

Architectural Technology with Iddris Sandu

Ologies Podcast

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Oh hey, it's that squirrel staring at you through the window because you're late with the peanuts today, Alie Ward, back with an extremely digital episode of *Ologies*. "Alie," you say, "Dad Ward, we love snail funerals, and coyote ghosts, mushroom gonads. But let's bump this into the age of the worldwide web, shall we?" So, we are. Today, I get my head out the annals of dusty natural history books and into the 'ones', into the 'zeros', and into the head of a genius programmer, and designer, and entrepreneur. But first, a few thanks to the folks on Patreon for supporting the show and sending in questions to ask the ologists. A dollar a month gets you into that club. And thank you to everyone who has been quarantine binging, and telling friends, and family, and subscribing, and rating, and of course, the reviews. They keep me going on days when I feel so lonely. Such as this week's spotlight on SchoolAin'tSoBad, who wrote:

Oh hey, it's that guy with the PhD, who dropped a green bean on the floor but then shoved it into his beer to sanitize it, but then couldn't figure out how to retrieve it. I simply want everyone to know that you should make this podcast your weekly "go-to," because it's a great way to remind yourself that even if you have a PhD, you can still find questions you've never thought of and learn things that you never wanted to know. This podcast is the bean in my beer!

Thank you SchoolAin'tSoBad. That was a very nice review.

Buckle up to hear your old Dad out of her comfort zone and into the matrix. Architectural Technology, I know you are definitely thinking that this is an episode about how arches are built. Or glass buildings with solar panel windows. I know; but watch out. That is not it, at all, at all. *Archi* means 'having, or conceived of as having, a single unified overall design'. And 'ecture' comes from the Greek for 'chief weaver' or 'builder'. And then, technology is also from the Greek meaning art or craft, coming from 'weave'. The 'tech' in architect and technology are the same tech! So, Arch of Technology. You'll hear more on that.

Now, I don't know beans about programming. When things start to get over the average, or in my case below average, person's head, I'm going to stop and just clue us all in for a second just to get up to speed so no one's left behind. Also, I made this episode kid friendly, just because we need the youth to solve all of our problems. Thank you in advance for doing that.

This ologist is just about to become your new hero. At 14, he got the Presidential Scholar Award from a guy named Barack Obama. And at the age when most of us are just sweating over getting our learner's permit, he was working on data analysis for Twitter, and with Instagram, and Snapchat. Still in his teens, he was pioneering autonomous driving systems. And he's worked for SpaceX, he's spoken at TEDx, he has created the user experience for Nipsey Hussle's smart store, Marathon Clothing. And just in 2020 alone, he's collaborated with Prada, Versace, Travis Scott, and Fenty. He launched an augmented reality visual studio called spatialLABS, and is the designer for Snoop Dogg's new retail store. He's also releasing an EP of his own. Dude is busy, and he is awesome.

I was very lucky to be introduced by our mutual agents at WME. Hi Travis. [phonetic] Hi Matthew. [ph.] And then for the week leading up to this interview, I just had knots in my stomach about how cool he was, and how little I understood about programming, and just what to ask him. But he is as patient and as gracious as a genius could possibly be.

We chatted about all about the value of hands-on tinkering, and different programming languages, and what they do, and how to start coding at any age, advice he gives kiddos and grown-ups, and being a part of a technological movements, how he's worked with everyone from Kanye, to Rihanna, and more, what the future will look like, and why being flexible and collecting varied life experiences is the key to excellence. So, cozy up and get ready for your mind to be blown and your heart to be warmed by Architectural Technologist Iddris Sandu.

Alie Ward: But luckily for you, I imagine a lot of your stuff can be done on a computer, right?

Iddris Sandu: Oh yeah. I mean, for me, work has always been about being digital. And even though we have an office, it's really been about like, you know, the comfort of having an in-home office and a studio. I do everything here from software developing to architectural fixtures. You know, I do a lot of prefab architecture, so creating concepts here, 3D printing them. There's a CNC machine in here, all these little different machines, so we just constantly keep the creative juices flowing.

Aside: Speaking of juggling several different intricate tech projects and creative juices, I asked him how much coffee he has to drink to handle it all? He told me he doesn't even drink coffee! This man is just naturally turbo charged. Okay, let's get right into it.

Alie: How would you define an architectural technologist for someone who doesn't know?

Iddris: Yeah, so architectural technologists, or more like digital architect, is really this term that I coined around applying the concepts, the ideations, and the design thinking that goes into architecture, and applying those to enhancing, enriching, and scaling digital systems. It's about understanding, like Dieter Rams's 10 Principles of Design; Zaha Hadid's principles; or Marc Newson; or Jony I've; or even Bauhaus. Taking these elements of design and applying them to create efficient systems around digital infrastructure. That's the way I could break it down to people. They see the vision, but once they, like, have those conversations and it gets deeper, it makes total sense.

Aside: That list of designers, side note, include visionaries who have made fluid, sloping opera houses to elegantly minimalist German buildings, to knighted designers, and the minds behind everything from rounded lounge chairs to the Apple Watch. Now, Iddris mentioned The 10 Principles of Design by Dieter Rams. Which I will list very quickly for context for this episode:

Good design is innovative.

Good design makes a product useful.

Good design is aesthetic.

Good design makes a product understandable.

Good design is unobtrusive.

Good design is honest.

*Good design is long-lasting.
Good design is thorough, down to the last detail.
Good design is environmentally friendly.
Good design is as little design as possible.*

So, less is more. Something to consider before adding a bunch of glittering clip art and Comic Sans headers to your webpages. Clutter be gone.

Alie: What do architecture and digital landscapes have in common? Is there something about, like, a user experience of it being clean but big, but navigable, but complex? How would you relate those two?

Iddris: Yes, so, one, technically when I use the word 'architect' I don't mean in the context of the noun. As a noun, it's somebody that assists, creates, or develops... using the skills of design, creates, builds, assembles, or supervises buildings and their construction; architects. And although I would love to be in that category I have not taken the 'Bar test' for Architecture. I never went to college guys.

If you look in the dictionary for the word architect, there's another definition. And as a verb, it's a process, it's a living thing. The noun version, it confines you to a box. It puts you in this box of, "You are an architect," and in many cases, you're building either physical things or digital things. Architects don't always have to build physical systems. They can also build virtual systems.

Aside: I looked this up, and yep! Sure enough, architect is both a noun and a verb. The verb is more common in tech industry. Now, Iddris defines it for those of us outside of those digital domains.

