Google Prodcast Season Three Episode Fourteen

[JAVI BELTRAN, "TELEBOT"]

STEVE MCGHEE: Welcome to season 3 of the Prodcast, Google's podcast about site reliability engineering and production software. I'm your host, Steve McGhee. This season, we're going to focus on designing and building software in SRE. Our guests come from a variety of roles, both inside and outside of Google. Happy listening. And remember, hope is not a strategy.

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STEVE MCGHEE: Hey, everyone. Welcome back to our special episode of the Prodcast, Google's podcast on SRE in production software. It's special because we're kind of between seasons right now. Jordan's here. Hi, Jordan.

JORDAN GREENBERG: I'm here. Hi. Hi, everybody.

STEVE MCGHEE: And we have a special guest. We have Javi.

JAVI BELTRAN: Hi, everybody.

STEVE MCGHEE: Javi, why don't you introduce yourself? How's it going, man?

JAVI BELTRAN: Good. Thanks for inviting me. My name is Javi Beltrán. I actually work in-- I'm calling from Zurich, so I work in the Zurich office. I've been an engineer at Google for almost 18 years.

STEVE MCGHEE: Nice.

JAVI BELTRAN: A couple of teams. So I didn't jump so much. I'm the original creator of the "Telebot" song, and I guess that's the reason why I'm here.

STEVE MCGHEE: That's right.

JORDAN GREENBERG: Maybe partially because you created the song and partially because you're an engineer. But both things are relevant. And the Prodcast has been going on for a few seasons now. And how I remember your name most is, Javi Beltrán composed the theme on the outro of the podcast every single time.

STEVE MCGHEE: Your name is ever present on our podcast.

JORDAN GREENBERG: Yes, every time. So you are always credited in our episodes. So thank you very much for lending us your magnum opus. So the one question that I've gotten from some people about it is, what is that song? Why does it exist?

JAVI BELTRAN: There is an explanation. So back in 2012, I was part of the team telephony operations. We basically ensured that the routing of the Telebot calls that were paging the engineers, it was basically done properly. So Telebot is making a call to a mobile of someone, right?

And then we were as well responsible for the other direction. If someone calls, the number that appears on the screen, the Telebot number, Telebot will basically tell you, hey, I'm Telebot. You missed a page. This is what you need to hear, right?

At that time, as I told you, I could control the routing. So as Telebot was a little impersonal-- let's put it that way-- it's just a robotic system. Well, it was not a robotic voice. It was a normal voice of someone telling you, this is the page, this is the alert, blah, blah, blah.

So I decided to put a little bit of personality into that. That's why I came up with the idea that Telebot is like a robot. And I compose music. I know how to make sounds and effects, et cetera. So I basically in my head is like, OK, I can easily replicate a robot voice over my voice, right?

That's why I decided that it would be fun if someone called back that number and they don't have the number in the agenda. Instead of a system voice that it's a little, as I said, a little flat, I decided to make some fun out of it, and that was the original idea. In my head, because Telebot was like a robot, I decided to do something similar to electronic music, vintage kind of electronic sounds.

It's not my style. When I compose music, I'm usually into guitars or bass drums, you know, like rock from the '90s. But this time, I'm like, OK, how do I make something very simple now? Because I didn't really want to-- it's not that I wanted to present my music to the world. I was trying to do something and leave it there, right? An experiment. That's why I came up with this simple idea.

JORDAN GREENBERG: It's a little bit Google-y in that way, some things just to make it a little bit more fun and interesting for something that could not be fun and interesting. If you missed a page, it could be bad.

STEVE MCGHEE: It could have just been boring, right? Like that's no fun. You might as well make it fun.

JAVI BELTRAN: And it could be a nightmare sometimes when Telebot is pinging you or calling you, like, 20 times in a minute. So I was suffering that myself. I was an engineer on call. So that was the original spirit to make some fun out of it, make it a little less painful-- let's put it that way-- and for people to remember that that number is Telebot so they could update their agenda.

So next time you don't need to call-- who is calling me two times at 3:00 AM? It's Telebot. No, I mean, that was basically another motivation, to help people remember that it's the Telebot number, because it-- yeah.

STEVE MCGHEE: So back up a little bit. How did Google engineers use Telebot? Like, what did it do, and what problem did it solve? Like, what was the lack of Telebot before there was a Telebot? Like, why did Telebot happen?

JAVI BELTRAN: So Telebot is a page system. So basically, engineers are going to get notified of an alert through an application which is popping up in the screen and making sounds like a ringtone as well, similar to a phone call. But on top of that, you can make a phone call or you can get an SMS.

So in a nutshell, the phone call is basically to reach out to people who don't have a data connection. So for sure, a lot of people decided to receive a phone call or an SMS, but you want to wake up in the middle of the night. And if you forgot to enable the Wi-Fi, the ringtone, the incoming call will wake you up, right? That was basically how-- it's a paging system with multiple options. But I knew. I knew that a lot of people would get the phone call.

