Shane Greenstein:

This is professor Shane Greenstein with the HBS digital initiative, from the 2019 future assembly at Harvard Business School. We are pleased to present flash talks, exploring technology in a multidisciplinary world.

Beth Altringer:

So, my name is Beth and I run a lab called The Desirability Lab. It's a learning and research oriented lab over at the engineering school. And then I also run a design firm in Boston, it's like a data-driven creative agency. I'm going to try to hit on some topics that we've covered so far. Design, gaming, AI, gosh, what else am I forgetting? Many other ... Data of course, and then maybe even whet your appetite for the cocktail hour later.

Beth Altringer:

One of the things that I'm really interested in, and my lab is focused on right now is how we might build technology that helps us in some way understand ourselves. So this is coming at what we've been talking about a lot today from a different angle. And I noticed that we have someone from Spotify in the audience, and Spotify bought Echo Nest several years ago, and it relates a little bit to what we're going to talk about.

Beth Altringer:

So on that note, I want you to all think of a song that you heard recently that you really liked. An actual song in your head. I'm not going to cold call you on this one. We don't do that at the engineering school. So everybody has one in mind hopefully, and then I want you to try to articulate why you like that song so much, specifically in comparison to the song that you heard recently and did not like. So take a moment, come up with that articulation for yourselves.

Beth Altringer:

So most of us are able to notice what we like and dislike, but we do it sort of like this. So maybe on the way over here you heard Cardi B in your Uber or Lyft or on the radio, and then you hear the next song and the next song and the next song and the next song and you know if you like it or dislike it. But most of us actually lack that next step, which is to be able to identify the attributes to that song that would make it easier for us, on our own. So I don't mean through recommendation engines that are designed for us, but for us as searchers to be able to find more of what we like and maybe less of what we will definitely not like.

Beth Altringer:

So there are some people, these are sort of like sensory experts in a way, who are able to articulate all those attributes. So this is an example of that. They're able to articulate things like tertiary time signature, which I still am not really sure what that is. But these people have a lot of advantages in designing their own search through music. They can find a richer and more varied set of experiences regardless of what the technology is designed to allow them to do. They can also waste less time on experiences that they definitely wouldn't like.

Beth Altringer:

And when we look at what the process of becoming that type of expert looks like, first of all they're able to notice songs like all of us can do, but then they're also able to label those attributes, and then they're basically able to have a little bit of an internal database where they can structure and categorize that information in ways that link it to other types of information.

Beth Altringer:

And this is where I think there is an opportunity for more products in this space. Not only learning oriented products but products that make this process a little bit easier. At some point, these experts have feedback loops that give them information about, their attempts at search and how successful or unsuccessful some of those were and why. And I think that that would be interesting to build more products that do that for people.

Beth Altringer:

This also has a lot of benefits for people who manage to do this. So the blue and brown side of those bigger boxes, that's where I think there are product opportunities. The more advanced version of this I think, is probably not as accessible for people. That's more like the tertiary time signature is a more advanced version of understanding a category in this case music. But I don't think we have to get everyone there to improve their own searchability.

Beth Altringer:

So there's several benefits of this too. These people can analyze their experiences faster, they can search faster, they can experiment more and they can say their own time. And then as an educator, a thing that I care about a lot is they can be more of a participant in the way that the world gets designed for them because they are more articulate in defining those attributes.

Beth Altringer:

So, we've talked about music so far, but this can apply to a lot of different areas. It can apply to wine tasting, to food, to even pedagogical choices that we're making, to policy choices that we're making if we think about design in a broad sense. I want to give an example here of what I mean a little bit more clearly.

Beth Altringer:

On that theme of cocktail hour, these are beer reviews. This is of a frozen yogurt beer, and an unhelpful review is like gross one star they or great five star. But a helpful review, and keep in mind this is not a critic, this is just a user that is able to give us a lot better information.

Beth Altringer:

Blueberries are more general, red berries, frozen yogurt and ice cream in the form of mainly vanilla and lactose. However, I had to ask myself, is this really what I'm looking for in a beer? Probably not. I do like the occasional luscious dessert stout, but this one is rather thin, low in alcohol and does therefore not give me the feeling of spoiling myself. This beer is a gimmick but, and not badly executed one. 3.5 out of five stars.

