IMS564 | USER EXPERIENCE DESIGN

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1

Table of Content

- Good UX Design
- Characteristics of successful UX Innovation
- UX Design Elements and Processes
- Project Approach to UX Development
- The Elements of UX

2

Good UX Design

- Although design and several usability activities are certainly qualitative, the impact of good and bad designs can be easily quantified in conversions, completion rates, completion times, perceived satisfaction, recommendations, and sales.

3

Good UX Design

- A good product is:
  - **Made for humans**. Is the site relevant and useful? Is it enjoyable? Does it match users' mental models—that is, their understanding of how the site should work? Does the site speak in user-friendly language? Does it offer the right level of user control?
  - **Forgiving**. Does the site prevent errors? When errors do occur, are they clearly explained and easy to recover from? Does the site minimize the user's mental workload?
  - **Accessible**. Is the text legible? Does the site cater to color-blind users? Is there unnecessary animation? Does the site work with assistive technology such as screen readers?
  - **Self-evident**. Is it clear what and who the product is for? Is it easy to use/navigate? Is the layout logical, with the most important information prominent? Do the icons and graphics make sense?
  - **Predictable**. Is the site consistent? Does it use known web conventions? Are there good defaults for user input? Does the site remember user preferences?
  - **Efficient**. Are text, imagery, and structure concise? Is the site responsive, giving good feedback? Does it prioritize the most important tasks?
  - **Trustworthy**. Is the site accurate? Is its content up-to-date? Are there any bugs? Does the site keep its promises?

4

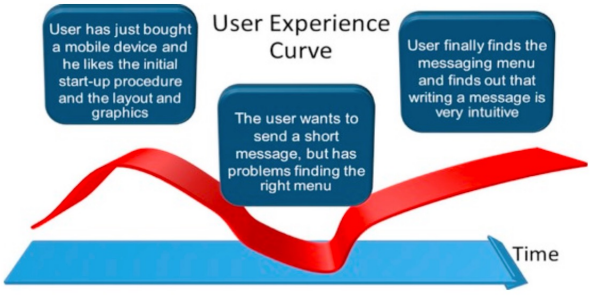
Good UX Design

- The prescriptive nature of expert reviews can feel artificial, but they're an excellent way to analyze your site against tested design principles. They also help build your familiarity with the product and, by conducting them at regular intervals, you can see whether the site is improving.
- When using a product (or when purchasing a device, sending it for repair, etc.), you can try to imagine the feelings that the user will have in different situations.
  - Positive feelings mean that the user experience curve goes up,
  - Negative feelings mean that the curve goes down. If the curve goes down too much—or drops repeatedly during the process—you will most likely lose the customer even before purchasing; or the customer may end up being pretty unhappy most of the time using your product. And they will most likely not purchase a product from you again.

5

Good UX Design

- Example of this "user experience curve" in a first-usage situation for a mobile device.



6

Good UX Design

- Scenario Example:
  - One problem with feelings (and hence the user experience) is that different people react differently in different situations. And the same person may get different feelings in the same situation depending on the context. If the user, for example, had a very stressful day, he may easily drop rapidly on the user experience curve compared to the same user going shopping on a relaxing summer vacation.
  - And as with a personal relationship, the feelings may change over time, or even from day to day. Certain things may even make us go from happiness to anger in just seconds (e.g., if a software program crashes when you have just been using it for an hour, typing a long letter). Other things may become annoying to use when the user knows that there are better solutions out there.
- The goal is of course to maximize the positive moments for users when they're using your product. And ideally to make your consumers love your product—at least some or most of the time.
- Another very important element—is to eliminate the worst negative feelings during usage of a product. One negative user experience may need ten good experiences to make the user happy again.

7

Good UX Design

Expectations and User Experience

- User experience is very much about expectations. Generally, if customers have low initial expectations, then your product can more easily surprise the customers positively

Ideal user experience curve with low initial end-user expectations

8

Good UX Design

Expectations and User Experience

- But for superb products and sustainable brands, you actually want the custom- ers to have high expectations. High expectations basically mean that you can charge more for your products. If you manage to build up high user expectations for your products, however, then you need to match (or ideally, exceed) these expectations for your next product. Not fulfilling the expectations may be fatal.

User experience curve when not fulfilling high initial end-user expectations

9

Good UX Design

Expectations and User Experience

- Expectations may depend on cultural differences, how customers perceive your brand, and a number of other things.
- A good user experience can hence easily and quickly change customers' expectations.
- Expectations for your product are hence not fixed. They will in fact change every time you—or your competition—raises the bar by providing successful user experience innovations.

