Let UX Drive DevOps

Focusing on the User Experience Will Improve Your Apps, Your Business Results, and Your Success with DevOps.

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Users Expect the World of Your Apps. Better Give It to Them.

Instant gratification. It’s the new normal. People expect to get whatever they want immediately—regardless of their choice of technology, location, or context, regardless of whether they’re using a web app, a mobile app, a desktop app, or a mission-critical application at work.

And if they don’t get what they expect, there will be hell to pay. Many studies on app usage and adoption show that a sub-par user experience (UX) affects not only the success of the app itself, but also the brand and the business:

- When a mobile app runs slowly, 48% uninstall the app and 32% look for an alternative—elsewhere.
- If an application is problematic, 80% will abandon it after three attempts or fewer.
- 69% say app issues gave them a lower opinion of the company that created the app.

DevOps teams understand the importance of prioritizing the UX. But all too often, they don’t have the tools they need to deliver a superior UX. According to Dimensional Research (in the DevOps, application performance monitoring [APM], and User Experience Survey) 53% of developers do not have full access to APM tools; 57% lack UX dashboards; and 61% are blind to the end-to-end process.

Here’s the point many companies are missing: Focusing on the UX—including measuring and monitoring user experience KPIs—not only improves the app, it also increases your success with DevOps. The objective of DevOps is to leverage automation and feedback to remove bottlenecks and eliminate waste. The right APM tools can provide that critical feedback, making continuous assessment and rapid iteration of both the app and the UX possible—which makes for better business results.

85% of developers are focused on the customer experience, however…

53% do not have full access to APM (APM) tools.

“You’re not doing DevOps if you’re not focused on the customer experience.”

Gartner

1 Dimensional Research Customer Experience Survey, December 2015.
Business Impact of UX: The Good, the Bad, and the Ugly

Rising expectations for a delightful user experience is a two-sided coin. It creates an opportunity to distinguish your brand, boost your reputation for service, increase customer loyalty, and expand your customer base. But if you can’t continuously satisfy expectations, you risk severe consequences. Here’s a quick synopsis of possible outcomes:

If Users See Improvements, They Love You for It
When companies proactively fix a problem with an application—whether it’s a web app, a mobile app, or a desktop application—loyalty and ratings rise. Just one example: When Facebook fixed an app that had been draining smartphone batteries, it generated positive press that was shared across thousands of sites, resulting in both a surge in usage and a higher rating for the app.

If They’re Less than Wowed, They Take Action
When your app isn’t a joy to use or when your business ignores complaints about an application’s performance, users take matters into their own hands—literally. They first check for an update; if none exists they stop using the application. They then seek an alternative, and when they find one they delete the application (and then write a scathing review).³

If You Fake It, You Pay the Price
Most businesses are well aware of the consequences of a bad app review—but in some cases they choose deceit over resolution. Bell, for example, was fined $1.25 million USD for planting phony app reviews.

³ Dimensional Research Customer Experience Survey, December 2015.
What Exactly is the UX?

The definition of UX matters because it guides your approach to improving your apps and directly impacts the quality of the end result.

According to Gartner, “UX is a perceived quality when the user is doing a work task.” And what goes into perceived quality? Multiple variables, including:

- **Utility**: Does the app do what users need done and does it function the way users expect?
- **Usability**: Does the app load quickly, respond instantly, and perform beautifully, without crashing, sticking, or making users repeat steps?
- **Resource consumption**: Does the app drain the battery or eat into the user’s mobile data plan?
- **Value**: Does the app provide value above and beyond whatever cost is associated with using it?
- **Aesthetics**: Is the app visually appealing, easy to navigate, and intuitively simple to use?
- **Identification**: Does the app seem to know who the user is and what he/she is trying to accomplish?
- **Proactivity**: Can the app actually predict what the user might want to do next and provide assistance? For example, can it proactively present a digital boarding pass when the user walks into an airport?
- **Playfulness**: Is the app actually fun to use? Does it bring a smile to the user’s face? Is it self-explanatory and clear how to use it, without help?

