



Educate to Innovate

ALISE 2016

Pre-conference Workshop

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Deb Wallace	Baker Library, Harvard Business School

The Agenda

- **Welcome & Introductions**
- **Brief background – January 2015 Forum as context**
<http://infofuture.simmons.edu/>
- **ALISE 2016 Workshop Objectives:**
 - To **explore design thinking principles** and **processes** that can be used **for re-visioning our courses** (micro level) and **curriculum** (macro level)
 - To **explore and apply tools** that navigate from design “problem” to “solution” using guides from IDEO & SIT.

Envisioning Our Information Future and How to Educate for It



January 14 - 16, 2015, Simmons College

Made possible in part by the Institute of Museum and Library Services

Why re-vision Information/LIS Education now?

- Help information professionals to successfully lead and shape our information future.
- Pave a path for students to understand the challenges ahead
- Prepare students to excel in their abilities to keep pace with the rate of change
- Stay ahead of trends that are shaping our information world



From the January 2015 Forum to ALISE 2016:

*Envisioning our Information Future &
How to Educate for It*

January 2015 Forum Participants

- **Mary Alice Ball**, Senior Program Officer, IMLS
- **Nicole A. Cooke**, Assistant Professor, University of Illinois at Urbana-Champaign
- **Laura Eisenmann**, Director of Knowledge Management at Health Advances, LLC
- **Jeff Goldenson**, Library Director, Olin College of Engineering
- **Elaine Martin**, Director of Library Services, the Lamar Soutter Library, University of Massachusetts Medical School, Worcester
- **Kate Pugh**, Academic Director of Columbia University's [Information and Knowledge Strategy Master's of Science program](#) and President Align Consulting
- **Amy Ryan**, Chair of the Board of Directors of the Digital Public Library of America
- **Megan Sniffin-Marinoff**, University Archivist, Harvard University Archives
- **David Weinberger**, Senior Researcher at Harvard's Berkman Center for Internet & Society

1

A future by Design, Not by Default



A FUTURE
BY DESIGN,
NOT DEFAULT

How can we rethink the familiar more deliberately to generate innovative ideas for change?

The Problem—Low-birth-weight babies

- **20,000,000 low-birth-weight babies** born each year, predominantly in developing countries
- Unable to regulate their own body temperatures, these babies **face hypothermia** (room temperatures feel frigid to them)
- **20% of these babies die** within first month of life
- Those that survive often develop **life-long health problems** (early onset diabetes, heart and lung diseases, skeletal deficiencies, developmental delays, etc.)

The Design “Solution” - Embrace



Embrace Iterations



At Stanford



During refinement



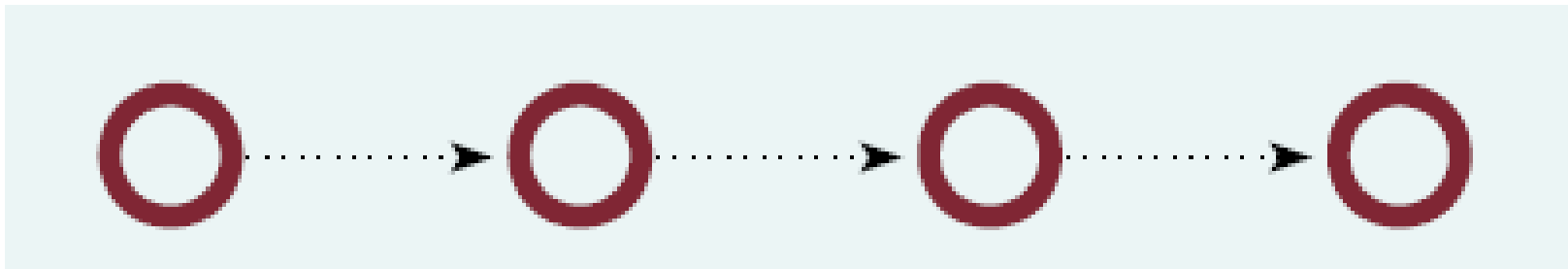
Market-ready final product

Guides for Making Observations & Insights

- **Journey Map** Where to look?
- **AEIOU** What to look at?
- **Look – Ask – Try** How to look?
- **Pain Points** What to look for?
- **Design Principles** Codifying learning from the research

Empathy & Understanding | Guide 1

Using **Journey Maps**



A journey map charts the experience of a user through time and across place. It can help identify the range of needs a user experiences across the different contexts of her or his life.

Empathy & Understanding | Guide 2

LENSES TO LOOK THROUGH

Activities

Environments

Interactions

Objects

Users

Activities

What is happening? Primary, secondary, peripheral activities?

Environments

Where are things happening? Are there multiple kinds of environments within one larger place? What are the characteristics?

Interactions

Who is doing what with whom? Do interactions seem planned or spur of the moment? Are people interacting with other people? With things? With environments?

Objects

What objects are present and/or involved in activities and interactions described? What seems most/least important? What is puzzling?

Users

Who are the users? Do they vary in characteristics?

Empathy & Understanding | Guide 3

LOOK

Assume a beginner's mindset.

Check assumptions.

“Observe” with all five senses.

Document the looking.
Be patient.

ASK

Warm up. Develop rapport before asking detailed questions.

Be open. Let the interviewee tell stories.

“Five whys.”
Probe by asking why.

Address both broad context and narrow details.

TRY

Experience.

“Do as the Romans do.”

Use props to experience a situation or action more realistically.

Empathy & Understanding | Guide 4

Identifying **PAIN POINTS**

A pain point is a moment when a user experiences frustration, difficulty, or uncertainty with a product, service, etc. Pain points indicate unmet user needs.

