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MR. ELLEDGE: It’s my pleasure now to introduce you to Dr. Kris Mihalic. Kris runs UX Research, that’s User Experience Research, for those of you who don’t know the acronym. Research and design for Symbian devices at Nokia. Previously, he performed academic research at Sony, Vodafone, and Research In Motion, or RIM before working on award-winning products for Nokia, Yahoo, and Palm Source. Kris has a Master’s of Communication Science and Computer Science, and a Doctorate in HCI, Human Computer Interaction, at the University of Salzburg, Austria. He’s taught engineering and design classes at the University of California Santa Cruz, University of Salzburg in Austria, and the University of Staffordshire in the United Kingdom. Kris will be talking to us about the art of mobile user experience research. Please welcome him.

MR. MIHALIC: Thank you, Mike. All right, thanks everybody. Can you hear me okay? Great. So it’s me between you and the coffee break, and we tried to make this fit into the time frame, still leaving a little bit of time for questions because I’m assuming there might be some questions.

Thanks for the great introduction, Mike. Thanks for the ability to be here and share some of the work that we’ve done here with all of you. So, I want to start a
little bit about my background, just so you kind of understand where I’m coming from. As Mike said, I have a background in human computer action, both in the technical field of computer science, as well as social sciences; kind of like a hybrid myself. A lot of the work I’ve done so far has been both in academic research as well as in industry, and more recently in industry for companies such as Yahoo and right now for Nokia. I just switched from the Symbian group, which is the group that does smartphone operating systems and phones for Nokia, to an advanced UX Design Group. I’ve been there for about a year right now, and prior to that, a long time at the Yahoo’s mobile group. So I’ve basically worked on pretty much any mobile software that Yahoo has to offer, and that’s a lot.

One of the things that I want to talk to you about today is about the art of user experience research. How many of you work in a user experience research area? How many of you actually do research? Okay. How many of you do design, one way or the other? So, it’s pretty evenly split. So, for those of you who work in design, obviously the notion of art is a fairly well known one. Not many people would assume that art has to do with research, and I’d like to challenge that and I’ll walk you through that and show you a little bit of examples of stuff that we’ve
done so far, and hopefully by the end, you’ll kind of have a different perspective on why I think that user experience research has something to do with art or maybe even be art. It certainly is some sort of a craft of getting things together in a way that will actually resolve some of the mysteries and provide some of the answers that people are looking for.

So, it’s primarily about understanding humans, and there’s a couple of ways of how you can understand what people do, and we’ve heard some of the stuff that Mark has presented for a specific group of people, I guess those would count into a specific group of people as well. So, technically there’s multiple ways of how we look and think about research in general, a typical differentiation between behavioral versus attitudinal research, or quantity versus quality research; those kinds of things. One way to look at it and a way that a lot of corporations look at is to split it up into market research and user experience research. In fact, I actually worked at Yahoo just at the time when they decided to merge together the user experience research and market research into one organization, called customer insights. The idea behind it was to provide the best set of tools to answer the business questions that the team had, regardless of whether it comes
from the user experience perspective, or whether it comes from the market research perspective. As I worked for different companies, you kind of see a wave of those changes. Sometimes things are separated out. User experience research sits with design and product. Sometimes market research sits in a separate department. And sometimes they’re combined. But it’s kind of like a worldview into research. It’s either market research or user experience research. Just as a side note, there is a third group potentially, which is data insights, for something that’s more behaviorally log analytical in nature.

So market research essentially is about opinions and tends to be a little more quantitative than qualitative. Not to say that market research isn’t qualitative, but that’s kind of the general gist of it, right? So, things like focus groups and surveys, online and off-line surveys, brand awareness and effectiveness testing, concept testing, ideation sessions, and things like that, tend to fall into that category.

On the other end of the spectrum is user experience research, or UX research. It tends to be more behavioral in nature, more anthropological, more qualitative, more deeper insights about why people do things that they do,
and that’s kind of the area that tends to be close to product and tends to be close to design. Depending on where you work, it could be within design, like right now, for example, at Nokia user experience research actually sits within design organization and has a direct connection to the designers to the engineers to product (inaudible), and market research is a separate organization that we tend to work closely with. So, things like ethnography and field studies, lab studies, usability testing, any sort of walk-throughs analysis, all those kinds of things. So that’s kind of like where user experience sits.

