

**The eLearning Coach Podcast #27**  
**ELC 027: Microinteractions: Designing the Small Details with Dan Saffer**  
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Hello everyone, and welcome to episode 27 of the eLearning Coach Podcast. It wasn't easy to snag him but I did finally get Dan Saffer, well-known interaction designer, on the podcast. Dan is the Creative Director of new products at Jawbone where he designs next generation products and services for wearables and consumer electronics. He is also author of four books on design, and it is his most recent book, *Microinteractions: Designing with Details*, that caught my attention. How often do we think about the small interactive details in the things that we design? In this conversation we discuss the importance of little details, how they improve the user experience, the structure or microinteractions, and of course a lot more. Here is the interview.

**Connie:** Hi, Dan. Welcome to the eLearning Coach Podcast.

**Dan:** Hello. Great to be here.

**Connie:** I've really thought that your book about microinteractions was quite relevant to the instructional design field. Just to clarify things from the start, can you explain what the difference is between a microinteraction and a regular interaction?

**Dan:** Microinteractions are generally very tiny, they're small, they're fast, they're often overlooked, they are what I like to say are the things that won't be on the side of the box. The great example that I used to open the book with is turning the ringer off on your phone. Of course you need to turn the ringer off on your phone, but it's not anything that is going to appear as a feature on the side of the box. No one's going to try to sell you, "Look, this phone has got a ringer that you can turn on and off." But it's something that can greatly affect the user experience of how you use a product. I remember working with the old Nokia phones and trying to turn the ringer off and sometimes it would take you 20 to 30 seconds to navigate down through three menus to find where to turn the ringer off. And the new phones now have just a little switch on the side of the phone, so it can make a big difference to the overall product.

The difference between a big interaction and these small ones is cognitive load and the amount of attention that it takes. So often if we're dealing with larger features or using features they take a lot more of our attention or take a lot more time and they're a lot more complex to use than microinteraction, which are these small, shallow, fast, tiny

things that don't take as much time, they don't take as much attention, and they're usually what people derisively call product hygiene. But I think that they can make a big difference in the products that we make, the products and services that we make and use.

**Connie:** I heard you interviewed on a podcast and one thing that really struck me was when you said people always talk about 'look and feel' and microinteractions are the 'feel' part of that, that's when I really understood what you were talking about.

**Dan:** Yeah. That phrase 'look and feel' has been around for 30 years or 40 years or something like that, and no one ever talks about what the 'feel' part it. What's funny is that a lot of times the features of our products and services are exactly the same, but it's how they manifest and how they differ that makes that 'feel' part. Windows vs. Mac operating system, they both basically do the same thing, you launch programs, you add applications, you have files and folders that you manipulate, but it's all the little things that make up how you do that that create the 'feel' part of 'look and feel'. And microinteraction are all those little details that make that.

**Connie:** I know in my field we tend to think the larger things , and maybe in most fields it's true, and that we're not always thinking about those little details, everybody is working on deadlines and you're just thinking about getting the big picture experience, and it is those little details that are so important.

**Dan:** Absolutely. In every field everyone is focused on what is the new big feature that we're launching or what's the big thing that people are going to buy. But when you start thinking about the things that you love about the products that you love, it's usually these very small things. Whether it's a completely industrial design product, like I had this beautiful teapot that I love, it has all these little details I really enjoy, or whether it's an operating, or even a service like Starbucks or going to your local library or things like that.

**Connie:** That's interesting to think of it in terms of services. One thing that I really love, who doesn't love having a structure that you can wrap your brain around, so can you walk us through the microinteraction structure that you developed and explained in the book.

**Dan:** When I started looking at all the details that I love, I started to really break them down into their core components, I came up with this microinteractions model that basically four parts. The first part is trigger, and that is something happens, either user

pushes a button or clicks a link or taps an icon, or a set of conditions are met, those kinds of things that actually begin a microinteraction. And then a set of things happen, and those things I call the rules, that's the second part of microinteraction. So a sequence of events begins after this trigger happens. And the rules are invisible, so the way that we understand how the microinteraction is functioning is the third part of microinteraction which is all about feedback. And feedback can be visual, it can be sound, it can be vibrations, it could even be smells in some cases, but it's the things that lets us know this is how the microinteraction is functioning. And the last bit are the loops and modes that make up the meta-rules for microinteractions. So does the microinteraction repeat over time, does it change over time, does it fork at any point and have a different mode to do something special.

