#### DESN445 Interaction design III



Reading worksheet

**Source 1**: Bruce Schneier: The security mirage <https://www.ted.com/talks/bruce_schneier_the_security_mirage>

“security is two different things, it's a feeling and a reality”

“security from economic terms, it’s a trade-off of something; money, time, convenience, capabilities, fundamental liberties”

“species of storytellers, we respond more to stories than data”

“No feeling about germs, you need a model to understand them.”

“If our feelings match reality, we make better security trade-offs.”

* Four risk biases that appear frequently
  + tend to exaggerate spectacular and rare risks and downplay common risks
  + the unknown is perceived to be riskier than the familiar
  + personified risks are perceived to be greater than anonymous risks
  + People underestimate risks in situations they do control and overestimate them in situations they don't control.
* Availability heuristic
  + We estimate the probability of something by how easy it is to bring instances of it to mind.
* Feeling, model, reality; feeling and model in our head, reality is real
  + feeling = intuition
  + model = reason
* Different models based on different experiences
* models are hard to change
* Confirmation bias
  + accept data that confirms our beliefs
  + reject data that contradicts our beliefs

**Source 2**: Applying digital to everything - Janet Hughes <https://www.youtube.com/watch?v=wy8jgRLej0U>

“All about everything, not just websites.”

“point of digital is to change everything”

“Revolution, not evolution”

“Don’t make little changes on necessary areas, make large change on everything”

* 4 stages of digital government
  + pre-digital = social media
  + rationalize = improved content, all in one place, make forms work better for people, doing things more efficiently, “simple, clearer, faster”
  + integrate = coherent, end-to-end digital services, doing things differently
  + reboot = doing different things
* What organizations need to be like in digital age
  + fast
  + open
  + diverse
  + responsive
  + experimental
  + results-orientated
* Include users all the way in design process, through government
* Large disconnect between policy makers and service people
* We know who all our users are and meet their needs
  + all = discover full range of all our users
* Users
  + have to use our services
  + directly affected by our work
  + interact with us
  + Stakeholders are not users
  + Ministers are not users
* 6 user centred practices
  + define the outcome
    - define the outcome from the point of view of your users
    - (Not as a vague statement of overall intent)
      * ~~drive forward an ambitious social mobility agenda~~
      * make it easier for unemployed young people to get a good job
      * fewer unemployed young people
    - gov tends to focus on inputs and outputs and misses the process and outcome
    - inputs -> process -> outputs -> outcome
  + understand users
    - start with user needs
      * ven diagram of:
        + practical needs

“I am a human, not a set of user needs”

* + - * + emotional needs

most have the emotion of being worried

* + - * + service-specific needs
    - what is already known?
    - what else do we need to know?
    - whats the quickest and easiest way to find out?
    - (there aren’t really any new problems)
  + test assumptions
    - “94.3% of policy failure happens because of untested assumptions”
    - individual learner accounts: untested assumptions and failed delivery
  + involve users
    - not bat shit crazy ideas
    - ask users about the problem
  + observe actual behaviour
  + deliver, test, learn, adapt
    - were used to learning, iterating and adapting digital services. Can these practices apply in other things
    - building schools example

**Source 3-7**: ETS Safety and Security

**Source 3**: <https://www.edmonton.ca/ets/safety-and-security>

* “We want everyone to feel safe every time they board a bus or train. ETS takes a multi-layered approach to safety and security, and staff in our Control Centre monitor transit service 24 hours a day, seven days a week. Your safety is our top priority.”
  + main mission goal, first thing people see on website, and what ETS is trying to communicate.
  + multilayered-approach
  + staff in control centre monitor “transit service” 24/7
* Reporting emergencies;
  + immediate assistance - call 911
  + transit watch app
    - different from immediate assistance
    - two ways to contact through cel, call or text
  + 3 specific ways to contact for vandalism listed
    - edmonton police
    - transit watch - a bit redundant
    - crime stoppers
* transit peace officers
  + different from peace officers
  + connected with control centre
  + respond with police officer and security
* community outreach transit teams
  + work with outreach workers and community agencies
  + help refer individuals on ETS property to specialized community support and services
    - financial
    - housing
    - mental health
    - substance use
* Additional security features
  + emergency phone & button
    - blue phone
      * in all LRT stations, some bus stations (not listed) and some city pedways.
      * press button on phone to IMMEDIATELY connect with ETS security personnel.
      * when phone in use, CCTV monitor and record.
      * specific mention of difference with black information phones connect with 311
    - wall-mounted red emergency button
      * located in downtown core; Winspear Centre, the Winspear pedway, the Edmonton City Centre pedway and the Westin Hotel pedway.
      * push button will connect with security and CCTV records area.
    - Legal note for collection of recorded images using ETS security cameras
  + alert system on lrt
    - let LRT Operator know if urgent or emergency situation on LRT, or you feel unsafe.
    - Yellow passenger alarm
      * in LRT car
      * press red button to activate
    - red alarm handles
      * in LRT car above alternate doors
      * pull down to activate
    - red emergency button
      * in LRT car next to door button
  + closed circuit television (camera)
    - ETS security personnel closely monitor surveillance camera
    - cameras installed
      * all buses
      * all LRT cars
      * all LRT stations
      * major transit centres
        + which ones?
      * some city pedways
        + not many then
    - When someone uses “blue phone” or “red wall button”, camera automatically monitors area, security personnel then connect with person in need of help
    - Legal note for security surveillance equipment.
* Transit Watch Program
  + Every ETS rider deserves to feel safe when riding transit. Our Transit Watch program is one way customers can report **safety concerns**;
    - harassment
    - disorder
    - suspicious behaviour
  + directly to ETS staff in our Control Centre.
  + Call or text Transit Watch at 780-442-4900, anytime.
  + **For emergencies**, immediately call 9-1-1.
    - transit watch only useable for safety concerns, not “emergency situations”
  + Drown-down options
    - “How do I report a safety concern?”
      * text message
        + discreetly report safety concerns to staff anytime of day, if emergency use 911
        + provide detail in text message