There’s a third way to look at that, and that’s maybe well known to most of you or to many of you here, it’s the split between academic research and corporate research. I’ve worked in that community for a long time and one of the things that you learn through your studies is, you know, you read all these text books and you even go out into the field, you go visit corporations, you go and even observe consultants do research and things like that, and then you move into the corporate world if you choose to do so, and things are entirely different. It’s like - it’s a different world, right? In academia, first of all, you have a lot of time, and you can structure your research very well. I don’t mean that in a negative way. It’s just
a fact, right? You can structure, you have time to plan you study, you have time to recruit your participants, you have time to execute and collect data, and you have time to do analysis, right? In corporate research, not so much. You may still have some time, but it’s definitely not as well defined as many of us would want. So, your product manager comes up to you and says, so, how do people do that? Well, we could do research, we could do this, and we could do that. Yeah, but I need that yesterday. So, if you look at it, the academic research is like a journey, right? This is why you do research. In corporate research it’s more about the destination itself. It’s like you got to be there right now. So that’s kind of like a different way, and if you make that switch, you kind of learn that along the way. But it’s not something that you learn in school. So that’s kind of like the big world of user experience research or market research, or where user experience research may sit within market research or within the organizations.

When it comes to mobile user experience research, things are not so much different. Just a quick show of hands, how many of you have done any sort of mobile user experience research? Okay, a few. That’s good, that’s great. So more and more mobile is becoming more and more
important and people ask me things like, so, what does it take to be a mobile and user experience researcher, how is that different from other research. It turns out it’s not that much different, it’s the same type of methodologies and essentially it’s, you know, re-using them in a different way and combining them in a more innovative way than the traditional methodology. This basically all came from the web and the desk top, right? So if you’re a researcher in user experience with interactive systems, that’s kind of like where the majority of the research is coming from. In the mobile, you’re just dealing with similar type of approaches within a certain environment that tends to be very constrained, constrained in terms of screen size interaction, constrained in terms of network, and constrained in terms of the fact that people are moving around, which, you know, if you think about it, for the researcher, that has a lot of impact. It’s easy to observe somebody when they sit on their desk with their laptop or with their computer. It’s much more difficult when people tend to move around and take (recording cuts off at 1:14:57 and picks up at 1:15:20)

Here are the three pillars of mobile user experience, as I see them - well, actually these are the three real ones. If you ask any product manager, he would agree that
speed is the most important one. So there’s speed, there’s flexibility, and there’s context. I want to give you a little more about each of those so you kind of understand what the differences are. I’m going to do that and also show you a couple of examples of the stuff that we did so far.

So, first of all, speed of execution, and there’s really about there’s a couple of components but it all boils down to the fact that you have to be fast, especially in the mobile area. This is becoming truer and truer for other areas of research as well, but in user experience research in mobile, it’s crucial. Let me tell you a little about why that may be the case, at least from my perspective. So, here’s a time line and what I’m going to show you here is essentially how some of the industries deal with releasing their products. You may or may not know that (inaudible) that’s supposed to be one line. Automotive? The car industry - I should have used a car - the car industry essentially has a release cycle of roughly about five years. So five years to release a car. In comparison to that, the wireless phone industry sits somewhere between six and 18 months, depending on how you look at it. Usually, six months for a copy product, and 18 months for a new product is kind of the rough rule of
thumb. Compared to that, a web browser, a typical web browser client takes about three months to release. And online social games take about a week to release. Now, I’m talking about releasing a product, I’m not talking about how short your development cycles are. These can be in the agile environment anywhere between a week or four weeks. But until the product hits the market it takes anywhere between five years, if you’re doing a navigation system for a car manufacturer, or a week if you’re doing an online game. Now, if that online game happens to be mobile, things get increasingly complicated.