So those four things are how I think about microinteractions and how I structured the book basically. And each one of those is being almost a dial or a way of manipulating microinteractions that already exist. So if you have a login screen, which is a very common microinteraction, how do you make that more interesting? Well you can look at the triggers for it, you can look at the rules for it, you can look at the feedback for it, or is there some kind of loop that you can put on it that makes it change over time. So there are not only ways of actually designing microinteractions but also ways of diagnosing existing microinteractions to see where they can be improved.

**Connie:** That's interesting. One thing I just realized when you were explaining the structures, it seems as though an understanding of the rules is synonymous with the user's mental model, would you say?

**Dan:** That's exactly right. The most that a user understands how things actually work, the rules are basically the system model, so the closer that the user's mental model matches that system model the better that they understand what's going to happen and why.

**Connie:** And when the two are equal that's when we say something is intuitive?

**Dan:** Exactly. Something is completely understandable.

**Connie:** That's pretty cool once in a while when you see something like that. One thing that really interested me was feedback, because we often give feedback as a result of interactions, but often ours are in text. I was just wondering how do you think a designer can express the personality of a product or, in our case, the personality of a digital learning experience through feedback. What are some interesting ways to do feedback?

**Dan:** In the book I talk about veneer of personality. My microinteractions are kind of a point of view sometimes in a way that feels very human so that the copy speaks to us in a language that we're used to or they try to help things that are difficult through things like humor. There is a great example from Dropbox where if the upload is taking too long it recommends, "Hey, why don't you go grab a Snickers while you're waiting?" So this is a little tiny touch of humanity peeking through what could be very utilitarian kind of systems. So I really enjoy that kind of veneer of personality. And I say veneer because I don't think you can push it too far and then you start to get things like the infamous Microsoft clippy where you have too much personality, where it's invasive and intrusive and getting in the way of completing tasks. But I think a little bit of personality, this veneer of personality, and text is definitely a great place to do it, it can be very important for products. It make them have a completely different feel that writing something in very technical or very scientific or very dense language.

**Connie:** I remember maybe ten to twelve years ago that most feedback messages of software were written by the programmer and they were just so ridiculous.

**Dan:** Yeah. One of the exercises that I have people do when I teach the workshop is how to rewrite some of those terrible old message, 'abort, retry, fail', what is the difference between abort and retry and fail? So some of those messages, particularly error messages are traditionally terrible. And they have gotten much better, and I think it's just because people do like to be spoken to like a human being, I think that's a really important thing.

**Connie:** Absolutely. It certainly makes me enjoy the experience more when I can have a little smile on my face when something is humorous.

**Dan:** Especially when something is going wrong, because it can defuse the otherwise awfulness of the situation. Oh my god, something bad just happened, don't throw this unapologetic language at me, especially if it's the fault of the system, if it's not user error. Even when it's user error it should be trying to fix that. In the book I talk a little about the rules trying to prevent human error, this idea of what can you do so the error just can't happen, it's kind of to route around common errors.

**Connie:** Yes, would that be nice. In one part of the book you write that microinteractions are another way to change the world by making seemingly inconsequential moments into instances of pleasure, which is a little bit like what we were just talking about. Can you give us an example of a microinteraction that you loved that you've come across?

**Dan:** Sure. There is a new one that I really enjoy and it's from one of my favorite apps which the Waze Navigation App. I don't know if you know it but it was an Israeli startup that was bought by Google and it basically is you type in your destination and it plots a route for you. So one of my favorite microinteractions is something that they just added where once you hit traffic on your route, this little bar appears on the side of the screen that actually tells you how long this traffic jam is going to last, and it shows you it clears up in 13 minutes or it clears up in 5 minutes. And I think it's genius because then you're like I know I've got 13 minutes and it's going to eventually clear up, I'm going to get through this. And I remember myself when I was using it previously I would try to scroll ahead on the screen to see where does this end and how long is it going to take me. But now it just presents that information, this little dollop of information. And in the book I talk about bring the data forward. What's the piece of data that's in your app that people are interested. And this idea of bringing this little piece of traffic data forward, I really love. And it's this tiny moment, it's not going to be on the side of the box or in the description of what the app is, but I really love it. It's a really great addition to an app that's got many other really great microinteractions. It just started to appear in the last couple of weeks.

