FACULTY OF COMPUTING
UTM Johor Bahru

Project Part #3: Conceptual and Physical Design (10%)

Subject	:	Human-Computer Interaction (SECV2113)
Session	:	2024/2025 Semester 2
Title	:	Project Part #3: Conceptual and Physical Design
Duration	:	Approx. 2 weeks
Submission	:	This is a **TEAMWORK.** The team must update the site accordingly, by the 6th of June 2025

From the class lectures, discussions, activities and assignments performed in the past weeks, as a group, you need to come up with a proposal you wish to pursue for the HCI project. In this semester-long project, each group will have to design a particular interactive system/application/product (either for computer desktop/laptop or mobile/standalone or other new emerging technologies) that interests them. The project may aim to replace or update an established system, or it may aim to develop a totally innovative product with no obvious precedent. The project phases will reflect the stages of interaction design process and submitted as project deliverables throughout the semester.

Process 2: Developing alternative designs

Once the requirements have been established (Submission 2 – User & Task Analysis), the next step is to develop alternative designs that meet those requirements. Two sub-activities will be required, developing conceptual design and developing physical design. For conceptual design, each group should attempt to come up with storyboards to conceptualize how the proposed solutions solve the problem at hand (hand-sketched scenarios).

The design activity then continues by exploring the physical design options (alternative designs) for the interfaces. Each group should attempt to achieve this by expanding the tasks into metaphors and interface sketches, by adopting the **Crazy 8 method**. Within 8 minutes, each member individually sketches own ideas of layouts and interfaces with appropriate metaphors. Vote will then take place to choose the best ideas to bring forward for the interface design.

Each group should run the Crazy 8 exercise 'live' together. Decide on the time to run the exercise together. When doing the Crazy 8 exercise, each group member should sketch their ideas with pencil, to allow for fast sketching. Based on your group's Crazy 8 sketches, discuss, vote and decide the **design elements/layouts** that you want to have for your app.

Then, produce wireframes that could roughly show the flow of your three tasks. The wireframes should consist of one or more drawn interface controls that the user can manipulate and interact with. To draw the wireframes, you can use any prototyping/wireframing tool, or you could sketch by hand.

Submission 3: Conceptual & Physical Design

Report should include the following:

- **Storyboards**. For each of your **THREE (3) user tasks/functions**, demonstrate how your proposed app would be used by your persona within the scenario that you described in Project #2. **Hand-sketching is preferred. This means you will have to scan/take a picture of the storyboard and upload.** (8m)

- **Alternative Designs.** Each group member should produce sketches of their ideas for interface design through the Crazy 8 exercise. Post **each** members' Crazy 8 sketches. (6m)

- **Wireframes**. Post your wireframe design that could roughly show the flow of **each** three tasks. **Justify** your design decisions based on the Gestalt principles, or usability and user experience goals or the [Shneiderman's Golden Rules](#). Provide description on how your **design requirements** from Project #2 is incorporated in the designs. (12 m)

- **Interaction Metaphors**. Describe and justify the metaphors that your group deemed to be the most suitable interaction metaphors for your interface. Come up with **5 or more** type of metaphor. (6 m)

Reference – Topic 3a Understanding and Conceptualizing Interaction (teaching slide), Topic 6a Prototyping & Construction (teaching slide), Topic 6b – Gestalt Principles (teaching slide), ID book Chapter 11.3 – Conceptual Design: moving from requirements to first design.

Further readings and videos on Crazy 8 method:
https://youtu.be/KgJCk5sRdoU
https://youtu.be/yz4g87XapQ0
https://youtu.be/UXOLJy0E7Pg
https://youtu.be/ccOuPN-Z8ls

https://www.iamnotmypixels.com/how-to-use-crazy-8s-to-generate-design-ideas/
https://blog.prototypr.io/how-to-run-a-crazy-eights-workshop-60d0a67b29a

Further readings on good examples of UI/UX metaphors and analogies:

https://uxdesign.cc/interaction-metaphors-91a723aea4e1

https://medium.com/strv-design/why-metaphors-matter-for-app-designers-2fb477854f66

https://blog.prototypr.io/some-useful-and-some-less-useful-icon-metaphors-for-ui-ad225e4fef0a

FORMAT:

{Title of Submission: e.g. Group Project 3: Conceptual & Physical Design}

{Name of Goal 1}
{Scan of storyboard for Task 1}

{Name of Goal 2}
{Scan of storyboard for Task 2}

{Name of Goal 3}
{Scan of storyboard for Task 3}

{Alternative Design 1 – Name of team member 1}
{Scan of Crazy 8 from Member 1}

{Alternative Design 2 – Name of team member 2}
{Scan of Crazy 8 from Member 2}

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{Alternative Design 5 – Name of team member 5}
{Scan of Crazy 8 from Member 5}

{Scan of voted design elements/layouts}

{Wireframes for Task 1, 2 and 3 - should consist of one or more sketched interface controls that the user can manipulate and interact with, and roughly show the flow of the task**}**

{Reason or Justification of the Design}

{Description and justification of metaphors}

Rubric:

Item	Absent (0)	Minimal (1)	Moderate (2)	Good (3)	Excellent (4)	Weight	Score
Storyboard	No storyboard	Demonstrate only 1 goal through hand sketching. Sketches either task, user, context – but not all	Demonstrate only 2 goals through hand sketching. Sketches either task, user, context – but not all	Demonstrate 3 goals through hand sketching. Sketches either depicts task, user, context – but not all	Demonstrate 3 goals clearly through hand sketching. Sketches depicts task, user, context	2	/8
Alternative Designs	No Crazy 8 sketches	More than two member's Crazy 8 sketches missing	Two member's Crazy 8 sketches missing	One member's Crazy 8 sketches missing	All group member's Crazy 8 sketches were provided	1.5	/6
Layout & Interface Design (wireframe)	No UI design	Each interface design has no control that user can manipulate and interact with. Provide justifications based on 1-2 Shneiderman's rules.	Each interface design has little control that user can manipulate and interact with. Provide justifications based on 3-4 Shneiderman's rules.	Each interface design has clear but not so distinguished control user can manipulate and interact with. Provide justifications based on 5-6 Shneiderman's rules.	Each interface design has clear and distinguished control user can manipulate and interact with. Provide justifications based on 7-8 Shneiderman's rules.	3	/12

Interaction Metaphors	No metaphors provided	Provided less than 5 interaction metaphors with/without justification	Provided 5 or more interaction metaphors with some questionable justification.	Provided 5 or more interaction metaphors with some good justification.	Provided 5 or more interaction metaphors, all with excellent justification.	1.5	/6

32/32 = 10%

*for rubric item Layout and Interface Design, students are also allowed to justify their design based on Gestalt Principles, usability heuristics or any UI/UX principles learned in class