The Psychology of Microinteractions: How Small UI Animations Shape User Behavior

Roni Domi

University of Massachusetts Boston

CS410: Introduction to Software Engineering

Dr. J. Holly DeBlois

April 22, 2026

The Psychology of Microinteractions: How Small UI Animations Shape User Behavior

1. Introduction

Every day users face hundreds of small choices when navigating their digital devices. Time and attention have become the primary currency for tech companies, and the goal for most consumer applications now has become not just delivering functionality but also to keep a user engaged and on their app for as long as possible. When a user taps a like button and sees a small heart animate outward towards them, or when they see a loading spinner during a refresh, they are experiencing events that are known as microinteractions. These are usually brief, and easy to overlook, but they have become one of the more psychologically rich topics in modern software design.

Designing for a broad audience requires more than just functional clarity. Providing a strong user experience “has a lot to do with the look and feel of a product” (Jergović et al., 2024). Users should enjoy and feel good when using a product, things should be intuitive, and one of the more powerful tools to achieve this is the use of microinteractions, “when it comes to designing a great look and feel, nothing contributes more than small details like microinteractions” (Jergović et al., 2024). This claim invites a deeper question. How can these small events and details that in most cases a user does not even process, carry so much weight?

The purpose of this paper, is to surface relevant research and discuss new points to add to the conversation, with the aim of answering the following question: How do UI animations and effects psychologically influence user behavior, and what design principles follow from these mechanisms? This question matters especially in the current day, since “digital interfaces are essential to everyday life in today’s fast-paced online world” (Martínez et al., 2026). When the internet and these devices were new, this issue did not hold as much weight, design was not such

a thorough field, but now the psychological levers that make microinteractions feel satisfying are the same ones that can be exploited to manipulate and manufacture attention. Understanding how these mechanisms work is necessary in order to use them responsibly, as well as to spot these patterns.

2. Understanding Microinteractions

To understand how microinteractions impact users, first we need to understand what a microinteraction itself is. According to Jergović et al., (2024) from the University of Alicante, “microinteractions are small, subtle interactions that users have with a digital product or service. They can be as simple as clicking a button or as complex as an animation that provides feedback to the user” (p. 1). These interactions are highly normalized now and even expected by users. They suggest the nature of an action and provide feedback to the user for something they did, without the need of labels or text. For example, when a user presses a button and the button shrinks or pops, through that short animation it communicates that an input was received, there is no need for additional interpretation or any conscious effort from the user.

These however are not merely luxuries in design, but necessities of functionality. It is imperative that the user is aware of what is happening at all times, and this needs to be done in a clear, intuitive, and obvious manner to avoid any confusion. Where these interactions delve deeper and become more interesting psychologically however, is during another use case of theirs related to gratification. For example, if a user interacts with a button or some sort of feature on an application and does so successfully, usually this results in a playful animation, sound effect, and visual cues of celebration. This makes them feel good, while an error message has the opposite effect (Jergović et al., 2024). This reward and consequence dynamic is the entry

point to a deeper look at this psychological mechanism in the following chapters, and a diagram of the prior example is viewable below, with a high level description of the process.

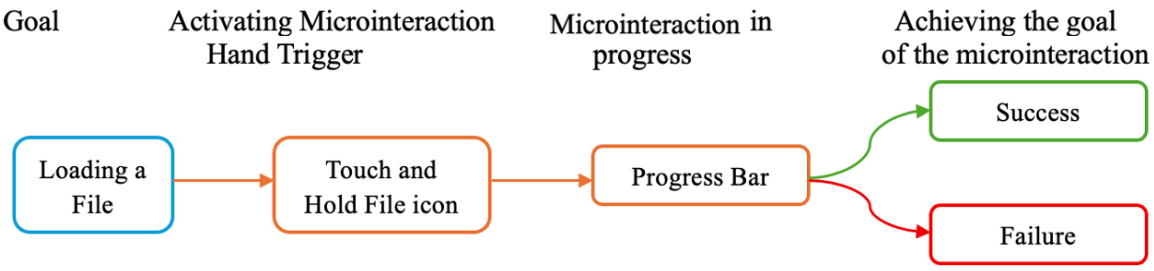

Figure 1 – Diagram for microinteractions with positive and negative feedback. Adapted from Martinez, M. E.A., Cáceres , C. P. P., & Martínez, J. V. B. (2026). Animations in UI microinteractions as modulators of emotion and time perception in UX. Displays, 103436.

3. The Psychology Behind Microinteractions

The psychology behind how these microinteractions work, has a lot to do with how a user perceives an app or site, something which goes beyond the gratification example. One of the main frustrations that users face on anything digital is waiting, whether it is a video or movie buffering, a page loading slowly, some feature in an app taking a moment to gather data, waiting is a big annoyance for users. Dealing with masking or distracting from this waiting is one of the key aspects of UI design because “waiting affects both interaction fluidity and users’ perception of the system, thereby user experience”. Through various forms of animation and graphics designers and developers are able to hide this latency and even go as far as creating the illusion that the system responds even faster than it actually does (Martínez et al., 2026). Sometimes, these microinteractions exist even when not needed, however. Take for example the progress bar, in some instances a program or system is able to respond fast enough so that any indicator of progress is redundant. However, users trust the progress bar and seek the satisfaction that comes as a result of seeing this bar fill up, so having it absent can actually cause a negative response on users even if the system ends up being slower as a result.

