

Sheri Rubin

Design Direct Deliver – Chicago, IL

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Cole Dammeier [CD]: Hi we're here with Sheri Rubin, she is the designer of Golden Tee and Big Buck Hunter for-- [Hesitates] Intelligent Systems.

Sheri Rubin [SR]: Incredible Technologies?

CD: Yeah-- [sighs]. I already messed up. It's okay. And High Voltage Software, and now she works for Design Direct Deliver.

SR: Yup.

CD: How are you today?

SR: Good, how are you?

CD: Do you have any questions – oh I'm good, I should answer your question first.

SR + Jacob Aynessazian [JA]: [Laughing]

CD: Do you have any questions before we begin?

SR: No, I think we'll just start off and we'll just kind of improv and see how it goes, and go from there.

CD: Okay, first question: Where are you from?

SR: I'm born and raised here in the Chicago area, southwest-southwest suburbs, like tornado-alley southwest suburbs. So Sox-side, but I live up on the north-ish side now but still out in the suburbs.

CD: What was your first job ever? Going way back.

SR: If you don't count stuff like babysitting, my first pay-job where I got a pay check was as a teller at a bank.

CD: Okay, that's interesting. What is your favorite game? Video game.

SR: Favorite video game--

CD: This is a tough one.

SR: It is, because there's classic games that I remember growing up, and then there's, you know, games

that I love that are more recent and all that stuff. But if I had to pick one-- man, I've been playing games too long. I would say, I'm gonna go with *Can't Stop*, which you may have never heard of. It's actually an analog game involving rolling dice and moving pegs up a board, so it's kind of like a dice-board-game and so I'm going to say that's my favorite.

CD: Okay, it sounds really interesting, I'm going to have to try it sometime. What roles have you played in your company now and in the past? Just kind of a brief overview.

SR: So I first got started in card games, collectible card games, like *Magic: The Gathering*, but it was actually for *Starwars* and *StarTrek*. So there I was mostly doing... as a tester, generally a beta-tester, internal play-tester. And I was also an ambassador, so I did demos at stores, I ran tournaments, that kind of stuff. And I competed competitively all the way to the world championship level in the *StarTrek* game. And then I moved into video games, specifically coin-op at Incredible Technologies [IT]. They first brought me in as a Q.A. [Quality Assurance] tester. And then I ended up becoming what they called a Product-Support Administrator, which is really just a fancy term for a Jill-of-all-trades. So I did legal support, I helped accounting at one point, I was still doing Q.A. testing, I was running their online tournaments, I was doing customer support, I was helping out with marketing. So I did a little bit of everything, including starting to help create the backend U.I. [User Interface] menus for Golden Tee, Big Buck Hunter, Silver Strike Bowling, a lot of those types of products.

CD: Yeah, that definitely does cover all the bases. [Laughs]

SR: [Laughs] Yeah.

CD: So we're going to go into a little bit about your business now, Design Direct Deliver.

SR: Okay.

CD: It's a consulting company right?

SR: Yes

CD: And how did you-- what made you decide to found this company?

SR: So I actually started off in video games at Incredible Technologies, and then after a layoff there I went to High Voltage Software where they brought me in as a designer and I ended up being a producer and the Corporate Communications Director, then there was another layoff there... and layoffs are unfortunately very common in the videogame industry, and I said "Well if things are going to be unstable, I want them to be on my terms not somebody else's. I'm tired of having to re-sign-up for 401K's and health care plans, and figure out where I'm at and deal with extra paychecks and all that stuff." So I said "I'm going to work from home, or at least I'll try to." So I just started doing client work on the side while I was job hunting, then I said well you know what, I'm just going to do this permanently and I just kind of created Design Direct Deliver, DDD, you know as a little freelance consultancy, and then I have other people that work with me. But it just kind of sprung out of not wanting to necessarily go through the turn of getting laid off, hunting for a job, getting a job, getting laid off.

CD: That could really get annoying.

SR: [Laughs]

CD: So you went to DeVry and DuPage-- right?

SR: Yes [Cross-talk] College of DuPage.

CD: Yeah, College of DuPage, for Liberal Arts and then Business Administration. How have those degrees helped you in your career now and in the video game industry?

SR: Well obviously a Bachelor's Degree is often a requirement for people when they're looking for jobs or to be taken seriously. I actually started at College of DuPage, one because I'm down in the southwest suburbs, but also because I wasn't sure exactly where I wanted to go to college, there was a lot of stuff going on at home, and they gave me a full tuition scholarship. Which, yes it's a community college, but it's still a full ride. So I started going there, and at that point I had already been working in the analog game industry. So I was able to kind of stay at home and do classes around the schedule that I wanted and then still do all the stuff that I was doing locally for the card games. And then travel to cons and do all the stuff for them there. And I wasn't quite sure, originally I went in and I was like I'm not quite sure what major I want to be in, and at one point I was actually going to be a computer science and accounting major, and part of it was I've done a lot of accounting work, good with numbers and I like tech stuff and you know I've been in computers and tech for basically my entire life. And somebody had once said to me "Man, accounting software is really crappy. So if you could actually know how to program good software and know how to do accounting so then you know how to program what we really need, that would be amazing." And I was like "Well that's great, I come from a history with a family that you know my Dad was an Accountant, CFO, that kind of stuff." And I'm like "Oh, this is fine." And I look at the program, and then I looked at the requirements just for the associates for College of DuPage Programming with all the Physics and Calculus classes and I was like "No, I don't really think so." And I'd programmed before, I've taken programming classes, but I didn't want to have to go through all that. It's not that I can't do Math, or It's not that I couldn't probably do physics or calculus, it's just not my cup of tea, not something that I was really going to enjoy. So I was like "Alright, well that's out." So I started, you know, kind of riding it out and just working on the associate's degree to prep me to going to a four-year degree; in the meantime

I transitioned over to video games, and was working a lot of crunch, where you're working an extended amount of overtime. At one point I worked ninety-one days straight, and towards the end there it was "Oh we're going to ship this, this'll be the launch version or whatever, so if this all checks out we're going to ship it next week." And by the ninety-first day I said "We're not shipping it next week regardless of what anybody says." So I said "I'm done doing seven day-a-week straights." But I ended up doing a lot of crunch, so community college helped because I could kind of take some classes in and out and I was able to go at my own pace, I wasn't going full time school and full time work anymore. I had started having trouble even just taking classes and putting in that many hours. And so once I got the associates degree, I went and I actually got a marketing certificate, and a management certificate through them, and I did another continuing education managing certificate through Harper College, which is closer up to the north side because that's where I was working and living at that point. Then I just kind of paused for a little bit on my schooling, and a lot of colleges and universities started creating online programs. So I just kind of waited until I found a school that would actually do a whole program online, not just you could take a couple courses online. And DeVry was one of the first ones that I found that I could actually do online no matter what happened, and so that became when I really started to go for my Bachelor's Degree in business administration, and so that's where I started. Funny enough, the first day of online classes at DeVry was the day I got laid off at Incredible Technologies, and I had used my work email address for that school so I had to rush and get everything transferred over. But, what it did allow me to do was, while I was working, even if I worked a twelve-hour day I could do the online course during lunch, or I could do it when I got home, or I could do most of it over the weekend. And so it really allowed me to go into my schedule and make it all happen. And I've always ended up becoming, like, a Project Manager or

a Lead so going into Business Administration was just kind of the natural evolution of that. And just gave me some of the extra experience and classes I wanted, having a focus in Project Management and getting to take specific Project Management courses. Between that, and Harper and College of DuPage, took some HR [Human Resources] courses. So it really fit in with where I naturally ended up at companies like IT or High Voltage where I ended up just kind of – there’s a hole, put Sheri at it, fill this hole and make sure we get everything in order. I think that’s kind of what that did. And again, if you have a Bachelor’s, that helps tick a lot of boxes when you’re searching for jobs or when people want to quote-unquote “take you seriously”.

