

28 STONE



Designing the
User's Experience

Abstract

In the last two decades, computer technology has transformed virtually every part of human society. The way we communicate, the way we travel, the way we make purchases and even the way we keep ourselves entertained has seen remarkable progress.

In similar fashion, the drivers advancing technological progress have also seen proportionate remarkable progress in hardware, software, and product design. **This paper looks at recent advancements in product design with a new discipline known as User Experience (UX), covering the following topics:**

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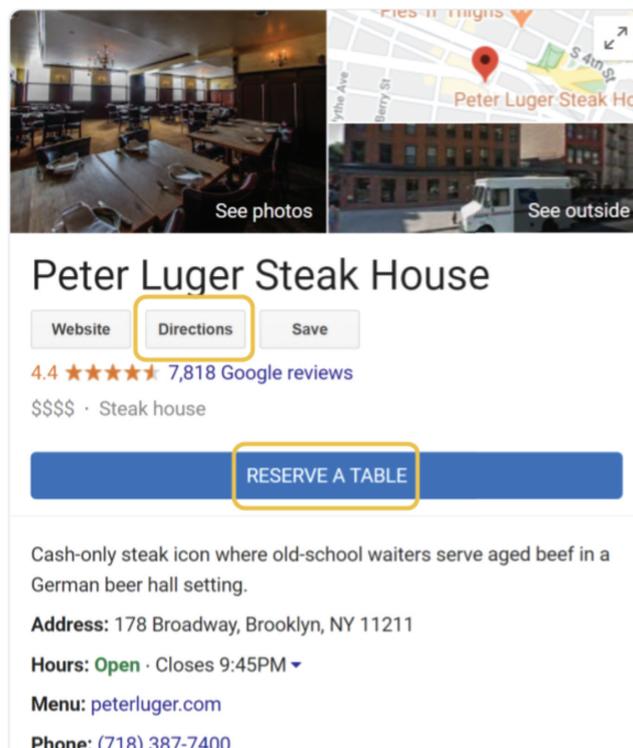
1

An Introduction to User Experience (UX): What is it?

UX stands for User Experience. It is a discipline commonly applied in digital that views a product as a broad experience rather than just the underlying product.

For instance, Google's search product offers much more than the ability to look up info. It often presents features that facilitate common user actions beyond an initial search.

Take restaurant search results for example. Google learned that users often look up directions or make reservations after searching for a restaurant. With that in mind, they added functionality to facilitate those common next steps and improved the overall user experience of their search product.



UX practitioners proactively look for opportunities like these by collecting data about users and their journeys. After careful analysis, they then apply learnings to designs, further test them to confirm efficacy, and eventually improve the overall UX of a product.

UX and the User Interface (UI)

A core focus for UX practitioners is a product's user interface (UI), the parts that users engage to control a product. The UI's design largely influences whether a product's benefits can easily be attained and significantly influences the overall user experience. As digital tools and platforms have become more integrated with people's lives, a pleasant user experience has become increasingly important and in many cases, expected.

2

Benefits of UX Methods: Why is it important?

Applying UX methods can positively impact virtually every aspect of an organization including its personnel, products, and customers.

More specifically, UX improvements often lead to direct improvements in the following areas:

1.

Productivity, Efficiency, & Key Performance Metrics (KPIs)

2.

Product/Project Success

3.

Development Costs

4

Support Costs & Training



Productivity, Efficiency, & Key Performance Metrics (KPIs)

KPIs improved by 83% (on average) after redesigning a site for usability according to a survey conducted by the Nielsen Norman Group.¹

UX enhancements often create user performance improvements (e.g. task completion rates, task efficiency, error frequency, learnability, etc.) that then drive improvements in business metrics/key performance metrics (e.g. customer/user satisfaction, site traffic, engagements, etc.).

1. Nielsen Norman Group. (2008) <https://www.nngroup.com/articles/usability-roi-declining-but-still-strong/>

Product/Project Success

70% of projects fail due to lack of user acceptance.⁵

Product adoption and repeat use of a product is largely determined by how well a product addresses the needs and challenges of users. Unfortunately, project owners can move hastily towards building solutions without truly understanding the problem(s). UX methods aim to understand the problem space early and increase the chances of success as a product is designed and developed.



