on myUnisa. The instructions for submitting these assignments are included in Unit 0.

Inside the **Discussions** tool there may also be several other discussion forums where you can share ideas and post your opinions online. We also give you a place to talk socially with the other students in the course. We call this the "Social Indaba" (In several African languages, the word "indaba" refers to a place where people gather to interact socially.)

You can also ask questions using the **Questions and Answers** tool. If your question is of general importance, your TA may publish it for the whole group to see.

Free computer and internet access

Unisa has entered into partnerships with establishments (referred to as Telecenters) in various locations across South Africa to enable you (as a Unisa student) to have free access to computers and the internet. This access enables you to conduct the following academic related activities: registration; online submission of assignments; engaging in e-tutoring activities and signature courses; etc. Please note that any other activity, e.g. printing, photocopying, etc is for your own cost. For more information on the Telecenter nearest to you, please visit www.unisa.ac.za/telecentres.

6   ASSESSMENT

6.1   Assessment plan

An integrated assessment system is going to be used for this module. Assignments are seen as part of the learning material for INF1520. The assessment criteria given for each assignment will help you to understand what is required of you more clearly. This means that your final mark is based not only on your examination mark, but also on your performance during the semester. An assignment does not only provide you with an opportunity to evaluate your understanding of the prescribed material (or to give you feedback on your readiness for the examination) but also makes a contribution towards your semester mark.

6.2   General assignment numbers

Due to regulatory requirements imposed by the Department of Higher Education South Africa, a student must qualify as an 'active student'. This means that to be admitted to the INF1520 exam, you **must submit at least one assignment BEFORE:**

- *13 March 2017, if you are a Semester 1 student.*
- *21 August 2017, if you are a Semester 2 student.*

Assignments 01 and 02 contribute a semester mark to the final mark you will get for the module. This **semester mark counts 20% of your final mark**. The exam for INF1520 **counts 80% of your final mark.**

According to the system explained in the relevant COSALL tutorial letter, weights for assignments are:
- Assignment 01* = 20% (Active student assignment).
- Assignment 02 = 80%
- Assignment 03: vital revision, self-assessment – no contribution to semester mark.

6.2.1   Unique assignment numbers

Semester	Assignment Number	Unique Assignment Number
1	01	702529
1	02	724964

2	01	773685
2	02	659940

6.2.2   Due dates for assignments

The table below gives the due dates of the assignments set for this module, as well as the units covered in each assignment. There are separate sets of assignments for the two semesters respectively. Make sure you do the assignments for the correct semester.

Semester	Assignment No.	Due Date	Study material
1	01	13 March 2017	Study guide Units 1 and 2
1	02	10 April 2017	Study guide Units 3 to 5
1	03	Self-Assessment	All material covered in Assignments 01 and 02
2	01	21 August 2017	Study guide Units 1 and 2
2	02	18 September 2017	Study guide Units 3 to 5
2	03	Self-Assessment	All material covered in Assignments 01 and 02

6.3   Submission of assignments

Every assignment is marked electronically by the Assignment Department of UNISA on a **PREDETERMINED** date. The submitted assignment is marked through batch processing and a late assignment will therefore **NOT** be marked. The Assignment Department will notify you of results. The lecturers have **NO** control over the marking process or the marks allocated. Please do **NOT** call the lecturers for assignment results.

Enquiries regarding an assignment (e.g. whether or not the University has received an assignment, assignment marks, when it was returned, etc.) must be addressed to: Assignment Department. The email address is:

assign@unisa.ac.za

Under no circumstances will an extension of time for the submission of an assignment be granted. An assignment that is received late will be returned unmarked. Submit your assignment electronically on time.

REMEMBER: You **HAVE TO** submit at least one assignment before the due date of Assignment **01** for the semester you are registered for to qualify for examination admission.

PLEASE DO NOT PHONE OR E-MAIL THE LECTURERS REGARDING ASSIGNMENTS RESULTS OR SUBMISSION QUERIES.

6.4   Assignments

ASSIGNMENTS FOR SEMESTER 1 2017

Semester 1   Assignment 01

Due Date:	13 March 2017
Unique assignment number:	702529
Study material:	Study Guide Units 1 and 2
Contribution of mark:	20% of semester mark, i.e. 2% of final mark

Assignment 01   [20]

Question 1

Which of the following statements about the early history of computing are not true?

A. Charles Babbage (1791–1871) was a British mathematician who designed a Difference Engine.

B. Herman Hollenith (1860–1929) developed a computational device to calculate general statistics for immigrant population.

C. Colossus (1943) developed the first truly interactive computer.

D. In 1999 IBM launched FORTRAN.

Options:

1. A and B
2. B and C
3. A, B and C
4. A, B and D
5. D

Question 2

Choose the correct statements about human-computer interaction.

A. Computers and computer software should be designed in a way that allow the intended user to use them successfully for the intended purpose with the least amount of effort

B. Designers must know how to support the tasks that the user will perform with the computer and computer software

C. The term human-computer interaction was adopted in the mid-1950s to denote a new field of study concerned with studying and improving the effectiveness and efficiency of computer use

D. When HCI became one of the domains of cognitive science research in the 1970s, the idea was to apply cognitive science methods to software development.

Options:

1. A, B, C and D

2. A, B and C

3. A, B and D

4. A and B

5. A and D

Question 3

Which of the following is a driver of mobile computing?

A. no need of wireless access services

B. internet access made an integral part through laptops, iPhone and cell phones

C. widespread availability of satellite telephone links

D. vendor marketing

Options:

1. A and B

2. A, B, C and D

3. A and C

4. B, C, and D

5. A, B and D

Question 4

How many machines were connected to the Internet in 1990?