Pain points can be **explicit**, so a user could articulate them in an interview. They can also be **latent**—unrecognized by the user—in which case a researcher would discover them through observation and/or a probing interview.

Empathy & Understanding | Guide 5

Generating **DESIGN PRINCIPLES**

The attributes that the solution needs to have to respond effectively to the identified pain points.

For the “Embrace” example, from the perspective of the mother a key design principle was **portable**; from the perspective of the hospital a key design principle was **work instantly**.

“Embrace” responds to those (and other) pain points thus aligning with design principles.

From *Observations & Insights* to *Design Principles*

STRUCTURE

Journey Maps.

WHAT

AEIOU

HOW

Look-Ask-Try

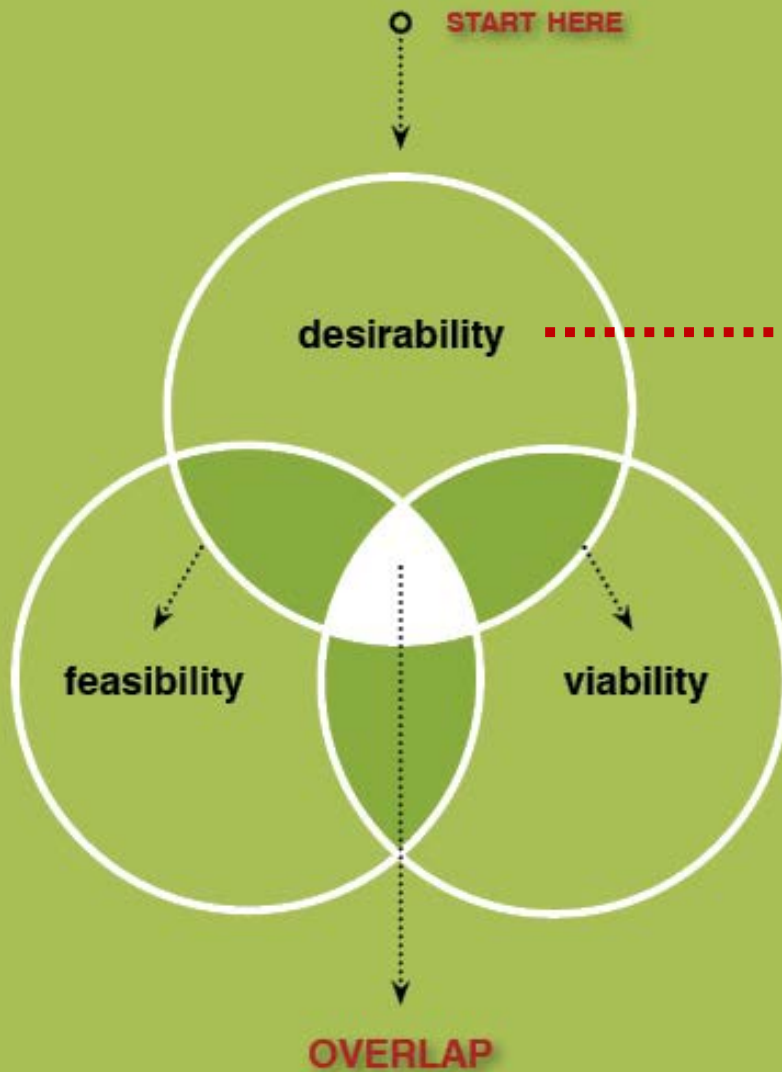


To Identify & Explore... .



