**Transcript**

September 5, 2025, 8:04AM

 **Speaker 1** 0:04  
4.

 **Speaker 2** 0:16  
OK.

 **Speaker 1** 0:20  
66 here.  
All right. So, yeah, I will just introduce a little bit the purpose of this meeting. Maybe it's clear to you, but just to be on the safe side, as you may remember, some weeks ago or months ago, you actually help us fill in.  
This survey and now since you actually left your e-mail for a follow up interview, yeah, we are doing this and the purpose of this interview today is actually quite.  
Easy one. So we quickly will go through the answers that you gave and look at patterns. So if there are like some specific let's say situation that may point out to something.  
Interesting for us. Otherwise, yeah, we would just comment a little bit on your search and then of course if you will have question, I can answer your question and otherwise we will end the the meeting.

 **Speaker 2** 1:36  
Yeah.

 **Speaker 1** 1:38  
Perfect. And before starting also I just wanted to ask you if, I mean I I think it was quite a few weeks ago that you answered the the survey. So I'm not sure if you remember, but I just wanted to ask if you actually while answering the survey had the impression that you couldn't understand all.  
Our questions or if there were some questions that were a little bit difficult or yeah, you were unsure about what we were actually asking.

 **Speaker 2** 2:08  
Yeah, the survey was compiled that some, I think more than some week ago, so I don't have clear the summer summary survey. I don't know if I can.  
Retake it to uh to.

 **Speaker 1** 2:26  
We can I can show quickly the the the survey to you and.

 **Speaker 2** 2:29  
Yeah.  
Yeah.  
I clearly remember the different part of form, the one more most related to the social smell and other one most related to the technical one which.

 **Speaker 1** 2:41  
Yeah.

 **Speaker 2** 2:49  
I found it a little bit of complex because yeah, my topic is most more focused on social ones, so I could get more in deep with the answer on those part of the survey rate and then the one about the technical one.

 **Speaker 1** 2:55  
Yeah.  
Yeah. So let's see if I can actually share with you directly.  
Mm-hmm.  
I was trying to see if I could.  
Start directly the answer that you gave. Let's see on the screen. Yes, here we are. So let me share the screen. Yeah, so this is the the survey that you.

 **Speaker 2** 3:46  
Hm.

 **Speaker 1** 3:46  
And serve some weeks ago or months ago, I don't remember. And yeah, so the initial part is basically just backgrounding for we were collecting background information just to understand what like I was.

 **Speaker 2** 3:51  
Yeah.  
Oh.

 **Speaker 1** 4:02  
Your experience with the smells and ML system development and so just to briefly go through, I mean you say that yeah, you had experience with ML smells and.  
You more or less I I suppose know what smell in this contest is and and and means. So then there were some general questions on the.  
Basically macro categorization of our smells. So what we did just to explain it a little bit, we of course started from a literature review and we collected all the works that were presenting new or specific ML smells and then we tried to put all these together.  
Using an already existing categorisation, but of course we had some doubts whether some specific categories should have been promoted on their own or merged with existing categories. So the first question was about data smells and we wanted to know.  
Whether in your opinion would be meaningful to have it separate or not, and you replied that yes, in your experience or in your understanding, it would be better to have data smell as a stand-alone category, right?

 **Speaker 2** 5:30  
Yeah, and to give a motivation for it or yeah, the reason why I said yes, because I think the data would be considered different from other type of, for example the code 1 because.

 **Speaker 1** 5:34  
Yeah, yeah, yeah, of course you can comment on it.

 **Speaker 2** 5:50  
Because yes, code is more related to a specific snippet or different architecture of the code rather than the one rated from the data which could be specific in the context of machine learning enable system related to the training data set.  
The.  
Data applied for uh uh excess model and stuff like this so.  
They will be considered.  
Different issue and is the main goal that was behind this decision. Yeah, even if I'm not an expert between data and code, I identify this kind of.

 **Speaker 1** 6:25  
No, no.  
Hmm.  
But yeah, by the way, one one question where maybe that is also meaningful in your in your work, what do you do? I mean of course not what you do like all your tasks, but mainly what is your main, let's say.  
Yeah, area of investigation or or work or whatever. So just for for us to understand your your specific work.

 **Speaker 2** 7:03  
Uh.  
Uh. In my work I try to investigate the social smells in the context of machine so uh.

 **Speaker 1** 7:14  
OK.

 **Speaker 2** 7:17  
The issue that could be related behind the behavior of data scientist and software engineer when they work together so.