1. 100
2. 100 000
3. 1 000 000
4. 1 000
5. 10 000 000

Question 5

In the 1980s electronic mail was mostly used by:

1. the military
2. large businesses
3. academic communities
4. IBM, Apple and Microsoft
5. the elderly

Question 6

The WWW grew from:

1. NSFNET Internet backbone
2. NCSA National Centre for Super Computer Applications
3. CERN
4. European Research School
5. Mosaic web

Question 7

Which of the following definitions of HCI are correct?

A. HCI is a 'set of processes, dialogues, and actions through which a human user employs and interacts with a computer'.

B. HCI is a 'discipline concerned with the design, evaluation, and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them'.

C. HCI is 'the study of people, computer technology, and the ways these influence each other'.

D. HCI is concerned with studying and improving the many factors that influence the effectiveness and efficiency of computer use.

Options:

1. A, B, C and D
2. A, B and D
3. B, C and D
4. A and B
5. A, B and C

Question 8

Professionals in HCI are typically

A. user experience designers
B. interactive designers
C. user interface designers
D. network operators
E. application designers

Options:

1. A, B, C and E
2. B only
3. A, B and C
4. A and B
5. B and C

Question 9

Identifying needs and establishing user requirements is one of the activities of _____.

1. user experience
2. usability
3. interaction design
4. accessibility
5. availability

Question 10

Choose the correct statements about social networks.

A. Connections on social media are based on concepts such as friendship and common interest.
B. Associations and companies cannot have profiles and friends on Facebook.
C. Facebook has been banned in several countries due to its use to spread political propaganda.
D. Twitter is a social networking and micro-blogging service that enables its users to communicate through tweets.

Options:

1. A, B, C and D
2. A, B and C
3. A, B and D
4. A, C and D
5. B, C and D.

Question 11

A usability principle that refers to the resources expanded in relation to the accuracy and completeness of goals achieved is called_____.

1. effectiveness
2. efficiency
3. satisfaction
4. perception
5. cognition

Question 12

Designing products so that people with disabilities can use them is referred to as:

1. user experience
2. availability
3. accessibility
4. usability
5. interaction design

Question 13

Which of the following categories are characteristics of human (user) resources?

A. novice

B. perception

C. interaction

D. cognition

E. physiology

Options

1. A and B

2. B and C

3. B, D and E

4. D and E

5. D

Question 14

Which one of the following statements are good examples to resolve stress caused by keyboard and mouse movements?

1. replace keyboard

2. use laptop mouse

3. use of a wrist support

4. use a secretary

5. none of the above

Question 15

Choose the correct descriptions with regard to cognition:

A. A vital foundation for designers of interactive systems is an understanding of the cognitive and perceptual abilities of the user.

B. Designers must make sure that people can see or hear displays if they are to use them.

C. People with colour deficits generally see less contrast between colours than someone with normal vision.

D. Lightening light colours and darkening dark colours will increase the visual accessibility of a design.

Options:

1. A and C

2. A, B and C

3. A, B and D

4. B, C and D

5. A, B, C and D

Question 16

Knowledge in the head and world can be categorised under the following properties:

A. retrievability

B. learning

C. efficiency of use

D. ease of use at first encounter

E. aesthetics

Options:

1. A, B and C

2. A, C and D

3. A and B

4. A and C

5**.** A, B, C, D and E

Question 17

When designing interfaces, the trade-off between knowledge in the world and that in the head must be kept in mind. Which one of the following guidelines is **NOT** a good principle?

1. Do not rely too much on the user's memory.

2. Don't clutter the interface with memory cues.

3. Don't clutter the interface with information that is not really necessary.

4. Use icons that have no meaning at all.

5. Use meaningful icons to relieve strain on memory.

Question 18

Which statements are **TRUE** about attention?

A.   It involves concentrating on something at a specific point in time.

B.   People do not differ in terms of their attention span.

C.   Some people's attention can be distracted easily while others can concentrate on a task irrespective of external disturbances.

D.   It is not influenced by the way information is presented or by people's goals.

Options:

1.   A and B

2.   A and C

3.   B and C

4.   A, B and C

5.   A, B, C and D.

Question 19

User experience refers to

A.   how people feel about a product

B.   one cannot design a user experience but can design for user experience

C.   designing products so that people with disabilities can use them

D.   designing products to support the way people communicate

Options:

1.   A and C

2.   A, B and C

3.   A, B and D

4.   B, C and D

5.   A, B, C and D

Question 20

The characteristics of Short-Term Memory (STM) are:

A.   STM stores information or events from the immediate past.

B.   STM retrieval is measured in seconds or minutes.

C.   STM can store information over longer periods.

D.   STM is limited to the amount of information it can store.

Options:

1. A and B
2. A and C
3. A and D
4. A, B and C
5. A, B and D

End of Assignment 01

Semester 1   Assignment 02

Due Date: 10 April 2017

Unique assignment number: 724964

Study material: Study Guide Units 3 – 5

Contribution of mark: 80% of semester mark, i.e. 8% of final mark

Assignment 02   **[50]**

Question 1   **[3]**

Define 'interaction' as used in human-computer interaction. Distinguish between the two main types of interaction.

Question 2   **[3]**

There are, potentially, many mistakes that designers can make when designing interfaces. Identify at least three problematic design problems.

Question 3   **[4]**

Discuss four disadvantages of cluttering interfaces.

