Oral History Conversation with Stephen Foster

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This is an oral history conversation on social enterprise between students in business ethics at the University of San Diego and Mr Stephen Foster C.E.O. and co-founder of ThoughtStem. Stephen, before we began the conversation proper and just by way of introduction to scholars who would be listening to the that to record a recording of this conversation could you give us a brief overview of what ThoughtStem does and the social impact you’re trying to achieve? Yes So our mission is to teach computer science to kids. The reason why I’m passionate about doing that is that I think that computer science should be
00:01:50.580 --> 00:01:55.626
a basic literacy that everyone yourselves
included I'd be happy to teach you to

00:01:56.860 --> 00:01:58.210
I sort of envision

00:01:58.220 --> 00:02:03.910
a world where computer science is
taught alongside reading or math

00:02:04.500 --> 00:02:08.490
science or the basic things that you would
want every child to know so I’d like to

00:02:08.500 --> 00:02:15.480
see it taught as quickly as possible or
as early as possible in children’s
development since it's very difficult
to get the school system to change in

00:02:20.180 --> 00:02:22.660
a large scale we instead founded

00:02:22.670 --> 00:02:28.600
a company try to teach computer
science at scale.

00:02:28.720 --> 00:02:35.660
So can you take us back to what it was like? Were there specific
experiences that you might be able to connect

00:02:35.670 --> 00:02:41.100
with the kind of work you're doing in ThoughtStem
For example sources of

00:02:41.240 --> 00:02:46.970
inspiration or motivation. Seeds of specific ideas
Or important relationships?

00:02:48.620 --> 00:02:54.830
yes. So my mom taught me to
code when I was very young.

00:02:55.380 --> 00:03:01.320
So that obviously helped. I was born in 1985, so I guess

00:03:01.320 --> 00:03:07.900
this would be the early 90’s my family had moved
to Saudi Arabia when I was three so I

00:03:07.930 --> 00:03:13.710
was living abroad and we had just gotten
our first computer in Saudi Arabia like

00:03:13.830 --> 00:03:19.180
women can’t drive so my mom stayed home
like she wasn’t working my dad worked and

00:03:19.190 --> 00:03:21.290
so she was it's like unfortunately

00:03:21.300 --> 00:03:26.290
a little bit like trapped in the house with
us. Which worked out well for me it was

00:03:27.130 --> 00:03:32.140
just come up with lots of cool stuff. For
myself and my siblings to do one of which

00:03:32.180 --> 00:03:35.740
randomly it was computer programming since
we had just gotten our first computer

00:03:36.110 --> 00:03:42.060
and. I enjoyed I was like in kindergarten
for me but so. Essentially I can’t
remember not knowing how to code. And I
know it’s changed my life sort of knowing

that from an early age. It’s sort of the
reason I believe it’s possible for people

to learn computer science early it’s one
of the reasons, One of the

things I draw inspiration from when you’re
figuring out how to do that so there is

that just knowing how to code early in
life but also I think there’s something

about living in

a different country that. And then coming
back to America that sort of maybe makes

people more aware that things don’t have
to be the way that they are that they can

be completely different Saudi or is

a very very different place. And just
the belief that change is possible well

that’s great. So we moved
there when I was three

00:04:36.930 --> 00:04:42.650
and came back when I was twelve as I came back in to the sixth grade here in

00:04:42.670 --> 00:04:46.760
America. So you might of answered

00:04:46.770 --> 00:04:51.740
a few points from that last question that I might re-ask so feel free to skip over it

00:04:51.940 --> 00:04:57.440
What inspired you to pursue computer science you mention that your mother

00:04:57.610 --> 00:05:02.980
you know introduced it to you so can you take us back to when you actually decided to

00:05:02.990 --> 00:05:05.530
pursue your doctoral studies was there

00:05:05.540 --> 00:05:10.580
a particular problem question or vision that haunted you that made you feel it would be worth

00:05:10.590 --> 00:05:11.370
another half of

00:05:11.380 --> 00:05:18.250
a decade to be in academia. I will admit that it

00:05:18.260 --> 00:05:22.010
wasn’t thinking it through that clearly at the time I was I was just an undergrad

00:05:22.020 --> 00:05:27.580
and kind of just making decisions without you know your long term goal but

00:05:27.590 --> 00:05:30.140
I will say so I knew how to code from an early age but then

00:05:30.150 --> 00:05:32.080
a bad experience in high school with kind of

00:05:32.090 --> 00:05:35.520
a terrible computer science teacher made me decide I'm never going to code again I

00:05:35.530 --> 00:05:42.180
don't like it's not my thing and so I went to college in the University of Texas and. I

00:05:42.190 --> 00:05:44.230
don't remember what I was majoring in but I dropped out after

00:05:44.240 --> 00:05:48.660
a semester I was like I don't even like college. And I spent

00:05:48.880 --> 00:05:54.040
a couple years just like writing novels and teaching martial arts and living with

00:05:54.050 --> 00:05:58.350
my parents and honestly only went back to school because my little sister was about

00:05:58.360 --> 00:06:01.820
to go to college and I didn't like want to get her in like get ahead of me I'm not

00:06:01.830 --> 00:06:04.500
a very good reason but I'm just trying
to try to be honest I would like to see.