are you on a bus? which bus? Are you on a train? What LRT station is coming up next? What is the situation?

more information on kinds of details should be included.

* + - * + text message will be received by ETS staff in control centre, they will respond to you as quick as possible.

do you receive a text message back saying your text was received?

* + - * phone
        + similar as text
        + recommended to use a blue phone, and be a safe distance away; “300ft”
        + do not confront suspicious people or touch suspicious objects, packages, or substances.

should this be seperate from info how to report to ETS.

* + - “When should i text when should i call 911”
      * what is the difference between harassment, disorder, suspicious behaviour and an emergency situation.
      * mention to use 311 for general information, route schedules.
        + possible misuse of service initially.
    - “If i send a text, will it cost me money on phone bill?”
      * yes: feeling im getting from it:“look at your phone plan dumbass”
    - “can i send photos or video clips via text”
      * no. we are looking to in the future
        + possible way to include phone and video for future ideas.
    - “how fast is text response? who is responding”
      * staff monitor text line around the clock
      * confirmation text should be sent back in 1-2 minutes
      * if multiple texts, prioritize and dispatch resources
      * depending of nature of concern, can take ETS security several minutes to be on location
      * if emergency use 911
    - “what if person texting is a minor. will there be different response”
      * anyone can report safety concern regardless of age
      * “If the concern involves a minor, staff will ask questions to determine the appropriate resource to deploy. Reports should include location, nature of concern along with any other relative details which may assist (location, bus number, direction of travel or next station if on the LRT, description of people involved, and so on).”
        + facet of focus - filled out responses for quick reporting
    - “does the text message service work when their is no cell service”
      * specifying on LRT while underground cell service is spotty.
      * use help buttons on LRT instead.

**Source 4**: <https://www.edmonton.ca/ets/safety-security-personnel-support-staff>

* Transit peace officers
  + patrol at ETS service locations; bus, LRT, station
* transit security dispatchers
  + work in control centre
* security guards
  + wear visible jackets while patrol on shift
  + generally only two security guards
  + they observe and report
* transit inspectors
  + work in control centre and patrol on foot
* lrt inspectors
  + ensure LRT working on time
* road superintendents
  + interact with all facets
* reporting safety concerns
  + text message - transit watch
  + help options on LRT - connect to LRT driver
  + phone - transit watch, blue phones
  + uniformed person - bus/LRT operator, uniformed ETS personnel, law enforcement

