

Assignment P2(Fall 2018)

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Question 1

The current process of enrolling in classes for Georgia Tech users can be described in following steps.

1. Login to Georgia Tech portal with username and password and preferred method of two-factor authentication.
2. Click the padlock icon which says "Registration-OSCAR". Select "Student Services & Financial Aid " link to the following page.
3. Click "Registration" link on the next page. It will take you to another page with a bunch of links. Select "look up classes". Next page will ask you to select the term of the enrollment. Click "Submit".
4. Next page will show you the subjects. When you click "Advanced Search", you will see more options to filter out classes. Select the categories that apply to your desired classes and press "Class Search". Next page will show a list of courses matches your criteria.
5. Select the courses which have checkbox in front of them (courses that you intend to register) and click "Register" Button. Next page will give you feedback on your registration activity that you just performed. If any changes required, You have through the same process again.

GaTech course registration system seems to have not redesigned in a decade. Gulf of execution is wider and the interface is far from the concept of direct manipulation. If I were to modify the procedures to invoke direct manipulation, I would implement the all the required functions in a single page, which makes the user accomplish the task of registration without having to navigate through many web pages. The left pane of the page will show the search options and right pane will show the courses that the user is currently enrolled. If the user is

not enrolled in a course, the enrolled courses section will be blank. I would invoke the ability to add and drop courses in a similar way how users drag and drop files into folders. Users can search the courses on the left pane, select and drag them to the right pane to register. Courses can be dropped by clicking a drop symbol(usually minus sign) or simply dragging them out of the right pane. Also, I would provide instant feedback of their actions in the form of widgets or popup messages.

This design gives two direct benefits. The first benefit would be the ability to register or drop for classes by dragging them in and out of the right pane. Users will not have to navigate through multiple pages and searches to perform “add/drop” functions. The Second benefit this design provides is, for users to be able to see the current courses that they are enrolled while searching for other courses. This will help them in deciding which classes to add or drop till they get a schedule that suits them. Gulf of execution and gulf is evaluation significantly narrowed in this approach.

Question 2

My Air fryer is a good example of an interface that has become invisible to me by learning over the past few months. I got a Philips Air Fryer as a Christmas gift last year that fry food without using any oil. I really like it since I am getting to eat deep fried food without having health concerns. This particular Air fryer is really easy to use. Just load food that you want to be fried and select the temperature, Air fryer will take care of the rest. Cleaning is required at least once a week, oil and residue from food have to be wiped off of the Air fryer to keep it clean. Cleaning requires taking some parts apart and put them back together. I used to think a lot about disassembling the air fryer and the parts involved in the process. Removing the parts have to be done carefully, Using force to take the fryer apart can cause damage to the parts and every step had to be done carefully. There are no screws binding the parts together and can be removed without a need for a screwdriver. Putting the parts back together was another challenge once the cleaning is over. I used to struggle for about an hour to put the parts back together the first time I took them apart. It would beep at me or not work at all

when put back together after cleaning. I took me several tries to learn the cleaning and disassembling/assembling process.

Now I understand what parts need to come out in order to clean the AirFryer properly. I know exactly which parts go where in what order and assemble the fryer in a way it would work properly. Without having to take a second look inside, I am confident that Air fryer would work as expected. Doing the cleaning once a week made it an easier task that can be done without putting much of thought.

If I were to make the design in a way to make it more of an invisible interface, I would probably set up a filter inside to catch all the food particles inside the Air Fryer. Then I can just remove the filter and clean it without having to take the machine apart.

Question 3

We use visual perceptions all the time while driving a car. Dashboards alert the drivers about the conditions such as tire pressure, oil level, battery info. Advanced cars have displays integrated to alert the drivers when maintenance requirements such as oil changes due. Display of speed, fuel level, mileage is very useful to the driver to make decisions while driving. Inbuilt navigation and car play systems (Apple, Android) are making use of the visual perceptions of the drivers. Whenever I drive a new car, I look at the dashboard for any signs of the gear I am currently on. For an example, If I see “P” or “D” on the dashboard, I know I am able to see the changes between gears and It makes me feel confident about driving the car without having to look at the gear.

