Assignment P1

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Question 1

In this Question I have chosen Canvas platform which is used by OMSCS students which is a learning management system to control students courses, view and submit assignments and view grades.

Canvas: Processor model Perspective

Canvas act as a centralized learning management platform for the students where students can manage their courses. From a student perspective the interface of canvas, most importantly, a student should be able to view all his/her courses automatically, he or she should be able to view and submit all the assignments, grades, should able to see his assignment deadlines, meetings in the calendar, important announcements in the class, inbox and help. To maintain the simplicity and ease of so many features it is important that the design and layout of the canvas should be simple and consistent to reduce the cognitive load from the student as much as possible.

The processor model is more about the behavior of an interface, which must fit within the limits of the human, and which can be measured by quantitative measurement.One of the most important part of the design in canvas is automatic visibility of courses and its progress which canvas does very well. As seen in the Figure 1, you can see that a student can see all her enrolled and finished courses in a single page with grades available in the thumbnail itself. Second observation we can observe from the main course page. As seen in the Figure 2, we can see that all the important tabs like checking your assignments information, checking the quizzes are just a click away. As can be inferred from the courses tab, a student need just a single click after he or she is on the course page to check his progress on assignments, view his grades, view his syllabus, view the discussions going on in the piazza forum(this is the part where another platform is integrated inside the canvas to give on

interface to access both canvas and piazza, but the design analysis of piazza needs to be separately in order to comment on its design interaction with humans).

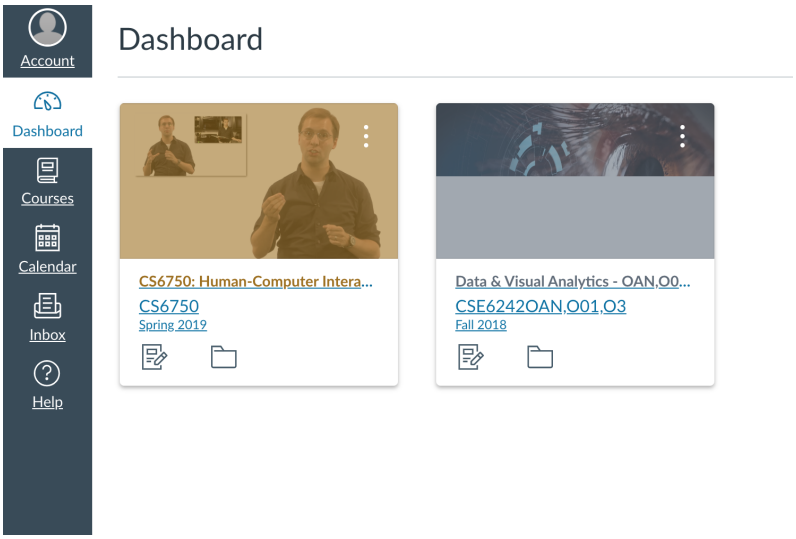

Figure 1: Canvas Tool showing summary view of each course enrolled and finished with brief informations like the term enrolled, grade obtained, folder access, and direct course access.

The once click distance can be termed as quantified measurement to showcase the ease and suitability of the behavior of the design of canvas. This can be more generalized in the design of canvas as number of mouse clicks to reach a desired option a student wants to perform. For example, in order to submit an assignment, how many clicks a students have to made once he logged into his canvas account. We may also term it as "**mouse click distance from login**" and quantify each and every functionality.

Last but not the least the seamless integration of third party tools like your microsoft office 365 account or integration of piazza is done very well, to provide a one stop access to all the things a student need to access what he wants.

