Assignment P1

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1 QUESTION 1

As a Georgia Tech OMSCS student, I regularly use Piazza for almost every class I take and would like to select it as my discussion topic. My first impression of Piazza is its strange pronunciation and spelling and takes me some time to finally remember it and use it in a conversation without a hesitance.

1.1 Processor Model Perspective

From the perspective of student user, the main purpose of Piazza is to obtain the direct messages from the instructors and TAs, raise questions and share answers or thoughts among students. Getting the relevant information on Piazza can be measured by how quickly the user can access to what they are looking for. To increase the efficiency, the data should be well organized. For example, the instructor's notes are always listed on the top of the thread and marked as "Instr". Another critical feature for a quick access is the searching algorithm. For example, if user is browsing the post thread and looking at "Thursday Application, Week 2", he figures this post is on a weekly basis and may wonder what the discussion for Week 1 is. Then the user can type in "application" in the search box and try to find the relevant post from the result list. If the user is looking for a specific post shared by another use using the key word search, he may see the thread list containing the key word, however he will lose the target post after he clicks on the thread. He will have to use "Control-F" to locate that specific post in that thread. The efficiency of raising questions is depending on the steps for user to initiate a post and finish the post.

1.2 Predictor Model Perspective

From a predictor's perspective, the user is expecting to have a feature to filter to a list of the posts he participated whether he initialized the post or responded to someone's post. However, the current design does not provide such feature to match user's expectation. Alternatively, the user can type in his first name or last name or full name in the search box and the outcome is expected to have a list of the post thread. However, the outcome of such action does not meet the user's

prediction. For example, my name is Xu Zhang and I use Xu as a key word because of the uniqueness, however it does not return the post I initiated previously, and it returns no results if I type in my full name. In addition, the user is expecting to be able to easily delete that post that he writes, however the current design does not provide an interface where user can easily find this feature. Honestly, as a student user, I still don't know how I am able to delete my post.

1.3 Comparison

The processor model suggests having an organized post structure, a powerful searching algorithm, and easy steps to complete a post so that a user can quickly access the data they are looking for. However, these improvements do not focus on an interface that predict user's attentions such as having a list of user's own posts and delete the post.

2 QUESTION 2

I want to discuss the facial recognition feature of the iPhone from a participant view of a user.

2.1 Constraints or Challenges

The facial recognition is convenient in many contexts such as making payment using apply pay or unlock iPhone while driving. However, these actions can only be accomplished when the user does not block his face. During the Covid-19, wearing a mask becomes an essential part of people's life. I am sure many people have such experience where they were trying to unlock the iPhone while they were wearing a mask and did not realize the reason until they were asked to punch the password. People would risk their health if they take off the mask just to unlock the phone to make payments in public, and people are restricted to use apple pay if no security is added to unlock the phone. Then, it only leaves people one choice which is to go back to using the password and giving up the new facial recognition technology.

2.2 Solution

The interface of facial recognition relies on the scanning of the people's face via the front camera. We can extend the interface to fingerprint of the thumb on the screen or voice recognition by speaking one or a few specific words chosen by

the user. This will allow the iPhone to overcome the constraint caused by wearing a mask.

3 QUESTION 3

3.1 Gulf of Execution

First, the user needs to be able to identify what their goal is in the context of the system. As a first-time user, my goal is to submit my assignment and confirm it is submitted. The current interface provides an "choose a file" button in the assignment section. This button is straight forward and tells me it is where I am supposed to upload the file. After the submission, it provides the status of the submission and the time stamp. The system structure matches my expectation as a user. Second, the user needs to be able to identify the actions to accomplish the goal. In order to submit the assignment, I need to find my file from my local drive or other storage (such as one drive), choose the file once found, and submit the file. Third, the user needs to execute the actions in the given interface. As a user, I can easily find where to upload the file in the current interface and choose the file in the pop-up window where I can navigate to the folder where I save the assignment. The required file type for the assignment is PDF and the current interface provides the scrutiny of checking the data type and reminds the user what is the correct file type if user is trying to upload a wrong file type. After the correct file is chosen, user can easily find the submission button to submit the file. The submission status, time stamp, submission details and the name of the submitted file (which user can click on to see the content of the file) are very helpful. The "Re-submit Assignment" button will be shown as an option to the user after the submission. However, the user does not know resubmission is allowed just from the interface until the first submission is complete. It would be nice to have this heads-up to the user at the very beginning in the interface.

3.2 Gulf of Evaluation

First, there is an actual physical form of the output of the interface after user's submission. The output indicates the completion of the submission, the time of the submission, the details where user can access to see the submitted file as well as the submitted file name which user can click on to see the content of the file. The resubmission option is also part of the output. Secondly, the user can interpret the meaning of the output overall. For example, the resubmission button

tells the user that resubmission is allowed. However, as a user, I was not clear of what the submission details may contain, and I did not find out until I clicked on it. The submitted file's name and link are provided again below the submission detail and this seem redundant. Third, the user's interpretation from the output is consistent with what is actually realized in the system.

4 QUESTION 4

4.1 What makes the gulf wide?

The control panel of the air conditioner at my home is the traditional small white box and not the Nest one. The goal was to make the room colder. The interface provides the upward arrow and downward arrow which are consistent with people's perception of increase and decrease. However, the interface also provides a "hold" button which make me feel confused. I was then speculating the meaning of this function and wonder if my goal could be accomplished if I ignored the "hold" button. Until then, I was not clear of what actions to take in the context of the system to make the goal a reality. My initial thought was just to press the downward arrow.

4.2 What makes the gulf narrow?

The small screen on the refrigerator at my home is well designed and successfully bridging its gulf of execution. The other day, I was trying to adjust the temperature of the freezer which turns out too low. It was my first to use the interface. My intention was simple. However, I was afraid that I had to spend time figuring out how to do if the interface is complex. I was relieved when I saw the simple interface where there are two sets of the "warmer" and "colder" option and one set is on the left side and the other set is on the right side. The fridge's freezer is on the left side and interface has word "freezer" on the left side of the panel next to the "warmer" and colder" option. The "warmer" option has an arrow pointing upwards while the "colder" option has a downward arrow. This is consistent with human being's perception. It was very clear to me to press the upwards arrow to increase the temperature. The action I executed in the interface is consistent with the actions that I expected to accomplish my goal.

4.3 Improvements

The design of the interface on the fridge makes the functions very discoverable for me as a first-time user. There is no redundant option/button that confuses the user in terms of the actions to take to accomplish the goal. My task was simply to increase or decrease the temperature. I would imagine that I would have to check the instructions online if there is also a "hold" button on the fridge's interface. Therefore, the control panel of the air conditioner at my home just needs to be simplified.