THE INTERSECTION OF UX AND RISK MANAGEMENT: WHY DESIGN MATTERS

A practical guide to implementation of trading systems with insightful analysis

Contents

Introduction

In trading, UX refers to the journey of users interacting with trading platforms. This encompasses market analysis, order execution, and portfolio management.

Effective UX design in trading applications ensures that the user quickly finds required widgets, avoids extra clicks, and intuitively performs trading activities.

It's high-stakes in financial trading. Fortunes are made and lost in nanoseconds. Mistakes can lead to regulatory scrutiny and significant financial loss.

High-profile incidents highlight the need for platforms that enhance user experience (UX) while ensuring stringent error prevention management.

What's inside

— Lessons from high-profile trading errors
— How to enhance trading platforms: Software options
— Elements of UX and risk mitigation in trading software
— Real-world example: Redesign, rewrite, and update of an options trading app

Trading systems must be efficient and user-friendly while also adhering to compliance controls.

In this e-book, we explore the intersection of user experience and risk management in trading platforms. We discuss the risks associated with outdated systems and highlight UX best practices that support risk management requirements without compromising functionality.

SECTION 1

Key elements of UX and risk mitigation in trading software

Error-free execution in trading software hinges greatly on its user experience (UX) design and resilient risk management capabilities.

Here are key features in trading systems that allow for ease of trading—without compromising safety or security requirements.

User-centered design

— **Simplicity**: Intuitive, easy-to-navigate interfaces minimize user errors in high-stress environments.

— **Feedback/responsiveness:** Ensure the system provides immediate and clear alerts. This includes real-time notifications on order statuses, market movements, and potential risks.

— **Customization and flexibility:** Traders can personalize dashboard layouts, choose analytical tools, and configure notifications to match their trading style.

— **Uniform layouts:** Consistent UI elements reduce learning curves and confusion.

— **Predictable interactions:** Users can rapidly understand how to operate the software efficiently.

Integrating risk management into UX:

— **Error prevention:**
  – Input validation: Checks for accurate, complete data before transaction processing.
  – Confirmation dialogues: Added friction for high-risk operations prevents unintended trades.

— **Advanced warning systems:**
  – Real-time alerts: Notifications on abnormal trading patterns or deviating volumes.
  – Guided decision-making: Contextual guidance within the software for risk-aligned decisions.

> *It's important to note that UX and risk management are not static; they require ongoing evaluation and adaptation to respond to new challenges and technologies. With a software solution, this can be a simple feature upgrade—taking pressure off financial institutions to produce reliable, efficient, and compliant trading practices.*

SECTION 2

Lessons from high-profile trading errors

Citigroup's "fat finger"

Citigroup's "fat finger" error saw a trader inadvertently execute a $1.4 billion transaction instead of the intended $58 million deal. This mistake resulted in significant market disruption and drew a fine of £61.7 million from UK regulators. This incident is a stark reminder of the fragility of trading systems.

Key issues included:

Lack of adequate safeguards

The trading platform allowed this substantial trade to pass through without sufficient checks.

Failure in real-time monitoring

The system's monitoring tools were too slow to catch the error before it impacted the market.

User interface UX and design flaws

The platform's design enabled the trader to bypass critical alerts without proper review.

In addition, this incident highlights recurring themes in trading system failures:

Legacy technology risks

Older systems struggling with modern trading volumes and complexity.

The human element

While firms hire the best minds, user experience design and natural human error continue to be significant risk factors in trading losses.

Regulatory implications

Failures in trading systems often result in regulatory fines and mandates for system overhauls.

The solution? While internal teams within banks might be well-equipped, there's significant advantages in collaborating with external specialists.

Fresh perspectives

Identify risk blind spots that internal teams may have overlooked.

Specialized expertise

External consultants bring specialized knowledge (e.g. cyber security and compliance), complementing internal capabilities.

Modern solutions

Introduce new technologies that can be custom-built for individual requirements while aligning with risk management.

