Integrating Design Thinking on Your Projects

Bruce Gay, PMP
• You have my consent to tweet the contents of this talk.

• You have my consent to take pictures of my slides.

• You have my consent to mention (@) me with feedback and your perspectives on any of the concepts in this talk.
• Who already uses Design Thinking or human-centered design on their projects?

• Who is interested in integrating Design Thinking into your projects?
WARM UP

Spend the next **60 seconds** drawing the items listed on the sheet in front of you!
Time is Up!

Share your sketches with your neighbor.
# Being Visual is an Important Part of Design

<table>
<thead>
<tr>
<th>Warm Up Exercise: Rapid-fire Sketch</th>
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<tbody>
<tr>
<td>In 30 seconds, draw a picture of in the box that represents the word written below it.</td>
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<table>
<thead>
<tr>
<th>Home</th>
<th>Coffee</th>
<th>Mouse</th>
<th>Sun</th>
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<tr>
<th>Computer</th>
<th>Bread</th>
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<th>Flower</th>
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Integrating Design Thinking on Your Projects | @brucegay | #AAB18
Being Visual Promotes More Precise Communication
Section 1

What is Design Thinking?
Great visual from @JoniSaylor @ibmdesign at DesignThinking2018 conference!

#DesignThinking #Design #Innovation
Design thinking is …

<table>
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<tr>
<th>PRACTICES</th>
<th>COGNATIVE APPROACHES</th>
<th>MINDSET</th>
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</table>
| • Human-centered approach  
• Thinking by doing  
• Visualizing  
• Combination of divergent & convergent approaches  
• Multidisciplinary collaborative work style | • Abductive reasoning  
• Reflective reframing  
• Holistic view  
• Integrative thinking | • Experimental & explorative  
• Ambiguity tolerant  
• Optimistic  
• Future-oriented |

“Design Thinking is the creative and systematic approach to problem solving by placing the user at the center of the experience.”

Prof. Anthony Mayo
HARVARD BUSINESS SCHOOL
Design Thinking is the Creative + Systematic Approach to Problem Solving

Places the User at the center of the experience
Different Approach to Problem Solving

- **Design** is characterized by an attempt to create a response to a perceived problem.
- It is the purposeful move from a current situation to a preferred situation.
- Relies on trial and error (iteration).
Stanford Design School Model

- **Empathize**
- **Define**
- **Ideate**
- **Prototype**
- **Test**

Iterate / Repeat

Source: Stanford University Institute of Design
Stanford Design School Model

Empathize
- Interact and interview
- Shadowing
- Seek to understand
- Non-judgmental

Define
- Synthesize the findings
- Insights and needs
- Understand challenges and pain points
- Define an actionable problem statement

Ideate
- Share ideas and alternatives
- Process of “going wide”
- Diverge/Converge
- Harness collective prospective of the team

Prototype
- Make ideas physical
- Explore multiple options
- Deepen understanding of users
- Inspire others by showing the vision

Test
- Refine prototypes and solutions
- Deepen understanding of users
- Validate the problem statement

Iterate / Repeat

Source: Stanford University Institute of Design
Damien Newman’s “Design Squiggle”

Source: Process of Design Squiggle by Damien Newman

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Design Methods – Tools that Project Teams Can Use

Design “Toolboxes”:

• User Research
• Idea Generation
• Visualization
• Prototyping

Not a process, but a set of toolboxes, each with tools that can be used by teams.
Section 2

Business Benefits of Incorporating Design Methods into Projects
Design Drives Business Value

Source: The Design Management Institute (DMI)
“Good design is good business.”

~Thomas Watson, Jr.

Source: IBM Corporation Archives. Photograph, Mel Koner
Design Thinking Helps with Solving the Right Problems

“Doing the right thing”

Problem Finding

Design Thinking

Lean Six Sigma
Agile
Traditional PM

Problem Solving

“Doing the thing right”

Project Execution Methods

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Design Helps Mitigate Risk & Failure

95% of returned consumer electronic products have **no defects**...

68% worked properly but **didn’t meet customers’ expectations**. (They either thought it was *broken* or it *did not work properly*.)

In 2011, this represented a **$17 billion** problem in the U.S. alone.

Source: Accenture and CEA 2011
Design Reduces Overall Development Costs


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The Cost of Design is Not All That High

“Elaborate usability tests are a waste of resources. The best results come from testing no more than 5 users and running as many small tests as you can afford.”

– Jacob Nielson

Section 3

Case Studies
Case Study: Re-designing the Imaging Workspace
Case Study: Re-designing the Imaging Workspace

Key Problems in Radiology Workflow

- Image-centric, not patient-centric
- Multiple data silos with multiple log-ins
- Radiologists lacked full patient context
- Too much information, not enough intelligence
- Poor user interfaces with multiple pop-up boxes and complex menus
Case Study: Re-designing the Imaging Workspace

Thesis

- Embedding designers into the product development teams would produce higher quality, lower usability defects and higher overall satisfaction by users.
Case Study: Re-designing the Imaging Workspace

What did we did…

- Conducted early exploration & discovery
- Mapped clinician experiences
- Included design in the full development process
- Generated conceptual designs and prototypes
- Utilized a “Living Lab” to conduct product evaluations and testing with clinical users
- Ran usability testing per FDA regulatory requirements
Case Study: Re-designing the Imaging Workspace

Results

• By embedding designers in the teams, close collaboration allowed rapid iteration on designs and prototypes
• Co-design sessions helped to uncover constraints between user needs, legacy products and technical constraints
• User metrics for product usability and satisfaction improved
Case Study: Designing a Unified Admin Website
Case Study: Designing a Unified Admin Website

Key Problems

- System administration tools emerged in an ad-hoc manner, built by multiple companies with minimal coordination
- Overall unsatisfactory user experience
- The primary user base had a wide range of technical expertise
Case Study: Designing a Unified Admin Website

Thesis

- By taking a “Make it work for the users” approach, the user experience challenges would be solved through pre-development design and prototyping sessions with end users (aka design charrette).
Case Study: Designing a Unified Admin Website

Implementation

• Held a three-day human-centered design exercise to define the "future user" and brainstorm design solutions
• Validated concepts and workflows with active field service engineers
• Utilized a Cost-Impact Matrix to prioritize end-user functionality
• Tested multiple prototype wireframes
Case Study: Designing a Unified Admin Website

Results

• The design sessions produced a final mock-up of the front-end system
• The Government customer was happy with the results
• Field Service Engineers were happy with the modern and simple-to-use front-end
• Being visual allows more precise communication within the team and with users.

• Visualizing solutions (e.g. paper prototypes) helps identify problems before they become built into the product or service.

• Design should be involved in the full development lifecycle, not something bolted on at the end of the process.

• Sequencing of design activities matters. Allow time up-front for design research before jumping into developing a solution.

• Get as close to your users as possible for feedback on concepts and designs. Even better, embed users into your project activities.

• Strive for extensive collaboration and share designs artifacts early and often.
TAKE AWAYS

Incorporating design methods into your projects will

- Drive business value and increase customer alignment
- Focus teams on building the “right thing”
- Mitigate risk and failure related to missed customer expectations
- Reduce overall product development costs
- Can be accomplished at a relatively low cost
Thank You.

Let’s Connect:
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# DESIGN THINKING RESOURCES

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<td>• <a href="#">Design Kit Methods</a></td>
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