UX has a long history of building successful brands:

amazon

Amazon's Jeff Bezos funded customer experience over advertising 100:0 in its first year.⁶

Google

Google's founders, Larry Page and Sergey Brin attended usability classes together at Stanford prior to starting Google.⁶

airbnb

Airbnb was on the brink of failure only when it decided to leverage user research and alter its future to become the \$30B organization it is today.⁷

zoom

Founding employees of Zoom (video conferencing) were former employees of Cisco, working on Webex (Cisco's video conferencing software) and felt enough was not being done to improve the user experience. Zoom is now worth ~\$160B, almost as much as Cisco.

Design-centric companies such as (Coca-cola, Apple, and IBM) outperformed the S&P index by 228% over a ten year period (2003-2013) according to the Design Management Institute.⁸

Not only do UX methods lead to a higher likelihood of project success, but companies that implement UX methods across the organization can experience immense success. Many previously unknown startups have become some of the most well-known and successful companies today with implementation of UX methods.

5. Forrester Research. (2008). Report: "Rich Internet Application Errors to Avoid".

6. Experience Dynamics. (2014). <https://www.experiencedynamics.com/blog/2014/07/making-strong-business-case-roi-ux-infographic>

7. Gebbia, Mike. (2014). Airbnb. How design thinking transformed Airbnb from failing startup to billion-dollar business. FirstRoundCapitalVideo.

8. Design Management Institute. (2014).

<https://www.dmi.org/blogpost/1093220/182956/Design-Driven-Companies-Outperform-S-P-by-228-Over-Ten-Years--The-DMI-Design-Value-Index>

Development Costs

Developers spend 40-50% of their time doing avoidable rework and that development time can be reduced by 33-50% with user input early in the process, according to studies cited by IEEE.²

Collecting user input throughout the product creation process is central to UX methods. Informed by user experience data, it vets and matures initial product requirements toward successful outcomes.

Fixing a problem in development costs 10 times as much as fixing it in design and 100 times as much if you're trying to fix the problem in a product that's already been released according to the book: *Software Engineering: A Practitioner's Approach*.³

Early UX processes are structured to capitalize on the cost-savings of early UX research and iterative UX design. User feedback is collected and applied to create the best designs possible before a single line of code is written.



Support Costs & Training

Mcafee cut support call volume by 90% when they started usability testing their products.⁴

UX can also be a customer support initiative. UX and support have shared goals facilitating customer needs and resolving customer issues. When UX practitioners deliver high-quality design, the amount of frustration expressed by customers decreases, simultaneously decreasing the amount of customer support needed.

Usability expert Jakob Nielsen points out, "Every hour you can cut off user training is one hour more for productive work and one hour less to pay an instructor."

Additionally, when customers do not have to spend time troubleshooting or figuring things out, they can spend that time engaging productive tasks. Customer support can spend more time helping customers with more valuable customer tasks rather than troubleshooting basic tasks.

2. IEEE. (2205). <https://spectrum.ieee.org/computing/software/why-software-fails>

3. Pressman, R. S. (1992) "Software Engineering: A Practitioner's Approach." McGraw Hill, NY.

4. Strategic Data Consulting Special Report. (2009). UX Business Impacts and ROI; 735 companies surveyed.

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Creating Better Products: How is UX Implemented?

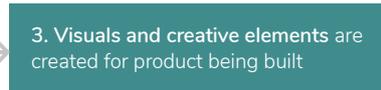
A Look at the Legacy Approach

The Legacy product creation approach is a three-phase process that begins with Development, follows with Design, and ends with Research.

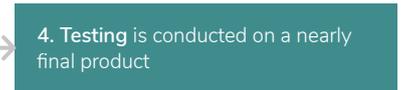
Development



Design



Research



In recent years, UX focused organizations have recognized that siloed product contributors (e.g. designers, researchers, product managers, developers, key decision makers, etc.), working in a poorly sequenced approach leads to a subpar end product/user experience as it begins.

Building Products with Immature Product Direction

The first problem with the legacy approach lies in setting initial product direction. Initial product direction is set and communicated to developers (1). Oftentimes, initial product direction is immature and lacks direction for creating a high-quality end product/user experience.

For example, let's say that a company's leadership sees growth trends in basketball, and they'd like to build a basketball-related app. The project begins, vague product requirements are communicated, and the specifics are left to the product team.