There's a need for continuous trading system upgrades, adopting advanced surveillance tech, and tapping into external expertise—safeguarding reliability, and compliance, and preventing catastrophic failures.

We've examined the issues caused by legacy trading systems, now let's take a look at modern solutions in more detail.

SECTION 3

Enhancing trading platforms: Integrating specialized expertise

Along with the right trading software, we mentioned earlier that external specialized expertise act as an extra safeguard. These experts provide the necessary insights and technical skills to enhance systems or develop new solutions tailored to specific needs.

Advantages of external expertise

— **Audits and assessments:** Fresh eyes can identify vulnerabilities that internal teams may overlook and provide remediation solutions.

— **Implementation excellence:** Specialists can swiftly implement enhancements, integrate new technologies, or customize software to meet bespoke requirements.

— **Regulatory adherence:** Experts ensure that the software solutions meet current and future compliance mandates, keeping the platform aligned with evolving regulations.

Let's look at a practical example to show how this works.

How to enhance trading platforms: Software options

While technology plays a significant role in trading platform failures, human error also remains a critical risk factor. Let's now explore how software solutions can help financial institutions mitigate both technological and human error risks. We'll discuss improving efficiency, ensuring risk management, and enhancing responsiveness to market changes.

Custom-built software

Custom software offers functionalities tailored to an institution's trading strategies and hurdles—especially valuable when 'off-the-shelf' solutions can't satisfy niche needs or complex regulations.
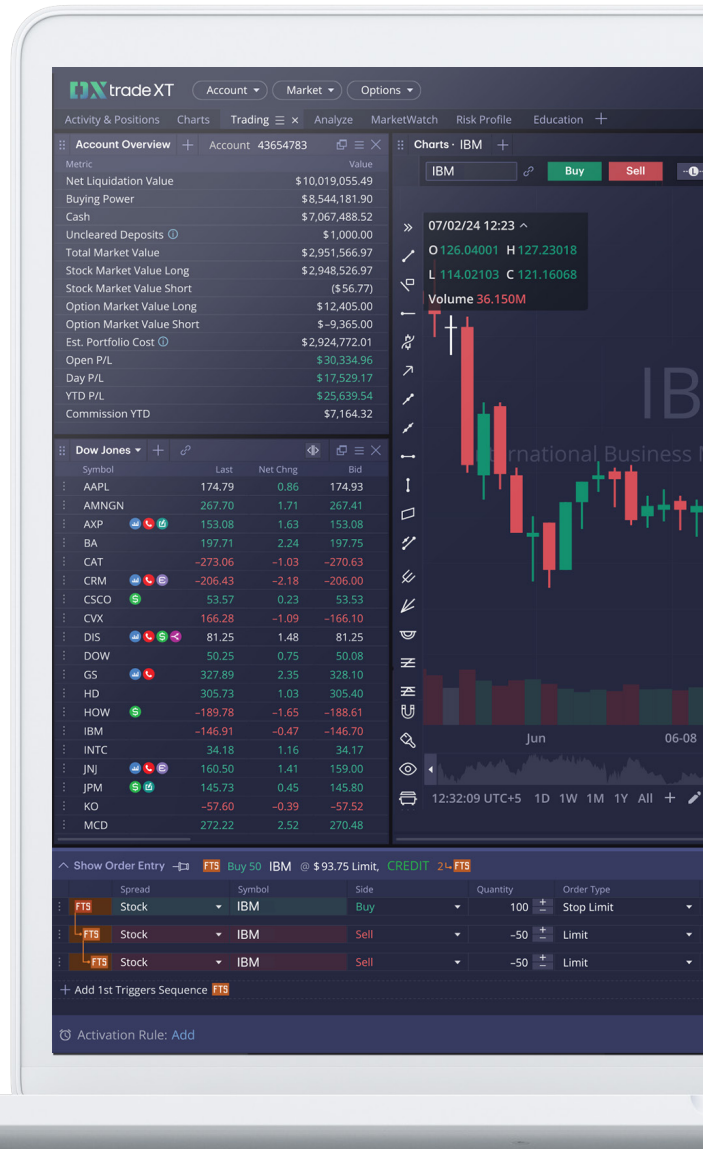
PROS

- **Custom-built:** Designed to meet specific operational demands, aligning all system capabilities with core business objectives.