So, how do you do research within a week, or within two days effectively, right, because we have to deal with the environment and communicate the results and all that kind of stuff that we all learned in the academia, right? And you only have a week, and the (inaudible) cycle is on Sunday. Tough. So, it’s about speed. It’s about speed of prototyping. At least, from my perspective, I think prototyping is one of the things that, especially in mobile, is challenging but also gives you a lot of benefits. So if you’re fast in prototyping, you’re ahead of the curve. Things like paper prototypes or touch screen systems, a lot of the mobile phones now — the majority of the smartphones are coming out with touch screen systems.
So, there are ways to prototype without actually putting stuff onto the device. One of the challenges in mobile is how do you actually get anything that’s being developed or any kind of prototype onto the device. I’ll talk a little about that in a second, but you may not always need to do that. You can also use other means. You can use a touch screen monitor to simulate the device, but we’ll cut a lot of time on dealing with technological issues of actually getting stuff onto the device, or, using competitive devices. At Nokia, we use all sorts of devices, including Nokia devices, but we also use a lot of competitive devices if it turns out it’s easier to get stuff on them. So, it’s about speed of prototyping. It’s about speed of recruiting, especially in user experience research where a lot of the companies that actually do recruiting don’t necessarily have a background in user experience to begin with, and much less so in user experience to mobile. So, usually you get your typical, you know, market research companies that use some sort of a panel or, depending on where you’re recruiting, if you’re recruiting in India, a lot of this stuff is still paper and phone interviews, and that takes time, right? So, to get a number of people into a lab in India, it can take up to a month, and we have a couple of weeks at best to actually release the product.
So, a lot of the times what we would do is, in certain cases, use internal people, get them as fast as possible, especially in the early cycles, in the early research, some sort of concepting stuff. We still screen them; we still do the same thing, except that it’s much faster to do that, and not engage in the external companies. We build our own panels, so we build panels of participants that we can always reach out to. One of the advantages in working in an environment like Nokia is that you get a tremendous amount of assets that you can work with. One of those is the developer (ecosystem. So, Nokia has a pretty strong – not only Nokia – everybody else, Motorola as well as, you know, all the other manufacturers of wireless technology have a developer, environment developer ecosystem that they can pull from. So one way to get fast access to participants is to use that developer ecosystem. Of course, you tend to get more technically advanced users, but that’s not necessarily a bad thing, depending on how your research is structured. So, speed of prototyping, speed of recruiting.

And speed of delivering results. So, I guess that’s probably – when it comes to speed – that’s probably the most important one. It’s really about getting results out quickly. We kind of tend to do this analysis part, and
write a quick report, and write a real report with video clips and all that kind of stuff. If you’re a consulting agency and you get paid for that, that’s fantastic, but within an organization it’s really, really hard, so the best way to do that is to actually start and engage your stakeholders as early as possible. We invite them to the labs, we invite them even to the field studies, especially the design and product folks who are close to the product, because that kind of cuts down at the long end when you need to deliver the results, you can actually live, for the most part, with quick findings. They’ve seen the participants, they’ve seen the methodology, they were engaged from the beginning on. It’s much easier to communicate results to them then, they’re much more engaged into receiving those results, and you can basically be done with quick findings. For a lot of the studies that we do, we essentially do quick findings only. We’ve cut down entirely on – like, there’s words reports, then there’s power point, which is almost like a cut down version, and then there is quick findings which is like an executive summary type of thing. So, if you engage them early enough, if they’ve seen parts of it, a quick finding is more than enough and you can have that done in two days or even less, depending. And the other thing is, as we do
research internationally as well, or across multiple time zones – Nokia is a Finnish company, which means that a lot of the stakeholders may actually sit in a different time zone – I’m on the west coast, so that’s like 11 hours or so difference. So, a lot of the stuff that we’re trying to achieve is to get them access to what we’re doing, and that means that we’re trying to do things like remote viewing so we can allow them to actually participate even though they’re not there. One of the things that we found is that – of course, you cannot expect everybody to – you cannot expect everybody to actually be online all the time, but what you do see is that we’ve seen people that have a second monitor, and they just run the whole video on their second monitor while they’re doing their work, which is really kind of a way of engaging them and then when they listen to the audio or just see some stuff going on, they will pay more attention.

