

Cybersecurity 313 Podcast no.19

Shaun Cavanaugh



Episode no.19

A

Announcer 00:01

This is the Detroit Mercy Cybersecurity 313 podcast.

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Tamara Shoemaker 00:07

Hello, my name is Tamara Shoemaker, and I'm the director of the Center for Cyber Security and Intelligence Studies at the University of Detroit Mercy. And I'm excited to get caught up with our wonderful alumnus, Shaun Cavanaugh. First, I need to tell you a little bit about Shawn. He's currently the CISO for the National Park Service. He's living in Manassas, Virginia with his brilliant wife Katie. And their amazing daughter, Charlotte, and I can't forget eggs, their dog who's amazingly cute as well. I wanted to let you know how proud we are of you. You're such a self made man. And you've taken what you had. And you've made such an amazing career out of this, because before being the CSIO for our national parks, you were also the Cyber Branch Chief, the United States nuclear command and control, holy smokes. And then you're in the US European command, J6, and I'll let you explain what that means. And then finally, you're at the US TACOM, and you were there with a couple of different positions at TACOM. And that's where we met was when you were at TACOM, and you were just finishing up school, and Dan became your mentor, and we get to know you. And it's been an amazing ride to watch your

trajectory go just go far beyond anything we could have imagined. So now you find yourself as the chief information security officer with the National Parks, what would you say people normally would think of what that job entails that is highly technical and very heavy computer usage. Shaun, can you tell us a little bit about what your job really looks like?

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Shaun Cavanaugh 01:35

Yeah, sure. It's definitely not all technical all the time. A lot of it is kind of like stuff that I've done in my other positions. It's about being a leader. And now it's a lot more about managing people and teams. In this job. It was the first one that I had, where I was actually designated as a supervisor and manager of teams. And that took a little getting used to it's been about four years now. So I'm feeling a little more used to it. But I still new things that come along with that every day. Yeah really just building relationships every day, talking to new people, you know, there's 22,000 employees out there for us to potentially speak with, but there's a core group of people that we need to always be engaged with, you know, purchasing, acquisition, you know, all that sort of stuff that really has more to do with being on the phone or being on an instant messenger app.

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Tamara Shoemaker 02:25

And that's more business type things, right? So the whole operation of the forestry all the things that it touches, right, rather than just firewalls.

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Shaun Cavanaugh 02:35

And you know, it doesn't really matter whether or not I know how to set something up or code something, you know, that's why I used to hear about... lead team, they have people do that for them. I ever saw them, you know, what do you do?

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Tamara Shoemaker 02:48

Right, right. But the cool thing about you is that you started out down there, and you were doing it. So it's not like you're, like Dan talks about all the time in the comments, the appointed heavy boss, who doesn't have a hot, red clue about any of that stuff. So you actually started down there. And then when you were in TACOM you are down in the machine, they're taking care of stuff, right?

- S** Shaun Cavanaugh 03:07
Yeah, yeah, that is a nice thing. But I liked it just as a personal hobby, I found all that stuff interesting. So I do have some of that background. But I could see more now, like, if you're a good leader, you can potentially do this job and do it pretty well. But it is good at times when we get security incidents to come in to be able to understand what the technical people are talking about. And that can lead to surprising questions if they're expecting you not to know about that stuff. So it's good for me.
- T** Tamara Shoemaker 03:34
Right? So you know, what can happen? And what can happen and those kinds of things. And so nobody can kind of pull over your eyes and say, you know, what, we just can't do that, you know, that can't happen. And you're like, no, that really needs to be secure. And this is why.
- S** Shaun Cavanaugh 03:47
Yeah, and you can keep asking the question why? And a lot of times you find out that they just haven't tried hard enough yet.
- T** Tamara Shoemaker 03:54
Right? It's scary. We don't know how to do that. That's why and you're like, but the bad guys is still going to try to get in. So we really need to keep focusing on that.
- S** Shaun Cavanaugh 04:03
Yeah, I mean, there's so much stuff that you have to just prioritize and make a note that there's stuff out there that we have to look at in the future. But right now we have to focus on fancy Windows systems or something that's a little more basic.
- T** Tamara Shoemaker 04:18
So you started out working in the military when you were doing all that good stuff. And when you were student with us, and then you went through a couple of military jobs, and now you're with the interior. So how is that different between the DOD (Department of Defence), or working for someone like the forestry service, completely different kinds of thing?