 **Speaker 1** 7:25  
Yeah.

 **Speaker 2** 7:26  
Of course, data scientists are more focused on the Uh model creation. Meanwhile, the software engineer on the software development, and sometimes they don't work well together. They try to.  
Sporking.

 **Speaker 1** 7:42  
Yeah.  
Yeah, uh.

 **Speaker 2** 7:46  
There are little bit some issue also on the quality of the project.

 **Speaker 1** 7:50  
Yeah, indeed. So I think that you also answered a little bit already on these other questions like whether or not other categories could be promoted. Specifically we were asking about codes, I mean ML code smells.  
As well as smells that were related to either programming languages or or API specific smells. And in all these cases you say that it's better to have a separate or distinct categories.  
To to to yeah, categorize this, this melts independently, let's say.

 **Speaker 2** 8:33  
Um, yes, even because.  
Quite for the same reason but such as the the data one because of course I think that different reason quote UN quote reason such as API such as data such as code could.  
Affected the the part of the world software in a different way, so.  
Try to be, uh, try to split it in different categories. Could be a better organization and categorization of this kind of smile.

 **Speaker 1** 9:11  
Yeah, yeah, that's also what we try to do. But yeah, yeah, of course, of course, right. So if we now move to the main part of the survey where basically we had like a wall of.

 **Speaker 2** 9:14  
In my opinion, of course.

 **Speaker 1** 9:27  
Of questions where for each specific smell, we ask you to rate the relevance and the frequency on a scale from 1:00 to 5:00 where one was not relevant or not frequent and five was very relevant or very frequent.  
And of course we don't have to go actually to all your your answers because yeah, we have the answers anyhow. But we I I just want to focus on those answers that are either extremely high or let's say quite low. So and if we start from the high ones then we see that.  
Generally there are few, let's say force, but you also give some files, so the maximum value. And so I wanted to ask you if you have. Of course if you don't remember you have it here like the.  
Specific smells. So you have this about data which is categorical value. Then you have another smell related to the implementation or programming languages and this a warning and then you have a bot communities.  
You have actually, yeah, most smells related to communities rated very high. But this I think is now clear because it's also your work and also this is this process smell related to process management. So I just wanted to say if you wanted to, I just wanted to say sorry if you want to.  
To say anything more or related to this, yeah, to this smells and why you rank them so so high.

 **Speaker 2** 11:10  
OK, uh, related the.  
There's much more related with data. I think I was a little bit biased about the specific data that I analyzed it during my my research, but according to the social one, they are also the one that.

 **Speaker 1** 11:24  
Mhm.

 **Speaker 2** 11:30  
In which I work at most, particularly.

 **Speaker 1** 11:35  
Yeah.

 **Speaker 2** 11:38  
Not joking about the fact that are the specific smell in which I investigate of my recent work that maybe are the one that are taken exactly from the world. So for this reason I put it of curse of high because in my specific case of curse since that I work with communities.

 **Speaker 1** 11:46  
Hmm.  
Yeah.

 **Speaker 2** 11:57  
I hired the one that I mostly.

 **Speaker 1** 11:59  
Yeah.

 **Speaker 2** 12:03  
Uh, mostly I uh have seen uh the one reason by the project the the last one that I see in uh in school. Um, I found it sometimes in uh different research paper in which since uh.

 **Speaker 1** 12:12  
Yeah.

 **Speaker 2** 12:22  
For my study I started from different kind of already investigate social issue in context of machine learning neighborhood system, even if they are not strictly this name but.  
The general in general talk about the different behaviour and different collaboration. They highlight this sort of uncooperative behaviour and that this can have some frustration in.  
Who is responsible, responsibility to manage the the team. So I found this kind of pattern that the and collaboration between the scientist software engineer could affect not only the the software themselves.

 **Speaker 1** 13:00  
Yeah, OK.  
Mm.

 **Speaker 2** 13:14  
Also the manager of the team.

 **Speaker 1** 13:18  
OK, that that that makes sense. Yeah. And then I think that overall you actually gave all the, let's say couple of answers that were on the lower side of the scale that.  
Answers are for data believability and consistency, and I don't know if you remember, but the believability it's essentially.

 **Speaker 2** 13:43  
Um.  
Uh, yeah. Sorry if I interrupt you.

 **Speaker 1** 13:47  
No, I mean it's it's fine, it's fine, don't work. So I just wanted to say that believability is basically how much the data can be used is represented before the population, let's say that or for the yeah population that we are trying to.  
Predict and the consistency as you understand how consistent the data are and you and you rated this quite low. I mean true.