Question 4 **[4]**

4.1 Does the subscriber and contact buttons fulfil the purpose of the headings if nothing happens when the user clicks on them? Yes or No. (1)

4.2 Explain your answer. (1)

4.3 What design solution do you recommend should be used to overcome the problem? (2)

Question 5 **[6]**

When a user clicks on the "Save As Web Document" option on the File menu in Storybook Weaver Deluxe 2004, the following message appears:
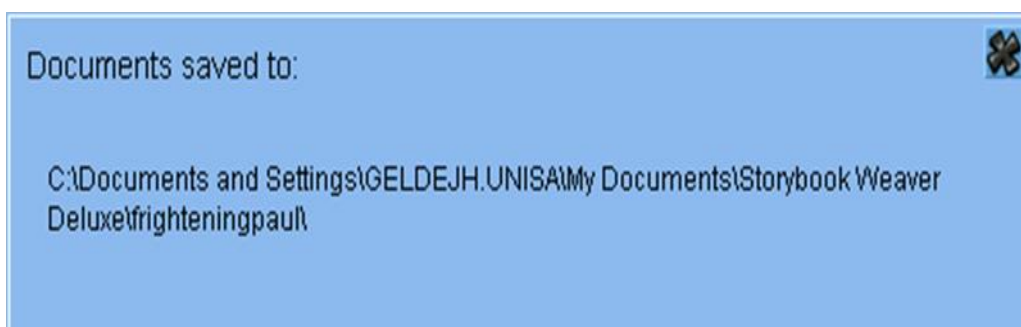
5.1 Is this a suitable feedback message to a child? Yes or No. (1)

5.2 A system provide feedback to the user using _____ and _____. (2)

5.3 Give some examples where sound can be used as a feedback mechanism. (3)

Question 6 **[11]**

6.1 What is the aim of design guidelines, standards and principles? (1)

6.2 Differentiate between design principles and usability principles. (4)

6.3 Dix et al. (2004) divided interface design principles into three categories: learnability, flexibility and robustness. Identify four principles that relate to learnability principles. (6)

Question 7 **[3]**

In each case below, provide one word that matches the definition:

7.1 The ease with which users can enter a new system and reach a maximum level of performance.

7.2 The many ways in which interaction between the user and the system can take place.

7.3 Refers to the level of support the user is given for successful achievement and assessment of their goals.

Question 8 **[10]**

8.1 Name 5 different types of interfaces. (5)

8.2 You are expected to go out into the community for example a school in area or an old age home. Indicate what advantages are associated with each type of interface taking into consideration the type of community selected. In your answer clearly indicate which community you involved. (5)

Question 9 **[3]**

Name and discuss 3 disadvantages of social networking sites.

Question 10 **[3]**

Describe blogs and what they are used for.

End of Assignment 02

Semester 1   Assignment 03: Self-Assessment (Do not submit)

Please note the following:

❖ This is a self-evaluation assignment, which means you should not submit your answers. It will also not count towards the semester mark for INF1520.

❖ You will receive the answers in tutorial letter INF1520/203/1/2017.

Question 1

A process whereby a product is gradually improved over time is referred to as

1. affordance design
2. evolutionary design
3. improved design
4. consistent design
5. changing design

Question 2

Which of the following are the reasons designers go astray?

A. They do not pay enough attention to the aesthetics of their designs.
B. They are not typical users.
C. They have to please their clients, who may not be end-users.

Options:
1. A, B and C
2. A and B
3. A and C
4. B and C
5. B only

Question 3

Which of the following aspects work against evolutionary design?

A. New versions of a product are already under design before the old ones are in use.

B. Adequate mechanisms for collecting and feeding back experiences of customers do not exist.

C. New, 'improved' versions of a product come out that do not evolve gradually from the good properties of the previous version.

D. Designers have to make something different and individual – even if another company has already produced the perfect version of the product.

Options:

1. A, B, C and D
2. B, C and D
3. C and D
4. B and D
5. B only

Question 4

The disadvantages of cluttering the computer interface are:

A. The more objects you present on the screen at once, the more meanings users will have to unravel.

B. The more objects you present, the easier it is for users to find the ones they need.

C. It is difficult for users to take in and understand the many different objects represented on the screen.

D. The more objects there are on the screen, the bigger the average size of each object will be.

Options:

1. A and C
2. A, B and D
3. A, C and D
4. A, B and C
5. A, B, C and D

Question 5

A chair is for sitting on, a button is for pushing, and a lever is for pulling or pushing. These are examples of

1. visibility
2. mappings
3. affordances
4. functions
5. constraints

Question 6

What are the four different classes of constraints?

1. physical, semantic, cultural and logical
2. physical, semantic, cultural and linguistic
3. physical, semantic, cultural and refining
4. physical, refining, cultural and logic
5. none of the above

Question 7

One of the most important principles of design is visibility, the property by which the visible structure of well-designed objects gives clues to their operation. These clues are given by

1. stereotypes, mappings and affordances
2. affordances, constraints and mappings
3. conceptual models
4. mental models
5. causality and stereotypes

Question 8

The term_____ is used to refer to the information a user receives about what action was taken and what results were accomplished.

1. visibility
2. system image
3. mapping
4. feedback
5. none of the above

Question 9

Two kinds of design rules are standards and guidelines. Which of the following statements are correct in respect of these?

1. Standards are high in authority and limited in application, while guidelines are lower in authority and more general in application.
2. Standards are high in application and limited in authority, while guidelines are lower in application and higher in authority.
3. Standards are high in authority and application, while guidelines are lower in authority and more general in application.
4. Standards are limited in authority and application, while guidelines are high in authority and application.
5. Standards and rules are high in authority and limited in application.

Question 10

Consider the following definitions / descriptions on principles:

A. Generalisability relates to support for the user to extend specific knowledge within and across other similar applications.
B. Predictability entails support for the user to assess the effect of past operations on the current state.
C. Consistency involves likeness in input-output behaviour arising from similar situations or task objectives.
D. Design rules can be classified according to their authority and generality.
E. The best user interface guidelines are high-level, widely applicable directing principles, rather than explicit instructions.

Which are accurate definitions / descriptions?

