

The Tim Ferriss Show Transcripts

Episode 135: Luis von Ahn

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Tim Ferriss: Hello ladies and germs, this s Tim Ferris, and welcome to another episode of the Tim Ferris show, where my dog is yawning, and it is my job to deconstruct world class performs of various types from military to entertainment to academia to sports, chess, everything in between and tease out the routines, habits, favorite books, etcetera that you can use. And this episode we have Luis Von Ahn or Luis Von Ahn, V-O-N A-H-N, who is an entrepreneur and computer science professor at Carnegie Mellon University.

He is known for inventing CAPTCHAS - and we'll get into that - being a MacArthur fellow, which is often nicknamed the genius grant, and selling two companies to Google in his 20s. Luis has been named one of the ten most brilliant scientists by Popular Science Magazine one of the 50 best brains in science by Discover, one of the top young innovators under 35 by the MIT technology review, and one of the 100 most innovate people in business by Fast Company Magazine. He has many things, many interests that keep him busy, but the primary is Duolingo.

Luis is currently the cofounder and CEO of Duolingo, a language learning platform created to bring free language learning to the world. They have more than 100 million users, including yours truly, and that makes it the most popular way to learn languages in the world. And it is the most downloaded app in the education category on both iTunes, where it has a 5 star average and more than 3,300 review and Google Play. I first met Luis as an early investor in Duolingo.

I tracked them down, which was very hard. I tracked Luis and his cofounder Severin down after you guys - my fans - actually told me I had to see it. It was in beta the time, and via Twitter and Facebook, you guys informed me. I reached out to them. That's how that came together, and every time I meet Luis, I learn something new. And certainly I hope you'll learn a lot in this episode.

We talk about his favorite books and resources he'd recommend to entrepreneurs, language learning tips, the very clever way he caught cheating students, which is a great story, early mentors and

key lessons learned, the story of building and selling companies like reCAPTCHA, how to recruit and get technical talent, the most surprising sources of users for Duolingo and it goes on and on. So we talk about quite a lot. Please say hello to Luis on Twitter @luisvonahn, L-U-I-S-V-O-N-A-H-N. Say hi on the interwebs, and please enjoy my conversation with Luis.

Luis, welcome to the show.

Luis von Ahn: Thanks for having me, Tim.

Tim Ferriss: I thought we could start where a lot of people start in the morning, which is breakfast. You mentioned this briefly when we were doing a sound check. What did you have for breakfast this morning?

Luis von Ahn: I had a Greek yogurt.

Tim Ferriss: And you added some context. You've had the same thing for breakfast for the last year?

Luis von Ahn: Yeah, possibly two or three years. It's the identical Greek yogurt. It's the Fage Greek yogurt, the one that you have to combine the fruit, but the spoon never fits in there. That's the one.

Tim Ferriss: Do you have meals that you repeat for lunch and dinner? Have you standardized your daily routine in other ways besides breakfast?

Luis von Ahn: Not that well. Breakfast is pretty standardized. My lunch is pretty different every day. We get free lunch at Duolingo, and I eat that.

Tim Ferriss: Got it. Not standardized - the word - makes me think of testing. When I think of testing, I actually got pinged by a former student of yours, and the student said, "Ask him to explain how he caught," - how he caught. Boy, here we go. I need to study English.

Luis von Ahn: Was it him or was it you? Caught.

Tim Ferriss: Yeah, caught. No, I said this, unfortunately. Caught cheaters in one of your classes at Carnegie Mellon and I was hoping maybe you could explain how that went.

Luis von Ahn: Yeah, I did that quite a bit. So I used to teach this class. I'm on leave. I'm a professor, but I'm on leave. I used to teach this class called Great Theoretical Ideas in Computer Science, which is kind

of the hardest class most people have ever taken in their lives. It's basically discrete math, and it's pretty hard. Now, a lot of people used to cheat. It's a large class. It's about 200 kids.

A lot of people used to cheat in different ways, and I started becoming really obsessed with catching people cheating. I didn't even do anything bad to them after I caught them cheating. It was more like a fun game for me. So, for example, one of the things they couldn't do is some of the assignments I said, "It is against the class policy to google." Now you can think what you want about that policy. I don't think it's that great of a policy, but that's a policy that I inherited. That class always basically said you cannot google for assignment solutions. So one of the things I did was sometimes I would assign homework, and I would actually seed the answers to some of the things in websites that were crawled by Google but that I owned. I could people's IP addresses and everything. I would catch people cheating that way. I basically set up honeypots for people to cheat. You could say that's entrapment, but that's what I did.

Tim Ferriss: Do you recall any examples off hand?

Luis von Ahn: Yeah, well, of the exact websites? I don't know where they are.

Tim Ferriss: Yeah or the terms.

Luis von Ahn: Yeah, there was one that was called Guillerma Crystal's Puzzle. It's made up, but I made that word up beforehand. I made sure there was no such thing on Google. I made a website that had the right solution, but it recorded everybody's IP address. And at CMU you can figure out their dorm from their IP address. So I could figure out which person was actually checking. It turns out that time out of the 200 students, about 40 googled for the answer, and that was fun. I used to do all kinds of things like that. The students were all usually scared of almost everything be a trick. So I would do that in the first one or two assignments, and then afterwards they would learn not to cheat.

Tim Ferriss: So the story - the progression I've heard - is that you would bring up slides silently. Did you do this where it was [Crosstalk] like a screenshot -

Luis von Ahn: I did do that.

Tim Ferriss: Or whatever it is - the Glorblar problem or whatever circled - and then a screenshot of the Whois for the domain site or the domain that people would go to with your name circled since you own it?

Luis von Ahn: Yep. That's when you could see the whole class - you could see their faces change. It was pretty fun.

Tim Ferriss: But you didn't have to actually hunt down each identity, right? Did you offer them a choice? Tell me if this is true. So the story - the lore - is that you offered them the option of confessing and take a zero for the homework. Otherwise they would get reported, or was it not?

Luis von Ahn: Who have you been talking to? That was the case. That was exactly the case because it took a little bit of effort to go and figure out who was who. So I would say, "If you just confess, you get a 0 on the assignment," and all kinds of people confess. I even had some people confess that didn't even actually do anything. They just said, "Well, I don't know what the hell I was doing, so I'm just gonna throw my name in there. I'd rather take a 0 on the assignment."

Tim Ferriss: If we rewind the clock - so that's as a professor - at what age did you become a professor at Carnegie Mellon?

Luis von Ahn: I was probably 25.

Tim Ferriss: 25. And was it clear that you were going to be involved with computer science from a very young age? Can you describe for people where you grew up, a little bit about your childhood?

Luis von Ahn: Yeah, sure. I grew up in Guatemala, which by the way that's not where they keep the prisoners. That's Guantanamo.

Tim Ferriss: Do you get that a lot?

Luis von Ahn: I get that a lot. It's like, "Is that where they keep the prisoners?" No, it's not. It's also not where they invented the avocado sauce - the guacamole - different. So, yeah, I grew up in Guatemala. I started like computers at about age eight. I really wanted a Nintendo because everybody wanted a Nintendo, or my friends all had Nintendos. And I told my mom, but my mom instead got my a Commodore 64 computer.

Tim Ferriss: I remember Commodore 64. Played a lot of Spy Hunter on Commodore 64.

Luis von Ahn: Yeah, so I played a lot of games there, but at first when I first got it I was pretty pissed off because I thought, “Man, I want a Nintendo.” But instead she got me that, and she said, “Well, you figure that out.” So I had to figure out how to use the computer to play games. And then because she would only buy me a couple games a year and I would get bored of them, I started trying to figure out how to get more and more games. The best way to do that was basically to copy them from other people.

So I started doing that at a young age. I think the statute of limitations has passed by now, but I was basically pirating in an enlarged scale in Guatemala City is basically what I was doing.

Tim Ferriss: What did you learn in those early days of copying games that helped you later or gave you an indication that you had a proclivity for using computers and computer science?

Luis von Ahn: I was pretty good. You know, most of these things had some sort of copy protection. Usually it was like hidden files or something that if you just knew how to list the director by showing the hidden files, you could see them. So it was not that hard, but basically I started getting good at usually computers. And I was usually the better kid in my class at anything having to do with computers, and I think that’s kind of what got me going.

Tim Ferriss: When did you leave Guatemala?

Luis von Ahn: I was 17. I had just turned 17. I came here for college. I wanted to become a math major, and it turns out in this little country there was no way to become a math major.

And so I left for college. I thought I would return four years later, but then I started liking it here. The whole not being scared of kidnappings, etcetera, that was pretty nice, right?

Tim Ferriss: I love the luxuries.

Luis von Ahn: The luxuries of life, like electricity reliably, all that stuff was nice. So I kind of stuck around.

Tim Ferriss: What did your parents do, and what was your upbringing like?

Luis von Ahn: Yeah, my parents were both doctors - medical doctors. But my mother, she was a doctor, but she only practiced for like six months. After that she inherited a candy factory from her mother. So my mother owned a candy factory, and that’s what she did. It

was pretty awesome. It was like I grew up basically in a candy factory.

Tim Ferriss: So it's like there were - I assume - no Oompa Loompas or any some such Willy Wonka elevators, which would be nice, but like you said, electricity not reliable.

Luis von Ahn: No, there was none of that, but there were huge machines made humongous pieces of candy that had to be cut off. It was fun. I didn't really like because I guess I ate way too much of it at first, and then I stopped liking it. But it was really fun to take the machines apart, and I guess people didn't like that. But it was fun to take the machines apart.

Tim Ferriss: So you worked on taking the machines apart?

Luis von Ahn: I did not work on putting them back together because I had no idea how to do that.

Tim Ferriss: But you took them apart.

Luis von Ahn: I did.

Tim Ferriss: You must have been a real crowd pleaser with the employees.

Luis von Ahn: Yeah, yeah.

Tim Ferriss: Did your parents do anything in particular in terms of parenting style or interacting with you that you could see doing with your own kids at some point?

Luis von Ahn: My mom was great. One of the things she did was she always told me - I've read this after the fact, but I noticed she did it - you know, when you congratulate your kids, you always tell them, "Oh, you're so smart." She would say that I was smart every now and then, but most of the time she would say something like, "Oh, you worked hard on that." She did that a lot, and I guess that's probably why I'm not a workaholic. But she did that a lot.

Tim Ferriss: I want to say Carol Dweck - I might be getting this researcher's name wrong - wrote a book called Mindset about this how if kids believe that their intelligence is a fix trait and they're told, "You're so smart; you're so smart," that when they fail they assume it is an unfixable problem. And then when you're told, "You worked really hard, congratulations," then you become more resilient and adaptable when facing setbacks and whatnot. What did your path

look like through college and then immediately after graduation?
Where did you go undergraduate?

Luis von Ahn: I went to Duke. I had never been to North Carolina before. I showed up. I did not really realize that North Carolina was the south.

Tim Ferriss: It does have north in the name.

Luis von Ahn: It does have north in the name, but the first day I showed up, I went to McDonalds because I had heard a lot. I mean, we had McDonalds in Guatemala, but it was a restaurant I knew. So I went to McDonalds, and I could not - I spoke English - but I could not understand the person asking me what I wanted to order. The southern accent was way too thick for me, but I was at Duke. I was there. I studied computer science. I loved it. I loved basketball while I was there for exactly four years, and then the day after I graduated I stopped liking it. But I loved it while I was there.

Tim Ferriss: That's the religion.

Luis von Ahn: Yeah, yeah. Then I went to get a PhD in computer science at Carnegie Mellon. I went to Carnegie Mellon because of my PhD advisor who's a guy named Manuel Blum who many people consider the father of cryptography, like encryption and all that stuff. He's amazing. So I came to Carnegie Mellon to study computer science.

Is Manuel Blum originally from the US, or is he from outside the US?

Luis von Ahn: He was born in Venezuela, but he lived there for like a year. And then he grew up in New York City.

Tim Ferriss: What did you learn from him? Are there any lessons in particular or principles or takeaways that you've carried with you or that you can remember from working with him?

Luis von Ahn: Yeah, I learned a lot from him. I mean, he's very funny. He's an older man now. He's in his late 70s. When I met him, which was like 15 years ago, I guess he was in his 60s, but he always acted way older than he actually was. He just acted as if he forgot everything. He really acted like he forgot a lot of things.

Tim Ferriss: Meaning like an absent minded Doc from Back to the Future type of person?

Luis von Ahn: Yeah, but I think it was a bit of an act. At first the way he treats his PhD students is he meets with them once a week, and they have to like explain to him what they're doing. So I had to explain to him what I was working on, which at the time by the way what I was working on was this thing that became very popular which is CAPTCHA, these distorted characters that you have to type all over the internet.

Tim Ferriss: To prove you're not a robot of some type.