So I went back to school and I have
majored in English. Computer Science wasn't on the
radar switched to philosophy which is what
I actually got my degree and I happened
to just I think it was actually because I
I didn't want to take math, Like I was afraid
of math so I took computer science instead
just to try to get rid of the math
requirement. And luckily had an
excellent professor in that class and so I
took the next computer science class and
the next alongside my philosophy classes
and just lucked into the fact that
double majored in both because I enjoyed
computer science and so I had the option
when I was graduating to go to graduate
school in philosophy or computer
science or neither i suppose was is also an
option but I was dating somebody at the time I'm still dating who was going to

grad school and so I kind of swayed me to want to do grad school so there was just

a choice between philosophy and computer science and I chose relatively arbitrarily based on the fact that it's just

a more sound long term decision to have a Ph D.

In computer science than in philosophy.

So do you think having a major in Philosophy change your thinking in wanting to change people’s minds?

Yes, absolutely. I think it’s

something I recommend to people who are majoring in computer science they should

also major in something else like something that makes them think critically

about the world because otherwise you end
up with all these great skills but then

00:07:42.260 --> 00:07:47.890
not be like attitude for leveraging
it to make change.

00:07:47.890 --> 00:07:54.310
Great so I'm curious and I really like your
website and we've noticed you like to use

00:07:54.310 --> 00:08:01.500
the most effective techniques that challenge experts and also to introduce it to the world of computer
science

00:08:01.510 --> 00:08:06.640
So I'm wondering if you would mind walking us through some of the stories or examples that illustrate
how you

00:08:06.680 --> 00:08:12.020
explored those techniques and how you went about measuring the ones that are most effective?

00:08:12.020 --> 00:08:13.480
So that was a lot of my Ph D.

00:08:13.490 --> 00:08:19.950
Work I saw that research was
on using video games and

00:08:20.440 --> 00:08:27.000
gameification to teach computer science.
And so that's something that

00:08:27.010 --> 00:08:33.460
we do at Boston, as well as try to basically
the idea is to try to relate computer

00:08:33.470 --> 00:08:39.720
science to things that kids at that age
care about which for many of them is video
games and so that plays out in a variety of ways one of which is that we have to build their own video games just so that they're coding in a context that's that's meaningful for them. And then also in the classroom structure we try to gameify that experience with rather than have like tests or quizzes, we call them quests and as they go through quests and kind of achieve different things we give them like points in the form of physical printed dollars like they're not real dollars obviously they're like printed out look like sort of like Monopoly money I guess and they can redeem that's to buy like prizes at the end of class so it's just kind of make the learning
experience into a game as well
so learning experience is

a game and they are physically building
games that’s their product.

And so it also says on your website that you design these programs to do more than preparing

The children for tomorrow’s world

They induce friendships, create lots of memories in child’s imaginations. So you kind of explained a little bit of it,

Im wondering if you could walk us through what a typical child’s day might be like at ThoughtStem and how do they get to have these important life experiences

as they’re learning to code.

So a typical day is, so we

the summer we teach in afterschool programs

so their typical day would be they go

to their normal school is they do English

math reading whatever and they then when
school is out they come to our afterschool program because their parents of previously signed them up for that and and then they do computer science for another hour and a half and then they go home but then. To sort of touch on the point of like lasting friendships and relationships. So I believe and it's backed up well by my research that learning occurs best when it's in a social context when you know people example would be you know people in your class you're friends with them you connect with the instructor. Largely I think that people people don't choose to go into a field because that field attracts them so much as they met someone who was passionate about that field when they were
young and it was conveyed to them that

that is something they might also enjoy. Do you feel

a lot of the students that come to your courses you feel that

a lot of parents force them in it and then they end up liking it or do you feel like the

kids are sitting there feeling forced to get there and then they relax after

a while and make friends? You know it’s both honestly we get both kinds of students

we definitely have the kids who don’t want to be there at all their parents but their

parents do computer science or have heard that it’s good and they make them do it

those are the ones that are kind of the hardest to deal with because you have to

convince them they want to be there, but we also get many of the other side who you know
they're like I love videogames I want to make my own video games or I love Minecraft the popular video game probably heard of it or played it I want to use code to modify Minecraft it's a very popular thing kids want to do with coding and so that's one thing we provide To give them some advice, but it's across the spectrum. Well the prizes help? The prizes do help for sure. So its not only Minecraft, that, are you only doing Minecraft? Or is there other video games as well? Yeah so Minecraft is the one video we have them like that use code to modify, but then you know that you know other classes they built their own video games and we honestly have other curricula as well like robotics for example and. Digital Arts. Things it's coding is the
common theme, but in video games we try to have games, I said video games, really games