1. all of the above

2. none of the above

3. A, B, C and D

4. A, B, C and E

5. A, C, D and E

Question 11

Maps use a set of generally accepted markings and notations. This demonstrates the principle of

1. consistency

2. familiarity

3. generalisability

4. predictability

5. none of the above

Question 12

Dix et al. (2004) suggest principles to support usability. These principles are

1. prevent errors, robustness, and generalisability

2. learnability, flexibility, recognise diversity

3. learnability, flexibility, robustness

4. simplicity, flexibility, robustness

5. learnability, flexibility, generalisability.

Question 13

System-initiated modification to customise a user interface is termed

1. adaptability

2. adaptivity

3. customisability

4. system pre-emptivity

5. substitutivity

Question 14

Design principles

A. help designers to explain or improve their design

B. inspire careful design

C. help with the details of the interface development

D. tell the designer what will work and what will not

Options:

1. A, B, C and D

2. A and D

3. A and B

4. B and D

5. A, B and D.

Question 15

Which of the following are, according to Shneiderman, aspects which must be characterised in order to recognise the diversity of users?

A. usage profiles

B. task profiles

C. interaction styles

D. typical errors

E. language use

Options:

1. all of the above

2. C, D and E

3. A, C and E

4. A, B and C

5. B, C and E

Question 16

Shneiderman suggests 'complete sequences' as a technique which can reduce errors by ensuring complete and correct actions. An example of a complete sequence is:

1. When a user types a left parenthesis, the system displays a message somewhere on the screen that the right parenthesis is outstanding. The message disappears when the user types the right parenthesis.
2. Logging onto a network requires that the user performs a sequence of actions. When the user does this for the first time, the system can store the information and henceforth allow the user to trigger the sequence with a single action. The user is then not required to memorise the complete sequence.
3. Command completion, which will display complete alternatives as soon as the user has typed the first few letters of a command.
4. When a user correctly matches a menu item and a button that performs the same function.
5. None of the above.

Question 17

The following are advantages of graphical user interfaces:
A. visibility
B. cross-cultural communication
C. screen clutter
D. impact and animation

Options:
1. A and C
2. A, B and C
3. A, B and D
4. B, C and D
5. A, B, C and D

Question 18

The disadvantages of speech interfaces are:

A.   They are easy to develop.

B.   They may misinterpret what the user is saying.

C.   Voice responses may appear unnatural.

D.   They may be adaptable to different accents.

Options:

1.   A and B

2.   A and C

3.   B and C

4.   B and D

5.   C and D

Question 19

The shopping cart used in many e-commerce websites is an example of

1.   an interface metaphor

2.   a conceptual model

3.   a good mapping

4.   internationalisation

5.   all of the above

Question 20

Which of the following statement(s) about evaluation of interactive systems is/are altogether true?

A.   Evaluation is an important process and follows the design and development cycle. It is not actually part of the user-centred design process, but is an essential separate stage.

B.   Field studies, as opposed to laboratory studies, are conducted in natural settings. They are used to investigate real-life working practices and customs.

C.   During a heuristic evaluation, novice users evaluate the user interface according to usability principles known as 'heuristics'.

D.   Formative evaluation should make use of sophisticated techniques only.

Options:

1. all of the above

2. A, B and C

3. B and C

4. A and B

5. B only.

Question 21

What is the most appropriate stage in which to do summative evaluation?

1. during the development of an interactive system to guide the decisions that are made

2. during the design phase to prevent usability problems on delivery

3. at the end of the design cycle to make judgements on the finished system

4. after acceptance testing to show that it can be used in a work setting

5. both 1 and 4

Question 22

During later design stages, evaluation focuses on

A. identifying user difficulties

B. improving an upgrade of the product

C. predicting the usability of the product

Options:

1. only A

2. only B

3. A and B

4. A, B and C

5. B and C

Question 23

Which of the following does **NOT** apply to scenario-based evaluation?

1. It derives measurable observations that can be analysed.

2. It forces designers to identify key tasks with statistical techniques in the requirements' elicitation stage.

3. Different design options can be evaluated against a common test suite.

4. It helps to identify and test hypotheses early in the development cycle.

5. Direct comparisons can be made between alternative designs.

Question 24

Which of the following are **NOT** advantages of questionnaires?

A. A large number of users can be included in the evaluation.

B. It is time-consuming.

C. It is labour-intensive.

D. Results can be analysed rigorously.

Options:

1. A and D

2. A, C and D

3. B, C and D

4. B and C

5. none of the above

Question 25

The most frequently used technique of requirements elicitation for user interfaces involves

1. interviews

2. surveys

3. experiments

4. canvasses

4. reviews

Question 26

The following statement(s) about groupware are true **EXCEPT**?

A. It is intended to help different people to work together on a common product.

B. It refers to systems through which CSCW manifests.

C. It enables large numbers of users to be contacted at the same address.

D. These applications are difficult to design and build.

Options:

1. A only

2. B only

3. C only

4. A, B and C

5. A, B and D

Question 27

Which of the following are problems of CSCW which distinguish it from single user applications?

A. it may be difficult for users to know who else is also using the system

B. two or more users wanting to use the same resource simultaneously

C. a user frustrating another user by preventing him/her from performing an action

D. having different views of a system

Options:

1. A, B and D

2. A, B and C

3. A and B

4. A, C and D

5. A, B, C and D

Question 28

Software that is developed for the purpose of doing harm or gaining unlawful access to information is referred to as

1. malware

2. shareware

3. freeware

4. courseware

5. middleware

Question 29

'Cracker' is a name proposed for someone who

1. attacks a computer system
2. finds obscure problems in program code
3. spreads computer viruses
4. creates computer viruses
5. all of the above

Question 30

The contributing factors to the digital divide are

A. financial constraints
B. lack of skills
C. well-designed systems
D. availability of basic infrastructure

Options:

1. A and B
2. A and C
3. A and D
4. B and C
5. B and D

End of Assignment 03

ASSIGNMENTS FOR SEMESTER 2 2017

Semester 2   Assignment 01

Due Date: 21 August 2017

Unique assignment number: 773685

Study material: Study Guide Units 1 and 2

Contribution of mark: 20% of semester mark, i.e. 2% of final mark

Assignment 01   **[20]**

Question 1

Which of the following statements are true about role-players in computer systems?