The key point is, DevOps teams need to focus on everything that matters to the user in order to deliver a satisfactory user experience. And that requires taking a more detailed view of who that user is.

### Multiplying Sources of UX Feedback

As the importance of the UX increases, so do the sources of feedback, including:

- **APM tools**: A myriad of tools now detect and diagnose UX-related issues in all of the categories above.
- **User voice**: It’s not just about numbers and metrics; DevOps teams also collect qualitative user assessments of the experience, including direct feedback entered by users engaged in the app interface.
- **App stores**: DevOps teams can now mine the feedback and comments users post in app stores, on websites, in social media, and more.

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Who Exactly are the Users, and What are They Doing?

The place to start in improving the UX is understanding just who your users are and how they’re using your application, because the attributes that really matter the most will vary considerably according to the “persona” of that user.

And it’s not just about demographics—age, gender, race, geographical location, etc. It’s also about the user’s “journey,” or the context of how they’re using the app.

Creating a “Journey Map” or User Flow

A starting point for getting to know your users is to directly observe their interactions with your app.

Gartner refers to this as creating a journey map—which describes the current state of the steps a specific user archetype (or persona) goes through to achieve a goal relevant to the organization.6

Another term for this is the “user flow,” or following the funnel of user interactions with your app screen by screen. If you can collect metrics about typical user actions, you can then drill down and see which ones were slow, which caused errors or crashes, which caused users to abandon the app, and so on.

The goal is to pinpoint the gaps between the users’ expectations and their actual experience as they use the app—so that delivery teams can identify and resolve issues that impact the UX.

Example of a Customer Journey Map7

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6, 7 Gartner Research Note: “You’re Not Doing DevOps if You’re Not Focused on the Customer Experience,” May 21, 2015, Document ID #G00272088.
Do Rising Expectations Give You a Sinking Feeling?

Challenges of Meeting Customer Expectations for UX

It’s one thing to identify the attributes of a great UX and understand the nuances of user personas and their interactions with your app. It’s quite another to make the UX the focal point of DevOps.

The key issue is fragmentation. The sheer number of variables for UX design is a Big-Bang-style explosion, with hundreds of device types, myriad operating systems, and multiple connection options, user flow scenarios, RAM considerations, orientation options, etc.—all increasing and spiraling outward.

At the same time, pinpointing which metrics of the digital user experience to measure and monitor can also be complicated. How do you measure “performance”? Should you measure the network response time or the UI response time? For which platforms and operating systems? Under what conditions? How do you measure stability and reliability? Should you measure resource usage such as battery draw?

What Activities are Part of the Customer Experience Initiative?

- Tracking application response times
- Measuring application uptime
- Measuring transaction metrics
- Mapping real user flows within applications
- Soliciting users to determine satisfaction
- Creating customer application flow maps for each targeted persona
- Conducting lab-based or other usability studies with users
- Creating a “customer effort score” which defines the effort a customer must expend to do business with your company

Dozens to hundreds

of possible end-to-end user flows for each mobile and web app
UX Design Requires a Lifecycle Approach—Just Like App Development

The new challenges of UX design are very similar to the new challenges of app development. Both should be driven by customer insight, not guesswork. Both should be the subject of continuous assessment, feedback, and rapid iteration. Both require increasing collaboration among teams. Both focus on accelerating release cycles. And that means both require a lifecycle approach.

The DevOps movement is the response to these requirements from the app development side. DevOps has been gaining momentum in the past few years not only because it's a way to shorten release cycles and get better visibility into the internal environment, but also because it improves quality. It does so by continuously harnessing digital user experience feedback at every step in the lifecycle:

- Continuous integration and testing in the build phase
- Continuous delivery and deployment in the release phase
- Continuous assessment and monitoring of the user experience

To deliver a consistently great user experience, UX design and development should follow the same approach: continuous integration and testing, continuous delivery, and continuous operations such as monitoring—all incorporating high-velocity, frequent feedback loops into each iteration.