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CD: That’s actually really interesting that you decided your major based on your career path.

SR: Yeah.

CD: I found that very interesting. So what skills - I guess you already kind of talked about this – what skills did you have going into the ind... pretty much what made you decide to go into Incredible Technologies?

SR: So that’s actually an interesting story, I didn’t totally decide to go into Incredible Technologies. I had been competing and doing a lot of the ambassador – internal playtesting for the card game, and I was kind of working a day job where I was doing accounting, and I had a friend who worked at Incredible Technologies and that’s more of an eleven-to-seven type job, not like a nine-to-five type job. And I was doing the nine-to-five type job, so when my workday was over, sometimes I would go over there and I would just kind of hang out until his work day was over and then we’d go hang out afterward. So I would just start playing *GoldenTee*, and then at a certain point while they were developing it I started noticing stuff like oh, there’s this graphical glitch over here, or there’s a typo in this menu over there, and I was like “Can I have,

like, a pad and like a pen or whatever.” And they’re like “Sure” so I just start writing stuff down and they’re handing it off to like the Q.A. folks, the programmers to get this stuff fixed. And he was a programmer so sometimes he’d be like “Hey, this’d make it a lot easier if you can play this thing so I can step through the code and check it without having to do both at the same time.” So I did that, and then there was this one part where at the time, because it’s in development, they’ll let you do 100 swings, 100 strokes per hole. Obviously they only do ten in the final game because they don’t want to have some player be like demoralized by taking 100 strokes to get to the hole, but when you need to be able to check out all the parts of the course, try different swings or whatever, having 100 strokes helps. In my head, I’ve always been very curious in nature, I said “I wonder what would happen if somebody actually did 100 strokes on each hole for eighteen holes for the entire course.” And I was like “You know what? I’m going to start trying it.” So I’m just sitting there at my friend’s office on his machine, doing 100 strokes. And I’m going and I’m going and I’m slowly getting through the holes, and the V.P., one of the V.P.’s there, who is also one of the co-designers and co-creators of *GoldenTee*, he comes up and he’s like “What are you doing?” And so I explained to him, I was like “Oh, I was just curious, there’s this 100-stroke limit, and I wanted to see what would happen if you did 100 strokes through all eighteen holes.” And he’s like “You know that’s not how it’s actually going to be when it launches right? It’s just going to be ten stroke limit.” I said “Yeah I know, but I’m very curious, attention to detail, I just really want to see if I can do this.” He gives me a weird look, and he says “Okay.” And he walks off and I end up completing my little test that I had created for myself, and the game crashes, and they’re like “Well that’s interesting to know.” And it doesn’t totally fuck the end game when they launch, but it’s good to know that something happened there. So it was just little stuff like that where I was doing that, and we all ended up

sitting at a bar out in the field watching – like it’s a field test, so before they actually fully launch a coin-op arcade game they’ll put it out in a bar or a bowling alley or whatever and you’ll watch people play it and see how it’s doing, see how the numbers are as far as who’s putting in how much money and all that stuff. So we’re all just sitting in a bar watching people play one of the new versions because we’ve just updated the thing in a bar, and all of a sudden he turns to me and he goes “How would you like to come get paid for what you’re doing for free already?” I was like “Sold!” [Claps hands] so that was pretty much how I ended up at Incredible Technologies and how I went from having a day job and doing card game stuff on the side to an actual full time job at Incredible Technologies. So it wasn’t like I totally decided to do that, it was just I was already doing something, they saw how well I fit in there and how well I was doing and said “Why don’t you actually come get paid, we could use you.” And I went “Okay.” It’s really hard to pass up video games for accounting right? You know between the two, I’m going with the video games; I’m going with the tech.

CD: So could you describe some of the levels of the games that you designed for High Voltage Software, or *Big Buck Hunter* or *GoldenTee*, whatever is your favorite? Just describe some of what went through your head in testing or developing.

SR: I didn’t design levels for *GoldenTee* or *Big Buck Hunter*, I did a lot of testing, I did run the tournaments for a lot of them. I did actually design and help put together the UI menus and the mails and stuff. At High Voltage one of the things that I did level design for is *Charlie and the Chocolate Factory* which was actually based off of the movie with Johnny Depp and everything; which is also very interesting, although not coin-op it came with its own set of hurdles because anything we did had to get approved by our producers and management, and we were also working with a publisher to get the game out, so the people at the publisher had to approve what

we were doing, and then because it was based on a movie the people distributing the movie had to approve some of the stuff we were doing, it was a Tim Burton movie, Tim Burton got rights to approve, had a clause in there that he got to approve certain parts of the game, and then because it's based on Willy Wonka and the Chocolate Factory which is done by Roald Dahl, the Dahl Estate actually had to approve stuff. So you would go ahead and design the level or create concept art and you could have ten people at various companies and various levels all having to say stuff, and they would come back with things like "You can't have the squirrels be grey because they're brown in the movie." So you have to change all these squirrels in this one room in this one cinematic to be brown. And so then you have to go back to the artist and be like "Alright, so I know this isn't going to seem like a big deal, but you know those squirrels that you drew? Yeah you gotta make them brown and not grey, Tim Burton said so." So I did do level design there, one of the ones that I liked there was, I had the one where you were kind of sliding down this little chute and picking up candies and little health packs and all that stuff, and you were just sliding down these chocolate tubes. I've done level design since then for clients, and then I'm actually designing my own games in my not-so-spare time. But that was my main bit of level design at High Voltage that I could talk about.

CD: Okay, so we are going to go back to coin-op for a little bit. How would you describe the state of the coin-op industry today, as you know it?

SR: Well that's a very interesting question, for a lot of people the actual term or definition of coin-op is quite different. For some people that includes anything that's coin operated, so if you go to a Dave and Buster's, a GameWorks, or even the grocery store where you have a little claw machine where you put fifty cents in and you have the chance to grab a little stuffed animal and generally it doesn't happen and it drops before it goes there. That's technically coin-op, it's not

necessarily a video game, but it's technically coin-op. For a lot of people slot machines and stuff, that's technically coin-op. Obviously these days a lot of people don't actually put coins in, they don't carry coins, but they'll put coins in and then you know you pull the lever and you get to play a game. So obviously when you look at stuff like the claw games, those are still pretty popular, you'll see them everywhere distracting kids, thinning out parents' wallets. Obviously slot machines and gambling – video poker, that sort of thing is still pretty popular, and you'll see that a lot now as it's gaining the ability to be legal in certain areas, you see video game signs popping up all over here in Illinois because it's been made available outside of just on the riverboats. So that stuff obviously still has a future to it. Around the world, including in the U.S, but also in Europe and Australia and all that stuff, gaming which is the gambling-type side still has a negative stigma to it, and a lot of people don't like associating that with video games per se. But that's still obviously doing very well. The skill-based games, the gamey-games are still doing very well. For coin-op, obviously there's a lot less people making arcade games than they used to, but you'll still see like *GoldenTee*'s still going strong. They're selling a lot to actual individuals now, so more than ever individuals are actually putting these games in their homes. But even back when I worked at Incredible Technologies, we had people that bought machines to put in their homes to play in the tournaments. That was actually how they made their living, was off of winning prizes off of *GoldenTee* tournaments. So I think in some respects it's definitely changing, because you're not having big spaces dedicated to that kind of stuff anymore. You know the Dave and Buster's, Jillian's, GameWorks type places, they're not as prevalent anymore. But you'll also see places out here like Galloping Ghost Arcade, and there's whole Pinball Expo Museums out in Las Vegas, there's all these places where there are these Meccas for coin-op or pinball or whatever. And So I think that there's still enough places that need that

