



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Sekolah Pendidikan
Profesional dan
Pendidikan
Berterusan
(SPACE)

FINAL EXAMINATION / PEPERIKSAAN AKHIR
SEMESTER II – SESSION 2021 / 2022 / SEMESTER II – SESI 2021 / 2022
PROGRAM KERJASAMA

COURSE CODE : DDWD 2763
KOD KURSUS

COURSE NAME : HUMAN COMPUTER INTERACTION
NAMA KURSUS INTERAKSI KOMPUTER MANUSIA

YEAR / PROGRAMME : 2 DDWD
TAHUN / PROGRAM

DURATION : 3 HOURS (INCLUDING SUBMISSION HOUR)
TEMPOH 3 JAM (TERMASUK MASA PENGHANTARAN)

DATE : JUNE 2022
TARIKH JUN 2022

INSTRUCTION / ARAHAN:

1. The question paper consists of **3 PARTS**: A, B and C.
Kertas soalan terdiri daripada 3 BAHAGIAN: A, B dan C.
2. Answer **ALL** questions and write your answers on the answer sheet.
Jawab SEMUA soalan dan tulis jawapan anda pada kertas jawapan.
3. Write a name, matric no., identity card no., course code, course name, section and lecturer name in the upper left corner on the answer sheet.
Tulis nama, no. matrik, no. kad pengenalan, kod kursus, nama kursus, seksyen dan nama pensyarah di penjuru atas kiri kertas jawapan.
4. Each answer sheet must have a page number written at the bottom right corner.
Setiap helai kertas jawapan mesti ditulis nombor muka surat pada bahagian bawah penjuru kanan.
5. Answers should be handwriting, neat and clear.
Jawapan hendaklah ditulis tangan, kemas dan jelas menggunakan huruf cerai.

WARNING / AMARAN

Students caught copying / cheating during the examination will be liable for disciplinary actions and the faculty may recommend the student to be expelled from sitting for exam.

Pelajar yang ditangkap meniru / menipu semasa peperiksaan akan dikenakan tindakan disiplin dan pihak fakulti boleh mengesyorkan pelajar diusir dari menduduki peperiksaan.

This examination paper consists of **12** pages including the cover.
Kertas soalan ini mengandungi 12 muka surat termasuk kulit hadapan.

ONLINE EXAMINATION RULES AND REGULATIONS
PERATURAN PEPERIKSAAN SECARA DALAM TALIAN

1. Student must carefully listen and follow instructions provided by invigilator.
Pelajar mesti mendengar dan mengikuti arahan yang diberikan oleh pengawas peperiksaan dengan teliti.
2. Student is allowed to start examination only after confirmation of invigilator if all needed conditions are implemented.
Pelajar dibenarkan memulakan peperiksaan hanya setelah pengesahan pengawas peperiksaan sekiranya semua syarat yang diperlukan telah dilaksanakan.
3. During all examination session student has to ensure, that he is alone in the room.
Semasa semua sesi peperiksaan pelajar harus memastikan bahawa dia bersendirian di dalam bilik.
4. During all examination session student is not allowed to use any other devices, applications except other sites permitted by course lecturer.
Sepanjang sesi peperiksaan pelajar tidak dibenarkan menggunakan peranti dan aplikasi lain kecuali yang dibenarkan oleh pensyarah kursus.
5. After completing the exam student must inform invigilator via the set communication platform (eg. WhatsApp etc.) about completion of exam and after invigilator's confirmation leave examination session.
Selepas peperiksaan selesai, pelajar mesti memaklumkan kepada pengawas peperiksaan melalui platform komunikasi yang ditetapkan (contoh: Whatsapp dan lain-lain) mengenai peperiksaan yang telah selesai dan meninggalkan sesi peperiksaan selepas mendapat pengesahan daripada pengawas peperiksaan.
6. Any technical issues in submitting answers online have to be informed to respective lecturer within the given 30 minutes. Request for re-examination or appeal will not be entertain if complains are not made by students to their lecturers within the given 30 minutes.
Sebarang masalah teknikal dalam menghantar jawapan secara dalam talian perlu dimaklumkan kepada pensyarah masing-masing dalam masa 30 minit yang diberikan. Permintaan untuk pemeriksaan semula atau rayuan tidak akan dilayan sekiranya aduan tidak dibuat oleh pelajar kepada pensyarah mereka dalam masa 30 minit yang diberikan.
7. During online examination, the integrity and honesty of the student is also tested. At any circumstances student is not allowed to cheat during examination session. If any kind of cheating behaviour is observed, UTM have a right to follow related terms and provisions stated in the respective Academic Regulations and apply needed measures.
Semasa peperiksaan dalam talian, integriti dan kejujuran pelajar juga diuji. Walau apa pun keadaan pelajar tidak dibenarkan menipu semasa sesi peperiksaan. Sekiranya terdapat sebarang salah laku, UTM berhak untuk mengikuti terma yang dinyatakan dalam Peraturan Akademik.