- **Adaptability:** Easily evolves with changing regulations and markets, providing a future-proof long-term solution.

- **Effortless integrations:** Seamlessly meshes with existing legacy systems, complementing rather than disrupting operations.
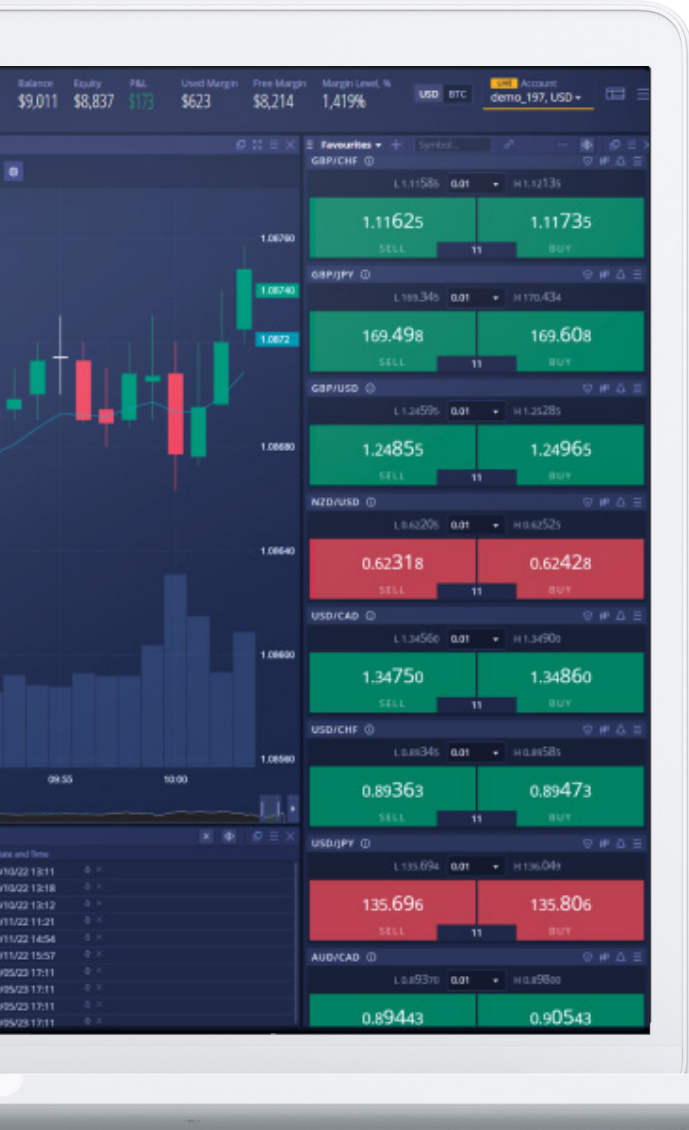
CONS

- **Upfront investment:** There are likely to be startup costs for custom development and deployment.

Software as a Service (SaaS)

SaaS provides a more generalized, out-of-the-box solution serving diverse trading operations with less customization but quicker deployment and potentially lower costs.

PROS

✓ **Cost-effective:** Lower upfront pricing and subscription models make SaaS accessible to a wider range of companies.

✓ **Quick implementation:** Pre-built solutions accelerate go-live timelines.

✓ **Scalability:** Easily scales up or down to accommodate growth, without major reinvestment.

CONS

✕ **Customization limits:** While some tailoring is possible, complex operations may outgrow SaaS' out-of-the-box functionality.

✕ **Vendor dependence:** Firms must rely on providers to align updates, security, and enhancements with their priorities.

Custom-built is not for everyone. For some market leaders, a hybrid approach works best. Here's why:

— **Core & peripheral:** Custom for mission-critical operations, SaaS for supportive standardized processes.

