IdeaLab
RIT

Build innovative solutions for the healthcare industry over this fun and exciting weekend.

FEB. 17TH - 18TH
STUDENT INNOVATION HALL
FREE FOOD & T-SHIRT

The Rochester Regional Health (RRH) IdeaLab focuses on medical technologies by creating products and service solutions for RRH. Students are split up into multidisciplinary teams and spend the weekend working on solutions for real-world problems.

Register at simonecenter.rit.edu/idealab
Contact stephen.burke@rit.edu to sign up or with any questions.
Design Thinking

An inclusive and creative methodology that promotes user understanding and collaborative product development process to solve problems.

But, it wasn’t always like this as user feedback and participation was never an aim of the industrial revolution.
Many consumer and commercial designs well into the 20th Century displayed insufficient consideration for user needs.
Design Thinking

A user-centered approach that considers user-understanding and user experience as fundamental components for creating Value.

A proven and repeatable process leading to useful solutions that are inline with organization vision or strategic intent.
Design Thinking | Thinking like a designer
An integrated approach to problem solving

Technology 
Rational & Analytical

Design

Art
Intuitive & Emotive
Design Thinking | A Problem Solving Methodology

AT A GLANCE

1. Initial problem description
   - By end user, customer, or organization

2. Research
   - User
   - Technology
   - Business

3. Design Brief & reframed problem definition
   - A problem worth solving

4. Ideation & synthesis
   - Strategic directions
   - Criteria for selecting top solutions

5. Visualization & storytelling
   - From hand sketches to detailed illustrations

6. Iterative prototyping
   - Creation of many options

7. Testing & refinement
   - Verify needs are met:
     - User
     - Technology
     - Business

Steps not proportionally spaced out in process diagram
Design Thinking | Product Ideation Model

**Best innovation opportunities**
Ideas relating to specific user, market & technologies

- **Requirements**
  Could the idea be profitable?

- **Needs & Desires**
  Could they be identified and addressed?

- **Possibilities**
  Could the idea be made?

**User**
Desirability

**Business**
Viability

**Technology**
Feasibility
Designers are responsible for creating solutions centered on the user’s experience, context, and on promoting human values.

User Needs & Desires
- **Contextual**
  Environment & situation needs
- **Experiential**
  User emotive needs
- **Humanistic**
  Promote human values
Design Thinking | Selecting the Right Opportunities

Unfit opportunities (many)

Needs (filters)
- User needs & desires
- Business requirements
- Technology possibilities

Relevant opportunities (few)

Product Commercialization

Ideas
What **questions** should be asked in the initial research?

- User characteristics, needs & desires
- Context/environment characteristics
- Business viability (target market)
- Technology feasibility & possibilities
- Competitive benchmarking
Typical Questions

• Who is the intended user(s) for my product?
• What physical characteristics or other attributes best describe this person’s life?
• What are the activities this user is mostly involved with?

Methods

• Observations
• Interviews
• Data collection
• Documentation (illustrations, photography)

Goals

• To become familiar with the lifestyle and relevant environments of the intended user
• To identify and understand specific problems
• To identify and understand specific needs (explicit and latent)
**Typical Questions**

- What are the characteristics of the space or situation the product is intended for (interior/exterior, commercial/residential, social interaction)

**Methods**

- Personal visit to user’s environment
- Observation of condition and characteristics
- Observation of what users do in this space

**Goals**

- Interviews relating to the usage of the space:
  - Routine or special activities
  - What works well and not
  - Real needs and challenges
  - Wishes and desires
- Documentation (illustrations and photographs)
Typical Questions

• What is the intended target market for the product?
• What are the characteristics of this market?
• What other markets might also be interested in this product or its variations?

Methods

• Market research (multiple sources)
• Data collection
• Documentation

Goals

• To become familiar with the cohort and the market you are designing for, including their lifestyle and demographics
• To identify specific challenges associated with this market
• To identify specific needs or wants essential for business success (explicit and latent)
**Typical Questions**

- What are the most important technologies that should be considered to enable the product to function?
- What are their most important characteristic, benefits and downsides?
- How easy/difficult it would be to acquire the technologies of interest?

**Methods**

- Research and data collection based on the product’s functional needs

**Goals**

- To ensure functional specifications and estimated product cost are understood
- To ensure the design can be manufactured to perform as intended
- To identify challenges that might prevent a timely development (such as developing new technologies)

- Technical diagrams, illustrations and images
- Intellectual property (IP)
- Usage in other products
**Method: Evaluate & Compare**

- Select a few consumer products from a similar product category made by *different* makers.

- Analyze your selected products based on specific categories / questions (see previous pages).

<table>
<thead>
<tr>
<th>CATEGORIES / QUESTIONS</th>
<th>PRODUCT 1</th>
<th>PRODUCT 2</th>
<th>PRODUCT 3</th>
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<tbody>
<tr>
<td>Target market</td>
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<tr>
<td>Environment</td>
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<td>Technology</td>
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<td>Other categories / questions</td>
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Thinking like a designer - from idea to business

• Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation (Tim Brown)

• Design Thinking: Integrating Innovation, Customer Experience, and Brand Value (ebook) (Thomas Lockwood)

• The Art of Innovation: Lessons in Creativity from IDEO (Tom Kelley)

• Design Thinking for Strategic Innovation: What They Can’t Teach You at Business or Design School (Idris Mootee)

• Design Thinking Process & Methods 4th Edition (Rob Curedale)
Please attend to the following **requirements** for your IdeaLab presentation:
1st page of presentation should include this information

and

One image of your final concept design

IdeaLab Spring 2018

• Problem area original title
• Problem area new title (if different)
• Problem statement/definition
• Team members information:
  - Full name
  - College/department
  - Year at RIT
  - Email contact
• Team advisor (client)
  - Name + email contact
• Team coach (RIT faculty)
  - Name + email contact
Follow this simplified Design Thinking process to research, organize and present your concept solution.

*Use as many pages as necessary*

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**Project Requirement (each team)**

- Original problem description (customer requirements)
- User profile/needs and desires
- Context/environment characteristics
- Target market/business viability
- Technology feasibility and possibilities
- Competitive benchmarking
- Refined/reframed problem definition
- Brainstorming ideation and synthesis (record of all ideas)
- The “winning” concept solution (sketches or CAD) and anticipated resources
- Experimental 3D prototypes (images)
- Documentation: Google doc/presentation