in general is something we try to have the theme through whatever. Oh

On a completely different note, women are underrepresented

in the field of computer science, how is ThoughtStem working to reduce the gap between male and female voters? Yeah so it is a big problem in the field for sure and ThoughtStem can’t change it all on our own but what we’re trying to do is just hire a lot more women instructors so that kids who go through our courses see generally kids stick with our courses since they take it with multiple instructors and I want them to see like wow I had seven women instructors and three men instructors and I don’t think it registers at
a conscious level but I believe that they'll grow up with

a perception that it's nice to say it's

a young young woman I believe they'll grow up with

a perception is something that they can do because they've seen the representation

in their teachers. So, for the kids you

have them do Minecraft and stuff. What from that kind of would help them take

college courses where are you trying to light shape them so like the college

courses that we have I T M G here and other computer science courses here what do you

think that you're trying to give that that will most likely help them with that?

Well, what was really pretty cool about computer science is that there's

a relatively small set of core concepts
that are there whether you’re coding

00:14:22.480 --> 00:14:27.770
a robot coding Minecraft coding a video
game coding digital art or taking

00:14:27.780 --> 00:14:33.600
a computer science class in college and
coding whatever they happen to have you do

00:14:33.610 --> 00:14:38.860
So, within our classes, that core set of
of concepts gets reinforced and then they

00:14:38.870 --> 00:14:41.000
go to college they’re
not going to encounter

00:14:41.010 --> 00:14:45.020
a brand new concept is there really aren’t
that many in this sort of like you know

00:14:45.030 --> 00:14:49.910
introductory computer science concept bundle, so we teach the same ones

00:14:49.920 --> 00:14:53.550
same concepts that you would learn to intro to
to computer science at the college level

00:14:53.840 --> 00:14:59.150
Oh so wow! You’re teaching already to the kids? Hmm hmm. Usually about what age?

00:15:00.060 --> 00:15:04.990
So, our biggest age range, well we teach
all the way from kindergarten up to

00:15:05.060 --> 00:15:11.970
through Senior High School but ours are.
The largest population of students is in the
Elementary school range. So are you kind of already teaching the college level ITMG stuff already to the elementary school kids? or is it more of a high school? No I would say that there's things we teach to elementary school students that a first year college student also learns for sure that there is definitely process did you integrate things that you personally wanted to know going in to your computer for doctoral studies and you'd wish you had learned during your classes of computer science that you're kind of integrating into teaching the children now? I wouldn't say going into my doctoral studies but definitely going into my undergrad studies there are things that I have learned or didn't learn that that I think people should learn
and so we try to teach those things but

00:16:06.030 --> 00:16:11.470
it's less about the concepts because as I
mentioned those those stay relatively the

00:16:11.480 --> 00:16:15.310
same just because computer science is
computer science no matter how you're

00:16:15.320 --> 00:16:20.950
teaching it right it's more that when I
was an undergrad although I enjoyed my

00:16:20.960 --> 00:16:25.900
computer science classes leave disliked
how like dry and boring you like lectures

00:16:25.910 --> 00:16:31.730
could be and so so the way that we teach
is supposed to be highly engaging

00:16:32.440 --> 00:16:34.960
specifically because I
have sat through many

00:16:35.800 --> 00:16:40.740
a not highly engaging class and in college
and so I think one more question I

00:16:40.750 --> 00:16:45.260
really have for you is I was very surprised
I'm so from Silicon Valley I've got I'm

00:16:45.300 --> 00:16:50.090
right next to Google and Apple I see all
the coders all day yeah you could easily

00:16:50.100 --> 00:16:52.280
be up there making over $300k.
Do you feel more it's more meaningful in your life because you feel like you're more like engaged with the kids and stuff and you get more meaning out of that compared to being stuck behind a desk all day coding for a big company? Yes I’m definitely get more out of what I’m doing than than if I was a Code Monkey, I did right out of I skipped over this a moment ago but right out of college I spent a year just at a traditional. Coding job I made more money then right out of right out of college than now. But I hated that job yeah and I like this one. That's rad! I'm glad to hear you're a passionate person. Yeah and I also like I’m kind of lucky I just don't care about money that much and so I don't there's not
I'm kind of a minimalist, I don't need to even be making want I make now

it's you know I don't know what to do with the money. Give it to your girlfriend! Yeah I know right? Haha

She's also minimalist unfortunately, but something but yeah so it's like.

