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Digital Room Capstone Project Proposal

I'm interested in exploring the journey and experience of millenials, digital natives. Increasing internet access around the world, rapid data transfer rates and other technological advances are constantly reshaping every aspect of life. Those of us fortunate enough to access these wonders are continually discovering and producing new ways to: communicate, find meaning and knowledge, entertain and relax, create and consume visual/audio information and question what it means to exist. These digital interfaces are redefining our conception of reality as it becomes exponentially easier to share information in real time (I'm specifically referring to the simultaneous >1 billion world cup final in Brazil breaking all media records and >4 billion olympic viewership in Beijing Olympic ceremonies).

These questions are the focus of my long term scholarly interests, and my intent is to increase discussion about the extent of technology's impact on humans. These topics are broad and comprehensive, so for the capstone I want to specifically focus on a few points: near-universal access, interactivity capabilities and communication. I want to portray a chaotic internet aesthetic. The internet is a clearinghouse for everything, be it ideas, styles, representations, objects, people. The overarching question that ties these concepts together and creates an access point for individuals will be: (how) does technology sanitize and distance human relations?

Given this conceptual framework, the bulk of the project lies in creating an experience that reflects the ideas in form and content. The project will be a web browser application that also exists as an exhibition in a traditional gallery setting. The content will be scalable and accessible through any

internet enabled device with a web browser, but the design will be created primarily for a specific physical space.

This space:

I. is limited by physical projector capabilities
   A. the projector needs to fill the entire wall space
   B. in order to fill the wall space the projector must be a certain distance and height from the wall
   C. there will be multiple projectors in every area/room
II. must contain all white walls for projection
III. must consist of series of small limited areas (~20'X20' or close depending on projector capabilities)
   A. creates an immersive experience
   B. some areas will contain feeds from other areas (sound / video / other data)
   C. ideas / themes are unveiled as the viewer progresses through the rooms
      1. temporal sequence design will influence viewers
      2. ignorance of other area will create more genuine / authentic responses
IV. must allow for proper lighting - illuminated while retaining high quality screen display
V. must allow for concealed cameras
   A. warn of video monitoring upon entrance
   B. first area with conspicuous video monitoring
   C. consequent areas with unnoticeable monitoring
VI. can be existing space or fabricated
   A. potential existing gallery spaces could be repurposed
      1. Hartnett

2. Sage
3. Off-Campus Spaces
    a) Visual Studies Workshop
    b) Rochester Contemporary Art Center
    c) other: http://www.inforochester.com/museums.htm

B. Create a space outside by rapidly fabricating to design

1. tents
2. plywood / drywall
3. electricity concerns
4. interference from daylight
5. permits

These are the initial spatial concerns that come to mind. To me an ideal space is one that consists entirely of white surfaces for display (wall, ceiling, floor) and has easily adjustable dividers to create rooms of different sizes and to expand / contract room size automatically depending on the location and density of patrons. Wifi, lighting, camera placement and other necessities could be incorporated in any existing space. I see the whole project as a set of independent yet interconnected experiences. In this way the group can create a list of ideas we want to implement then categorize, rate and order them. Throughout the year we can develop one idea in its entirety at a time. It's very modular.

The team can consist of anyone who's interested in the idea. Experience with programming or design would be directly beneficial to the production of the material. I feel confident that one other person with programming experience and I could complete the construction of 20+ pages

throughout the year. Those without experience can serve other important roles: creating ideas, receiving feedback about ideas and prototypes, coordinating construction of or reservation of space, managing and synergizing teammates and ensuring all tasks remain on schedule with a predetermined timeline.

Given this rough outline of the physical instantiation details of the project and understanding that specialized are not crucial, the digital elements can be further interrogated. As I said earlier I want to bring attention to the role of technology in regards to modern human interactions. Further I want the viewer to become *uncomfortably* aware of the extent of digital mediation present in daily life. The remainder of the proposal will discuss potential ideas.

Entrance

Upon entering the scene, the users will be identified by their online profile. Facial recognition software can be combined with social network crawlers to identify people. This would be adequate if it works at least 25-50% of the time. Once a person is identified then all of his or her public information available online will be accessible and included in the project. Alternatively someone could choose to check-in, add a profile or give access to our app, in order to be included in the project. This information whether submitted or automatically discovered will then be used to illustrate the depth of widely available public information about individuals online.

Each person who is identified will be greeted immediately upon entering the exhibition, or even right before entering. For instance something along the lines of, “Welcome $name (with picture if available) we see that on $date you were $post. We hope today is just as noteworthy.” It’s easy to see how disturbing this could become depending on the information obtained from a past post.

What if the post is about something terrible that happened… Alternatively if no posts are available other information could be used such as workplace, education institution, relationship, check-ins, likes, +1s etc etc etc.

In order to achieve the desired effect of this module it will be best to first scan and download all the publicly available information for students /faculty / staff in the University of Rochester networks online prior to launching the project's physical location. Otherwise people may quickly adjust security settings before arriving.

In the first room or prior to the first room I discussed the personalized greeting. I also previously discussed the conspicuous monitoring. The first room will contain a live feed of everyone who enters the project. It would be great if Prof. Hoque would let us source his smiley recognition software for this, or something similar that It will be interesting to have both the people entering and the people in the room being displayed on different walls using the smiley software. This will be an interesting investigation into how the knowledge of being observed affects behavior. I would guess that those who see themselves will smile more to engage the software compared with those who do not see themselves being used in the smiley software.

To recap thus far. As people approach the space they see a video of themselves approaching. Then after entering they receive a personal greeting immediately in front of them. (this screen can be split n ways for groups of people). To one side is the same video as outside, but subjected to the smiley or other manipulation software. To the other side is a live feed of the first room from a video perched on $this wall, and subjected to the smiley/manipulation software.