Luis von Ahn: Right. It's very annoying. That was the thing I was working on, and I had to explain it to him. But it was very funny because usually I would start explaining something, and in the first sentence he would say, "I don't understand what you're saying." And then I would try to find another way of saying it, and a whole hour would pass and I could not get past the first sentence. And he would say, "Well, the hour's over. Let's meet next week." This must have happened for months, and at some point I started thinking, "I don't know understand why people think this guy's so smart."

For example, there's no such thing as the Nobel Prize in computer science because I guess there was no computers when Nobel was around. So there's a thing called the Turing Award, and he won the Turing award. So he's like basically won the Nobel Prize for computer science, and I just could not understand how people thought this guy was smart. But it turns out later, now I understand. This is basically just an act. Essentially I was being unclear about what I was saying, and I did not fully understand what I was trying to explain to him.

He was just trying to drill deeper and deeper and deeper until I realized every time that there was actually something I didn't have clear in my mind. And that's something that he really taught me out to think deeply about things, and I think that's something I have not forgotten. When you understand something really, really deeply, you can explain it in a really short way usually, and that's great.

Tim Ferriss: Part of the reason is particularly because I'm incompetent when it comes to physics, but I've always had a lot of respect for teachers who can develop a style like that of the late Richard Feynman - right - being able to take very perceived as complex concepts in theoretical or applied physics and explain them using say an apple

and a pencil to a third grader and being able to have them get it - not just get it but remember it.

Luis von Ahn: Yeah, I think that's true understanding. I think when you're able to explain something so simply that almost anybody can understand it, that means you really understand it.

Tim Ferriss: And for anyone who hasn't seen it, it's a little hard to find. I have found it on YouTube before. I'm sure you can find it on some Chinese version of YouTube somewhere, but it's The Joy of Finding Things Out, which was a Nova program - it's not that long - which is an interview of Richard Feynman about his experience with his father among other things and how his father taught him to explore the world, really fascinating.

So you mentioned CAPTCHA. Can you walk us through or not walk us through but what were the milestones for CAPTCHA, and what ended up happening to it?

Luis von Ahn: Sure so the way this whole thing go started, it was about the year 2000. I had just started my PhD at Carnegie Mellon. I was looking for a PhD thesis project, and I had just started. I was looking for something. I really didn't have a research project, and this guy - a pretty awesome guy - his name's Udi Manber. He was the chief scientist at Yahoo. He now works at Google, but at the time he was the chief scientist at Yahoo. And Yahoo at the time in year 2000 was really the biggest thing in the world.

Tim Ferriss: Sure, Udi Manber?

Luis von Ahn: Manber. M-A-N-B-E-R.

Tim Ferriss: Got it.

Luis von Ahn: He came to Carnegie Mellon to give a talk about ten open problems that Yahoo did not really know how to solve, and my guess is this was a recruiting talk. Now that I understand how the world operates, my guess is he was coming to recruit engineers of some sort, but he gave a talk about ten problems that they didn't really know how to solve.

And there were a bunch of different problem there. I went home, and I said, "Well, I'll try to figure out how to solve all of these." I had no idea how to solve any of them except for one, and I didn't really know how to solve it, but I thought, "Hm, I can probably come up for something for that." And the problem that he had that

they didn't know how to solve is that at the time they had a free email service - I guess they still do - where the problem they were having is that people were writing bots to sign up for millions of email accounts. That's what they were trying to do, or that's what they were doing. And then the people at Yahoo did not know how to stop this. They were trying all kinds of things, and whatever they did, the people who wrote the bots would kind of one up them. And so I kind of thought about it.

I thought about it with my PhD advisor Manuel, and together we came up with this solution which is why don't we test whether the thing that's trying to sign up is a human or a computer that's trying to sign up for millions of accounts. And we came up with this idea of a test, and the test is basically just giving some distorted characters and having the entity read it. And it turns out humans can read these pretty well, whereas computers can't read it as well. And that was it. It took a few months to come up with this idea, then we developed it. And then we showed it to him, To Udi Manber, and he had it running on Yahoo like two weeks later, which I also now in retrospect realize how big of a problem this must have been for them.

Tim Ferriss: Yeah, that's a miracle for that to be implemented so quickly.

Luis von Ahn: [Crosstalk] Because it's a miracle for any large company to do anything in two weeks. But he had it running pretty quickly after that, and from then on, every other website started using these. And so that happened, then this still the year about 2000. By the year about 2005, I had gone on to work on other things, but by then essentially every single website was using it. And at some point I did a little back of the envelope calculation about how many of these were typed by people around the world, and it turns out the number I came up with was about 200 million.

So about 200 million times a day somebody would type one of these CAPTCHAs, and that's when I started thinking, "I wonder if we can do something with this time." Because the thing is each time you type one of these, not only are they annoying but also they waste about ten seconds of your time, and if you multiply ten seconds by 200 million, you get that humanity as a whole is wasting like 500,000 hours every day typing these annoying CAPTCHAs.

So I started thinking, "Can we do something?" I started feeling bad first of all because it's like 500,000 hours and it's kind of my fault. So I started feeling bad, and I started thinking, "Can we do

something good with this or useful?” And that’s when I came up with the idea. It’s kind of the second round of CAPTCHAs. It’s this system called reCAPTCHA, which the idea is that not only are people authenticating themselves as a human as they’re typing these, but they’re also helping to digitize books. Okay, first of all, digitizing books, Google, for example, is digitizing all of the world’s books or was digitizing all the world’s books where the idea is you start with a physical book, and you scan it. Now scanning a book, literally what it consists of is sending the book to India and somebody in India taking a digital photograph of every page of the book. That’s literally what scanning a book is. Now the problem is that the next time of the process, the computer needs to be able to decipher all of the words in these pictures of the pages. But computers can’t do that very well or not as accurately as humans.

So what we do is we take all of the words that the computer cannot recognize in these scans, and we get people to read them for us while they’re typing CAPTCHAs on their internet. So that’s the idea of reCAPTCHA. As people are typing these CAPTCHAs, they’re also helping to digitize books.

Tim Ferriss: From the conception and development of reCAPTCHA, the technology was acquired or licensed? What was the ultimate?

Luis von Ahn: reCAPTCHA turned into a company. At first this was at Carnegie Mellon. I was a professor at Carnegie Mellon, and this was a research project around then. But then at some point we realized that we could digitize a lot of things in a large scale because what happened is we launched this reCAPTCHA service. Pretty quickly Facebook started using it. So basically anybody who signed up for Facebook was helping us digitize one word out of something.

Tim Ferriss: Who provided the books?

Luis von Ahn: Right. So at first nobody was providing the books really. We just had kind of some small amount of scans that we had gotten from somewhere, but I was giving a talk somewhere and in the audience was the CTO of the New York Times. He said, “Hey, we have archives of the New York Times. We have 130 years of New York Times archives that we have scanned, but we just cannot finish the digitization process because the scans are not very good. So maybe you can do this for us,” and I said, “Sure.”

So pretty soon we started digitizing the New York Times and started charging them for doing that. At that point we had to leave

the university because apparently you cannot do work for hire inside a nonprofit university. Who knew? And so we formed the company mainly because the New York Times wanted to pay us to digitize their archive. And so they started paying us. They were paying us quite a bit. They were paying us about \$50,000 per year of content.

Tim Ferriss: Yeah, so for 130 years, that's a lot.

Luis von Ahn: For 130 years, yeah, so that we didn't need [Crosstalk] any venture funding or anything.

Tim Ferriss: That's a valuable contract.

Luis von Ahn: Right. We didn't need any venture funding or anything. That's how we spun it out into a company, and we were in the middle of that contract. And we were going at it, but at some point Google was having the exact same problem with their book digitization process that their computers were not as accurate as humans. So they kind of approached us, and we ended up decided to sell the company to them.

Tim Ferriss: Question on Carnegie Mellon and technology transfer. So for those people who are not familiar, if you were to go to say a place like MIT or many, many universities, if you develop - and I'm sure this varies in the fine print - if you are a faculty member or maybe even a student and you develop technology at the university, am I correct in saying that in some cases that is the intellectual property of the university?

Luis von Ahn: That is correct.

Tim Ferriss: So how did you navigate that with Carnegie Mellon?

Luis von Ahn: So most universities what happens is if you are an employee of the university or if you are a student and you are funded somehow through the university - so, for example, PhD students that are funded through grants or something - then the university can if they choose so take ownership of your intellectual property. And usually also universities have some sort of licensing agreement in case you want to form a company out of a university. So this is actually what happened with Google. Google was developed inside Stanford, and there's many other companies like that. And usually there's some sort of licensing agreement where if you start a company, the university now owns a certain fraction of your

company, and that varies per university. And exactly the terms of this vary per university.

At Carnegie Mellon, it's pretty nice. What's nice about it is that it's really simple. It's Carnegie Mellon owns five percent of your company, period. Now if you raise funding, their ownership dilutes, but at the time of company formation if you're taking technology out of the university, they own five percent of the company. And that's it. What's nice about that is you don't have to fuss with them. I mean, many others have some sort of negotiation or variable amount depending on milestones or whatever, and you end up having to negotiate all kinds of things. But here it's just a standard thing.

Tim Ferriss: Very simple.

Luis von Ahn: Yeah, so Carnegie Mellon own five percent of reCAPTCHA. That's what happened.

Tim Ferriss: Looking back Uri's presentation and the ten open problems and how you recognized it later in retrospect as a recruiting trip most likely for engineers, have you developed a particular approach or what is your approach for recruiting engineers for your startups?

Like, for instance, in the current day or when you were just putting together the initial team for Duolingo, how do you recruit and vet engineers?

Luis von Ahn: The initial team was actually relatively easy at Duolingo. Because I was a professor and essentially I was teaching a class that every single student had to take in computer science, I pretty much knew who the best students –

Tim Ferriss: You got to see all the fresh meat coming in.

Luis von Ahn: I knew who the best students were in the whole university. I mean, I knew that. So it was relatively simple. At the beginning I essentially just emailed my top ten that I knew, and that was it. And some of them already had jobs, and some of them were very interested. And I hired some of them, but those I didn't even have to interview because I knew them. I had taught them, and I knew how good they were. Things changed after that now that we have to hire more.

Now with Duolingo we have about 60 people, and we go to universities. We recruit from usually kind of east coast universities

to MIT, Harvard, Princeton, CMU, etcetera. We usually go there. We give a talk, and then we –

Tim Ferriss: What type of talk?

Luis von Ahn: Usually technical but entertaining. I think what's most useful is showing that you have really difficult problems. That is what works the best.

Tim Ferriss: Because difficult problems attract good people?

Luis von Ahn: Yeah, difficult problems, they're like, "Oh, I'm intelligent. I have to – I'm going to go solve difficult problems." So you basically pick the hardest problems that your company is working on and give a talk about how they're so hard and your solution and how your solution is so clever but still could be improved and it could be improved by you if you come work for us. So that's usually the type of talk that you give.

And then we get a bunch of resumes, and then we're very strict on the interview. This is something that really matters. We're pretty strict on our interview in terms of making a high bar for hiring. I think that's something that I've learned over the years that hiring mistakes are very expensive.

Tim Ferriss: So what would be an example of that strictness? Can you elaborate?

Luis von Ahn: A lot of technology startups follow a very similar routine, and Google follows a very similar routine. It's basically so we do two phone screens. So the first thing that we do is we call them. So first of all, we do a resume screen. So we look at what university they went to and did they a good GPA? Have they had good internships, etcetera? And after that the better ones we call them on the phone, and we do an interview. Because it's on the phone, it's not that difficult of a problem, but it's some computer science problem that they have to solve like something to the effect of like I give you some numbers in some way.

Can you sort them in some other way by only doing this type of operation or something like that? You give a problem. Usually we do it through Google Docs. So they have to write their solution so that we can watch it while they're writing their solution.

Tim Ferriss: Yeah, that makes sense.

Luis von Ahn: So we do that. We do two of these phone screens. So if they pass the first one, we do a second one, and then after that we bring them on site. And then we do usually four different interviews on site. Some of them they have to solve some problems on the board, and these are problems of the form - I don't know - these kind of logic type problems that are related to computer science. Afterwards they have to do a pair programming with one of our engineers, so they sit there and actually try to fix an actual bug. Usually it's the same bug but an actual bug that has occurred at Duolingo. They have to fix it.

Tim Ferriss: So paired programming for those who aren't familiar, it's often talked about as a great way to learn how to code or to get employees up to speed. So you have Pivotal Labs and other companies like that that can bring on say coders who know one language and get them up to speed in the language you need them to be proficient with in a startup and do so very quickly and help them to build prototypes and so on. But in this case you're using it to vet someone. So you have one of your engineers sitting at a computer, and then you have someone else sitting right next to them. And what are they doing?

Luis von Ahn: Well, usually we let the interviewee drive. They're the ones using the computer, and so our engineer is usually helping them of the form, "Oh, you know," because they're navigating our code base. So our engineer's usually telling them, "Oh, you know, go to this directory to open that file. That's where that would be." And then they essentially have to track down a bug and solve it, you know, fix it.

Tim Ferriss: Got it.

