

Assignment P1

Xiyue Lin
x_lin@gatech.edu

1. QUESTION 1

Honorlock, an on-demand online proctoring services for schools and universities, which is commonly used in most of the courses here in Georgia Tech. As it works through Google Chrome extension, users (students) only need to install the extension on Google Chrome browser. Before launching Honorlock, we need to make sure that the proper environment has been set up, i.e., the users are on a Chrome browser, webcam is working properly, and the computer is only connected to one monitor. For Georgia Tech students, Honorlock tab can be found on the left side panel on Canvas. We will discuss the processor model, predictor model and compare them in the below subsections.

1.1. Processor model

Generally, the processor model takes the input from the user, and produces output for the user and the interface must fit within human limits. The processor model is evaluated by quantitative experiments.

For Honorlock, the task for the user is to pass all the multiple verifications steps and take the test. As a processor model, Honorlock needs to take the input from the user in the below eight steps, and lead the user to the interface where users can take his/her test.

1. Click Honorlock tab on the side panel of the Canvas web app.
2. Find an available test to take and click on the test.
3. Click "Launch Proctoring" on the bottom.
4. A popped up window will let the user know of any error messages, if any. And the user will be asked to take a photo. Find an available test to take and click on the test.
5. Users will be asked to verify identity. Click "I have my ID!" and as previous step, make sure the ID photo is taken properly.
6. Users will be asked to conduct a room scan using webcam.

7. Click “Launch Screen Recording” button and select the screen image then click the “Share” button.
8. Finally, click the button “Click to Begin” and the user will be led to the test page and the timer will start.

Objectively speaking, Honorlock accomplishes its task of proctoring the exam and through multiple layers of verification to prevent students from cheating. Honorlock works efficiently as it does not require you to download extra software to your computer, and it's more efficient and faster than other proctoring software such as Proctortrack, which contains tedious steps to set up which results in much longer waiting time.

1.2. Predictor model

On the other hand, the predictor model is more about what the user predicts the outcome of their action will be, and how they interpret the result of such action. and the interface must fit in with knowledge. The predictor model is evaluated by qualitative studies (*ex situ* studies).

From the predictor perspective, the Honorlock is designed decently as it provides its users with clear instruction at each step, each buttons are wrapped in blue rectangle box, and in white fonts, which makes a contrast visual effect to the users. When clicking on such buttons, the user can just follow the instruction at the next step and so on. In other words, the user can predict what would happen after clicking the button and can interpret what they should do. Also, the user can know if what they are doing is successful. For instance, if the user has two monitors connected to the computer, there will be a message box pop up saying “Remove 1 display to continue” and the user will know what he/she should do to proceed.

1.3. Comparison

The processor model is efficient to complete its task to proctor the test. However, I noticed that the step 6 can be improved as some users are working on a desktop with built-in camera. It would be troublesome for them to scan the room with a monitor. Conversely, the predictor model could also be improved accordingly, by letting the user know in advance that the built-in cam on the monitor would lead to trouble for room scan, which leaves the users some extra time looking for other options before taking the exam.

2. QUESTION 2

Spotify, as world's one of the largest music streaming platform, also is supported on multiple platforms. We can find Spotify web app, desktop app, on our phone, even as an TV app. We will discuss further on the interactions we performed in multiple contexts, the constraints it faces, and how to address such constraints.

2.1. Interactions in multiple contexts

Undeniably, music plays a huge part in daily life. And we, humans, need music in different occasions, and streaming music is the new norm in modern society. In other words, we would more or less interact with Spotify in multiple contexts:

- Playing music in social gatherings/parties
- Playing ambient music while doing productive work
- Playing music while taking shower
- Playing music while working out
- Playing music to wake up/sleep
- Playing music while commuting to work

2.2. Constraints or Challenges

There are a few challenges posed in different occasions. For instance, at social gatherings or parties, as different people have different music tastes, and sometimes it could lead to disagreements. And, while commuting, playing music could lead to distract driving, and even cause danger while crossing road if the music is played too loud in the headphone. Also, it's very difficult for user to turn off the music after falling asleep, which may result the music playing all night sometimes, and it's even more frustrating waking up to music (alarm) that cannot be stopped easily. Additionally, it might be troublesome for the user to switch music by clicking the next button on the phone while working out as the users' hands might be sweaty.

2.3. Solutions to constraints

Under certain circumstances, the interface can provide the options accordingly to address the above issues. The interface could provide a solution to let differ-

ent users form a playlist based on geographical vicinity at parties, so it would satisfy everyone's desire to listen to the music they want. The interface could automatically detect whether the user's driving/walking and set a maximum volume constraint to avoid distract driving/street crossing. Alternatively, the interface could add a voice command instead of letting user to manually select the next track on the phone while the user's driving or crossing. The interface could also provide a user-defined schedule to let the users enter the routine of their day, in order to play and pause the music after user getting up/sleeping, or it could add voice command options to address this issue.

3. QUESTION 3

Submitting an assignment to Canvas involves the stages of gulf of execution and the gulf of evaluation. And we will discuss how Canvas successfully or unsuccessfully help student to turn in the assignment. Presumably, the user is a novice user and he/she is not familiar with Canvas.