**Source 5**: <https://www.edmonton.ca/ets/safety-security-tips>

* report to bus or train operator, other uniformed ETS personnel, law enforcement, or text & call transit watch.
* Listed tips
  + In the event of an emergency situation while travelling on ETS, remain calm and listen carefully to announcements and follow instructions
  + Familiarize yourself with the location of emergency exits on buses and LRT trains
  + Do not prevent bus or train doors from closing
* Escalator safety on LRT stations
  + Escalators are common throughout the LRT system and it’s important to use them safely.
  + If you are travelling with mobility aids, strollers, bicycles, baggage and other devices, you should use an elevator instead for your safety and for the safety of others. These items can also cause damage to the escalator.
  + Watch how you step on and off the escalator. Untied shoelaces, loose clothing or bags can get caught in the moving parts and an unplanned step could lead to a fall. Stay aware of your location and be ready to step on and step off at the top.
  + Please keep to the right so others can use the left side to pass. When you leave the escalator, please move out of the way so that others behind you can get off quickly and easily.
* Safe around LRT doors
  + Doors are unlocked once the train has come to a complete stop. The train cannot move again until all doors are closed and locked. Please do not block the doors or prevent them from closing.
  + Although the doors are locked and unlocked by the operator, you control when the doors open by pushing the door buttons inside or outside the vehicle.
  + On some LRT cars, doors open to the inside. Stand back to allow the doors to open.
  + A chime sounds when the doors are locked by the operator. This is also a warning that the train is about to move. The door buttons are no longer active once the operator has locked the doors. If a door is open when the chime sounds, it cannot be held open by pressing the door button.
* LRT crossing warning bells
  + Warning bells can be noisy but they are necessary to alert motorists, pedestrians, and cyclists that trains are approaching the crossing. To balance the need for safety and reduce the impact to surrounding residential communities, the City has reduced the loudness of the crossing bells by:
  + Directing the sound toward the intersection
  + Reducing the number of bells that ring at each crossing
* gate controls at above ground LRT stations
  + Once the LRT gates have been activated and the arms start to go down (Belvedere, Stadium, Health Sciences/Jubilee Station, McKernan-Belgravia, South Campus, Southgate, Century Park), for safety reasons, the LRT operator will not reopen doors for the public to board.
  + When boarding or leaving the train, make sure anyone travelling with you and your belongings are on the same side of the door as you.
* Safety on Buses
  + Stop Request
    - Stop Request is a program that allows passengers to get off a bus at a safe location other than a bus stop along the route. The program is an added measure of convenience and safety for bus passengers especially during winter. It is in effect daily after 6pm. You must let the Operator know directly (do not ring the bell) at least one stop in advance of where you wish to get off. Exit by the front door once the Operator is able to safely stop the bus.
    - Please note: The Stop Request program does not apply to ETS express or highway buses (Routes 15, 100, 540, 560, 561, 562, 580 and 747).
  + Retractable Bus Shield

**Source 6**: <https://www.edmonton.ca/ets/TraXSafe>

* TraXSafe
  + Safety on LRT platform
  + Safety walking across LRT tracks
  + Safety driving across LRT tracks

**Source 7**: <https://www.edmonton.ca/ets/safe-ride>

* Be Rail Safe
  + LRT safety awareness from Sep 20-26
* Transit Operators
  + specifically saying the train/bus is the operators “office”
  + be respectful
* Personal Safety
  + zero tolerance for harassment on transit.
  + This campaign helps Edmontonians become more aware of resources that provide security and emergency assistance, including how to report harassment on a bus, train, or at a transit centre or LRT station.
* Let’s Keep each other safe
  + Stop Request
  + emergency options on train
  + reporting the situation
* Sexual Harassment
  + only shows posters saying its not okay

**Source 8**: Social Media Analysis: **Using Social Media for User Research**  
<https://www.smashingmagazine.com/2017/03/using-social-media-user-research/>

* Social media is often ignored in favour of more controlled resource options in the commercial sector.
* In the academic sector it is seen as an interesting source of primary data, but it's mainly been addressed with quantitative research methods; visualising information flow and graphic peaks of activity. These aren’t as relevant in user research projects.
* “Social media platforms enable social listening. We can tap into the recent or “in the moment” experience of real issues in context, rather than asking people, for example, to recall experiences in a face-to-face interview that takes place a week afterwards. It is particularly well suited to researching instances of mundane, everyday activities (such as smartphone habits) that would otherwise be poorly remembered and inaccessible to the researcher in the lab or to popular services that have already been launched. And when we tap in, we get data in the users’ language, not the language of the researcher. This amounts to research gold, and all we need is to get a pan and jump into the river.”
* Tracking multiple keywords across multiple posts (advanced search)
* Main 4 steps.
  + Define keywords to monitor
    - Setting up search queries. These depend on accounts, phrases and hashtags
  + Choose a tool
    - Selecting a tool that searches through the posts matching the queries. For Twitter it has a built-in advanced search that performed this function well.
  + Gather data
    - Saving it into a file with screenshots or pdf posts.
  + Analyse for insight
    - Ask what this posts really means, and annotating it with additional words. Tagging it for later search use, and grouping similar data.
* Helps show what the user needs and wants.
* When a service already exists, or the project has the purpose of redesigning the service, social media analysis can be used. Prototypes and unreleased projects are not well suited for social media analysis.