Here’s an example of one of the things we do at Nokia, which they call a “sharpie movie.” So, we essentially draw our designs with sharpies on a piece of paper. We take photographs of it. Then we put them together into a video reel. And that allows us to communicate on the concept very early, and it also allows us to test those concepts with end users. So, it’s a really fast way of iterating by
just drawing the stuff and not necessarily building a functional prototype. It’s meant for early stages but it has worked very well for us internally as well. What you can’t see here is essentially that just imagine there were multiple of those and then you can actually see how the flow works within the prototype.

The other thing that just recently for the geeks among you, just recently paying a lot of attention is fast prototyping technologies, one of which Nokia just announced recently that they’re going to focus a lot on Qt. Qt is a platform-independent environment for building UIs. It has a beta language, a description language called QML, which makes it very easy to change things and very easy to implement things, also for mobile environment. So, we’ve been starting to use those types of technologies to actually get stuff done very fast. In the example of Qt, we just ran a study two weeks ago where we used that, and this is my poor example of creating the boxes, as I start to engage and learn that stuff, but our prototypers are engineers that basically created the whole application within less than a week. The fantastic thing about this is that it allows you to – because it’s interpreted, it’s only text, you can basically bluetooth or SMS it over to a device and execute it on the device, which is super-fast
for us. That means that we can actually just move over a text file and we can have a prototype running on a device within a matter of seconds.

In terms of achieving speed, really get close to your engineers and designers because that’s how we’ve seen most of the impact. Invest in prototyping tools. Do fast iterations, as fast as possible, things like rite studies, rapid interactive testing studies, and really focus on the big bets. Focus on the stuff that will provide you the most return rather than focusing on - you know, there’s a lot that you can research, right? But you’ve really got to focus on the important things.

Second one, flexibility. I need to cut this a little bit short or run a little bit faster, I think. One of the challenges of mobile research as opposed to any other research is the fragmentation of the platforms. There’s so many of them out there, and there’s so many different direction styles. We heard today already about touch screen and five-way navigation and all that kind of stuff, different hardware, different costs. If you’re doing research in India where every SMS needs to be separately paid, you know, you’re going to have different variations of it. So, that’s the difficulty that we’re dealing with. On top of that, you have things like environmental issues
in terms of reception. So, we went into a lab in London and it turns out that one operator doesn’t have any reception in that lab. So, how do you deal with those kinds of situations? Swapping out SIM cards, swapping out phones, all this kind of stuff. So, you have to be really, really flexible. Cultural issues, things that we take for granted here may not apply in other cultures, so we’ve done research, for example, in South Africa, and it was incredible to learn that most people have not seen a five-way controller. They don’t have any appliances that have a five-way controller. They don’t own a car and don’t own a stereo. They have no idea what up, down, left, and right means on a device. So, how do you deal with that? I’ll show you an example of this where we actually had a phone — after the pilot, we had to mark up the phone in the field as we were sitting in the lab, and draw on the keys so that people would understand what the keys mean because there was no notion of five-way controllers. So, we had to draw the arrows on the phone and draw the symbols that you can see here for the left and right soft keys which corresponded to the stuff that was on the screen because people could not associate that key with the soft key label on the screen. They’ve never seen anything like that. They were still successful in navigating them once they
understood the concept, but those are the kinds of things that you have to deal with. So, in terms of dealing with flexibility, try to focus on the most important platforms. Iphone has been an important platform for awhile in the last couple of years, but there’s others. Windows Mobile 7 seems to be promising, and obviously from a Nokia perspective, Symbian is still a huge platform worldwide. Be prepared. Before you even go into the field, know as much as you can about your situation, about being there. You know, we had to swap pre-paid SIM cards in South Africa because we ended up using them unequally within the study, and we had a prototype that was hard-coded to the phone number. So, we couldn’t swap the phones and we couldn’t swap the SIM cards, so we kept reloading them and keeping track on a white board of which SIM card had how many minutes left. And then, what I mean here by creating strategic constraints, try to make it clear to your stakeholders that there’s a certain amount of stuff that you can do and you can’t do everything. The sooner they understand that the better it gets for everybody because then you can really focus on the important stuff. And, in context, the third one – this, by the way is a phone booth in South Africa, so you can go in within the community and there are regular phones with handsets but the whole phone
booth has been put there by an operator and uses wireless technology because it’s cheaper to use wireless than to put cables into the ground. So, a different way of looking at wireless phones. Some potential factors that impact you, like, when do you do research within the cycle, right? Do you do it in the beginning; do you do it at the end? A lot of the times people think, oh, we’ll do – we’ll wait until the software is mature enough or the system is mature enough so we can actually put it in front of the users. At that point, it may be too late to do any changes that are impactable. So, a lot of times doing user experience research means doing small things along the way that at the end will have a much bigger impact.