10

Good UX Design

First Impressions Last

- Whether we like to admit it or not, we judge people very much on the first impression we get of them. Glance at the person in the figure below. Do you have an impression? Very likely you do have an impression, and it's from just one quick glance at a single image.

11

Good UX Design

First Impressions Last

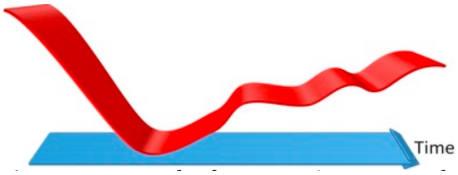
- There is also first impression for the user experience of a product.
- If your product needs eight hours charging before you can turn it on, if the user is faced with tens of difficult questions before you can start using your web page, or if the user's impression of the sales shop she enters is far from optimal, then you have given the user a very bad first impression of your product.
- In the best case, the result is that the customers will **lower** their expectations respectively.
- This is, however, **not good** for any business, since it will also **lower the price expectations of your product**.

12

Good UX Design

First Impressions Last

- In the worst case, you will lose existing customers, or you will leave the customers with a first impression that can take at least ten great user experiences to change into a positive overall experience. Figure below shows an example of how a poor first impression might take some time to overcome.



Example of user experience curve when the first impression of your product is bad

13

Good UX Design

First Impressions Last

- Many web page developers in the world do not understand that a Flash introduction means losing a large amount of customers (even if it looks cool), simply because it may take tens of seconds or even minutes to load.
- Many owners of social websites mistakenly believe that users want to tell everything about themselves, and spend several minutes doing this even before they know what to use the website for.
- Many device manufacturers ask users to configure complex settings before even letting them get into the core functions of the device.
- In other words, your first impression lasts a lot longer than you think—and a bad first impression may already mean that you have lost a large amount of customers.

14

Good UX Design

Long-Term User Experience

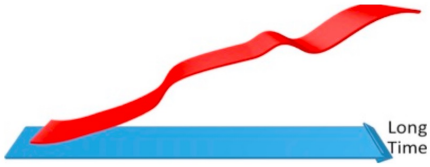
- Many devices, web pages, software packages, and so on focus solely on the first impression.
- This may in some cases make your consumers choose your product, but the same consumers will only return to your product next time if they also feel good during daily use of your product.
- Again, long-term user experience resembles a personal relationship.
- Yes, the first impression may make you get interested in or engaged with a person, but you will not maintain a relationship with the person unless they give you something back in the longer term.

15

Good UX Design

Long-Term User Experience

- Long-term user experience is hence just as important as the first impression— at least if you want your customers to come back to you next time.
- Ideally, you want a user experience curve similar to that in Figure below, showing more or less constant growth in satisfaction over time. There will always be a few dips in the road, but the overall trend should be upward.



Ideal user experience curve for long-term usage

16

Good UX Design

Long-Term User Experience

- A good long-term user experience is characterized by a daily joy when using a product.
- It is characterized by evolving together with the user, and by a growing “love” of your product from your users.
- The result of a good long-term user experience is that the end user will want to return to your product again and again.
- Usually a good long-term user experience is achieved by tiny things that keep surprising the user—or just making the user feel that he is in control of the product.
- **Continuous** successful improvements and up- grades of your product are also important for the long-term user experience.

17

Good UX Design

Positive Surprises (Wows)

- A key element of a good user experience is providing small surprises for the user.
- These can also be called *wows*.
- These surprises of course need to be positive, and they can make people think or even say the word *wow*. Figure below shows an advertisement with a certain *wow* effect.

Example of wow. Credits and description: Giant constrictor snake squeezing complete Copenhagen citybus. Advertising Agency: Bates Y&R, Copenhagen, Denmark. Creative Director: Ib Borup. Art Director: Peder Schack. Agency Producers: Josephine Winther-Poupinel, Steen Nøhr. Other credit: Erich Karsholt. The Print Ad titled Snake Bus was done by Bates Y&R advertising agency for brand: Copenhagen Zoo in Denmark. It was released in Dec 2009.

18

Good UX Design

Positive Surprises (Wows)

- A wow could be something like a great and logical graphical layout where the user thinks, “Wow, this looks good.”
- It could also be a user interaction that is designed in a playful way.
- Playfulness is a very essential part of wows and positive surprises.