 **Speaker 2** 14:17  
Yeah, for this answer, I will say it. I'm a little bit biased about the fact that of course the data that I usually use during my study are not.  
So common for example the data provided by interview or by some data mining about software, but I must focus it on the social metrics, so our data that.  
In my opinion, I consider with the low smell of.

 **Speaker 1** 14:54  
OK, yeah, so so I understand. So in your experience, typically this the data that you work, they don't present these issues. OK, makes sense, yes. And then we have.  
This for the frequency and if we do more the same. So if we look at the values of your answers, I was just scrolling one second through this community smells.  
And I see OK that basically they're also generally quite high the answers, but not exactly the same, especially for organizational skirmish where you rated the frequency as.

 **Speaker 2** 15:47  
Yes.

 **Speaker 1** 15:47  
I mean lower with respect to the relevance, yeah.

 **Speaker 2** 15:49  
Yeah, for this one is a little bit according to my recent study in which I conducted prevalence analysis of those smells, so.

 **Speaker 1** 16:04  
Hmm.

 **Speaker 2** 16:05  
I quite to make it in line with how much I observed I how prevalence they are in a sort of in 188 project that we analyzed it. So I try to.

 **Speaker 1** 16:17  
Yeah.

 **Speaker 2** 16:23  
Make it aligned with our results about the this month.

 **Speaker 1** 16:23  
OK, so.  
Yeah, so these these answers are also, I mean take take into account the findings that you have in your own research. OK, perfect.

 **Speaker 2** 16:32  
Yeah, for the one related specific to communities mess in which I already analyzed that the prevalence about them and so I could give a more informative the.

 **Speaker 1** 16:38  
Yeah.  
Yeah.  
Answer. Yeah, of course. And in general, I think that they're so the other.

 **Speaker 2** 16:47  
Password.  
Yeah, the other are more always related about the type of data that I analyzed during the study. In this case, I extracted, I conducted data mining with a specific tool to extract community smells and the social metrics.

 **Speaker 1** 17:14  
Mm-hmm. Yeah.

 **Speaker 2** 17:15  
About 188 projects. So that's where I provided by this part of survey are mostly related about those kind of data with that.

 **Speaker 1** 17:28  
Yes.

 **Speaker 2** 17:30  
Any analyze.

 **Speaker 1** 17:31  
Hmm.  
Yeah, and just one person of curiosity. Do you remember why this the frequency of these melts related to implementation like programming convention, refactor or error are quite high. So are those related still to the kind of errors that you got in your own project?  
or are also related to the the knowledge that you acquired during your studies.

 **Speaker 2** 18:00  
Rated the knowledge that I acquired for example in in the paper in which I try to map community smells with the social technical anti-pattern machine learning enabled system, I found some.  
Quote and the results that he had on the highlighting made me think about that those kind of limitation issue are could be considered high a frequent during the.  
Uh, the element process.

 **Speaker 1** 18:37  
OK, yeah, makes sense. I think we are quite close to, yeah, yeah, I did this actually something that I wanted to ask even in person if there were like any smells that you think we have missed and then.  
Um.  
Yeah, essentially other types of community smells, of course, given your your your background.  
And specifically, do you think that there are because here you, yeah, you share an example for instance, but do you have like, do you think that there are like many community smells that we miss and if so, maybe if you have like a paper or something?  
We can read this this smell because maybe we missed them because the.

 **Speaker 2** 19:37  
Um, yeah.

 **Speaker 1** 19:38  
Because of the selection criteria of the studies, maybe.

 **Speaker 2** 19:44  
Yeah, I don't know. Maybe recently the work in which I talking about the one which I conducted this prevalence study on community smells.  
Is publisher N now is in proceedings of um.

 **Speaker 1** 20:08  
OK.

 **Speaker 2** 20:08  
Start to mapping the community smells extracted from just the CS detector, which is a detector tool that extract 10 different community smells since the four already analyzed.

 **Speaker 1** 20:26  
Mm-hmm.

 **Speaker 2** 20:26  
And other kind of, yeah, other type of paper is the systematically literature review on the on community smells. That was my starting point in which I try to map community smells with other.  
Kind of issue that could be related with the issue on the machine learning enabled system.

 **Speaker 1** 20:48  
Mhm.

 **Speaker 2** 20:56  
I think that maybe all the smells are really considered in the traditional context could be mapped on the machine learning enabled system, but sometimes the own definition could be.  
Change it, change it according to the different situation that could be burned in heterogeneous teams.

 **Speaker 1** 21:21  
Yeah.

 **Speaker 2** 21:21  
And also considering the technical part and not only the social one also regarding the different part of the software that are included in a machine learning enabled system could be.  
Could by starting by the end by them, we can start with traditional smells and try to investigate how the traditional definition could be modified according to.  
This new kind of software.