DevOps is about accelerating the flow of information in both directions—from ideas into code and production, back to developers and the business in the form of feedback. A focus on the UX can create high-velocity cycles based on continuous feedback, leading to higher software quality, reduced risk, and better business results.

83% of IT managers expect app release cycles to increase dramatically or moderately within two years.⁸

⁸ Datamation, August 2014.
A Great UX Requires Continuous Assessment

There's no question that the UX will determine the success or failure of your app. The new question: Why do so few DevOps teams measure and monitor the quality of the UX over its lifecycle?

All too often, existing user experience tools and processes cover only a small portion of the UX lifecycle. Some account for only a few variables that determine UX quality; others monitor variables that provide incomplete or misleading information; still others don't monitor the UX much at all.

Lack of end-to-end digital UX monitoring tools and practices can lead to a phenomenon Gartner refers to as "locking in ignorance"—which means the UX design is completed before development in a "big design upfront" approach, which makes it extremely difficult to change the UX to reflect actual feedback. Net result: In many cases the UX actually degrades with each software "enhancement."

And that is why we see statistics such as the following (source: DevOps, APM and User Experience Survey, Dimensional Research, October 2015):

- 75% suffer from degraded apps, slow networks, slow load times
- 70% of the time, teams learn about performance issues from end users
- 61% lack end-to-end visibility from the backend, to the network request, to the user action
- 67% have no insight into the line of code that is causing the slow performance or crash
- 31% of issues take more than a month to resolve

Clearly, the time has come to implement more complete and effective monitoring of the entire user experience.

Why App Monitoring is More Important Than Ever:

- **Hybrid infrastructure** requires tighter control of development, testing, and QA.
- **Enterprise IT** needs visibility into all the company’s applications, including "shadow IT."
- **Smaller companies** need application performance monitoring solutions that grow with them.
- **Explosion of variable** includes the thousands of device/OS/user flow combinations.
- **The UX** determines the success of your app, and without monitoring you don't know what needs to improve.

**Mature DevOps teams extract more value from APM tools.**

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Gartner Research Note: "Delivering User Experience with Agile Development Teams" by Magnus Revang, Gartner, June 25, 2015, Document # G00269901.
What Does Merging UX into the DevOps Lifecycle Entail?

#1. Understand your users. This involves formalizing a process for creating the “journey maps” or user flows described earlier. You need hard data about the different personas who will be using your app and a complete picture of how they’ll be using the app. This data should be constantly re-validated because usage patterns change often. Using these journey maps, you can create scripts for synthetic monitoring that simulate user behavior so that when an issue or degradation is found, development teams can quickly resolve the issues before end users discover it.

#2. Measure what matters. When you truly understand your users and what’s important to them, you’ll know exactly which variables of the application UX to measure. For excellent insights and advice about measuring performance, stability, errors, battery usage, network consumption, and more, download a copy of the “Measure What Matters” white paper here.

#3. Monitor the user experience. What’s needed is a lifecycle approach to monitoring the UX—including a process for resolving issues that are identified. That means monitoring should be continuous and proactive for all key user interactions, devices, etc., and should trigger alerts to DevOps teams when problems occur. Ultimately, DevOps should implement a single measurement that encapsulates the overall user experience so that it can be tracked over time and issues can be addressed continuously.

#4. Watch transactions end to end. DevOps teams should be able to trace transactions end to end. This requires instrumenting apps and app servers so that DevOps can collect the data needed to establish benchmarks and observe and address trends over time.
Make that Moment of Joy Last a Lifecycle

The application UX has always been a key concern for DevOps. But now it is also a top priority for the business.

Make the commitment to make UX the focal point of DevOps. Because that shining moment of delight and amazement you deliver to your users comes back to reward your teams—and your business—a hundred times over.

Learn more about HPE solutions and services for UX design and delivery by visiting the website below to get the details about our point of view and approach to creating superior apps for the instant gratification era.

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