Iddris: As a verb, it's a process. It becomes a living thing. It becomes universal. It becomes water in itself because it teaches you that, as a verb, it's the process of taking figments of an idea and making it into an actual product. I fell in love with that definition. Every time, I'm like, "I'm a Digital Architect! Not as a noun but as a verb," because people need to understand the power in verbs being able to define what they do. We live in this era where people will be like, "I'm a Taurus. I'm a Gemini. I'm an Aquarius. I'm an introvert. I'm an extrovert." [Rodney Dangerfield: "I'm not a fighter. I'm a lover!"] All these boxes we put ourselves in, and then the moment that somebody puts us in a box, what's the first thing we say? "Stop trying to put me in a box!" But we put ourselves in the biggest box.

So, that's what digital architecture is to me: the usage of architecture in a verb definition. I think the similarities that tie everything back to each other... which took me years. At 22, it took me *years* to learn! [Alie chuckling] What connects synchronous designs together is... The synchronicity between all forms of design is empathy. I think that's one thing that architecture is a representation of. Architects, ironically, build either physical buildings or digital systems for everybody else but themselves. Architects are the equivalent of the doctors of the design world. They find viruses, and pathogens, and all of these things - of design - and create using certain elements, and certain patterns, and tessellations together to form whole buildings that can protect people and cause shelter.

Being an architect, whether the noun or the verb, it's highest human achievement in that everyone can do it. But the connections are in understanding that all elements are designed together, are precisely woven together, connected by one medium, and that's empathy.

Alie: You know, it's funny, because you say that and I think of all of the different scientists that I've interviewed in my work, and I always find that they usually start with a problem and their science, kind of, revolves around the solution. It never occurred to me that, yeah, at the root of that is empathy. "Here's something that someone needs and so I'll build it, or I'll dream it up, or I'll fix it," you know?

Were you always a very empathetic kid? Were you out, like, romping around and looking at bugs, or were you more like a bookworm inside? When did you become so curious?

Iddris: I have always been a curious kid. I remember being six, seven, eight... Growing up we were financially deprived. But, I'm very, very, very particular with words. Words are frequencies. I prefer the term 'financially deprived' instead of 'low income' because 'low' relates to us, you know, a 'beneath' level. But it's just a lack of resources to be able to perform.

So yeah, we were financially deprived and I would always... my mom would have to buy me new controllers because I would always break them. You know, like, "Okay cool, these are what transistors are!" And I would look at a PCB board...

Aside: PS: PCB is a printed circuit board, and no, I have never taken one apart myself. And yes, I just had to look up what a PCB was. I'm not ashamed!

Iddris: I would look at it and reroute everything, and connect this to the USB, and then take the USB to this... Then I remember this one time I created a... I took a remote, and then I basically rerouted and reprogrammed, in Java, the ability for me to point that at our ceiling fan, and I could change the speed of the fan. I had always been curious. One time I programmed a light bulb to have a two simple digits, a 0 and a 1 node. When it was in a 0 state it was off; when it was in its 1 state, it was on. [*Alie laughs*] And that moment was when I just knew that [*snaps fingers*] this is what I was meant to do. The curiosity of understanding how things work, and more importantly, including this common theme that would be forever in my life: digital alchemy, which is the reusability of products; the way that it's been designed to be used, once that is depleted, being able to repurpose things to form things completely new.

So yeah, to answer your question, I've always been creative. I can't remember a time when I wasn't creative. But every single thing, even to this day, that I create is not for me. It's about the people around me. Growing up in Ghana for a little bit, and growing up in Compton, and moving to Harbor City, and being around, you know, every type of person, from different communities, everything that has woven into my work and even in my DNA has been around using that curiosity, not to create inventions... Inventions are like a blatant form of ego, whether people realize them or not. *Innovation* is truth. Innovation is humility. An invention starts with you wanting to create something for the sole purpose of

it satisfying your needs or your immediate surroundings. Innovation is about creating things to help the masses. That's the true test of humility. So always, always curious.

Alie: That's really beautiful. When did you go from hardware, and taking apart controllers, and changing their frequency, into coding and into software? When did you make that jump?

Iddris: Okay, so there's two people that inspired me. One is fictional and the other's non-fictional. Steve Jobs. [*clip from 1984 Macintosh Introduction: Robotic voice, "Hello, I am Macintosh."*] Tony Stark. [*clip from Iron Man: Robert Downey Jr., "I am Iron Man."*] You know, Tony Stark, because that was my Howard Hughes. That was my Nikola Tesla. That was my Steve Jobs even, because he set the bar for me in terms of what could be created because it never really was created. It's not real. And that allowed my imagination to be very fueled. But to answer your question about, before all of this, what got me into coding? I remember watching the keynote, the Steve Jobs keynote of him in 2007, right? [*keyboard clacking*]

Alie: [*laughs*] Are you pulling it up?

Iddris: Yeah, so I can show you this. So I can let you know what mark. I think like eight minutes in. In 2007, the first iPhone presentation, Steve Jobs said something that the rest of the world at that time might not have noticed because they were just thinking about the product. Steve Jobs took a quote from a very popular - I would consider him an anthropologist, a teacher, a guider, a philanthropist - Alan Kay. Are you familiar with him?

Alie: No.

Iddris: He's huge. He was very fundamental towards the early stages of Apple and stuff. He's just, like, super cool. He took a quote from Alan Kay that said: [*clip from Steve Jobs Introducing The iPhone At MacWorld 2007: "People who are really serious about software should make their own hardware."*] To build your own hardware, build your own software. That was the quote. [*Alie laughs*]

It went over so many people's heads, but that was the birthing place. That was the mark that signified the birth of Apple as we know it today from a perspective of creating their own hardware and controlling their own software. Right? And I saw that from an early age, and as I would age, I realized how every brand started to assimilate in that same way. You're able to control the narrative around whatever it is that you're pushing if you're the platform owner.

So, from a very young age, I always wanted to be a platform owner. I wanted to think about, yes, I want to build software. I started learning how to code, in fact, at the age of 11 and went to a library for almost two years straight - only missed three days - and learned everything, and I saw the differences. When I was in Compton, I was reading legacy programming languages.

Aside: I wasn't sure if 'legacy' was the actual name of a programming language so I had to look it up and, wow, no. Okay, a legacy language - as opposed to a modern one - is older and usually not the base for today's coding, but is really important to know because

new technology sometimes has to interact with a legacy language that may be the base for other programs.

Also, please pardon this aside up top but I just want to get some programming basics just out of the way for context so no one feels lost. Also, full disclosure: because I needed to look it up to understand it also. I'll go quick. So, first off:

'Machine language' is chattering via binary code: 1s and 0s, and those are expressed via tens of thousands of transistors that flip on and off to relay those 1s and 0s.

A 'programming language' is a way for us to tell those 1s and 0s how to behave and what to accomplish for us. So just remember: the task of a thousand steps begins with a single beep boop. Life is a series of tiny beep boops that can change the world.