19

Good UX Design

Positive Surprises (Wows)

- Wows and positive surprises can also happen when the user discovers a small, intelligent function that, for example, helps him type text faster.
- Or they can refer to the pleasure the user feels when he finds a shortcut for an often used function on a web page.
- Positive surprises are needed on every level of interaction and usage, but focus should be made on core tasks that the user performs.
- Designing great interaction elements that users do not need or may not find is a waste of resources.
- Negative surprises should be generally avoided, especially in the core interaction of the product. But negative surprises—also known as pain points—can provide a very tangible approach to creating successful user experiences.

20

Good UX Design

User Experience Applies to Everything

- User experience can be applied to almost all kinds of businesses.
- The user experience may seriously influence your brand, customer loyalty, and the amount of new customers considerably.
- Hence, it makes sense to take user experience very seriously for any kind of business.

21

Characteristics of successful UX Innovation

- Three levels of innovation in user experience:
  - creativity,
  - innovation, and
  - success.
- Success might seem like a strange choice, but it is important.
- Innovation without successful implementation is of little use and will not create products that create positive feelings for the user.

22

Characteristics of successful UX Innovation

- Successful user experience innovation will make your consumer say “wow.”
- It will make your consumer smile, or it will make your consumer think, “This is clever,” or “What a positive surprise.”
- Success will only happen, however, if the user sees your solution, product, or service as relevant. Without need, there is no success.
- Another equally important, but much subtler, thought that users may have when operating your successful user experience innovation is, “This just works,” or “I got my task done.”
- They may not know why they feel this, they may not know all the intelligent user experience design and technologies that enabled this almost seamless interaction, but they just feel in control and comfortable.

23

Characteristics of successful UX Innovation

- These feelings inside the user do not need to be strong—at least not all the time—but they should be there.
- They should be there when using the product the first time, when using the product longer term, when upgrading the product, and so forth.
- The five main characteristics of a successful user experience innovation:
  - Relevance
  - Positive feelings or wow
  - Perception of uniqueness or novelty
  - Visibility
  - Marketability

24

Characteristics of successful UX Innovation

Relevance

- Relevance indicates that the user experience innovation you create is covering a real or latent need of the end users.
- Without need, the user experience innovation will not be successful.

Positive Feelings

- A successful user experience innovation makes the user feel happy, satisfied, confident, comfortable, or positively surprised, and it may even give the user a wow experience with your product. Ideally, you want **your users to love your product and the experience it gives**.
- To trigger positive feelings with the user, your design needs to be inviting, simple, and focused.
- Negative feelings should always be avoided, and the causes of these feelings (usually pain points) should be eliminated.

25

Characteristics of successful UX Innovation

Uniqueness or Novelty

- A successful user experience innovation is perceived as novel and unique.
- The technologies, applications, and solutions you use to generate that perception may not be new at all, but what counts is the perception of the end users, not so much the reality of the situation.
- For example,
  - many people perceived the iPod as the first MP3 player as iPod was the first MP3 player they had ever heard of, and so was born the perception that the iPod was new and unique.

26

Characteristics of successful UX Innovation

Visibility

- You want to place your user experience innovation where a majority of your target users will experience it (e.g., in the core tasks of your product).
- User experience innovation placed in rarely visited corners of your product may give a small positive surprise when found, but it will rarely make your overall product successful.
- In some cases, successful user experience innovation is done in a hidden way.
- Maybe you have designed underlying intelligence that guesses what the user wants, and the user will consequently—if the product is designed right—be left with a positive feeling that "it just works." However, since the user still notices that the product "just works," this innovation can hardly be called invisible.
- Innovation needs to be visible. Otherwise hardly anyone will ever see it, and hence it cannot be seen as an innovation.

27

Characteristics of successful UX Innovation

Marketability

- Successful user experience innovations can often be used in marketing campaigns.
- If your user experience is great, then it is difficult to find better ways to market your product than through these user experience innovations.

28

Characteristics of successful UX Innovation

The Value of User Experience Innovation

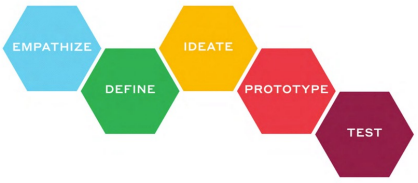
- The value of user experience innovation is threefold:
  - Successful user experience innovations will make your product stand out from the competition. The customers will most likely prefer your solution and product.
  - User experience will become the key battlefield for competition in the future, and it already is the main battle ground in many current areas.
  - User experience innovation is and will continue to be the main brand-building tool.