You're right I could definitely go to Silicon Valley or even a company here in San Diego and make significantly more. But it would be more that

I don't know what to do with and then I'd have to deal with the cost of like having a boss and not having as much creative freedom and not necessarily making an impact

on the world and something that means something. I don't know almost anything about computer programming.

But, it's like

a language correct? Yes. So do you believe that, I know
with most languages it's easier to learn

as a child than an adult. Do you feel like computer programming is the same way? Where people, almost

kindergartners are picking it up just as fast, or if not faster, than the

high schoolers you are teaching? You know that's that is an interesting question, it's

a good hypothesis but I actually don't think that's true yeah I guess it is kind of

like a language. The thing that, and they do pick up like young kids

some parts of it really quickly but there's also

a kind of mathematical sophistication that's required to not to get it in

initially but like you need it eventually so that you can keep progressing.

Also the attention span correct? Yes, that's true of this is the challenge is just keeping them looking at the

computer running out or just playing video games and coding Yeah yeah. But
Yeah so it's like, they'll pick up some stuff but, they also like need to like gain more like mathematical skills and mathematical sophistication and so they're sort of slowed down a little bit by that so as an adult if you like if you taken a reasonable amount of high school mathematics you can have that foundation that lets you switch to computer science more easily than someone who doesn't have a mathematical foundation. Also if your students are picking it up so fast, are they using it everyday? Are your students using it every single day? We try to incentivize that, but no not necessarily there are other definitely some kids who come to our class and they go home and play video games and then they come back next week and they learn something but not nearly as much as the ones who are like I love this, I'll do it at home! So to switch back to your
creative/entrepreneurial side of your story. In one of our readings in our course, we learned about

Frank Knight’s theory of profit and how he distinguishes entrepreneurs from salary managers

and whereas salary managers have the competence to manage business risk, while entrepreneurs

are unique, in which they have both the confidence and the courage to deal with the uncertainty involved

with executing an entire idea

or creating a new market, so I was wondering if you can share a life experience where you had to deal with this

this uncertainty

Maybe, how you mustard the confidence and courage to deal with it especially entering this said field.

It’s a tough question. Well. OK I’ll take

a stab at answering and you can if I didn’t quite answer it you can feel free to

ask again but I think I’m somewhat lucky that I don’t have like a

a lot to lose, I don’t have kids, I don’t have
00:21:05.690 --> 00:21:07.890
a big house I don't own

00:21:07.900 --> 00:21:12.290
a lot of stuff and I don't have like an
expensive lifestyle that I need to maintain

00:21:12.300 --> 00:21:17.640
so like at all times when I've been
starting or thinking about starting where

00:21:17.650 --> 00:21:23.250
starting or running this business I'm always able to say to myself, doesn't

00:21:23.250 --> 00:21:28.300
matter if it fails I'll be fine I'm not
going to lose my lifestyle won't change.

00:21:29.570 --> 00:21:34.920
You know that my kids will not
starve, have kids to be starving so.

00:21:36.530 --> 00:21:41.420
I guess that sort of assists in having
some amount of courage and risk seeking

00:21:41.740 --> 00:21:43.380
behavior I mean starting

00:21:43.390 --> 00:21:47.320
a business is risky in the sense that you
don't know over the last forever but.

00:21:49.880 --> 00:21:56.110
Cool, and maybe can you describe maybe some challenges that you had starting up ThoughtStem,
maybe maintaining it

00:21:56.110 --> 00:22:02.030
And mention how old the program is. So we founded it in 2013.
And it's 2018 now, so

a few years old. Some of the challenges
that we faced in the I think starting

Maybe, starting it, creating it, maybe some uncertainty. More the entrepreneurial side

Yeah you know so we when
we first started it.

The vision wasn’t what it is now we just
started it as myself and two other grad

students at U.C.S.D.

And we. Should we just started going out
to the beach and inviting other people

and teaching them stuff like that we call
it "free school and the beach" and it was

fun but it kind of sort of dissolved because
we couldn't get people to keep coming

in like I like this idea of just free
public education and kind of grassroots

people teaching other people. But. But yeah
it was hard to get people to come stay
in the habit of coming so real
like well what if we did it as

a business for like two hundred people and
they put some money down so that they at

least how are invested and so we pivoted
to running that sort tutoring company in

computer science for kids.
That was a U.C.S.D.

And. And after reading that for

a few months for like OK well let's hire
someone to do the tutoring with us or for

us that we can teach more people and so
we did that hired our first employee and.