Some of the first programming - trivia alert - was around the year 800 in modern day Baghdad and involved an automaton, which was a programmable steam flute. Priorities. Gotta get those flute jams in! In the 1700s we had punch cards that helped operate Jacquard textile looms. In 1843, Ada Lovelace - a writer and mathematician who was also the daughter of poet Lord Byron - wrote an algorithm to calculate Bernoulli numbers, which are a sequence of rational numbers that occur often in number theory.

Anyway, some of the first computers in NASA's history were women crunching numbers behind the scenes to figure out flight paths, and fuel needs, and programming the first electronic general-purpose digital computer for the US Army in the 1940s!

Fast-forwarding to the last couple of decades, let's have a very brief simplification of what a programming language is. It essentially means how plain text or what's called 'source code' is formatted and written to tell the machine how to flip those transistors, making all those 1s and 0s to get stuff done.

Some older legacy programming languages are: COBOL aka Common Business Oriented Language, which has been around since the late 1950s. Fortran is casual for Formula Translation, and is also from the '50s. There's RPG which was developed by IBM in 1960. C has been around since 1969 and it's the foundation of languages like C++, and Java, and C#. Perl has been around since the late 1980s and gained traction doing CGI graphics, and it's open source, meaning you can futz with it and modify it.

So anyways, thank you for bearing with that history and context. Iddris was in the library at the age of 11 feeding his hungry brain with legacy programming languages, as one does.

Iddris: I was looking at like mainframe, IBM, LISA. I was looking at all of these different... Scratch... you know, BASIC, Assembly. Very, very low level.

Aside: Low level, like, easy?

Iddris: High level programming is actually low and low is actually high.

Alie: Okay, I did not know that! *[laughs]*

Iddris: When I say low level programming, I'm in the kernel. I'm learning about the machine language of how computers, not interpret data, but really process information. There are different forms of computer language processing. It's a lot. There's interpreted languages,

there's machine language, there's a whole bunch of different ones. But then I just started going to the library and read, and read, and read, and ironically... well, not ironically, but to the universe and God's grace, I would end up meeting a Google engineer that happened to be there that day and saw me reading my books, and that was really the start for me in this space. But yeah, I mean it really started with just seeing the possibility of... Are you a huge Marvel fan?

Aside: Okay, I already was clueless about programming but now I also had to admit that I am a weird old lady who has not seen a lot of superhero movies. Somehow, he was perfectly kind and gracious about it. So much that it almost made me cry, to be honest.

Iddris: [both laugh] No judgment, no judgment at all, no judgement. Don't worry about it. You have a whole lifetime. [Alie laughs] I'm not even being ironic right now, you're still young, you have a lot of time to watch it. But in the first *Iron Man*, there's this scene of Obadiah who was the villain in the first movie, pressing the scientists, like, "Yeah, we tried it, but we can't..." and he's like "Tony Stark built this in a cave!" [Alie laughs] Right? And then the dude's like, "Well, I'm sorry sir, I'm not Tony Stark."

I think that ability for him to build anything, anywhere, at any place is what gave me the push in a very digital way. The digital architecture. Tony Stark instilled the digital design thinking in my mind. And Steve Jobs, he instilled the physical design thinking in my life. Right? So, these are two very similar yet different people. But yeah, it was ultimately around watching the Apple keynote and at the same time discovering... because *Iron Man* also came out in 2007, by the way.

Alie: Oh, did it?! I didn't realize that!

Iddris: [laughs] So it's like, these people together are literally shaping my design thinking process and everything for years to come.

Aside: Iddris was nine in 2007. I still have pants from 2007! That I wear. Legacy bootcut, baby! But yes, he got started really early, learning to code at 11, and by chance meeting a Google designer while studying at the library.

Alie: Now, I know that you were in the library, you're studying code, you were what, maybe 13 at the time, and you started interning for Google?

Iddris: Yes! Various parts of my life I was being allowed to be in spaces that I normally wouldn't have been in. So, me being a 13-year-old kid with somebody that, you know, believed in me so much, and saw what I was doing, to let me have an opportunity to see how things actually worked. Being able to go into the Google building, and go in and see how ideas then went to the drawing board, and the drawing board then went to the designers at that time. UI/UX wasn't as big as it is now, so it was the interface designers. Then from there it goes to the programmers, the programmers working with the marketing team, and the marketing team distributing the app that was built.

I just got to see so much, and I was like, "Oh wow." It was like being in Willy Wonka's factory and I was like, "Wow! This is how it works. I want to create this." [clip from Willy

Wonka and the Chocolate Factory (1971): Gene Wilder, "How did you like the Chocolate Factory Charlie?" Peter Ostrum, "I think it's the most wonderful place in the whole world..."]

And that would basically shape my whole life around ownership. I started with ownership. I started by watching Steve Jobs unveil the first iPhone and Tony Stark wanting to own his Iron Man tech and not give it to the Pentagon. Seeing these two parallel stories informed everything about me.

One thing that I practice a lot is vertical integration. Vertical integration is a form of business in which a business owner or entity controls the whole product lifecycle of their creation. That's what Apple does, right? So, let me break it back to what I was saying about the reason why throughout this whole interview, the Alan Kay "to build your own hardware, make your own software" is going to make so much sense. So, Apple as a company has a multitude of different devices. Now, for every one of those devices that they have, there's an integrated operating system that they created for each of those products, right? So, if you have an Apple watch, it runs what? *watchOS*. If you have an iPhone, it runs *iOS*, which they own. These two, they own. If you have a Mac computer, you're running *MacOS*, which they also own. And if you have a TV, it runs what?

Alie: Apple TV? ATV?? AOS??

Iddris: Exactly, right. Okay, cool. Maybe I just got lucky with that. You know, that's maybe just a coincidence. Even though I did four different comparisons. Let's keep going. Let's look at Google. Google's phones run what? *Android*. Their TVs run *Android TV*. Their cars run *Android Auto*. And their watches run, *Android Aware*. But now let's talk about virtual assistants. *Alexa* is owned by Amazon. Apple owns *Siri*. IBM has *Watson*. Google has *Google Assistant*. They've all vertically integrated their companies in plain sight in a way that people haven't, like... It's like a case of *CSI* and you're drawing all the red lines between all the different points of origin or whatever.

So, with that in my blood and with that understanding that Steve Jobs and Tony Stark - one fictional, one nonfictional - instilled, that's why everything always came down to me. So, when you asked... I had to give that preface before answering your question in regard to how does that light bulb moment go to an actual product for me. And it goes with understanding that if I know I'm not in a position to work on an immediate solution to an issue or a problem that I can't vertically integrate - or at least for the most part vertically integrate within my own immediate surroundings - I don't deem it as a priority for me.