S**Shaun Cavanaugh 04:33**

Yeah, with DOD. The stuff that I did, you covered a little bit there, but I worked to take a Warren, Michigan and of course, I worked in the G6, which covers, for people that don't know, it's their corporate information office. It's really the people that manage all the computers, everything. And then later on, I worked on their G2, which was intelligence and security, and they work pretty much in hand with the two offices. But I've had a lot of unique jobs. Overall, this job that I have now is kind of the most like normal job. Because like when I was gonna take, one of the things that I did is helping secure a supercomputer. But prior to that, I'd only read about or seen pictures of, you know, magazines and online. But for two years, I was sitting in this pretty cold room with fans running constantly in two giant supercomputers in the other room plugging away 24-7. And then when I went to Germany to work with us European command, that was for a cyber engagement officer job, which really focused on just building relationships, and helping other countries build up their cyber capacity to be able to work better with us. And I finally happened in the future, we'd have relationships established, then friendships with the two countries militaries. And I did that for three and a half years throughout the Baltics, the Nordics in Central Europe.

T**Tamara Shoemaker 06:09**

That's pretty exciting, wasn't it, though, I mean, you guys, cyber exercises and meet a lot of like you said, all kinds of different countries and travel and, you know.

S**Shaun Cavanaugh 06:18**

...People I still keep in touch with. Yeah, that's even when I was in, and I knew I'd probably never get another job like that. And it was a special thing, especially with the people in our office, even we all got along really well. And we still talk and now it's been six or seven years later, or still send messages back and forth. And then from that job with still going with the military, I took a job right outside of DC, with the US Nuclear Command Control Systems support staff. I don't think I've ever said that I'm not smiling because it's just one name. But that was another job because I dealt with cyber staff in securing things. But it was focused on the command and control system that controls our nuclear arsenal, from the point of the president hitting a button all the way to things going on. But fortunately, we dealt with the issue of commands back and forth and things like satellites and stuff that's not on the regular internet that I never really thought about prior to that job. But it was really interesting learning all about that. And learning about this other world that too many people are aware of or may even care about, but learning the importance of it was interesting. And so out of all that then for a while as just applying for jobs, it see and not really knowing if I hear about him, but randomly one day, I heard from the National Park

Service that one of the jobs that I applied for, they wanted to interview me. And so I went there and did that and got through everything, and thankfully offered the job and took a promotion. And the only thing different was it was in Department of Interior and that with Department of Defense. And so I really didn't know what to expect since I started there. And I've never worked outside of there. And basically what I said at the beginning that this is about being a leader, and now it's a lot more about managing people in teams. And this job, it was the first one that I had where I was actually designated as a supervisor and manager of teams. And let's take a little getting used to it's been about four years now. So I'm feeling a little more used to it. But I still new things that come along with that every day. Yeah, really just building relationships every day talking to new people, you know, there's 22,000 employees out there for us to potentially speak with, but there's a core group of people that we need to always be engaged with, you know, purchasing, acquisition, you know, all that sort of stuff that really has more to do with being on the phone or being on a it's the messenger app.



