Personal Reflection
How was your journey here?
Jot down significant experiences...
Workshop Agenda and Objectives

Agenda

- Establish Community and Purpose/Stoke Activity
- Problem Definition
- Fieldwork Planning
- Thematic Identification
- POV Statement
- Benchmarking
- Ideation
- Solution Analysis
- Prototyping
- Presentation
- Reflection
Setting Culture - Get Stoked

Everyone wanders around and people stop to greet a partner according to a scenario that the facilitator calls out.
Setting Culture - Prototyping

Materials you need:

1. Structural materials
   1. Cardboard
   2. Foam core board
   3. 5-10 sheets of paper
   4. Fabric
   5. Card Stock
   6. Foil
   7. Post-it notes

2. Closures
   1. Velcro
   2. Zip Ties
   3. Tape (masking, duct, clear)
   4. Glue stick
   5. Paper Clips

3. Accessories
   1. Ribbon
   2. Stickers
   3. Yarn/String
   4. Pipe Cleaners
   5. Popsicle sticks
   6. Rubber Bands

Procedure:

Your group will have a few minutes to prototype an object. Once instructed, perform an image search of the object, agree on an image with your group, and then, with the materials that you have, make the object.

Be prepared to share your prototype!
Problem Framing

How might we …. improve travel to ITEEA?

Create Your Mind Map

Mind maps are made up of nodes (thoughts/ideas) that contribute to the problem space. These nodes are connected to other nodes by branches.

1. Write your problem space in the middle
2. Identify opportunities
   1. Areas of improvement and how they connect
   2. What’s happening? What’s not happening? What’s going well? What isn’t?
   3. Who is involved? What are their emotions? Frustrations? Excitement?
   4. Focus on opportunities, not solutions (we’ll get to that)
   5. Add pluses and minuses in the nodes (positives and negatives)
3. Choose an area that interests you most
Problem Framing
Fieldwork Planning

Stakeholders are people who are directly involved in the problem space. It’s important to interact with them to find out what’s really going on. Designers do this through observations and interviews. Scouring the internet for literature about your problem gives you a bigger picture of the problem that might be happening elsewhere.

<table>
<thead>
<tr>
<th>Potential Stakeholders</th>
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<tbody>
<tr>
<td>Group Member</td>
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<table>
<thead>
<tr>
<th>Fieldwork Plans</th>
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<tbody>
<tr>
<td>Literature</td>
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<tr>
<td>Who/What</td>
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# Interviews

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<thead>
<tr>
<th>Interviewer Name:</th>
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<tbody>
<tr>
<td>Interviewee Description:</td>
<td></td>
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<tr>
<td>Describe-to-Me Statement</td>
<td></td>
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<tr>
<td>Tell me about that last time x....</td>
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<tr>
<td>Follow up - Describe-to-Me Statement or Tell me more or Why?</td>
<td></td>
</tr>
<tr>
<td>Follow up - Describe-to-Me Statement or Tell me more or Why?</td>
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</table>

**Notes, Thoughts, and Observations**
# Observations

<table>
<thead>
<tr>
<th></th>
<th>What (…are they doing)</th>
<th>How (… are they doing it)</th>
<th>Why (…are they doing it? Take a guess)</th>
<th>Show (…it here)</th>
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<tbody>
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<td>1</td>
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<td>5</td>
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</table>
Research

What is the source?
  Currency?
  Relevance?
  Accuracy?
  Authority?
  Purpose?

What are your findings?

What did you learn about your problem?
  Significance?
  Contributing Factors?
Thematic Identification

It’s time to triangulate our information and look for themes within the three different pools of data. It might be easier to do two-way comparisons (e.g. research and interviews) first and then review the smaller portions.
Draw Inferences - Unpack Interviews

We met (include name and descriptors that illuminate who this person is):

We wonder if this means…
(Make inferences/hypotheses for each of your observations; make multiple. Then, as a team, decide on the most interesting inferences)
POV Statement

Develop your POV statement

A POV statement is a way to frame your problem space that clearly identifies your stakeholder group, their needs, and insights that are critical to them. Insights are gathered from your research and fieldwork.

[User . . . (descriptive)] needs [need . . . (verb)] because [insight . . . (compelling and actionable)]

D.Light: https://www.youtube.com/watch?v=iMmk2nM_aZc

User: Children in rural India without access to the power grid

Need: light to do their homework at night

Insight: Because . . .
  a. kerosene lanterns often cause fires.
  b. kerosene lanterns create smoke that hurts kids' eyes.
  c. kerosene lanterns creates soot that makes homes seem dusty.
  d. kerosene lanterns are not bright enough.
  e. kerosene lanterns require frequent fuel refills.
  f. kerosene lanterns require expensive fuel.
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Write yours below (you’ll likely revise it a few times) . . .

1.

2.

3.

4.
## Composite Character

<table>
<thead>
<tr>
<th>Picture of Your User</th>
<th>Characteristics</th>
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Benchmarking

What solution was proposed:

Specific Questions (only answer the questions that are relevant to the solution):

How long does it take to implement?:

Was it successful? How was success measured?:

What special equipment or expertise is necessary?:

What environmental effects does the solution have?:

What economic effects does the solution have?:

How much does it cost?:

What were the successes of the product?:

What are some drawbacks of the product?:

What might be some constraints and criteria these solutions satisfied?
Ideation

Now is the time to think about solutions! It’s important to know what your goal is and what your design requirements (constraints and criteria) are. Ideation sessions are highly engaging and energetic. Clear your mind and stay focused.