Luis von Ahn: That's usually what they do, and it is amazing how much you find out from doing that for just 45 minutes.

Tim Ferriss: Do you then take people for any additional test drive? For instance, Matt Mullenweg's been on the podcast - one of the lead developers of WordPress and now CEO of Automattic. And when they hire people for Automattic, which is fully distributed, they do text or IM. I guess it would probably be IM interview as opposed to voice, and they'll audition them for two weeks. And I think the standard rate is something like \$25 an hour whether it's a CFO or an entry level customer service person or a coder. And they just do it in off hours at night or on the weekends, but do you audition people after that?

Luis von Ahn: We don't. That's it. After we do two phone screens and four on site interviews, we are done.

Tim Ferriss: You're good to go.

Luis von Ahn: We've tried the auditioning. At first we were kind of doing that, but we found that a lot of people would tell us, "Well, you know, I have an offer from Google."

Tim Ferriss: Right, yeah. I'm not gonna put up with this circus.

Luis von Ahn: "I'm not gonna put up with two weeks of crap from you. I'm also in school," you know, especially for fresh grads, "I'm also in school, and I have like finals coming." And so we found that they just were not that open to that.

Tim Ferriss: Got it. I'm saying "got it" a lot today. I guess that's my catchphrase. It's like my Buzz Lightyear, "To infinity and beyond," for this conversation.

Luis von Ahn: Got it.

Tim Ferriss: I also never realized that Tim Allen did that voice for those people who are wondering who Buzz Lightyear's voice is actually attributed to in real life. But I digress. I wanted to ask you if you were advising, say, a very bright, young, would be entrepreneur who's going to starting their first tech company - could be any type of company - but if you could just give them two or three books or resources to help increase the likelihood of them succeeding, what would you point them to?

Luis von Ahn: Let's see. I like Peter Thiel's book, "Zero to One."

Tim Ferriss: "Zero to One," yeah.

Luis von Ahn: I love that. One that I've recently started really liking, I guess I like it because it's kind of makes me feel good because they have very similar problems that I've had, it's the StartUp podcast.

Tim Ferriss: Yeah, yeah, yeah, the Gimlet Media guys.

Luis von Ahn: Yeah, I love it. A lot of times it's just like, "Yep, we had that exact same problem, and I love the fact that you guys completely fumbled it. And so did we, and now I feel better about myself." And so I think at the very least it makes you feel good about yourself.

Tim Ferriss: So, “Zero to One,” the StartUp podcast, which everybody can find on iTunes or in a podcast player. I like Overcast quite a lot for listening. What else might you be open up?

Luis von Ahn: I like this one, but it’s not for very new entrepreneurs. I found it very useful. I didn’t really read it. I don’t read books. I just listen to them. Reading, I don’t know, for some reason I just stopped reading like 10 years ago. But I quote-unquote read twice “The Hard Thing About Hard Things.”

Tim Ferriss: Ah, right, that’s Hor-

Luis von Ahn: Ben Horowitz.

Tim Ferriss: Ben Horowitz.

Luis von Ahn: Yeah, the first time I found it not very useful because it just was stuff that was just not applicable to me because I was not at the time running a company really, and I had never really run a company. reCAPTCHA I only reached like nine people, so that was it. Whereas he talks about problems of companies with hundreds of people. But now I recently read it again in the last month or so, and it is amazing how much good advice there is in there.

For somebody that is running a company of around in our case 60 employees, it is amazing. I loved it.

Tim Ferriss: So what would the profile be of the entrepreneur for whom that book would be appropriate or most useful do you think?

Luis von Ahn: I think somebody that is running a company that has already more than like 30 people is my guess. That’s my sense.

Tim Ferriss: Yeah, “The Hard Thing About Hard Things” has been recommended to me maybe not within this podcast but certainly offline by at least four or five of the best tech entrepreneurs who’ve been on this podcast. It’s come up repeatedly, but these are people who are also running as by definition larger organizations.

The “Zero to One” book by Peter Thiel is fantastic, and I would also encourage people who are interested in digging even deeper to try to track down the Blake Master’s transcriptions or notes from the original class that was taught at Stanford, which formed the basis for that book, because Peter goes very, very deep into specific hiring decisions and equity and negotiating term sheets

and things like this. He gets very, very granular on things that were not put into the book because they wouldn't be applicable to a very broad audience necessarily.

It would have seemed too inside baseball, but the original class notes are just fantastic, and he brings in guest lecturers and so on who are a lot of the icons in Silicon Valley that both of those would recognize. Silicon Valley, so Silicon Valley has this vaunted, mythological place in the minds of a lot of people. It's the Mount Olympus of tech, the epicenter of all good things related to innovation, etcetera. Why have you chosen to remain in Pittsburgh, and what have the benefits - the pros and cons - been of staying there as opposed to going to SF or New York City?

Luis von Ahn: Listen, Pittsburgh is absolutely the best place on earth.

Tim Ferriss: All right, sell me.

Luis von Ahn: I'm kidding. No, I like Pittsburgh quite a bit, and I'll tell you it is really unclear. One of our board members, Bing Gordon, from Kleiner Perkins, he visited us, and he said to me, "Would you start Duolingo in Pittsburgh again?" And I said to him, "Honestly, I don't know." Well, you know, his answer at least made me feel good. He said, "Well, you're in like the 99th percentile of startups, so things seem to have worked out for you. So you're fine." We started here because I was a professor at Carnegie Mellon, and Carnegie Mellon is a top school for computer science.

And we were around here, and we kind of just never left. What we tell ourselves is - and I think it's true - it has been a pretty awesome recruiting tool for engineers. We've been able to recruit really amazing engineers. As a company when we were only 20 people we had like eight people with PhD's in computer science, which is a pretty hard thing to do anywhere else including Silicon Valley. So I think we've had a great time recruiting engineers. I think for that it's been very helpful. One of the things that I notice about Silicon Valley is there's definitely trends that happen that come and go, and we're not effected too much by that. And I like that.

We know what we're doing with Duolingo. We know what kind of company we're creating, and we're sticking to it. And it's not the case that next time there's the next whatever - YikYak - or whatever app is the next awesomest thing where you're changing your product to look more like theirs.

Tim Ferriss: Right, yeah. You're outside of the echo chamber.

Luis von Ahn: Yeah, and that I think has been helpful for us. Now can I tell you for a fact that we would have been less successful in Silicon Valley? I have no idea. I think up until now I don't think it has been a problem that we've been in Pittsburgh, but we're now starting to have a couple of issues. One of them is in terms of the infrastructure of things, so for example finding office space here, was a pain in the ass because everybody here wants a ten year lease.

Tim Ferriss: Got it.

Luis von Ahn: Because that's who they rent to, you know, ten year leases. And we're like, "Yeah, we cannot take a ten year lease. I assure that in ten years we will have either gone away or massively grown, but we're not going to be the same size." So the infrastructure here is just not the same, and the other thing that we're having a harder time is with people with previous startup experience, there's not very many here. People don't know this. Google has a pretty big office here. There's about 600 engineers, and so we can hire good engineers from google, for example, even seasoned engineers from Google. But people with previous startup experience, especially outside of engineering, there's not very many here.

Tim Ferriss: I was having a chat with the founders of Shopify not too long ago because I was the first advisor to Shopify in 2008 or 2009, and the IP opened six or 12 months ago, six or 9 months, I guess.

And they've done very well, and they're based in Ottawa, Canada. They said it's actually been a huge gift in a way because they are the only game in town. So from a recruiting standpoint, not only are they the go-to tech company in a lot of respects, but on top of that they don't have a lot of attrition because people are settled in Ottawa and they're not getting poached by Facebook, Google, Uber. They're not going into that bloodbath of bidding wars.

Luis von Ahn: So we see exactly that. For us, that's great. I mean, so it's funny. We sometimes go to events - lot of times the tech events or sometimes our investors have events. For example, one of our investors is Union Square Ventures. They have these amazing -

Tim Ferriss: I'll try to throw a picnic with some paper plates for you guys.

Luis von Ahn: Yeah, you should. You're also one of our investors. You have not had us in any of your events, okay?

So Union Square Ventures, they have the great events where they bring in everybody. For example, they have a marketing event, and it's all the people that are in the portfolio for the companies that do marketing. Or they have a design event, and it's all the people that do design in the portfolio of companies. And so we send people to all of these events, and it's pretty amazing how when you're talking to people it really does seem like the average ten year of a person in one of these companies in a lot of them is like a year and half. Like after a year and a half, it's like, "Welp, going to the next one." Whereas for us, people really don't leave. Because in terms of startups we're not exactly the only game in town - that's unfair to say - but there's not very many games in town.

Tim Ferriss: What do you think the likelihood is that your HQ, the majority of your employees, will be in Pittsburgh in say two years' time?

Luis von Ahn: I think that's pretty high. We just started an office. Well if you could call it an office, we just started an office with two people in San Francisco. You met one of them, Gina.

Tim Ferriss: I did.

Luis von Ahn: They're there. They're working off of the Google Capital office for now, but they're getting their own office pretty soon. And I think in the next year we're probably going to staff it with about 15 people. So it's not going to be super tiny, but it's still not going to be the biggest one.

Tim Ferriss: For those people who are not familiar with Union Square Ventures, Fred Wilson - yeah, he's still a general partner there, isn't he - he has a fantastic blog for people interested in tech and venture capital - entrepreneurship - which is AVC. And I think it's just AVC.com if I'm not mistaken, but you can certainly Google Fred Wilson and AVC and it'll pop right up. How many employees did you have at reCAPTCHA when the company was absorbed by Google?

Luis von Ahn: We were between seven and eight, and then inside Google the team grew. But that was it.

Tim Ferriss: And between that point I assume you kind of vested in peace for a while as they say. Were you at Google for a period of time?

Luis von Ahn: I was at Google for about a year and a half.

Tim Ferriss: Year and a half. And when did and how did Duolingo get started? When did that idea start to germinate?

Luis von Ahn: That started right after the acquisition with Google. I was in a pretty good place in my life where I didn't really have to work anymore, and I wanted to do something that was related to education. At the same time, I had a PhD student, Severin, who is my cofounder, he was my PhD student.

We wanted a PhD project for him, and I thought, "Well, you know, I really am passionate about education. Let's try to do something related to education." Now my views on education have always been very influenced by where I'm from because I'm from Guatemala, and it's a very poor country. Now the thing about Guatemala is in poor countries a lot of people say that education is the thing that can bring equality to the different social classes, but I always saw it as quite the opposite.

I always thought that education actually was something that brought inequality. Because what happens is the people who have money can buy themselves the best education in the world, and because of that they remain having a lot of money, whereas the people who don't have very much money barely learn how to read and write and therefore remain not having very much money. So I wanted to do something with education that would give equal access to everybody. That's what I wanted. Now education's very general, so we decided to concentrate on just one type of education, which is learning a foreign language.

If you're in the US, it doesn't sound like that big of a deal, but outside of the US or generally outside of English speaking countries, this is a massive deal, generally learning English. There's 1.2 billion people in the world learning a foreign language, and so we decided that we wanted to do something to teach foreign languages. This is a funny market - the language learning market. The majority of the people learning a foreign language, 800 million of them, satisfy three properties.

First of all, they're learning English. Second, the reason they're learning English is to get a job or a better job, and, third, they're of low socioeconomic conditions. Okay, so most people are trying to learn English in order to get out of poverty. That's the people who are learning that language, but at the same time most of the ways there are to learn a language are usually very expensive, especially before Duolingo came around. Like, Rosetta Stone, for example, think about that. It's like between \$500 and \$1,000. So this was

kind of the irony. It seemed like you needed \$1000 to get out of poverty.

And so we thought we could do better, and that was the idea with Duolingo was to give a 100 percent free way to learn languages. That's what we wanted to do.

Tim Ferriss: How did you develop the idea or the model? What did those early conversations look like?

Luis von Ahn: Yeah, at first we started thinking, "Well, if it's going to be free, we have to figure out a way to pay for it."

Tim Ferriss: Good idea.

Luis von Ahn: Yeah, we hadn't discovered what we now know, which is you can always raise more VC funding. I'm kidding. That's not a good way to pay for things.

Tim Ferriss: Yeah, eventually mom and dad, i.e. VCs on the board, stop giving you allowance.

Luis von Ahn: Well, somebody on our board said a good thing. He said, "Eventually we can find a bigger fool."

Tim Ferriss: Right, right.

Luis von Ahn: I think that's about right. So that's not our business model, but at first we had a business model which we've actually moved away from. It was - I thought - a pretty clever business model, but there are reasons for which we moved away from, which I'll tell you about. But our first business model that we thought was, "Okay, here's what we're going to do. Much like the idea with reCAPTCHA where as people are typing CAPTCHAs, we're actually capturing some value from them, could we do the same for learning a language?" Could we get people to give us something of value while they're learning a language?

