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The Guide To UX Design Process & Documentation - Part 1

by Jerry Cao

In this article, we explain the general product design process and relevant documents you might produce at the first three of seven stages. It is meant to be a flexible framework as opposed to a strict recipe. These ideas are covered in greater detail across 150+ pages in the Guide to UX Design Process & Documentation e-book.

The following is an overview of product design and development documentation, constituent elements, and the respective phases to which they belong. The development process and resulting documents can vary widely between companies, as many follow their own unique design and development principles/methodology. In general, however, many of the deliverables below are common within most organizations in some form—including my wireframing and prototyping company, UXPin.

How They All Relate

Prior to elaborating on each constituent document, it may be helpful to take a cursory look at them from a bird's eye perspective, in the context of the entire product design and development process:

1. During the initial phase of **product definition**, you're brainstorming the product and how to execute on the project at the highest level with all necessary stakeholders. This might result in project kickoff plan, a lean canvas, and a bunch of really early sketches of what you're trying to build.

2. Moving into **research**, your team needs to refine your assumptions and fill in blanks. This stage varies based on complexity of the product, timing, resources, level of existing knowledge, and many other factors. In general, however, it's good to build out competitive and market analyses and conduct customer surveys. If you have an existing product, reviewing analytics, heuristics, content, product context, and user tests are also really helpful.

3. In **analysis,** the product marketing data collected thus far is used as groundwork for generating personas, experience maps, and requirements-related documents such as prioritized requirements lists and user-task matrices. At this point, the product definition, product priorities, and product plan has been defined and are ready for more formal design deliverables although sketches and diagrams are likely constantly being generated throughout this time.

4. From this output, scenarios, concept maps, and mockups may be created, leading into the **design** phase—whereupon activities such as conceptualization through sketches, wireframes, lo-fidelity and hi-fidelity prototype creation, and design element specifications through task-flow diagrams, guidelines, and assets creation are undertaken. For example, competitive analysis and personas created during *research* and *analysis* are instrumental at this stage for building mockups, concept maps, and scenarios. In turn, these items provide the impetus for creating intermediate and advanced stage design outputs such as wireframes, storyboards, and detailed mockups.

5. During **implementation**, code and design assets are assembled to create a product that adheres to the previously established product design specifications.

6. Upon launch of the **live product**, feedback data such as trouble/support tickets, bug reports, and other analytics will continue to drive product development and refinement through subsequent iterations, upgrades, and projects. With the offering in production mode, data should be continually generated and monitored in the form of analytics and reports to ensure the continued success of the product.

7. Continual, data-driven product improvement can be achieved through **measuring and iterating** the offering in production, using performance dashboards and analytics.

