Design Thinking for Everyone

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Old Age

I was there…1970 to now = lots of history.

My Personal Opinions

- Please don't sue me!

Some Design:
Past, Present and Future

- Definitions for clarity.
- American industrial design legacy.
- The European invasion.
- The Stanford influence.
- Apple and Steve.
- The future of design.

Some Definitions

- Design.
- Design thinking.
- Design process.
- Design tools.
- Design methods.
- Industrial design.
- Product design.

Design

- Design is the **creation** of a **plan** for the **making** of an **object**, **system** or measurable human **interaction**.
- Design considers the **esthetic**, **functional**, **technological**, **economic** and **sociopolitical** dimensions of both the design **object** and design **process**. **Many** diverse **kinds** of objects or entities may be designed.

Design Thinking

- Design thinking is an **overarching process**—a **way** of **thinking** that is applicable to **all walks of life**—of creating new and innovative **ideas** and solving human-centered **problems**. It is **not limited** to a specific industry or area of expertise.

Design Process

- The design process is a **methodical series of steps** that designers use in **creating** functional products, systems, solutions and processes.

Design Tools

- There are many.

Design Methods

- And many here too.

Industrial Design

- Historically emerging in the USA around the 1920s.
- Originally, "design for industry" => industrial design.
- An answer to an ugly industrial revolution.
- In America, originally focused on outside esthetics, form and styling.
- Evolved in America to an overly ego-centric profession.

Definition???

- The professional service of creating products and systems that optimize function, value and appearance for the mutual benefit of user and manufacturer.
- The application of mathematics, empirical evidence and scientific, economic, social, and practical knowledge in order to invent, innovate, design, build, maintain, research, and improve structures, machines, tools, systems, components, materials, processes and organizations.

Product Design

- Three versions…
  - ✦Within industrial design: the design of products, often consumer. as opposed to design of vehicles or fashion or graphics.
  - ✦Within Silicon Valley: developed from H-P as equivalent to product engineering along with industrial design.
  - ✦From Stanford: a comprehensive approach to both inside out and outside in product design of both functional aspects as well as esthetics.

Past and Current Thinking

Inspiration and irritation.

Victor Papanek

"**There are professions more harmful than industrial design, but only a few**…The only important thing about **design is how it relates to people**…Design is **basic to all human activities** - the **placing and patterning** of any act towards a desired goal constitutes a design process."

Steve Jobs

"Design is **not** about how a product **looks**, but about **how** it **works**!"

Dieter Rams

Gary Hustwit: One of the reasons that his story is fascinating…is that he's this renowned designer that has seen the design of 500 products, but he looks back at his career and says **if he had to do it again he wouldn't want to be a designer**. He thinks that the work he's done has contributed to this commercialized, consumerized society. That **there's so much unnecessary stuff in the world**, and he

Jonathan Ive of Apple

…says he struggles to hire young staff as schools are **failing to teach** them **how to make products**… and relying too heavily on "cheap" computers. "So many of the designers that we interview **don't know how to make stuff**, because workshops in design schools are expensive and computers are cheaper," said Ive. "**That's just tragic**, that you can spend four years of your life studying the design of three dimensional

Tim Brown

"It is time to take design away **from** the design **professionals** and give it to **everyone**."

Donald Norman

"In every design project **many people** from **many backgrounds** participate. Design belongs to **everyone**, not one specific group."

Others…

- Bashing and criticizing engineers.
- Claiming too much contribution.
- Restricting what others can do.

The Kostellow Effect

Legacy of "styling" in American industrial design.

The American ID Disasters…

- MODEL for American ID schools for decades.

Form OVER Function

- Versus form follows function.

Beauty is the PRIMARY goal

- Versus function is the primary goal.

Designers are FORM-GIVERS

- Versus everything has a form.

Emphasis on ORGANIC Form

•Versus geometric form.

Design taught in ART SCHOOLS

- Versus in technical schools.

Results…

- The proof of the pudding is in the eating…

The Corporate Legacy

Management disasters.

Departments and Silos

- Us and them.

Management by the Numbers

- All about finance.

Back-End Focus

- Ship it.

Front-End Confusion

- Fuzzy.

The Stanford Influence

Silicon Valley and Hewlett-Packard.

Humanized Engineering

- The Stanford PD program.

The Lab

- H-Ps legacy.

Product Design Program: Now the Design Group

- "We are creating the next generation of designers and thought-leaders who will design solutions to the complex challenges facing industry, society, and our planet."

- "The Design Group's philosophy combines an emphasis on creativity, technology and design methodology with a concern for human values and the needs of society. The group's varied interests are reflected in the following areas of teaching and research:

Apple and IDEO

- Steve Jobs.
- Jerry Manock.
- David Kelley.
- IDEO.

The Stanford d.school

- No degrees granted.
- Instructors teach for free.
- Participants may be any background.
- Applying design thinking and design process to human-centered problems and issues.

Apple Influence

The beginning.

Steve Jobs

- Passion for design as function.
- Passion for perfection.
- Passion for usability.

Jerry Manock

- Stanford and the Apple II.
- Hiring early IDEO founders.
- Hiring me (haha).

The Europeans

- Frog and ID2.
- Non-American industrial design =
  - ✦form follows function.
  - ✦geometric form.
  - ✦Minimal sketching to making fast.

Jonathan Ive

- The Brit.

Minimalism

- Take away, take away, take away.

The Future of Design

What's new and what's old?

Re-New: Making

- Mockups, models and prototypes.
- Electronics.
- Software and coding.
- Robotics.
- BUILD TO THINK!!!

New: For and By Everyone

- Universal design thinking education.

Old: Design Process

•Understanding and application.

New: Tools and Methods

- Empathic research tools.
- Making tools.
- Visualization tools.

New/Old: Application

• Anything and everything.

Re-New: Hybrid Designers

- Blend of the artist and technologist.
- The engineer and the craftsperson.

New: Important Problems

- No more teapots and waste baskets.
- Human-centered problems.
- Meeting real human needs.

Activity- and Outcome-Based

- Form design.
- Usability design.
- Interaction design.
- Appearance design.
- Mechanical design.
- Structural design.
- Space design.
- Software design.

Design Jobs

- Where will they come from???

Thank You!!!

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