CS6750 – Assignment P1

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1 QUESTION 1

For this question, I will select an interface from Canvas, a multi-faceted digitally enabled education tool. I will then dissect the interface according to the processor and predictor model of the user, to later compare them in relation to the selected interface. The interface I will select is the "Courses" interface, shown in Figure 1.

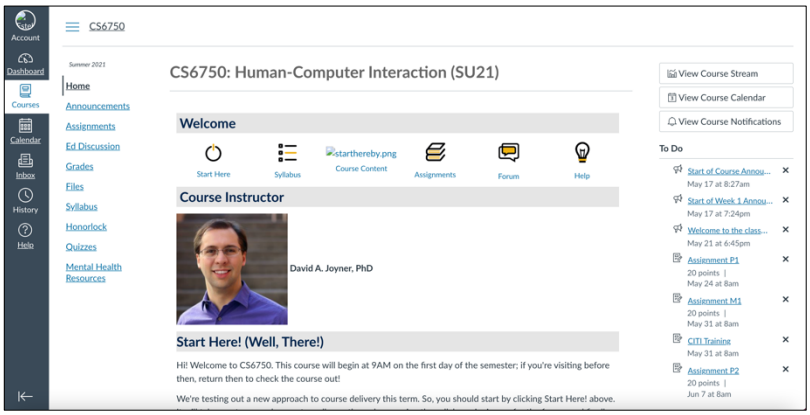

Figure 1— Courses interface in Canvas. Source: CS6750 Canvas page.

1.1 The processor model of the user

The processor model of the users builds on research put forward by the behavioralist school of psychology, which interprets human interactions based purely on observable behavior, per the lecture videos.

In this sense, Canvas' Courses interface can be a little bit overcrowded with options, in the sense that if the user is a beginner, will have a difficult time trying to get a grasp of the design to try to accomplish her task in the shortest time possible. Looking at the interface, the user most likely will have to visually inspect and determine what menu options are relevant for her task. If the task is to start with the course, the path to doing so will be somewhat long, because she will most likely first need to understand what all the different options on the interface mean. It could be an improvement for beginner users to make the "Start here" view, instead of displaying it below 6 different options, especially since it

already is the default display of the interface. That would most likely eliminate the need to navigate through the myriad options to understand that she was already where she needed to be to accomplish her task. For expert users, on the other side, it can be a waste of interface display to always land on a "Start here" screen, taking up all the central and most important part of the display. An improvement for expert users could be to eliminate the default "Start here" message, once it had been marked as done, freeing up tons of useful space on the interface to accomplish other tasks more rapidly, like accessing the most pressing to-dos as fast as possible.

1.2 The predictor model of the user

The predictor model of the user deals with the cognitive aspect of a user's interactions. In that sense, it is crucial to understand what the user expects she will be able to do and whether she can successfully interpret the outcome of her actions and its expected result.

Looking at the "Courses" interface in Canvas, it is possible to assess the user's expectations or predictions when trying to accomplish a task. If, for example she intends to access the forum, she will locate the "Ed Discussion" option to the left, after reviewing all other options. After she clicks on it, the user will be redirected to Ed, another digital education platform, and land on the forum or discussion tab of it, allowing the user to correctly interpret that her action was successful towards accomplishing her goal. On the other hand, if the user is trying to accomplish getting to her most pressing open assignment, she will have to locate an "Assignments" option and find that there are two, above the "Start here" section as a big icon, and as an option on a list to the left. This will make it hard to predict what the user's action will be. Will she access through either of the buttons? Or will she have to access both options and see what is the difference, if any? It will also make it hard for the user to interpret her choice, since she might not be able to understand if there is a reason for the duplicity of options.

1.3 Discussion

As seen above, both model of the user will bring forward possible improvements. According to the processor model, as stated in point 1.1, the best adjustments could be to dynamically rearrange the landing display of the interface after the user has used the tool a couple of times, allowing her to access more important features of the interface as she progresses in the course and becomes a more expert user, saving her time. The predictor model of the user would probably suggest improvements on the excessive duplicity of options. Not only are several options duplicated ("Forum", "Assignments", etc.), they also bear different names ("Forum" vs. "Ed Discussion"). This makes it very hard to understand what the user expects form each action, and most notably, will lead to confusion on her side. The improvement in this case would be to locate all relevant options in a visible manner and only once, maybe even using the icons above the "Start here" section and eliminating the left menu.