As a team proceeds and decides further product direction, a variety of product ideas can surface. Some on the team may think that reporting game scores is important. Others may feel that displaying video highlights is important. While others may feel that presenting game schedules is important. All of these ideas seem reasonable, but without further information, options are difficult to evaluate. Unknown risks may lurk behind certain choices, but there's no way to determine which option(s), if any, is the best way forward.

However, with deadlines looming a path must be chosen. Uninformed/less-informed/arbitrary decisions are made and the product begins to be built (2). Visuals and creatives also begin production (3). However, unbeknownst to a team, weaknesses that have yet to be identified may be being built into the product. Weaknesses that may only appear towards the end of the legacy approach during testing (4). Though by that time, significant development and design resources have already been invested towards the initial product direction. Leaving a team to decide between two unpleasant options:

1.

Course correct, do a costly rebuild, but move towards a better user experience/product.

2.

Or make no changes and hope that the initial path leads to success.

Risks to Team Harmony

In addition to uncertainty around product direction, team harmony can also be risked as a side effect of the legacy approach. When a team is asked to provide input towards product direction, each potential path forward is open for debate.

For instance, continuing with our basketball-related app example. Some may argue that an app that reports basketball games scores are all that basketball followers want to see and other content just gets in the way. Oftentimes, poorly informed or arbitrary decisions must be made in order to move forward. Others may feel that basketball game highlights are highly engaging and that path is the most financially lucrative. While others may feel that basketball game schedules are most important, because people want to know when their home team is going to play.

Team members will naturally have disparate ideas, but the legacy approach does not provide a resolution to move forward. What starts off as healthy discussion can turn into lengthy, and sometimes heated debate. As further product direction is needed later in the process, unproductive debate is bound to repeat. Debate can even turn into distrust later if overall success is not achieved and blame is thrown around about who was right or wrong.



Modern Teams, Similar issues

You may be saying, “What does the legacy approach have to do with my team? We have modern teams filled with young talent, working towards better UX everyday.” It is true. Many teams today are focused on building a better UX. However, teams today can still face similar challenges found in the legacy approach.

The most common pitfall that I have seen is when teams are overconfident about product direction and they move too quickly into building solutions. They then start building the wrong product and leave themselves open to the risks found in the legacy approach.

A UX Focused Approach: Collaborative & Data-driven

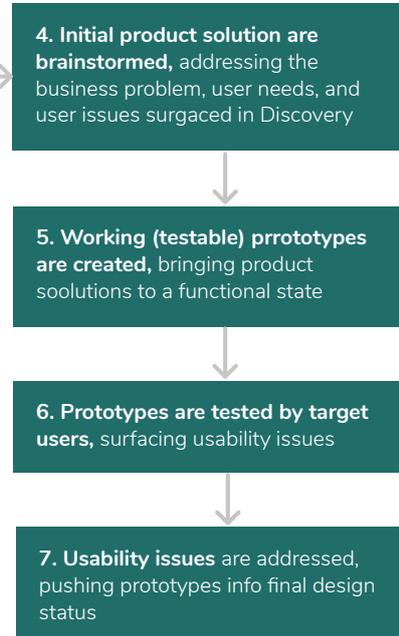
UX focused organizations follow an approach that adds Research (Discovery) and Design initiatives, and resequences the phases (as depicted below).

New Approach (DDD: Discovery, Design, Develop)

Discovery



Design



Development



The new approach recognizes that in a world full of data, uninformed/less-informed/arbitrary decisions are unnecessary. It is a data-driven approach, providing several opportunities throughout the process for initial product direction to mature.

To be realistic about the example used earlier, major product initiatives probably do not initiate as a result of a few supporting growth metrics. Additional supporting evidence is likely needed. However, that support is often lacking and resulting negative impacts can be felt throughout the process. New Discovery (Research) and Design initiatives in the UX focused approach address that gap by incorporating user experience data. User experience data is detailed insights that have a predictive quality to model user behavior and design better products/user experience. It is rooted in the concept that past behavior is a strong indication of future behavior. Unlike opinion related research (e.g. some surveys and analytics), user experience research goes beyond capturing preferences and interest, and aims to capture predictive, highly-contextual, behavioral data.

Maturing Initial Product Direction with User Research

Collection of user experience data begins with User Research (2,3). User Research is a type of foundational, user experience research that explores who users are what they're doing. It includes popular research methods like Personas and Journey Mapping.