STEVE MCGHEE: Do you remember what year it was when Telebot was envisioned or created, about?

JAVI BELTRAN: I guess Telebot has been there since 2005, 2007. Like by the time I did that, it was 2011, 2012. And Telebot was already pretty popular. I guess Telebot has been-- it was probably there one decade before, from early 2000.

STEVE MCGHEE: So I'm an ancient one as well in terms of being an SRE at Google. And I remember when Telebot happened. And at the time, this was going to sound weird to the younguns, but data wasn't pervasive. Like, you could be in places where you could get a call and not get a data connection and maybe not really even get texts very well.

And also not even just the connections, but the phones themselves were kind of dinky, and you could mess up your SMS volume level or something like that, where you would get an SMS, but it wouldn't

make any sound in the middle of the night because of reasons. And the UX just wasn't great. And so Telebot was this kind of semi low tech solution in that it was like, well, we have this thing called phone calls that seems to work pretty well for everybody for decades. Let's use that.

And there was a method that teams could opt in to using it, or individuals could opt in to using it, saying like, first send me a text, then send me a thing. And then 90 seconds later, if I don't respond, then sic the Telebot on me and wake me up. And that was the flexibility of it, I thought, was really, really great. And it worked very, very well. Is that your recollection as well?

JAVI BELTRAN: I'm just saying that it's interesting because telephony sometimes is associated to the old times, but the reality is that I work now with messaging-- SMS, MMS, RCS-- and it's a multibillion dollar industry, great dependency. So people are still using SMSs for authentication and multiple purposes.

People actually, if you ask people out there, they love the SMS because the SMS identifies you because the phone number identifies you. My point is that telephony in 2024 is still pretty popular, but still, it's associated with this old, classic way of contacting you, obviously, because everything evolved.

But the reality is that a lot of people on the planet still don't have data, and the SMS and the voice call is still a reality out there, right? Even in the Western world, it's still pretty important. So yeah, it's not going away yet.

JORDAN GREENBERG: Yes.

STEVE MCGHEE: All right. I have a very important question, Javi. The voice of Telebot, saying "you have received a call from Telebot," is that you?

JAVI BELTRAN: In the original song, what I say is "you missed a page from Telebot." That's me, and I just added a robotic filter. But I think Telebot will still-- Telebot, when it calls you and you accept the call, that voice is not mine. That voice is, I think, it's a system voice. It's an automatic voice, but probably from a default voice of someone, like a sample.

JORDAN GREENBERG: So I have a quick question. Most engineers, or techie people in general, don't love a phone call. And so if they are getting a phone call, it means that all of the other failsafes have gone. So you are now getting a phone call, and you have to pick it up-- not great, and a little bit stressful.

Do you have any stories about when you got the phone call and it was like, oh no, this is the point where I know that I now hate the Telebot theme. I now hate that I have to pick up the phone. Is there a turning point where that happens, or is it still something you love so much?

JAVI BELTRAN: I think in that scenario with Telebot, as an engineer on call, you have these contradictory feelings. You get a page. Imagine a phone call or your application is popping up, like with the specific ringtone, and it's like, oh no, I need to open my laptop, right?

At the same time, If you get the call, it's like, well, thanks, Telebot, because the last thing you want is another colleague to wake up in the middle of the night and do your work or be concerned about you. Because when you are on call, everybody assumes that you are alive and ready. If the primary on call is not responding with all these wonderful options, everybody will get paranoid, right? Like that guy is sick, or that person is in a remote island and we just realized, or whatever.

So one interesting story about the Telebot song is that a lot of people used the song as a ringtone. And I heard the stories about the partner of the engineer, right? Obviously, when you are sharing beds with your partner, your wife, your husband, whatever, and you get that wonderful call at 3:00 AM, if you are putting the Telebot ringtone versus the normal whatever Android ringtone, the person beside you is going to hear "you missed a page from Telebot, Telebot."

And it's like, answer that call! It's going to be a nightmare for the non-engineer. And I heard the stories about people telling me like, yeah, my wife hated that song so much that I had to remove it from my ringtone. Even if you want to keep it as a ringtone--

STEVE MCGHEE: I have it.

JAVI BELTRAN: --your partner will not allow that because they will get sick of that. You know what that call means.

STEVE MCGHEE: Yeah, I feel it. So a couple tips from the chat. Mohit Muthanna actually wrote Telebot in Ruby in about 2007, according to Saleem. So that's a cool little bit of lore. And one more piece of sort of future lore, I guess we can call it, is that there's a new song. There's a new Telebot song.

And we're going to use it here on this podcast. And so maybe it's playing under us speaking right now. I don't know. That's up to the editors. We'll see how it goes. But we're going to use it for our intro in season 4, and Javi made it for us.