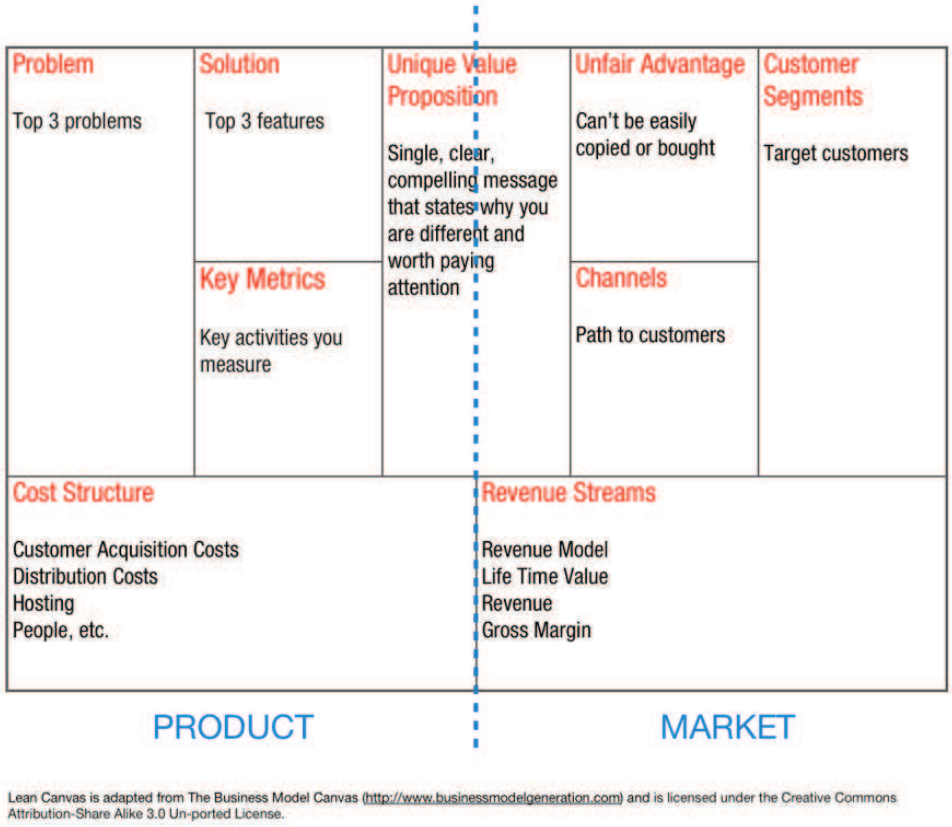
1. Product Definition

Initial activities such as stakeholder's kickoff meeting, brainstorming, and rudimentary product sketching lead to the creation of the following outputs:

- **Project Kickoff Plan** — a high-level outline of the product purpose, who is involved in designing and developing a product, how they'll work together and stay up-to-date on the progress, and what the intended results or success metrics are. This document is becoming shorter and shorter as teams become

more nimble and projects more lean, and can be presented in a powerpoint, document, wiki, or project management software.

- **Lean Canvas** — an actionable blueprint for product and market development, adapted from the business model canvas. It overlaps a lot with a project kickoff plan in defining the key problems it's solving, customer segments, it's unique offering, details of the solution, key metrics, and so forth. However, the Lean Canvas is more strategic while the Project Kickoff Plan is more tactical so they're complementary to some degree (instructions here).



Source: Why Lean Canvas

2. Research

Market conditions are assessed, such as the identification of current solutions on the market and their successes/failures. This competitive analysis and resulting market analysis help to determine product positioning and direct/indirect competition. Additionally, potential customers can be interviewed to gather data about their product preferences.

As discussed in our ***Guide to UX Design Process & Documentation e-book***, the following documents are created through these activities:

- **Competitive Array** — a matrix rating each competitor based on a particular weighted success factors, resulting in an overall ranking of the competition. This can be generated from Google Research, Crunchbase profiles, competitor classifications, drill-downs of competitor's online properties, and executive interviews among other activities.

- **SWOT Analysis** — short for **S**trengths, **W**eaknesses, **O**pportunities, and **T**hreats, this analysis measures internal and external factors for assessing the product's position in the competitive environment. You can use a lot of the same sources for creating the Competitive Array in addition to focus groups, statistical surveys, and other qualitative and quantitative research.

- **Competitor Profiles or Landscape Summary** — analysis that identifies the competitors and how the product or solution to be built can compete and/or improve upon their offerings. Generally speaking, it breaks down key points about their background, financials, products, marketing, facilities, personnel, and corporate and marketing strategies.

- **Market Segmentation List** — document dividing potential customers and users into specific buckets based on their specific, shared needs and characteristics. Generally speaking, they're segmented by geography, demographic, behaviors, psychology, benefits or some combination of the aforementioned (instructions here).

- **Survey Results** — data gathered from surveys about potential users, customers, competitors or specific products, identifying user or customer needs/concerns, validating or disproving assumptions, and providing recommended solutions to properly address the market (best practice tips here).

- **Growth-Share Matrix** — a chart that plots competitor's market share against the market's growth rate (instructions here).