**Connie:** I was wondering what that was, because I was just on a long drive from Asheville NC, to DC, and every time there was a traffic problem it said 'reported by Waze' and I didn't know what that was, so now I know. That sounds great.

**Dan:** Definitely get the app.

**Connie:** Can you think of a good example of a microinteraction that is very frustrating, just to make sure we all get that idea, what level of detail we're talking about?

**Dan:** Sure, absolutely. The one that is currently driving me crazy is I got a brand new car a couple of weeks ago and every time I turn the car on, on the screen it has got a new touchscreen interface, as all cars seem to need to have these days, and on the screen it does this popup that says, Warning! Using this touchscreen while driving could cause an accident, blah, blah, blah. It's a bunch of like legal copy that fills up the entire screen and there is a giant 'Okay' button. So the only way to get rid of it is either to wait for it to vanish after 30 seconds or to tap this 'Okay' button. And you can't get rid of it. I've looked through the settings, I've looked through everything, is this really necessary to show me every time that I start the car up? Maybe it would have been fine the very first time that I started the car, "Hey, this is a touchscreen and it could be dangerous to use this. Do you agree with this statement? Yes/No." And then be done with it. But this

touchscreen could last for ten years on my car, so do I need to see it 40,000 times over the life of the car? It's extremely aggravating because it serves no user purpose whatsoever, aside from a very tiny piece of obvious information. You can't work around it, you can't get rid of it, you can't do anything do it, except endure it. And it's of course written—we were talking about language before—of course it's written in the driest, dullest language possible too. They could even have even done something like, "Hey, be careful driving. Touchscreens are distracting." They could have made it at least interesting or have a veneer personality, but instead it's this terrible thing that I have to endure every single time I turn on the car.

**Connie:** Someone needs to make an app to kill that screen. In terms of designing microinteractions, what part does context play, is that everything?

**Dan:** Context is so important. Understanding what the goal is and what the desired end state is, is really important. If you look at all four parts of the microinteractions you can think about context in regards to each one of them. So for the trigger, what makes sense given this environment, is it a mobile phone so maybe there is an app icon that should be doing this, or is it something in a room where having an icon might not make sense. And then with the rules, should the rules adjust for this particular context, or are there times where this microinteraction should not go off, this idea of the non-use case, are there times where we should not be presenting this. And then feedback, what is the appropriate feedback for this particular microinteraction. Is it a sound, is it visual, is it haptic? That weighs a lot into understanding when and where it's going to be used. And then loops and modes should be more complex, so it this something that's only used once or could it be something that changes over time.

Understanding the overall how something is going to be used and where it's going to be used and by whom are all really important. I have this principle that I talk about in the book called 'Don't start from Zero', and it's basically this idea of what do you know about the user, about the context, about the platform that you could then use to improve the product. What are the things that you know that you don't have to either ask about or can adjust the product in some way, often by presenting microinteractions, just the example that I was just talking about with Waze, the context there is everything. You wouldn't want that little bar appearing all the time, you would only want it when you're stuck in traffic. So context and understanding user goals is really the key to all of it. You have to know those things almost as table stakes to start designing.

**Connie:** Good to know. Let's say someone is beginning to become more aware of the small details and they're beginning to design microinteraction, how can we be sure that we're giving the user a positive experience?

**Dan:** That's a tough question. The obvious way is to not only keep the principles of good design in mind, but certainly I always advocate testing as the real basic. One of my mentors, Mark Reddick, once told me, "Nobody gets it right the first time." And I think that that's true. Bringing something in front of users always gives you something interesting. There is always some feedback or some way that you haven't thought about the problem, or maybe you've been thinking about the problem entirely wrong that gets uncovered in just very simple user testing. And you see this time and time again. And with microinteractions, particularly when you're doing things that have a bit of personality, definitely checking to make sure that those kinds of things work in the context of what is being done. Particularly when you're in a very specialized kind of either field or cases of use, that what you're proposing is actually going to work in that particular context. Because sometimes there are things that as designers we may not be aware of particular subject matter or industry standards that we should be aware of. And getting things in front of users is the best way to do that.