SECTION A / BAHAGIAN A

15 MARKS / 15 MARKAH

MULTIPLE CHOICE QUESTIONS / SOALAN ANEKA PILIHAN

Choose the most appropriate answer. Write your answer in the answer sheet.

Pilih satu jawapan yang tepat. Tulis jawapan anda dalam kertas jawapan.

1. Interaction design is to develop interactive products that are _____.
Reka bentuk interaksi adalah untuk membangunkan produk interaktif yang _____.

A. usable / boleh digunakan C. readable / boleh dibaca
B. useful / berguna D. updatable / boleh dikemas kini

2. Which of the following is a benefit of the conversations via social media apps?
Manakah di antara berikut adalah kebaikan perbualan melalui aplikasi media sosial?

A. Multiple communication / Berbilang komunikasi
B. Multiple friends and followers / Berbilang rakan dan pengikut
C. Multiple networking / Berbilang rangkaian
D. Multiple messaging / Berbilang mesej

3. Which of the following do **NOT** include Expressive Interfaces?
*Antara berikut yang manakah **TIDAK** termasuk Antaramuka Ekspresif?*

A. Video / Video C. Icons / Ikon
B. Sounds / Bunyi D. Emoticons / Emotikon

4. A conceptual mode is a _____ description of how a system is organized.
Model konseptual adalah satu penerangan _____ bagaimana sistem diatur.

A. top-level / peringkat atasan C. high-level / peringkat tinggi
B. bottom-level / peringkat bawahan D. system-level / tahap sistem

10. _____ refer to the circumstances in which the interactive product will operate.
_____ merujuk kepada keadaan di mana produk interaktif akan beroperasi.

- A. Physical requirements / *Keperluan fizikal*
- B. Environmental requirements / *Keperluan alam sekitar*
- C. Data requirements / *Keperluan data*
- D. Social Requirements / *Keperluan social*

11. _____ wants reassurance that the information will not be used for other purposes.
_____ mahu jaminan bahawa maklumat tidak akan digunakan untuk tujuan lain.

- A. Network provider / *Pembekal rangkaian*
- B. Data provider / *Pembekal data*
- C. Message provider / *Pembekal mesej*
- D. Market provider / *Pembekal pasaran*

12. Transcriptions and the observer's notes are most likely to be analysed using _____.
Transkripsi dan nota pemerhati kemungkinan besar akan dianalisis menggunakan _____.

- A. statistical approaches / *pendekatan statistik*
- B. analytical approaches / *pendekatan analitik*
- C. quantitative approaches / *pendekatan kuantitatif*
- D. qualitative approaches / *pendekatan kualitatif*

13. _____ refers to source code for components, frameworks or whole systems.
_____ merujuk kepada kod sumber untuk komponen, rangka kerja atau keseluruhan sistem.

- A. Open source procedure / *Prosedur sumber terbuka*
- B. Open source triggers / *Trigger sumber terbuka*
- C. Open source program / *Aturcara sumber terbuka*
- D. Open source software / *Perisian sumber terbuka*

14. _____ are the most widely used statistical test in psychological field.
_____ adalah ujian statistik yang paling banyak digunakan dalam bidang psikologi.

- A. t-test / ujian t
B. q-test / ujian q
C. r-test / ujian r
D. v-test / ujian v

15. One of the most commonly used predictive models is _____.
Salah satu model ramalan yang paling biasa digunakan adalah _____.

- A. Bitts' Law / Undang-undang Bitt
B. Kens' Law / Undang-undang Ken
C. Fitts' Law / Undang-undang Fitt
D. Entry Law / Undang-undang Masuk

SECTION B / BAHAGIAN B

55 MARKS / 55 MARKAH

SUBJECTIVE QUESTIONS / SOALAN SUBJEKTIF

Answer all questions and write your answer in the answer sheet.

Jawab semua soalan dan tulis jawapan anda dalam kertas jawapan.

