No.: Final Assessment (ICT5S1) Date: 25/7/2022

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Question 1 (a)

- Cognitive psychology is the study of how people perceive, learn and remember things. Based on the case given, an ATM machine is designed to reduce search time by making the layout as straightforward as possible to convey information to users.
- fine arts design are usually made specifically for their purpose to deliver its content. Based on the scenarios given, an ATM machine's interface is designed using fonts that are easy to read and potrays numbers properply.
- computer science, in HCI provides the technology and interactive elements that made both of the 6 above possible. The study given needs a huge chunk of programming for the ATM machine to serve its purpose by performing transaction between users and the bank's server.

Question 1 (b)

- in user interface design, affordance is how objects or items seen in the interface perceived to do. For example, a red button usually gives hints that is posses a negative action such as deleting. Hence, a good UI that provides elements with good affordance by making the user get a gist of the system through using it.
- flexibility in designing a UI is how a modifiable the system is or the multiplicity of ways the user could interact with the system. Allowing the user to perform a task using multiple approaches is a good flexibity example in designing a UI.

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Question 1 (c)

i) enjoyable

- a good interface design should consider on how enjoyable it is to use the system. A design should be made to ease and make users feel at ease while using it. A design that irritates its users is considered to ~~be~~ not be an enjoyable ~~system~~ interface.

ii) safe

- some interfaces are made for systems that performs transactions with critical credential data such as passwords and IC numbers. Hence, a good UI design should always ensures the users that such credentials requested or shown is secured.

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Question 2 (a)

- natural languages, when used in technology like a smart car by implementing speech recognition requires the knowledge of possible commands. It is very hard or impossible to develop and system that understand each and every word that users say. Hence, the user will have to know what can the system (the car) understand, vice versa.
- it also requires complex system development. Even with very specific purposes, the developed system will have to work with multiple parameters received from users. We tend to speak or deliver multiple information in a single sentence, hence making it even more complex.

Question 2. (b)

- touch screen is a suitable manipulation method when AR is implemented. A direct physical touch to the displayed items will provide users with better UX rather that pushing buttons.
- next, menu selection is also applicable. Apping AR to a real-world structure such as a museum is indicating the application has a ton of functionality. A proper menu interface that allows the user to traverse through those would be great.

Question 2 (c)

- the user is one of the elements. By knowing the end users, developers could pick the suitable interaction style. For example, a system developed for kids is more suitable to touch screen.
- next, is the task. Identifying the tasks carried out using the system will help too. For example, a system that requires multiple info from the user should use form-filling style.
- the tools is an important aspect. So specifically identifying the devices used. If the device has no keyboard, then it might not be good idea to implement command-style eve though on screen keyboard exist no nowadays.

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Question 2 (c) cont'd

- the last one is the context. Analyzing the purpose or context covered will result in a better UI design.

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Question 3 (a)

- Loss of loyal customers especially for systems that is meant to be used repetitively. Poor system design that is not user-centered will cause the user to find other alternatives rather than having to use the systems or find other systems.
- serious damage to loss-profit margin. It may seems mediocre but a poor system design could make a company goes bankrupt especially the ones who uses systems to interact with clients / customer.

Question 3 (b)

- perceptual error is caused by failure to display objects effectively while cognitive error is caused by over-reliance on memory and recalling from users.
- perceptual error can be said as physical / visible errors while cognitive is mental / unseen error as it involves thinking.

Question 3 (c)

i) understanding users' need
- since the targetted end users are elderly with visual impairment, the sizing of displayed texts and buttons should be bigger
- identifying user's need will help the system to be as usable as possible.

2) establishing requirements
- based on the user's need, requirements are made to meet need those
- focusing on users' definition and data analysis
- functional, non-functional, data, environment are some of required requirements

3) designing
- designing prototypes with design made based on the requirements acquired.