A.   Steve Jobs and Steven Wozniak found Apple in 1976

B.   Apple hit upon the idea of pushing the code to represent the desktop into hardware

C.   Apple II was the first personal computer of Steven Wozniak

D.   The first Apple personal computer cost $60

Options:

1.   A and B

2.   A and C

3.   A and D

4.   A, B and C

5.   A, D and B

Question 2

The early history of computing can be traced back to the narrow aims of the following people who had calculations that needed to be performed:

A.   mathematicians

B.   pilots

C.   medical doctors

D.   astronomers

Options:

1.   A and D

2.   A and C

3.   A and B

4.   B and D

5.   B and C

Question 3

Who said the following: "No, Steve, I think it's more like we both have a rich neighbour named Xerox, and you broke in to steal the TV set."

1.   JW Mauchly
2.   Steve Jobs
3.   Steven Wozniak
4.   Herman Hollenrith
5.   Bill Gates

Question 4

Computer systems that are embedded in everyday objects and are part of the environment are known as

1.   distributed systems
2.   ubiquitous computing
3.   Wi-Fi
4.   the internet
5.   mobile computing

Question 5

Which of the following statements are true?

A.   Apple MacIntosh (MAC) 1984 was based on the work done at PARC.

B.   Xerox Palo Research Center (PARC) developed the Alto – a GUI-based computer

C.   much of the MacOS (operating system) was written before Jobs' visit to PARC

D.   Apple stole the GUI concept from Microsoft

Options:

1.   A, B

2.   A, C and D

3.   A, B and C

4.   B, C and D

5.   A, B, C and D

Question 6

Which statement(s) about the history of e-mail is/are true?

A.   e-mail started late 2000

B.   e-mail started late 1980

C.   e-mail was restricted to academic communities

D.   e-mail was restricted to the military

E.   e-mail was first internal to companies before being enabled to transfer information through systems such as Microsoft Internet Explorer

Options:

1.   A

2.   B

3.   B, C and D

4.   B, C, D and E

5.   D and E

Question 7

What are social networks used for?

A.   friendships

B.   kinship

C.   banking

D.   financial exchange

E.   common interest

Options:

1.   A, B, C, D and E

2.   A, C and D

3.   A, C, D and E

4.   A and B

5.   A and D

Question 8

The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction is called

1.   user experience

2.   availability

3.   interaction design

4.   usability

5.   feedback

Question 9

Which of the following statements are **TRUE** about mobile computing?

A.   It can take place over large distances using cellular and satellite telephone links.

B.   It makes internet connection through notebook computers and standard cell phones.

C.   Cellular broadband uses radio waves to broadcast an internet signal from a wireless router to the immediate surrounding area.

D.   Through mobile technology, people who would never have had access to computers in their non-mobile now have mobile phones which they can use to access resources such as the worldwide web.

Options:

1. A and B
2. B and C
3. A, B and C
4. A, B and D
5. A, B, C and D

Question 10

An aspect of colour that describes the perceptual attributes associated with elementary colour names is called

1. colour hue
2. colour lightness
3. colour saturation
4. colour migration
5. colour deficit

Question 11

Prolonged use of a keyboard and mouse can cause stress on the user's

1. chest
2. wrist and upper arm
3. legs
4. eyes
5. none of the above

Question 12

The characteristics of long-term memory are:

A. It holds information about events that happened days, months or years ago.
B. It has high capacity.
C. Access is very fast.
D. It cannot store information over longer periods of time.

Options:

1. A and B
2. A and C
3. B and C
4. B and D
5. A, B and D

Question 13

Choose the **INCORRECT** statement about: when designing interfaces, the trade-off between knowledge in the world and that in the head the following should be kept in mind.

1. It is a good thing to design interfaces that make efficient use of short-term memory.
2. The interfaces should rely on the user's memory.
3. An important aim for the user interface is to reduce the load on short-term memory.
4. Do not clutter the interface with memory cues.
5. Meaningful icons and menus can be used to relieve strain on memory.

Question 14

What should designers do to help users with motor impairments?

A. Make use of trackballs that allow users to move the cursor using only the thumb.
B. Make use of head-operated or eye-tracking devices to translate and control onscreen cursor movement.
C. Make use of speech input.
D. Make use of interfaces that require too much of grasping and moving of the standard mouse.

Options:

1. A and B
2. A and D
3. A, B and C
4. A, C and D
5. A, B, C and D

Question 15

Which of the following are examples of covert factors?

A. symbols

B. functionality

C. dates

D. translation

Options:

1. A and B

2. A and C

3. B and C

4. B and D

5. A and D

Question 16

The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context is called _____.

1. ergonomics

2. user experience goals

3. accessibility

4. interaction design

5. usability

Question 17

Culture can be defined as the behaviour typical of a group or class of people. Is this definition true or false?

1. True

2. False

3. Not applicable

Question 18

Which of the following design factors can be seen as overt?

A.   tangible

B.   straightforward

C.   publicly observable elements

D.   metaphors

E.   graphics

Options:

1.   A and B

2.   A, B and C

3.   B, C and D

4.   A, B and D

5.   A, B, C and D

Question 19

Which of the following can be categorised as slips?

A.   capture errors

B.   description errors

C.   data-driven errors

D.   modem errors

E.   associative activation errors

Options:

1.   B and D

2.   A, B, C and E

3.   A and C

4.   A and D

5.   C and D

Question 20

Which of the following will assist users with visual impairments when interacting with computer technology?