Tamara Shoemaker 08:49

That's more business type things, right. So the whole operation of forestry, all the things that it touches, right, rather than just firewalls. This is life and death kind of situations, right? This isn't just, hey, our company's gonna look bad in the press. This is really important work. And so you've been doing that for years. And now with the forestry service, and they're just has a different connotation to it, even just for me, but because they rocketed you up because of your past because of your experiences, they put you as the CSIO. So you got the job as CSIO. So now that you're not knee deep, and all that kind of lovely stuff, the technician technical stuff, and all that stuff. Now you're working people to make sure they are taking care of all the things that need to take care of. And again, that's one of the things I think people don't understand. And we talked about it on this show a lot about how cyber isn't just about the ones and zeros. It's not just about firewalls. There's so many other pieces in parts and humans are the most important part. Because I mean, I think even in your military history, you knew the thing that was nice about military was people had to follow rules had to follow orders, right? billion space, they start going well, I think I might know better. And maybe he's appointed a boss, and he doesn't really know what's going on or whatever. So we fight culture a lot, right in regular business. And I think that now you're in that space is quite a bit different than the whole. We just follow rules, because someone told us to, and we're going to because we're military.



Shaun Cavanaugh 10:13

Yeah. Glad you pointed that out, because that's the thing that I missed initially, and I still do I miss the most for the Park Service, there was no military structure. And I took it for

granted that that's just how things were, you know, people above you, you called in a Mr. And Mrs. And stern attention when they enter the room. And then I come over to here, and it's just completely different.

T Tamara Shoemaker 10:35
More laid back Probably,

S Shaun Cavanaugh 10:37
Yeah. And I'd say less than negative in the military, I kind of like that, because he knew he didn't want to do and where things were coming from. But yeah, it's completely different the structures and having people that you rely on that are out there that aren't necessarily under your supervision or control, then you really have to work with them to kind of get them on your side and get them to do what you want to do. And now in this job, I'm closer to the upper leadership of the National Park Service. So I get to see and get a better idea of what me and my team and the rest of the CIO does, and how it affects the Park Service and affects them. And if we're slowing something, or if we have some security incident, we're gonna have to roll out some patch or something that can affect the rest of the Park Service, when we're not necessarily always thinking of this. It's been different than still interesting. And so we're gonna go on,

T Tamara Shoemaker 11:28
and it is still part of the federal government service, correct? Yeah, yes. And so you guys have budget concerns and regulation concerns, just like any other federal government would have? Correct?

S Shaun Cavanaugh 11:40
Yeah, there's DOD over here. And then Department of Interior, and then we're just up here around within the Department of Interior. But we are the largest, I think 22,000 or 23,000 government employees, and many contractors, and then we also have, I think the last time I saw was 300,000 or 400,000 volunteers. So people that just love the Park Service and want to do stuff at parks throughout the US. And we have a lot of stuff in it now before I started, but there's over 400 different sites throughout the US.

T Tamara Shoemaker 12:14
So it's not just you somebody and in the Grand Canyon. Hmm. No. What's that mean? You

already quoted how many tons of employees you have. So you have all their info that you have to keep private and under control. And then you have all of these parks and sites where people are exchanging money and doing all kinds of stuff there, too. So it's a pretty big real estate in the United States, correct. I mean, our national parks, yeah,

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Shaun Cavanaugh 12:39

that's a very good point with my position. Now it's cyber security and privacy office. So they've kind of broken out the two, since they're too complicated things to do. In the privacy one has just been, from my point of view, it's kind of growing like the cyber security one did 1520 years ago. Seems like every day, there's something new coming on with privacy, and they both have to work together. But we have a lot of different information out there that we want to protect from either leaving NPS or it's the public's giving it to us protecting it, so that we can be seen as good stewards of their information without just letting it go anywhere.

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Tamara Shoemaker 13:17

Right. And that's one of those things that people don't think about, right? You know, they give away their information all the time. Right. But they wanted a card over one of the drugstores in order to get discounts are giving that information away for free. But you know, heaven forbid, should accompany have an exploit and that same information is given out then there's the pay, right? And everybody wants to somebody's head, and we don't want it to be Shaun's. So is it quite a bit different than what you expected? Then obviously, when you came on board, four years have already gone by I can't hardly believe how fast time is moving? Yes. Yeah, yeah. So you thought it was going to be a lot more technical, and it ended up being a lot more about relationships and managing people?