 **Speaker 1** 21:58  
OK. Yeah, I also mean while I was looking at some of the paper that you published recently. So I think that I will have some, we will have some pointers from those papers as well. Good.  
So yeah, now it's the time for you to ask question or if there are other things that yeah, you want to ask or we missed.

 **Speaker 2** 22:24  
Oh.  
Yeah, I don't have a lot of question, but the most most of curiosity if you have already identified some patterns that relate these kind of smells that you investigate.  
But and I seen in terms of um.  
Influence if you are identify that some specific kind of smells are already influenced other one, for example, don't know some social could already influence the technical or the other one or vice versa.

 **Speaker 1** 22:57  
H.  
Yeah, no, we didn't do any any such analysis yet, because the initial idea was first to have a catalog of all the smells that you can find in.  
Enabled system or whatever you want to call them. And the reason is that we realize that there are like a lot of contribution like yours and other people that work on specific kind of smells like for instance use work mostly on organizational smells, which is also one of the most important aspect as you said at the beginning because you have teams.  
Heterogeneous team working basically detached from one one another, but it means like this, this sort of overall categorization and then so the purpose of this specific work was just to provide this overall.  
Of categorisation similar to the image that we also put in the survey. I don't know if you if you remember, but essentially there was this.  
Uh, let me see.  
So we found this this paper. Yeah, so this has a big, let's say, graph where the the the graph summarized the types, the causes, the effects and and all these things about software smells.

 **Speaker 2** 24:27  
Oh yeah.

 **Speaker 1** 24:42  
So we in this, in this study specifically, we just focus on the types. So we wanted to have, as I said, like a new catalogue similar to this, possibly with more, with more entries. And then, yeah, the idea is that we would like to continue of course expanding this.  
Once we have like let's say a catalogue of types, then we can expand to this analysis that you're also mentioning like OK, which are the causes, which are the influences and things like that. So this would be like a follow up step, but yeah, I don't know.  
Well, also because this is something that, yeah, I mean of course we are working actively, but it depends also by let's say how the the the things evolve if we get students and things like that because.  
Speaker 3 and I, we also have, we mostly work on similar but different aspects. So this work was let's say initiated because we had some student that were working on this. So I mean if we will get you then so we will get let's say future collaboration with the.  
Anybody interested? Of course we we will continue in that in that direction, let's see.

 **Speaker 2** 26:04  
That could be very interesting and I would just think about this idea of categorisation. Yeah, even if now I am more focused of course of social one and thinking about how I.  
I already analyzed this social smells in machine learning enabled system. I keep the same name, I will say it. Sometimes I try to find some difference in traditional definition written to the one that could be applied in machine learning enabled system.

 **Speaker 1** 26:40  
Yeah.

 **Speaker 2** 26:41  
But thinking about to this creation of this categorization of the smells, it could be correct to keep the same name or maybe we can, I don't know, try to modify it to make it more consistent with the concept of machine learning enabled.

 **Speaker 1** 27:00  
Yeah, yeah. So this is, yeah, yeah, no, this is a good point. And we also face the same problem because we notice that some of the smells, as you said, maybe are the same type, let's say conceptually are the same, but they're just called differently and like in our.

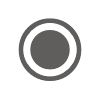
 **Speaker 2** 27:01  
It's just decided.

 **Speaker 1** 27:20  
We try to uniform have it like the terminology to uniform the terminology with the same names and the reason is because like though if these types of melts are already there and there is already research going on, so you may have already things like.  
You know, causes, reparations and all these things that are already defined for the those kind of smells. So relabeling them, it could also create some confusion because then people, I mean not us, but maybe future researcher that only read, let's say.  
Papers, let's say, then they will start picking up on those smell as if they are new, but in reality they are just like the same with a different name. So we kept the OR we try to to keep the names the same and also when we were doing this categorization, that's why we actually had this.  
Survey, we try to be conservative towards the categorization. So we didn't want to change too much just to do some minimal addition where we still fit essentially. So I think this is a good point and but yeah that that's like the let's say the the line that we.  
The that we decided to have. I don't know if it's the the most correct one, but yeah.

 **Speaker 2** 28:45  
I mean it makes sense of course my only concerns that is that of course the issue could change from a traditional and machine learning or other kind of system but.

 **Speaker 1** 28:48  
Yeah.

 **Speaker 2** 29:00  
If the core is the same, the reason is quite the same, so it makes sense to keep the same name.  
Yes.

 **Speaker 1** stopped transcription