Another important psychological mechanism at play is the management of the user's cognitive load. When a user performs an interactive action there should be some visual or sensory feedback, otherwise they are left in a state of uncertainty. As mentioned earlier this feedback is a key part of building up user engagement and increasing interaction, since "eliciting positive emotions in user contributes to a pleasurable UX[1], and microinteractions with animated feedback can favour the emotional stimulus that motivates users to engage with a system and sustain that engagement over extended periods" (Martínez et al., 2026).

This is a combination of primarily two reinforcement factors. Firstly, behavioral conditioning through gratification, a key concept in behavioral psychology. When someone is rewarded or feels good about something, they are more likely to want to do it again, and through these microinteractions, users are essentially being conditioned to enjoy using a site or app. Additionally, by removing the mental burden of having to keep up with the interface and understanding every detail, you let the users focus on the content and increase engagement. We see this a lot in social media apps, which are platforms built around maximizing these effects. The entire interface is simplified, made up of buttons, and color coded recognizable icons. This is not accidental but a result of years of deliberate reduction of the cognitive effort required to navigate which makes it easier and easier for users to scroll continuously and get lost in doing so without even realizing it since they are built in a way where the user does not even need to think about the interface.

4. Design principles and Behavioral Outcomes

Understanding the psychology behind microinteractions is only half the picture however, what also needs to be considered is what these concepts mean for how interfaces should be designed. As mentioned in the other chapters, feedback is something that should always be

1. user experience (Merriam Webster, 2026)

present otherwise, it could harm the user experience. Users should always be aware of what their interactions with the program are doing and each user input should be responsive and intuitive. Even a subtle highlight of a hovered element, a slight shake, can be enough to give the user context on what they are doing. Another important principle is to match the feedback you give users with the emotion it should evoke. If something is successful it should feel that way, and the same goes for the opposite. Critically however, an error message should be accompanied by a reason as well. In a user study conducted by Jergović et al., (2024) when the error message was omitted on purpose, only a fourth of participants agreed with that methodology, inferring that "in such microinteractions, it is therefore most important to explain the error that occurred to the user as clearly and precisely as possible" (p. 9). Lastly, another principle is that while these animations can be satisfying and engineered to an extent which maximizes user retention, developers and designers carry a responsibility to use these tools honestly, and use microinteractions to serve the user, not work against their interests.

These principles are not only theoretical. As we saw they were tested with real users by Jergović et al. in their experiment, as well as many other academics, but also in my own experience, where I primarily built the user experience for the MAGE platform, I applied a lot of these principles to great success. The biggest improvements I noticed and saw from observing others use the platform came with the added visual feedback. It felt much more complete and better to use when buttons and the page as a whole responded to your movements and inputs. My goal was always to make the platform feel fun and exciting to use, just like the actual engine, and in following these principles specifically I added a lot of responsiveness and feedback to most of the landing page, sliders that track where you are in the page, buttons that change color on hover

and pop out at you, and with each iteration these seemingly small and unassuming changes brought the most improvement, something that the research predicts.

5. Conclusion

To conclude, this paper set out to answer how microinteractions and UI animations, psychologically impact user behavior and what design principles follow as a result of these methods. After examining research and applying these ideas in principle, the answer is that these microinteractions play a massive part and more consequential than their size suggests. At first the definition of a microinteraction and what they can be was established, followed by the psychological side underneath these interactions. How developers predict user behavior and what tools they use and apply to manipulate users in a way that distracts from frustrations and conditions them to engage for longer with their product. Afterwards these mechanisms were translated into actually defined principles that can be followed during the process of design and looked into how feedback to the user should be presented and what should be shown to the users overall. The key takeaways from this paper should be that design is not just a finishing touch, but a meticulous process with a lot of thought needed as it is a core part of the communication between a product and its users, and understanding the mechanics of user experience is the first step in doing it right.

References

Martínez, M. E. A., Cáceres, C. P. P., & Martínez, J. V. B. (2026). Animations in UI microinteractions as modulators of emotion and time perception in UX. *Displays*, 103436.

Merriam-Webster. (n.d.). UX. In Merriam-Webster.com dictionary. Retrieved April 22, 2026, from https://www.merriam-webster.com/dictionary/UX

Mihael Jergović, Nikolina Stanić Loknar, Tajana Koren Ivančević, & Cmrk, A. A. (2024). *MICRO-INTERACTIONS WITHIN USER INTERFACES*. https://doi.org/10.24867/grid-2024-p23