A.   text-to-speech conversion

B.   speech-recognition devices

C.   enlarging portions of a display

D.   suitably marked function and control keys

E.   pages that are organised into frames or boxes

Options:

1.   all of the above

2.   A, B, D, and E

3.   B, D, and E

4.   A, B, C and D

5.   A, B and D

End of Assignment 01

Semester 2 – Assignment 02

Due Date:	18 September 2017
Unique assignment number:	659940
Study material:	Study Guide Units 3 - 5
Contribution of mark:	80% of semester mark, i.e. 8% of final mark

Assignment 02 [50]

Question 1 [6]

Discuss the three common mistakes that designers make when dealing with the problem of cluttering interfaces.

Question 2 [3]

Below are some examples of constraints. For each, indicate whether it is a physical, semantic, cultural or logical constraint.

2.1   the way a key fits into a lock

2.2   the way the outside handle of a mini taxi is designed

2.3   the natural mapping of a water tap with one handle, where turning the handle to the left controls the hot water and turning it to the right controls the cold water

Question 3 [6]

Study the following graphic and then answer the questions based upon it.
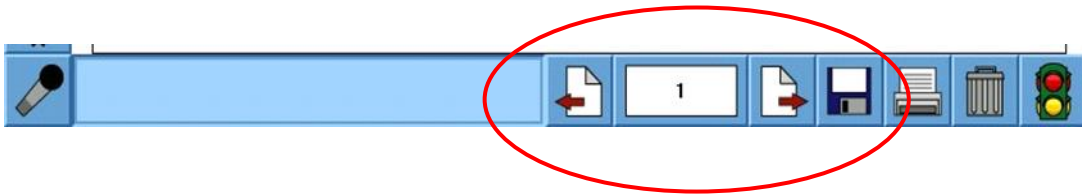
3.1   Define the term "mapping".   (1)

3.2   Explain in more detail what is meant by the icons highlighted in the above figure, which, in terms of mapping, are typical examples of icons used in children games.   (4)

3.3   In your opinion, is the above example an example of appropriate mapping? Yes or no   (1)

Question 4   [6]

The parts of a system that is essential for its use must be visible.

4.1   Define the term "visibility".   (1)

4.2   What form can clues take to on make a system more visible?   (3)

4.3   What solution do you recommend to make a system more visible for visually impaired users?   (2)

Question 5   [10]

5.1   Dix et al. (2004) classified rules as standards and guidelines. Differentiate between standards and guidelines.   (2)

5.2   Discuss four principles that affect flexibility in terms of interaction of users with systems.   (8)

Question 6   [3]

Provide one word for each of the following definitions:

6.1   a mechanism that restricts the allowed behaviour of a user when interacting with a computer system

6.2   a type of a physical constraint that requires one action before the next can take place

6.3   information that is sent back to the user about what action has been performed and the results of the action

Question 7   [10]

7.1   Name five different types of interface.   (5)

7.2   Indicate the disadvantages associated with each type of interface.   (5)

Question 8   [4]

You are expected to go out to your community, for example, school, church or old age home. Give four advantages of social networking sites for the community you selected, indicate in your answer which community you choose.

Question 9   [2]

What problems are associated with the "Information Age" that can be linked to the almost immeasurable availability of information?

End of Assignment 02

Semester 2 Assignment 03: Self-Assessment (Do not submit)

Please note the following:

- This is a self-evaluation assignment which means you should not submit your answers. It will also not count towards the semester mark for INF1520.

- You will receive the answers in tutorial letter INF1520/203/2/2016.

Question 1

Design should

A.   make it easy to determine what actions are possible at any moment

B.   make the conceptual model of the system invisible

C.   make it easy to evaluate the current state of the system

D.   follow natural mappings between actions and their effect

Options:

1.   A, B, C and D

2.   A, B and C

3.   A, C and D

4.   B, C and D

5.   C and D

Question 2

A serious danger in interface design is

1.   to design in such a way that the interface supports the requirements of different kinds of users

2.   for the designer to consider himself/herself to be a 'typical user'

3.   to produce an interface that provides for use of both the keyboard and the mouse

4.   to recognise the distinction between the designer's view and the client's model

5.   none of the above

Question 3

To start a car with an automatic gearbox, I first have to put the gearbox into Park mode. Such a forcing function is an example of

1. a cultural constraint
2. a physical constraint
3. unconscious behaviour
4. conscious behaviour
5. a semantic constraint

Question 4

The fact that a front loading washing machine can only be switched on if its door is properly closed, is an example of a(n)

A. physical constraint
B. natural mapping
C. feedback
D. unnecessary nuisance
E. forcing function

Options:
1. D only
2. A, B, C and E
3. A, B and C
4. A and E
5. B and C

Question 5

One of the most important principles of design is visibility, the property by which the visible structure of well-designed objects gives clues to their operation. These clues are given by

1. stereotypes, mappings and affordances
2. affordances, constraints and mappings
3. conceptual models

4. mental models
5. causality and stereotypes

Question 6

The indicator lights of some cars are controlled with a lever situated to the left-hand side of the steering wheel, while in other cars the lever is placed on the right-hand side of the steering wheel. The fact that a lever positioned on the left is pushed upwards to indicate a right turn, while a lever placed on the right is pushed down to indicate a right turn, is an example of _____.

1. a successful constraint
2. positive feedback
3. adequate visibility
4. affordance
5. a natural mapping

Question 7

You designed the user interface of a student record system. You choose a green colour for the button to close a record. In choosing green to close down, you are violating a_____.

1. physical constraint
2. semantic constraint
3. cultural constraint
4. logical constraint
5. forcing function

Question 8

Which of the following statement(s) is/are true of forcing functions?

A. They are forms of physical constraints.
B. Interlocks, lockins and keylocks are examples of such functions.
C. A forcing function can be a nuisance during normal usage of a product.

