CS6750 Assignment P5

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1 OMSCS PROGRAM

1.1 select and describe a specific positive effect of the existence of programs like Georgia Tech's OMSCS, emphasizing how that positive effect is due to specific elements of the program (such as its low cost, its asynchronous structure, its subsidized model, etc.).

I am a working professional in a consulting firm and my work schedule is normally over 8 hours per weekdays and occasionally a few hours over weekends. I also live with my wife, so I need to spend time with her to maintain a marriage life. It is not ideal for me to take classes at a given time given my work and life schedules. All the classmates I know have a similar situation in terms of the schedule. We are still able to pursue a Master degree just because the OMSCS program does not require us to attend classes synchronously as well as office hours. The class content is delivered via recorded videos and reading material. The communications or discussions are mainly happening in the piazza. The office hours are recorded and posted in Canvas which can be accessed anytime. This positive effect is because of the asynchronous structure of the program.

1.2 select a potential negative repercussion of programs like Georgia Tech's OMSCS, emphasizing how that negative effect is also due to specific elements of the program.

Lack of interactions with the instructor is one of the negative effects. Even though there is the piazza and the response time is quick, most of the time I receive my answers from the TA who does not know me and whom I never really know in person. I enjoy the in-class interactions such as being picked to answer questions or raising hands to speak to the instructor. The atmosphere makes my learning more effectively. A lot of times when I was watching the class video, I had some ideas that I would like to share with the instructor and get his/her feedback. However, under the current OMSCS structure, I could only put my thought into words on the piazza and wait for responses from TA. I know some classmates that have the same feeling. I think this is due to the asynchronous structure of

this program. Ironically, just because of the asynchronous feature, I can pursue this master's program under my crazy schedule. This becomes a trade-off.

1.3 design how the program can be structured to preserve the positive effect while limiting the negative effect.

Maybe the program can design some live sessions for each semester, and the instructor hosts the session. The number of sessions can be only 2-3 for each semester and each session can be just 1 hour. All the sessions should be arranged over the weekend. The video conference software zoom can completely support this type of big conference. We can charge the student additional fees to accomplish it, however, we don't want to raise the budget too much since low tuition is one of the great attributes of this program. With the limited live sessions, the students feel more engaged in the class and feel the personal connection to the instructor. In the meanwhile, the program still delivers most of the content asynchronously to the students.

2 SELF-SELECTED AREA

2.1 describe an area you encounter regularly where political motivations are determining the design of technology.

I choose an online video-sharing platform such as YouTube as an area that I use every day, and this area is heavily impacted by the political motivations of the stakeholders.

2.2 describe the stakeholders in that area, including their motivations. Any interesting technology will likely have at least three groups of stakeholders.

The first stakeholder is the company's shareholders or the main beneficiaries of the profit. Their motivation is to make profits. The way they make profits is to first gain people's attention and involvement to make their product visible and popular to the public as much as possible. With a significant amount of attention from the public, they start to add advertisements to their platforms such as videos and webpages and start to receive revenue from the advertisements.

The second stakeholder is the merchants or vendors or all types of organizations (e.g. presidential campaign team). They know the popularity and influence of

YouTube to which they can post their advertisements to get visibility of their products or services or advocacy. They want as much attention as possible.

The third stakeholder is the users who watch videos or post videos on YouTube. Their motivation was initially for entertainment. The motivations have been expanded to keeping updated on the news, collecting information, and self-development as well as staying connected with their subscribers for YouTubers.

2.3 describe at least three ways those motivations are specifically affecting the design of the technology in that area. If you're on the right track, you'll likely find the motivations in conflict.

For profit growth, the company has added many more advertisements to their platform than before and also increased the frequency and duration of each advertisement. YouTube was acquired by Google in 2006. The advertisements the user encounters on YouTube are somehow linked to the user's searches on the Google search engine using the algorithm. However, I have found most of the ads not relevant to myself.

Also, for profit growth, the company wants to keep as many users as possible. Therefore, the user experience is also important to them. The company recently released the premium version where users can enjoy ad-free videos by paying an $11.99 membership fee. This strategy conflicts with the motivation of the merchants or organizations which want their ads to get as many views as possible.

To get the user's attention, YouTube has developed features such as recommended videos and reminders of new videos. The recommended videos are generated based on what the user previously viewed so the user is very likely interested in these videos. The user will receive a reminder on the cell phone just as receiving a text message when the subscribed YouTuber publishes a new video. This feature pulls the user back to the app.

