

Exam

Exercise 1 (9 points):

1. What is the primary objective of development in Human-Computer Interaction (HCI)
2. Why is HCI development challenging?
3. What are the key characteristics of HCI design methods?
4. Why are design thinking methods well-suited to HCI development?
5. What is a persona in the context of HCI (give its definition with important described elements)
6. List the two main phases of Norman's Action Theory
7. What is the purpose of applying ergonomic criteria in HCI?
8. Why is a style guide necessary in interface design?
9. What is the purpose of software architecture models in system design?

Exercise2 (7 Pts):

To begin using a free job search website, first create a free account by registering with your email address and a password. Once registered, complete your basic profile by entering your personal details—such as your name, address, and phone number—along with your job preferences, including the titles you’re seeking, employment type, salary expectations, and preferred commute distance. Set your profile visibility to “Public” so employers can find you. Next, build your professional presence by uploading your existing resume or manually entering your work history, education, and key skills into the site’s profile builder. Be sure to review and validate all entered information for accuracy. After your profile is ready, use the search bar with your target job title and location, then refine results using filters such as job type and experience level to find suitable openings. Set up automated job alerts by saving your search criteria to receive email notifications about new postings. You can then apply to jobs directly through the site’s “Quick Apply” feature or by following external company links. Finally, check your email for a verification link from the site and click it to activate your account fully and access all features.

للبدء باستخدام موقع مجاني للبحث عن وظائف، أنشئ حسابًا مجانيًا أولاً بالتسجيل باستخدام بريدك الإلكتروني وكلمة مرور. بعد التسجيل، أكمل ملفك الشخصي الأساسي بإدخال بياناتك الشخصية، مثل اسمك

وعنوانك ورقم هاتفك، بالإضافة إلى تفضيلاتك الوظيفية، بما في ذلك المسميات الوظيفية التي تبحث عنها، ونوع التوظيف، والراتب المتوقع، ومسافة التنقل المفضلة. اجعل ملفك الشخصي عامًا حتى يتمكن أصحاب العمل من العثور عليك. بعد ذلك، عزز حضورك المهني بتحميل سيرتك الذاتية الحالية أو بإدخال تاريخك الوظيفي ومؤهلاتك ومهاراتك الأساسية يدويًا في أداة إنشاء الملف الشخصي بالموقع. تأكد من مراجعة جميع المعلومات المدخلة والتحقق من صحتها. بعد تجهيز ملفك الشخصي، استخدم شريط البحث مع المسمى الوظيفي والموقع المستهدفين، ثم حسّن النتائج باستخدام عوامل التصفية مثل نوع الوظيفة ومستوى الخبرة للعثور على فرص مناسبة. فعّل تنبيهات الوظائف التلقائية بحفظ معايير البحث لتلقي إشعارات عبر البريد الإلكتروني حول الوظائف الجديدة. يمكنك بعد ذلك التقديم للوظائف مباشرةً من خلال ميزة "التقديم السريع" في الموقع أو عبر روابط الشركات الخارجية. وأخيرًا، تحقق من بريدك الإلكتروني بحثًا عن رابط التحقق من الموقع وانقر عليه لتفعيل حسابك بالكامل. والوصول إلى جميع الميزات.

- 1- Write a primary persona sheet for targeted users--1pts
- 2- give the hierarchical task description (HTA model) of the above process (textual format)—4pts
- 3- provide the wireframe of complete basic profile task—2pts

Exercise3 (4 Pts):

Below is a registration form for a training course offered by a school.
فيما يلي نموذج تسجيل لدورة تدريبية تقدمها إحدى المدارس

FNAME	
LNAME	
GENDER	☐ Mas ☐ Fem
BIRTHDATE	
ADDRESS	
PHONE	
EMAIL	
IAM	☐ Minor ☐ Major
SCHOOL LEVEL	
BRANCH	
LAST SCHOOL CERTIFICATE	

1. Evaluate this interface, based on the different heuristics of Bastien and Scapin.--2.5 pts
2. Propose a new interface to correct the identified problems.--1.5pts

Solution:

Exercise1: (9 pts)

1. What is the primary objective of development in Human-Computer Interaction (HCI)?

The objective of the HMI is to create systems: **useful** (adapted to needs); and **usable** (adapted to users)

2. Why is HCI development challenging?

HCI development is challenging because it sits at the intersection of **multiple disciplines** (computer science, psychology, design, ergonomics). It must address the **diversity of users** (with varying skills, cultures, and abilities), the **complexity of human cognition and behavior**.

