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The Importance of Animation in Interaction Design

During any given day, we as humans are constantly interacting and engaging with different people and products, whether it is physically opening a door or digitally opening up an application on our phone. When interacting with people, we hope to engage in meaningful interactions, which require active participation on both ends. There are many ways to interact and communicate with people including the exchanging of words, showing emotions through facial expressions and body language, through touch – all of these are used to gauge what the other person may be thinking or feeling. However, when interacting with nonliving objects, especially computers, engaging in meaningful interactions can be difficult, often resulting in communication barriers. Interaction design is a large and diverse field that works to remove these communication barriers between humans and computers, making computers more user friendly.

Although interaction design for digital applications is a fairly new field, a large portion of interaction design has to do with animation. Adding motion to otherwise static artifacts gives more “life” to an artifact making the human and computer interaction more natural and dynamic. These dynamic movements work to communicate back to the user important information – it’s a way of providing feedback. Even though animations for interaction design don’t often require the animation of characters and scenes, Disney’s animation principles developed during the early days of his studio are utilized and implemented by many interaction designers today.

Disney animators, Frank Thomas and Ollie Johnston wrote *The Illusion of Life* defining the twelve fundamental principles of animation. The twelve principles are, squash and stretch, anticipation, staging, straight ahead and pose to pose, follow through and overlay, slow in and slow out, arcs, secondary action, timing, exaggeration, solid drawings, and appeal (1). Of these twelve, the six key animation principles that help improve user interaction are solid drawing, arcs, staging, exaggeration, secondary animation, and appeal. To ensure authentic animation, it is important to keep in mind the laws of physics and understand the qualities of motion that make it look realistic. Solid drawings are used to give artifacts space and volume, so when they move, they have to maintain the relative space and volume in relation to other artifacts to make sure it doesn't look deformed. Computers are very good at calculating precise and evenly timed movements, however because humans exist outside of a computer and are unable to be this precise in their own movements, animations that are too precise just look unnatural. Therefore, arcs are implemented to create the natural ease in and ease out of motion that manages how smooth and rigid an artifact's movement should be. Staging refers to the animation used to bring attention to different artifacts. For example, if you click a button to purchase an order on an ecommerce website, a new page should appear, and if done well, the transition that causes this new page to appear should direct your focus to the submit payment button so you know how to complete your purchase. Exaggeration helps to guide a person's attention by providing feedback. If a person incorrectly enters their login credentials for an application, you can use motion to bring attention to the fact that the user's intended action couldn't be completed. Secondary action is used to reinforce previous action, and when actions are consistently repeated the user perceives them as

intentional. These intentional actions help to eliminate any confusion caused by navigating the app. Last but not least is the appeal of animation. Animations should have a clear purpose, but also be fun and creative! One of my favorite animations used to show the refreshing of a page is utilized in the Snapchat app. When you pull down on the page, the ghost appears at the top, the background changes colors, and when it's done refreshing, the ghost flies off the screen leaving behind a rainbow trail (2).

Using animation within user interfaces helps to direct focus, create a hierarchy of information, create spatial relationships among artifacts, and build brand character (2). Most of the time, animation done right is very subtle and hardly noticed by the user because it looks natural and provides good communication to users. On the other hand, animation done wrong is easily noticeable because any untrained eye can tell when something looks off, even if they don't exactly know what that something is. Therefore, when deciding when and where to use animation within interaction design, be sure to ask yourself why it is necessary and how it will be improving functionality. If you keep this in mind, when interacting with applications, you will be sure to have a good experience and want to use the app again!

Works Cited

- (1) “How to Use Disneys Principles of Animation to Improve UX.” *TandemSeven – The Experience Innovation Company*, 15 Aug. 2017,
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- (2) Layton, Brittany. “Animation Principles in UI.” *InVision Blog*, 1 Feb. 2018,
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