2 QUESTION 2

The activity I will choose to explore is streaming (and listening to) music.

This activity is done in a wide array of contexts, which may add many context-dependent constraints. For one, when streaming music on the street, the context would imply that the streaming device could not be openly taken out for security issues, if the area is prone to robbery, like is the case in several countries in the developing world. In these cases, the interface could allow for sensory actions from the user to accomplish tasks like playing of pausing music, for instance through tapping the device while it is being carried in a pocket.

Another context could be when doing sports, when the user is concentrated on keeping a god technique and/or a good tempo. Ideally in this context the streaming interface would become actionable via non-traditional touch gestures, for instance with voice activated commands that would allow the user to pause and play the music, or answer a phone call.

The same could be thought of in the context of driving. In that context, since the user should be fully concentrated on the driving, the interface could be actionable via similar voice commands and even allow for a synchronously running

navigation interface to clearly signal the upcoming turns towards the destination, for instance momentarily lowering the volume or pausing the music.

3 QUESTION 3

Figure 2 shows the initial submission page of the present assignment. Figure 3 shows the interface after clicking on "Start assignment" at the top right of Figure 2.

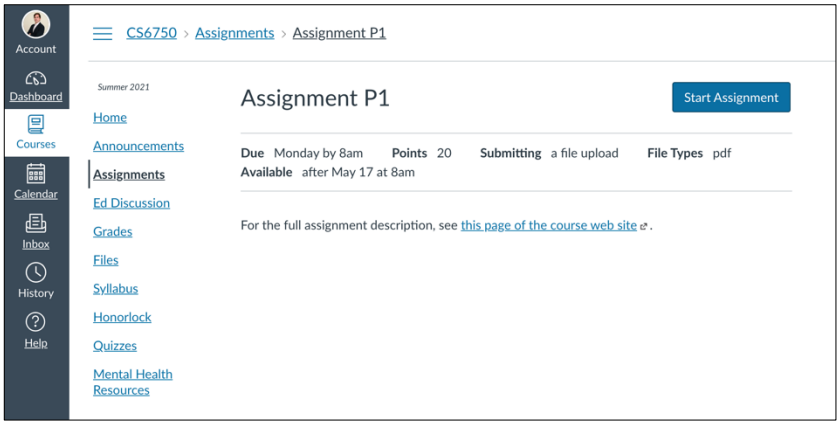

Figure 2 — Assignment submission interface in Canvas. Source: CS6750 Canvas page.

It is not clear why the intermediate display in Figure 2 is shown. A beginner user could be misled by thinking that there might be a timer once the Start Assignment button is clicked, like in other multiple-choice tests on Canvas. Once the option is clicked, the interface represented with Figure 3 is displayed.

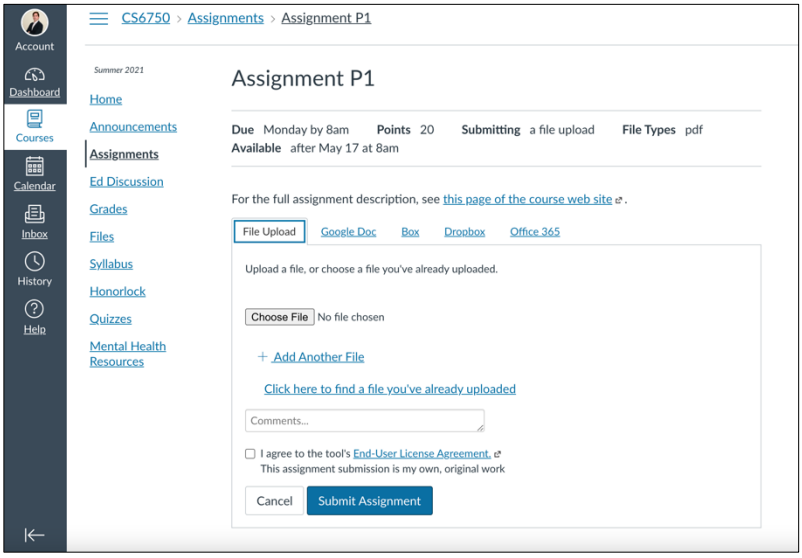

Figure 3— Second assignment submission interface in Canvas. Source: CS6750 Canvas page.