Context of use versus context of research. Sometimes it matters, sometimes it doesn’t. I’m going to show you a couple of examples, but just be aware that not always you need to do research in the same environment, under the same circumstance that people will actually use it. It won’t do you any good. It becomes completely impossible to actually do it. Use support of the vendors and your partners as much as you can, if you can. The last one is my favorite one. There’s about four-and-a-half-billion mobile phones in the world among about eight billion people, which means that technically every other
person has a phone, but a lot of those people have multiple phones, and a lot of people don’t have phones. So, in our environment everybody has a phone and it’s a very personal thing and everybody thinks that they’re an expert in it, right? So, that begins with your stakeholders who think that they’re an expert in it, and goes on until your research participants as well. So, a lot of times you’ll sit in the lab and listen to people --- I think the majority of the people will want to do this. Thank you. So, the difficulty is really dealing with this because everybody thinks they’re an expert in it, and it really becomes real difficult. The sooner you kind of get a handle on that, the better it is. So, one of the things we did with the project is we used video diaries to understand how people use mobile technology within their context. We followed up with in-person interviews, but we had 50 people do a three-week long video diary across U.S., U.K., and India, and the advantage of using the video diary – so the video diary is basically like a diary except you’re not typing your answers into an online form. You’re actually using your web cam and you’re answering as a participant using a web cam that then gets hooked up to the Internet and saved in the system. But the advantage from a mobile perspective is that people can actually now show stuff onto
the web cam. It’s not lab stuff. You cannot understand whether they navigate up and down, but you can get a sense of how they feel, you get their facial expressions, you kind of get a sense of how they use the phone while they’re sitting in front of the camera. For us, it became a really good way to not travel to each destination and still get some sort of a feedback from the participants, how do they feel. It’s really a fantastic way of also delivering results to your stakeholders. It’s one way, if you have a power point slide, and let’s say eight percent of our users were not able to do this or don’t like this. Entirely different story if you have a video of one of your participants, one of the users, and you show it to an engineer and the user says, this things sucks. I’m talking about impact, right? So, video diaries are a really good way. We work with a company called Qualview that provides all the infrastructure, so it’s really simple and everybody can do it.

So, understand the team and the business practices. Now, as researchers or designers we don’t have a lot of background in business or engineering necessarily, but the better you understand the high-level things that are going on, the easier it’s going to be for you to actually deliver results as well. Know your users, I already mentioned.
Learn as much as you can beforehand. And then, choose your partners that you’re doing research with.

So, let me give you a quick example and then I’ll wrap it up. So, here’s William. He’s your typical boss/manager. And here’s Edgar. That’s us. Okay, so when is mobile research easy? Here’s a typical example. We want to know how efficient people are using our mobile product compared to the competition. That’s a fairly easy one, almost like standard one, right? Okay, let’s get a whole bunch of people in the room, we’ll use our system, and we’ll pick two top competitors, and we’ll do a comparison. We’ll do efficiency measurement, and, say, for example, number of errors, can people complete the task, and how long does it take them, like a typical measure, and then we’ll do a comparison. We won’t get statistically valid results across the population with 16 participants, but if you wanted to do that, we could even do that, we can expand that into 200 participants worldwide, and get statistically valid results.