kind of stuff that it's still existing, I think it's a completely different landscape, I think there's been a lot of changes even in the bar scene when you're working with the trivia machines or the table-top, bar-top machines. They're still there, but I think there's a lot of platform merging where you might be in a bar and you're essentially playing what might have been part of the arcade coin-op realm with the trivia or the table-top, but you actually connect to it with your mobile phone or tablet. And so you don't necessarily have to use their machine, you can use yours, but you're hooking into their system. It's been really interesting to see that. And then obviously everybody's really big on the retro stuff these days, like the classic NES that just came out, so you're seeing a lot of the arcade games come out in PC games, or they're being emulated or whatever. So they're coming back and redoing them even if they're not being done on a coin-op platform like a big arcade cabinet or an arcade table. But you are seeing those coin-op games come out. So it's kind of that coin-op is obviously not as huge as it would have been back when I was a kid, but there's definitely parts of coin op that are still going strong and doing well.

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CD: You mentioned that a lot of these old arcade games are coming back. Why do you think that is?

SR: I think there's a few different reasons, the first is obviously for those of us who either created them and grew up with them, it's that nostalgia feeling. We're now at a point where a lot of us are now old enough and making games that we have the ability to bring back those games, because not only did we play them, now we know how to make them. I think that a lot of it fits with the trends because you'll even see that the clothes or toys. Transformer Movie came out, and that was based on toys that we had in the 70's and 80's, so I think that you are starting to see that a little bit. Some of it is actually the simplicity and the challenge that comes from those

games that you don't see in an actual lot of games today, where a lot of arcade games were actually way more challenging than games that you see coming out now from the big studios and publishers. I think it's interesting to see that, I think that Verizon Mobile and Quick Games has really helped because arcade games were natural for that, the whole thing was arcade games were easy to learn, hard to master, and so you could just have a minute to five-minute burst of a game where you pop your quarters in and play for a little bit, but if you were really good you could be there for a while. It's the same now on your mobile game, if you're playing your game and you're on a bus and your bus stop shows up, it's not a huge deal to just stop what you're doing and lose the game because unless you're on this huge roll and are going to take the bus to where it ends. You can just stop the game; it's not like you're on a multiplayer game online where everyone's going to yell at you for pulling the plug. It kind of fits some of the platforms that have come out now and when you add in the name recognition for certain generations of some of these titles, "Oh, I would love to play that on my phone or tablet, because I remember playing that as a kid." They're not going to go out and find that one machine still exists in their area, when they can just download it on their phone or play it on the web on their PC. I think there's a mixture of stuff, we are now able to enjoy that type of game on new platforms. For some of us, we'll make them for a new platform, and we're able to relive those old glory days again.

CD: How is the industry in Chicago different from other places in the world?

SR: So the first thing is that Chicago is essentially one of the birthplaces of Coin-op and Arcade. Bally, Midway, Williams, Data East, and so we had Namco and Viacom up here, so we had so much here that started back in the day, obviously there were a few spots with Atari in Asia this truly was one the birthplaces for coin-op and arcade. So it's only natural that a lot of companies

and people just kind of transition over to PC to console as that stuff started happening, so I think one of the things that makes us unique is how much history there is here and how you can have doves here that have been making video games for decades, and been in the industry longer than almost anybody else, anywhere else and there's a lot of them, it's not just like this veteran moved out to Seattle or out to Montréal and took their experience with them. No, there's dozens of doves here that have been working for 20 - 30 years on video games, and there's a lot to that and a lot of experience that we get to draw from. I think that we definitely have that Midwestern feel they call Chicago the city of broad shoulders we're definitely a go get it, go do it make it happen kind of town. Obviously, we have Chicago winters, so you don't see that a lot in Austin or L.A. for example, so we're used to having to work hard and get stuff done. I think having been the birthplace of coin-op means we know how to weather ups and downs in the industry, because obviously we had to deal with the arcade going away and sort of coming back, but not being as strong and it's the same when you're dealing with console generations or when platforms just go away or lay-offs happen. I think that's a huge part of it, I think we're really adaptable here there's a lot of areas where it's mainly console developers or maybe mobile developers and we have a really good mix here between people who are still making coin-op, people who are still making gambling slot machines video poker, etc. people that are doing mobile, people that are doing VR, people that are doing PC, people that are doing console, people that are doing handhelds. We have a really big indie scene here, and we're constantly having games come out of here that are award winning and well-known, both in the big arenas, like World of Tanks for war-gaming or Mortal Kombat with another realm, but also we have indie games out here like the Young Horse's Octo-dad, where they're really getting that recognition out here. So, I think it's a really nice good mix between large companies and small indie companies, so you get a lot

of creativity, you get a lot of huge blockbusters and it's a good mix, which is not only good for players, but it's also good for people who want to work in the industry because if you don't want to necessarily work on big blockbuster game, because you want to have your hand in everything, then you can go work with an indie studio, but if you really are in love with Injustice or Mortal Kombat, then you can go work at NetherRealm and you can be part of the history of a game that's been around for decades and be able to really specialize in what you're doing, really show off your skills in a big budget kind of game. I think that makes us a little unique compared to everybody else.

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CD: So, we've kind of got everything going on here?

SR: Yes

CD: Yeah, so what would you want people to know about the coin-op industry? What's just.

SR: Well, so the 1st thing.

CD: I feel like, you know, there's some misconceptions.

SR: Yeah.

CD: That people have.

SR: So obviously the first thing, I think, that I would want people to know is that the coin-op industry still exists.

CD: [laughing]

SR: because, I know people who still work at the people who make coin-op arcade games, and so a lot of people just assume it's done, and it's not just the claw machines, but actual coin-op machine video games: still exist, are still being made, they're still being developed. Certain Pinball here is one of the last pinball manufactures, at least in the country and they're still

cranking out new games and they're still big hits, and people still love playing pinball. So, that's the first thing, that the coin op industry still exists, and it's not like a dead dinosaur just yet, and really cool games are coming out for that, they're really pushing the boundaries of what's available on coin-op, and so I think that's the first thing I want people to know. The second thing, and this counts for coin-op as-well-as video games, is-- there's a lot of people who use the term gaming when it comes to creating video games or playing video games, but for a lot of us, especially us old-school people, gaming meant gambling, it meant the slot machines, video poker, that kind of stuff. So, whether it was table games or electronic games, that's what gaming meant to us, and so when we said I work in the gaming industry or I'm making gaming machines, that's what we actually meant was the gambling stuff, and so there's this negative perception of videogames in general, and so when people say, "I work in the gaming industry," or that kind of stuff, somebody might already add the connotation of gambling in their head to what you're doing. Then for a lot of people, they'll go to see a job and it looks like they're going to go work for a video game company if they apply, and then they realize, no, they're really actually working for a company that works on gambling stuff or gaming stuff. So, that's one thing to note is that coin-op industry is more games and not gaming per say, in a lot of cases, as long as it is skill based or whatever, it's not gambling, and I think that a lot of people just assume, if you're going up to a machine-- and you have to put coins in it, and you might get stuff out, that it's gambling and it's not. I think that's the two main things. I think that the 3rd misconception is that it's not for adults, a lot of people picture Chuck E. Cheese's, Showbiz Pizza, or the arcade games that still exist in certain bowling alleys or theaters, but there's a lot of, like Golden Tee was a good example of that was mostly seen in bars and adults mostly play that. When they added online tournaments, there was, you had to be a certain age, you had to be an

adult in order to ply in the tournaments and get the money. Coin-op games, video games were being made specifically for that age range. It wasn't like it was back in the day, where it was mostly just for kids to be distracted by for a while in a Pizza Hut.