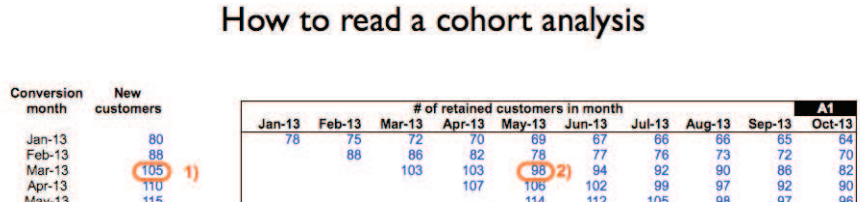
Source: *Growth Share Matrix*

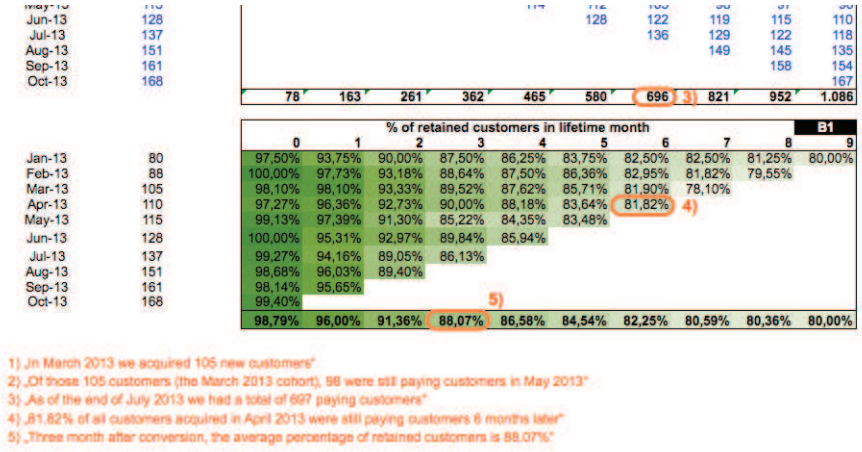
The following require a pre-existing product — or at least a prototype:

- **Heuristic Evaluations** — a qualitative analysis of the existing product generated in an excel report.

- **Usability Report** — summarizes the ease of use of a product, feature or set of features (best practice tips here).

- **Analytics Report** — a quantitative analysis of the existing product using all accessible data available internally, broken out into findings, assumptions, and recommendations (sample analytics dashboards here).





Jun-13	128						128	122	119	115	110
Jul-13	137							136	129	122	118
Aug-13	151								149	145	135
Sep-13	161									158	154
Oct-13	168										167
		78	163	261	362	465	580	696 3)	821	952	1.086

		% of retained customers in lifetime month									B1
		0	1	2	3	4	5	6	7	8	9
Jan-13	80	97,50%	93,75%	90,00%	87,50%	86,25%	83,75%	82,50%	82,50%	81,25%	80,00%
Feb-13	88	100,00%	97,73%	93,18%	88,64%	87,50%	86,36%	82,95%	81,82%	79,55%	
Mar-13	105	98,10%	98,10%	93,33%	89,52%	87,62%	85,71%	81,90%	78,10%		
Apr-13	110	97,27%	96,36%	92,73%	90,00%	88,18%	83,64%	81,82% 4)			
May-13	115	99,13%	97,39%	91,30%	85,22%	84,35%	83,48%				
Jun-13	128	100,00%	95,31%	92,97%	89,84%	85,94%					
Jul-13	137	99,27%	94,16%	89,05%	86,13%						
Aug-13	151	98,68%	96,03%	89,40%							
Sep-13	161	98,14%	95,65%								
Oct-13	168	99,40%									
					5)						
		98,79%	96,00%	91,36%	88,07%	86,58%	84,54%	82,25%	80,59%	80,36%	80,00%

1) „In March 2013 we acquired 105 new customers"
2) „Of those 105 customers (the March 2013 cohort), 98 were still paying customers in May 2013"
3) „As of the end of July 2013 we had a total of 697 paying customers"
4) „81,82% of all customers acquired in April 2013 were still paying customers 6 months later"
5) „Three month after conversion, the average percentage of retained customers is 88,07%"

Source: [The Easiest Spreadsheet for Churn MRR and Cohort Analysis]

3. Analysis

With an understanding of how the potential product may address customer needs (and how it may fit into the current market space) user-centric modeling ensues. Emphasis is placed on understanding and profiling the user through the following outputs:

- **Personas** — clusters of users grouped by common behavioral patterns and characteristics, with data derived from research and interviews. Resulting documents and/or reports detail touchpoints each persona has with the product (instructions here).

- **Scenarios or Use Cases** — generated through brainstorming with existing data and interviews, this describes "a day in the life" of a persona and probably includes how your website or app fits into their lives by mapping out touchpoints and reactions to the product. The report may even contain visual storytelling. (instructions here).

- **Experience Map** — detailing the user's experience across various situations and use cases.

- **Prioritized Requirements Document** — business and user requirements are detailed, coalesced and prioritized to have the highest impact with the lowest effort in the shortest amount of time.

- **User-Content Matrix** — identifying content types, sources, and disposition

as they relate to the user.

- User-Task Matrix — charting user tasks to frequency of use per user.