I divide things I do into two states. I came up with this term called 'aspirational necessitation'. Now, aspirational necessitation just simply means taking the 95% of design thinking that's usually attributed for 5% of products in the world and applying it to the 95% of products. Meaning, the kids that graduate school and have the best ideas to come back and fully sustain and develop our communities and scale them the way they need to, get poached by big company, so they never have an opportunity to. If you look around you, you would notice that the products that are aspirational, the stuff you do not need, are the most highly priced, and are in fact the most beautifully designed things that you can lay your eyes on. Whereas the products that are a necessity to you: roadblock street

signs, pedestrian buttons, parking meters, all of these things are designed very, very poorly and with very little design thinking.

In fact, the moment that these systems are installed, they're already depreciating in value. Whereas on your phone, if you really think about it, it appreciates in value. Why? Because there are software updates. So, why haven't we designed city infrastructure and things that are a necessity around us with the same thing. Could you imagine? All these tech companies: Tesla, General Motors, Hyundai, Toyota, making new cars all the time. Making a car be smaller, faster, more efficient. But no one is thinking about the road on which the car is driven. That hasn't been changed. How about we just make more efficient roads, right?

Aside: So, aspirational necessitation: making the things that we all use as nice as the things only 5% of people can afford. Can you imagine that world of just beautiful efficiency?

Iddris: And then it gets into this conversation of like, well, do people actually want that or is it something we just say, 'we want to see better design, we want to see this'? And then you start to realize the thin line between aspirational and necessity. So yeah, for me, it's like I divide things into two parts: products that are aspirational and products that are a necessity. And the necessity products are the things that I'm mostly focused on. But then again, I think about how far can I vertically integrate those ideas. If I have an app that, for example, tells people on their phone like, when COVID-19... when there's a surge in their area. If I can't design it from my home, and then build it, and then distribute it all from my home, then I probably won't work on it. So I vertically integrated everything, but that's my design. I know that was a long answer, but...

Alie: No, that's amazing! Have there been any projects that you've worked on that you felt like you've grown a lot having worked on them? Were there any projects that you feel taught you a lot as you did as you did them?

Iddris: I would most likely say either my collaboration with Nipsey Hussle back in 2017...

Aside: Quick side note for those who aren't familiar. Nipsey Hussle: LA-born rapper and activist, who also started the Marathon Clothing Store, the first smart store of its kind that offered consumers special digital experiences in the store, and unlocked extras with their purchases of Crenshaw shirts and Victory Lap snapback caps. Iddris explains how that collaboration came to be, and he backs up a step to describe the project he was working on when he met Nipsey.

Iddris: The way I have to phrase this now is a software that I built called ACIDI - Autonomous Collision Detection Interface - that I pitched and had several meetings with Uber about. I have this sensor right in front of me here that we're now refining, we're like at version 5.0. We've designed our own chip under a company called spatialLABS that I started. I was creating this system that would basically, using machine learning, would be able to detect a driver's hand position in a car and it cognitively would learn about how you drove, and one: assist you in driving. So the device can capture frames at up to 300 to 400 frames per second using infrared light.

It would be able to get your hand position in the car in [*snaps fingers*] milliseconds and be able to do evasive maneuvers around it. So let's just say you were texting and driving, but in a very layman's way, it would be able to do a 50–50% distribution. So you're driving, you'd start texting, you're looking up and down, the car engages and knows that you're in a texting mode and so it would assist you with driving. If you immediately let your hands go off of the car, it would engage full autonomy. And the moment that you put it back on the wheel, it would let you control it again.

Alie: Wow.

Aside: So this system would not only automate the driving, but figure out when you need help, like a perfect significant other who knows when to swoop in and bring you a cookie and when to leave you alone.

Iddris: So the software, after I created it, I was like, “You know what?...” I had this ultimate epiphany about just something that was coming in, especially with ownership as it related to, especially, a lot of people of color and minorities, Africans, just in general. And I was like, the youth aren't given the necessary skill sets... because I went to a public school to be able to create on the level that I did.

Aside: Remember that while the rest of us were going to Bat Mitzvahs and growing our first wisps of a mustache, Iddris's profound curiosity led him behind the Google fortress walls at 13.

Iddris: To me it's the equivalent of, like, going in and working for the greatest fashion houses. It's like painting the Sistine Chapel and then no one else can do it because you have the skill sets on how to build it. It's like having the answers to how the pyramids were built, but you're the only person that knows how to do it. So, I wanted to get more youth and younger kids, especially of color, to get into technology. And the only way I could do that was if I made technology cool.

It had to be cool, you know, because we look up to the celebrities and the athletes because they break the mold. Very few of us get to escape our reality and actually live our dreams. But what if I could create systems and I could repurpose my code to, instead of serving gimmicky values, what if I could reuse those same algorithms and cell code to create something else? So, ironically, I was sitting in a Starbucks one time - which I never go to cause I don't drink coffee.

Alie: [*laughs*] Yeah, I was just about to say!

Iddris: But something... I've always been a librarian, right? Like, I always love going. So I went to the Leavey Library, you know, at USC on Figueroa. Something told me to go to the Starbucks. I go into the Starbucks, I sit down, and I'm literally modifying this software that I'm telling you about.

Aside: This was the ACDI software he was working on, just coding in a Starbucks on Fig, when Nipsey came in because his daughter had to use the bathroom. Good thing Iddris did not have a laptop privacy screen, because Nipsey spies what he's working on...

Iddris: I'm coding it, literally, modifying it and then in comes, you know, Nipsey Hussle. And he paces back and forth four times, sees what I'm doing on my computer, and eventually he's like, "Yooo, this is so crazy, what you're doing." And he approaches me in a very respectful way. He's like, "Sir, could you tell me what you're doing?" And I'd let him know what I was doing. And then we came together and we created the Marathon Store.

Aside: Nipsey described the concept of the store in 2017 on LA's Power 106 radio: [clip from Power 106 Los Angeles 2017 video]

Nipsey: Well, it's basically... There's gonna be an app that you can download to activate the smart features of the store. It's going to be the Marathon Store app. And basically, you know, when you walk into the store there's gonna be tags that are gonna have content, so tags of the clothing. So a certain shirt, right, we'll promote the shirt, and it'll be a piece of content that's programmed specifically to this shirt, so that when the shirt drops, you get the shirt, but you also get a piece of content that's not on iTunes, that's not on YouTube, that's not in the cloud.

Male Interviewer: Damn!

Female Interviewer: That is dope!

In the interview, he also praises Iddris a bunch for his vision and advocates for more kids learning STEM. The two of them working together created not just a landmark in the Crenshaw district of Los Angeles, but on the whole commercial landscape.

Iddris: Which would go on to inspire a whole culture of artists, performers, you know, to think differently about their brand and how they can use technology to enhance it. 21 Savage, who's known as... I'm sure you know who 21 Savage is, right?

Alie: Yeah.

