Assignment P5

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Question 1:

The addition of Georgia Tech's online master degree in computer science has given a real positive impact to many prospective students throughout the world who are in pursuit of furthering their own education. One major positive effect is the flexibility surrounding the structure of this program. Traditionally when an individual was working towards their Master's Degree, it was in an On-Campus program where classes are set at certain times and lectures were probably not often recorded. This presents a major challenge to individuals who couldn't move to Atlanta, or had to work odd hours and couldn't attend certain lectures. That all changed when OMSCS came about though, leveraging the technology it allows students from all over the world to attend "virtual lectures", whenever possible, from where ever that individual may be on the planet as long as they have access to a network. Not only did lectures change, but the program also kept the ability for students to interact in a sort of virtual classroom (Piazza), so that that aspect of learning was not also lost to being remote.

One negative effect of the OMSCS program is that as more and more students move online, it reduces the on campus student population and disperses it across a much wider area. The negative effect here is that now there are less people within the Georgia Tech community that are contributing either monetarily, through volunteer actions in the community, or even participating in campus programs and groups. So there would be a reduction in possible student participation in events on campus as it makes more sense for students to get the same level of education while staying in their respective hometowns. Less participation has a whole offshoot of

unintended consequences as well, as now there's less school spirit, less need for on campus jobs, certain outlier groups/activities now might not have the membership or financials needed to operate and are forced to close, etc.

One way that the program could be structured to still allow the positive benefit of learning online, and keeping that distance, while still not detracting from the on-campus environment as well as the Atlanta community, would be for the school to offer online activities or social groups that users could join from their home location. So rather than joining a Fraternity or Sorority in person, there could be a vetting process online and they could come up with some way to welcome new members from all around the planet. Not just those local to the Atlanta area. Or other small ways to reach out, and promote campus participation through online access.

Question 2:

Social media as of late has become a huge hot button topic for people especially when relating to free speech here in America. Often time's individuals want the same rights on the platform as they do when walking down any street in America. But due to some technological political motivations that can just not be the case, because certain stakeholders of the platform all have differing motivations as to what can and should be shown to users. For this example we will stick with Twitter as our choice of social media, and for those unfamiliar with this service. It is an online community where individuals can interact with each other and post their thoughts and experiences in the forum for all of their followers to see. And those followers can in turn interact with the statements of the user however they deem.

There are a ton of different stakeholders that access Twitter's platform and post regularly. But in the essence of clarity and to not conflate each of the parties interests we will relegate this answer to 3 groups. The first being the creators/managers of Twitter, so the software engineers, managers, marketing teams, etc. They play a

pivotal role in developing the interface and the rules that control the service. And there motivations are certainly almost all monetary based, as without a source of revenue they can't continue to exist and develop more to their platform.

The next group of stakeholders that play a part in its political design motivations are that of companies that purchase advertisement space on the platform. This includes companies, (Actual) political operatives, and volunteer organizations. Stakeholders that comprise this group have a pivotal role in funding Twitter, which as discussed previously is their main motivation for some of the designs that they take. And the motivations held behind this group of individuals is that they want to promote their products, candidates, causes, etc. on the platform to as many people as possible. In short they want to increase viewership of the platform as much as possible.

The final group of stakeholders that is a part of Twitter is that of the actual user who logs in to Tweet their thoughts and respond to followers. And the motivations of the users are to be able to express their thoughts and opinions openly on the platform, whatever they may be.

Due to the differing motivations, often time there is a conflict that arises that might some design decisions of the platform have more politics involved than you would believe. In going with the free speech of the United States today and which most users believe should extend to this platform, then there would be an expectation that this service be open to any and all posts without censorship. Therefore you can see Twitter takes the utmost care to not impede on the free speech of individuals as often as possible. But due to the nature of this openness, it actually presents a conflict to Twitter developers and managers themselves as well as the advertisers on the site. The advertisers want to be able to promote their products to users on the platform but unfortunately due to some of the commentary (one might even call some it attacks) they do not want to have their products be seen next to such negativity. Therefore their motivations clearly pushed Twitter in a direction to design their application to remove vitriol and other personal attacks. Twitter being

the man in the middle here, as they have to keep both the advertisers and the users happy in order to maintain the revenue (More users = More money). Had to design the service to keep as many people on the platform, while not promoting negative content that would keep advertisers from promoting on the platform. So they developed agents that can detect certain types of speech, and rhetoric and will remove that or demote it down on people's feeds.

Question 3:

As critical of an interface as Piazza is for online students at Georgia Tech to communicate with each other, and get more information on assignments or lesson material, it sometimes lacks the clarity needed that one could actually get in an actual classroom setting with live discussions between professor and students. One place that designers could start to piece together a new design that might assist students more is by allowing more than one student answer that doesn't have to be collaborative. Currently only one student can post an answer to their classmates question, and then other students can edit it/support it, similar to a Wikipedia approach with the professors as moderators. This design hinders participation and violates a number of design principles that will hopefully get corrected in our upcoming design.