User task	User profile # 1- a casual tourist	User profile # 2 – travel agent	User profile # 3 – frequent flier
Register to the airline portal	Rare	Multiple	Multiple
Booking a ticket	Many	Multiple	Multiple
Booking a 'travel package' that includes air, hotel & car	Rare	Multiple	Multiple
Searching travel routes	Multiple	Multiple	Multiple
Use travel miles to book the ticket	Never	Multiple	Multiple
Use special offers to book the ticket	Multiple	Multiple	Rare
Refer travel guide (luggage restrictions) before booking the ticket	Multiple	Rare	Rare

Source: User Task Matrix

Conclusion

In short, from inception to launch, the outputs produced in each phase of product development function as building blocks for the activities that follow.

Product design and development documentation not only provide a means to encapsulate, organize, and share information arising out of each stage of development, but also preserves a product's development history for posterity. This can ultimately enable a firm or company to improve their processes and reproduce past product successes, allowing them to reach a greater level of agility and competitiveness.

For additional analysis, check out the 150+ page *Guide to UX Design Process & Documentation e-book*. Expert advice is featured from Aarron Walter, Laura Klein, Ian McAllister, and dozens others. Visual examples are also shown from companies like Vurb, MailChimp, Apple, Google, and many more.

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User Analysis Before Diving Into Design (Part 2)

by Jerry Cao

In Part 1, we provided tips for user personas, user & job stories, and user experience maps.

Now we'll look at how to use three types of matrics to help you plot out user scenarios, content, and product features. If you'd like to learn more, check out the free 150-page Guide to UX Design Process & Documentation.

User Task Matrix

While user stories look at how your product is used and experience maps shows the start-to-finish picture, a user task matrix looks at frequency of use.

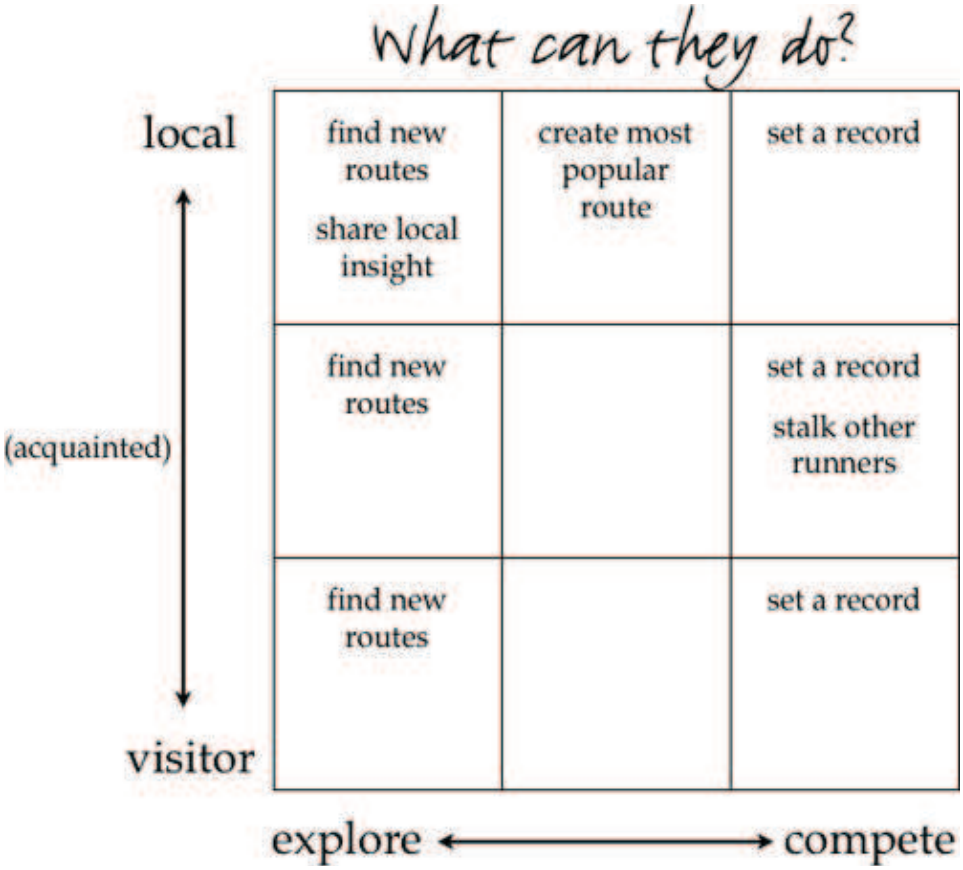
User task	User profile # 1- a casual tourist	User profile # 2 – travel agent	User profile # 3 – frequent flier
Register to the airline portal	Rare	Multiple	Multiple
Booking a ticket	Many	Multiple	Multiple
Booking a 'travel package' that includes air, hotel & car	Rare	Multiple	Multiple
Searching travel routes	Multiple	Multiple	Multiple
Use travel miles to book the ticket	Never	Multiple	Multiple
Use special offers to book the ticket	Multiple	Multiple	Rare
Refer travel guide (luggage restrictions) before booking the ticket	Multiple	Rare	Rare