CD: [Snickers]

SR: So, I think there's this whole oh well it's just this kid stuff and there's no need for that anymore, because my kids have their tablets or their handhelds and their counsels. No, there's actually games being made for adults, so I think that's why it's gotten the longevity that it has and hasn't just completely gone away yet.

CD: So, what were your expectations when you first started the industry. When you first were hired by--

SR: IT?

CD: Yeah.

SR: Incredible Technologies?

CD: For some reason I can-

SR: We'll just call it IT from now on.

CD: IT, ok

SR: I don't know if I had any set expectations. Obviously I had...they brought me on, because I had already been doing some QA stuff for them, for free.

CD: Yeah.

SR: --and it just fit with my natural skill set of being detail oriented and being curious, being conscientious, really wanting to see things happen, always wanting to see things look the best that they can, work the best that they can. Obviously, I sort of had an expectation of, at the start, because they brought me on for QA just to start, that I was going to be doing stuff similar to

what I'd been doing that caused them to want to hire me in the first-place. After that, I don't know if I had any set expectations, I know a lot of people go into Quality Assurance or testing thinking, "I'm going to get to play video games all day, this is going to be awesome!" That's not what testing video games really is, it's actually way more arduous and boring then that. That's a huge misconception compared to coin-op--

CD: [Laughs]

SR: --is that testing video games is going to be playing video games all day long. I think there might have been a little bit of that, where I thought I was going to get to play a lot of video games, but I think I'd been doing enough of the stuff of just trying to reproduce bugs, that I wasn't expecting it to be this really fun, awesome, "all I'm doing is getting paid to play video games all day." So, I don't think I really had any granulous expectations going in, only because I had already sort of been doing some of the job when.

CD: Yeah.

SR: [pauses] They asked me to join in anyways. So, it's very unique compared to how most people have, you know--

CD: Yeah, for sure.

SR: Gotten in.

CD: So, what was the demographic of the industry when you first started?

SR: As far as people playing, or people working in it?

CD: People working in it.

SR: Well women have always been a minority.

CD: Yeah.

SR: [pauses] In the industry, still are, people of color, even bigger minority, still are. I was really lucky at Incredible Technologies, because there was a huge percentage of women there, we were maybe even close to 50-50, and that is extraordinarily rare.

CD: Yeah

SR: It was founded by two people, one was a woman, one was a man, and there was a lot of women in management positions, which was nice. I think the percentage was pretty high because of the fact the we didn't just develop the games but we also marketed them, we did the customer support, we published them for a lot of those games, so we had the marketing, the accounting, the customer service, etc. teams, and so that really increased the amount of women that were in the company because those are roles that women stereotypically hold and so I think that really bumped up the numbers, but I definitely feel that there was a lot more women there. Industry-wide, however, completely different story. When I moved to High Voltage, we didn't even have 10% of the company there was women, and I would often be the only woman on whatever project I was on maybe one of two, because there was only like 10 in the whole company, so there's only so many of you--

CD: [Laughs]

SR: to go around. So that's what would happen, but I was very active in the industry globally and I would say when I first started and I was going to big conferences like game developers conference, the San Francisco one, I could probably have told you all the names of 80% of the women that attended each year. We all saw each other, we all knew each other, we hung out together, we'd go to the other conferences together. I count many of them as my friends to this day, over a decade later, and as it went on, it starts to grow and you still saw the same people, then you started seeing a few new people. You actually got to see women speaking more at these

conferences and so it really started to change. Then there's this one moment at GDC where we were in between sessions, and coincidentally, I was actually on my way to go to a women-in-games round table, and I walked into the bathroom for before the session, and there was a line, and normally those things are like ghost towns and there's nobody in there because you're a woman, so it's you and maybe the cleaning lady or one other person and that's it, but there's actually a line to use the washroom, and I freaked out and I left, I didn't even go, I just ran to the room where the panels were, and I was like, "There's a line, there's a line!" They were like, "What are you yelling about?" and I'm like, "There's a line in the women's washroom at GDC." And the whole room erupts and starts cheering, because this was actually our huge milestone, it was like a visual marker of, ok things are actually changing enough, that we actually have to worry about lines in a washroom.

00:40:46

CD: [Laughs]

SR: It wasn't a huge line, don't get me wrong, like it wasn't like 'out the door line' but it was a big enough line that I was like, "Wow, this is a thing now," like I can go into a room with women and not know who everybody is. Obviously there was more women than just the ones that went to the conference, but of the people that were really active and got to go to conferences, I knew who everybody was, and I'm seeing faces and I don't recognize them. That was a big deal, so I think I was very fortunate to start in the video game expecting at IT, to have it pretty much close to like a 50-50, it was right around there, ratio, but when I started in card games, for sure, and when I went to High Voltage, definitely, it matched much more to the rest of the industry, where you're looking at around 10% at that point. That's obviously over a decade ago so things have improved a little bit, but it was definitely much different. There were definitely

not many women, definitely not many people of color, definitely not many LGBTQ+ people, and if they were, they probably weren't out, and that's fine, obviously their choice, but that wasn't really noticeable for most people, so there's definitely a lot of minorities that clearly weren't prevalent in the industry at that time, not just High Voltage, but pretty much everywhere at all companies that I knew.

CD: How do you think that affected the game development creation process, how did it affect the ideas behind the games?

SR: Well obviously now in games a business wide, all the studies have shown that a business is more successful, the products are more successful, the industries are more successful, the more diverse your team is. There's plenty of studies that show that by having women in leadership positions and design teams, even on boards increases the sustainability and profitability of the company. I think obviously, a lot of people make the games that they want to play, and if you have a bunch of people on a team who all love first-person shooters there's a good chance that if they have the chance, they will choose to make a first-person shooter, and if they tend to play games that are all space marines, that are all men, and they're just shooting at alien creatures, there is a high likelihood that the game they are going to create has space marines in it shooting alien creatures, and all the space marines are men. So, I think it was interesting to go in there and when you would see other people added into the mix how did that change stuff, especially, because a lot of us, we are geeks, and we are nerds, we are gamers, so it's not like we weren't playing the games they were, but we would see different stuff to it, and there were things that we would notice and be like, "You know, this doesn't seem realistic." Somebody actually worked with, it was either an academic or a doctor once, and reviewed the model of one of the old Lara Croft characters, and said that she could not physically stand up, if this was an actual person,

based on the way she was drawn. There were some versions of Lara Croft where you would have to like turn and you would slide basically between a big crack in the wall, and all you would see was her breasts, because she would barely fit through there, and when I would give talks on this kind of stuff, and I would talk with my friends, I would kind of joke, and I was like well, when they say women's breasts are shaped like melons, we're not saying hold it up to your screen and draw around it.

CD: [Laughs]

SR: That's just the overall shape, not...