**Connie:** Sounds good. In terms of prototyping microinteractions can you just give us some suggestions for tools to use?

**Dan:** Sure. We're super fortunate that the tools that are available to us these days have gotten incredibly good. It used to be that you had to do things like challenging programs like Aftereffects or things like that to be able to demonstrate in these kind of small movies, the kind of feeling that you want. But now there are so many great tools, everything from basic equipment like Keynote on the Mac, or new tools like InVision or Pixate or Proto.io or all those new tools that are out there that make prototyping in high fidelity, which I think is really important for microinteractions to be able to show that that combination of trigger to rules to feedback, that whole suite of things is really important to be able to show here's how this whole little widget works, here is how this whole microinteraction comes together. Because I think it is important to prototype in high fidelity, ideally in context, and if you can even do it on the platform that you're going to be presenting it, certainly the tools are out there and they've gotten so much easier so much better that there is really no excuse for not prototyping in as high fidelity as you can.

**Connie:** And of course in our field we can always use the authoring tools that we use to create eLearning and performance support products. But sometimes we might want to

use one of the prototype tools that you mentioned too. I'll put links to those in the show notes. What about creating a style guide, is that common for microinteractions, creating a style guide for each project just to ensure consistency?

**Dan:** It depends. Sometimes yes, particularly if you have a microinteraction that's going to span multiple platforms. Sometimes it is definitely good to document them and I've seen design libraries and style guides and those kinds of things so that there is consistency across the different platforms. And they're so fast that you don't need anything quite as heavy as a full style guide. Sometimes you can get away with just here is how it and just show the little movie or show the little prototype of how it works. Sometimes that works great. It all depends on your environment, it depends on who is helping you build them, those kinds of things. And just the complexity of it. If you have something with a lot of complex rules, obviously the more documentation you need in order to fully convey the amount of rules and any logic behind the microinteraction. But for simple things I'm always a fan of simpler documentation for simple things.

**Connie:** Yeah. No one feels like reading lots of documentation.

**Dan:** You can make a lot of documentation and have no one read it.

**Connie:** In addition to reading your book, which I highly recommend for people in my industry, what are some websites or other things that you would recommend so that we can get better at this?

**Dan:** The website that I really love about microinteractions, in particular is a website called Little Big Details. It is basically a community site where people submit microinteractions basically and they now have several years' worth of these things going all the way back. Some of them are just amazing, some are just great. And it's a really fun site, it's a really fast to flip through and get a lot of inspiration from. Some of the examples are just silly and fun and some are like wow that's really clever, really great example for microinteraction. So I love Little Big Details. A lot of examples in the book were from there, and they still keep going. So there is a million great new details in there. I highly recommend that. There is also a blog called Design A Day that is written by Jack Moffett and he posts a little blog thing, a little post every single day. Some days he does a thing that's called Design Detail or, I forget what it is, and he really goes deep into very particular details, and he digs into the rules part of things, which is actually hard to find and hard to parse sometimes. So I recommend that blog as well.

**Connie:** Those are two great recommendations. Thanks so much. Well, Dan, we're at the end of the interview and I want to thank you so much for giving us your time. I know you're an exceptionally busy person.

**Dan:** These days, yes. Maybe all the time, yes, I suppose. But, sure, thanks for having me on. I hope people are interested in this and really start to think about what it is that they enjoy about the products that they use and really start to look for these microinteractions everywhere. Because once you start to think about them and notice them then you start to see them everywhere and it becomes for many people, as it was for me, an obsession about thinking about what are these little tiny things, and how does this work. I think that we're in a great era for microinteractions right now between all of our mobile devices and wearables and tiny Internet of Things devices. There are just so many opportunities now for really interesting, really unique microinteractions. I think it's a great time to be thinking about the details and to change the world from the bottom up from these tiny things.

**Connie:** We're in a new phase of design sophistication and this is just so relevant.

I hope this interview and reading Dan's book will help you become more attuned to microinteractions in the world around you, and that it transfers to your own work. It has given me a greater awareness as to what makes a product enjoyable, and hope to use these insights in everything I create. Thanks so much for listening and I will talk to you next time. Take care.