Source: User Task Matrix

In the above example, the task matrix describes the various methods (and their frequencies based on persona) for accomplishing the goal of booking an airline ticket. The user task matrix helps you identify the non-negotiable aspects of the user experience. For example, our above matrix shows that the most important

task is “searching travel routes” since it’s used multiple times by all 3 personas. You can use this to inform design decisions by ensuring the “search route” function is part of the primary navigation instead of a discoverable item.

Stephanie Troeth, UX Consultant at MailChimp, takes a more connective approach to user task matrices. As you’ll see below, her matrix technique provides a broader snapshot of personas and the experience map by looking through the lens of contexts for behaviors and motivations.



Source: Design for Multifaceted Users

Compared to the traditional user matrix, her version is more visual and thus lets you spot patterns quickly and prioritize accordingly. For Stephanie’s social running app, the above matrix quickly showed that locals would likely be most involved in the app and therefore the feature set, communications, and marketing needed to appeal to that user group first. Stephanie’s user matrix is actually quite complementary since her version helps provide a high-level view that you can delineate into the traditional user matrix. As you’ve seen, the user matrix can really help in identifying key audiences, validating value propositions, and pinpointing

vital features.

User Content Matrix

If your product is cloud or software-based, a matrix will help you better understand how your existing content satisfies user needs, where you can improve, and how to prioritize content improvements.

Content Type	Topic	Format	Primary Purpose	Primary Audience	Quality	Low/Medium Quality Reason	Notes
Promotion/ CTA	Product/ service	Text	Brand/PR	Consumer	Medium	Influence/ Engagement	The CTA appears before much info about what the product is and how it's beneficial. The $100 value has little context.
Features	Product/ service	Text + Images	Sell/Market	Consumer	Medium	Influence/ Engagement	The features also might have more influence as a list rather than sentences in small text. The #1 claim is not explained or clarified. The CTA does not stand out visually. Tone doesn't match brand guidelines.

Source: Content Analysis — A Practical Approach

Colleen Jones, Founder of Content Science, believes that a content matrix will help you eliminate any content that is redundant, outdated, or trivial. Considering that most stakeholders need context rather than details, a matrix provides flexibility in letting you show only the rows and columns necessary to make your point. A content matrix can provide four specific benefits:

- Acute awareness of priorities — Knowing what content is present in your product (and why) helps shape questions about usefulness that otherwise may not be revealed

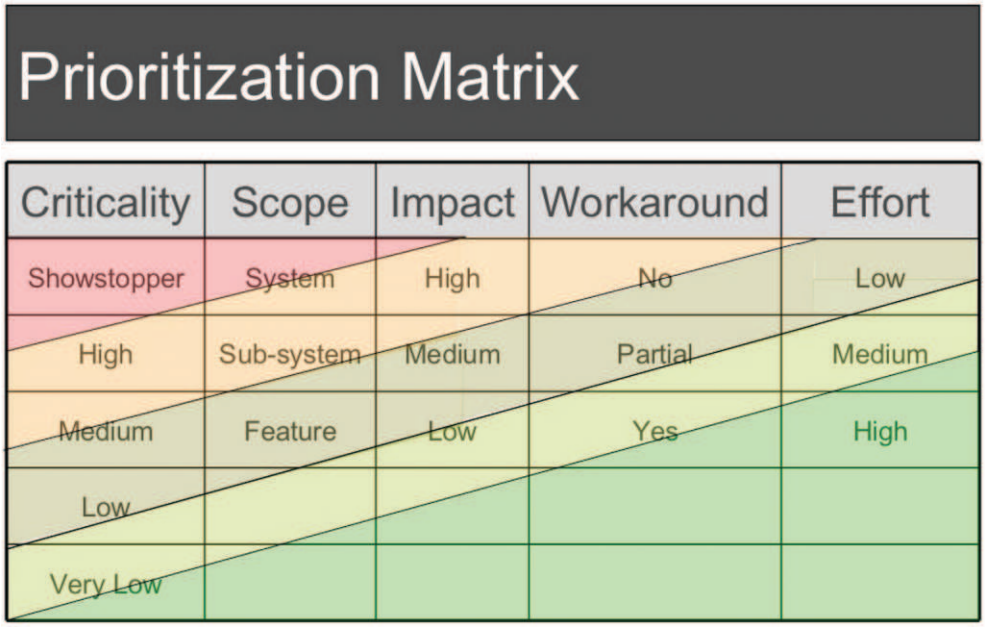
- Addressing operational constraints — As you fill out the matrix, you may discover new constraints to solutions. For example, users may need a frequently updated home screen on your app, but you might find that you don't have the technical resources to do so. A content matrix prompts evaluations that can help you discover "second-best" options so you don't move forward under false assumptions.