Options:

1. A, B and C
2. A only
3. A and B
4. A and C
5. none of the above

Question 9

When red is used as the standard colour indicating the necessity to stop at a traffic light, it is an example of a _____ constraint.

1. cultural
2. logical
3. semantic
4. physical
5. none of the above

Question 10

_____ refers to the ease with which new users can begin effective interaction with a system and then attain a maximal level of performance.

1. learnability
2. flexibility
3. robustness
4. learnability and flexibility
5. learnability and robustness.

Question 11

If you purchase a computer system and have certain add-ons that you can choose from, it is an example of the principle of

1. multi-threading
2. substitutivity
3. customisability
4. flexible design
5. none of the above

Question 12

Principles that affect flexibility are _____.

A.   predictability

B.   substitutivity

C.   task conformance

D.   dialogue initiative

Options:

1.   A and B

2.   A and C

3.   A and D

4.   B and C

5.   B and D

Question 13

One of the first and most important principles of user-centred design that should be borne in mind is _____.

1.   precision

2.   visibility

3.   low maintenance

4.   aesthetics

5.   none of the above

Question 14

Which of the following is **NOT** a principle related to flexibility?

1.   dialogue initiative

2.   task conformance

3.   multi-threading

4.   substitutivity

5.   customisability

Question 15

The facility for a user to reverse an action, once he/she has recognised an error, is called

1. backwards navigation
2. forward recovery
3. reachability
4. recoverability
5. commensurate effort

Question 16

An advantage of making usability the major design criterion is that the item will be _____.

1. aesthetically pleasing
2. easy to use
3. cheaper
4. very attractive
5. none of the above

Question 17

The fact that we can use the word 'clockwise' to indicate a specific direction of circular movement is an example of

1. a cultural constraint
2. standardization
3. a natural mapping
4. information in the world
5. rote learning

Question 18

Shneiderman suggests 'correct matching pairs' as a technique which can reduce errors by ensuring complete and correct actions. An example of correct matching pairs is:

1. When a user types a left parenthesis, the system displays a message somewhere on the screen that the right parenthesis is outstanding. The message disappears when the user types the right parenthesis.

2. Logging onto a network requires that the user perform a sequence of actions. When the user does this for the first time, the system can store the information and henceforth allow the user to trigger the sequence with a single action. The user is then not required to memorise the complete sequence.

3. Command completion, which will display complete alternatives as soon as the user has typed the first few letters of a command.

4. When a user correctly matches a menu item and a button that performs the same function.

5. None of the above.

Question 19

The following are advantages of web-based interaction:

A. It provides users with access to large volumes of information at the click of a button.

B. Sophisticated search engines such as Google makes it easy to search for information on specific topics.

C. It is easy to avoid accessing irrelevant information.

D. Most of the information on the web is trustworthy.

Options:

1. A, B, C and D

2. A, B and C

3. A, B and D

4. A and B

5. B only

Question 20

The disadvantages of multimodal interfaces are:

A. Inputs need to be calibrated for accurate interpretation.

B. They are complex and difficult to implement.

C. Voice responses may appear unnatural.

D. They are very expensive.

Options:

1. A, B and D

2. A, C and D

3.   B, C and D

4.   A, B and C

5.   A, B, C and D

Question 21

Which statement is **NOT** true about summative evaluation?

1.   It is done early in the design process and continues through the design cycle to support design decisions.

2.   Its aim is to demonstrate that the completed system fulfils its requirements.

3.   Usability testing with real users is suitable for summative evaluation.

4.   It is often focused on one or two major issues.

5.   The bottom line for summative evaluation should be to demonstrate that people can use the system in their work setting.

Question 22

Which statements are correct about cooperative evaluation techniques?

A.   They are useful during the formative stages of design.

B.   They are a good means of eliciting user feedback on partial implementation.

C.   They provide quantitative feedback.

D.   They are effective if designers are unaware of political and other pressures that might bias a user's response.

Options:

1.   A and B

2.   B and C

3.   C and D

4.   A, B and C

5.   B, C and D

Question 23

Which of the following has the limitation of providing qualitative feedback and not also the measurable results of empirical research?

1. heuristic evaluation
2. cooperative evaluation
3. formative evaluation
4. summative evaluation
5. scenario-based evaluation

Question 24

When evaluating a system or product, _____occurs when experts meet to discuss their evaluations, prioritise problems and suggest solutions.

1. evaluation
2. briefing
3. heuristics
4. debriefing
5. experiment

Question 25

Applying_____means that user interface design experts evaluate the user interface according to usability principles.

1. observational techniques
2. experimental techniques
3. scenario-based evaluation
4. heuristic evaluation
5. cooperative evaluation

Question 26

The numerous ways in which replacing a physical business with an online one reduces costs are due to

A. the simplification of order placement and execution
B. the provision of 24-hour customer support
C. a reduction in staffing requirements
D. no restriction on retail hours

Options:

1.	A, B and C

2.	B, C and D

3.	A, B and D

4.	A and B

5.	A, B, C and D

Question 27

Which one of the following statements does **NOT** apply to groupware?

1.	It is intended to help different people work together on a common product.

2.	It can be referred to as Computer Supported Cooperative Work systems.

3.	It enables large numbers of users to be contacted at the same address.

4.	These applications are difficult to design and build.

5.	None of the above.

Question 28

One of the problems with CSCW is contention. Contention occurs when

1.	two users change the same document at the same time

2.	two users try to gain access to a resource that cannot be shared

3.	users want different views of the same data

4.	one user frustrates another by getting in his way

5.	none of the above

Question 29

Which of the following are problems associated with the information age?