1. Describe **THREE (3)** characteristics of a 'Shareable' interfaces. **[6 M]**
*Huraikan **TIGA (3)** ciri-ciri antaramuka 'Shareable'.*
2. Give **TWO (2)** differences between interview and questionnaire methods. **[4 M]**
*Berikan **DUA (2)** perbezaan di antara kaedah temubual dengan soal selidik.*
3. Write **TWO (2)** examples of closed question related to any topics. **[2 M]**
*Tulis **DUA (2)** contoh soalan tertutup yang berkaitan dengan topik apa pun.*
4. Differentiate between Axial Coding and Selective Coding in the grounded theory. **[4 M]**
Bezakan antara Pengekoden Axial dan Pengekoden Selective dalam teori beralasan.
5. List **THREE (3)** advantages the uses of the diaries to write their activities. **[6 M]**
*Senaraikan **TIGA (3)** kelebihan penggunaan buku harian untuk menulis aktiviti mereka.*
6. Explain the **THREE (3)** principles of a user-centered approach. **[6 M]**
*Terangkan **TIGA (3)** prinsip pendekatan berpusatkan pengguna.*
7. What is the card-based prototyping? **[2 M]**
Apakah prototaip berdasarkan kad?
8. Explain how tools can support interaction design activities and give **ONE (1)** example of tools that can produce interactive wireframes or mockups. **[5 M]**
*Terangkan bagaimana alat boleh menyokong aktiviti reka bentuk interaksi dan berikan **SATU (1)** contoh alat yang dapat menghasilkan rangka atau mockup interaktif.*

9. Distinguish between conceptual design and concrete design. [4 M]

Bezakan antara reka bentuk konseptual dan reka bentuk konkrit

10. Explain **THREE (3)** types of evaluation. [6 M]

*Terangkan **TIGA (3)** jenis penilaian.*

11. Explain how to do heuristic evaluation. [4 M]

Terangkan bagaimana untuk melakukan penilaian heuristik.

12. Before taking part in usability testing, the participants were asked to read and sign an informed consent form agree to the terms and conditions of the study. What will this form should describe? [6 M]

Sebelum mengambil bahagian dalam ujian kebolehgunaan, para peserta diminta membaca dan menandatangani borang persetujuan yang dimaklumkan yang bersetuju dengan terma dan syarat kajian. Apakah yang akan dijelaskan oleh borang ini?

SECTION C / BAHAGIAN C

30 MARKS / 30 MARKAH

CASE STUDY / KAJIAN KES

Answer all questions and write your answer in the answer sheet.

Jawab semua soalan dan tulis jawapan anda dalam kertas jawapan.

Mr. DIY is the largest home improvement retailer in Malaysia. The company retails a variety of household, hardware, and electrical products. MR. DIY is also proudly a home-grown enterprise with over 750 stores throughout Asia-Pacific.

Guests were welcomed and walked through the website interface and features to give them a feel and a firsthand experience on the new Mr. DIY e-Commerce platform as shown in **Figure 1**. There are four key features of the Mr. DIY online store, namely Free Shipping, Mr. DIY Express, Collect @ Mr. DIY and the Mr. DIY Guarantee. The details of four key features of Mr. DIY are as below:

Mr. DIY adalah peruncit pembaikan rumah terbesar di Malaysia. Syarikat ini menjual pelbagai produk barangan rumah, perkakasan, dan elektrik. Mr. DIY juga merupakan syarikat tempatan yang mempunyai lebih daripada 750 kedai di seluruh Asia Pasifik.

*Para tetamu disambut dan berjalan melalui antara muka dan ciri laman web untuk memberi mereka rasa dan pengalaman secara langsung di platform e-Commerce Mr. DIY baru seperti yang ditunjukkan pada **Rajah 1**. Terdapat empat ciri utama kedai dalam talian Mr. DIY, iaitu Penghantaran Percuma, Mr DIY Ekspres, Pengambilan Sendiri @ Mr. DIY dan Jaminan Mr. DIY. Perincian empat ciri utama Mr. DIY adalah seperti di bawah:*

- Customers can enjoy free shipping to their homes within Peninsular Malaysia with no minimum spend required for any order below 5kg.

Pelanggan dapat menikmati penghantaran percuma ke rumah mereka di Semenanjung Malaysia tanpa perbelanjaan minimum yang diperlukan untuk pesanan di bawah 5kg.

- For a small fee, customers in Klang Valley can also request for express delivery where their purchases will be delivered to them within 24 hours.

Dengan sedikit bayaran, pelanggan di Lembah Klang juga dapat meminta pengiriman ekspres di mana pembelian mereka akan dikirimkan kepada mereka dalam waktu 24 jam.