CD: [Laughs]

SR: the actual size the character is supposed to be, so I think, we would just ask certain questions like, "but what if the player's female?" Which another Sheri, Sheri Grandary, a friend of mine, was very well known for that, and she actually wrote a book on it, and it was just stuff like, women actually have a higher percentage of getting motion sick compared to men and so first person shooters or first person games, there's going to be a larger percentage of women who just can't play your game. It's the same with VR now, with the amount of women that get motion sick with it, and just the amount of people who get motion sick in general. There's looking at people who have red/green colorblindness and there's so many people who do red for damage and green for healing, or it's the red team and the green team, and it's like, people wanting to play your game have no idea if they're shooting their team or somebody else's.... did they just get healed or did they just lose a bunch of hit points? When you have those people coming in, I think you get people start asking questions that people wouldn't normally wouldn't think about, and even something like VR. It's like, I don't play VR, because I have glasses, right.

CD: Uh-huh [affirmative]

SR: --and so it's like, when you're thinking about designing a VR headset or doing VR games, how do you accommodate somebody that has glasses, who can't just take them off just for the game, because they're literally that blind without it--

CD: [Laughs]

SR: --but they can't play your game without it, how do you accommodate somebody with red/green color blindness? Coin-op related Jim Zolenski, who is one of the co-creators, co-designs of golden tee, is actually red and green color blind. Which boggled my mind, because, he's working on a golf game with greens. So, there's all these different shades of green in the game, and he's red/green color-blind, and I'm like, yeah, at least there's different shades, but that has to be like really interesting making a game about golf, where a tournament is on the green and you can't actually see green the way most people normally see green. So, I think it's that kind of stuff that just adds to it, even when that were adding women golfers into Golden Tee or in some of the games I was working elsewhere, I was like, "That's not how a woman actually moves, or, it's interesting the technical challenges, not just with women characters, but anyone with long hair, and so many people are trying to figure out how to get hair to move properly, and not have long-haired pony-tails sweep through a character's neck, because it doesn't basically know how to bounce off the side. So, I think we just started having those people on, you just started asking questions that people didn't necessarily think about when they were creating the game, it was just, oh, I love these types of games, this is how the games always look, so we're going to do something like that but with this new spin or whatever and it's like, well the games have always acted or looked like this because, people like you, in that previous game said, "Well games have always acted and looked like this, so why don't we just do that same thing." So, I think it just added a huge mix to stuff, and now with indies, everything is up for grabs, and

people are trying all kinds of things that have never been done before, and it's totally opening up how charters are viewed, how stories are told, etc. There are lots of people that will make one-button games for people who have accessibility issues, and roder know has a game that's just audio, there is no actual graphics in the game, which is something like a bling game, or "put yourself in their shoes." For so many years, you've been like, look at these amazing graphics and we're really able to amp up realistic, it's almost photo-realistic characters, and it's like, they don't care because they can't see, so it doesn't matter how awesome and how photorealistic your characters are, if the story still sucks, it doesn't matter, they're still going to know the story sucks, more than somebody else might, because they can't actually see how awesome your graphics are that you're using to potentially distract from the fact that your--

CD: [Laughs]

SR:--games not totally finished, so I think that's just kind of how it's affected it and how it's really improved it is, just having those other voices come in, ask questions and makes you look at stuff that you wouldn't have looked at.

00:49.56

CD: Yeah, that's really interesting, the design considerations there. What was your favorite game to work on and why?

SR: [Groans]

CD: The favorite questions are always the hardest.

SR: Yeah-- well and-- I have over 40 game credits to my name-- and that's just the ones that I can talk about-

CD: You don't have to pick a favorite -

SR: I'm actually going to say it was Charlie and the Chocolate Factory, and that is because it is the first game I worked on with my now husband. I actually met him at that company, so I'm gonna go with that as my favorite. It is the only game where I actually officially credited on together, it's the first game that we worked on together, so I'm going to go with Charlie and the Chocolate Factory. Albeit IP people having to prove color of squirrels thing aside, that is probably my favorite game.

CD: What was your least favorite game to work on?

SR: [Sigh] Can I say the same answer? [Laughs]. There's actually a game that I will say is my least favorite that I can't tell you the name for legal NDA reasons, but it was the game I worked on at one point for 91 days straight. Pretty much at that point when you've worked on something for-- when you've been working 91 days straight-- and this wasn't the only 91 days I worked on the project. We must have been working on that well over a year before that, but by the time you get to day 91 when you've been putting in 8-10 hour days, you are pretty much done with that game. You just do not like that and that's actually what I tell other people wanting to-- who wanna become game developers-- don't go working for a company whose games you love, because you will end up hating those games because you see how the sausage gets made and you see all the issues or you see all these awesome features and ideas that got cut and so now this game comes out that you know you would have been obsessed over, you're now like 'Oh, but it could have been so much better if it had this and this and this feature got cut and all that stuff or, you know, you just get tired of playing it because it's all you're doing is seeing all these issues with the game and working all day long, so I would say this game that i can't tell you the name of, but the day 91 game that's probably my least favorite game to have worked on because i was just over it. [Laughs] By that point I never wanted to see that game again.

CD: So what do you think makes a coin op game good and successful?

SR: So, those are two different parts because you could have a good game that's not successful and a successful game that's not good. I want to say for the good game part, I think the core thing to all good coin op games is generally the easy to learn, hard to master thing. One of the things we talk about for those of us that came up through the coin-op days is manuals pretty much generally don't exist now for console games, PC games-- kind of a thing of the past. A lot of games you just download and there is no manual. If you're lucky there's a brief description or a list of key controls on a screen and that's it, and it was the same, kind of, with coin-op where it wasn't like you had a paper manual attached to the side of a machine, and especially in the days where it was-- you sit down at an arcade table in pizza hut and you and your friend are playing *Pac-man* while you're waiting for your pizza to show up at this little table. Well, kids-- 5 year old kids, 8 year old kids: they're not having-- they're not gonna read a manual, it's just not going to happen. So in order to get somebody to learn about the game and also entice them to play, you have what's called a track mode and the track screen. So it's-- the screen would show up and the little video cinematics would show up while someone's not playing the game and that has to be the good enough to tell you, 'Here's what the game is. Here's basically how the gameplay works right? And here's why you'd want to play it', and so you had to be good enough to get-- the game had to be good enough to really explain that core concept in 5 to 10 seconds or in just a few screen, and then because it's all about how often you can get quarters popped into the machine, it's how quickly can they pick up that game, because you don't want to give them a five minute tutorial for the game on a quarter, because especially back in the day there was--there's a certain time of how often do you want them to have to put in more money to keep going, and so they need to pick it up really quickly and feel like they are accomplishing something-- that's why

back then scores were ridiculously high. You didn't start off with 1 point or 10 points, it was 100 points or 1000 points, right? You wanted them to feel like they were doing really good, and so they need to be able to pick it up quickly, and then feel like 'If I'll play just a little bit longer I can do much better', and then they would do it and they would get better and then they're like 'Oh, but I know I can get a little better', so they put another quarter and they play a third time, and so I think to be really good it had to be super easy to grasp before they even played it, and it had to be super easy to learn how to actually play, like what mechanics are-- you couldn't just surprise them and it couldn't be super difficult right out of the bat where they felt like, 'Oh, I never want to touch this game again'. So I think that's the good part. I think successful-- I would say there's a bit of that because obviously if it's too difficult right off the bat, or they don't understand what they're getting into when they go in, they're never gonna try it out anyways. But I think, in a lot of cases, it's the more business and marketing side, so it's having those machines in the right locations, it's doing the right marketing. I mean for coin op there's a whole ecosystem there, so when you take Golden Tee, Incredible Technologies's IT would develop it, and they would also basically-- they work with the manufacturer and they would publish it and they would give it out to distributors, and distributors would sell those units to operators, and operators are the ones who go and take these machines and put them in bars or theaters or bowling alleys or whatever, and they keep up with the machines, they pull the coins out, they reset stuff, they fix problems. And then you have the location people who have to agree to give up this space, generally for the share of the money. And then, there's the actual players, so there's this whole ecosystem, so to be successful, you not only need to have this good game, but you have to be able to convince the distributors, the operators, the location people, and then the players that this is a good game that's worth having and that's worth playing and taking up this