**DESIGN
PRINCIPLES**

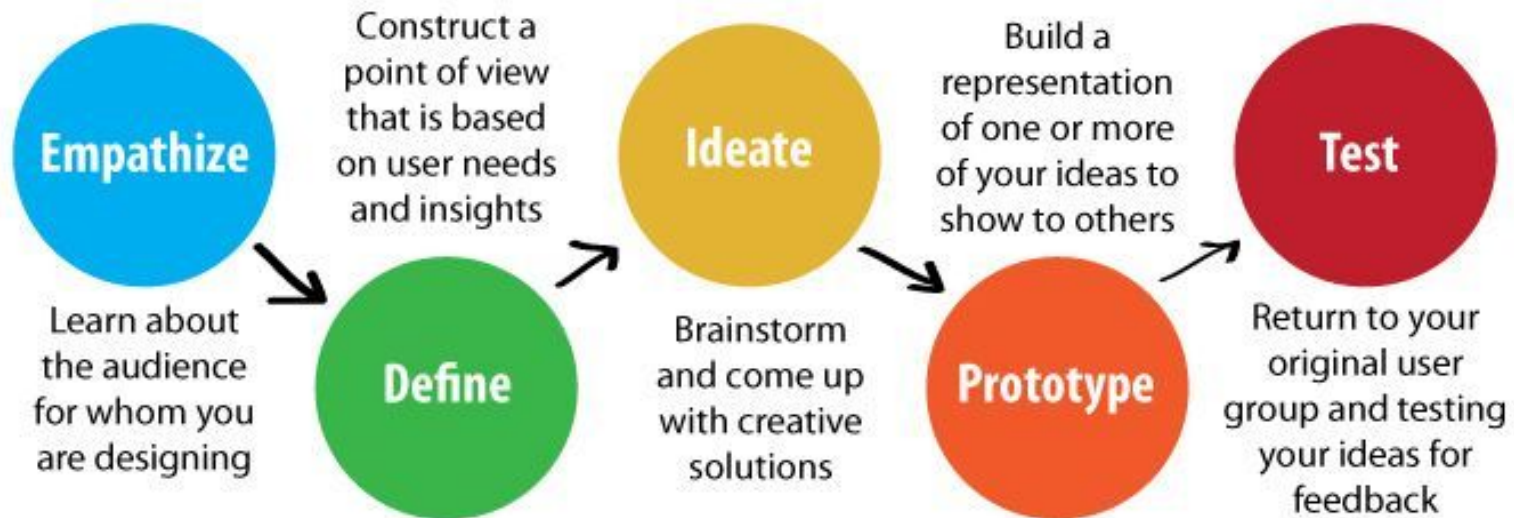




as defined by
PEOPLE

Desirable * Feasible * Viable

Design Thinking Process



Concept Poster – Earliest stage prototype

1. BACKGROUND & INSIGHTS

BACKGROUND & INSIGHTS

In the space below briefly outline the Pain Points, Behavioral Archetypes, Design Principles, and Key Stakeholders as they relate to your basic concept.

Pain Points

Design Principles

Key Stakeholders

2. BASIC CONCEPT

BASIC CONCEPT

Value Proposition

Description of the
Concept

Benefits based on Customer Experience (functional & emotional)

Benefits based on
User Experience

Functional Benefits
Emotional Benefits

3. KEY ASSUMPTIONS

Key assumptions & anticipated issues:

DESIRABILITY

Identify the critical assumptions about desirability around which your concept is built. What tests can you run to verify (or refute) these assumptions?

Identify key
assumptions around
Desirability.

FEASIBILITY

What are issues will you need to address around technological feasibility? Feasibility vis-a-vis various stakeholders and their interests? Legal feasibility? Other feasibility issues? How will you test them?

What are the issues
around Feasibility?

VIABILITY

What issues will you need to address around the business model, including cost structure, price, pricing model? Identify the assumptions you are making around viability. How will you test them?

Identify key
assumptions re:
Viability.

Concept Poster – An Artist in Every Library

BACKGROUND & INSIGHTS

Pain Points

Artists need places to work and are often struggling to connect with new audiences.

Libraries struggle to engage patrons in new ways and communicate their assets as more than “just books.”

The variety of information sources, formats, content continue to proliferate and can be difficult for patrons to imagine and contextualize.

Design Principles

Integrated
Interactive
Dynamic

BASIC CONCEPT

Description of the Concept

A large-scale residency program that places an artist in every library, archive, and museum.

Functional Benefits

Would rejuvenate institutions and promote critical engagement with information.

Emotional Benefits

Artists, library staff, and patrons feel part of a larger community that is relevant and vibrant.

KEY ASSUMPTIONS

Desirability

Artists will want to relocate and operate in some capacity out of another facility.

Patrons will be interested in engaging with artists' work.

Feasibility

It will be possible to provide useful space to artists to work.

Viability

Institutions/organization will be able to find the funds to facilitate and support this kind of program.

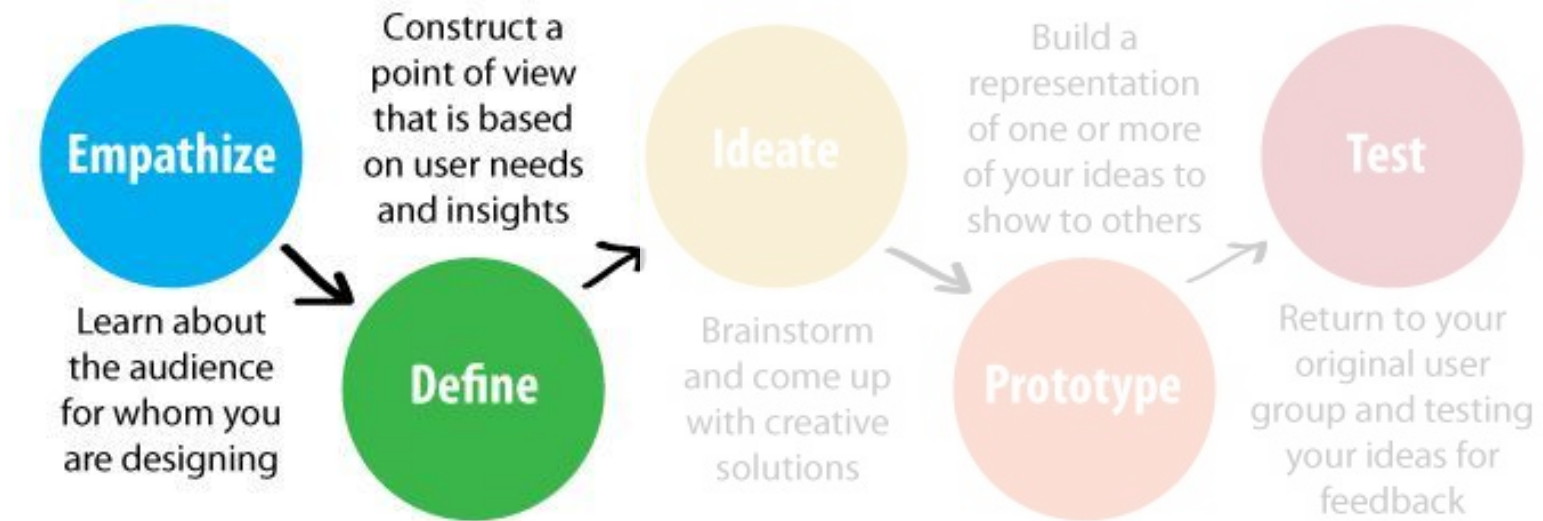
Our design “challenge” from the January 2015 Forum:

*Envisioning our Information Future &
How to Educate for It*

2

Understanding Users & Context

Design Thinking Process



Group work

Describe the “Anatomy of a Course”

What does a course look like, broadly speaking?

