

Improving Communication Between UX Designers and Developers for UXDebt Management

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Abstract

User Experience Debt (UXDebt) has emerged as an important challenge in modern software development, particularly in agile environments where rapid delivery often leads to design compromises. Poor communication between UX designers and developers can contribute significantly to the accumulation of UXDebt, as design decisions, feedback, and usability issues are frequently lost across different tools and workflows. This paper proposes a system designed to improve communication and decision-making between designers and developers by integrating design and project management tools. The proposed approach introduces a workflow supported by a plugin that connects design comments in Figma with task management in Trello, allowing UX observations to be documented, tracked, and synchronized across both environments. The system was evaluated in an academic agile development environment involving students participating in a real sprint-based project. The results show that the technical synchronization between tools worked reliably, although usability challenges and workflow integration issues were identified. The study highlights both the potential and the limitations of tool-based approaches for managing UXDebt and improving collaboration between roles.

Keywords

UXDebt

Agile Development

Design-Development Communication

Figma

Trello

Mejorando la comunicación entre diseñadores UX y desarrolladores para la gestión de deuda UX

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Resumen

La deuda de experiencia del usuario (UXDebt) se ha convertido en un desafío importante en el desarrollo de software moderno, particularmente en entornos ágiles donde la entrega rápida a menudo conduce a compromisos de diseño. La mala comunicación entre los diseñadores y desarrolladores de UX puede contribuir significativamente a la acumulación de UXDebt, ya que las decisiones de diseño, la retroalimentación y los problemas de usabilidad con frecuencia se pierden en diferentes herramientas y flujos de trabajo. Este artículo propone un sistema diseñado para mejorar la comunicación y la toma de decisiones entre diseñadores y desarrolladores mediante la integración de herramientas de diseño y gestión de proyectos. El enfoque propuesto introduce un flujo de trabajo respaldado por un complemento que conecta los comentarios de diseño en Figma con la gestión de tareas en Trello, lo que permite documentar, rastrear y sincronizar las observaciones de UX en ambos entornos. El sistema fue evaluado en un entorno de desarrollo ágil académico donde los estudiantes participaron en un proyecto real basado en sprints. Los resultados muestran que la sincronización técnica entre herramientas funcionó de manera confiable, aunque se identificaron desafíos de usabilidad y problemas de integración del flujo de trabajo. El estudio destaca tanto el potencial como las limitaciones de los enfoques basados en herramientas para gestionar UXDebt y mejorar la colaboración entre roles.

Palabras clave

UX Debt
Desarrollo Ágil
Comunicación Diseño-Desarrollo
Figma
Trello

1. Introduction

User Experience (UX) is a critical factor in software success. In agile environments, rapid delivery often leads to postponed or simplified design decisions, contributing to the accumulation of UX Debt (UXDebt), which generates long-term costs such as reduced usability and increased maintenance effort (Kaley, 2018; Rodriguez et al., 2023).

A key cause of UXDebt is the lack of effective communication between designers and developers, leading to misalignment and poorly implemented design decisions (Rodriguez et al., 2023; Baltes & Dashuber, 2024). Although teams use tools such as Figma and Trello to support collaboration, UX-related information is often fragmented across platforms.

This work proposes a workflow that integrates design feedback into task management processes, improving traceability and supporting UXDebt management. The approach connects Figma and Trello to transform design observations into actionable tasks.

2. Related Work

UXDebt extends the concept of technical debt, referring to long-term costs derived from suboptimal decisions (McConnell, 2008; Ramasubbu & Kemerer, 2017). In agile environments, UXDebt emerges when teams prioritize short-term delivery over user-centered design (Kaley, 2018; Rodriguez et al., 2023).

Empirical studies identify communication gaps, insufficient user research, postponed usability testing, and poor integration between design and development as major causes of UXDebt (Kaley, 2018; Rodriguez et al., 2023; Baltes & Dashuber, 2024).

Although tools such as Figma and Trello support collaboration, they operate independently and do not provide mechanisms to track UXDebt or maintain traceability between design decisions and development tasks (Rodriguez et al., 2023). This fragmentation motivates the need for integrated solutions.

3. Proposed System

The proposed workflow improves communication between designers and developers by integrating design observations with task management systems. In practice, designers use Figma to create and discuss interface designs, while developers use Trello to manage tasks and sprints. Since both tools operate independently, UX-related information is often fragmented and difficult to track throughout the development process.

The proposed approach allows designers to document UX observations directly within Figma and transform them into actionable tasks. These observations become

part of the backlog, where they can be prioritized, assigned, and tracked alongside development tasks, ensuring that UX concerns are explicitly addressed during sprint activities.

The integration is implemented as a JavaScript-based plugin that uses the Figma Plugin API and the Trello REST API. Communication between both platforms is performed through HTTP requests. The plugin does not require an external backend or database. Metadata associated with comments and synchronization is stored using Figma's native storage mechanisms and mapped to corresponding Trello cards.