3. What are the key characteristics of HCI design methods?

HCI design methods are typically:

- **User-Centered: Progressive: Prototyped and early evaluation**

4. Why are design thinking methods well-suited to HCI development?

Design thinking is well-suited because it is a **human-centered, prototyped, iterative process** that aligns perfectly with HCI goals. Its phases—Empathize, Define, Ideate, Prototype, Test—provide a structured yet flexible framework to deeply understand user problems, generate creative solutions, and rapidly test ideas with low-fidelity prototypes

5. What is a persona in the context of HCI?

A persona is a **fictional, archetypal representation of a key user group**, created from real user research data (interviews, observations). It includes a name, photo, demographics, goals, tasks, motivations, and frustrations.

6. List the two main phases of Norman's Action Theory.

The two main phases in Norman's "Seven Stages of Action" model are:

- **The Gulf of Execution:** The user's challenge is how to use the system to achieve a goal
- **The Gulf of Evaluation:** The user's challenge in interpreting the system's state after an action to determine if the goal was met (perceiving and interpreting the outcome).

7. What is the purpose of applying ergonomic criteria in HCI?

Ergonomic criteria are a set of principles, guidelines, and standards used to design and evaluate systems, to optimize overall system performance

8. Why is a style guide necessary in interface design?

A style guide (or design system) is necessary to ensure ergonomic visual elements (colors, typography, icons, menus, pointer), interaction patterns (how buttons behave)

9. What is the purpose of software architecture models in system design?

It allow the interface to be modified without affecting the functional core and vice versa, this enables reasoning about : **scalability, maintainability, performance, and modifiability** early in the design process.

Exercise 2:

2.1 ; Personna (1Pt)

2.1 Task Hierarchy (4Pts): 0.5 for each task

1.0 Create User Account; Plan 1: Do 1.1 → 1.2 → 1.3 → 1.4 → 1.5 → 1.6

- **1.1** Enter email address
- **1.2** Create password
- **1.3** Accept terms and conditions
- **1.4** Submit registration form

2.0 Complete Basic Profile : Plan 2: Do 2.1 → 2.2 → 2.3

- **2.1** Enter personal details
 - *2.1.1* Input full name
 - *2.1.2* Input Address ()
 - *2.1.3* Input phone number
- **2.2** Set job preferences
 - *2.2.1* Specify target job titles
 - *2.2.2* Select employment type (full-time/contract/etc.)
 - *2.2.3* Indicate salary expectations
 - *2.2.4* Set maximum commute distance
- **2.3** Configure visibility settings
 - *2.3.1* Set profile to "Public"

3.0 Build Professional Presence Plan 3: Do either 3.1.1 OR 3.1.2

- **3.1** Choose resume method
 - *3.1.1* **Option A:** Upload existing resume

- ***3.1.2* Option B:** Manual entry

4.0 Validate Profile Information: *Plan 4: Do 4.1, if errors found do 4.2, then do 4.3*

- **4.1** Review all entered data
- **4.2** Correct any errors
- **4.3** Confirm completeness

5.0 Search for Job Opportunities: *Plan 5: Do 5.1 → 5.2 → 5.3*

- **5.1** Enter search parameters
- **5.2** Apply filters
- **5.3** Execute search

6.0 Set Up Job Alerts; *Plan 6: Do 6.1 → 6.2 → 6.3*

- **6.2** Configure alert preferences
- **6.3** Name and save alert

7.0 Apply for Jobs: *Plan 7: Do 7.1 → then either 7.2.1 OR 7.2.2*

- **7.1** Browse search results
- **7.2** Select application method
 - ***7.2.1* Option A:** Quick Apply
 - ***7.2.2* Option B:** External Application

8.0 Verify Account (Parallel/Independent Task); *Plan 8: ; do 8.1 → 8.2 → 8.3 → 8.4*

- **8.1** Check registered email inbox
- **8.2** Open verification email
- **8.3** Click verification link
- **8.4** Confirm successful activation

2 Complete basic profile wireframe

Complete basic profile

Fname* []

Lname* []

Address* []

Phone* [213-----]

JOB name [web developer ▼] Town[M'sila ▼]

Filters:

All Filters

Remote Only▼

Salary:+50000▼

Distance KM

set public visibility

Next

Cancel

Exercise 3:

Guidance:

Missing of title 0.25

Missing of help buttons 0.25

Missing of grouping fields 0.25

missing of field format: phone and email 0.25

Workload :

additional field : I AM , upload 0.25

label with capital letters 0.25

left alignment of labels 0.25

explicit control;

missing of cancel button 0.25

error management

missing of mandatory fields 0.25

activated button without filling mandatory fields 0.25

birth-date field in calendar 0.25