Iddris: He's notoriously known as like a [emphasizing] rapper, right? [clip from 21 Savage song 'a lot': "But I'm 21 4L, ain't no way I'ma switch"] He did a collaboration with Spotify on machine learning after he came in and saw that we were using artificial intelligence and geo-fencing to deliver music exclusively to the fans without the need of middle people.

He was inspired to go do a machine learning collaboration with Spotify where they have this app that you would just hold your phone... He has this famous tagline, *Issa*. [clip of 21 Savage: "Issa knife."] So you would just hold your phone over different parts or different objects, the machine learning algorithm would automatically detect what it is, and it would say what it was. So, issa cup, issa hat, issa this. And I thought it was so genius because that's what's going to get more kids and that's what's going to gravitate more people to getting into technology.

So I mean, to answer your question, those are the two pivotal moments like, you know, in my pre-20s where I felt like that really changed it for me. Understanding that I could repurpose my code from going to creating a platform called ACDI, Autonomous Collision Detection Interface, which I pitched to a company like Uber, to repurposing that same code and creating a system for musicians to be able to DJ using their hands. And then meeting Nipsey Hussle.

Alie: Oh my god.

Aside: Nipsey passed away on March 31st, 2019 from gunshot wounds sustained in the parking lot of the Marathon Store. He was 33. 20,000 mourners showed up at his memorial at Staples Center in LA and lined a nearly marathon-length funeral procession through the streets of Los Angeles. Nipsey was an outspoken advocate for peace, and for opportunity, and for learning, and he had actually been due the next day to meet with community members about reducing gang violence in his beloved neighborhood.

Alie: And what was it like working with him, too?

Iddris: Nipsey, he's just an amazing, he *was* and *is* an amazing human being. And I think whereas, like, past political black leaders gave us political power, he was all about economic empowerment and giving you economic power. There's three things that you need to change a community. You need buying power, you need economic power, and you need political power. But political power and buying power need a resource to be able to... they need to fuel, and that is economic power. So that's what his messaging was.

And I think it all makes sense to me now how everything happened and the reason why he chose me to really... and highlighted me and went so hard for me because he knew I was one of the only people around him in his circle that could articulate the full complexity of how his mind worked and how deep it went. This was not no ordinary rapper. This was not no ordinary person. This man understood a lot of things. Had he been here, I would... I feel very comfortable putting him par to par with being, like, our modern-day Jay-Z, you know, in terms of cultural influence.

But yeah, I mean, he was my brother, protector. We traveled the world together, did a lot of amazing things together. And, you know, I'm just going to continue working. But to answer your question, it was a very amazing, lovely time spent with him.

Alie: Yeah. I'm so sorry for the loss on that.

Aside: His accused assailant, a former childhood friend, was arrested two days after the murder and awaits trial. Nipsey Hussle went on to win multiple Grammys posthumously earlier this year.

Alie: Something that's really striking about you is you're so obviously, like, focused and passionate about what you do, and you're also so good at having an opportunity and taking full advantage of it, you know, showing up when the opportunity knocks. Are you ever called to give advice to people who have less confidence or aren't sure that they could accomplish anything near what you have?

Aside: Asking for myself because I will shamelessly take any and all advice this dude has to offer, but also for, you know, the youth. The Gen Zs and beyond.

Iddris: Yeah. I think even now, like, I was just reading a *Wall Street Journal* article earlier about how the coronavirus is going to shape... is going to literally shift the paradigm for an unfinished generation's social skills, Gen Z — like these kids that are now eight and nine, ten, or even like five or six, they're going to completely grow up in a completely different

world now because of coronavirus, you know? What it means to be social is going to be different. What it means to interact, FaceTiming, or video calling, or even volumetric.

Certain things have to happen for us to go into new ages of time, right? Scientists had to try and get us to the moon and, you know, create a new technology and mistakenly create a microwave. And now we all have microwaves in our house. That scene in *Star Wars: A New Hope*, where you have Princess Leia, you know, R2D2 projecting her hologram and her telling Obi-Wan Kenobi, "Help, Obi-Wan Kenobi. You're our only hope." For us to get to that level, for us to get to the shift, certain things needed to take place in the world. And so ultimately, like I'm a huge spiritualist and stuff, so what I tell people around me, whether it's now in terms of advice or whatever, or in the past, it's like, there's always a blessing behind every single thing that happens. And when we talk about that hologram age, in recent events, what's going on in the world, what's happening right now is going to force that to happen now because we're going to have to rethink media. Magic Leap, the company that makes those mixed reality goggles, and HoloLens are going to be way more powerful and needed now.

When you asked me what advice do I give to people? The advice is simply: just be dynamic. Even when I have kids come up to me, like, "What programming language?" I feel that if I tell young kids what programming languages they should enforce, especially with those kids coming up to me are minorities, I feel like I'm not giving them the right information. The right information for me to say to those kids would be: Learn how to be dynamic, because one program language is not going to be it. New programming languages will be created, but you know what won't be new? Your ability to dynamically think. Train that muscle in your brain to be able to be adaptable.

Teaching kids the importance of not only just going to the river and giving them a fishing rod, but also letting them know that they might not be able to fish all year round even if they have a fishing rod. So teaching them how to go to other beaches and other oceans to fish, and how to identify the flow of current, and when fish are coming and when they're not coming, teaching them the high levels, right? Thinking about it very dynamically, thinking about how to help the youth in such a way that it's not a noun.

So, my advice is really centered around balance and not even the future, but balance. Information of the current is by default already information of the past. As we're communicating right now, the things we're saying, the things we're talking about right now, even if I was to mention a new technology that has a six week shelf life, a year from now we got all new iPhones and then we're talking about something else. So my advice to any kid, or anyone really... I feel like we're all kids We're all children in the most respectful and honorable way. We are all children, and children are the most creative people and I believe we all want to be considered creative.

Aside: Iddris says we must all accept that we are children, and keep learning and asking questions, which you know, I love. Speaking of asking questions, we're about to ask questions submitted by folks on [Patreon.com/Ologies](https://www.patreon.com/Ologies), but before we do, each episode we donate to a charity of the ologist's choosing, and Iddris is actually building a youth center and a school on land that he's just purchased in Ghana, so we'll see to it that a donation

goes straight toward that incredible work. That donation was made possible by sponsors of the podcast, who you may hear about now.

Okay, on to your questions.

Alie: Can I ask you a few questions from listeners who knew that you were coming on?

Iddris: Yes, of course, please!

Alie: Okay, I'll run through them like a lightning round. Michelle Jacobs wants to know if you have a favorite programming language and why, or if you have a few that you would break down to tell people to start looking at.

Iddris: Yeah, personally... I started off with Java, and not only is it one of the oldest programming languages that we still currently use today but more importantly it's a programming language that's like the grandfather of all other programming languages.

There's different forms of programming languages. There are different languages and then there are different 'broken' versions of those languages. So think of English: there's British English, American English, then there's patois, and pidgin English.

