Human-Centered Design
*Designing tools for the user experience*

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Why is **design thinking** and **framing** important?
Take 1 minute to design a vase...
Take 1 minute to design a better way for people to enjoy flowers in their home...
“Designers…don’t try to search for a solution until they have determined the real problem, and even then, instead of solving that problem, they stop to consider a wide range of potential solutions. Only then do they finally converge upon their proposal.

This process is called ‘design thinking.’”

Don Norman
Why do we care what users think when we’re designing?
UX Design | Process

- Discover: Analyze the Opportunity
- Design: Build the Context of Use
- Build: Create the User Experience
- Validate: Test the User Experience
UX Design | Process

- Design
- Build
- Discover
- Validate

Real-World Usage
Objective: Build an application that serves HIV case managers and the young patients they work with.

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UX DESIGN | Case Example

**Case Manager**

1) Register a patient / update patient info
2) Send their patients a lab result
3) Schedule reminders (SMS or in-app) for their patients
4) Send unsigned documents and receive signed documents from patients
5) Log contacts that their patients should have saved

**Patient**

1) Receive and view their lab results sent by their case manager
2) Receive and sign documents, and send them back to their case manager
3) View new reminders sent by their case manager
4) View contacts that are registered by their case manager
How did user feedback translate into action?
Ensured **comparable user experience** on web apps

Reconfigured the **homescreen**

Created **timed logout** feature

Allowed for **flexibility** for communicating lab results

Enabled patients to **directly call contacts** from app

Added **module badges** to indicate new activity
UX DESIGN | Methods

**DISCOVER** | Literature search...Market research...Site Visit...Group or 1:1 Interviews...Journey Mapping...Storyboarding

| **DESIGN** | User Personas...User Stories...Card Sorting...Reverse Card Sorting |

| **BUILD** | Low-fidelity prototype (e.g., mockup, wireframe)...High-fidelity prototype |

| **VALIDATE** | Walkthroughs...Usability Testing...A/B (or multivariate testing)...Diary studies...Visual preference...
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Group or 1:1 Interviews
Why conduct interviews at the beginning of the design process?

- **Assess** user needs
- **Capture** workflow
- **Identify** potential barriers and facilitators
Preparing for an effective interview...

1. Define the goal of your project (e.g., app)
2. Determine if 1:1 or group interviews would be more appropriate
3. Create an interview guide
4. Recruit up to 10 stakeholders and/or potential end users
5. Plan a feasible way to collect and analyze data
Structuring the interview guide...

- Introduce yourself
- Explain the project goal and objectives of the interview
- Consent
- Survey
- Conduct the conversation
- Conclusion
- (Payment)
Designing the interview probes...

- Ask open-ended questions
- Avoid leading questions
- Encourage story-telling
- Acknowledge emotion
- Avoid interrogation
- Encourage critical feedback
WORKSHOP
Design a qualitative interview
WORKSHOP | Design a qualitative interview

1. Review interview questions and interview your partner. (10 mins)
2. Revise the interview questions. (10 mins)
3. Interview your partner. (10 mins)
4. Reflect/Debrief. (10 mins)

Self-monitoring has been shown to promote dietary changes through increasing an individual’s awareness of their daily food intake.

**Task:** Conduct an interview with a potential target end user to inform the design of a mobile app that can be used to keep a log of food items eaten everyday and provide feedback on eating behaviors.
WORKSHOP | Design a qualitative interview

Self-monitoring has been shown to promote dietary changes through increasing an individual’s awareness of their daily food intake.

Task: Conduct an interview with a potential target end user to inform the design of a mobile app that can be used to keep a log of food items eaten everyday and provide feedback on eating behaviors.

1. Introduce yourself.
2. Explain the project goal and objectives of the interview.
3. Obtain consent.
4. Conduct interview. (Take notes!)
   a. Do you eat 3 meals a day?
   b. Why do you think you are a not a healthy eater?
   c. How much would you love using your smartphone to log the food that you eat?
   d. Would you like to see feedback on your daily food consumption as a bar graph or a line chart?
   e. If I designed this app for you, why wouldn’t you use it?
5. Conclude.
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1. Introduce yourself.
2. Explain the project goal and objectives of the interview.
3. Obtain consent.
4. Conduct interview. *(Take notes!)*

[Use your revised interview probes.]*

1. Conclude.

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**Task:** Conduct an interview with a potential target end user to inform the design of a mobile app that can be used to keep a log of food items eaten everyday and provide feedback on eating behaviors.

**Self-monitoring has been shown to promote dietary changes through increasing an individual’s awareness of their daily food intake.**
<table>
<thead>
<tr>
<th>Question</th>
<th>Follow-Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you eat 3 meals a day?</td>
<td>How many times do you eat a day? Tell me a little bit about what you eat and when.</td>
</tr>
<tr>
<td>Why do you think you are not a healthy eater?</td>
<td>What do you feel is considered healthy eating? Based on this, do you feel you are a healthy eater? How so?</td>
</tr>
<tr>
<td>How much would you love using your smartphone to log the food that you eat?</td>
<td>How would you feel about using a smartphone to log the food that you eat?</td>
</tr>
<tr>
<td>Would you like to see feedback on your daily food consumption as a bar graph or a line chart?</td>
<td>If you had a way to view a summary of what you eat, when, and how much, what would you like to see?</td>
</tr>
<tr>
<td>If I designed this app for you, why wouldn’t you use it?</td>
<td>What might prevent you from using an app to help with healthy eating?</td>
</tr>
</tbody>
</table>
Design *with* your users, not just for them.
REFERENCES


HELPFUL TOOLS

- moqups
- draw.io
- dedoose
- NVivo
Thank you!

Xian Ho

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EXTRA SLIDES
UX Design | E-Commerce Usability Framework

**Analyze the Opportunity**
- Identify the Stakeholders
- Create the UX Vision
- Segment the Market

**Build the Contest of Use**
- Build User Profiles
- Build Environment Profiles
- Identify Red Routes

**Create the User Experience**
- Design the Information Architecture
- Set Key Performance Indicators
- Design the Interaction
- Evaluate Usability

**Track Real-World Usage & Continuously Improve the Site**

Adapted from Travis, D.S. *E-Commerce Usability*, Taylor & Francis
Usability testing refers to evaluating a product or service by testing it with representative users.

Source: usability.gov
**Goal:** Identify any *usability problems*, collect *qualitative and quantitative data* and determine the *user satisfaction* with the product.

*Source: usability.gov*
UX Design | Usability Testing

Running a usability test...

- Create an interview guide
- Plan on duration of ~1 hour
- Recruit 5 representative users
- Identify 2 team members to lead the session (Moderator, Notetaker)
- Be prepared to collect usability metrics
- Provide compensation for users (if possible)
Usability Testing Format

1. Welcome and Purpose
2. Introduction
3. Consent
4. Test Facilitator’s Role
5. Test Participant’s Role
6. Task List
7. Survey
8. Open-Ended Questions