3.1. Gulf of Execution

3.1.1. *Identify Intentions*

At this step, a user's intention towards achieving the final goal (submission on Canvas) is to upload and submit the assignments through Canvas, which acts as a medium. On the Canvas dashboard tab, Canvas listed all recent activities (including all the office hours and assignments in descending time order) for the user, and for each assignment, the right side will list the due date and the total score points, which helps the users to understand such is for assignment submission. However, if there are a lot of scheduled office hours on the dashboard, it would be very challenging for the users to find the assignment they want to submit, and Canvas failed to help them figure out so as it doesn't have a button to classify office hours from assignments.

3.1.2. *Identify Actions*

The actions the users would like to do is to click on the specific assignment they selected to submit. After clicking the assignment, there is a yellow button on the top right saying "Start Assignment", which is very counter-intuitive and even misleading to students because the wording makes the whole process sound confusing and adds up a lot of uncertainty.

3.1.3. Execute in interface

Once the users identified intentions and actions, they need to execute the task in the interface, which is hit the submission button to submit the assignment on Canvas. However, this step is not easy to conduct as well. After clicking the “Start Assignment” button, there are a few options listed, including “File Upload”, “Google Doc”, “Box”, etc. The users’ focus at this step is just to click “Browse” button and select the file they want to submit then click the “Submit Assignment” button, but too many options in Canvas might hinder users’ understandability towards the execution of their task.

3.2. Gulf of Evaluation

3.2.1. Interface Output

After clicking “Submit Assignment” button, the users will be able to see the status “Submitted” along with the submission timestamp. Also, the previous button was changed to “Re-submit Assignment” button. Canvas did this step very concise and clear and sent the successful message out and loud to the user. There is even a link for the users to download their own submitted work.

3.2.2. Interpretation

Most users would interpret messages such as “Submitted” as the confirmation of the submission. Furthermore, the newly-replaced button “Re-submit Assignment” would further strengthen the users’ belief that the assignments are submitted successfully. Canvas did a good job here in convincing users that the outcome of their execution is successful.

3.2.3. Evaluation

Canvas delivered the evaluation of the successful completion of the goal when it displays the message “Submitted” on the right side of the page after users’ submission. Also, the “Re-submit Assignment” button further helped the evaluation.

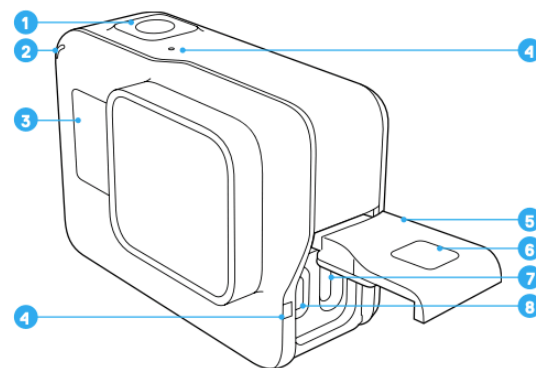
4. QUESTION 4

I found using the GoPro, the action camera without the phone app is a bit tough to maneuver. It requires a decent amount of learning curve to get used to and I've been struggling with it when I was a novice user.

4.1. Wide Gulf of execution and its failures to bridge the gulf

Before GoPro 9, the GoPro camera (here we mainly talk about GoPro 6 Black model) has only one small touchscreen in the back. It requires a fair amount of work to get it work. Firstly, the button design is not intuitive as the top button is the shutter button (with a red circle as the icon) instead of the Power button, which is different from other traditional cameras. Only by pressing the Power button long enough (>5 seconds) can the GoPro be turned on. If the user press the shutter button instead, then the GoPro will automatically start recording using the same setting (i.e., the photo size and resolution) as previously used last time and the user cannot change the setting. Secondly, the Power button is also used as Mode button, which will allow user to change different settings and switch from different modes (i.e., video, photos etc.), but it is very confusing to a lot of new users. Thirdly, as the touchscreen is very tiny, it's really hard for user with big fingers to control it accurately.

YOUR HERO6 BLACK




- | | |
|---|--|
| 1. Shutter Button [] | 6. Latch Release Button |
| 2. Camera Status Light | 7. USB-C Port |
| 3. Camera Status Screen | 8. Micro HDMI Port
(cable not included) |
| 4. Microphone | 9. Touch Display |
| 5. Side Door | |

Figure 1—GoPro HERO 6 Black model.

4.2. Appropriate Gulf of execution example

Conversely, using iPhones to complete certain tasks are very intuitive and easy. Even while the iPhone is locked, the users can swipe right on the screen or press the right bottom camera icon and the camera app will be opened, and the user can swipe left on the screen or press the left bottom flashlight button to open the flashlight. The icons on the iPhones are very intuitive and allow users to complete certain tasks even without unlocking the phone. The gulf of execution is significantly decreased compared to using GoPro doing similar task as the icon is more easily readable for the user.

4.3. Resolution to Wide Gulf of execution

The gulf of execution in the GoPro example is large mainly because the users are unable to find the right button to execute the tasks he/she intended.

One lesson that GoPro could be borrowed from iPhone is to make their icon on those buttons more stand out, including adding some abbreviations such as REC (which starts for recording) inside the red circle icon. Through this way, it will let users directly understand what this button is for, instead of asking the users to going through trial-and-error or reading over manual to learn about each function.