much space, and you know when you look at urban cities, you know, Chicago, New York especially, San Francisco, you don't have a lot of space, right, so a bar has to choose-- for *Golden Tee*, a bar has to choose between a table for two where they can be serving drinks, or a *Big Buck Hunter* machine or a *Golden Tee* machine, which you can have up to four people playing, but it takes up a lot of time and it has to be worth enough money for them to be willing to give up that real estate that they can be using to serve drinks and food. So you have to be-- to be successful, you have to be able to make that case, all the way from the person wanting to say, 'Yes, let's make this game', all the way down to the player, and that can be a hard sell if you have to go through that many chains, especially if you're not a proven brand like a *Golden Tee* or a *Big Buck Hunter*. You really have to make the case for like, 'No, this one's a good game. This one will make enough money. This one's worth giving up that much land-- that much physical floor space to do that.

CD: Can you discuss the process of user experience design that was used in the *Golden Tee* series and how it compared to that of the *Big Buck Hunter* series?

SR: Yes a little bit. So obviously the first major difference, outside of the fact that one's a hunting game and one's a golfing game, is how that affected the controls. So obviously *Golden Tee* is known for its trackball that you use to pull back and then push forward to swing. *Big Buck Hunter* we actually had a plastic gun; generally it was a bright orange because it can't look like too much like a real gun in the middle of an arcade-- don't want all these issues. It also makes it very clear that, hey, when you're walking, you're not running into-- you can actually see somebody playing that, so obviously there's that huge difference right there where you're-- *Big Buck Hunter* didn't really have a lot of buttons-- you actually use the trigger even to select, 'I have two players', or, 'I want to go hunt in this area', so you didn't have a bunch of buttons to

work with or any joysticks, whereas *Golden Tee* you actually use the trackball to move up and down and then hit a button. *Big Buck Hunter* is more like, 'move the gun up and down', so there was just those basic differences of even just getting into the game. Obviously for some people, *Big Buck Hunter* is inaccessible because you have to be able to hold the gun, move it up and down, and stand there, versus being able to just stand there against the machine and use the trackball. You generally-- it's a lot harder, obviously, if you have one hand or arm versus if you have two to play *Big Buck Hunter*, and then obviously, just like with a trombone or musical instrument or piano, you have to have certain arm length in order to be able to hold the gun and get to the trigger in the right spot and build to move it. Height is much more important because you need to be able to move the gun in the right heights to reach everywhere, whereas *Golden Tee*, technically all you need to be a little do is be able to reach the trackball, so it didn't matter if you were six-foot plus tall like some of my coworkers, or you were down by me in the five-foot five or even some of our shorter coworkers. As long as you can reach the trackball you're good, so there's definitely that whole thing into it. Then there's the hunting versus golfing aspect obviously, because there's a lot of people who just aren't into hunting whatsoever or they're not into shooting games or they have a hard time with shooting games in general, like I was never good like everybody else, which helped as a tester because I was the one who was like, 'The average player will do this and this' and 'This is what their score is', but there's a lot of shooters, you know-- all you actually have to--what they call lead. You actually want to shoot a little bit before where the buck or the deer is gonna actually be by the time the virtual world bullet hits them, because then you have a better chance of getting where you want to hit or actually killing them, and I'm just trying to follow them the whole way down thing. *Golden Tee*, you swung when you were ready to swing the ball, like you were swinging your club *Big Buck Hunter*, the

animal just came and you just have to twitch it-- you had to be able to shoot at a moment's notice based on how they how they came out, whereas *Golden Tee* it was like, 'Okay, I'm gonna take my time. I'm going to rotate my golfer. I'm going to figure out where I want to go. I'm going to figure out how hard I wanna roll the trackball, so that's a completely different-- one's much more immediate-- have to do it, and the other one is much more practice; there are people that go, 'Okay, well it's this wind and this direction and this is the type of green that I'm on, so I actually do need'--and there are like real golfers; they're like, 'Okay, I need a three iron and I'm gonna turn a little bit to the left and then I'm gonna do this, and they get hard-core about it and you don't have time to do that in *Big Buck Hunter*. You also don't have choices, like you can't choose from ten different guns like ten different clubs; it's just, 'This is your gun, and you just shoot', and that's what you do, so I think there's definitely huge different user experiences and they kind of actually show off the two different types of players: the ones who just want that immediate, urgent--they just want a fast-paced active game and with just that break in between to just flex your fingers out and do all that stuff, versus the ones who want the steady like, 'I really just want take my time and not feel like I'm gonna lose just because I have to hurry up'. They want to be able to do what they want or they just enjoy golf and so it's just a cheap way to play a round of golf, so I don't know if that answers your question, but-

01:03:32

CD: It's a perfect answer. In what ways does the process of designing user experience for console or handheld game differ from a coin-op game, like *Big Buck Hunter*?

SR: Well the first is the thing, is like I talked about-- the trackball, right, you need to be able to get them to understand what the game is right when they get in, and then it needs to be quickly easy to learn; you don't usually have a lot of time for opening cinematics or intros for a coin-op

game. You want to get them in as fast as possible. It's obviously-- the medium itself is huge difference, so you-- outside of-- often times you'll see mini trackballs or arcade sticks or-- some of the big games will have-- they're kind of like arcade add-ons to the PC, so it gives you that huge feel. Generally you're not gonna have arcade sticking buttons on mobile games or console games attached to it, so you have to be able to input in a different way. It's interesting because you can see when people are porting a game from console to mobile, now they don't have a controller with four buttons and four triggers and D- pads and thumbsticks, so it's like, 'Okay, this is how you have the character walk around; now to what I do?' You either have to give them the ability to hit the little arrows or have them tap to where they want to go, so it's just the physical medium itself that creates a huge difference for user experience and how you go about designing it. The other is where the games are gonna get played. When you're talking to coin-op game that's in a theater or bowling alley, you definitely have to know the game's gonna be fun without sound. I always do that for any game, is to make sure that you can still play it and understand it without sound, whether it's to be accessible because someone is deaf, or because somebody can't have the sounds super loud because they're playing it on a computer that doesn't have speakers, or because they're playing it in the living room, but everyone's asleep, so they can't really have it blaring. But if you're in the middle of a bar, or a bowling alley, or theater, and there's a sports game or there's kids screaming, you can't rely on sound effects to tell people, 'Oh, they just lost hit points' or 'They're about to get attacked', and it's not to say that we didn't have great sound effects or you can't have that; you just can't rely on it. So when you go to design the game, you have to take that into account: 'This is great and you should really have a good audio experience, but also know that you have to be able to have the player play it without having any audio'. It's also like coin-op games for video games; you might have a big screen, so