- A common language — Your users probably don't talk like you do. A content matrix helps maintain consistency in tone and terminology so you don't go overboard on language specific only to the company.

- A real sense of scale — The better you understand the scale of content for your product, the better you can design the product. A matrix let's you see if you need to think about 100 or 1000 pages worth of content, and therefore create the right number of design variations.

Prioritized Requirements Spreadsheet

At this point, you will have done enough user analysis to have an idea of important features. After all, like we described in the Guide to UX Design Process & Documentation, your product requirements should be derived from user requirements.



Source: Practical Product Management for New Product Managers

While you don't need to go into as much detail as the product requirements document and features specifications document created in the Implementation phase, you should be able to separate "nice-to-haves" from "must-haves". According to **Jeff Sauro**, **Founder of Measuring Usability**, there are multiple prioritization techniques for trimming down impossibly long feature lists. Some of the techniques require more user testing while others are standalone:

- Top Task Analysis — Give qualified users a randomized list of easy-to-accomplish tasks and ask them to pick their top five. You'll quickly identify the tasks most important to users.

- Gap Analysis — Give some customers your first iteration of prioritized features and ask them to rate them in order of importance and satisfaction. Next, use the formula: Importance + (Importance – Satisfaction) to reveal opportunity for improvement.

- Kano Modeling — Ask some users to rate how much they like features when they are included in the product and how much they miss them if they're removed. This satisfaction gap shows "must-have" versus "nice-to-have" features.

- Quality Function Deployment — Start with a prioritized list of tasks or features (from top-tasks analysis) and combine this with a list of functions (from the company). A QFD ranks the features that best meets user needs.

- Pareto Analysis — Known as the 80/20 rule, this method can quickly isolate "must-have" features from "nice-to-haves". Sort your features from highest to lowest (e.g. most votes in a top-task, most revenue, etc), add up the total, then compute the percentage for each item. The features that score highest are your most important.

- Cause & Effect Diagrams — Since UX issues can be complex, this analysis can expose multiple causes for each problem, letting you troubleshoot as effectively as possible. Create a set of cause-and-effect diagrams by asking "why?" to uncover the root causes rather than the symptoms.

- Failure Mode Effect Analysis — This helps you understand the negative effects of certain actions. It can highlight cases in which you can improve the product more by fixing what's broken than by adding features. An FMEA generates a Risk Priority Number based on commonality, severity, and difficulty of problems.

If you're looking for a leaner approach, **Ian McAllister, General Manager at Amazon,** believes a theme-based approach is an effective yet lightweight approach. He creates a list of themes for each product (e.g. user acquisition, user retention, etc.), assigns projects to each theme, and then prioritizes projects based on cost versus benefits. It's fairly straightforward, so you would only need a "forced ranking" spreadsheet to get started.

Know Thy User

If your product isn't made for users, then it's only made for yourself. Users don't care that your products can do a million and one things — they just need it to work for them.

Source: Why User Experience Research

When it comes to truly understanding your user, simply saying that they are "18 to 35 year old marketers who need an app to simplify inbox sorting" doesn't cut it.

As we've discussed, you need to know your user as a person, understand how and why they'd use your product (and how often), and all the experiences that come between them and your product. That multi-dimensional understanding is the only way you'll be able to prioritize your features appropriately — otherwise you might enter the Design stage without even knowing you're on a course for disaster.

For more smart ways on incorporating documentation into the design process, download the Guide to UX Design & Process Documentation. Expert advice is featured from Aarron Walter, Laura Klein, Ian McAllister, and dozens others. Visual examples are also shown from companies like Vurb, MailChimp, Apple, Google, and many more.