Is there anything you want to tell us about this remix? Is it bossa nova? Is there a full-length album coming? Like what can we expect. How did it go?

JAVI BELTRAN: Well, this was a little of a collaboration between Jordan and myself. Thanks, Jordan, again, because you gave me the inspiration and the motivation to do this. And I felt responsible because I'm like, OK, I have the original files. And we make an intro out of the original song, it needs to be consistent and coherent. Lucky me, I found some WAV files that I could basically use again in the mix. And then I told Jordan, hey, you know what? Maybe this time I can play with different sounds and make it a little more vintage or video game style.

I was already using my imagination. And at the same time, I thought, hey, it would be cool to play a real instrument because back in the day, what I did is very simple. I selected a drum sound with a MIDI keyboard. I just created these organs, these psychedelic sounds.

And I recorded my voice, and I put the effect on top of it, mix it, bye. But this time, I wanted to make it. I had the opportunity to say, listen, at least I'll play one of the instruments. So I decided to take my bass, and I played the bass line.

Even Jordan gave me some ideas that I reproduced myself. It felt really good to add that human touch to Telebot, which is a robot, a well-known robot. So now the intro is giving us the opportunity to add these human 20 seconds of magic.

JORDAN GREENBERG: Yes, it's a little bit more organic in that way. And we wanted to make it a little bit more modern because while SRE is quite the same, there are some things that have changed. There are some ways that we have moved forward, and I think that having a fresh take on Telebot is a good way to symbolize that change musically. So look forward to it.

STEVE MCGHEE: I think also, it's a good analogy, right, for SRE in general. We try to automate a lot of stuff, but at the end of the day, it's the human touch that's underneath it all that is really necessary. You can't just have a robot.

You can't just have a thing that you wrote once. You got to adapt. You got to evolve over time because the system changes, the demands change. The robot's not going to change on its own. You got to have a human like Javi, like how we have, who can step in and take the WAV files and an actual bass guitar and do stuff and make it sound awesome.

So thanks very much, Javi. This is really awesome. We're going to listen to it over and over and over and over again, and hopefully we'll play it right now for the listeners, and we can all glory in it. Anything else, Jordan or Javi, before we break it off?

JORDAN GREENBERG: Play our song.

JAVI BELTRAN: One thing that is interesting as well is that, as I said, we made some iterations, which iteration is an important part of life, too, and get feedback and iterate, feedback and iterate. So we practiced that.

STEVE MCGHEE: You didn't waterfall plan it, like you actually iterated?

JORDAN GREENBERG: No, no.

STEVE MCGHEE: That's amazing.

JORDAN GREENBERG: In fact, even though I am a TPM, did not and would not waterfall. It was very much open to subjective feedback and endless scope until it was done.

STEVE MCGHEE: So are there going to be remixes? Are there going to be masters sent out of all the different iterations along the way, Javi? Can we look forward to that?

JORDAN GREENBERG: No.

STEVE MCGHEE: No?

[CHUCKLING]

Worth a shot.

JAVI BELTRAN: Yeah, I mean, Jordan helped me really to-- because I was a little too original, a little disruptive. I even added some noises that are like "beep" because in my head, originally, back in the day, I wanted to say, "you missed a page from the beep Telebot," like making a little more fun of it.

But I decided that I'm not going to put objectives to the wonderful Telebot system because the system has enough making it work. So my point is that it was great to do it with Jordan because then it's not only me and my own paranoia.

It's basically feeding the purpose, which was basically to create a space for the voice and for people to

recognize that intro as an iconic song, like the original song, like trying to make it nice for everybody, like make it simple and catchy.

STEVE MCGHEE: Yeah, it's a collab, as the kids say, right?

JORDAN GREENBERG: Yes.

STEVE MCGHEE: Excellent.

JAVI BELTRAN: Yes. And it was great.

STEVE MCGHEE: Awesome. Well, thanks very much, Javi. Thanks for stepping in real quick. I know it's late there. We are many time zones away from each other. Thanks, Jordan, for helping out with this, for doing the collab.

I've heard it. I think it's awesome. So well done to both of you. And yeah, we'll see everyone in the next season. Season 4 is going to be out soonish. All right.

JORDAN GREENBERG: Thank you.

JAVI BELTRAN: Awesome.

STEVE MCGHEE: So long, everyone.

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[JAVI BELTRAN, "TELEBOT"]

JORDAN GREENBERG: You've been listening to Podcast, Google's podcast on site reliability engineering.

This season's host is Steve McGhee with contributions from Jordan Greenberg and Florian Rathgeber. Visit us on the web at sre.google, where you can find papers, workshops, videos, and more about SRE. The podcast is produced by Paul Guglielmino, Sunny Hsiao, and Salim Virji.

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