The interface to allow multiple students to send answers to the original poster of a question would be designed to look similar to a combination of the current answer component with tabs included. Individual students answers will still be shown as they are today, but when there are multiple answers to a single question they will be

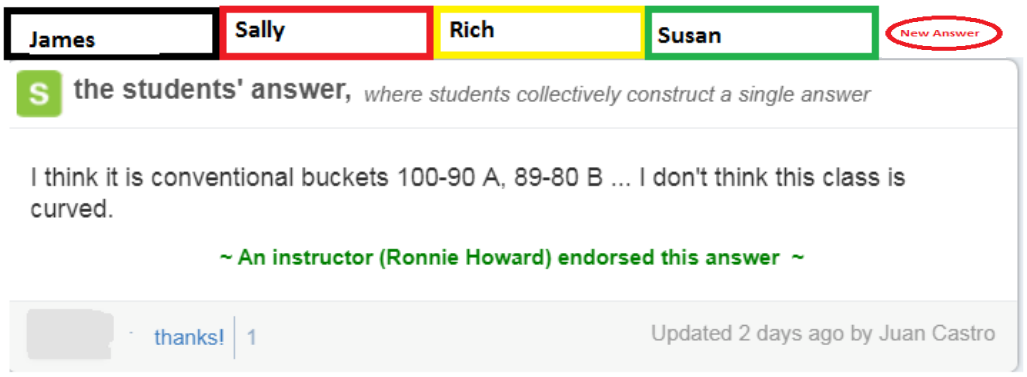

Figure 3.1: As you can see in the brightly marked colors, the names of students different answers are indicated in tabs, with the Instructor Endorsed Answer as the main one displayed to students.

Designing the interface as such allows us to complete many of our design principles that were otherwise unaddressed in the previous attempt. For starts prior to this there were no constraints related to others opening up the Student Answer section and adding in whatever they wanted to add. These types of edits could lead to multiple people seeing different answers, or having an answer changed after being endorsed. So the new design address this by adding the constraint of no longer allowing users from editing others posts. But rather possibly just piggybacking or disagreeing with the other user. The new design also takes affordances in to account, in that having tabs on top indicates to a user that it should be clicked to navigate to a different page, or in this case response.

A third design principle that this inherits from is that of Mapping, having the individual names of those who commented on the question with their own answer allows the user to map which answer can be attributed to which individual. So if there is a person who tends to give better responses, or one who is wrong quite often, the person who asked the question can recognize the name and either avoid or read the answer given.

Perception was also taken into account when developing this new interface, as users need to know what the consequences of the actions they took are. So when the user is actively clicking through the tabs the onscreen answer component is changed automatically and the tab itself is highlighted to show which one they are currently selecting to see.

Discoverability is yet another design principle that was directly leveraged when creating this interface. We wanted the users to know the actions they can take when navigating through their posts, so based on the affordance of the tabs they know to click on those to navigate. Or as you can see there's the like options ("thanks" in Figure 3.1) to give feedback, and the "New Answer" button right next to the tabs to allow a new user to post an answer. This is all the options that a student has to interact with an answer post, and they are all discoverable right there in front of the user.

Question 4:

Title: *Essence: Olfactory Interfaces for Unconscious Influence of Mood and Cognitive Performance*

Author: *Judith Amores (MIT) Pattie Maes (MIT)*

The paper above addresses creating wearable technology that appeals to the olfactory sense of human perception (Smell). This human sense is often overlooked in the field of technology, surprisingly as it can be just as impactful to an individual as visual/auditory/haptic stimulation. An interesting factoid to note, is that olfactory perception is directly linked to areas of the brain that the auditory, haptic and visual are not. Those being the amygdala and hippocampus, which are related to our emotional responses and memories respectively.

Judith and her team proposed creating a wearable system that would release certain scents to trigger different responses in people. The different fragrances were delivered to individuals in a necklace type system that through a complex vibration pattern vaporized the scent and transferred it to the users' nose. All of which was controlled through an application on the users smart phone/device. The scent types (Aromatherapy, Perfumes, and Pheromones) were categories chosen as they elicit a different response for the individuals. Like some were used for Cognitive

Performance (Peppermint), or to better assist users in REM sleep and memory processing (Essence).

To evaluate their technology they used Post Event protocols on 4 participants, and computer based surveys. And they received some pretty positive feedback in the categories of Ease of Use, satisfaction and comfort. And using said feedback decided the future version to be able to have multiple scents at disposal, and to have customizable systems for better visual appearance.

I chose the paper above for a few different reasons, mainly due to the fact that through out this course we have investigated and been shown many different interfaces and systems that users interact with. But I personally have yet to find one related to the olfactory perception of humans. I thought a change of pace was necessary, to broaden my horizons of interfaces and maybe bring something that can help me in further designs.

Another reason this article was chosen is because the device in itself is very different than anything on the market. There are machines out there currently that dispense fragrences (candles, wax burners, etc). But I have yet to see one that was mobile and worn in public. I am a little hesitant on ever wearing something like this as it was not very slightly, even though they tried to minimize it as much as possible. Maybe in future iterations they can come up with newer technology to move that into something barely noticeable to surrounding individuals.