In programming, there's a very wide array for different applications of what you're doing. There are so many languages. There are array language, assembly, compiled...

Aside: Okay, I looked it up and Wikipedia lists over *50 types* of programming languages. How exciting! Why are there so many?

Alie: It depends on what you're doing. Personally, one of my favorite programming languages is actually *not* Java, that's just the language I started with. I really love C. I love C#. The reason why I love C# is it has way more memory advantages and speed improvements over Java.

The thing I love about C most importantly is it's really widely accepted. I can compile that on my Mac computer running, like, Boot Camp, or running Parallel Desktop side-by-side with a computer. And platforms that in the past that I've used a lot of, like Unity, which is a game engine, for a lot of visualizations we've created in the past, we've built them in Unity using C#. So I love, love, love C# is one of my favorite languages.

There's a new programming language that Google created called Flutter that I love so much. I've been using a lot of Facebook React Native. Facebook has two major programming languages; one is React and the other is React Native.

By the way, this is another moment for me to go back to what I was saying about 'build your own software, build your own hardware': Facebook has its own programming language called Facebook React. And before people grill me, let me just say: I know Facebook React is not a programming language, it's a library. But it's pretty much a programming language. We can agree to disagree - it's a JavaScript library, but it's a programming language as it's currently used.

Aside: From what I gather, Boot Camp is a software that helps install Windows OS Macintosh computers, which, like other types of bootcamp, sounds like a sweaty

endeavor. And a 'library' is a bunch of reusable programming routines that a coder can grab so they don't have to physically type out all that source code.

They know what it does and what to use, so you can copy and paste the basics to avoid needing bionic wrists to peck out all those dingdang backslashes and such. These shortcuts are valuable, given that experienced programmers can make upwards of \$100 an hour... in case you were interested in learning to code.

Iddris: Yeah, I had been using a lot of Facebook React Native, and the difference between React and React Native is, in layman's term, one of them is just a web browser bring hosted in app form, and the other allows you to use native components that are native to device specifics like having *Android* or *iOS*. But not to confuse anybody, let's just keep it basic. I think my favorite language is C#.

Alie: That's amazing. Okay, that's good to know. There were some people asking questions about Python. Anna Vallery asked: Any tips or tricks for learning coding as an "old dog"? I wasn't taught R in school and I'm finding myself needing it for positions in my field.

And then some people were saying start with Python.

Aside: Python, by the by, was born in 1991 and it's known for having really readable code and a *big* library, so you can grab existing source code from the community and modify it. It's used for websites, desktop applications, really complicated complex data analysis, and backend developers use it to communicate database information to the browser. After many years, Python 2 just got retired, and a new version of 3.9 was just released. So, is Python better trick for old dogs?

Iddris: Yeah. Python is used mostly as a backend programming language. There's different forms of programmers: there's front end, back end and full-stack.

Front end basically is going to be more of your HTML, CSS, React, Flutter... relating to how the app is going to look; all the different programming languages, the animations and everything communicating precisely with each other, from a front-end perspective.

Back end is usually like Python, Node.js... all the things on the back end. So you think about servers- a lot of servers are using Python, like, "Let's pair it with a Linux virtual machine or a virtual system and then run it from there."

So for anybody that feels that they are "older" and missed a lot, there's never been a more exciting time to get into programming like there is now. I'm 22, but I remember being 11 years old having to go to a library and read books there. And now there are so many free courses online. There's platforms like Udemy, there's Khan Academy, there's Treehouse, that teach you Java from start to finish, that teach you Swift, which is Apple's official programming language that I think a lot of people should start learning.

Aside: Does Iddris like Swift? Be honest, Iddris!

Iddris: I'm not gonna say it's easy or not, but I personally don't like it too much, but I do know it, because I like to build cross-platform apps. If I just build one app that's *iOS* and one app

that's *Android*, that's double the work, so I like to create... That's why I love C# or Facebook React, which allows you to code once, deploy to all.

But I will say for anybody that feels like they're "late" or whatever, the three programming languages, if I had to give any, I would say to look out for are Swift, which is Apple's official programming language that runs within their IDE called X code; Java, which runs inside *Android Studio*, which is Google's official IDE, which is powered by *IntelliJ* and JetBrains; and then I also say Facebook React, which is created and maintained by Facebook, the community, and more importantly, React Native, which gives you access to even more native competence.

Aside: Okay, three!

Iddris: One more actually - I would also add in Python. A lot of machine learning, when you're training data sets, when you're getting into machine learning - which I think more apps will start tapping into - Python is the language that you'll be using for a lot of those. So four languages; Python, Facebook React, Java, Swift.

Aside: Okay four! Got it.

Iddris: Actually, I lied. Five programming languages [*Alie laughs*]. Facebook React Native, Swift, Java... which one did I miss?

Alie: C#?

Iddris: Yeah. C#, Swift, Facebook React, Java, and Python.

Aside: Alright then... five! Five.

Iddris: And then I'll also add Flutter. [*Alie giggles*] There's a lot, right? There's so many. Flutter is a new programming language that hasn't had too much adoption, but it's so promising and I think it might be able to replace Facebook React.

Flutter is a programming language created and maintained by Google's community, which is very similar to Facebook React. But yeah, those would be my top picks.

Alie: [*giggling*] That's amazing - your number one, but by one, we mean six.

Iddris: [*laughs*] Right. Because you also don't want... You know, what works for me might not work with somebody else, right? So I'm giving people the languages that I feel are not going anywhere, that they should know now.

Alie: Yeah. That's amazing. That's such good advice.

Aside: So that's six, we got six: Python, Facebook React, Flutter, Java, Swift, and Iddris's secret darling, C#.

Alie: I love this question from MeehandleBars, first-time question-asker wants to know: What is the most cringy depiction of programming you have seen in mainstream media? And did anyone ever get it right?

Have you ever seen programmers depicted in a movie or TV where you're like, "Ooohhh, come on!"?

Iddris: I think the funniest thing is - and the tech community will understand this - like when somebody is writing a syntax, or in a terminal on a computer, and they literally... I don't know if you'll be able to hear this, but then they do this: [*makes loud key banging/clicking noises*]

Alie: Yeah. [*laughs hard*]

Iddris: [*laughing*] No programmer works that way. And this is like an internal joke. We know. We get up, we stretch, then we crack our fingers and we're like, "What should I create today?"

And next thing you know, you're on a GitHub looking at other people's code and copying and pasting it into yours. We know we all don't just type it like that. But I think the media obviously is always going to do... You know *Top Gun*, right? They brought a real Air Force pilot in and asked, "What'd you think about *Top Gun*?"