At that point were like oh maybe
we should like actually make

a business out of it and like figure
out what it means to start to see an

incorporated something like that so I have
some challenges just like getting over
that paperwork hurdle of figuring out what you're even supposed to do programmatic

way to get

a business officially started. It wasn't that bad though because we just grad

students and not. All that we had no business experience were pretty good at

reading directions and following that stuff. But then we started branching out we

had a few more. Locations and it's

a lot of challenges challenges for us always happened at a sort of like

a growth threshold I've gone from zero employees to won and that was that was

tricky going from WANT TO ten that was also tricky because now there's like

significant like management involved and I mean we have probably fifty people you

know on payroll and so going from
ten to fifty has been a challenge

00:24:34.740 --> 00:24:39.660
da lot of those challenges require us to
build more. Like business software for us

00:24:39.670 --> 00:24:43.980
to help manage people because we can’t
afford to higher levels and levels of

00:24:43.990 --> 00:24:48.430
managers like it has to be sort
of automated but luckily like I’m

00:24:48.440 --> 00:24:52.520
a coder and so in addition to running the
company I also feel it’s offer to run the

00:24:52.530 --> 00:24:53.430
company for me.

00:25:04.920 --> 00:25:11.750
So my uncle teaches a high school
in Santa Barbara uses Minecraft is

00:25:11.800 --> 00:25:18.300
a way just students to do kind of
research you know saw it is that the

00:25:18.310 --> 00:25:21.000
reason you chose Minecraft
was because it was such

00:25:21.020 --> 00:25:27.490
a simple but for the you’re able
to get kindergarteners.

00:25:28.610 --> 00:25:33.890
I guess our our direct motivation was
just the market appeared to want it like
00:25:33.900 --> 00:25:38.690
actually we started out just teaching I
don't even remember what it is like it was

00:25:38.860 --> 00:25:43.240
started out teaching robotics and people
would come in and we'd ask them Do you

00:25:43.250 --> 00:25:45.620
like what you're doing or you want to
learn anything else and people just kept

00:25:45.630 --> 00:25:48.240
saying oh my craft I want
to learn minecraft

00:25:48.250 --> 00:25:52.540
a rifle which probably figure out what is
Minecraft and figure out what's Minecraft

00:25:52.550 --> 00:25:59.440
and how to code Minecraft some tools to
help people my craft better so we didn't

00:25:59.450 --> 00:26:05.370
choose it specifically because it's
appropriate like approachable for kids but

00:26:05.410 --> 00:26:10.100
because it's approachable for kids is why
it's popular and we started providing it

00:26:10.110 --> 00:26:16.560
because it's popular it's three in the
behind of hours and hours and yeah OK Same

00:26:16.570 --> 00:26:22.960
here I can't explain what
you're having them code within the game
Yeah yeah so we have been coding mods which is like an extension to the game for

example the way my craft has

a certain like set of creatures that are in the game like pigs and cows and sheep

in rivers and endermen and through Mods you can add new ones that weren't there

that the designers didn't put in you can put and so you just kind of

customizing it for yourself and your friends.

as well skills your teaching the kids.
And I don't have any skills

his kids go oh. Yeah so there's this kind of list of like well. What skills are you teaching

accepted like introductory concepts it's Examples might be like. IF statements

statements that's like
a logical if like if this is true do this
but it's not to this other thing. There

00:27:19.940 --> 00:27:24.910
is loops where it's like run this bit of
code but then loop back and run it again

00:27:24.920 --> 00:27:27.260
and look back. And run again in
the back and run again so that's

00:27:27.270 --> 00:27:33.460
a common structure in any coding no
matter what you're doing. Functions like

00:27:33.660 --> 00:27:39.270
mathematical functions like this these two
inputs come in and then this other input

00:27:39.310 --> 00:27:40.080
comes out that's

00:27:40.090 --> 00:27:45.490
a very core concepts in math but also
absolutely of course concepts and coding as

00:27:45.500 --> 00:27:49.740
well there's just three examples of like
introductory concepts we teach it to the

00:27:49.750 --> 00:27:53.110
kids and we teach it over and over and over
to the kids it's not like something you

00:27:53.120 --> 00:27:56.230
just teach once and they get it
like you have to really it's like

00:27:56.240 --> 00:28:02.200
a language where like let's just pretend
it's Spanish like I can teach you like you

00:28:02.210 --> 00:28:08.330
know ten Spanish words an immense grammar
but one lesson is not enough like you

00:28:08.340 --> 00:28:12.320
have to not just know it like you have to
internalize it or it's like repeating it

00:28:12.760 --> 00:28:16.760
over and the reason is you know if you give
them verses Exactly exactly so there's

00:28:16.770 --> 00:28:20.740
a level of mastery we're trying to get
people to and it's the repeated exposure to

00:28:20.810 --> 00:28:25.770
d this or more concepts. Just want more of.

00:28:28.080 --> 00:28:32.600
You think. Your business idea is.

00:28:35.130 --> 00:28:38.460
Your Business. What are
your a philosophy major.