— **Cost-benefit analysis:** Develop custom solutions only when benefits outweigh SaaS subscription costs long-term.

— **Integration and interoperability:** Ensure custom and SaaS components integrate seamlessly for a cohesive user experience.

When your firm finds the right balance between custom-built solutions and SaaS, you open the door to optimal user experience and error-prevention capabilities.

SECTION 5

Real-world example: Redesign, rewrite, and update of an options trading app

This is a case study of a well-known player in the industry of trader education and options trading. Founded in the 2010s, it's one of the fastest-growing online financial networks in the world.

Business challenge

Previously they had a mobile app offering trade feeds on a subscription basis. The app stopped working with the iOS 12 release and given that, since its launch, the code needed maintenance, the client was not able to update the app to support the latest iOS.

The required update was also a good chance for a redesign according to the latest UX/UI practices and guidelines.

They also wanted to integrate their existing apps to create a single financial network application for more cohesive brand management. However, they needed consulting on when and how would be the best way to undertake this challenge.

The institution's executives had already outsourced several software development projects to Devexperts and valued their expertise. They approached Devexperts and requested compatibility and design updates. The easiest way to solve this business challenge was to create a new application. They decided to rewrite the app from scratch.

Solution

After examining the case, Devexperts suggested the following solution:

— **Combine the existing client's apps into a single app**. As the client planned to do this in the future anyway, it made sense to do this now. Like this, they would only rewrite the code once, rather than modernizing both and merging later. It also saved significant time, as the base app architecture was written just once.

— **Rewrite the apps from scratch** natively, using the up-to-date SDKs. The benefits of the native app development, in this case, were greater UX, which is hardly achievable with non-native approaches, and ease of maintenance in the future.

— **Update the design of the apps** to match current best practices.

After solving all urgent tasks connected with compatibility, Devexperts engineers started updating customer-facing features. Advanced filtering of trades (e.g. according to a selected trading strategy, specific symbol, or trader), and new richer trade feed were incorporated.

The old trade feed consisted only of text elements, with very few visuals; the updated feed contains additional visuals and an extended number of data points (such as the probability of profit (POP), trader's comments, etc.).

In the middle of the planned time frame, the client urgently appealed to Devexperts to release the app a month earlier than the previously set deadline. Adhering to agile practices, the engineering team pivoted fast, de-scoped the release, and prepared the apps for production, so the client could shut down a legacy API on their side.

Results

As a first step towards addressing the client's needs, Devexperts released an iOS 12 compatible hotfix, within a month of commencing development.

Later, the apps for both platforms (iOS and Android) were completely rewritten using the most recent native technologies and up-to-date design.

Conclusion

The critical lessons learned here are the importance of balancing efficient user experience with stringent compliance to enhance and secure financial trading platforms.

Key takeaways

— **Learning from mistakes:** Citigroup's "fat finger" error demonstrates the importance of intuitive and error-proof UX design, adequate safeguards, real-time monitoring, and comprehensive data integration to prevent similar incidents

— **Legacy technology risks:** The challenges posed by older systems highlight the need for modern UX design that can handle the complexities and volumes of contemporary trading.

— **The human element:** Despite having top talent, poor UX design can facilitate human errors, making it essential to prioritize user-friendly interfaces and workflows.

— **Valuing external expertise:** Leveraging external expertise can bring in fresh perspectives on improving UX, as well as specialized knowledge in cybersecurity and compliance, enhancing the overall robustness and efficiency of trading systems.

— **Proactive system upgrades:** Continuous upgrades incorporating advanced UX design and surveillance technologies, along with external expertise, are crucial for maintaining system reliability and compliance.

By focusing on these aspects, financial institutions can create trading platforms that not only enhance user experience but also safeguard against high-profile errors and regulatory issues, ensuring continued success and stability in the global market.

Why Devexperts is the partner of choice

Devexperts has developed 50+ custom trading platforms for brokers, banks, and exchanges worldwide since 2002. We have over 800 software engineers, 25 industry awards, and 12 million end users.

We are ready to estimate your project!

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