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Assignment 3

The answers provided are of my own work.

References: TUT102

Question 1

1.1) The first ever rectangle typewriter keyboard, the keys were arranged alphabetically this resulted in typing that was too fast for the machine to handle, the solution was a new arrangement of keys that would slow down the typist and thus QWERTY keyboard came into existence. People got so used to it that it is still used today despite the disappearance of the constraint for which it was created.

1.2) Designing against the forces of evolutionary design
Putting aesthetics first
The designers regarding themselves as typical users.

1.3) Putting Aesthetics above Usability, an interface need not be an artwork to be aesthetically pleasing. One that is free of clutter, with the interface elements organised in a logical and well-balanced way, and that uses colour tastefully can provide visual pleasure to users who have to find their way through the interface.

Thinking for the User, Designers tend to believe that they are indictive of the users of the system that is being designed, this is a problem and can be solved by introducing actual users into testing.

Cluttering the Interface, Interfaces should provide users with enough information to allow them to perform their required task successfully.

Question 2

Predictability

Synthesizability

Familiarity

Generalizability

Consistency

Question 3

3.1) A constraint, in HCI terms is a mechanism that restricts the allowed behavior of a user when interacting with a computer system

Example -> An atm will only accept your credit card if you insert it into the slot the right way around

3.2) Physical constraint, these rely on properties of the physical world for its use. Example -> An atm will only accept your credit card if you insert it into the slot the right way around.

Semantic constraint, these rely on the meaning of the situation.

Example -> A red traffic light constraints a driver from crossing the road.

Cultural constraint, these rely on accepted cultural conventions.

Example -> In some cultures, it is customary for a man to stand back to let a woman enter through a door first.

3.3) The absence of text labels to the icons makes it difficult for the user to interpret them (especially young children)

Text labels are only visible when mouse cursor hovers over the icon, there is no way of users knowing this.

Therefore, it fails in terms of visibility.

Question 4

The following aspects need to be taken into consideration in respect to recognizing diversity.

Usage profiles, Designers must understand the intended users.

Task profiles, A complete task analysis should be executed, and all task objects and actions should be identified.

Interaction styles, Suitable interaction styles should be identified from those available.

Question 5

5.1) Usability testing refers to testing a product/service/program with representative users.

5.2) During usability testing, typical users perform selected tasks while their actions are recorded.

5.3) A prototype as defined by Preece et al (2019:530) as ‘a limited representation of a design that allows users to interact with it and to explore its usability’.

Prototypes fulfill several functions:

- They provide a way to test different design ideas, especially during the evaluation of ideas.
- They act as a communication medium between the design team.
- They act as a communication medium between designers and users or clients.
- They help designs to choose between alternative designs.

Question 6

6.1) Whenever an interactive system uses pictures or images to communicate information.

6.2) The strength of GUIs is the way they support interaction in terms of:

Visibility, cross-cultural communication and impact and animation

6.3) Clutter, Ambiguity

Question 7

First multimedia refers to media consisting of images, text, audio and video. Good GUI/ Well designed healthcare websites and Speech interfaces will improve healthcare interactions.

A good designed GUI will be more accessible and understood by a larger population.

A website will have a larger user base, allowing for more exposure of healthcare communities.

Speech interfaces will make physically and visually impaired users more access to healtcare.