29

UX Design Elements and Processes

The 5-Stage Design Thinking Process—d.school

- The Stanford Design School (d.school), now known as the Hasso Plattner Institute of Design, initially taught design thinking via a simple but powerful 3-step process: Understand, Improve, Apply.
- They have since built upon this, to formulate and openly share a famous 5-stage process which is widely used around the world.
- The process they outlined is as follows:
  - Empathize
  - Define
  - Ideate
  - Prototype
  - Test

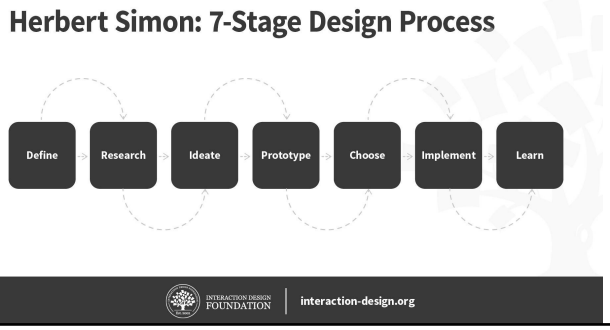


30

UX Design Elements and Processes

The Early Traditional Design Process—Herbert Simon

- The earliest versions of the design thinking process still reflected the traditional design process. As design thinking evolved, however, deeper empathy, more collaboration and a multidisciplinary approach were thrown into the mix.



31

31

UX Design Elements and Processes

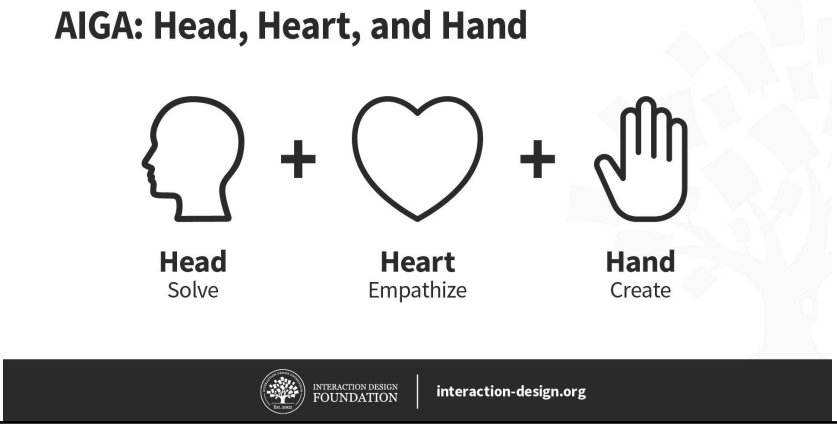
Head, Heart and Hand—AIGA

- The American Institution of Graphic Arts (AIGA) states the value of modern design practice comes from designers' unique blend of head, heart and hand.
- For example, design thinking participants wear many hats during the process and rely on their heads to solve complex problems.
- In the early stages, they also use their hearts to empathize and understand human needs and emotions.
- The particular gift of designers, however, is their ability to dive into practical creation by hand.
- The three combined create a holistic process which utilizes input from all of our faculties to be successful.

32

UX Design Elements and Processes

Head, Heart and Hand—AIGA



33

33

UX Design Elements and Processes

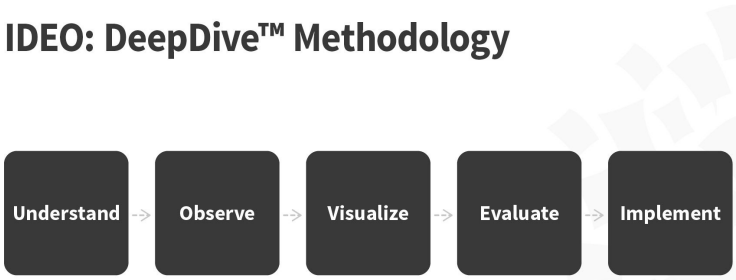
DeepDive™ Methodology—IDEO

- The DeepDive™ technique was developed by IDEO as a way to rapidly immerse a group into a situation where they can effectively problem-solve and generate ideas. They expressed this variant of the design thinking process live on ABC Nightline back in the late ’90s.
- IDEO's DeepDive™ comprised the following steps:
  - Understand
  - Observe
  - Visualize
  - Evaluate
  - Implement
- The DeepDive™ methodology was further documented and enhanced by Andy Boynton and Bill Fischer of the International Institute for Management Development (IMD) business school, and Deloitte Consulting then acquired the rights in 2006.