3 CHI CONFERENCE

3.1 list the paper's title and author list, and then briefly summarize the paper

Title:

Understanding Walking Meetings: Drivers and Barriers

Author list:

Ida Damen

Carine Lallemand

Rens Brankaert

Aarnout Brombacher

Pieter van Wesemael

Steven Vos

Summary:

Long sitting hours negatively impact office workers' health. Walking is beneficial for physical and mental health. Walking can also have a beneficial effect on work performance by supporting attentional processes, increasing perceived creativity, happiness, and overall mood. Often, physical activity is seen as a break from work, and rarely considered as an active way of working. Walking meetings offer a promising solution to this problem. Very little research has been done on how technology can mediate the practice of walking meetings. The researchers in this paper conducted walking interviews for walking meetings in a living lab setting by using the 'WorkWalk'. The 'WorkWalk' is a 1.8 km walking route indicated by a dotted blue line with outdoor meeting points, integrated into the room booking system. From the experiments, the researchers provided different scenarios and recommendations for walking meetings that could be used as a basis to redesign the workplace to increase efficiency, effectiveness, and overall quality of work life.

Title:

Computing Students' Learning Difficulties in HCI Education

Author list:

Alannah Oleson

Meron Solomon

Amy J. Ko

Summary:

Computing students who seek to become developers need some education about interface design. There were existing studies about the difficulties the educators face when teaching design to computing students. This paper fills the gap and focuses on the difficulties computing students struggle with when learning HCI design skills. At the heart of this problem is the fact that many developers receive little to no design training before learning the HCI. The researchers did surveys and interviews with the computing students and the educators and the result shows the learning difficulties the student might have. Difficulties around how to do design work arose when students struggled to understand the mechanics of interface design work, and often slowed down or prevented students' progress on design problems. Difficulties around project management skills arose when students struggled to collaborate with others or manage limited resources, sometimes leading to communication breakdowns or the abandonment of parts of the design process. Difficulties around the wickedness of design problems arose when students struggled with the "wickedness" of design problems with unclear definitions and no definitively correct answers. Difficulties around distorted perspectives arose when students either had difficulties taking the perspectives of others, or when they did not realize that their own perspectives were at odds with designing high-quality interfaces.

3.2 describe why you find this paper interesting or why you selected it for this assignment.

I am a working professional who sits at least 12 hours every day. My health and body shape have been adversely impacted by the long-hour sitting. I am interested in the topic of solutions to long-hour sitting for work. I am also a student in computer science and would like to become a developer in the future. I am taking the HCI class and have encountered some difficulties. So, I would like to know if my difficulties are common and if any solutions can improve the learning experience.

4 OTHER CONFERENCES

4.1 list the paper's title and author list, and then briefly summarize the paper

Conference:

Interaction Design and Children

Title:

Exploring Parent Use of Early STEM Media to Inform Design for Children

Author list:

Brianna Hightower

Kelly Sheehan

Alexis R Lauricella

Ellen A Wartella

Summary:

Early math and science learning may lay the foundation for science, technology, engineering, and math (STEM) achievement in elementary school and beyond. Studies show that math skills learned during the preschool years are related to children's academic success in math during elementary and high school. Preschool children can also learn STEM concepts from media like apps, television, online video, and computer games. Parents play a critical role in introducing science and math related activities to children. The purpose of this paper is to document how parents are supporting early STEM engagement with media and also catalyze future design research that considers the ways that parents use media for STEM education. The paper shows that parents perceive the media as an important tool in reinforcing science and math concepts for their preschool-aged children's learning. Interestingly, there are crucial differences between how parents identify and use math media compared to science media, with math being reinforced mainly via television shows and apps and science being explored through online videos.

Conference:

Creativity and Cognition

Title:

Human Errors in Interpreting Visual Metaphor

Author list:

Savvas Petridis

Lydia B. Chilton

Summary:

Visual metaphors are a creative technique used in print media to convey a message. People form a connection between two objects like face cream and night or fast food and dangerous. Visual metaphors do not convey messages directly but convey meaning by implying it via symbols or images. However, there are risks of implicit communication of a message, either people are not fully aware of the messages or misinterpret them. It is unclear how people process the images or to what degree they understand the meaning. Then we cannot replicate the process in machines to let the machines automatically understand the implied messages in images. The researchers tested several theories about how people interpret visual metaphors and find people can infer visual metaphors without the surrounding text 41.3% of the time. A major error is because people don't recognize the objects in the blend. This can be easily improved. The other major error is when people correctly identify the objects, and the direction of property transfer, but infer the wrong property. The paper indicates that people are more likely to interpret it correctly if they are familiar with the message and maybe people use their knowledge during the interpretation. Therefore, replicating this interpretation in the machine should not only rely on the information on the image but also take world knowledge into account.

4.2 describe why you find this paper interesting or why you selected it for this assignment.

The reason for choosing the first paper is that my wife and I are planning to have a child and always interested in children's education. Comparing to my childhood, children nowadays have a much more convenient way to access the internet and so many tools to learn the world from the internet. Regarding the second paper, I am always interested in topics related to human creativity and cognition. From the class, we learned there is actually no human error in the interface design. The topic of the paper seems relevant so I want to take a deep dive into the paper.