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Shaun Cavanaugh 13:59

Yes, I wasn't really sure what to expect from the managing of people, being a supervisor and all that. And honestly, that was the part of job I was most nervous about. Because, you know, as soon as you work with good people, sometimes you work with more difficult people. And I really lucked out with the people that were on my team and they were supportive from day one. And it made it easy, even if there's still a lot of work that needs to go on with that and just keeping up with everybody.

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Tamara Shoemaker 14:25

And well people are like that, right? People change and situations change and tempers flare and Dan Dan, and one of the things that's really important about your kind of a job, all of our folks that are in cybersecurity is that you keep level headed, right? And then keep an even tempered. It's one of those things we don't think about when we think about you know, in the schools, they talk about, oh, you need to high math and you need coding and you need all this other kind of stuff that they say But what they don't say is you need people skills and you need leadership and you need a cool head. I think that that's number one cool head right? In an emergency. There may be people running around screaming, but Shaun would be the quiet one. There. Figuring out okay, what do we need to do?

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Shaun Cavanaugh 15:03

Yeah, thanks. I can remember my boss from when I worked at TACOM, we were going through something and he was getting real nervous and just kind of stressed out. And he said, You know, I'm not sure if I should be worried about you, or, you know, you don't seem nervous are worked out all about this novel, we'll get through it. And I might be nervous in my head or things spinning around out there. But I'm not showing it to everybody...

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Tamara Shoemaker 15:29

More times than not. And I know with you, you're thinking about things that you need to get done, rather than the what ifs? Yeah, you know, I mean, it's like, there's a dam is breaking, and there's a bunch of holes, and I'm going to either just run around and scream, or I'm going to start putting my fingers in a hole, and getting everybody else to do that, too. So this thing doesn't collapse on me. But again, you keep it nice and controlled, rather than Oh, right. And screaming at people to you know, do stuff.

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Shaun Cavanaugh 15:54

Well, yeah. I mean, if my boss didn't see me, that'd be a little worried.

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Tamara Shoemaker 15:58

Right? Because that only makes things worse. Absolutely. And the thing is, is I like and you guys do that quality, I think that people need in this kind of a job is an awful lot like with firemen and police and whatever. Rather than panic. firemen are rushing into buildings that people are running out of screaming out, right. But in order for them to do their job, they have to be able to kind of compartmentalize all that stuff, and get the job done in order to save the people. And that's what you guys do to say, Okay, one step at a time.

How do we fix this?



Shaun Cavanaugh 16:25

Well, yeah, what do we need to do first, and then just keep moving on from there, and eventually, I'll get a little bit better.



Tamara Shoemaker 16:33

Well, we've always admired those abilities in our students to be able to do those kinds of things in your trajectory has just been amazing. And we're real proud of you and Katie, and the voice that you guys have built. It's been fun to be the cause I grandparents on the sidelines here rooting for Yeah.



Shaun Cavanaugh 16:50

It's been 17 years now since I met you guys.



Tamara Shoemaker 16:53

Yeah, yeah. It's amazing. It's amazing. Time flies when you're having fun.



Shaun Cavanaugh 16:57

And we're actually met Dan, after I graduated. And he funny. Yeah, yeah, that's some dinner that it's I almost didn't even go to it. Because just because it was. I think, in fact, I didn't have a car at the time to pick me up from this job that I had. And we drove way across town. And he seemed nice and keep a contact with him.



Tamara Shoemaker 17:18

And that was really cool. Because I mean, he just loves to mentor folks. Right. And so that's the important part. And so you were at TACOM already, but you are retooling and you are getting some degree behind you so that you could do better at what you were doing and that kind of stuff.



Shaun Cavanaugh 17:29

Actually, I met him before. Take him.

T Tamara Shoemaker 17:31
Oh, did you? ... okay.

S Shaun Cavanaugh 17:34
Yes, that was even before now. Is it a job that I had right out of college? It really didn't have anything to do with ... remember?