And what we thought the answer to that was yes, and we thought we could get people to help us translate stuff while they were learning a language. And this still works, and we're still doing it. So the idea is the following. After somebody would learn a lesson on Duolingo - they would learn a lesson about food, like, they would learn on the food words - at the end we would say, "Hey, if you want to practice the things you just learned, here's this

document that comes from the web that is related to what you just learned.”

So in this case it may be like a food blog or something, and we would say, “It’s in the language you’re learning, if you want to help us translate it to your native language to practice.” What would happen is some people said yes to that, and a number of people would get the same document. And they would kind of all translate it together, kind of edit each other’s translations, etcetera. And they were translating from the language they were learning to their native language. And at the end, we would come up with one translation, and that was the translation. And in some of the cases, those documents came from, for example, CNN. CNN is one of our clients.

They wrote all of their news in English. They sent it to us, and we had our people who were learning English translate it into their native languages. And then we would send the translations back to CNN, and CNN would pay us for having translated their documents. This is still going on. CNN is still one of our clients. So it’s been about two years, and they’re still at it. So that means the quality of the translations is high enough that they haven’t fired us.

So that was the business model, and it was a pretty good business model. But we moved away from it because we realized the more we worked on it the more realized we started turning into a translations company as opposed to an education company because that’s kind of where the money came from. So we started just more and more developing translation and translation and not working on the education side. And at the same time we realized that also translation’s a crappy business to be in because it’s kind of a race to the bottom - how much you charge for translations. You know, if you can do it for one cent a word, you can always find somebody else that can do it for half a cent a word. So we decided to move away [Crosstalk] from that.

Tim Ferriss: Or is willing to try for half a cent a word.

Luis von Ahn: Yeah. So we decided to move away from that, and now we have different business models. But that was our original one.

Tim Ferriss: Can you elaborate on the other business models?

Luis von Ahn: Sure. We have two now. The main one - the one that we've been at it for longer - it's English language certification. Well, generally language certification but what matters here is English. So the idea is this. There are –

Tim Ferriss: Not to interrupt but I will briefly because I think that to put it in perspective for native English speakers who might not get the magnitude and maybe you can call BS on this or confirm, but I've heard for instance in China alone - I mean, we could talk about a place like Brazil also - there are more people learning English in China than all the native speakers of English combined.

Luis von Ahn: Yes, there are 400 million people learning English in China.

Tim Ferriss: Yeah, so for those people listening, big market.

Luis von Ahn: Yeah, no, learning English is humongous, right. For teaching languages, that is what you want to teach. You know, it's funny. There are companies in China that are ventured funded that only teach English and that only teach English to hotel employees. That is a big enough market for a startup.

Tim Ferriss: Wow.

Luis von Ahn: So, I mean, that's how big the market is in China for learning English.

Tim Ferriss: I threw you off course there. You were talking about the certification.

Luis von Ahn: Yeah, so the thing is with certification, exactly with English, people need to learn English. But after they've learned English, they also need to prove that they know English and particular to get a job or to go to school, etcetera. So about two years ago we started getting a lot of emails like that of people saying, "Thank you for teaching me English. I did not have the resources to pay for English software or for classes or something, and now I can learn it because of Duolingo.

But now I have a problem. I need a certificate that says that I know English because I need to apply for a university or I need to get a job, etcetera, and they're requiring some sort of certificate that says I know English." And so we thought, "Well, let's look into this whole certifying that people know English, this whole market."

It turns out this is a humongous market. It's about \$15 billion a year are spent on people certifying that they know English. For example, if you're from outside of the US and you want to apply to enroll in a US university, you have to take a test that proves that you speak English. That test is called the TOEFL. If you want to get a job at a multinational corporation in a non-English speaking country, you usually have to take a test to prove that you know English.

If you want to get a work visa in the UK, you have to take a test that proves that you know English. So there's these standardized tests. In total \$15 billion are spent a year on these tests. They're all very similar to each other. There's a few of them. There's like three or four that are the big ones. The way this process works is it's kind of similar to taking the SAT. You have to take this test. You pay about \$250 for it.

You always have to take it at a testing center. So you have to go to a place to take the test. Because of that, you usually have to make an appointment several weeks in advance, so several weeks in advance you make an appointment. You pay \$250. You go somewhere. You take a test, and you get your results maybe four weeks later. So at the end you spent eight weeks. You spent \$250, and you have a certificate that says, "This is your test score for English." This measures your English proficiency.

So that's the process, and this sounds kind of annoying, but it's actually way worse because most of the people that are taking this are in developing countries. Now there the thing is \$250 in a developing country is a month's salary. Also, the testing centers are not in every city. They are just in certain cities, so you have to travel to take a test to prove that you know English.

Tim Ferriss: Right. And just to also add some color to that, I mean, traveling is not hopping on a bus and going 20 minutes necessarily, right? Like, if you were in a sha-people village in Peru and you're trying to get to Lima.

Luis von Ahn: It's several hours, and it also costs you money. So this actually happened to me when I was applying to come to school here in the US. I had to take this test to prove that I knew English. What happened is Guatemala ran out of tests. There were no more seats for that year in the testing centers. So I had to fly to the neighboring country of El Salvador to take the test. So for me this \$1,000, and it involved a trip outside of the country. When we saw that, we thought, "Man, we can do a lot better than that. That's

really ridiculous. That seems like technology from 100 years ago.” So we launched this thing called the Duolingo test center, which is basically an app - it’s also a website - that helps you certify your knowledge of English.

And the idea is that it’s only \$20. It’s not \$250, and also you take it from a device. You don’t have to go somewhere to take it. So you don’t have to go to a testing center. The tricky thing here was that the reason people have to go to a testing center to take the test is to make sure that they’re not cheating. You could, for example, send your cousin to take the test instead of you, or you could show up with a bunch of books.

So we had to prevent cheating with our test, and the way we’ve decided to prevent cheating or were able to do it is when you’re taking the test from the phone, we actually turn on the front facing camera and the microphone. And we actually record you taking the test. So we record your face, and the ambient noise and everything. And then a real human proctor watches you take the test and makes sure that you were not cheating and you were actually looking at the screen, etcetera. And it turns out this works.

Tim Ferriss: That’s very cool. How hard has it been? Let me ask you a better question. How have you been able to get buy-in from companies to accept this test?

Luis von Ahn: Yeah, that’s the hardest part probably. The technology, we figured that out relatively easily. The hardest part has been getting accepted by universities and companies, etcetera, but we’re making good traction. Let’s see. So in terms of universities, some departments of Harvard University take it. Some departments Carnegie Mellon University are starting to take it. Some departments of the Max Planck Institute in Germany are starting to take it. And this year we’re going to run a study with 12 very well-known name brand universities here in the US like Yale and that type of name. Twelve of them are going to be running a study where all of their applicants are going to be taking both the standard test that they’re taking and our test.

And the idea is they’re going to look at the correlation between that, and if it’s high enough, then all these universities are also going to start accepting our test in addition to the other one. So we’re doing that. We’ve been also doing a lot of work with different companies. So Uber, for example, is a good one. In many

countries they're starting to roll out a new Uber service called Uber English, which is your driver speaks English.

And we have a partnership with them where the idea is that in order to certify that the drivers speak English, they have to take the Duolingo test. So we're doing a few of these companies, and the way we're getting it done is basically by going at first to kind of the blue chip places, you know, the Harvards of the world. And after that the sale is much easier because you say, "Look, it's good enough for Harvard. It probably should be good enough for you."

Tim Ferriss: Yeah, the H name works in a lot of places. MIT too, they're very powerful in Asia. So we've been talking about English. What other languages are currently available on Duolingo for people to learn - for English speakers to learn?

Luis von Ahn: There's a bunch. I used to know them all. Now I don't. So we have the big ones like Spanish, French, German, Italian, Portuguese. We have some lesser known ones. We have like Irish, Esperanto - Esperanto's a funny one - Danish, Swedish, Russian, Ukrainian, Turkish. You'll notice we have no Asian languages right now.

Tim Ferriss: Why is that?

Luis von Ahn: It's because it's harder to teach them. We're working on it, but it has not been our highest priority because it's kind of low ROI in the following respect. The investment is high because they're actually hard to teach them, and the return is not very high because if you actually look at it for English speakers, of the people who are learning a language that are English speakers, 52 percent of them are learning Spanish.

Twenty-six percent of them are learning French. Then the next big one is German at six percent, and Chinese is somewhere at four percent or so. ROI is not super high, and this is why we haven't done it. But we want to do it.

Tim Ferriss: A lot of my fans want Japanese. That's been a very common ask.

Luis von Ahn: I know. That's the most requested one. It's the most requested one, and it really is just we're on it. We're on it.

Tim Ferriss: When you develop the ability to the curriculum, you code the program for, say, English speakers to learn Japanese. How much additional work is required percentage wise to have it move in the opposite direction to teach Japanese people English for instance? And does that dictate which Asian language you might choose?

Well, China would be a huge market I would imagine for teaching English.

Luis von Ahn: Yes.

Tim Ferriss: But Korea as well, right, where they have super teachers who fill up entire stadiums for particular subjects. That's a mouthful of a question, but if you develop it one direction, does it make it easier to then teach in the opposite direction?

Luis von Ahn: Yeah, it does. And we've done that for a lot of languages. So we do already teach English to Chinese speakers. We speak English to Japanese speakers and to Korean speakers and Vietnamese speakers and Indonesian speakers. So we do teach English to most Asian - large Asian - languages. So that makes it easier to go the other way around. I mean, truthfully, the main problem that we have not yet really worked on solving it. It's not that it's impossible to solve in terms of ideas. It's just we just haven't gotten to it. It's teaching you the writing system –

Tim Ferriss: Yeah, lithography's tricky.

Luis von Ahn: Yeah, and it's pretty tricky particularly for the ones that don't have an alphabet, I mean, like Chinese. That is pretty tough. We have a long list of priorities. This is somewhere in there, but it is not the highest one.

Tim Ferriss: I bet a lot of folks out there who would want to learn Japanese, I mean, speaking as someone who's studied a lot of Japanese and lived there, I would imagine a lot of folks who are hoping to learn Japanese are doing it out of cultural interest - speaking of English speakers - of conversational interest. I would imagine if you gave them the choice - and people can tell you; it just @luisvonahn, right?

Luis von Ahn: Yes.

Tim Ferriss: So that's @ L-U-I-S-V-O-N-A-H-N, maybe folks who are listening can let Luis know.

Luis von Ahn: Thanks, Tim, yes.

Tim Ferriss: Well, no, if you gave them the option say of conversational Japanese without any writing system - no Hiragana, no Katakana, no Kanji - in a year or six months, whatever it might be, versus say

the entire ball of wax with writing systems in hypothetically two or three years, I bet a lot of people would take the former.

Luis von Ahn: Yeah. We've seen that. What we have started doing - so we did this with Russian. Russian you also have to teach the alphabet. It's much easier because theirs -

Tim Ferriss: It's Cyrillic, yeah.

Luis von Ahn: Yeah, it's much easier though. I mean, there's only about 15 letters that are different. So you basically just have to learn 15 letters, but we've started doing this. We basically have started teaching Romanizations for people who don't want to learn the alphabet. We just Romanize it, and that seems to be working out relatively well. So we may end up doing that - something like that - for Chinese like Pinyin. We may end up doing that.

Tim Ferriss: Pinyin can work. You know what? I would be so happy if this happened, and I think people would probably come after me with pitchforks, but there is a separate Romanization approach to Chinese that I think is actually better for Mandarin.

This is how I learned it, but it's less standard, which is why most people default to Pinyin. So with the Pinyin you'd have to deal with the diacritical marks, meaning the slanting lines to indicate tone, right? So in Chinese you have four tones - for people who aren't familiar. So you'd have like mā, má, mǎ, mà, which are all different things. So take -

Luis von Ahn: That sounded like four things of the same thing for me.

Tim Ferriss: Exactly. And Chinese tongue twisters a bitch. They are crazy. But there's a system called GR or Gwoyeu Romatzyh. I think it was developed in Taiwan, and what's cool about that is they build the tone into the spelling. And so if you remember the Romanization, and I'm highly visual so I remember the spelling of words, then you automatically remember the tones.

Luis von Ahn: Oh, wow.

Tim Ferriss: So students who are taught using GR in my experience - and this is what was used at Princeton, which has a very good East Asian studies department, one of the best in the world - the retention of tones and consistency of tones of Princeton students was outstanding compared to many other schools that used Pinyin.

Of course, that wasn't the only difference in the pedagogy, but for instance if you have like guójiā, which is country or like gwo. It's like past tense kind of, I have gone. You know, like Yo te gwo, something like that, then you would have - and I haven't done this in so, so long - but it would be like g-w-o would be the second tone, gua, and then first tone, g-u-o, would be guo. And then fourth tone would be like g-u-o-h, and that h and at the end indicates it's a falling tone. And I really want to resurrect and popularize this system because I feel like it's so much more effective. It's just not as common, so it's not often sued. Anyway, I'll throw that one thing.