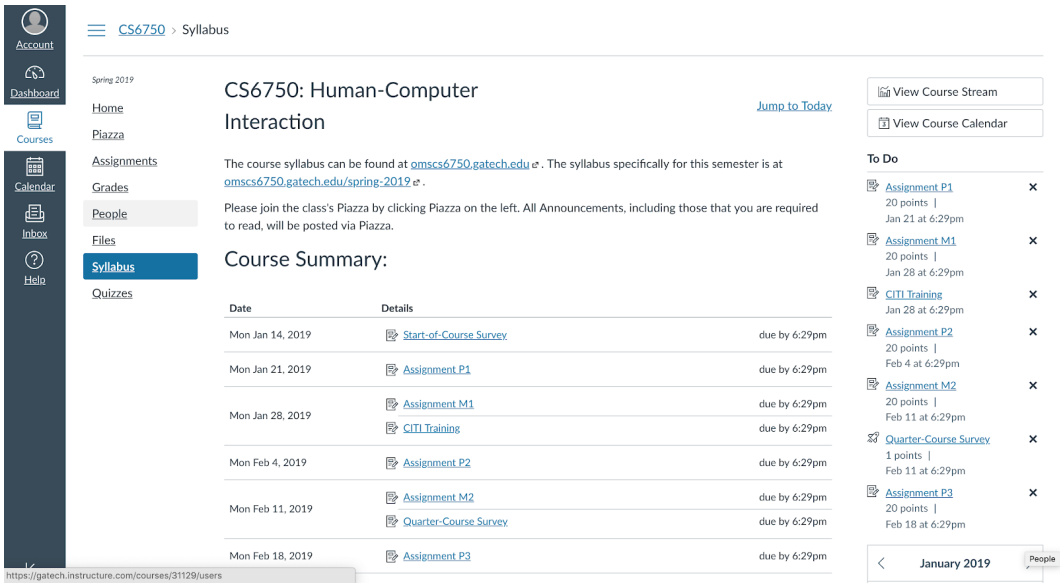

Figure 2 : Canvas tool showing broader tabs and subtabs within a course of HCI.

Canvas: Predictor model Perspective

A predictive model is based on the human knowledge and must be evaluated by qualitative measurements. From a perspective of a predictive model, we have to take into consideration what student already knows about a course, does he know which course he is taking? Does he know that there are quizzes, assignments, and discussion(multiple ways of interactions are possible here like piazza, slack official channels)? Does he know he can manage his deadline using the calendar? The needs of a student are to access the videos for lecture view, submit assignment, view grades, and a portal to keep track of his progress.

When a new student login most of the above information are visually accessible and also easily distinguishable from one another, and that is a good design as it offers both **understandability** and **usability** to the user. A student understand what are the options and what should be their intended behavior and that's what makes canvas a good platform for accessing all the above discussed features.

We can have features or say beta features in the canvas where we can have say features like "last week most interesting discussions" from piazza as there are

exponential growth of discussion happen there and it would be interesting if everyone can see what was the important thing happened there.This could easily be launched as a formal new feature or may even a beta feature(after doing ex-situ analysis we can than make it a formal feature)

Processor, Predictive model

From the above discussion we can say that processor model is more based on the ease of visibility, access and behavior of the functions an interface provides. The predictive model on the other hand, focuses over how the content/knowledge is layout over the UI in order to access the more known features grouped together.

The processor model is evaluated using the quantitative analysis like “number of clicks” and more palpable design changes observed over the UI. The predictive model on the other hand focuses on the qualitative analysis such as the intended features are properly placed and distinguished over the interface or not.

Question 2

As the time is passing, so the google search is touching everyone’s life in one way or another. If you have any problem anywhere around the globe and if you have internet, you just do goole your problem and there it is! Your answer!. The google search activity is so prominent is that it has become a defacto in the world for every problem, no matter in what situation you are.

Google search bar application in the new smartphones has added another level of sophistication by adding features like showing you your next flight notification by reading your gmail flight booking, showing your ticket to the concert you want to go, showing you the estimated time to reach reach home if you are in office at the evening 5pm or showing you the estimated time and best route(via re routing a link to google maps) to office in the morning when you are home. Google can detect via your location where you are and based on your searches and interest can show you recommendation like nearest tourist spots to visit, notifications like your flight info in the form of feeds.

Now there are contextual problems involved here. Let's discuss some of them one by one here:

Contextual Problem 1:

Google search bars application considers all your latest search history and shows you recommendations based on that, for example if one month ago you have searched for some mobile phone and you bought a new phone 2 weeks ago, it will still shows you new recommendation on phones. It doesn't know the context now(that I am not looking for a new phone).

How do we solve this? One way would be similar to the way it suggest the flight notifications on the phone,i.e read your email and know from email that i have purchased a phone and level down the curiosity index(we can define an index called curiosity_index to know how curious one will be in future based on his search history), so next time it wont show you always the new phone related news or ads. We can possibly give an option in each feed the level of curiosity of a topic, so that we know how much important of curious a user is with respect to a topic. As not every search that we do is important to us.

Contextual Problem 2:

It does not consider your choices or interest. Let's take an example here. You love archaeological things, and you have done some searching on google about your interest. Next time you are in a place where there is a museum, but your feed story tells you all the tourist places nearby you(your museum may be one of them) but it never consider your interest at first and show you a feed saying "Explore your love for archaeology here ". How do we solve this? This is more a machine learning problem, i.e finding insights and intelligence from your search, creating a database of your interest and consider your location and shows you what actually interest you not everything which is around you.

We can also have a rating systems, as all types of feeds comes without any priority(you can see weather, than sport, than entertainment. What if I am interested in sports today more? It should show me sports first!) and causes all the stories to appear in a random fashion. We can ask user to rate each story he see and based on that we can show him next time what is most important for him. This also confirms with the participant model of the HCI.