00:28:41.830 --> 00:28:44.250
thats a good question

00:28:44.260 --> 00:28:48.700
a good question I don't know I haven't
thought about that so my in my school was

00:28:49.430 --> 00:28:49.830
maybe

00:28:49.840 --> 00:28:54.490
a little unique there's sort of two kind
two major branches of philosophy there's

the there's what's called analytical
philosophy was which is by far the most like

popular and most most most taught and most
practiced form of philosophy and then

there's that minority which is continental
philosophy which is actually what I did

in continental philosophy focuses on and
different philosophers but also has

a much stronger in emphasis on.
Social change and social critique.

It's where you would find like like
feminist theory and clear theory and

Marxist theory so picking
one particular philosopher for is

a little hard and so maybe about it but.
Yeah just like you're being critical about

that. In critical about the world but
honestly not so critical that all you do is

criticize
a lot of philosopher friends who that's all they do is like find stuff wrong with everything and that's fine I think you should add on to that as on some actual action like change something that you're criticizing not them just going on hiring. Programmers for many years.

I just guess you know you have a huge extensive background in computer science how do you think the future is going to kind of develop with computer science from what we have right now and are do you think that the shaping of these kids now they'll be have the innovators and of this new future I think so so what I'd love to see is everyone knows I would love to see a world where everyone knows computer science
and sort of if you think through what

00:30:35.560 --> 00:30:39.410
that means that means there’s not necessarily going to be like

00:30:39.420 --> 00:30:44.300
a software industry you might not even have software engineering work coding as

00:30:44.310 --> 00:30:47.630
a job title anymore or just same way you like you don’t have like

00:30:47.970 --> 00:30:52.050
a professional reader or writer as

00:30:52.060 --> 00:30:55.130
a job title because it’s expected that everyone knows it and you’re going to use it

00:30:55.140 --> 00:31:01.410
in any job so that’s kind of the main thing I’d love to see that hopefully in my

00:31:01.420 --> 00:31:06.290
lifetime is some critical mass of people who understand basic coding as

00:31:06.300 --> 00:31:13.120
a literacy alongside reading math and writing science such that maybe

00:31:13.130 --> 00:31:13.590
there’s not

00:31:13.600 --> 00:31:19.970
a coding industry anymore but but. Although there’s not an industry for it there’s
much more code being produced much more
technology innovation happening it's just

organically across all fields. If you do
the political side of trying to have

are you an advocate on the political side fighting for computer science in school

a new computer program is
like. From a young age

a real class not to call it in our schools
if you don't think I would love to

see it no I haven't like sought out avenues
to do that other than just advocating

to people that it ought to happen but
really you have to get there you know these

are people talking and they're
just not right. But I am

said tomorrow I'm going to the Computer
Science Teachers Association here in San

Diego is going to meet people who are
teaching computer science or the passionate
about it some of the people in school so yes I'm interested in mathematics as I

mentioned earlier is

a frustratingly slow to deal with the school system it just takes forever for them

to change it is

a big change you're right and then school system since I'm not adopt

a big change on lots of you from. And this was

a little bit off topic but I just wanted to hear your opinion with everything going

on in the trump administration he's kind of been very lax and I've been taking off

a lot of regulations one of them being like Internet regulations what in yo

opinion how does that affect everyone because I personally used to have

a huge computer background and I don't quite understand what was happening if I was
hoping maybe you did and if you don't know words yeah that's it's hard to know.

Both sides of that issue have their life story of what bad thing might happen. So what bad thing might happen to us if it has not happened and they're all might not but it might be the case that now you know. It's harder like maybe one of our competitors starts paying more money and so our customers are able to access their website faster than our website and so we would have to pay more money so that just is not a money war right now it's not that way that's just the way what people that's I'm just giving that as an example what can bad thing people say might happen but I will also say that hasn't happened I don't I personally don't believe that it will come
so so you don't think he's really done anything to affect the like Internet world

terribly not yet as it very well could be wrong about that I am

a supporter of net neutrality and wish that that wasn't deregulated but I'm also

not of like I'm doing prior and in the sense that I think that it's going to

immediately cause things to you know blow up it hasn't for us but I again time will

tell I don't know yet this is

im curious to be honest

so to take it back to minecraft

So if we can take it back to Minecraft. So you might be facing one potential issue because of the market might not even support

the software the Microsoft might offer. So if thats the case then you might have to go to the console

that gets away from computers, so are you taking any steps to deal with this
situation. Some Yeah I'll back up

a little bit in that we. We started

a few months maybe four months before

Minecraft was acquired by Microsoft and we

were

a little worried then because we had just

started developing software arounds modding

Minecraft one of our products is learned
to mod which is online environment from

ADI Minecraft and so we weren't sure if they were going to shut it down, I don't know.