**Source 9**: Research Repositories for Tracking UX Research and Growing Your ResearchOps <https://www.nngroup.com/articles/research-repositories/>

* Organise user research in a research repository.
  + Shared collection of UX related research which should:
    - Grow UX awareness and participation in UX work among leadership, product owners, and organization at large.
    - support UX research work, so UX professionals may be more productive as they plan and track research
* 2 main findings in the research repo
  + Input
    - Information for planning and conducting research
  + Output
    - Study findings and reports
* Important parts of the research repo
  + Infrastructure
    - Research team mission and vision
    - Description of research methods
    - Tools and templates for conducting and analysing research
  + Research planning
    - Strategic research plans
    - Schedules
    - Detailed research plans
    - Research requests
  + Data and insights
    - Research report
    - Research insight
    - Recording and transcriptions
    - Raw notes and artifacts
  + Not always in research repo
    - Ux-data analysis
    - Participant repo or panel
* Convenience in the repo
  + Supporting tags and keywords metadata
  + Searchable by keyword
  + Hosted in a tool people can easily access
  + Portable
* “Research repositories store and organize information about UX research. They collect not only methodology-related documents, but also research results at various levels of granularity (from individual findings to reports). Their purpose is to streamline the work of the research team and also to make research widely available and easy to consume throughout the organization.”

**Source 10**: UX Research Cheat Sheet <https://www.nngroup.com/articles/ux-research-cheat-sheet/>

* Start UX research at any stage of the project
* Continue working on UX research throughout the project, focus most at the start, and have enough time during the final product.
* Discover, Explore, Test, Listen diagram.
* Focused Activities
* Guide on utilizing user experience research in a project
* Main topics discussed

**Source 11**: Ethnography in UX <https://www.nngroup.com/videos/ethnography-ux/>

* “The most important thing to know and celebrate about ethnography in UX is the importance of empathy.”
* “Crucial at early stages” and helps acknowledge our biases and assumptions.
* 5 steps of rapid ethnography
  + Reframe the problem
    - Understand from user perspective
  + Collect data
    - Break down user perspective into further questions about experience with service. Help with observation and interviews.
  + Find patterns
    - Identify root of user behaviour, weight common value, and see if common themes emerge
  + Formulate key insights
    - Look for false assumptions
    - Address unmet needs
    - Understand why people do people things
  + Apply key insights to service
    - Insights tie back to service objectives
    - Inform change
    - Opportunities for improvement

**Source 12**: How to Collaborate with Stakeholders in UX Research <https://www.nngroup.com/articles/collaborating-stakeholders/>

* Getting the people who have the power to approve, or disapprove any potential solutions the research team comes up with.
* Constant communication with all members so they experience and understand UX research, and the benefits it brings.

**Source 13**: Interpreting Contradictory UX Research Findings <https://www.nngroup.com/articles/interpreting-research-findings/>

* Check methodology
* Interpret findings based on not only what users say, but why
  + Perceived usability can be different from objective usability.
  + People don't like change.

# Analyze

1. Source 11: “5 steps of rapid ethnography”
   1. Look at the problem from a different perspective, collect data to find patterns and form key insights, which will show potential solutions to the problem.
   2. This is a way to perform UX research.
2. Source 12: “Constant communication with all members so they experience and understand UX research, and the benefits it brings.”
   1. Involving decision makers and people interacting with users in the UX process which helps ensure possible situations when a solution involves something a bus driver would do.
3. Source 1: “security is two different things, it's a feeling and a reality”
   1. Two main facets to consider when looking at all the research and considering possible solutions.
   2. Does the solution provide/enhance actual security, or the feeling of security.
   3. Can we find a potential solution that does both.
4. Source 2: “94.3% of policy failure happens because of untested assumptions”
   1. Make sure during research to identify any assumptions made, and have tests ready for them.
5. Source 3: “Every ETS rider deserves to feel safe when riding transit. Our Transit Watch program is one way customers can report **safety concerns**;”
   1. How to tell which situations a rider would contact Transit Watch, and when they would call 911 for emergency. Provide examples.
6. Source 5: “Escalator safety on LRT stations”
   1. Why is this even here, most people know what to do and what not to do around elevators.
   2. Prioritising information space on safety page
7. Source 5: “Safe around LRT doors”
   1. The below text gives a detailed description of what to do, and what not to do and why around the LRT doors.
   2. This level of detail could be applied to security measures and processes.

# Design

Write or sketch 5-10 ideas or design solutions that arose from these readings.

1. Transit Watch app could be developed into an actual mobile app.
2. Increase the variety of security features.
3. Include an increased level of detail describing security measures with examples on the website.
4. Be aware of assumptions made about riders and other ETS services.
5. Remove unnecessary level of detail about elevator safety and LRT interactions for more information about security measures.
6. Give detailed information, with pictures, about the types of situations that Transit Watch can deal with, and what should be going to 911.
7. Include more digital based infrastructure in the ETS system.