So, that’s easy, right? That’s a fairly simple one, lab study. Most of you have done this already. When is mobile research hard? So, how do people use mobile phones to search for information, and what kind of information are you searching for? How well does a product fulfill their
needs? This is all stuff we’ve been working on, so it’s not like this is hypothetical, right? It’s just hard. But even that, there’s a solution to that. One of the things we did for this particular one was a one-month field study with users where we used voicemails, SMS mini-surveys, and encouraged people to do photos, and then we did interviews at the beginning and at midpoint, and then at the end as well to kind of understand. But that’s much more difficult and kind of gets along those lines of video diary studies and field studies to understand how people actually things when they’re out there. You can’t do that in a lab. You can’t understand what kind of mobile information people search for by getting them into a lab.

The return on the investment of user experience research. Essentially, you need to find a way to optimize for the sweet spot. You can’t do everything. The sooner you begin, the more impact you’re going to have, the less mature the product is. The later you do the research, the less impact you’re going to have, the more mature the product is. So, it’s kind of like, when do you do it. If you only have chance, where would you do it? And there’s not a universal answer to that, it’s just understanding your environment and understanding the users and understanding your product and your business strategies.
So, a lot of the time what researchers need to do is get a better understanding of where the business is going, and where the research can have the most impact. And that’s going to be different for you, and it’s going to be different for somebody else. So, there’s not a silver bullet solution to that.

So, coming back to the question about mobile user experience research being an art. In my mind, it’s really an art of selecting the right methods, skillfully combining them, adapting the methods that have been around for ages already, all of this under the constraints of the mobile-specific constraints in order to support the business and the strategy of the business. That’s it. And, with that I’m opening it up for any questions.

Mike?

MR. ELLEDGE: Mike Elledge (inaudible). What we’ve been looking at figuring out how mobile users use their phones to get information, one of the things we’ve been wondering about and I haven’t found, perhaps there’s something out there that (inaudible), is some way of having a recording or tracking device on someone’s phone that would enable us, you, them, whatever, to download what is being actually executed on the phone in the way of obtaining information about how they use the phone. Is
there something like that out there, or is that something that is kind of a holy grail that’s waiting to be discovered and implemented?

MR. MIHALIC: So, the question is around how do you track stuff that’s going on on the user’s phone in one way or the other. And the answer is, I think, there are things; there are tools out there. The problem is that they’re very specific to either a specific platform, or even worse, to a specific phone. So, you know, they’re tracking things for Symbian phones where you can track pretty much every click that the user does on their phone. There’s similar things for Android phones and for the iPhones – well, it’s a little bit difficult with the iPhone with the closed system, but it’s possible. So, essentially you’re looking at a very constrained group of people. If that group of people matches your requirement, it’s possible. The problem with that, as well, is that it doesn’t give you the bigger picture, it doesn’t give you the context. Now, you know, it’s kind of like tracking a website, you can figure out some sort of general behavioral cues out of it, but it doesn’t tell you why this is happening. Another way to look at that would be to use that sort of stuff in combination with some sort of, say, an online or on-device survey. There is a company called
Kino that offers those kinds of functionalities right now for the iPhone only, but it kind of allows you to give people a task, track what they’re doing, and then even ask them questions on the device. So, that’s kind of like the closest that it gets, I think, unless you’re using specific – just like the logging of what’s going on on the handset, and that’s possible for some platforms. So it’s platform specific.

Any other questions?

MEMBER OF THE AUDIENCE: Can you give us an estimate, sort of an example, of how big are your budgets to do mobile research?

MR. MIHALIC: Yeah, that’s a good question. Actually, I’ll tell you roughly how big the budget we had for Yahoo, and at Nokia the structure is a little bit different, so we tend to do a lot of the stuff in-house at Nokia, like we have a lot of people that can do a lot of things, but as I worked at Yahoo, the mobile group was fairly small. It was only about 300 people worldwide that created mobile products at some point. So, we did a lot with vendors. So, with Yahoo it was typically in the range of a million per year for mobile user experience research.

All right, it seems like everybody is ready for some coffee. Thank you very much.