CSE/SER463 – Introduction to Human Computer Interaction
Final Exam
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1. How is the Human Action Cycle relevant to HCI? List and describe at least three concrete ways it can be tied to specific design recommendations we discussed in class.
The Human Action Cycle is relevant to HCI because it is an acceptance model that considers a products perceived usefulness. Which goes through stages to help us determine if the product is acceptable by the user. In the execution stage making the product efficient, reducing cognitive load, reducing errors, and reducing lossless is desired to achieve the goal. Creating a button that is large enough, so the users do not make the mistake of misclicking it with their fingers. Using common symbols so users will not have to spend time thinking about what that symbol represents. Also creating a consistent location for the navigation bar where it does not move so users have a central place to return to. These are all examples of ways to make your product more accepted by using this model.

2. In what ways can the Technology Adoption Curve help guide HCI decisions? Please list and describe at least three.
The Technology Adoption Curve is used to used to show us the rates people adopt new technology. This shows the type of people that are open or against risk. In the mobile phone world such as android, apple, and windows we can use this curve to help us figure out how to improve their products overtime. Knowing where your userbase stands goes a long way. Google glass are risk takers, and they believe their product will scale. Video gamers like trying new things but majority of them wait until they get feedback from others. Knowing this video game companies can make changes so that their user base will be more of a risk taker.

3. Why is perceived social presence valued by some software and website designers? What does the ICAP framework suggest about the importance of building social presence into an app or website? Imagine you are asked to incorporate social presence into an e-commerce website you are helping design. Please list and describe two ways you would accomplish this task.
Perceived social presence is valued because it is a way software and website designers use to gage the user's presence. They will use mediums such as human audio/video, and personalized greetings. The ICAP framework is used to gage user's engagement so it works to maximize a user's interactive experiences and minimize a passive experience. These two concepts are related because to achieve user satisfaction the product must be well designed that it engages and attracts customers. This can be done by including site organization and information content. Including a navigation is a good way to improve website satisfaction.

4. Why are speech user interfaces growing in popularity? What are they appropriate to use? When are they not? Please list and describe two examples of appropriate and inappropriate uses of interfaces that might use speech as input. What are three reasons they are difficult to implement? Please describe each one.
Speech user interfaces are growing in popularity because it allows us to avoid using I/O devices. These systems can speak faster than we type and allows us to be hands free while doing other activities. Systems that use a procedural approach to iteratively go through a list until u can respond and systems that are unable to determine when the user has stopped or when we can start talking are both inappropriate uses of speech interfaces. Speech recognition has a decent error rate, you have no sense of the state of the environment since there is no visible UI, and speech UI are hard to learn because there is no interface to explore upon these are all reasons why speech UI are difficult to implement.

5. What are the two most common metrics we discussed in class? How is conversion rate helpful? Can it be typically collected during a usability study? How can measuring and analyzing the lostness metric help guide redesign decisions?
Performance and time-based efficiency are the two common metrics discussed in class. Conversion rates are helpful because it is a rate for completeness which is essential when working in eCommerce. This conversion rate are binary measurements which gets captured during each stage of the procedure. Yes, this process can be captured during the usability process. Any break that promotes forgetting is a good trial to take when going through the learnability process. The learnability process is essential for a good performance measure.

6. During the future of HCI lecture, we discussed the Pre-Touch research project. How could this technology impact the ways in which mobile applications are redesigned? Please list and describe at least three ways.
The Pre-Touch research project demonstrated designs that impact the use of mobile applications. They created an ad lib interface that uses pre-touch to display an interface on the action of pre-touch and remove the interface on the removal. The calm web browsing experience is a way to browse the web free of clutter. Hyperlinks will reveal themselves on pre-touch and be hidden on the removal as well. Another design they demonstrated was a flick vs selection, it is a way that will change the way we scroll through text vs text selection. It uses rapid lateral motion to determine text scrolling and precise motion for text selection.

7. How can crowdsourcing tools like Amazon mTurk be leveraged to help usability research? Please list and describe two ways. If you were tasked with using Amazon mTurk to conduct a quick online usability study, what are three design considerations you would implement to ensure high-quality feedback from the mTurk participants. List and describe them.
Amazon mTurk has short objective tasks where users can complete these for a few pennies each. These tasks are used to improve user's usability based on responses. This crowdsourcing tool can conduct experiments and surveys to leverage usability research. Surveys and experiments both provide a recruiting tool by having the participant participate in surveys/questionaries or experiments. To get quality results the researcher should structure the tasks in such a manner. Using questions which have been verified can be used to signal monitoring, high-cost values could come from malicious answers, having verifiable answers first, before subjective ones are all ways you could use to get high-quality feedback.