Here are a few ideation guidelines to follow during your session:

1. Go for Quantity – set a lofty goal and surpass it. Industry standard is 100 ideas in an hour
2. Suspend Judgement – now is not the time to evaluate ideas or people. Share the idea and move on
3. Encourage Wild Ideas – setting fire to your room may not be a good alarm clock, but fear is a powerful motivator
4. Headline – think of a newspaper heading. Keep it brief, say the idea, and move on
5. Build on the ideas of others – say “and”, not “but”
Solution Analysis

Now is the time to judge your ideas! Using a Multicriteria Analysis is a quick way to evaluate your solution ideas against your criteria and constraints to find the best one. Before you begin, though, you should group similar ideas together to form a more complete solution and refine your criteria and constraints if necessary. Here’s an example:

<table>
<thead>
<tr>
<th>Key 1-5 (5 is best)</th>
<th>Criteria 1</th>
<th>Criteria 2</th>
<th>Criteria 3</th>
<th>Criteria 4</th>
<th>Criteria 5</th>
<th>Con. 1</th>
<th>Con. 2</th>
<th>Total</th>
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<tr>
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<td>.05</td>
<td>Y/N</td>
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<td>Example</td>
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<td>1 x .30</td>
<td>4 x .25</td>
<td>2 x .05</td>
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<td>Sol.….</td>
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Low-Fidelity Prototyping

Prototyping is a tool that can be used for several different purposes. Designers prototype to communicate their ideas, question their thoughts, and perform usability tests. Low-fidelity prototypes are typically made with readily available materials like cardboard, paper, and tape, but they can also be detailed sketches with annotations. Most importantly, your prototypes should highlight all essential functions of your solution.

Once you’ve created your prototype, you need to share it with your stakeholder group and get their feedback. Ask them questions to find out what should stay and what should go.

After you receive feedback, you need to make the necessary changes to satisfy your user.

“If a picture is worth 1000 words, a prototype is worth 1000 meetings” - David Kelley.
Focus on Process
https://www.youtube.com/watch?v=uZXQuPnp8g&feature=youtu.be&t=87

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Appendix

**Design Thinking for Social Innovation** By Tim Brown & Jocelyn Wyatt
Your problem space will be a system with multiple facets. Simply designing something that isn’t aligned with your user’s needs, or going into a problem already having a solution in mind, never works.
- What culture(s) exist in your problem space?
- What social aspects/implications does your problem space have?
- How will you avoid your preconceived notions so that you start your project open-minded and optimistic?

**POV Statements** - Define and Frame Your Design Challenge by Creating Your Point Of View and Ask “How Might We” BY Rikke Friss Dam and Yu Siang Teo
POV Statements are actionable and inspiring one-sentence summaries that defines your user, their need(s), and critical insights about them. This statement should not contain any solutions or any suggestion on how to fulfill your user’s need(s). It should be broad enough to allow for all possible solutions but narrow enough so that your solutions are higher quality.

[User . . . (descriptive)] needs [need . . . (verb)] because [insight . . . (compelling)]

**Embrace Ambiguity** by Patrice Martin
Problems are messy and the future is uncertain. Not knowing the answer can make people uncomfortable, so when you feel that way, think: “I don’t know yet”. Know that you won’t always know the answer. With that, instead of thinking that I should know that, say I could know that.
Appendix

**Ethnography** by Ellen Isaacs at TEDxBroadway
Observing people *in situ* gives you insights into your user’s routines and practices in their environment. Observers should be in the moment. Think: walk a mile in their shoes and watch them do it, too. You’re looking for the “hidden obvious”. That thing that was right in front of you the whole time and you might not have noticed.

**Getting People to Talk: An Ethnography & Interviewing Primer** on Vimeo by Gabe & Kristy
Making your interviewee comfortable before questioning them is crucial. Having good questions to ask is also important. Your questions should be open-ended, or better yet, “Describe-to-Me” statements, so you allow your interviewee a chance to expand on their thoughts. If your participant says something interesting, don’t hesitate to ask them more about it. Know what you’re going to ask, but try to be conversational if possible.

**The Power of Creative Constraints** by Brandon Rodriguez
Often, the most innovative solutions are born out of constraint. Constraints are the boundaries of your solution space and can be imposed by your users, the organization, or other external regulations. In other words, these are elements that you cannot control. Constraints are typically evaluated by *yes it does this or no it doesn’t*. Unlike *criteria*, where those are evaluated on a scale. More to come on that.

Examples:

**Funding** - money is often a constraint as there is typically a maximum amount that can be spent
**Materials** - these have limitations (application, durability, function, accessibility, availability, etc)
**Scientific principles** - explanations of how materials/people/experiments interact through direct observation
**Moral/Ethical** - not necessarily legal matters, but ensure that you’re working within the accepted norms of society for good
**Legal** - laws/rules enacted to protect people, the environment, or other communities.
Appendix

Prototyping is the Shorthand of Innovation by Tom Kelley
“Build to learn”. Prototyping is a quick but effective way to show people what your ideas are in a physical or tangible way. It’s important to build early and build often. This is part of the iterative process. Prototyping gives you key insights that allow you to make faster, better, and more informed decisions about your ideas.

Rapid Prototyping: Sketching and Paper Prototyping by Mariam Shaikh and Melissa Powel
The fidelity of your prototype should match the fidelity of your thinking. That is, don’t be afraid to show your ideas as soon as you develop them. It can be faster to communicate and validate your ideas through sketching. Refer to the “Low-Fidelity Prototyping” page in the workbook for more information.