Luis von Ahn: That's good to know. You know what? Sometimes when we do things, we've done something that are a little kind of unexpected. And we end up getting really good results. For example, we started teaching Irish, which I think a lot of people were surprised by the fact that we launched Irish before like Turkish or Russian or Japanese.

Tim Ferriss: Right. So how do you justify that investment?

Luis von Ahn: Well, it was very easy. It was a point. That was actually done by volunteers not by us, and we didn't have to make a single change to the app. Our system just allowed it to just go through with the volunteers. So it was just done by volunteers, so we didn't have to be involved almost at all. The reason was just because it was relatively easy. But one of the funny things is when we launched it, there's 94,000 native Irish speakers, but have about a million people learning Irish on Duolingo like actively.

Tim Ferriss: That's wild.

Luis von Ahn: If we put something there, a lot of times we can actually have a big impact on the language itself just by putting it there.

Tim Ferriss: Huh. So Duolingo could ostensibly at some point could have a role not just in preserving but even resurrecting languages depending.

Luis von Ahn: Yeah, we've thought about that. And we have a few. You know, one of the funny ones we're working on is - well, not us but volunteers - is Klingon. That's an interesting one.

Tim Ferriss: Do you have any plans? Do volunteers have any plans for Dothraki or anything like that - Game of Thrones?

Luis von Ahn: A few of those, I think they're copyrighted or something.

Tim Ferriss: Oh, yeah, you're right. I remember I tried to do something, and I spoke to the gentleman who developed Na'vi or the language for the Na'vi people in Avatar, which is largely based on Japanese. People might find that interesting to know, but, yeah, so I see. So you might not have the ability. That's so stupid. Wow.

Luis von Ahn: We kind of ask for permission for Dothraki, and we were told, "Uh-uh, no."

Tim Ferriss: Wow, for that massive Dothraki textbook market that they want to capitalize on.

Luis von Ahn: I know. And we probably thought we could like anyways do it, but we didn't really want to get into trouble so whatever.

Tim Ferriss: Right. Got it. Yeah, don't really want to fight HBO or whoever owns the copyright over that.

Luis von Ahn: No. I still want to watch their shows is the thing.

Tim Ferriss: Now this is a bit of a left turn, but actually before we move on I wanted to flashback to Google for a second. How do you know or do you know how Duolingo compares to say college instruction for any language?

Luis von Ahn: Yeah, we spend quite a bit of time measuring how well Duolingo works. We have a team whose job it is to do that. We have a lot of internal studies. The one that we have that's external - so done by somebody else, not Duolingo people - what they did is they measured how much people learn on Duolingo.

The way you measure how people learn is basically you do this thing called pre and post test. So you have people take a test before they start doing Duolingo. Then they do Duolingo for a while, then they take the test again. And then you see how much they improved, and the measurement they got was that if you use Duolingo for 34 hours, you learn the equivalent of one semester of college - the first semester of college instruction in that language. So that's a semester, and usually a semester takes a lot longer than 34 hours of active time. So we think that that's pretty efficient.

Tim Ferriss: Feel free to punt this if you don't want to get into it, but I've had enough people ask me that I figured I would relay it. Do you have

any plans for allowing people to practice conversation or oral skills?

Luis von Ahn: Yes, yes. We have plans. It is not what you would think. Everybody would like us to do this one thing, which is basically pair up our users with each other or pair up our users with teachers of some sort. And they would do kind of a video like a Skype type thing. A lot of people have asked us for this. A lot of people inside the company have thought that this would be a good idea, but that is not what we're gonna do. But we are going to do conversation. We've been working on this for a while, and we're pretty happy with where we're at. We've been working on it mainly in terms of the hardest part has been just coming up with the right way to do this. And we think we have a pretty good way of doing it that we're probably going to launch in maybe - I don't know - three or four months.

Tim Ferriss: That's exciting. All right.

Luis von Ahn: Yeah, I'm very excited about it because I think that's the main thing that Duolingo is lacking right now, like, the ability to actually practice real conversations. And I think we're going to be able to do it pretty well.

Tim Ferriss: Very cool. So we're recording this mid-January, 2016. So hopefully, I guess, Q2, Q3.

Luis von Ahn: Yeah, and so this is gonna be one of those things that's gonna get better over time. I think that we're gonna have something in Q2. So let's say May-ish, but I think every month it will just get better over time.

Tim Ferriss: The next question that I've been asked surprisingly often, which may not be surprising to you, is does Duolingo have any plans or could you foresee Duolingo moving from teaching just languages to teaching anything? And for whatever reason, a lot of people have asked about philosophy, which I would be curious to see actually implemented. But how do you answer that question?

Luis von Ahn: Yes. We do have plans. We definitely have plans. From the beginning our goal was to do all of education. We've stuck around with only languages for a while, but we do have plans. So we're on it. I can tell you we are going to launch another app this year. I cannot tell you what the app is about, but we are definitely going to launch another one. It is not philosophy. That is not the second subject that we are going to teach.

Tim Ferriss: Irish philosophy. That's a good one.

Luis von Ahn: Yes, yes. Yes, it's Irish philosophy of the 17th Century. No, it's not that, but we are gonna launch another app this year. That's for sure. So we're definitely going to get into other areas of education, and the way we see this, if you look at education - the education category of either iTunes or Google Play - we're consistently in the vast majority of countries, we're the number one app in all of education.

And we only teach languages, whereas I think there are many of these education apps that teach like everything basically. And with just languages we've been able to do a pretty good job, so we think that this approach of not amok, not video lectures but a really kind of gamified, mobile, native app to teach you something, we think that that approach is a pretty good approach. And we're going to try to replicate it with other things. It's not going to look just like Duolingo. Each subject requires different things. I have no idea how you would teach philosophy, but I can give you pretty good ideas of how you would teach certain areas of math, certain areas of physics or reading and writing. A lot of these things can be taught pretty well with an interactive app.

Tim Ferriss: Can't wait to see it. I'm going to hit the rewind button to go back because I wanted to pick up on this, and the story may or may not be interesting. You mentioned you were at Google for one and a half years.

Luis von Ahn: Yeah.

Tim Ferriss: Does that mean you left before you finished vesting?

Luis von Ahn: That is correct.

Tim Ferriss: Okay, so can you explain how that usually works to people who aren't familiar with when companies get acquired?

Luis von Ahn: Yeah, usually when companies get acquired, so when you hear of an acquisition price - and by the way I'm going to generalize a lot here because every deal is a little different - but when you hear of an acquisition price, let's say your company was acquire for \$100 by a larger company like a Google or a Facebook or something.

Usually that acquisition has two components: kind of an upfront payment that is some fraction of it, and then the other component

is what they call a stay bonus, which is basically you get it over time if you stick around for a while. And it makes a lot of sense for companies to do this because when they acquire another company, they don't want everybody to leave.

Tim Ferriss: Split the next day.

Luis von Ahn: Yeah, and especially for a multimillion dollar acquisition is where there are several tens of millions of dollars, and especially the founders usually the next day, they see themselves sitting there with several tens of millions of bucks in the bank. You wouldn't want them to leave the next day. So that's why you would out for another large chunk that says, "If you stick around for one year, you get this much. If you stick around for two years, you get this much. If you stick around for three years, you get this much," etcetera.

Tim Ferriss: What would be a typical percentage of the total payout?

Luis von Ahn: You know, I don't know. I have sample size. Of the ones that I actually have knowledge of, I have sample size of three. And there is variance, so I don't know.

Tim Ferriss: Would it be fair to say that it's often more than 50 percent?

Luis von Ahn: No. The stay bonus is often less than 50 percent from my experience but not a lot less. This I'm just going to throw out, but let's say it's 40 percent. But I've heard enough variance, and this is something that gets negotiated. I mean, of course, the startup that is being sold would like that stay bonus to be zero, and the big company that is buying it would like that stay bonus to be 100 percent. And so some sort of negotiation happens, but that's usually the case.

Tim Ferriss: Why did you decide to leave after a year and a half?

Luis von Ahn: Because of Duolingo. I was very excited about it. So I was at Carnegie Mellon for a while as a professor, then I started reCAPTCHA. And I went on leave from Carnegie Mellon to have this startup. Then I went to Google, and I was still on leave at Carnegie Mellon. But I had a PhD student, Severin, who this whole time he was a PhD student there.

Tim Ferriss: What's his last name?

Luis von Ahn: Hacker, which is awesome.

Tim Ferriss: Best name of all time. It's like Harry Potter meets the computer age. It's amazing.

Luis von Ahn: It was crazy because the first time I met him he showed up to my office, and he said to me, "Hi, I'm Severin Hacker." And I just looked at it with such confusion, and I said, "Wow, you're hired." I did not make a mistake, fortunately, but, yeah, he was a PhD student while I was at Google. And in that time it was his PhD thesis - Duolingo.

But at the time we weren't really going to turn it into a company at first. It was just really his PhD project, but then at some point after I had been at Google for about a year and a half, we had a meeting. And we thought, "Yeah, we see a lot of future on this. Let's do it." But in order to actually develop it, I had to leave Google. I was actually quite happy at Google. I love Google as a company, and now they are our investors. And I really love them, but I was much more excited by this next thing.

Tim Ferriss: For people who are using Duolingo or are thinking of it, have you seen any optimal usage schedule or frequency of use for Duolingo? I mean, just like lifting weights or work out, it's not always a more is better.

Luis von Ahn: Yeah, so here's what you need to do. Forty-eight straight hours when you start is a winner. Do not stop for 48 hours and you will [Crosstalk] learn the language. No, I'm kidding.

Tim Ferriss: How often are you using it over 48 hours? Oh, okay. All right, I see.

Luis von Ahn: I'm kidding. No, we actually see a lot of people binging when they start. That is not a good strategy. So these people that went they start, you know, they go on for like several hours. That's usually not a good strategy for learning anything. So what we see is most successful - this is from our data just kinda looking at traces - we see between 20 and 30 minutes a day at least five times a week. That seems to do a pretty good job if you want to kind of really be serious about it.

Tim Ferriss: I'm just taking a note. Are there any other tools that people use in conjunction with Duolingo to accelerate progress in any way?

Luis von Ahn: Yeah, so let's see. Some people do flashcards of some sort.

Tim Ferriss: Like maybe they use a Super Memo or an Anki or something like that?

Luis von Ahn: Right, Super Memo, Anki, some go old school and just flash cards.

Tim Ferriss: That's me. I'm the really analog and old school.

Luis von Ahn: Right, like a flashcard. Yeah, so some people do that. So some form of flashcard is something that people do. Another thing that I've heard a lot of people complementing it with are a couple of things: podcasts in the language that they're learning. There's one that's like News in Slow Spanish or something like that.

Tim Ferriss: Oh, very cool.

Luis von Ahn: Yeah, I've heard of a lot of people listening to that and movies in the language that they're learning. Those are pretty great because usually even if you're like watching a movie not originally made in that language but just watching the Hollywood blockbusters, those are pretty great for learning a language.

Tim Ferriss: Yeah, I actually prefer to watch English spoken movies with subtitles in my target language.

Luis von Ahn: Yeah, that's [Crosstalk] good too.

Tim Ferriss: So that's actually my preference because if you miss something I the written word, you can always go back and pause. If you miss I it then spoken word but you can't discern it - just like a robot trying to read a CAPTCHA - if you lack the phonetic familiarity to pick it out of the spoken word, then you'll oftentimes just be lost in the dark and just have a gap in the understanding, right. If you're trying to watch a movie in Mandarin, for instance, with English subtitles and you miss a sentence, you might just be screwed.

Whereas vice versa, you can watch Die Hard with Mandarin subtitles - that may not be the best example since you have to learn the characters but say Spanish subtitles - and that's actually how I raise my languages from the dead when I'm going to travel. I'll spend two or three weeks each night watching a film with subtitles in my target language.

Luis von Ahn: Yeah, I think that's pretty good. We hear of people doing that a lot - some sort of strategy with movie subtitles.

Tim Ferriss: And for people who want other tips on language learning, I've written a lot about this and obviously I'm a fan of Duolingo, but you can search just language learning and my name. Also if you go

to fourhourblog.com - that's my blog - and search Benny Louis is another one. There's actually an entire topic category which is just language learning if you really want to dig into all sorts of little tips and tricks. Let me shift years just a little bit. Actually, complementary question, do you have any other tips for how to best learn languages? Any other recommendations?

Luis von Ahn: So this a recommendation, but it's really hard. I'll tell you what it is. It's really hard, and we've really noticed this. The people that we've noticed are best at learning a language are usually not because they're smarter, not because they're anything.

It's really just that they have no trouble sounding stupid, and so they just speak. I think that if you're able to get yourself to just say stuff and speak it, I think that that makes a huge difference because those people are just getting way more practice. So what happens is when they start they're gonna sound kooky, of course, but over time they're just gonna get way more practice than the quiet person who is waiting until they're perfect to speak. And that's just going to take a really long time. I say it's hard because that really depends a lot on your personality and there's just some people that just can't do that. But if you can just get yourself to speak, I mean, this is for example Benny Louis. I think that's one of the reasons he's so good is he just starts speaking.