And generally speaking they just haven't
cared honestly they haven't shut us or

anyone else down. Because we had

a lot of people that like to MOD

Yeah definitely and I mean my kids have
come to our class and they don't have
Minecraft they have to go buy Minecraft. Have you contacted Minecraft for a possible collaboration?
Yeah actually we have

00:35:36.010 --> 00:35:40.410
a sort of loose partnership or early on
with with Microsoft in which we are

00:35:40.420 --> 00:35:44.940
helping to teach with Minecraft and
it was a lot of fun, we got to meet

00:35:44.950 --> 00:35:49.780
a lot of the key players in Microsoft who
are dealing with Minecraft that we do

00:35:50.040 --> 00:35:53.830
kind of know them like we have occasionally
shot them an email, saying " can we even do this,

00:35:53.840 --> 00:35:59.560
is it OK?" They've always been friendly about it so so I'm not

00:35:59.570 --> 00:36:04.330
worried but there is in terms of taking
steps just just in case yes there is

00:36:04.340 --> 00:36:10.640
a there's an open source version version
of an open source like Im Clone let's say

00:36:10.650 --> 00:36:17.400
a clone of my Minecraft called mine test which
is honestly very similar looking in

00:36:17.410 --> 00:36:22.580
terms of gameplay and and so if it became
the case that they said you cannot

00:36:22.590 --> 00:36:27.430
use Minecraft in an educational setting we
would just pivot it to use Mine test and

00:36:27.520 --> 00:36:32.060
the kids would be just as happy honestly
we piloted it with kids and kids like it

00:36:32.070 --> 00:36:37.670
just so much and it's become something it's
more. So well what would become of the

00:36:37.670 --> 00:36:44.410
. Children's interests in Minecraft if it
actually declined? Yeah. That's

00:36:44.420 --> 00:36:46.650
interesting I mean it is... I mean we have seen

00:36:46.660 --> 00:36:51.270
a small decline honestly and so we just
fill in with whatever the market does want

00:36:51.280 --> 00:36:56.070
like some do continually try to get marketing
feedback and see what it is that kids are

00:36:56.080 --> 00:37:02.800
excited about learning and try to
teach that. You know. Minecraft

00:37:02.810 --> 00:37:09.810
is one mode-able game, there are others
roadblocks for example. I just

00:37:09.820 --> 00:37:13.910
found out the other day about Fortnite
apparently it's was very popular at the

00:37:14.820 --> 00:37:21.350
time so Fortnite coding maybe maybe we'll start
teaching. Maybe children shouldnt use Fortnite yet. Maybe you're right
00:37:21.830 --> 00:37:26.960
I haven't played it yet but that's good
to know. Yes OK I mean games is the theme

00:37:26.970 --> 00:37:33.720
so maybe it doesn't have to be Minecraft, it's whatever
games kids want to learn more than.

00:37:33.900 --> 00:37:35.000
I have a question about your market with children.

00:37:35.010 --> 00:37:42.000
I was wondering where you inspiration came from? Im wondering if it was maybe from your mother
teaching you from such a young age, or....

00:37:42.010 --> 00:37:47.050
So, I am curious about why children?

00:37:52.940 --> 00:37:57.730
I think we didn't like, well clearly think it all through. You know

00:37:57.740 --> 00:38:01.950
it came down to us wanting to start computer
science education company, and then we asked whether we should we teach

00:38:01.960 --> 00:38:06.930
kids or should we teach adults because
we just started out tutoring kids and we were like well

00:38:06.940 --> 00:38:10.320
who wants to be tutored? And we realized that kids
want to be tutored, so we will tutor kids and so

00:38:10.330 --> 00:38:15.090
it was a tutoring business to start with and
so then we just kind of maintained that

00:38:15.100 --> 00:38:22.060
focus on teaching teaching young people.
Until actually like early two thousand and

00:38:22.070 --> 00:38:29.040
seventeen we started. Kind of
offering the free coding boot camp

00:38:29.050 --> 00:38:33.990
for adults I don’t know if you are
familiar with coding camps but there are

00:38:34.100 --> 00:38:40.800
generally six to ten to twelve week programs
that are like intensive coding

00:38:40.810 --> 00:38:44.670
education boot camps for adults and they’re
designed to help people switch careers

00:38:44.710 --> 00:38:46.080
since computer science such

00:38:46.090 --> 00:38:50.940
a hot career maybe even if you majored in
philosophy for example and your ready to get

00:38:50.950 --> 00:38:52.320
out and I can’t get a job as

00:38:52.330 --> 00:38:55.790
a philosopher. Well, what else can I do? Well in
twelve weeks like that maybe you have

00:38:55.800 --> 00:39:00.250
a job as a programmer so these do exist but they carry like

00:39:00.260 --> 00:39:05.590
a pretty hefty price tag and it’s can be
up to you over ten thousand dollars for

00:39:05.600 --> 00:39:06.370
example if you got

00:39:06.380 --> 00:39:13.020
that to shell out. So we decided to try to just

00:39:13.030 --> 00:39:19.420
teach that for free since and in

00:39:19.430 --> 00:39:23.790
exchange they would teach kids in our
classes as well. And that sort of morphed

00:39:23.800 --> 00:39:28.590
into what is now our general employee training program so anyone who

00:39:28.600 --> 00:39:33.920
wants to. So it’s actually better than free because

00:39:33.930 --> 00:39:34.430
now if you want to learn how to code we

00:39:34.480 --> 00:39:41.340
will pay you to teach kids in the train you

00:39:33.900 --> 00:39:34.430
over the course of many many weeks and

00:39:34.480 --> 00:39:41.340
your gain

00:39:41.350 --> 00:39:48.240
a lot of those skills as well.