They brought in a pilot to review *Call of Duty 4*, about that scene with the plane. He's like, "That would never happen... *That* would never happen..." But I think it's so funny, it's humorous. I'm not from Silicon Valley, but I go there a lot and Bill Gates said shows like *Silicon Valley* do a very good job at portraying what tech is. But I think about *Mr. Robot* and all these other shows. Probably that's my most cringey thing.

You would expect it... because again, I'm a very unconventional architect or designer, I'm not going to give you, like, [*mocking nerdy voice*] "Tabs or spaces? Do you use tabs or spaces when you program?" Those are like, to me, the corny ones that everyone expects you to say. For me, the reality of being a programmer is you're always learning, just like the English language, you're learning new words all day, and anyone that comes up and tells you that they know everything, I would be wary of that. *I'm* learning a lot! I even sometimes Google things or go on YouTube.

The difficulty is, the majority of the time I'm doing my best to program something, it's not something that's referenced on the internet because I'm trying to do something completely new. So it kind of sucks. But yeah, that's been one of the most cringe-worthy things; just seeing how the media sensationalizes this idea of developers or programmers almost not having a soul and being very machine-like and [*desktop banging*]. We take breaks, and go use the restroom, and come back, and then don't finish our code because we don't know what to do next. It's not always like, "Oh I know! Da-da-da..."

Aside: And of course, you can trust computer people to just *roast* each other online.

Iddris: I don't know if you've seen the memes around starter kits...

Alie: No, I haven't!

Iddris: "The programmer's starter kit:" a monitor that's curved; lining them up on your computer; not using a regular mouse, but getting those old track ones that have the ball; a book for dummies on every programming language in front of them. Or a Mac Pro or something like that. Programmer's starter kit. I'm gonna make a meme about that and post it later, actually.

Alie: You should!

Aside: Heads up, this question and answer killed me dead.

Alie: And last listener question: Mads Clement wants to know: What's the silliest thing you've ever coded? A ridiculous website? Just something *so* stupid that you really just wanted to make?

Iddris: I remember this one time I was developing an app for a client and then I put an Easter egg in it in the right corner. So you would have to... I think you would long-press it, tap it twice, and then long-press it again. And just this Kanye meme that would pop up and he'll be like [*loud grunting "Haaaa!"*].

Alie: Was is for Kanye?

Iddris: No, it was not for Kanye, but it was for a huge, known person. And then I was like, "Hey, did you know there's an Easter egg in this app?" And like, [*repeats "Haaaa!"*]. It was just so funny to me.

But I think what I love about programming is no matter what language you're using, the ability to comment inline. When I think of clean code - I'm a very clean coder. There's just been too much emphasis, especially because parts of these codes or algorithms that are being developed by specific people are like a production line. You see people standing next to each other and then they're handing one box to another. So, you want to type your code and you want to comment inline in the most concise, brief way and make it really understandable.

But sometimes I'd be like, man, I want to drop an inline comment, slash, slash, forward slash, forward slash, "This is just some dope shit that I wrote. Let me know when you see it!" I think that's why the world never appreciates programmers because they're so anal and they're so 'machine-like' in terms of orchestration.

And I get it, you know, but I feel like that's what I'm here to do. I'm here to show people that I'm a Jack-of-so-many different trades. I am a Jack-of-many-trades and confined by none. I don't desire to be a master of *any*, but neither to be confined by none. So I feel like I've been put on this earth to show people: Yes, I'm an architect that can design an experience for Kanye, and do stage designs, and build Snoop Dogg's store, but I can collaborate with Fenty, and Prada, and IBM on other projects and make it okay. Make that the new norm.

There's people that might be listening to this and be like, "He's not a conventional programmer," or whatever they might say about this. But one thing that they *can* say is, "Wow, he's so multi-crafted and multifaceted. He is, you know, part of the new Renaissance of being multifaceted." And I should be too, right? We can talk about music, but go to tech, and then from tech, go to arts. That should be a norm, right? Artists, music artists, fashion designers should be working with programmers. In fact, for the last 20 years, what I've personally liked seeing - you know, being 22 - in terms of just history, is that the people that are making the most impact are the people that started off doing something and did something completely different.

Tinker Hatfield designed pretty much every popular Jordan shoe that ever came out. He has an architecture background. Virgil Abloh has an architecture background. Adam Driver was a Marine, you know what I mean? It's like, just to be a Renaissance. It's okay.

Alie: That's such good advice. What is the most annoying thing about what you do or about programming? What is the one thing that is just a real bee in your bonnet? What, what just really pisses you off?

Iddris: I think... Probably because, I mean, my work requires me to have a Mac as well as a Windows machine. So for example, when I'm working with, like, big data, or right now we're working on a hyper realistic... We're essentially building a hyper realistic visual operating system. I think the number one reason why people haven't been able to connect with Siri, and Google Assistant, and all those things is because unlike human interaction, there's the notion of physical person behind the person you're interacting with, right? So even though I haven't met you in person, I do know that there's a person somewhere, based off of everything else I've seen in the world, that is communicating with me right now.

I think when we talk to these like assistants, it's very, very, very linearly. And so we're creating an operating system that's basically a visual AI system. So in that case, for example, I have a windows computer and a Mac computer. My Mac, I have the 2020 Mac with 32 gigs of Ram and a GeForce... it has like an Nvidia something, I don't know, like... I mean, you have an AMD Radeon Pro 5000 with 8gb of video storage, but at the same time, it's like...

Alie: I'm gonna google all these so hard later and be like, "Oh, wow, that was pretty big."

Iddris: But at the same time, I have a desktop that has two GeForce RTX 2080 Ti chip sets. And those are... by the way, the GeForce RTX 2080 Ti is the most powerful graphics card you can buy right now. So, I have two of those to... and it's still lagging because we want to render out the frames in 4k, in real time. So it's like, you know, for me to answer about things that kind of bother me, going from computer to computer knowing that the key bindings and the key layouts are separate... And sometimes, like, I'll be on my Windows computer for like a week and then not open my Mac at all, and then go back to my Mac, and then forget how to do certain things because I'm like, "Why is this not working??"

Alie: The muscle memory is like...

Iddris: Yeah, yeah. Sometimes my brain is processing things on such a high level that it forgets to think slow, and think down. So I'm like, "Oh, uh... how do I eat?" No, joking. I take really good care of my body, actually.

Alie: I can imagine, because your brain has to be so quick that you can't just, like... a programmer drinking like a 2-liter of Mountain Dew and a fistful of Cheetos, your brain probably wouldn't work as well on that, right?

Iddris: Oh yeah. My science teacher in high school, she always used to tell me that the brain was not meant to multitask - according to what she said. It's like, we're only good at efficiently doing things one at a time. The truth to that is realizing that... I read an article that said it

takes the average around 15 to 22 minutes for your brain to regain peak focus after you're distracted for something.

Alie: Urgh!