Listening

In the next section I want the displays to include images sourced from twitter, flickr, google, etc. Any image search / library would work. Microphones in the room will pick up conversation. At random time intervals a program will translate the speech into text and search the databases using the word or phrase generated from the recorded conversation. The display will be constantly scrolling through new images. Each display will contain 10X10 tiles of images with new images pushing down from the top at a $rate = 1image/second. If no one is talking there will be an auto-setting that uses trends and pre-determined search queries.

Eye-Tracking

This section will contain cameras at every corner of the ceiling to track people's eye movement. A revealing mask will follow wherever the person is looking. This will need to flow smoothly between screens. The screens will be all white except for the areas where a person / people are looking. Those sections, and a small area around it, will be revealed to display video/ images / text underneath. The important aspect of this room is to develop the content that will be revealed. The work will need to contain large amounts of information to illustrate that we are only able to see fractions of the information available on the internet.

If possible it would be a fun addition to add eye tracking to the listening section. When a person looks at a particular picture it becomes enlarged.

Movement

This will be one of the most fun parts of the project. As the person moves around the room the displays will recognize movement / location and adjust whatever is being displayed. This room could

easily incorporate some ideas presented by peers ie: the music from hands or the kinect physical therapy. Both of those projects would include motion recognition aspects that would complement a dynamic display. The display could adjust depending on how close people are to each other. With closeness impacting the hue of the display. closer = more red, further = more blue. Perhaps these screens could feature videos of student music performances and music visualizers. Zooms in and out could be determined by how close a person is to the screen. The closer a person is to a screen, the more the screen will zoom in on that area.

Social Media

It's important to have a room dedicated entirely to user generated content. People will be able to Live-Periscope or tweet images / videos / text to an account / hashtag, facebook post to a page, snapchat a user, tag on instagram etc etc and that content will be automatically displayed on these screens. Users could easily anonymously send graphic and obscene content, but that is expected and part of the commentary on how technology is affecting human relations. The displays will update with the most recent post and cycle through previous posts regularly (5-10 seconds?).

"Old" "Traditional" Media

This room will be an interesting blend of mixed medias. There will be a tv mounted in this room that will be displaying classic masterpiece paintings (changing only every 5-10 minutes or longer). Surrounding the TV on the wall will be another tiled image display featuring digitally created artwork. Also in the room will be a sculpture against the wall. I think the most interesting way to mix sculpture in is to project onto the sculpture. As an example: create a sculpture of a human bust and display videos of people's faces onto the bust's face. The people could be talking, only blinking, etc… Above the bust I think the wall should be painted or drawn in places. The marked area can be

included as a part of a series of moving images. In other words, the painted or drawn part will act as a continuous object / graphic match within a series of moving images.

On the last wall of this room there will be a table on the floor. On the table will be handwritten / copies of handwritten notes / love letters / emotional statements sent in or obtained from historical research. Then displayed on the wall will be electronic emotional text. The display could be in the form of a wall of text, or it could be screenshots of text / instant message conversations / social media posts.

Feedback

This room will draw feeds from the other areas of the exhibition. Specifically one wall will contain a feed of the Old Media room. This feed will be from the perspective of behind users watching the TV. So the feed will always include the TV and people looking at the TV / in the TV room. The TV screen within the video will be replaced with a live feed of the people in $this Feedback room, and the camera will be positioned so that the people are seen looking directly at the camera. Thus the display will be people from one part of the exhibition looking at the viewer who is looking at the display. It will create a discomfort about surveillance, public/private spaces.

Another wall could contain a screen of the people entering the exhibition. But the feed could be altered to make it seem as if the people are entering another space…. perhaps being pixelated into the matrix.

The last wall could contain footage of people talking from the exhibit that has been manipulated to say something entirely different. By extracting word information, associating that with times in videos, creating a database of words available and auto splicing these fragments into predetermined or submitted phrases by randomly choosing which instance of a word to use.

The Screen

This will standalone, not part of a room. It will be a large rear projected screen, about 6' high by irrelevant width. The idea here is that a user will be able to walk up to, or about a foot away from, the screen and directly manipulate it using his or her hands. Perhaps crossing a certain line with your hands will activate the input to start. This screen will contain a series of simple apps that could take advantage of using two input sources at once. I want the actions to be recorded and interpreted into input using video monitoring/analysis. Applications that could be used might include drawing (each hand a different color, simultaneous drawing), simple sport arcade versions (basketball shooting free throws) and others… This might be incorporable into the movement room.

I think important limitations to consider surround the capabilities of projectors. How will we place the projectors in such a way (high enough) so that people can comfortably move around with interrupting the display. Certainly there will be portions taped off to restrict close access.

In summary, I hope to create an immersive mixed media exhibition that reflects on the role of technology in life today and creates entertaining interfaces. This project is directly contractable and expandable depending upon the rate at which our team can code the applications.

Rough Timeline:

I. Determine team roles, static or rotating or rotating for a period then static

   A. programmers

B. graphic design

C. feedback / testers

II. Identify initial restrictions

A. projector capabilities / obtaining quantity needed (grant?)

B. video recording / interpretation analysis

C. data size / storage

D. processing power

E. physical location

1. existing - what modifications need to be made

2. fabricated - how many work-hours to create, etc listed on pages 2-3

III. Application creation

A. consider the restrictions of cameras / projectors / data / processing

B. how fast can we create each app? Will some take longers than others?

C. Do we have enough or need more/alternative ideas for displays?

D. Which are most important? -Ordering

IV. Testing and iterating apps until completion

V. Launching apps online

VI. Building physical space and setting up