What are some of the components one would normally associate with a course?

Group work

Put yourself in the shoes of a student.

How do you characterize yourself?

What motivates you?

What are your pain points vis-à-vis a graduate course in LIS?

(Other stakeholders in the LIS ecosystem would include instructors, future employers, co-workers, etc. The scope of this workshop precludes thinking about these stakeholders at length.)

Group work

Given your student user context, define and frame a problem.

How might we... ?

How might we...

... foster more student engagement within each class session?

... configure assignments to accommodate student schedules?

... maximize the relevance of readings that are material to course content?

... design a course that incorporates different learning styles?

Group work

Develop 3 design principles.

These should help eliminate the pain points you identified earlier.

Will the “solution” to your design “problem” (How might we...) be guided by, for example, principles of flexibility, modularity, relevance, scalability, etc.?

They will guide your ideation later in the process.

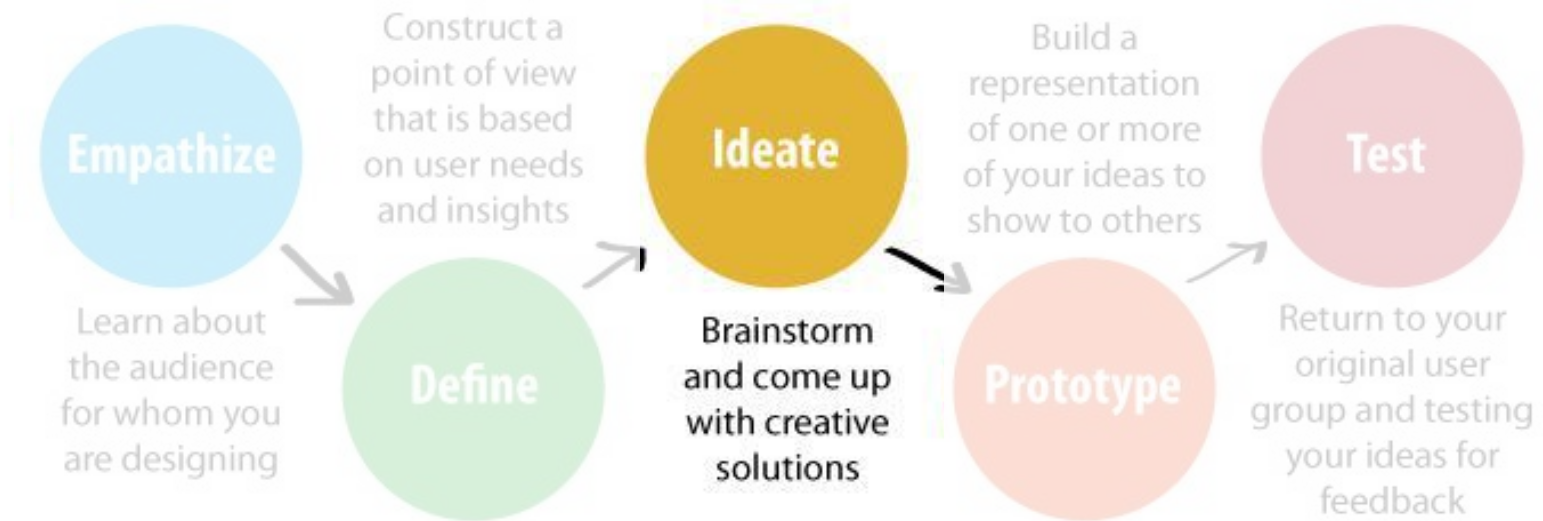
Transpose the Design Principles to the column headings of the large Creative Matrix sheet on your table.

How might we...?	WHAT are the DESIGN PRINCIPLES you are going to use TO address the pain points?		
HOW will you achieve the Design Principles?			

3

Breaking Fixedness

Design Thinking Process



Two broad approaches to Ideation

Go far! – Go for wild ideas – IDEO et al

**Stay close – “Break Fixedness” – SIT
(Systematic Inventive Thinking)**

Approach 1

Systematic Inventive Thinking (SIT)

Tools for “Breaking Fixedness”

SIT | Structural Fixedness

The tendency to think of an object or process as a whole, with a defined structure that cannot be modified, divided, or rearranged.