Tim Ferriss: Yeah, I think that a way to deliberately do that if your personality is not predisposed to being the class clown is this is what I do. People wouldn't guess this perhaps, but I'm very naturally introverted. My Meyers Briggs is INTJ. I spend a lot of time alone recharging, and it is not actually natural for me to kind of run around being the class clown or life of the party kind of making a fool of myself. I do make a fool of myself accidentally a lot, but in foreign languages I will go out of my way in the beginning to learn a few expressions that locals find funny.

Luis von Ahn: Right.

Tim Ferriss: And once you get them laughing, you feel less inhibited because the entire interaction is less serious, right.

Luis von Ahn: That's a really good trick. That's a really good trick.

Tim Ferriss: And another way you can make it even funnier is if you have a weird regional expression. So, for instance, in Argentina, if somebody gives you a compliment, you can say, "Mentime que me gusta. Mentime que me gusta." And they get all excited, and

they're like, "Lie to me because I like it. Lie to me. I love it," you know.

Luis von Ahn: Yeah, they get excited because they're like "Oh, man, that's really regional."

Tim Ferriss: Yeah, and people find it so weird, especially because it's Argentine Spanish, right. So the *menti*, *menti* is like the command form is really weird, but I use that. And it breaks the ice with any Spanish speaker. They're like, "What?" Like this guy looks like he's from American History X, and he's using weird Argentine like slang. Where I'll be like, "Yeah, so I got *Argentia trucho*, and *que le vamos hacer?*" you know, and they're like, "What the hell? Like where are you? What is your story?" But you can do that. A very easy way to do that is to find some funny proverbs, and you have to make sure that people actually use them.

Luis von Ahn: Yeah, not from like 50 years ago.

Tim Ferriss: Yeah, not from like 50 years ago or like the equivalent of middle English in Japanese because people are just going to be confused. But the expressions like, "*Saru mo ki kara ochiru to iu kedo.*" That's, "Monkeys also fall from trees." It's kind of like no matter how good you are, you still stumble, right. That's a Japanese expression. So you can pick up like one or two of these in German or whatever it might be. Like there's a good one in German like, "Even the devil eats flies," which is a funny one, which is sort of like, "Desperate times call for desperate measures."

And people just love it. It gets them to laugh a little bit because it's so weird, and then the ice has been broken. So I will deliberately look for stuff like that. For instance, I think it's in Greek where if you're like bidding someone farewell, I kind of picked up what I understand is like a very archaic like Shakespearean way of doing it that is still universally understood, but you say like, "*Stoy pane diden. Stoy pane diden.*" I do this like really melodramatic bow and then like walk off, and people are like, "What the fuck?" But if I would do that at the hotel, like automatically the person at the front desk thought I was hilarious even though I had just premediated the whole thing. And then you feel free to experiment, so that's been an approach of mine. Let me ask some questions that I like to ask all guests. When you hear the word "successful," who is the first person who comes to mind and why?

Luis von Ahn: Oh, man, probably Larry Page.

Tim Ferriss: Why is that?

Luis von Ahn: Well, I am a huge fan of Google. I just think that everything they do, they don't always succeed but usually the approach they take I'm like, "Yeah, they're smart." So, yeah, I'm a huge fan.

Tim Ferriss: Who would your second person be?

Luis von Ahn: Who would my second choice be? Successful, well, I mean, it's the usual ones. I'm so into the mainstream culture of success and startups that it's the usual people that everybody, I think, thinks of, I mean, Mark Zuckerberg. When you say the word success, that's kind of what I think, yeah.

Tim Ferriss: Elon Musk as they say in Silicon Valley the show.

Luis von Ahn: I've heard of this name, yes. I'm familiar.

Tim Ferriss: What is the book or books that you've given most often as a gift, or what do you gift if not books?

Luis von Ahn: Because I don't read very much I really just listen, I haven't really gifted books. I mean, I really do recommend "Zero to One" to be honest. You should really read "Zero to One." Let's see. What do I gift? My gifts are usually pretty lame to people. I give gift cards because I don't have to think much about them, and I compensate by giving higher amounts of money. I compensate by that. I'm like, "Ah, it's easier. Here."

Tim Ferriss: Very Chinese. Do you listen to any fiction?

Luis von Ahn: I do. I do. Not as much. I mainly kind of read - well not read - listen to nonfiction books. I have listened to fiction just not as often.

Tim Ferriss: Do you have any favorite fiction?

Luis von Ahn: I used to really like Borges.

Tim Ferriss: Yeah, Jorge Luis Borges.

Luis von Ahn: Yes, I used to really like it, but really over the last like three years I've really only listened. You know what I do is I listen to books while I'm working out in the mornings. That is the sole time when I listen to books, and it's always just some sort of nonfiction thing.

Tim Ferriss: What is your workout in the mornings?

Luis von Ahn: Some people say I'm going to have a heart attack. I basically run at absolute maximum speed that I can, which is about 9.8 miles an hour for about 16 minutes. That's it.

Tim Ferriss: That's it.

Luis von Ahn: That is my workout.

Tim Ferriss: Now do you have a warmup lap or anything like that, or do you just go for it?

Luis von Ahn: Go.

Tim Ferriss: You just go.

Luis von Ahn: I am not saying that this is recommended. This is just what I do, and it has worked. I lost 40 pounds.

Tim Ferriss: That's a lot.

Luis von Ahn: Yeah, yeah. And so from then I stuck with it, and I just go. Mainly I'm trying to be optimal with time that I spend. Well, I don't know if it's optimal, but I'm trying to save time.

Tim Ferriss: So for those people who haven't heard of Jorge Luis Borges, B-O-R-G-E-S, highly recommend at least checking out some of his short stories, and I think there's one where he sits down at the bank of a river and meets his older self or his younger self - one of the two. And they're sitting side by side. People can find it on Google but fantastic writer. Speaking of Argies, I believe he's Argentine.

Luis von Ahn: He is Argentine, yep.

Tim Ferriss: Do you have any favorite documentaries or movies?

Luis von Ahn: Well, my favorite movie is still The Matrix. It's old school by now, but it is just my favorite movie. My mind was blown when I watched that.

Tim Ferriss: Documentaries - do you watch and documentaries?

Luis von Ahn: The one I saw relatively recent, a lot of people have seen it. It's "Jiro Dreams of Sushi." I like that a lot.

Tim Ferriss: Yeah, "Jiro Dreams of Sushi" is fantastic. I had a chance to go to Tokyo and –

Luis von Ahn: Did you eat there?

Tim Ferriss: I didn't eat at his restaurant. I ate at his younger son's restaurant, which is the mirror image of his because one of them is right-handed and one of them is left-handed.

Luis von Ahn: Is it really? Oh, that's hilarious.

Tim Ferriss: Yeah, and there was a cancelation. We ended up being the earliest table. So I got to talk with his youngest son. I was the only Japanese speaker there because I was with a few friends who were all native English speakers with no Japanese. And so we sat there, and I just got to talk to him for about an hour. And the coolest guy ever, his restaurant is in Roppongi Hills.

Luis von Ahn: I've been there. I've been there.

Tim Ferriss: I usually don't spend a lot of time in Roppongi, but his restaurant was great. And we ended up really bonding well, and he recommended a number of restaurants in Okinawa that we ended up going to. And he's like, "Tell them I sent you," and so, of course, that turned into its own adventure, which was just fantastic. We went to this restaurant, and it was in a grandmother's house with three or four tables. People traveled from all over Japan just to have a meal there, and she was a former radio personality. But she'd dress up in traditional sort of kimono and come out and sit at each table for like ten minutes each and just rotate through. It was amazing - really, really surreal. What \$100 or less purchase has most positively impacted your life in the last six months or recent memory?

Luis von Ahn: Well, man, you know, I don't buy much. I really just don't buy much for myself. I don't think this was under \$100, but it was close. I bought a Tumi backpack that really has changed my life in terms of travel. I just need it a lot.

Tim Ferriss: It has a second compartment for the laptop and all of that?

Luis von Ahn: Yes. Well, the key is to make it so that it is easy to take out when you're going through the stupid security thing.

Tim Ferriss: Yeah, I need to replace my backpack for that reason exactly. Do you have it within arm's reach? Do you know which model?

Luis von Ahn: I do not. I do not have it within arm's reach, but it really is very nice that you can easily take it out and put it back in. I don't know

what it is. It's not like it saves that much time, but it just makes your life a little better.

Tim Ferriss: It's just your life is the small things repeated often, right, and if you travel enough.

Luis von Ahn: Yes, oh my god, and the security is just, ugh. Yep.

Tim Ferriss: What time do you tend to go to bed and wake up?

Luis von Ahn: 11:30 go to bed, wake up at about 6:30.

Tim Ferriss: What are the first things that you do in the morning? Like, the first 30 to 60 minutes of your day, what does that look like?

Luis von Ahn: I wake up. I check my email. Basically I open my laptop. I check my email. I check some sort of Duolingo metrics.

Tim Ferriss: What type of dashboard do you guys use for that?

Luis von Ahn: We have our own dashboard that we made. It runs on top of this thing called Mix Panel. So I usually open it to see the previous day, how we performed, etcetera. I don't know if this is a smart move or not. I do it but I don't know if it's a smart move because it really determines my mood for the first several hours in terms of if we did well the previous day, I'm a happy camper. If we did not do well the previous day for some reason, like somehow traffic is a little lower than the day before that or something, I'm not in a great mood.

So I think I'm going to stop doing that. I don't think this is healthy. I do that and then I go work out for 16 minutes. And then I eat a yogurt. That's my morning routine.

Tim Ferriss: And then off to the office, or what's after that?

Luis von Ahn: Yeah, well, I shower, and then I go to the office basically.

Tim Ferriss: What metrics do you pay the most attention to? And no end, let's keep it to one question for a change.

Luis von Ahn: So we pay a lot of attention to two right now. One is how well people are learning. The way we measure that, basically some of the exercises we're giving you are not there for teaching. They're there. Literally we're just testing you, and we're testing previous things just to know how well we're teaching you. And we make

changes to try to make it so that you will answer these test questions correctly more often.

So we pay attention to this. We have a kind of composite score of how well our users are learning. I pay attention to that. That one doesn't change that much per day. That one really only changes whenever we do an experiment, and we do multiple experiments a week. But it doesn't change like that per day. The one that is a little less outside of our control is the number of active users that we had the previous day.

Tim Ferriss: Active, daily users.

Luis von Ahn: Active. And by active I mean they didn't just look at the website. I mean they completed a lesson on Duolingo. So I look at that.

Tim Ferriss: What have been your most surprising sources of users?

Luis von Ahn: Let's see. What are good ones? Surprising sources of users - sometimes we get huge spikes that we cannot explain, and later we figure out that it's TV.

It's very funny that we cannot even see Tweets about it. We see nothing, and somehow there's just a huge spike.

Tim Ferriss: Inclusion in the US or outside or both?

Luis von Ahn: Outside. Usually outside. I mean, some in the US, but that one you can usually find on Twitter. We get a lot of users on St. Patrick's Day learning Irish for one day. They don't stick around. So it's funny. We do see that type of thing. You know, this is another one which was interesting. When the Paris attacks happened, our French course got a bump of users in the week after that.

Tim Ferriss: Makes sense to me.

Luis von Ahn: Yeah, so that type of thing happens. What are others that are interesting? What are others? This one I guess is just interesting. We've been in fashion advice magazines. Sometimes we're there for some reason, and we get a bunch of users. Oh, another one was also interesting. Sean Mendez -

Tim Ferriss: Who's Sean Mendez?

Luis von Ahn: Yeah, exactly. Yeah, that's the thing. It shows that you are not a 17 year old girl.

Tim Ferriss: Okay, I'm guessing - what - Snapchat, Instagram, YouTube?

Luis von Ahn: No. He is supposedly the next Justin Bieber, but he's clean, you see. That's like his shtick. He does have a pretty catchy song. It's called "Stitches." I actually had heard the song, but I didn't really know who he was. But then there were some people in the office who let's say they were female, and they were younger.

They all knew who he was, and they were like, "Oh my god, I cannot believe." So he started using Duolingo, and he started tweeting about it a lot. He started basically saying, you know, tweeting a lot about how he was using Duolingo and how he is learning Spanish, etcetera. And that was an interesting source of users. I don't know how many users we got, but we got a good number of them from him just tweeting a lot that he was learning Spanish. Those are the ones that come to mind.

Tim Ferriss: Yeah, that's a pretty good sampling. Do you have any evening routines? Anything you do to wind down?

Luis von Ahn: I bought - well, no I didn't buy them - somebody gave them to me in the office. Somebody from the office heard that I was having some trouble sleeping, and they gave me these glasses that block out blue light.

Tim Ferriss: Are they orange? What color are they?

Luis von Ahn: Yeah, they're like these big, orange glasses because I wear glasses, so they're kind of go on top of my glasses. So I look like I'm 90 years old.