The gulf of execution deals with the user's journey through the interface to attain a particular goal. It involves three distinct stages, identifying intentions, identifying actions and executing actions, as shown in Figure 4.

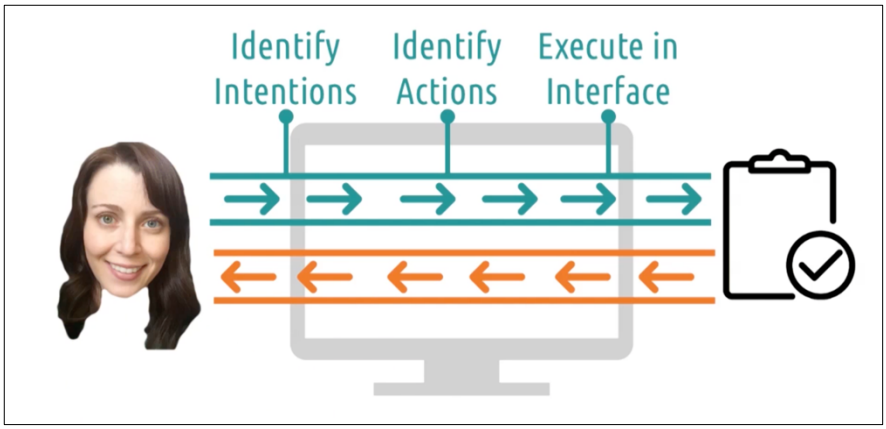

Figure 4— The Gulf of Execution. Source: CS6750 Ed video lectures page.

From Figures 2 and 3, it is not very clear how Canvas allows the user to identify her intentions to submit an assignment. She has to click once, for instance at the

right of the home page on a to-do reminder, which in turn takes her to the display of Figure 2, to in turn have to click again and land in the submission interface itself, after a journey through Canvas. For the second element, the user needs to be able to identify the actions required to submit the assignment. There are nine hyperlinks on the submission interface, signaling almost a decalogue of possible actions to take, which could in turn be interpreted as *signifiers* (Norman, 2013). This means that Canvas is actually enlarging the gulf of execution while displaying a ton of doable actions to the user, who might not be able to identify the actions needed to take in a relatively short time, before having to peruse or even click each of the hyperlinks displayed. Once the action is identified, for instance selecting the simplest "File upload" tab and method, the action has to be executed. At that point, the user has to click the "Choose File" button, look for her assignment file, select it, then tick the "I agree to the tool's End-User License Agreement. This assignment submission is my own, original work" box, to then be able to finally click on "Submit Assignment". 6 steps need to be taken to execute the action needed to fulfill the user's goal of submitting he assignment on Canvas, which further broadens the gulf of execution outlined above.

The gulf of evaluation, on the other hand, deals with the following part of the feedback cycle and involves the output of the interface, its interpretation by the user and her evaluation of the success of the action taken given the output of the interface, as shown in Figure 5.

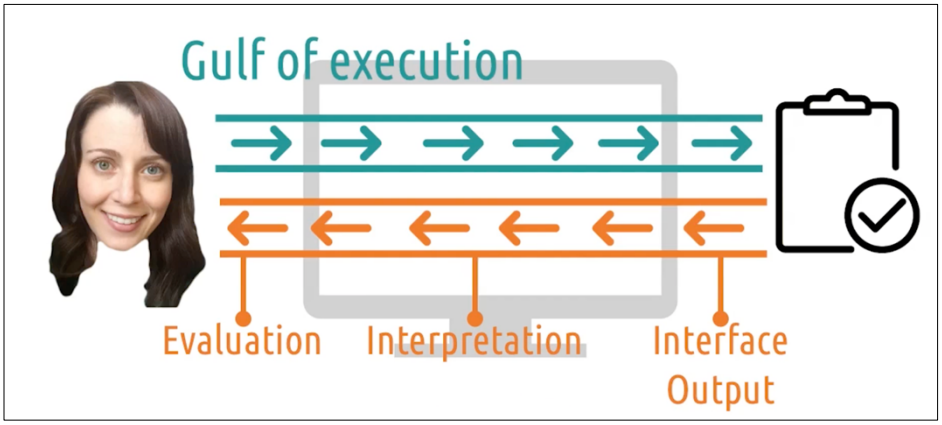

Figure 5 — The Gulf of Evaluation (sic). Source: CS6750 Ed video lectures page.