Drivers are able to use auditory senses to hear the alerts that cars generate. When a door or the trunk is open while the car engine is running, most cars generate sounds to alert the drivers. Also when unlocking and locking a car gives drivers audible feedbacks.



Figure 1. Example car interface with many visual perceptions

If a passenger is not wearing the seatbelt, cars generate alerts in both audible and visual forms. Newer models have sensors to provide audio alerts when the car is too close to another while driving, giving the driver a chance to avoid a collision with other cars.

Haptic perception can be experienced when changing the gear of the car. When a driver changes the gear, it moves and locks itself at each gear position. The driver needs to use force to change the gear to the desired position. The Gear locking itself in different gear positions, the driver is aware and cautious of the task he is engaged.

A haptic feedback might be useful if the driver is driving too close or on the lane markers of the road. A vibrating steering wheel would help drivers to realize that they are too close to the lane markers. Overall, a haptic alert can be used in the form of a vibrating steering wheel or seats to alert drivers about nearby dangers.

I am not entirely sure how we could add taste or smell as a form of alerting drivers. By having the car emit an aroma when it malfunctions could be one of the ways to let the driver know that there are issues with the car.

Question 4

“Emphasizing essential content while minimizing clutter” is one of the tips I would like to use on Amazon’s video player. Figure 2 shows the Amazon Video Player interface while the cursor hovered over a playing video.

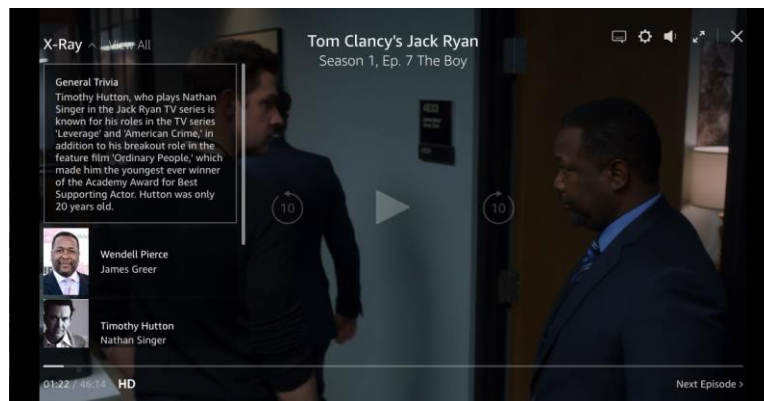


Figure 2. Amazon Video User Interface.

As you can clearly see, Interface gets cluttered as soon as I hover over it to increase/decrease volume, pause or fast forward. The screen is filled with Actor information, trivia and other options which I am not intending to use while watching the movie. I often tap on that information unintentionally and end up exiting the video. Instead of focusing on the movie, I am forced to look at other information in this design. Interface getting overlaid with information while the video is running can cause annoyance among some users including my self.

If I were to redesign the interface for Amazon Video Player, I would move the controls below the timer bar. A button to open up the excess information can be placed at a corner where users can tap on it, if they want to open up the information currently overlays the screen. The screen will not be blocked while performing other tasks related to the video

“Offloading tasks from the user onto the interface” can be helpful when connecting a mobile phone to my car via Bluetooth to play music. Currently, my phone is connected to the car via Bluetooth and it starts playing random music from my phone automatically as soon as I start the car. Those songs are from my phone memory, not from the music streaming app. I have to open the music app and select the music I want to stream. My car has a touchscreen which can be

easily converted into an interface for controlling music, but currently, it doesn't display any controls to navigate playlists. In this scenario, I need to manually select the music through my phone rather than on the car display.



Figure 3. Bottom display controls the music .

I would redesign the current interface in a way to let the user navigate through playlists from the car screen. Users should not open their phones to select different playlists while driving. There are some car models already having similar features, in my opinion, all the cars with music playing capabilities should have options for streaming music. Installing Apple or Google car play can be a solution for this particular problem.

References

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3. <http://lifehacksthatwork.com/complete-car-dashboard-light-guide/>
(Figure 1)