Tool | Division

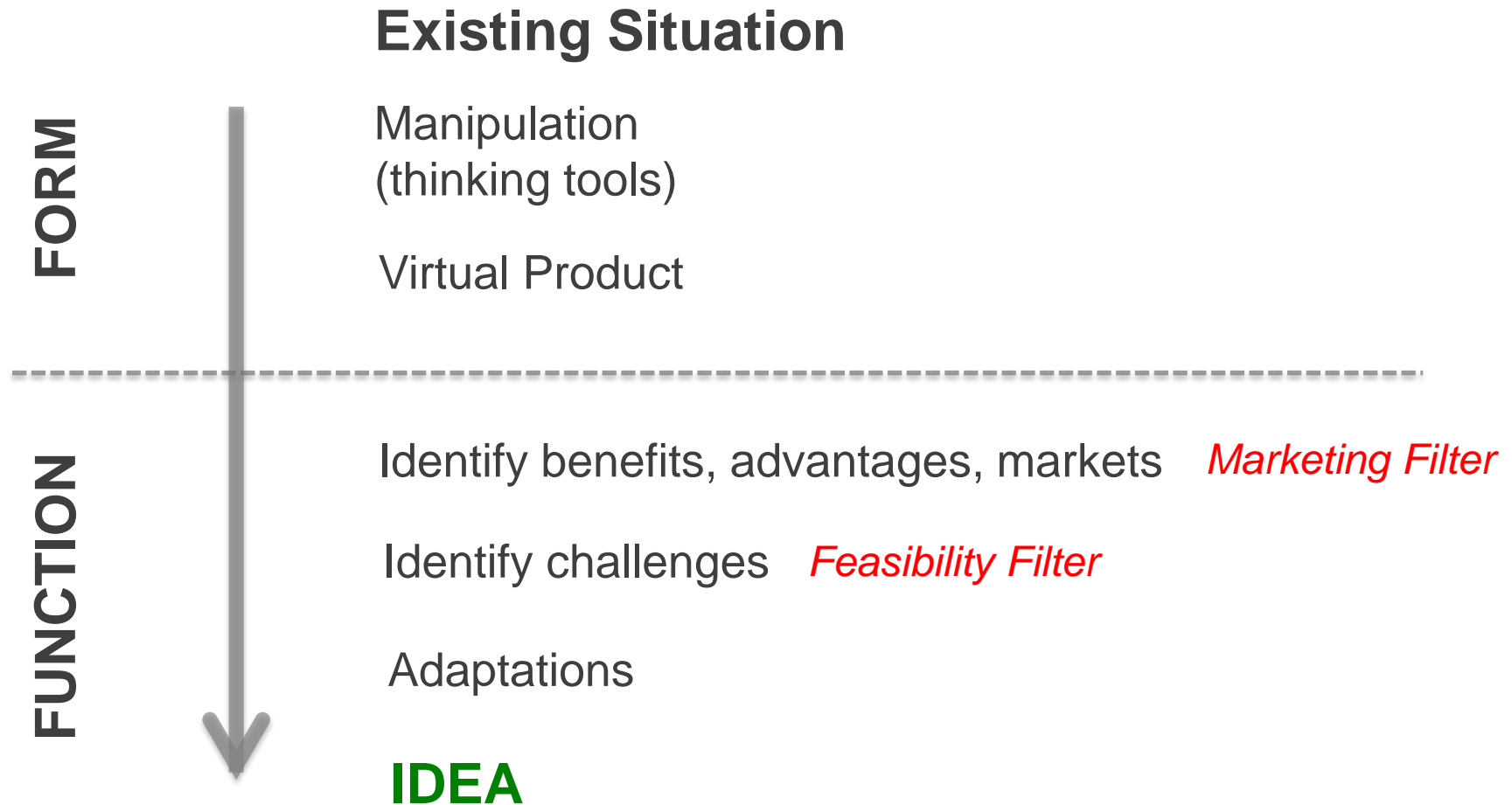
By dividing a product, process, or business model into its component parts you see the collection in a new light. This process allows you to reconfigure parts in unanticipated ways.

Physical, Functional, Process Division.

Examples of Division

- Zip Car
- Split air-conditioners (compressor outside to reduce noise)
- To improve leasing process, pre-approve credit and get insurance after the equipment is delivered rather than before
- Time share condos
- Replacing control knobs from a TV, music system, or air conditioner with a remote

SIT | Function Follows Form



Exercise in Division

Chart out a process of experiencing a module of a course. (Journey Map)

Isolate each step. (Division)

Can you rearrange them to create a new and attractive offering for students?

(Keep the pain points you identified earlier in mind.)

Exercise in Division

Overview

Readings

Lecture

Discussion

Posting Response

Assignment for Assessment

Exercise in Division

Overview

Readings

Assignment for Assessment

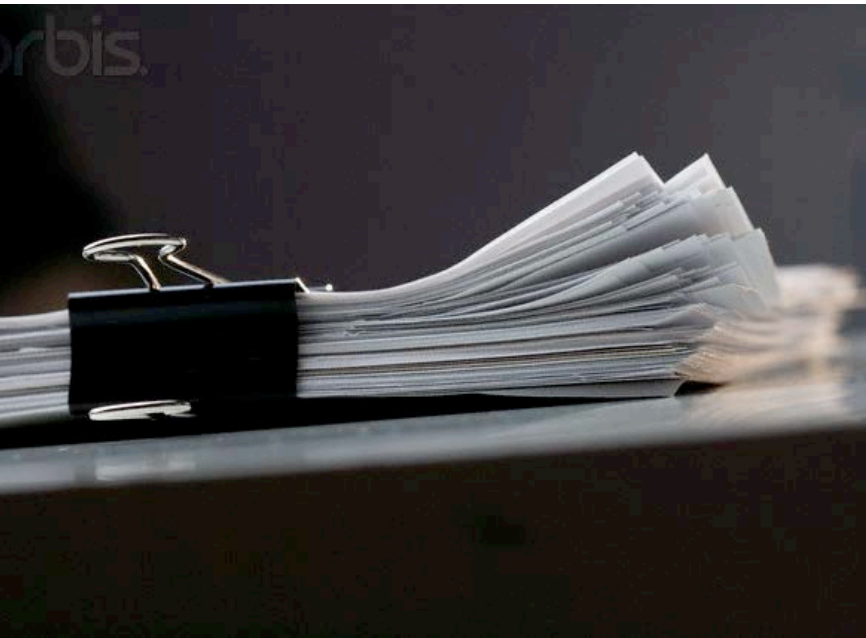
Lecture

Discussion

Posting Response

SIT | Functional Fixedness

A cognitive bias that limits a person to using an object only in the way it is traditionally used.