34

UX Design Elements and Processes

DeepDive™ Methodology—IDEO



35

UX Design Elements and Processes

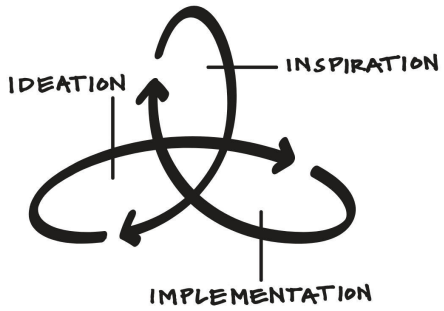
The 3-Stage Design Thinking Process—IDEO

- IDEO uses a different process and, while it only has three stages, it covers pretty much the same ground as the other processes in this compilation.
- The three stages are:
  - Inspire: The problem or opportunity inspires and motivates the search for a solution.
  - Ideate: A process of synthesis distills insights which can lead to solutions or opportunities for change.
  - Implement: The best ideas are turned into a concrete, fully conceived action plan.
- IDEO also released a deck of IDEO Method Cards which cover the modes Learn, Look, Ask and Try—each with their own collection of methods for an entire innovation cycle.

36

UX Design Elements and Processes

The 3-Stage Design Thinking Process—IDEO



The 3 core activities of design thinking
IDEO

UX Design Elements and Processes

Design Kit: The Human-Centered Design Toolkit—IDEO

- IDEO has also developed contextualized toolkits, which repackage the design thinking process.
- One such iteration focuses on the social innovation setting in developing countries.
- For this context, the terminology needs to be simplified, made memorable and restructured for the typical challenges faced in those environments.
- The Human-Centered Design (HCD) Toolkit they developed for this purpose was re-interpreted as an acronym to mean hear, create and deliver.

UX Design Elements and Processes

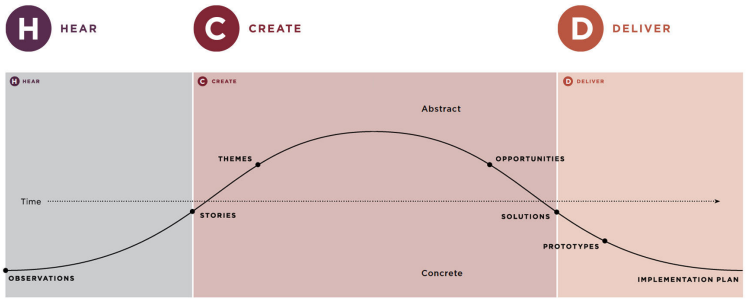
Design Kit: The Human-Centered Design Toolkit—IDEO

- Hear: Similar to early phases in other design thinking processes, the hear stage develops an empathic understanding of users, and defines the problem the team is trying to solve. It helps participants gain a solid foundation in the context of the problem and sufficiently reframe it to take on new perspectives.
- Create: The create stage is concerned with exploration, experimentation and learning through making—similar to the ideate and prototype phases in d.school's 5-stage approach. Potential areas of exploration are pinpointed, and those closest to the problem will be engaged with further to co-create solutions. This allows design teams to maintain the highest levels of empathy during early design phases and weed out any potential problematic assumptions made by designers who do not sufficiently understand the context.
- Deliver: The deliver phase of the HCD process is centered around logistical implementation. It also aims to help overcome any obstacles which may exist when rolling out a solution within the required context. It is essential that solutions integrate into communities and bypass other roadblocks during implementation, and this stage will help participants achieve that.

39

UX Design Elements and Processes

Design Kit: The Human-Centered Design Toolkit—IDEO



40

UX Design Elements and Processes

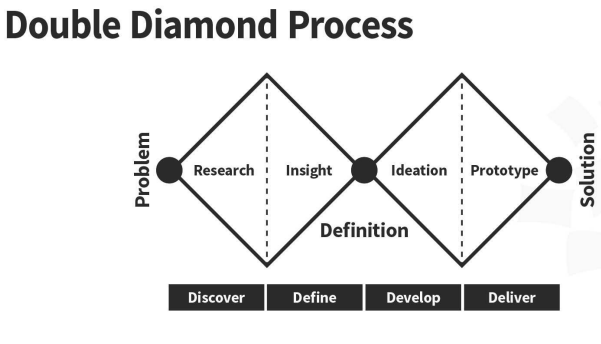
The "Double Diamond" Design Process Model—Design Council

- In the mid-2000s the British Design Council popularized the Double Diamond diagram, based on Béla H. Bánáthy's 1996 "divergence-convergence" model. The Double Diamond diagram graphically represents a design thinking process. It highlights the divergent and convergent styles of thinking involved, and is broken down into four distinct phases:
  - Discover: The start of the project is based around an initial idea or inspiration, often gained from the identification of user needs.
  - Define: These user needs are interpreted and aligned with business objectives.
  - Develop: Design-led solutions are developed, iterated and tested.
  - Deliver: The end product or service is finalized and launched into the market.