T Tamara Shoemaker 17:41
That's right. That's right. I was pleased with it. But I think, Well, you know, we pay the bills. Yeah. You do what you got to do? No. And I remember he was impressive to you right away, as he has many of the folks that he takes under his wing and become mentor too. And so it was exciting to watch all that. And then you graduated, you did your stint at TACOM, and then you went off to the EU comm. And then you got the graduate degree through National Defense University and through us. But again, that was one of those things where you were taken advantage of being a federal employee, and some of the benefits that you had, because I know you were also getting certifications and stuff all over at TACOM and all that kind of good stuff, too. So you definitely use the system to help you get where you are today.

S Shaun Cavanaugh 18:24
Yeah, that was one of the requirements to get that job that you found is yet to have a CISSP certification. So I got that around that time. And then, when I was still at AIG, I started National Defense University taking classes and, you know, it's we're free for DOD, military and government employees. So I started there and continue to take them while I was at UConn. And I took a little bit of a break. And then I was talking to Dan one day, and he was suggesting, you know, you only have a couple more classes to go to really wrap it up. And luckily, I did, because then it was free classes when I checked transferred over to Detroit Mercy, and I was able to graduate with a full degree. And I was gonna mention that earlier with the Park Service. That's one of the things that stood out in the interview that I had was, my boss said that he really liked the level of education I had and all the certifications and degrees and everything. So it definitely did pay off for me, because you kind of hear people talking about college, and it may or may not be worth the cost or the time, but luckily for me, it definitely was made lifelong friends and whatever the cost was, it was definitely worth it and paid off for me.

T Tamara Shoemaker 19:37

Good. I think the other part about the up's and the peace at the master's degree, but ours is that we are creating leaders, right? We aren't creating helpdesk, folks. They do a real great job at the community college level, doing a really highly technical stuff for the folks that really want to stay down in the machine. But what we're trying to do is after you've got all that knowledge and some of that experience, we then kind of help you to see all the leadership ability things that you're going to need, and you may not have used them right away, but they paid off at the end.

S Shaun Cavanaugh 20:05

Yeah, that's how I was were a lot of the stuff. I found that interesting, you know, learning about leadership and magic and all that stuff. But I wasn't able to use it right away. And I didn't really see how soon it was going to come in. But now I'm starting to see how it's transferable. And you know, if you can leave this team, then you can probably do a halfway decent job leading some other team. Absolutely. If you needed to, which was a nice feeling.

T Tamara Shoemaker 20:27

Well, I mean, I think at the end of the day, you've shown that you're a life learner as well. That's I think another thing that's really important in this piece, because nothing's standing still, right? Yeah, you have to kind of always be adding your knowledge and doing more just to sort of make sure your brain is all engaged, and everything is all working and staying up with stuff, right? You don't want those young punks to be able to uncover you, or whatever, when you're, yeah, you're in those meetings.

S Shaun Cavanaugh 20:51

Yeah, definitely, you don't have that in my type of position, you have to stay up to date on what's going on, and new technologies, and you don't have to be an expert, but just have a basic understanding of what's going on with them.

T Tamara Shoemaker 21:03

So there's an awful lot of things that go into working with the National Park Service, as I know that our last board of advisors meeting, some of the guys looked up your website, and they were like, I can't believe that's a government website, this thing is rockin, there's an awful lot of stuff that goes into, you know, we just think of things is just the we're going to go backpacking and have a vacation. And things just have to happen automatically

behind the scenes. And there's nothing to do with security, and there's nothing going on there. But I forget how many you said a lot of websites, you have a lot of parks, so you have a lot of stuff. It's interactive, all that stuff.