00:39:48.250 --> 00:39:53.350
So. With. Computer programming

00:39:48.250 --> 00:39:53.350
not being super popular How do you market

00:39:48.250 --> 00:39:53.350
ThoughStem to get parents to get parents involved so that they

00:39:53.360 --> 00:39:54.980
want their kids to get a background in coding? You know we’re

00:39:54.990 --> 00:40:01.850
a little lucky in that there’s there’s

00:39:48.250 --> 00:39:53.350
a big nationwide push to have people learn
to code so even

though it’s not like taught in
schools there are organizations that are

lobbying for it saying it needs to be, code.org
for example is one of the top kind of

advocating organizations for cutting
education and so. Parents know about it like

Well most don’t have to convince people
that coding is the future because they’ve

heard of enough from other people. We’re
lucky in that regard. And really we have a big

each enough existing customer base in that we don’t have to sell to people why coding is

important. So are there other competitors
doing kind of the same thing are you guys

are doing?. No no I mean definitely
their competitors. Okay so what

differentiates your company from theirs?
It’s hard to

know for sure like I have definitely
research competitors but it’s hard
to understand the inside of their organization, like know exactly what's going on

but from the product side, I think that our classes are more fun sort of more tightly run.

So do you use a game type of strategy? Not that I know of, plus there no reason that they couldn't. So you know it's a secret Yeah but I think that my philosophy is don't you shouldn't just have one secret sauce we have like we have a lot of little things that add up to what I think is really strong progam

Okay, so there is no secret sauce to ThoughStem then?

No not really, I mean i feel like we have a really good employee training program, like train people really well and so when the kids get into class they connect with their teacher and their teacher seems knowlegeable so they're also immersed in this like kind of game five curriculum and
they’re also coding

da game that they are excited about just
some examples so they all kind of come
together to make something that I believe
like cohesive and I would like to say

better than our competitors but.
Well OK so maybe for the final question

so Since you mentioned earlier that you arent money driven

do you feel that that influence your business, and what i would call a Social Business?

so I’m curious that not being money driven really helps

you being socially driven? So I am wondering what that process not being

a for-profit business looks like? Yeah
I mean I guess so, because

if I were personally motivated by
getting rich I’m sure I would run it in

a different way make decisions like any time i’ve been given

a decision of like such should
I make more money or have

00:42:38.620 --> 00:42:43.930
a greater impact I’m sure I would pick
the make more money option and that over

00:42:43.940 --> 00:42:45.080
time would have created

00:42:45.090 --> 00:42:49.220
a very different business but instead would
make the other decision you generally

00:42:49.430 --> 00:42:54.190
definitely try to make sure that we're
making money and staying sustainable but but

00:42:54.870 --> 00:42:58.040
given the choice generally
we take what’s going to have

00:42:58.050 --> 00:43:04.280
a bigger impact what will reach more people.
You know but it's hard to know what

00:43:04.290 --> 00:43:08.560
the alternative universe where if I was
money driven what the company looks like I

00:43:08.570 --> 00:43:13.340
don't know and I’m sure it would be
different. Do you think being in Saudi Arabia

00:43:13.490 --> 00:43:14.780
kind of impacted you a lot like that money driven things

00:43:14.790 --> 00:43:19.660
because I know that there is just so much ridiculous money there so kind

00:43:19.670 --> 00:43:21.060
of maybe you've overwhelmed you as

00:43:21.070 --> 00:43:25.330
a child maybe I don't know I'm just picking up things because I'm very interested.

00:43:25.340 --> 00:43:31.460
That is an interesting hypothesis I'm not sure. I mean my parents are not super rich so I don't.. I mean you're right there's a lot of money in Saudi Arabia but I don't think I internalize that at that age. And

00:43:31.500 --> 00:43:33.310
say you know maybe I don't know you are you know I don't know or you know

00:43:33.320 --> 00:43:39.810
sometimes it's hard to like tell

00:43:39.820 --> 00:43:44.390
a story about why how you ended up the way you are and I can make guesses it's a good guess, haha i dont know. Great, well are there any other questions?

00:43:44.400 --> 00:43:50.210
nope, we are good to go. Great, well thank you so much then.

— End of Transcription —