41

UX Design Elements and Processes

The "Double Diamond" Design Process Model—Design Council

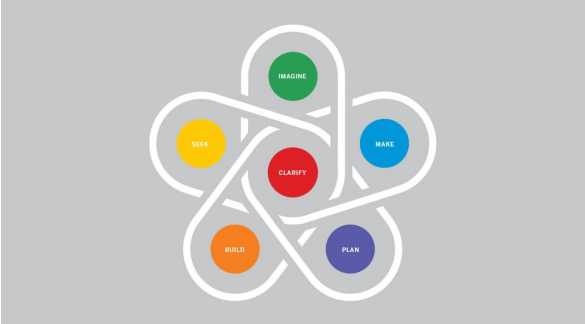


42

UX Design Elements and Processes

Collective Action Toolkit (CAT) — Frog Design

- Frog Design is an organization committed to social impact. They developed the Collective Action Toolkit (CAT) as a way to make the design process accessible to communities around the world—with the hope it will help them organize, collaborate and create solutions for the specific problems which affect their local area.



UX Design Elements and Processes

Collective Action Toolkit (CAT) — Frog Design

- Frog's CAT breaks the process down into six stages:
  - Clarify your goal: Agree on the problem you want to try and solve, as well as what goals you want to achieve.
  - Build your group: Bring people together in your community, identify their strengths and map out their commitment to your goals.
  - Seek new understanding: Ask questions, explore how people live and discover unmet needs to inform and inspire your group, and gain others' perspectives.
  - Imagine new ideas: Come up with new solutions and decide what makes some of them more achievable than others.
  - Make something real: Test and experiment your better ideas and see what you discover.
  - Plan for action: Organize what each group member should do to reach your shared goals.
- Frog make it clear these stages form a non-linear process, and you might have to revisit stages multiple times during a project—particularly the clarification stage.

UX Design Elements and Processes

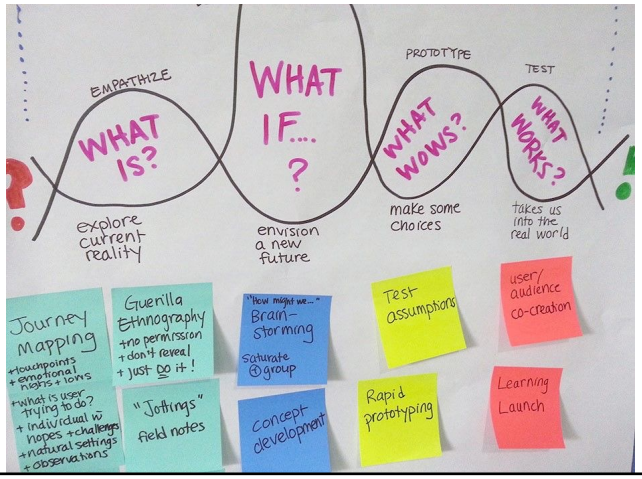
Designing for Growth—Jeanne Liedtka & Tim Ogilvie

- Jeanne Liedtka is a professor at the University of Virginia's Darden School of Business, and Tim Ogilvie is CEO of innovation strategy consultancy firm Peer Insight. Both are experts in design thinking and strategic thinking, and their book, Designing for Growth, puts forward a unique spin on the design thinking journey. It reframes the terminology into a more inquisitive and intuitive set of four what questions:
  - What is? Explore the current reality.
  - What if? Envision alternative futures.
  - What wows? Get users to help you make some tough choices.
  - What works? Make the solution work in-market, and as a business.

45

UX Design Elements and Processes

Designing for Growth—Jeanne Liedtka & Tim Ogilvie



46

UX Design Elements and Processes

The LUMA System of Innovation—LUMA Institute

- The LUMA Institute is a global firm that teaches innovation and human-centered design. The team at LUMA have developed their own expression of the design thinking process which they have distilled into three key design skills: Looking, Understanding and Making.
- They claim their system is flexible and versatile so it can be used for any type of problem, in any type of setting. The process unfolds through either a single set of activities or a combination of multiple methods—the latter being required for more complex challenges.