SIT | The Closed World (Principle 1)

The only resources for inventing something new, solving a problem, or dealing with any issue creatively are those that are already there.



Approach 2

Go Far!

Brainstorming like IDEO

IDEO's Guidelines for Brainstorming

Go for quantity

Encourage wild ideas

Defer judgment

Build on the ideas of others

One conversation at a time

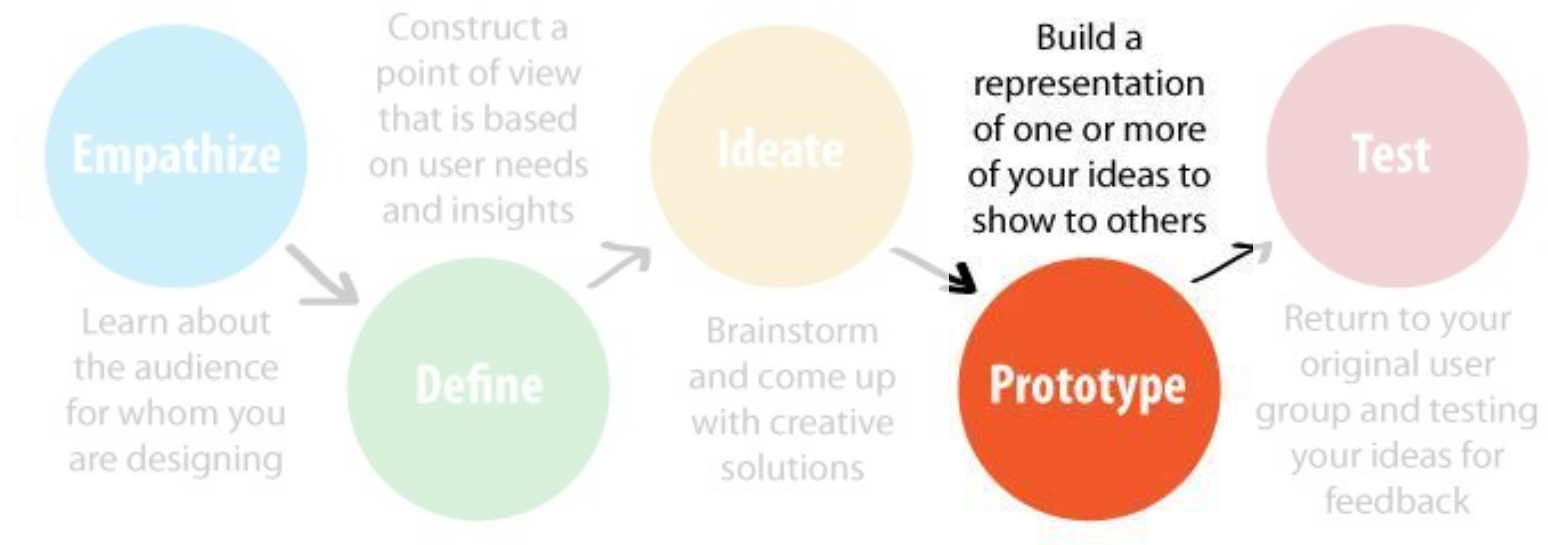
Stay focused on the topic

Be visual

4

Bringing it All Together

Design Thinking Process



Concept Poster – Earliest stage prototype

BACKGROUND & INSIGHTS

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Concept Poster – An Artist in Every Library

BASIC CONCEPT

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KEY ASSUMPTIONS

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It will be possible to provide useful space to artists to work.

Viability

Institutions/organization will be able to find the funds to facilitate and support this kind of program.

HOW TO TEST ASSUMPTIONS?

Desirability

Talk to artists?
Design a week-long pilot at some facilities?
Survey patrons during/after pilot?.

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Critical Role of Prototyping

- Prototyping is an **experiment** that must provide the answer **to a critical question**
- Prototyping to **test assumptions**
- Prototyping as a way to **make abstract ideas concrete**
- Using your hands to think through the details of a problem—**thinking with your hands**

5

Concluding Thoughts

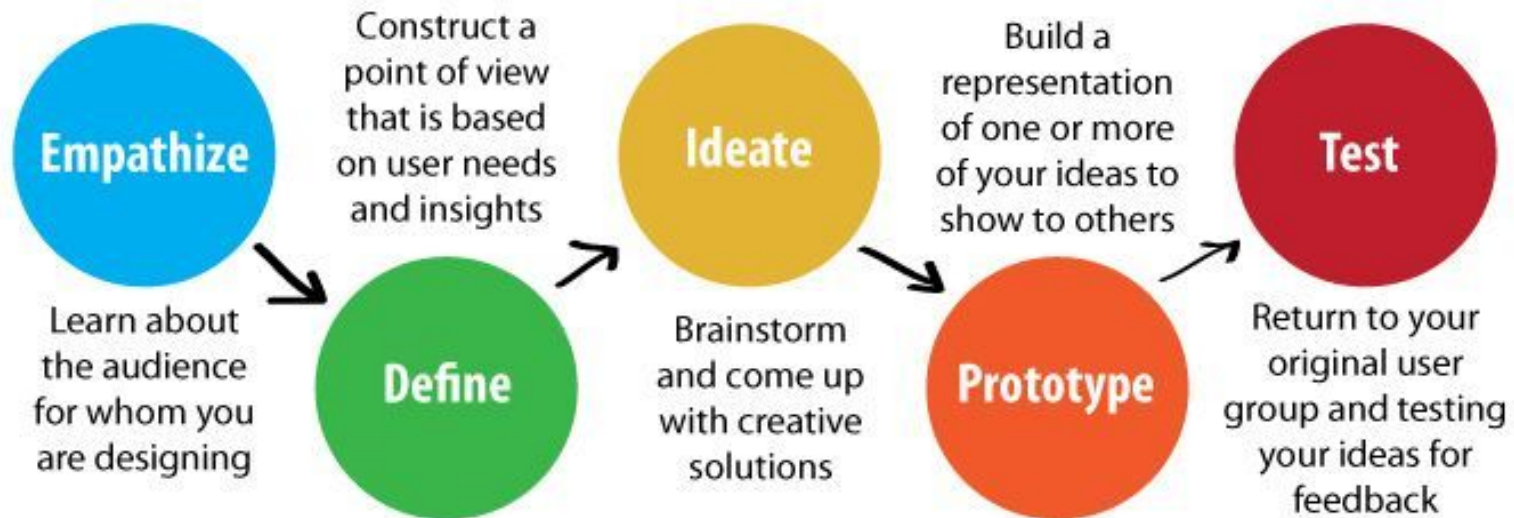
Recap and next steps:

Q: How can we rethink the familiar more deliberately to generate innovative ideas for change?

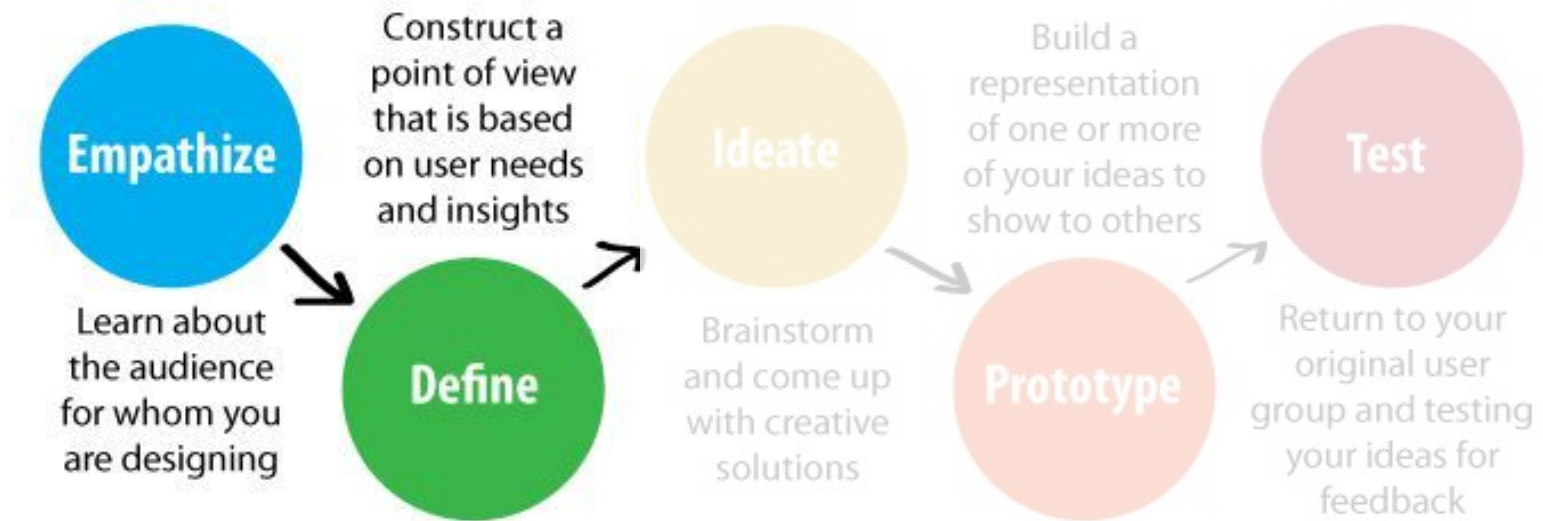
Design “Problem” & “Solution”- Embrace example



Design Thinking Process



Design Thinking Process



Empathize / Define

- **Users and Context**

- Anatomy of a course
- Put yourselves in the shoes of the student
 - Characteristics, motivations, pain points
- Define and frame a problem
 - “How Might We ...” question
- What Design Principles will guide/frame/constrain “the design solution”?
- Creative Matrix

Guides for Making Observations & Insights (Empathize/Define)