Using our basketball-related app as an example again, let's say a team decides to build an app that focuses on showing video highlights. User research would be initiated by recruiting participants that represent the target audience, perhaps basketball fans. Then research sessions commence, and participants are interviewed about their experiences around watching basketball highlight clips. They might be asked about what platforms they use, what prompts them to watch basketball highlight clips, what they like about watching basketball highlight clips, etc.

This is a simplified hypothetical, but the point is that user research helps a team start a process of learning more about users and applying those learnings to design. All in a larger effort to mature product direction, eliminate unproductive debate, and build a better product/user experience.

Brainstorming Solutions as Team

Designing solutions are often left to a Design team, but there is opportunity to take advantage of the valuable knowledge and expertise of an entire team. Designs are much more than visuals and interfaces. They realize ideas that address problems uncovered in user research. Ideas that can be conceived by anyone on a team. In another added initiative, Solution Brainstorming (4) can bring out and grow those ideas into components for early designs.

Putting it simply, the UX method presents a team with an issue, then members are asked to find and present potential solutions that can contribute to resolving the issue. As each idea is presented, cross-pollination of various perspectives and ideas occur, eventually allowing a team to decide on which ideas are best, then build a prototype. Leveraging the collective brain power in a structured way, the team is able to build solutions with ideas that they never would have considered.



Evolving Designs with Usability Testing

Building off of User Research and Solution Brainstorming, the progressive effort continues with another added initiative in Usability Testing. Usability testing is one of the most utilized methods by UX practitioners and can be used to evaluate and evolve almost any design that's in a functional state. Including prototypes and existing products.

During usability testing, users are asked to complete a series of key tasks then their responses are observed and recorded. For example, let's say that browsing through basketball video highlights and navigating within a highlight clip are key tasks in our example experience. Testing participants would be asked to carry out those tasks on a prototype or early design. The team then observes and looks for any issues that a participant may experience while engaging with the prototype/early design. In addition, to get a better understanding of participant's experience, the team may also ask participants follow-up questions about why they took certain actions.

Usability testing adds to user experience data by evaluating initial solutions and prototypes, previously inspired by user research. At the end, another opportunity is gained to learn about users, apply learnings to design, mature product direction, and build better products.

Promoting Team Harmony

As a result of adopting a collaborative, data-driven approach, side effects of the legacy approach are no longer a threat to team harmony. That occurs, for two reasons. First, product direction no longer originates out of a team's conflicting assumptions, leading to endless debate. The new approach provides shared opportunities to develop new perspectives around user experience data with User Research. As a result, teams can more easily agree on the problems that need to be solved and move towards a single product direction from there.

Second, product solutions are no longer entirely decided solely by leadership, designers, or some other overpowering voice. Instead, Solution Brainstorming allows everyone to contribute to early designs using their collective brainpower. Decisions are still made by leadership, but only after various ideas have been considered and discussion has been had, leading to a more informed decision. As a result, positive and negative outcomes are shared by the entire team, and unproductive team dynamics are less likely to arise.



A Reorganized Approach

Bringing everything together, the new approach strategically reorganizes the process. In the new sequence, Discovery (research) initiates the process, Design follows, and Development is reserved for last. That ensures that initial product direction can be evaluated and matured during the first two phases (Discovery and Design), before entering the expensive, “hard-to-pivot” Development phase. A team no longer has to decide between the two unpleasant options of:



Course correcting, doing a costly rebuild, but moving towards a better user experience/product.



Or making no changes and hope that the initial path leads to success.



Course correcting, or maturing product strategy can occur during Discovery and Design when the product is still in idea and prototype form.

4

Can UX Help Your Team/Organization?

We at 28Stone are always looking towards the future and strive ahead to produce the best for our clients. The product creation process is full of uncertainty, but in our effort to produce the best, we look to adopt the newest and best methods.

UX is built on the ideals of continuous learning, improvement. When packaged together into a collaborative approach, it provides teams with an effective, repeatable method to produce better products/user experience. If you find yourself...

- ...wondering about your users
- ...experiencing uncertainty about product decisions
- ...experiencing the fallout of going down the wrong path
- ...having unproductive debates about product direction

UX can provide a productive way forward and 28Stone can help.



Have questions or need help?

Contact David Lustig on +1 908 907 1030 to find out how we can help.