Tim Ferriss: Or ready to go to the shooting range.

Luis von Ahn: Yeah, so I put that on for the last like hour of the day that I'm awake. You know, I hate to admit it because I made a lot of fun of this before. Until this person in my office gave me the glasses as a gift, I kind of made fun of this, but it really does seem to work. After I started putting those on for one hour before I go to sleep, I really can sleep a lot better.

Tim Ferriss: Very cool. I might have to try that. The other laptop equivalent, and it might be on mobile as well, is F.lux. I don't know if you've ever –

Luis von Ahn: F.lux, yes. A lot of people in the office use that, F.lux.

Tim Ferriss: Yeah, F.L-U-X for people who want to type it into their browser. It is very cool. It changes the type of light or the spectrum of light that is emitted from your laptop so that it changes based on sunrise and sunset.

Luis von Ahn: [Crosstalk] Yeah, it's pretty cool. You know what? Our designers started using that, and now we get kooky colors.

Tim Ferriss: Oh, because they're thrown off when they're designing after sunset.

Luis von Ahn: I'm like, "I want to see it tomorrow morning, please."

Tim Ferriss: That's hilarious actually. Yeah, that could be really dangerous for designers now that I'm thinking about it. How did you guys come up with the green owl by the way?

Luis von Ahn: Yeah, so there's a story behind that. We were just getting started with Duolingo, and we had hired a Canadian company to help with our branding. At the time we didn't really have any designers, but it's awesome company. It's called Silver Orange. They made the Firefox logo, for example.

Tim Ferriss: Oh, great logo.

Luis von Ahn: Yeah, so it's a great company. We love working with them, and in one of our first meetings about the branding of the company, my cofounder Severin, he said, "You know, I don't know much about design, and I don't particularly care. But I'll tell you this. I hate the color green. I hate it."

We all thought it would be hilarious if our mascot was a green thing, and so that's why it's green. It is literally we are playing a joke on our cofounder. Ever since then every day of his life he has to see this. He shouldn't have said that.

Tim Ferriss: Oh, man, that is funny. And the owl? Is that the –

Luis von Ahn: It's kind of knowledge.

Tim Ferriss: Knowledge, wisdom.

Luis von Ahn: Yeah, it's funny because when we started we were here and knowledge, wisdom, makes sense. But now that we're expanding or we've expanded to the whole world, this is not true in every other country, right.

Tim Ferriss: Yeah, are owls like bad luck in certain cultures?

Luis von Ahn: You know, I don't know if they're bad luck, but certainly in China people are like, "Why an owl?" No, actually, in China because it's green, they're like, "Why are you using a parrot?"

Tim Ferriss: A fat parrot.

Luis von Ahn: Yes. This happened.

Tim Ferriss: That actually would kind of make sense, actually, the parrot.

Luis von Ahn: Yeah, it would.

Tim Ferriss: That's another one of those jokes that I use to try to disarm people if I'm gonna make a fool of myself in Spanish later is in certain Spanish speaking cultures people are very polite. It's kind of like Japan. If you were like, "I hungry. Want food please," and they're like, "Oh, you're Spanish is so good," you know, if that's how you sounded in Spanish. They're very polite, and so my thing, you know, I'd say, "Well, I'm just a really good parrot." So I'd just say, "Soy un papagayo, or papagayo depending on if I'm in Argentina or not. And so that makes sense to me that it could be a parrot. What have you changed your mind about in the last few years and why?"

Luis von Ahn: You know, that's a good question. You know, I don't know exactly how to phrase it, but it is way harder to build a good organization than I thought before. You know, before I always worked at a company or something that somebody else had made the culture or the organization or something. And it's so easy to find bad things about things - about company cultures.

Tim Ferriss: Pick out the flaws when you're there.

Luis von Ahn: It's so easy, yeah. Nothing's perfect, and you're like always. But now that I'm the one in charge of building an organization, it is really hard. And I am now even more impressed at the people who have built companies with 10,000 employees. It's just impressive how like the culture at Google still remains. That's just impressive.

Tim Ferriss: It is astonishing.

Luis von Ahn: Because it's just when you're just here, we have 60 employees, and already we see like just all kinds of issues. One of the standard

things that startups go through, and fortunately we went through it and it worked out well, but at the beginning it's flat. There's no management. Nobody really has a boss. It's kind of flat.

Tim Ferriss: Right. There's no hierarchy. It's flat work chart.

Luis von Ahn: Right. This sounds great. This really sounds great. We're a flat company, etcetera. Unfortunately, this just does not work after a certain number of employees, and you get to chaos. At about 25 employees it starts becoming chaotic, and so you have to start coming up with some sort of structure and some sort of hierarchy. Out of every startup that I've heard, there is an allergy again that because it's like, "Oh, man, now we're gonna have managers. What's next?"

Tim Ferriss: Bureaucratic, right?

Luis von Ahn: Yeah, what's next? Are we gonna have to start filling out TPS reports, and like what is going on here? But it takes little bit of time to really convince people that this is actually worthwhile, but fortunately we've gone through this now and we're fine. But this was much harder than I thought it would be.

Tim Ferriss: What resources, people, books, anything, did you find - have you found - helpful in thinking about building an organization?

Luis von Ahn: Well, this is one of the ones where "The Hard Thing About Hard Things" was helpful. He talks a lot about building an organization and how to do that. In some cases I found a few blogs. Well, Fred Wilson's blog is great.

Tim Ferriss: Which came up earlier, yeah, AVC.

Luis von Ahn: Yeah, so that one was good, and also our board members. I mean, we have really good board members for Duolingo, and I've asked them a lot of questions. I mean, the latest one, our board member from Google Capital, Leyla, she's amazing. I sat with her, and I'm like, "Okay, we're gonna organize the company. Let's do it." And we basically just sat there for a few hours and came up with a reorg of the whole company, and that was pretty useful.

Tim Ferriss: I want to say it was either a biography of Home Depot - I might have been both - or it was - a little outdated now but - "The Making of a Blockbuster," which was about Wayne Huizenga - if I'm saying his name correctly - and the building of Blockbuster when it was just the behemoth.

Luis von Ahn: When it was awesome.

Tim Ferriss: Yeah, back when it was awesome. But he was very good at acquiring companies, and as he absorbed all these companies, of course, he needed to incorporate all of the bits and pieces.

And I want to say that he hired one of the top people from McDonalds either as consultant or a fulltime employee, and the first thing he did when he met them is he said, “All right, draw the org chart for me. Like, I want to see what the org chart looks like.” And that was one of the most consistent questions, and it didn’t strike me until much later, in fact in the last few years, how important that is. And so when I meet people who seem to have very smoothly operating companies, that’s one of the first questions that I ask if it seems like a decent opportunity. I’ll just say, “What does your org chart look like? Like, draw your organization for me.”

Luis von Ahn: It is amazing. For somebody who’s never had to design an organization, it is amazing how hard that is. It’s not easy.

Tim Ferriss: It’s not intuitive.

Luis von Ahn: No, it’s not.

Tim Ferriss: Is there anything that you believe to be true even though you can’t prove it?

Luis von Ahn: What is something that I believe to be true? I’ll say this. I believe that it was a good choice to start Duolingo here in Pittsburgh, Pennsylvania. I can’t prove that, but I believe it was a pretty good choice.

Tim Ferriss: If you could put one billboard anywhere with anything on it, what would it say?

Luis von Ahn: Yes. This I can answer because I’ve thought about this. It would be a billboard right across the street from the Google office here in Pittsburgh that says, “We at Duolingo are hiring, and, yes, we can match your salary.”

Tim Ferriss: Google would love that.

Luis von Ahn: Sorry Google investors, but, yes, that is the billboard that I would put because I have thought of this.

Tim Ferriss: That seems achievable. That seems very achievable.

Luis von Ahn: It is. It is very achievable. I just don't know how they would feel. They're investors and everything.

Tim Ferriss: Oh, yeah, that's true. That whole dynamic is something I didn't think about. You could get into some real trench warfare. You could get one of those billboard cars, and park it right out front. Alice Cooper, the musician's career, was launched in a way by getting one of those and having it quote, break down, end quote, in the middle of, I think it was, Piccadilly Circus in London a few days before one of his concerts. For those people who haven't seen it, I think it's just called The Legend of Shep Gordon, but the Supermensch is the name of the documentary. It was done by Mike Myers of Wayne's World fame about this incredible, eclectic, extremely eccentric and hilarious music manager - I suppose is what he would be - talent manger named Shep Gordon.

But, yeah, I didn't think about the investor angle. That could be a little thorny. How old are you now?

Luis von Ahn: I am 36.

Tim Ferriss: Thirty-six. And Duolingo was started how many years ago?

Luis von Ahn: Four.

Tim Ferriss: Four. Okay, what advice would you give to your 30 year old self then? So that would be two years before starting Duolingo.

Luis von Ahn: Boy, when you do start Duolingo, make an Android app sooner rather than later. That would have been good advice for us to have.

Tim Ferriss: Is that just because of the market size?

Luis von Ahn: It's crazy. I mean, that was the last app we made - well, not technically. We did make a Windows app after, but we started with a website, then an iPhone app, then an Android app. Today 55 percent of our traffic is Android. So we should have done Android sooner. I guess one piece of advice. I probably would tell myself to work less to be honest. I think that I would tell myself to do that.

Tim Ferriss: Because there's a point of diminishing return?

Luis von Ahn: Yeah. I've really gotten much better at this over the last year, and I think this is still kind of one of the things I want to do this year.

It's really be better at not working all the time. I actually think I am more effective - not just efficient, obviously more efficient - but also more effective in general if I don't work all the time. And this is for a couple of reasons.

One is like personally I just feel more rested, etcetera, but actually I've realized that this is one of the things that is really helping me scale the company. It used to be the case that I really was on top of everything, and it actually helps when I'm not on top of things because other people really rise up. And I think that that it actually a good thing for Duolingo that I'm not working all the time. I should have probably done that earlier. I probably would have had a more enjoyable life too.

Tim Ferriss: Do you think you will be able to work less by simply resolving to work less? And the reason I ask is that type A personalities and builders that I know are only able to do that if they displace work with other activities.

Luis von Ahn: Yes, that's exactly right. That's exactly right. You can't just say like, "Ah, I'm gonna just go home now." You can't quite do that.

Tim Ferriss: That won't work.

Luis von Ahn: No, I just have to get into something else. It's the type of thing; I've gotten more into podcasts. I've gotten more into learning about different things. I'm just trying to learn all kinds of different things, and I think that that's something. I actually want to start a separate project that is not a company of any form just to occupy myself more so during the weekends so that I'm really spending less time on being on top of every single little thing at Duolingo.

Tim Ferriss: You could try indoor rock climbing. I bet in Pittsburgh they have –
Luis von Ahn: They do. They have pretty awesome ones.

Tim Ferriss: Yeah, they're so much fun, and you can do bouldering because it doesn't require a belay partner, and that's just a fantastic way to get out of your head.

Luis von Ahn: I've done it. I've done it. I've done it. In fact, I was doing it quite a bit. It's really great for strength.

Tim Ferriss: Yeah, it's outstanding, and it's also mobility - hip mobility, everything - and it requires you to do the opposite of what you do when seated at desk or at a laptop. It causes you to look and arch your thoracic and use your legs. It's a fantastic exercise, and I'll

give you a podcast recommendation also, which is Hardcore History.

Luis von Ahn: Hardcore History?

Tim Ferriss: Yeah, and start with there's a series called Wrath of the Khans, which is about Genghis Khan or Genghis Khan as Dan Carlin, the host, says, but is amazing. And you will get sucked into that. Most people do. It's just incredible.

Luis von Ahn: I'm writing this down.

Tim Ferriss: Oh, yeah, when people ask me, "What's your favorite podcast?" I said, "There are a lot of good podcasts out there. By far and away, no close second place, Hardcore History is my favorite."

Luis von Ahn: I like that. That is awesome. You know, I liked the first season of Serial.

Tim Ferriss: Yeah, it's impressive any way you slice it. I like Hardcore History because it scratches the nonfiction addiction that I have, the "I should be learning something useful," voice that nags when I'm doing fiction sometimes. But at the same time you have entertainment in the form of Dan Carlin's storytelling and his, "What if, you know, imagine if blah, blah, blah, x, y, and z." And simultaneously you're learning lessons. I think there's a lot to be learned from Genghis Khan and not learned.

Luis von Ahn: The Gheng, the Gheng.

Tim Ferriss: In terms of how he built and ran an organization. I mean, there are a lot of leadership principles.

Luis von Ahn: An organization that consisted of like, you know, ten percent of the world or something like that.

Tim Ferriss: Oh, it's just mindboggling, and in fact I'm not gonna mention names because these were in private conversations. They may not want to be named, but a number of the most impressive sort of tech icons have recommended to me a book called "Genghis Khan and the Making of the Modern World" and said it was their favorite book of the last year. So that's another.

Luis von Ahn: Are these people really trying to be the Genghis Khan of today?