- **Journey Map** Where to look?
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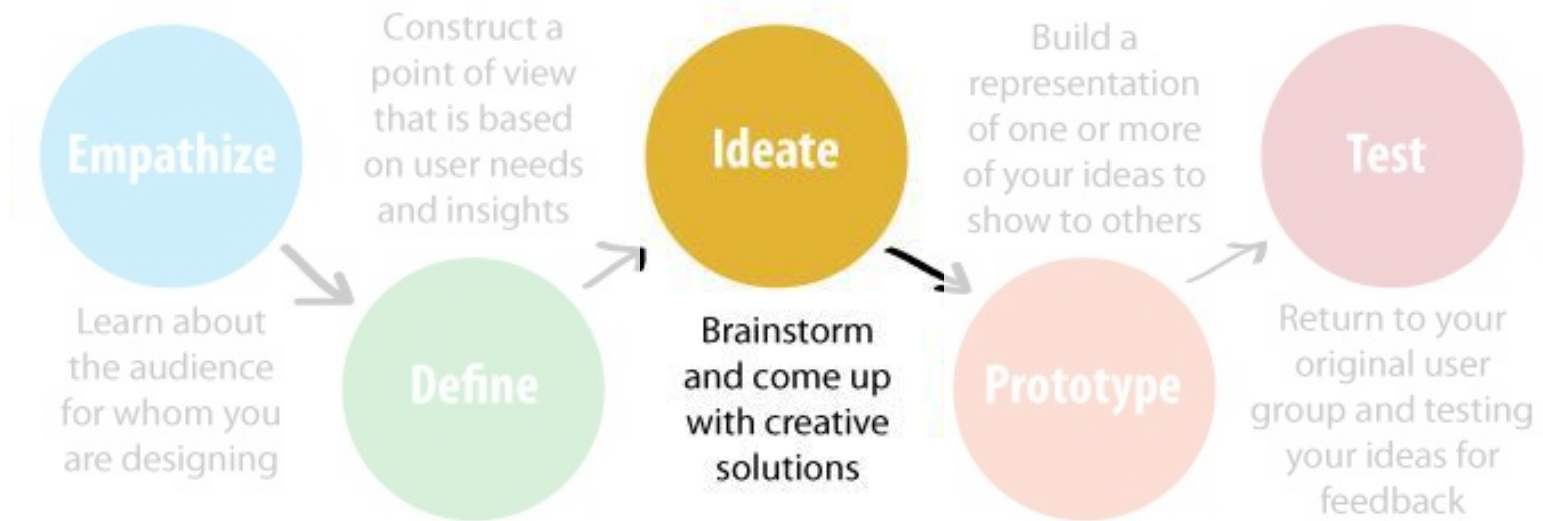
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Design Thinking Process



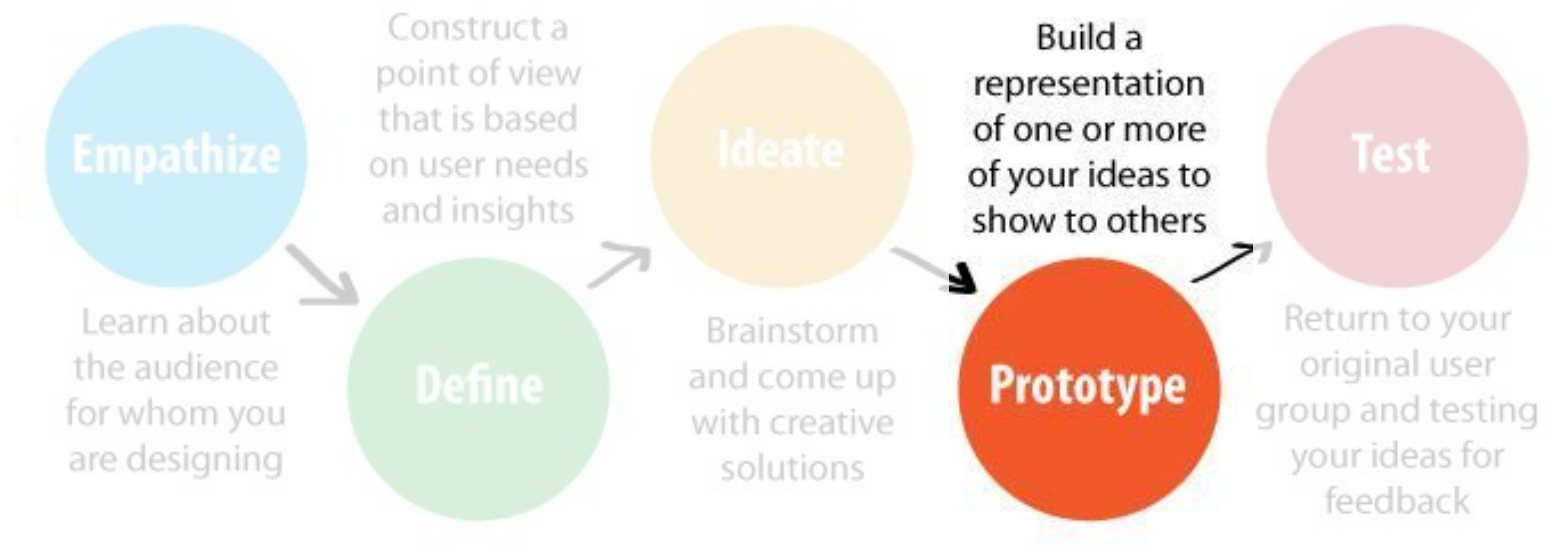
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Go far! – Go for wild ideas – IDEO et al

**Stay close – “Break Fixedness” – SIT
(Systematic Inventive Thinking)**

- Division**
- Task Unification**

Design Thinking Process



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Next steps – post-ALISE workshop

- Slides will be posted to site <http://infofuture.simmons.edu>
- Group work – creative matrix and concept poster
- Scribing by Sita Magnuson
- Photos capturing session (permission forms)
- We invite participants who use the Design Thinking approach to contact us about your experience – we will post (with permission)
 - Eileen Abels eileen.abels@simmons.edu
 - Lynne Howarth lynne.howarth@utoronto.ca
 - Linda Smith lcsmith@illinois.edu

Recommended Resource

- *Design Thinking for Libraries*
 - <http://designthinkingforlibraries.com/>
 - 3 parts freely accessible and downloadable
 - A partnership of IDEO, Gates Foundation, Chicago PL, Aarhus Libraries (Denmark) and librarians from over 10 countries worldwide
 - *Design Thinking At-a-Glance* – print copies available courtesy of Baker Library, Harvard – with thanks to Deb Wallace, Executive Director, KLS