Question 3

Gulf of Execution for assignment submission:

Defining the Goal for canvas assignment submission would be to know first what exactly is my assignment, is it a quiz based assignment? Or is it a submission of document or code or link? Defining the goal is done nicely in canvas as you can see in the Figure 3 it clearly mentions what you have to submit via which method.

Defining Action for submitting assignment in canvas is done using a big blue color button at the top right of the page, and that is a very good signifier to showcase what action we want to perform and it is easily observable to the eyes. Once you click on the "Submit assignment" button you can see various options to upload like upload a file, google drive link, box link.

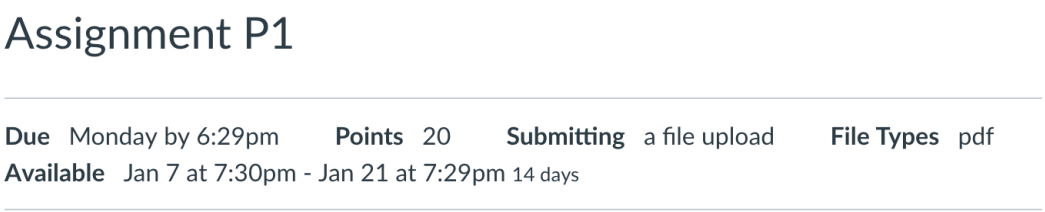

Figure 2 : Canvas tool showing the goal of an Assignment.

However it **fails** in this stage at one point, there is no way a person or a user know the progress of the upload. You upload and you just click submit and the assignment will automatically upload but doesn't give you any progress of your submission. This is crucial as if you submit your assignment in a slow internet or if the file is extremely large than your upload might be failed and it takes a lot of time to know that. One way this can be solve is using **Signifiers** like have green colour progress bar showing how much file upload is left along with the speed of upload so that a user can take a cognitive decision here to reupload or search another option.

Executing the Action is done by simply clicking on the big blue button of "Submit assignment" and than click on upload file and select and than click on "Submit Assignment" button which is quite easy and effective to follow.

Gulf of Evaluation for assignment submission:

Submission of an assignment is done , through file upload, or google drive , and a message is displayed on the top left of the page saying assignment submitted successfully. Also displaying any user comments and the file name . The file submitted is also available for download. And the submission button changes to re-submit in case user doesn't feel this went well.

The user is able to **interpret** the above output easily , he can be ascertained by that output that the assignment was in fact , submitted successfully . Also , the activation of re-submission tab might be interpreted as a caution sign to open up the assignment and verify if the file submitted has proper content as desired.

The download submitted file link is an excellent tool for **evaluation** . The submitted ! message also is a relief and helps to evaluate that the submission is done, **but** there is no way we can evaluate in between what's going on when the process of upload is going on.

Question 4

In India, specially in metropolitan cities, Uber is one of the popular mode of transportation that most of the people does. While the design of the interface of Uber is simple enough to book a cab easily with just 3-4 touch clicks, It strongly lacks its contextual design. While the gulf of execution and gulf of evaluation is small during normal week day, the gulf of execution and gulf of evaluation drastically increases during rainy seasons, and it could easily turn into nightmares for many of us. As during rainy season due to traffic congestion and ride rates this gulf increases so much that at certain point the interface stop responding and you are like: OK! what's going on here! I myself have faced such situations many times in India. Sometimes even if during rainy day you get a cab and the driver cancels it, it becomes impossible to book next cab.

On the contrast, take FoodPanda or any food delivery application which works fine during rainy day. You can book your meal and either it is available or it not. The gulf of execution and evaluation will remain same all the time, because first booking a food and its business motive is not dependent on rainy day(unlike Uber which hike its charges dramatically during rains to earn more profit). Also, there is good customer support where it tells you that your order has been cancelled and your refund is in process immediately, which isn't the case at all with Uber. The presence of active customer support and simple business logic is one of the main reason for having consistent gulf of execution and gulf of evaluation for food delivery systems.

Most of the usual functions of the food delivery app and Uber have a common gulf of execution and evaluation . The interface is sleek in design , accessible in every way , and you are informed where your food/cab is , its location transmitted in real time . But the urgency of reaching somewhere compared to wanting food and being able to wait for it makes this comparison even more dramatic in real life.

One way through which Uber can **improve/shorten** its gulf of execution and gulf of evaluation is first by changing the **business algorithm** which computes rides, paths and amount during rainy day. It could be as simple as to if by 20 sec ride doesn't get allocated notify user the situation instead of hanging the UI forever, Secondly, there could be a **better customer services** which can use a better design involving natural language processing and artificial intelligence to predict the various possible situations and traffic during rainy day and than act accordingly.