- With 'Collect @ Mr. DIY, customers can purchase an item online and collect it in person from any of selected 25 stores within the Klang Valley.

Dengan 'Collect @ Mr. DIY, pelanggan dapat membeli item secara dalam talian dan mengambil secara langsung dari mana-mana 25 kedai terpilih di Lembah Klang.

- The Mr. DIY Guarantee also means that customers who purchase on the Mr. DIY online store will have seven days to return the item(s) to be exchanged or refunded subject to terms and conditions.

Jaminan Mr. DIY juga bermaksud bahawa pelanggan yang membeli di kedai dalam talian Mr. DIY akan mempunyai tujuh hari untuk mengembalikan barang yang untuk ditukar atau menuntut pengembalian wang tertakluk kepada terma dan syarat.

The screenshot shows the Mr. DIY website homepage. At the top, there is a navigation bar with the Mr. DIY logo and the tagline 'Always Low Prices'. Below the logo is a search bar and navigation icons for Account, Wishlist, and Cart. A horizontal menu lists various product categories: DAILY ESSENTIALS, HARDWARE, ELECTRICAL, HOUSEHOLD, CAR ACCESSORIES, STATIONERY, TOYS, OTHERS, and SALE. Below the menu is a promotional banner for 'EXCLUSIVE PRODUCTS AT AFFORDABLE PRICES' with a 'shop now' button. The main content area features a large yellow banner for the 'MR.DIY x P&G 700th BIRTHDAY CELEBRATION BUY & WIN 2.0' contest. The banner includes the text 'More Than 550 Prizes To Be Won!!' and 'Contest Period: 1-31 March 2021'. It also displays several prize categories: 'GRAND PRIZE x1 Proton X50 1.5T Standard (RRP: RM 79,200)', 'SECOND PRIZE x2 iPhone 12 Pro Max (128GB)', 'THIRD PRIZE x4 Apple iPad 8th Gen (32GB)', and 'CONSOLATION PRIZE x550 MR.DIY Cash Voucher RM100'. A 'shop now' button is located at the bottom of the banner.

Figure 1: Mr. DIY Website / *Rajah 1: Laman Web Mr. DIY*

- a) Define the meaning of Task Analysis.
Takrifkan maksud Analisis Tugas. [2 M]
- b) Who is a target user for Mr. DIY?
Siapa pengguna sasaran untuk Mr. DIY? [2 M]
- c) Write **TWO (2)** user persona based on target user for Mr. DIY and relate it with the case study.
*Tuliskan **DUA (2)** persona pengguna berdasarkan pengguna sasaran untuk Mr. DIY dan hubungkannya dengan kajian kes.* [6 M]
- d) Based on Textual Hierarchical Task Analysis below, convert it to Graphical Hierarchical Task Analysis.
Berdasarkan Analisis Tugas Hierarki Teks di bawah, ubah menjadi Analisis Tugas Hierarki Grafik. [10 M]

0. Visit Mr. DIY Website

1. Choose item

1.1 Sort Collection

1.2 Sort Price

1.3 Sort Color

1.4 Sort Size

1.5 Select Item

2. Choose Size

3. Pick a color

4. Enter Quantity

5. Pay Item

5.1 Sign in

5.1.1 Register

5.2 Choose payment method

5.3 Receive Receipt

- e) Suggest a new interface of Login Page by using sketch a low fidelity prototype and give a justification for it.

Cadangkan antara muka Halaman Log masuk baru dengan menggunakan lakaran prototaip kesetiaan rendah dan berikan justifikasi untuknya.

[6 M]

- f) **Test Task:** Log In

Scenario: As the user of web application you have to login in the Mr. DIY website since you want to get access to your account directly.

Our Designer takes 23 seconds to complete this task.

User A was able to complete this task in 30 seconds.

Based on the description above, calculate the performance score (in percentage) for each user above for this task.

Tugas Ujian: Log Masuk

Senario: Sebagai pengguna aplikasi web anda harus log masuk di laman web Mr. DIY kerana anda ingin mendapatkan akses ke akaun anda secara langsung.

Pereka Kami mengambil masa 23 saat untuk menyelesaikan tugas ini.

Pengguna A dapat menyelesaikan tugas ini dalam 30 saat.

Berdasarkan keterangan di atas, hitung skor prestasi (dalam peratusan) untuk setiap pengguna di atas untuk tugas ini.

[4 M]

END OF QUESTIONS / SOALAN TAMAT