Tim Ferriss: If they are in terms of dominance, then they're getting close or they already are. These are people who like everybody listening would know these names.

Luis von Ahn: Great, that's great. Really, let's copy Genghis Khan.

Tim Ferriss: Yeah, I mean, minus the like raping and pillaging, probably a good idea, but nonetheless Hardcore History is a good way to keep your hands away from the keyboard maybe for a few hours. And you can listen to it while you're rock climbing potentially.

Luis von Ahn: Okay, so these are two things. What about a hobby? I really need like a hobby.

Tim Ferriss: Hobby I would suggest drumming. I would suggest some type of drumming.

Luis von Ahn: Really?

Tim Ferriss: Yeah, it could be hand drumming. It could be like a djembe.

Luis von Ahn: Why is that?

Tim Ferriss: Well, and I'm projecting a little bit here personally, but drums are an instrument you can have fun playing, relieve stress playing and sound decent playing even if you suck balls. And that is hugely reinforcing for someone like me who is very impatient. I don't want to sound terrible.

Luis von Ahn: I see. But you're not talking about like a big drum set for like a rock band, right?

Tim Ferriss: No, you could. I mean, you could do like a five piece, which would be a kit.

Luis von Ahn: Or you're talking about the little kind of ethnic thing that you?

Tim Ferriss: I love that they guy from Guatemala is calling this ethnic.

Luis von Ahn: Hey, listen.

Tim Ferriss: You could do something like a djembe, which is a really nice floor drum that's a hand drum nonetheless, D-J-E-M-B-E. But I think that you would appreciate - just knowing on some level as I do - I would say you should actually take a lesson with the five piece because the coordination of hands and feet just utilizes your brain

in a way that you probably haven't utilized it before. You will feel like you have runner's high. You'll have combination of fatigue like you've just played a chess game or Go or something like that - probably closer to Go. You'll have that mental fatigue, but you'll also have the feeling of runner's high after say an hour long session on the drums where you're using your feet to work the hi-hat and the bass and hitting the snare drum and so on.

I think that is something that would give you enough reinforcement early that you might continue to carve out time for it. So I would just prepay for five to ten lessons with a good drum teacher. I think that would be a good hobby to try to tackle. My objective would be to keep you off of laptops.

Luis von Ahn: Right. So the Rock Band game is not enough for learning how to do this?

Tim Ferriss: It's not as gratifying as the crack of a nice snare drum and thump of a bass. It's hard to compare. Just the kinesthetic feedback is I think an integral piece of the entire experience.

Luis von Ahn: Well, next time we see each other I will give you a concert - an amazing drumming concert.

Tim Ferriss: Yeah, or you could try to pick up break dancing. We could have a breakdance battle. We could do that also.

Luis von Ahn: That I assure you –

Tim Ferriss: Will not happen?

Luis von Ahn: I am just not going to do. This will not happen.

Tim Ferriss: Maybe locking or popping for those people who want to get into it but don't want to break their shoulders. Popping and locking is not a bad way to go. Well, this has been a lot of fun. I have just one or two more questions, and let's go with advice to your 20 year old self. What advice would you give to your 20 year old self? Or 25, you can choose.

Luis von Ahn: Not 30 but 20 year old self.

Tim Ferriss: Yeah, 20 or 25 and you can choose, and then you can tell us where you were at time.

Luis von Ahn: Wow, let's see. What would I have said? Okay, to my 20 year old self, I probably would have said learn more about how to run a business in college. There's probably some good classes. I mean, when I was in college, all I took was like kind of either computer science classes or English classes for writing.

I really liked learning in writing. But everything else I just did not want to take any classes, and I should have taken advantage of. I'm sure there were some great classes on how to run a business. That's some advice I would have given to my 20 year old self.

Tim Ferriss: If you had to choose, what aspects of running a business?

Luis von Ahn: You know, probably just generally how to be a manager. I've had to learn over the years through the hard way how to be a manager. You know, giving somebody feedback, especially when it's not positive, is tricky. Firing somebody, I now know how to do this pretty well, but I sucked the first few times I had to fire somebody. In fact, there was somebody that I had to fire like three times because they did not understand that was firing them.

Tim Ferriss: Oh, god, that sounds terrible.

Luis von Ahn: I was that bad. I was terrible. I've learned really the trick is to start the conversation by saying, "I'm going to have to let you go." Like, you just start that, and if you do that, see working up to it is bad. Because if you start by trying to build up an argument so that at the end you say, "And that's why I'm going to have to let you go," the problem is they start arguing midway. Like you say, "Well, you know, last week when you did that," they're like, "No, that's not what happened." And then after they argue three or four of your points, your whole thing is gone.

Tim Ferriss: Your lead up has been derailed.

Luis von Ahn: It's over, and usually you don't have as much information as they do. And so you're not getting all the details right, and it's usually much better to just get it over with and then explain or whatever. So I've gotten much better at that. So, yeah, classes on how to manage would have been great.

Tim Ferriss: Got it, for your 20 year old self and then 25?

Luis von Ahn: Start working out. I did not start working out until I was like 31, 32. Between ages 25 and 30, I gained 40 pounds, and the I lost them again at around age 31. And that was not good.

Tim Ferriss: Kettlebell swings, folks - two-handed kettlebell swings. Everybody's got time. Everybody's got space for one kettlebell. You can search the perfect posterior on Google, and I'm sure some torrented version of that chapter in my book will pop up.

Luis von Ahn: What do you think of the seven minute workout? This is a question I have.

Tim Ferriss: The app that I've seen people using? Is this the callisthenic workout that people are doing?

Luis von Ahn: Nah, this is the thing that you search for. Like it was in the New York Times and everything. It's just the thing that you just search for seven minute workout where it's like some pushups and some sit-ups and like a plank.

Tim Ferriss: Yeah, I'd have to check it out. I mean, I'm sure it's better. The best workout is the workout that you do, right? So if the seven minute workout in concept, in presentation gets people to actually follow the protocol, then I'm all for it. I don't have any real familiarity with it, but suffice to say you don't need to exercise for a long time to get into great shape. Losing fat is dietary. It's dietary driven. Like, if you want to lose fat, you lose fat in the kitchen. You build muscle in the gym. That's it - period, end of story - at least from an effectiveness standpoint.

So I would say if it's just a time restriction, I would actually go back to kettlebell swings. I think if you do kettlebell swings two or three times per week, 50 to 75 repetitions building up to doing it in a single set, taking breaks as needed in the beginning and let's say arbitrarily, obviously, talk to your orthopedic surgeon before you do this.

Luis von Ahn: Yes, I have one of those.

Tim Ferriss: Or your PT trainer, whatever, I don't play doctor on the internet. But generally speaking women can start with a 35 pound kettlebell, men with a 53 if they're of sort of top of the bell curve weight. And if you do that building up to a total of say 75 reps and doing that Monday, Wednesday, Friday or even Monday, Friday if you don't recover very well, you can get into incredible shape doing that. And it should not take you more than five to ten minutes to complete the entire exercise.

You're done. And the initial, say, 10 to 15 kettlebell swings with two hands serve as your warmup assuming that you don't have any outstanding injuries. It's just a fantastic exercise, and there are videos online where I demonstrate basic technical pointers and whatnot because you want to do it correctly. But you can absolutely get in great shape. They are also with less than ten minutes pre exercise session.

Luis von Ahn: Let me ask you another question now that I have you here. What's the best way to get a six pack?

Tim Ferriss: Best way to get a six pack is to lose fat that's covering them up.

Luis von Ahn: Okay, okay.

Tim Ferriss: And diet is going to be 99 percent of that.

Luis von Ahn: So really dieting.

Tim Ferriss: Dieting meaning not caloric restriction, although a lot people would argue this point and say that intermittent fasting or paleo or fill in the blank. Any diet is really just caloric restriction in disguise even if they don't realize it. I disagree with that. A thousand calories of lard does not equal 1,000 calories of Coca-Cola does not equal 1,000 calories of sugar. I mean, the body metabolizes and treats those substances very differently, and if you were to follow a paleo diet, for instance, I'm biased but I do think the slow carb diet, which is the 4 hour body, is designed first and foremost to have a high level of compliance and convenience.

And maybe you sacrifice five to ten percent of the fat loss you would experience with the strict paleo diet, but it's very easy to follow even if you're traveling.

Luis von Ahn: Yeah, this is the problem with diets and traveling, oh my god.

Tim Ferriss: Yeah, so the slow carb diet is very easy. There are people who absolutely have six packs and eight packs after following slow carb diet and following a minimal effective dose of exercise like kettlebell swings. You do need a base level of musculature underneath, but we all have abs. They're just covered.

Luis von Ahn: Right. So that's kind of just there.

Tim Ferriss: Yeah, they're there. I guess it's the, what, rectus abdominis - that's the six pack - is there. But planks don't hurt, but the exercise is not

going to burn the fat. The fat is going to go away through replacing your current default meals with better default meals, and it doesn't have to be difficult at all. And drinking enough water so that your liver is not preoccupied with dehydration is also very important.

Luis von Ahn: Oh, really? So drinking a lot of water, that's easy.

Tim Ferriss: That's easy. That's easy. I mean, that's not too terribly difficult to do, and if you're following a lower refined carbohydrate, lower starch diet - if you have hyper tension talk to your doctor - and this is something I picked up from Kelly Starrett actually, who is a very famous CrossFit guy, and this does make a lot of sense - is sprinkling a little bit of salt, just a little pinch of salt, into your water when you drink it.

You won't notice the taste, but on these lower carbohydrate diets, I think it's for every - let me think about this - for every gram of glycogen, meaning carbohydrate that you store, I think you can hold four grams of water. So when you deplete yourself of glycogen or otherwise don't ingest a lot of carbohydrates, you tend to experience a lot of diuresis. You tend to pee a lot. The water just goes straight through you. So a little bit of extra sodium will help you retain that as well as say potassium from avocados. But even avocados, people think of them as pure fat. An avocado - I'm just guessing here - but probably eight grams of carbohydrates, that will knock you out of say ketosis if that's what you're trying to go for.

But the nutshell answer is slow carb diet, kettlebell swings two or three times a week. And I think that you can get to a six pack without too much difficulty. You can definitely get to ten to twelve percent body fat, and for most people that will show enough abs to make them happy. Although you can go lower if you want. It just requires a lot more fine tuning.

Luis von Ahn: That's good. That's great. I'm going to change my keg for a six pack.

Tim Ferriss: Last question is do you have any ask or suggestion request for everybody listening?

Luis von Ahn: Oh, boy, I don't know if I do. There is the shameless plug of using Duolingo, but other than that I don't have anything great.

Tim Ferriss: No great requests for the masses.

Luis von Ahn: No great asks, no.

Tim Ferriss: All right, well, my request then would be can you let people know how to find you on the internet? How can they follow what you're up to? Of course, Duolingo.com and you can find Duolingo everywhere for people who want to check out the app. Actually, "Shit Duo Says," is that the Twitter handle?

Luis von Ahn: "Shit Duo Says" is a pretty awesome Twitter handle.

Tim Ferriss: So @shitduosays for people who want to get a good laugh. Actually, I won't even explain what it is. They can just check it out, but where can people find you on social and on the internet if they want to follow you?

Luis von Ahn: Yeah, on Twitter it's @luisvonahn @L-U-I-S-V-O-N-A-H-N. That's where I am on Twitter. I should tweet more. I just did a Quora thing yesterday. They have like their own version of an AMA on Quora now, and I just did that yesterday. So I'm recently active on Quora. You can just search for my name there. And I guess on Facebook too, slash luisvonahn on Facebook.

Tim Ferriss: Perfect. Well, Luis, always a pleasure and I look forward to drumming, break dance battling and rock climbing next time we meet.

Luis von Ahn: With a six pack. I will show it to you.

Tim Ferriss: With a six pack, and thanks for making the time.

Luis von Ahn: All right, excellent, thank yo.

Tim Ferriss: And everybody listening, for links to books and so on, podcasts, blogs and whatnot mentioned, you can go to the Show Nuts which are available for this episode - every other episode - at fourhourworkweek.com all spelled out. Fourhourworkweek.com/podcast and until next time, thank you for listening.

Tim Ferriss: Hey guys, this is Tim again. Just a few more things before you take off. Number one, this is 5-Bullet Friday. Do you want to get a short email from me? Would you enjoy getting a short email from me every Friday that provides a little morsel of fun before the weekend? And 5-Bullet Friday is a very short email where I share the coolest things I've found or that I've been pondering over the week. That could include favorite new albums that I've discovered.

It could include gizmos and gadgets and all sorts of weird shit that I've somehow dug up in the world of the esoteric as I do.

It could include favorite articles that I have read and that I've shared with my close friends for instance. And it's very short. It's just a little, tiny bit of goodness before you head off for the weekend. So if you want to receive that, check it out. Just go to fourhourworkweek.com. That's fourhourworkweek.com all spelled out, and just drop in your email. And you will get the very next one, and if you sign up, I hope you enjoy it.