The interface output after selecting a file for upload is twofold: if the file is not in the required format, a warning message in red will appear letting the user know about the file format mismatch; on the other hand, if the file is the right format, nothing will happen. This could lead to a possible difficulty in interpreting and subsequently evaluating the output. If the file is the wrong format, it would be easy to understand why, since the message in red font prompts the error unmistakably but the same is not true for the correct format of the file. In that scenario, the one actually leading towards the fulfillment of the user's goal, no output is markedly visible. Maybe the fact that the "Submit Assignment" button at the bottom only allows clicking once a file with the right format is selected, which is not as salient an output as when the format is wrong. This could cause a lag and difficulty in interpreting such a delicate output, somewhat broadening the gulf of evaluation. Finally, once the "Submit Assignment" button is clickable and is clicked, a progress loop is shown marking the submission process' progress and ends with a separate interface display with a "Submitted!" message at the top right, followed by the date and time of the submission and the name of the file submitted, which links to its download. This makes it easier for the user to interpret and evaluate the output, since the message is clearly marked and even uses a green tick symbol to signal successful completion of the task. Nevertheless, that success message could be more saliently located at the center of the screen, which is otherwise blank, possibly bridging the final stage of the gulf of evaluation, as shown in Figure 6.

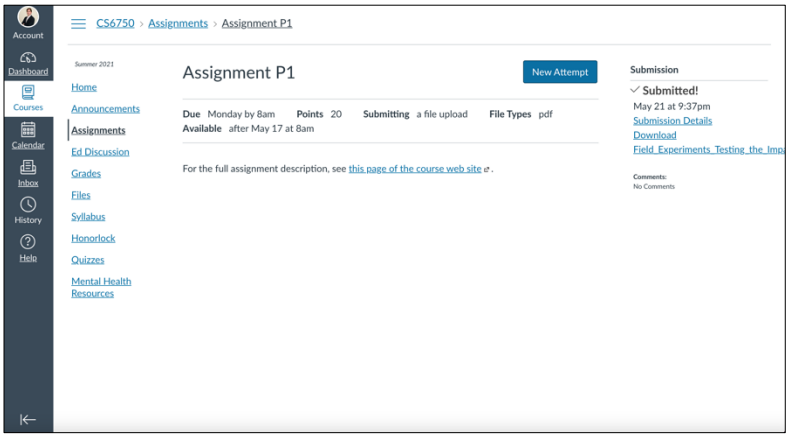

Figure 6— Final assignment submission interface in Canvas. Source: CS6750 Canvas page.

4 QUESTION 4

A regular activity I perform is buying cryptocurrency on my phone. I use the app for the Binance exchange and it has a very wide gulf of execution. Not only is the matter subject technical and complex in itself, the app allows for so many different types of asset acquisition, trading, conversion, saving, withdrawing, etc., that only to identify the intention and next the action needed to fulfill it takes ages, especially if you are a beginner user. Once I used the app a couple of times and identified the same intention (like buying assets via P2P trading), the next times I went on the app, the actions needed to fulfill the intention were always the same and performed quickly and seamlessly, at the cost of having to ignore virtually every other feature in the app.

On the other hand, I regularly check my bank's app, N26, whose gulf of execution is fairly narrower than that of Binance. For starters, I only need face recognition to log in, and once there, it is extremely easy to identify the action needed (just scroll down) after the intention has been identified (check my latest movements). Similarly, if the action to be executed is to transfer money, the app shows me the latest and most recurring transfer recipients, which allows for the execution of the intended action (transfer funds) to be easy, involving only typing in the amount to be transferred and my pin once I am sure I want to proceed.

From the discussion outlined above, Binance's app could benefit from simplifying the interface to make it easier for the average user to identify her intentions as easily as possible and not cause her to suffer of an overload of options. This could be solved with a default view of the exchange, with only the most used options actionable at first and allowing more experienced users to switch to the current, full version of the app. Another aspect in which Binance could improve the wide gap of execution is to identify a user's account most frequent behavior and prompt those same actions once the app is opened again. If for instance I regularly buy assets via P2P trading, the app could prompt me to go directly to P2P trading and highlighting the other users with whom I recently had successfully made transactions. That way, my execution times would be significantly shorter, narrowing the gulf of execution.

REFERENCES

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