Iddris: I feel like sometimes we just be trying to do so much and then we forget to focus on one thing, and complete it, and go on to the next, not because we're confining ourselves, and not because we're not capable of processing all that information, but because when we get to focus and then create something, our brain is operating within its highest peak. So yeah, for me it's just always about, like, just that peak level of focus, right? And understanding like, you know, I have a lot of time in this world, I'd like to do a lot of things. So yeah, like, just pacing.

Alie: Do you ever have to turn your phone off while you're working on new apps?

Iddris: Absolutely. I have like... I'm releasing a new single tomorrow. It's my first debut song.

Alie: Oh my god!

Iddris: It's going to be a really exciting moment for me. But I was texting my friend Jaden yesterday, because Kid Cudi recently was like, "Jaden Smith is Luke Skywalker." So I hit him up yesterday, but I only mentioned that to say like, when I posted that on my Instagram... And by the way I just followed you too.

Alie: Oh yeah? I'll follow you back.

Iddris: But when I went on Instagram, and then I posted the screenshot of the text with Jaden, people hit me because it showed that I had 230 unread messages. Like, "What??" It turned into this whole thing. But no, absolutely. DNDs be on all the time.

Alie: Okay! This is like very inspiring to me.

Iddris: And I do want to get better at that. But again, I think about how... I love to give people full attention and just in the state that I'm in, I would rather work hard now so later I don't have to. I think a lot of people would prefer the other, they want to, you know, live their fountain of youth and then work later. No, I want to be like... I'm 22 now, in eight years I want to retire and just go around the world building more schools like what we're working on in Ghana right now, and building shelters and, changing how cities are built from an infrastructural level using and leveraging AI; in agriculture, to be able to let farmers know what seeds or what crops should be in rotation using AI metrics. You know, these are the things that I want to do later in life. So I'm working my butt off now so I don't have to later.

Alie: Oh my gosh, that's amazing. And this is always my last question, but it's going to be hard for you to answer, I think. What is your favorite thing about what you do? What do you love the most about your career and your job?

Iddris: Yeah, the connection to God and the universe, to me, is really important and really how every single thing that I'm doing in my life is for the next person, because I know that's why I'm here. I'm not here to... If it was about a numbers game, just from a 22-year-old's perspective, like, I'm already there, you know. If it was about working with Kanye or

Rihanna or whoever it was, I'm already there. But if it's about what really keeps me filled with humility, if it's really about humanity, then I haven't even scratched the surface.

Alie: Wow. So that keeps you going a lot. You're doing so much amazing stuff. You're such an inspiration. I mean, I...

Aside: Also, here's where I confessed that I was petrified to interview him because I know nothing about programming, and in terms of cool factor, he might be the coolest person, literally, on planet Earth. Just objectively, scientifically speaking.

Alie: "He's so smart! He's so accomplished! I don't even know what to ask." So, thank you for being so gracious.

Iddris: Thank you. Thank *you*. I really appreciate these moments too because it humanizes technology, because I think oftentimes, like, even in the conventional programming mindset, you know, programmers or people are so quick to tell programmers that they're introverted, and tell them that they're bionic and they don't act human, or whatever. But I wanted to be that representation for people to know like: Hey, we can have conversations about neural networks. We can have conversations about AI. We can have conversation about programming languages, and to keep it very, very simple to where everyone can understand it, but humanize it in a way that it doesn't feel intimidating.

Alie: Absolutely.

Iddris: I like to consider myself as a... I didn't go to college. I'm a very unconventional everythinger, unconventional student, everythinger, [*chuckles*] I just made that word up. Unconventional student, unconventional programmer. Yes, I don't program the same way everyone does, but my way is what makes me, me. And your way is what makes you, you. And never let anyone take that away from you.

Alie: Such amazing advice. You're doing such amazing things. It's honestly such an honor to get to talk to you. I'm just like... [*iPhone ringing*] Oh, you better get that before it turns into another message! You're gonna get 216!

Iddris: No, sorry. [*yelling at phone*] DO NOT DISTURB! I thought I told you to turn... [*back to Alie*] I'm going to reprogram my iPhone after this call. Like, Xcode... I'm opening up Xcode right now. I'm about to disable the kernel for Siri.

Alie: [*laughing heartily*] That's amazing.

So ask smart people the stupidest questions because that's the only way we learn. And also, look! They're so kind and so patient, even if you haven't seen *Iron Man*! And in Iddris's words:

We must not make the same mistakes those before us made. We must remember to be inclusive, diverse, and help everyone else around us because we are one race, the human race.

So get more Iddris in your life. You can follow him on Instagram [@IddrisSandu](#) or Twitter [@Iddris Sandu](#). You can check out his TEDx talk, and you can gawk over some of his work at [SpatialLabs.io](#).

We are @Ologies on [Twitter](#) and [Instagram](#). I'm [@AlieWard](#) on [both](#). There will be links to the sponsors and more on Iddris's work up at [AlieWard.com/Ologies/ArchitecturalTechnology](#). That link is right in the show notes, of course.

Ramadan Mubarak to all those observing it, and Happy Birthday to the wonderful Shannon Feltus, who is our merch queen alongside her sister Boni Dutch. They host the comedy podcast *You Are That*. Thank you Erin Talbert for adminning the [Facebook group](#), to Caleb Patton who makes bleeped episodes available. Those, alongside of transcripts are up at [AlieWard.com/Ologies-Extras](#); link in the show notes. Emily White heads up the transcription efforts. Thank you to everyone working on those. Thanks Noel Dilworth for all the scheduling help; the very kind and athletic Jarrett Sleeper of Mindjam Media for assistant editing; and the beep boops that keep our code together, Steven Ray Morris of the kitty themed *Purrrrcast* and the dino-themed podcast *See Jurassic Right* for lead editing. Nick Thorburn of the band Islands wrote and performed the theme music.

If you stick around to the end of the episode you know I tell you a secret, and this week's secret is that we are in, I think, week eight of isolation and I have not, uh, cleaned out the closet that I have been meaning to clean out since, uh, day 1. I think about it every day. Among the items in that closet is a 15-year-old external hard drive with a bunch of pictures. And I had to order, like, six dongles in order for it to hook up to my computer. I'm thrilled. I'm terrified. What's gonna be on that? Who's to say, stay tuned.

Okay, be nice to yourself. You're cool. Berbye.

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Victoria Desjardins

Aska Djikia

Mickey McG

Phillip Coss

More links which may be of use:

[*Types of coding languages*](#)

Six programming languages Iddris recommended: C#, Facebook React, Python, Swift, Flutter,

[*Some coding basics*](#)

[*How to say 'Hello World' in many beepboop languages*](#)

[*Nipsey chats about Iddris and the smart store on LA's Power 106*](#)

Transcripts & bleeped episodes at: [alieward.com/ologies-extras](#)

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