47

UX Design Elements and Processes

The LUMA System of Innovation—LUMA Institute

48

Project Approach to UX Development

- Knowing the overall approach, or methodology, of a project is an important part of understanding when and how you'll be involved and how you should be involving others, such as your project team and business stakeholders.
- How to choose the right approach for a project is a large topic in itself. The methodology you choose can depend on many things, including the structure and location of the project team, the technologies being used on the project, and the degree to which collaboration is a part of the company's culture.

49

Project Approach to UX Development

- The important thing to note is that most approaches involve the same steps:
  - Plan the overall strategy, approach, and team structure
  - Define the project requirements
  - Design interaction and visual concepts and evolve them into detailed specifications
  - Develop, test, and refine the solution
  - Deploy the solution via messaging, training, and a planned launch
  - Extend the project by making recommendations for improvements
- The names for these steps may vary, as may the degree to which they over- lap and the way information is documented. but the general activities in each step are common to most projects.

50

Project Approach to UX Development

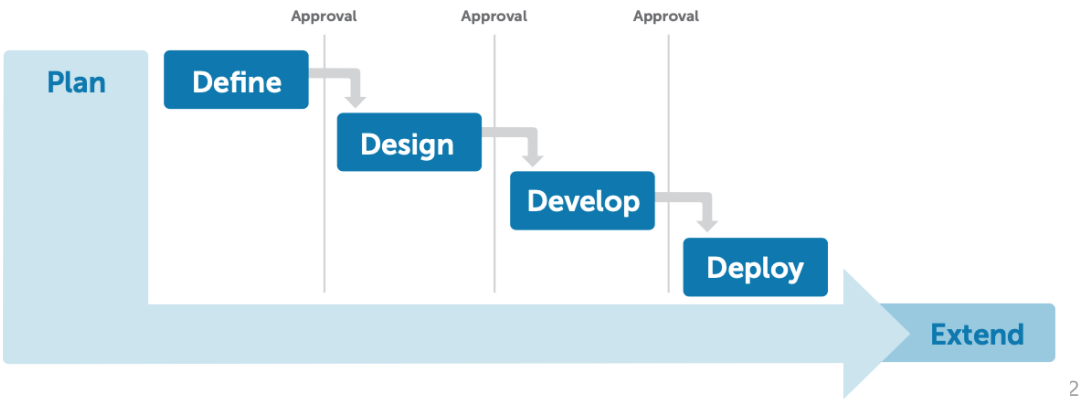
1. Waterfall Approach

- A waterfall approach involves treating the steps of a project as separate, distinct phases, where approval of one phase is needed before the next phase begins. For example, the design phase does not begin in earnest until requirements have been approved by business stakeholders, who sign off on one or more requirements documents at the end of the define phase.
- The problem with a pure waterfall approach is that it assumes that each phase can be completed with minimal changes to the phase before it. so if you come up with new requirements in the design phase, which is common, you must suggest changes to documents that were approved at the end of the define phase, which can throw off the plan and the schedule.

51

Project Approach to UX Development

1. Waterfall Approach



52

Project Approach to UX Development

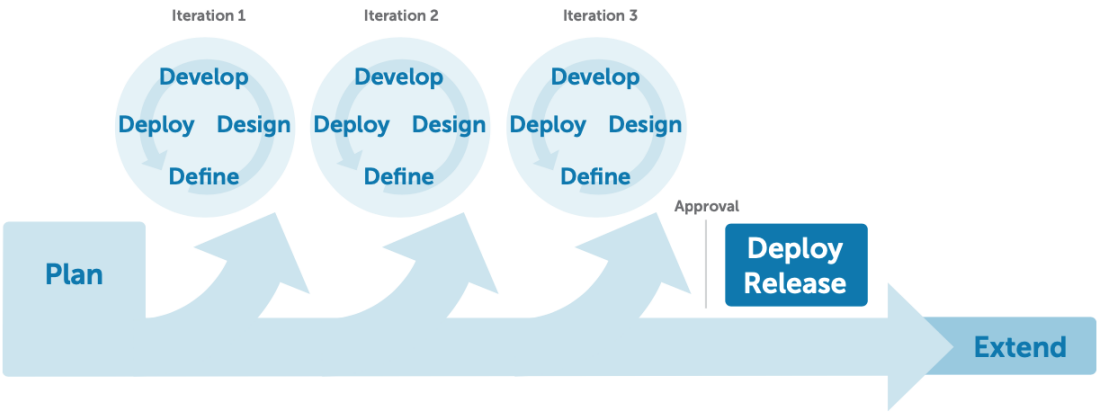
2. Agile Approaches

- Because change is constant, project teams are continually looking for more flexible approaches than the waterfall model.
- Many methodologies follow a more fluid approach, with some steps happening alongside each other; for example, versions of the website could be released on a rapid, iterative schedule using an agile or rapid development approach.
- An agile approach generally has a greater focus on rapid collaboration and a reduced focus on detailed documentation and formal sign-off.