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Question 3 (c) cont'd

- the prototype should properly potrays the intended. In other words, it should be working but not usable

4) ~~Evalu~~ evaluation

- evaluation is done to identify the extend of functionality
- usually done on prototype(s) developed
- all of the phases should be evaluated to deliver what the ~~the~~ user needs and as usable as possible.
- various evaluation method exists such as usability testing

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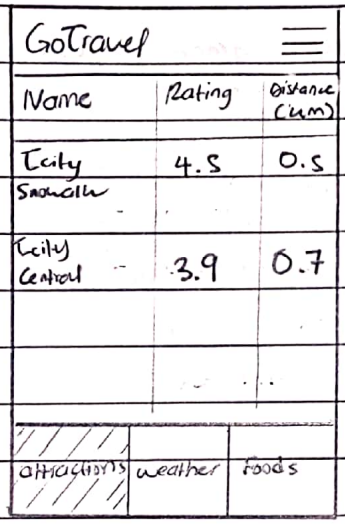
Question 4 (a)

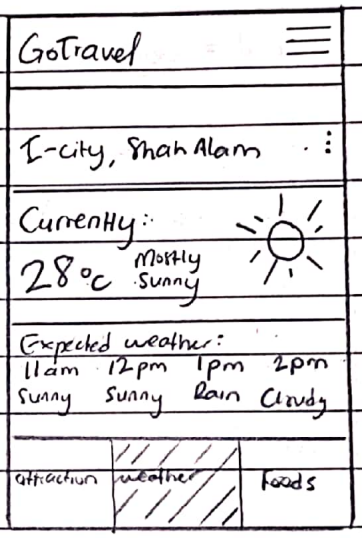
- lo-fi prototypes is not as time-consuming like ~~med~~ mid or hi-fi prototypes
- enables the team to iterate through many versions or design without draining much resources.

Question 4 (b)

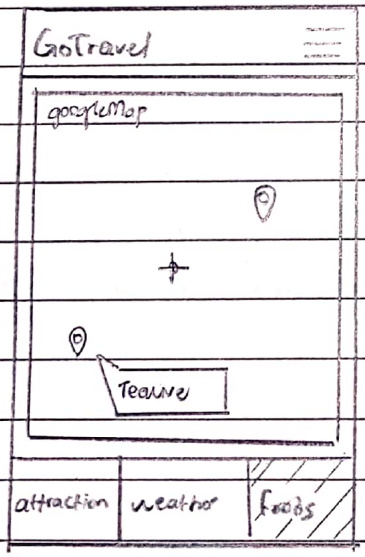
i.



ii.



iii.



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Question 4 (c)

- using icons to potray the amount of expected crowd at an attraction.

 = normal  = slightly crowded  = very crowded

- colors ~~is~~ to potray the rating of an attraction instead of ~~u~~ numbers

red = very bad, yellow = moderate, green = good

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Question 5 (a)

- measure the impact on the user, ~~how~~ how is the learning curve, its usability and users' reaction or enjoyability while using it
- measure user's performance while using the system such as how long does it take to complete a task.

Question 5 (b)

- the main purpose is to identify potential usability problems in the interface as well assessing the ~~a~~ context extent for improvements
- next is to asses UX while using the system. The ease of use, the flexibility, ~~seco~~ the feels itself and comfort while using the system
- checking whether the design made met the requirements stated in the early stages of of development

Question 5 (c)

1) ~~f~~ : heuristic evaluation

- ~~experts evaluators [illegible] acts as user as they [illegible] traverse through the system during the ~~
- experts ~~evaluators~~ acts as users as they ~~[illegible]~~ traverse through the system during evaluation
- able to detect usability problems, assess features and filter those to determine — which should be included as the final product

2) cognitive walkthrough

- step-by-step anyalysis of ~~set~~ steps of performing tasks, objectives of such tasks and how the system guides the user approaching it.
- useful to asses the level of assist the system provides to the users
- able to improve system's ~~interact~~ interaction with user by assessing each modules