you have more room for doing bigger UI than you would on a mobile game, because if you did, say, the same size score thing in *Big Buck Hunter* on a mobile phone, you would eat up the whole phone just showing the score. You can't just say, 'Oh, we'll use the exact same art. It's gonna be fine', no. There's definitely that aspect to it; you can do a bit more with UI and be a bit more elaborate with it and have more text because you have a lot more screen real estate open to you, so there's definitely that-- definitely worrying about people with poor vision, because you can have a bigger font; you can have the bigger graphics, bigger characters. But at same time, they're in a public place; they are going to be there for short amount of time; they're not able to save their game per se. It's not like, 'Oh, well I have to go get dinner or go to the washroom, so I'm just going to save it and I'll come back just and just hope no one's played it'. That's not-- you can't really do that with a coin-op game, whereas your phone, you can take it with you to the washroom if you really want, or your console game, you hit the save point, you close the application, you can come back to later. You have to think about it in those terms too, of 'How are they playing it?' or 'Where are they playing it?' and 'How does that make it different?' and 'What do I need to do to take that into account?' That's kind of how you have to go about it. You can do online coin-op games; *Golden Tee* did their online tournaments and then we actually moved to broadband, so that we could make almost on-demand calls instead of waiting for a once a night phone call. But now, you have consoles and mobile phones that are always connected to the Internet and you can have features that-- you can have full games you can only play if you're online, and you could never do that in coin-op because what if the phone line goes down or something goes wrong? Coin-op, I loved, because it was like the early days where you didn't have the ability to do updates in a lot of cases, especially when you weren't online, so you had to ship as close to a bug-free game as possible. You had to have it as polished as possible.

You couldn't just be like, 'Oh, well don't worry about it, we'll fix that and have a day one patch, so as soon as it launches and everybody plugs in, they'll download a new update, and anybody that doesn't go online gets an update, oh well' No, this is a bar in Lincoln, Nebraska, so if the phone line's not working or they don't have Internet in that bar, well they get what you get, so you have to make sure that that user experiences is flawless that it doesn't create a lot of problems. Going back to that large ecosystem that I talked about, if a player has a problem, they go to the bartender, and the bartender knows nothing about the game-- they're already screwed, so you have to make game that the bartender either can easily understand or likes it, or doesn't need to worry about it always having issues or being hard to understand. But if a player has an issue or the machine breaks, they're gonna go to the bartender, and bartender goes to the manager, and the manager goes the coin operator, who then has to send someone out to fix or look into what the issue is. Or if they're having complaints about the game because there's something wrong in it or things are missing, then the operator will come to the publisher or developer, or they'll go to the distributor, who will then take it up the chain. Unlike nowadays where somebody's just yells out twitter, or calls the company line, you can have somebody, say playing *Golden Tee*, at 1 AM in a bar, and the developer's not going to hear about it for days, or least until the next day, and you can't fix it unless you know what you're doing. You have to account for all that stuff that's just completely different and doesn't really exist or didn't exist, at least at the time. Once it was out there, it was out there. You couldn't really recall arcade games; it's a very costly and lengthy process, and you couldn't just send out codes on Steam to do beta testing. You actually had to physically build machines and cabinets and take them out to a physical location, and then have somebody sit there and watch out goes and go get the money and do all these statistics. If something happens and you need to change anything, then you had

to pull out a board and replace chips and put it back in, and it was a huge deal, so I think everything had to be more thought out ahead of time and every decision for scope and features was extremely critical, because once it's out, it's out; that's all you have.

1:12:08

CD: So you mentioned the ecosystem-- now twice, what is your experience with that system?

SR: So obviously working at IT I was part of the development team-- helping out with the back end UI of menus. I was testing the various games or whatever and giving input-- then I was doing the product support parts, such as helping to create the manuals or doing customer support to distributors and operators and then I was even doing like sales and marketing support. I actually went out with one of the sales people to Iowa once and we met at a distributor's showroom. They brought a whole bunch of operators in because Iowa had just passed a law essentially making *Golden Tee* legal and making *Golden Tee* Tournaments legal. Meaning that because it was skill-based game, like you actually had to have skill playing *Golden Tee* to win tournament money and to get up in the rankings, it wasn't considered gaming then or gambling; They actually had put forth a law in the state of Iowa that made it essentially legal to do it so that players could actually play in Iowa and win prizes. They hadn't heard of the machines so we went out there to explain how the tournament's work and you know what the tournament versions look like and how this can make them money and all the other stuff. We made the pitch to distributors and then we did a whole demonstration and sales pitch to a whole bunch of operators. We covered all the way down to actually talking with operators over the phone and having issues with their machine-- to dealing with players who are upset because they think they got screwed out of their money they were supposed to get. I could have dealt with the whole eco-

system from the top to the bottom just-- by the nature of all the different roles I was filling up at the company.

CD: This is also the same time you talked about video games and the legality-- and we learned about that in class obviously, but I didn't realize it was such a big issue. How big of an issue really was it when you started?

SR: For *Golden Tee* specifically, and then when we started doing tournaments for *Big Buck Hunter*, it was definitely an issue. You see this a lot actually just as in everyday-- you'll see say a sweepstakes or whatever, and it'll be like no purchase necessary or not valid in Arizona, Hawaii and New Hampshire, also you must be 18 years of age to enter. There's legal departments for all kinds of sweepstakes. Companies that do full prize giveaways or whatever and you have to just in the US alone you have to balance so many things. I believe it was Arizona where somebody could actually play a game that had a chance of winning but they could win at most only eight times the amount of money they put in. If you were to say put in \$4 to play a tournament game *Golden Tee* the most make you get back was \$32. So how do you handle that when the terms expect [the machines] to run in such a way that you could win hundreds of dollars or thousands of dollars, right-- and then you will go to another state where it wasn't legal at all like they were just banned outright even Schaumburg out here we couldn't do tournament for *Golden Tee*-- they couldn't play for real money and you know you're driving distance from you know the office that make this game but you can't-- you can't do that right and so for a lot of it it was you had to make the case that this was still skill based gaming-- they call it SWP, skill with pay versus, it was just pure luck. We're just putting money and you hit a lever like a slot machine and maybe you win and maybe don't, right-- there's a certain percentage chance that you're going to eventually win but it wasn't like there's any skill to choosing how you pull down the lever, right-- so in certain

cases it was like oh no like you should allow this thing because it's skill-based and you would have to prove to you-know the law enforcement or the government officials who don't really know-- you actually have to play *Golden Tee* golf if you're really good. Here's what it takes to get into it and here's why you should make it happen-- or we had to like basically do age checks so you couldn't actually claim winning or we had to say you can't enter the tournament unless you're at least 18 years of age. When we went internationally that become another thing. Now we have to localize everything so now we're dealing with Canadian dollars or Pounds or Swedish Krona or whatever but you know they all had their own restrictions to and so you have to go ahead and you have to adjust how much is the entry fee or what their winnings would be worth or do they allow tournaments at all and it is all you know and that's especially like when you look at Australia and those types of areas that's where there's this huge negative stigma to gaming and so now you're putting in the machine that to many appears like it's gaming and you have to explain to him no it's not the same thing it's-- it's still being meaning you can just play for fun like you don't actually have to like pay the tournament fee money version you can just play a regular game for a lot cheaper and you know this is not you know here to drain you out of your wallet you know just the thing to do for fun so you know that was a huge thing where you had to bounce that and decide where you push for stuff and where do you not-- Something like Iowa it was easy to make a case for what we're doing and so then the whole state was able to do it where as you're not necessarily actually going to go to like to every city like Schaumburg and trying to deal with that individually and figure out where every city in the U.S. is because that's too much time, work and money-- But yeah there's a lot of that and that's why you'll see that a lot in the fine print you know like McDonald's Monopoly or you know people doing sweepstakes so it was like not valid here or they have to say no purchase necessary because-- it's a sweepstakes they

have to give people the ability to have an equal chance of winning something without actually purchasing any of that company's products whether it's just mailing in a postcard or filling out a form online or whatever-- So we kinda had to do the same thing but just for a video game.