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Shaun Cavanaugh 21:36

Yeah, a lot of them, they'll use the I don't know if this time I wasn't coming to me when I started a bit, they do this interpretation, telling stories of the park. And the reason why the park is even there. And, you know, sometimes they'll use things like for the bigger ones, you know, big multimedia displays, different it type of devices that are exposed to the public and showing them all types of interesting stuff. But I think what people forget is like in this job, it's not just not just our internal MPLS network that we're worried about. And we're also working on everything on the outside to, because it'd be embarrassing, if something happened to that stuff,

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Tamara Shoemaker 22:17

We probably don't have it off the top of your head. But I have to say that you must have a ton of visitors to these parks. And so all those folks are interacting with all that stuff. I mean, I know what my grandson's busy little hands can do to a system. And you know, you have some interactive stuff on we've been on to the Grand Canyon and Yellowstone. And we've been to a car and a lot of the other things that have stuff that's going on, they have museums and they have other stuff that they've got that are like you say multimedia kind of stuff. And you don't want that stuff to suddenly be showing an inappropriate movie or something like, I don't know if you heard that down in Virginia or not. But here in Detroit, we had a couple of those digital billboards, on the highway, and they were showing explicit movies on those woopsie. And the reason was because the actual computer was in a little tiny shed, right on the premises right next to the Billboard. So someone's. And so Wow, that may get a whole new meaning to your commute home. So I mean, but you are dealing with families and kids. And

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Shaun Cavanaugh 23:22

that's the same thing. That's why we're concerned about that stuff, and tablets and different types of iPads and different devices where people can actually physically touch them. And the things that people really don't necessarily think about, you know, some of the parts where you have to pay to get in, will use these different point of sale systems. And that's another huge thing that we have to protect that data and also make sure it's available 100% of the time, so we don't get to my long car backups. In some areas, we offer public wifi. So we have to, you know, make sure that that is secure and people can

get what they want, but not have their devices harmed in some way that I even just throw out the parks, there's stuff that might seem over review, constantly. We're people are scientists, or have sensors that like check the temperature water daily, or the migration of birds or fish, you know, stuff that I never thought about before. But you know, these internet connected type of devices?

T Tamara Shoemaker 24:32

Well, like you said, conserving and preserving is part of it is well, not just giving us a place to go have a picnic.

S Shaun Cavanaugh 24:38

Yeah, kind of leaving it. I forget what the model is. But yeah, basically you have to leave it how you came in, you can't leave stuff or can't take stuff. And yeah, they're always doing stuff. And then of course, just the public websites themselves. You remember that from my last meeting. Somebody said that because I know the person that runs our nps.gov website. And we also have Another one is volunteer.gov, which is a really big website. And so that's another big difference between DOD. And what I do now is, you know, pretty much all of our information is public and publicly available already. So we're out there, we have multiple websites. And that's a big priority for us. Because if we had something like that three way incident happened to us that the very embarrassing,

T Tamara Shoemaker 25:24

Absolutely it would, it would be very embarrassing that when you bet. Well, I'm really, really happy that you were able to spend this time with me. And I have someone who's just joining now to say, Hello.

D Dan Shoemaker 25:34

How are you doing, buddy?

T Tamara Shoemaker 25:35

Dr. Shoemaker is joined...

D Dan Shoemaker 25:37

Yeah Dr. Shoemaker. That's me!



Tamara Shoemaker 25:39

He know we're gonna be online. And he wanted to say hello. So I truly appreciate your time today. And don't leave us right away. So you and Dan can visit for a second but I just wanted to thank you for your time as an alum, you have enriched our lives and obviously you're still out there protecting our infrastructure. We can keep our parks safe, and he can go ahead and recreate without having to worry about things because Chaun's in charge.



Shaun Cavanaugh 26:04

And hopefully, next time we're home, we can see you guys very step by the college.



Tamara Shoemaker 26:09

Absolutely. That'd be lovely to see you and your family. Thanks so much, Shaun.



Announcer 26:14

You've been listening to the Detroit Mercy Cybersecurity 313 podcast. If you would like more information on today's discussion, please contact center director Tamara Shoemaker and by emailing SHOEMATL@UDMERCY.EDU. And please plan to join us again for the next edition of the Detroit Mercy Cybersecurity 313 podcast.