Beth Altringer:

So what's nice about that review is, if you are the designer in this case, you can match that with your product analytics and really figure out what you need to do to change that product to reach the people you're trying to reach.

Beth Altringer:

And again, as an educator, I want to increase the diversity of voices that are participating in design. So up here we have mini C.Mini C is little tiny creativity in your life. So you maybe add coconut milk to your coffee and you think it's a big deal, but you don't realize that everybody else is also doing it.

Beth Altringer:

Little C is important in your industry or your reference point, but big C is innovation that we're usually after. What I would argue that we need to develop, consumer and critic habits in mini C and little C to even really capacitate more people to get to big C and to really use their voice there.

Beth Altringer:

So in my lab, how do we study this practically? We first analyze qualitative small scale data and then we begin to expand that. I'll give an example of this in a moment. We begin to distinguish experts from novices through their behavioral data. We turn those patterns into algorithms. I'm being pretty loose with my terminology about algorithms and AI for this, but I'd love to talk about it after with anybody who wants to do that. We turn those algorithms into like little actors that are making choices in a system. And then we try to develop in the product an educational layer that is capacitating users at the same time.

Beth Altringer:

So we're not just researchers like I said. So this is a product that is currently in preorder on the app store.

Speaker 3:

Hit it. That' what I'm talking about. Wait. Okay, now. From the beginning.

Beth Altringer:

All right. So this product is about flavor literacy. It's really, really fast, but it's doing a lot of things. I don't want to run out of time, so if I have time I'll explain a little bit more.

Beth Altringer:

But basically, all of this is outside of my normal job. I love flavor, I love those shows, those reality chef shows, but I'm an introvert so I don't want to be on them. And so I want to know, could you beat Bobby Flay every day and could you also in the process learn to be a better chef? I can follow a recipe, but I've never been that person who can just whip up something from an empty kitchen. So I admire those people and I wanted to learn more.

Beth Altringer:

So about three years ago, I started something called the flavor genome project. And we would talk to chefs and we would try to understand how do chefs organize information How did they build that data set or that database internally. And then we also looked at reality TV judges, and we saw how they

managed to do that. There's a show called The Taste, that is no longer on the air, but they analyzed a specific bite of food. And we analyzed all of the shows' and figured out the differences in the judges pallets production.

Beth Altringer:

Thank you. And then we started to use much larger data sets. So this is from one and a half million reviews of real recipes by real experts, actually sort of novice to expert. And we could distinguish level of expertise, clusters and level of experimentation clusters.

Beth Altringer:

And then the next thing that we did was start to model pallets. So on the left here, we have one of our more expert palates, and on the right we have one of our more novice palates. The more expert palate or the more novice palat in this case you can see has a higher preference for sweetness for example.

Beth Altringer:

So then we compared those to some of the raw data on preferences that we saw on reality shows, and we simplified some of what we could see on those shows, turned that into algorithms and started to move it through new data sets and compare it to what independent real chefs, how they would answer some of the same questions.

Beth Altringer:

We did a lot of experiments with real chefs in the area locally, and we initially built software. This software, you could look up any food or beverage item. It would tell you the attributes and it would also tell you what some of its optimal combinations were. At this stage we were adding nutrition data and scientific taste data.

Beth Altringer:

For example, artichokes actually make wine tastes sweeter, and so if you combine it with an overly dry wine, it kind of cancels that effect out, which is cool, but way too nerdy. And that's at the point where we started thinking about maybe this should be a game, and we turned these chefs into other players you can play against. You're playing against the historical data of reality chefs.

Beth Altringer:

And then, the next question is, how do we empower you to begin to use more of the correct terminology so that we can design better for you?

Beth Altringer:

And so if you want to check it out, it's called Chef League. But the takeaways and for the breakouts that I'd love to talk to you about is, if this is true that point of view development helps users and helps us as designers to design better, how might we build that into more products, specifically products that you're building right now, or just come nerd out about food and flavor. Thank you.