Additional implementation details and usage instructions are provided in the online user manual available at:

<https://github.com/DdEze/User-Manual-UXBridge-Plugin.git>

Design observations created in Figma are automatically transformed into Trello cards and incorporated into the backlog. Conversely, updates performed in Trello, such as status changes or comments, are synchronized back to Figma. This bidirectional synchronization maintains consistency and traceability between both environments.

The workflow is integrated into the agile sprint lifecycle. UX observations generated during design activities are transferred to sprint planning through Trello, where they become backlog items. During implementation and testing, updates remain synchronized between development and design environments, allowing UX-related issues to be tracked throughout the sprint.

Figure 1 illustrates the proposed workflow and the interaction between Figma and Trello throughout the agile sprint lifecycle.

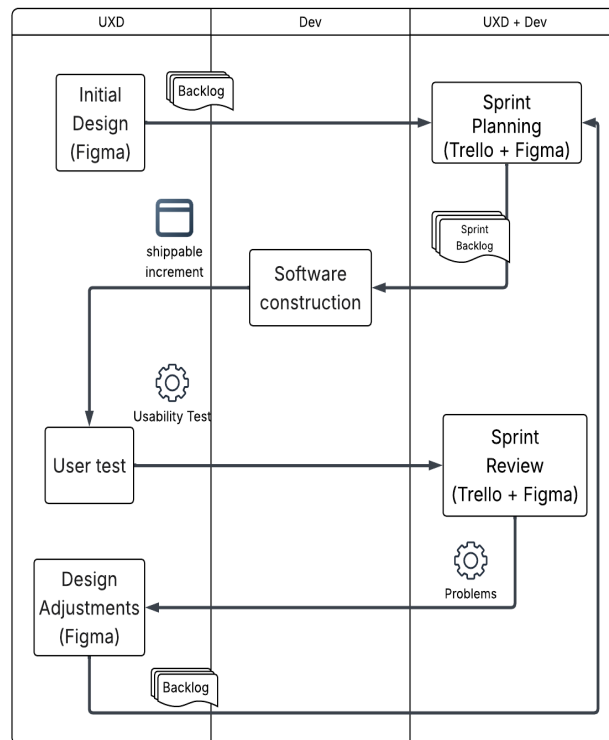


Figure 1. Proposed workflow integrating Figma and Trello throughout an agile sprint.

4. Evaluation

The system was evaluated in the MAPAW course at the National University of La Plata, where students develop software projects using agile methodologies. Teams work in sprints, using Figma for design and Trello for task management, providing a realistic environment for evaluation. The evaluated project was a semester-long academic web application developed following an agile process with iterative sprint deliveries.

The system was introduced during an active sprint. Participants used it to register design observations, synchronize them with Trello, and interact with the workflow. Afterward, they completed a questionnaire using a Likert scale (1–5) to assess usability, workflow integration, and satisfaction.

The evaluation involved two student teams (six students in total). Participants were undergraduate Software Engineering students enrolled in the MAPAW course and had previous experience working with agile methodologies, Figma, and Trello. Although

all participants used the plugin during the sprint, only two students (one from each team) completed the questionnaire. Both teams followed an agile process using Figma and Trello.

Results show that technical synchronization was the strongest aspect (average 5.0). However, usability issues were identified, including difficulty registering observations (2.5) and understanding synchronization (4.0).

Regarding workflow, the system showed limited impact on communication (2.5) and task visibility (2.5), while structured tracking of observations was perceived as difficult (4.0). In terms of productivity, task prioritization (2.5) and automatic task generation (2.0) received low scores.

Overall satisfaction was moderate (2.5), although participants recognized potential benefits for collaboration (3.5). Qualitative feedback highlighted strengths in structuring design tasks but identified usability limitations and missing features.

The evaluation context influenced results, as the system was introduced late in the development cycle, limiting its impact on early design decisions.

5. Discussion

The evaluation results suggest that integrating design tools with task management systems can improve the traceability of UX-related decisions. However, the effectiveness of such tools depends heavily on usability and seamless integration into existing workflows.

The limited sample size and the context of an academic project also influenced the results. In particular, the plugin was introduced during an advanced sprint stage, when most design decisions had already been made, reducing opportunities to fully evaluate its impact.

These findings indicate that future evaluations should consider earlier adoption in the development cycle and involve larger teams in professional environments.

6. Conclusion

This work presented a workflow and plugin that integrate Figma and Trello to improve communication between designers and developers and support UXDebt management.

The evaluation demonstrated the technical feasibility of the approach, particularly regarding bidirectional synchronization, while also revealing usability limitations that require improvement. Future work includes enhancing usability, extending functionality, and conducting larger-scale evaluations in professional environments.

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