53

Project Approach to UX Development

2. Agile Approaches



54

Project Approach to UX Development

2. Agile Approaches

- A true agile approach (following the best practices developed by members of the Agile Alliance, for example) calls for small teams whose members are located next to each other physically, with little focus on defining formal roles between team members.
- Working this way allows a very high degree of collaboration, which reduces the need for heavy documentation between the stages of design, development, and testing.

55

Project Approach to UX Development

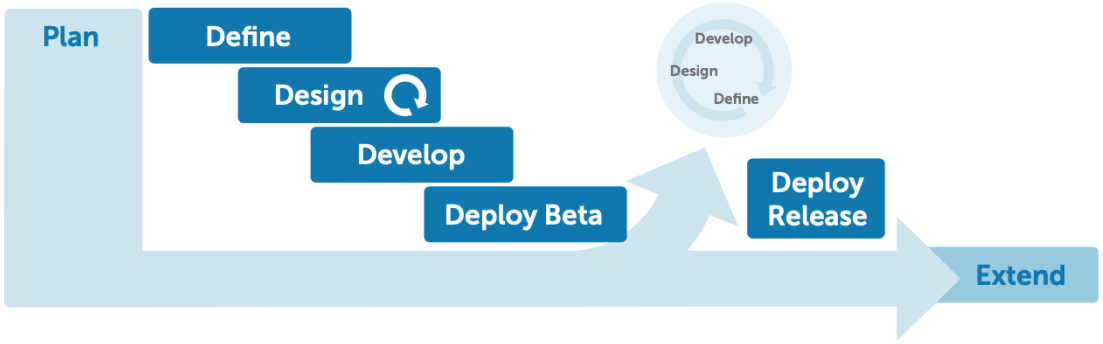
3. Modified Approaches

- Many projects try to follow an approach that marries elements of waterfall and agile approaches, with enough structure and documentation to reduce the risks posed by distributed teams and turnover of team members, but enough collaboration and iteration to respond to changes in a relatively nimble way.
- For example, a project may follow a waterfall model but include an overlap in phases so that there are key collaboration points from team to team.
- This allows potential changes to surface earlier in each phase.
- This may also include an early release (such as a beta release to a particular user group) with a shorter iteration cycle.
- Feedback from that release can then be incorporated before the full deployment of the new site.

56

Project Approach to UX Development

3. Modified Approaches



57

The Elements of UX

- The user experience design process is all about ensuring that no aspect of the user's experience with your product happens without your conscious, explicit intent.
- This means taking into account every possibility of every action the user is likely to take and under- standing the user's expectations at every step of the way through that process.

58

The Elements of UX

The Surface Plane

- On the **surface** you see a series of Web pages, made up of images and text. Some of these images are things you can click on, per- forming some sort of function such as taking you to a shopping cart. Some of these images are just illustrations, such as a photograph of a product for sale or the logo of the site itself.

The Skeleton Plane

- Beneath that surface is the **skeleton** of the site: the placement of buttons, controls, photos, and blocks of text. The skeleton is designed to optimize the arrangement of these elements for maximum effect and efficiency—so that you remember the logo and can find that shopping cart button when you need it.

59

The Elements of UX

The Structure Plane

- The skeleton is a concrete expression of the more abstract **structure** of the site. The skeleton might define the placement of the interface elements on our checkout page; the structure would define how users got to that page and where they could go when they were finished there. The skeleton might define the arrangement of navigational elements allowing the users to browse categories of products; the structure would define what those categories were.

The Scope Plane

- The structure defines the way in which the various features and functions of the site fit together. Just what those features and functions are constitutes the **scope** of the site. For example, some commerce sites offer a feature that enables users to save previously used shipping addresses so they can be used again. Whether that feature—or any feature—is included on a site is a question of scope.

60

The Elements of UX

The Strategy Plane

- The scope is fundamentally determined by the **strategy** of the site. This strategy incorporates not only what the people running the site want to get out of it but what the users want to get out of the site as well. In the case of our store example, some of the strategic objectives are pretty obvious: Users want to buy products, and we want to sell them. Other objectives—such as the role that advertising or content produced by our users plays in our business model, for example—might not be so easy to articulate.