A.	information overload

B.	dependence on technology

C.	threats to privacy of personal information

D.	greater interconnection of computers provides more opportunities for malicious users

Options:

1. A, B, and D
2. A, B and C
3. B, C and D
4. A, B, C and D
5. A and B

Question 30

An insidious piece of code hidden inside a computer program that offers different functionality is called a/an

1. eavesdropper
2. cracker
3. time bomb
4. Trojan horse
5. virus

End of Assignment 03

7   EXAMINATION

General examination guidelines and examination preparation guidelines can be found in the *my Studies @ Unisa* brochure.

The Examination Section will provide you with information regarding the examination in general, examination venues, examination dates and examination times.

7.1   Examination admission

This module is offered in a semester period of fifteen weeks.

- This means that if you are registered for the first semester you will write the examination in May/June 2017. The supplementary examination will be written in October/November 2017.

- If you are registered for the second semester you will write the examination in October/ November 2017. The supplementary examination will be written in May/June 2018.

You will be informed by the Examination Department regarding the date, time and venue of the examination. If you have any queries pertaining to this, please contact the Examination Department. . The e-mail address is:

exams@unisa.ac.za

NOTE:

- **NO ADDITIONAL ASSIGNMENT** will be given, so please ensure that you complete the assignments and submit them on or before the respective due dates.

- All students who have submitted **ASSIGNMENT 01 ON TIME** will be allowed to write the examination. We will **NOT** entertain any requests for special admission and we suggest that you refrain from contacting the lecturers in this regard.

- Students will not be allowed examination admission based on their expertise in computers, experience in work or any other reason.

- You will receive a record of your assignment marks. Use this to check your own records and inform the Assignment Department immediately if there are any discrepancies.

DO NOT PHONE THE LECTURERS FOR AN EXTRA CHANCE (ASSIGNMENT) FOR ADMISSION TO THE EXAMINATION. IF YOU HAVE SUBMITTED ASSIGNMENT 01 ON TIME, YOU SHOULD BE ABLE TO OBTAIN EXAMINATION ADMISSION.

7.2   Examination guidelines

You will receive exam guidelines for the module in Tutorial Letter 102 or 103 which will outline the format of the exam question paper. The Tutorial letters will also be available on *myUnisa* under your module code.

Please do not e-mail or telephone your request for examination guidelines.

7.3   Your final examination paper

- The length of the exam paper will be 2 hours.
- Your exam timetable – which will state the module code, the time and venue of the examination – will be posted to you by the exams department.
- You may also go to the 'EXAMINATION' link found on the left panel on *myUnisa* to find out when you are scheduled to write this examination paper.

7.4   Calculation of final mark

As stated previously, the final mark is calculated as follows:

Semester mark (out of 100) x 20% + Examination mark (out of 100) x 80%

By way of example, suppose your semester mark is 70% and suppose you get 60% in the examination, your final mark will then be calculated as follows:

$$(70 \times 20\%) + (60 \times 80\%)$$
$$= 14 + 48$$
$$\mathbf{=62\%}$$

You must get a final mark of at least 50% in order to pass the module.

In order to qualify for a supplementary examination, you must get a final mark of at least 40%.

Remember: If you do not obtain the required subminimum of 40% in the examination, your year mark does not count. In such a case, your final mark is your examination mark.

7.5   Supplementary examination

If you obtain between 40% and 49% as a **final** mark, you will be allowed to write the supplementary examination. The supplementary examination will be written at the end of the following semester. To pass the supplementary examination, you must obtain at least 50% in the examination itself. This means that, if you qualify for a supplementary examination in May, you will write the INF1520 second semester paper in October. Similarly students who qualify for a supplementary examination in October will write this paper in May of the following year.

A student may, however, write only one supplementary examination per enrolment. If you qualify for a supplementary examination, no further study material will be supplied to you during the following semester. You must **NOT** submit any assignment.

7.6   Aegrotat examination

An aegrotat examination may be granted to a student who has been prevented from taking the preceding examination or has been unable to complete the examination as a result of:

- Illness on the day of, or immediately before or during the examination; provided that his/her application is accompanied by a certificate, issued by a Medical Practitioner registered with the SA Medical and Dental Council, specifying the nature, commencement date and duration of the illness and declaring that, for health reasons, it was impossible or undesirable for the candidate to sit for the examination on the day concerned **AND**, where applicable, a letter from the invigilator certifying that the candidate left the examination hall due to illness;
- Personal circumstances, such as military service, work commitments, the serious illness or death of a relative during the examination period; provided that satisfactory evidence of such circumstances is produced.

7.7   Transferring of examination

If any student applies to transfer his/her INF1520 examination (for any valid reason) to the following examination period, the student must take note that the transfer is subject to examination admission in the initial registration period. In other words, if the student is registered in the first semester (and is supposed to write examination during May) and he/she wants to transfer his/her examination to the October examination, he/she must still submit the compulsory assignment of the first semester during the first semester (before May examination) to earn credits for examination admission.

Any other assignment which will contribute to his/her semester mark must be submitted as well. **NO** assignment can be submitted during the following semester. If an examination is transferred to the following examination period, it is deemed to be the student's second and final examination opportunity for that academic period. Note that students who qualified for a supplementary examination are not allowed to transfer their examination to the following examination period. An examination may only be deferred once per academic year. Should you

not write the deferred examination (for whatever reason), or obtain a fail mark in the deferred examination, you will have no alternative but to re-register for this module.

8   FREQUENTLY ASKED QUESTIONS

The *my Studies @ Unisa* brochure contains an A–Z guide of the most relevant study information.

Are *past examination papers* available?
Past papers are available on INF1520 *my*Unisa web site. No solutions are provided for these.

9   SOURCE CONSULTED

The Human-Computer Interaction 1 (INF1520) study guide

10   CONCLUSION

Do not hesitate to contact your lecturer by e-mail if you are experiencing problems with the content of this tutorial letter or with any aspect of the module.

I wish you a fascinating and satisfying journey through the learning material and trust that you will complete the module successfully.

Enjoy the journey!