1:19:10

CD: So we're going to go back to *Big Buck Hunter* and *Golden Tee* now. What were some major changes that you found were being made between iterations of the game?

SR: So actually when I first started at IT-- they were just transitioning into it was called *Golden Tee 4*, so it was like the next generation of *Golden Tee* and it was also the one where they were adding in the online tournaments and we're having to do a lot of testing with databases-- and being able to make calls to our server and get that all up and running-- it was on obviously a newer set of Hardware and everything is getting updated-- So that was a big change in and of itself and then while I was there I actually worked with a small group of colleagues and we actually put together the idea of having a player card which would be super helpful for tournament Players and we actually have-- there is a patent pending I don't know if it's approved yet but essentially what it was it's like a membership card or credit card and you can actually slide it into the machine and it would be like, "Welcome Sherry!" and it would be like, "Here's how many games you played!" or you know where are you ranked in the tournament ladder at the moment or whatever and so it would save everything for you and make it super simple and easy to play and it will tell you how long you been a member and so everybody would like to show it off as I'm member number 3 or like I'm an old school player or whatever you know so we started adding features like that that would help do stuff so like they would put in all the information they would need to enter into a tournament like their name their phone number and their address or whatever once and it gets and they would buy the car in there and get the card so

they wouldn't have to enter that in every single time that they play the tournament and they were just swipe the card and if you like, "Welcome, now go on to the tournament!" right and so for players especially the hardcore players where they would literally go check the bars every day to see if the course conditions were good that day and optimal for a high school they were like you know then when they find a good day they're going to play for hours at a time and so if they don't have to type in all that stuff over and over again they have more time to play more rounds on that damn good course conditions so we actually added that-- you know, as part of the transition and then right as my time was ending and Incredible Technologies-- we were getting ready to ship *Golden Tee Live* [GTLive] and the main difference there was, we started moving from only being able to take a phone call like a once a day phone call or whatever to having like basically Broadband. So we could actually communicate more quickly and call into our service more often *GTLive* was taken that to the next level so originally the way you would run the tournament was it was a like a two-week tournament and the course conditions would be randomly set. So every day of those two weeks there will be different set of course conditions and everybody would call-- the machines would call in and relay who played, what their scores were, on what dates and then leader boards would get ranked and then they would get sent back on all the machines so you could see where they were ranking and then there was just one big prize at the end with couple smaller prizes after that. *GTLive* was going to go to always on because it was going to only be broadband connected and you couldn't go through the phone lines anymore. Then there were two smaller tournaments so as soon as you have, say like ten or one hundred people join in then all of their entry, the tournament fee part, gets split up and create like many prizes and so you can have like a quick tournament essentially that was huge especially when you're looking at something like say Arizona who's you know law back then you know back when I was there was

only 8 times as much as you put in, right. Well now if you're going to cap it off at say ten players and they're all putting in you know \$4 and you stagger the prize pool into three portions they're not going to go over \$32 prize so now you can sell these machines in a place like Arizona and people can play it and they can actually enjoy *Golden Tee* and then they can still rock out the same amount of money as some of the career players but they're doing it in smaller chunks and in faster and faster times and so at that point the hardware behind it the actual inside the machine was essentially the equivalent to an Xbox console and this was obviously over decades ago, this is back when it was the Xbox and not the Xbox 360 or the Xbox One but you know we're essentially like a high and console was what was inside the machine even when we were dealing with the competitor who kind of copied *Golden Tee* we opened up the back of their machine and it was a PC Tower just installed into it and when we first got it it was truly a PC, you like at one point the screen changed inside we had like 10 days left to activate our version of Windows on this game here before shutting down and Wow, you know that's probably not supposed to happen. If you could hook up a keyboard and mouse to their machine and do whatever you wanted with it so you know I think we slowly started seeing that a evolution the same way you saw with consoles and stuff, they can now have online games or quick matches or whatever like you doing consoles but you could actually have that in Coin-Op now so that happened with that. *Big Buck Hunter* didn't have as many changes in part because of how it was set up and-- So I don't think that had as much changes, other than they did start incorporating tournaments and going online or as before it was mostly just a standalone offline game that you just played to play and your high score was just for that machine not necessarily for that State you know, or that Country or whatever.

1:25:37

CD: Could you give an example of a way in which you or a design team would characterize a user experience for when you come up with games?

SR: What do you mean by that?

CD: I guess, could you give an example of a way in which your design team would characterize how somebody progresses through the game-- like for example, the game might have easier levels where they have-- easier tutorial levels you know where they introduced some of the controls.

SR: So *Big Buck Hunter* definitely had that where you could choose your difficulty level that you wanted to play on you know from like basically a beginner hunter till like an expert hunter and that would change you know how fast the animals, what point bucks you got, etc. that will come out obviously when you're dealing with the tournament's on either game the conditions were set for everybody so everybody had the same conditions everybody had the same, you know, set ups for what animals came out or, you know, what course you were playing that day or whatever-- So, you know, that's a little different in *Golden Tee* you could choose between nine Hole Golf or eighteen hole golf courses and then there's kind of a way to make it clear like this is the harder courses like it wasn't like you chose a course and then said I want-- easy, hard or forget about it, it was you chose the easier courses you know where the shorter courses versus like the more difficult expert courses in so, some courses it was you know it just kind of naturally gravitated toward the more experienced players you know the more skilled players would please harder courses or they would play the tournament's you know most beginner people wouldn't pay for the tournaments because they weren't able to compete at the same level as the ones who played it you know almost every day so there is two different ways of going about that, between *Big Buck*

Hunter and *Golden Tee* but again part of that is also just the nature of each game and how you actually play like with a gun and stuff versus truck balls and buttons.

CD: What was some of your biggest limitations you found while working with games?

SR: Coin-Op games or any games?

CD: Coin-Op games.

SR: I think obviously one of the biggest limitations and most Coin-Op games especially offline ones is there's no way to get feedback like nowadays especially a lot of people that do PC or console games or even mobile games where they'll do DLC or updates are actually getting numbers back like, 100 people chose characters A two thousand people chose character B, okay well why is it? We're a fighting game and 90% of the time anybody with this character loses, now what do we do, right? You can have Dynamic difficulty in there or you're going to have a 60-hour game. Right, somebody gets this long immersive experience. You don't have that in a Coin-OP game and other than your initial field test if it's an offline game, that's it like you put it out there and either your hearing back then it's making money or it's not and if it's not unless your hearing back like oh it's the technical difficulties or your hardware is broken, if nobody playing it unless you actually go out there and physically stand there and watch somebody play and then trying to go to them afterwards in a non-creepy and be like, "Hey, I'd like to talk to you about, you know, that game. Did you enjoy playing it? Would you play it again? Why did you look exasperated, you can't have that same feedback either directly by asking somebody in the beginning like what did you think or by getting numbers back because most Coin-Op games weren't online or aren't online, so you don't have that immediate feedback you don't know how many times this course has been played or you don't know how many times person A came back and played it like was it played 50 times by one person or the played 50 times by 50 people right

in which case like a website to 50 people come and leave on the homepage or did somebody come and actually see 50 different pages on the website because they stayed for a while which meant that they were engaged in the like what they are doing. It's the same thing as a Coin-Op game you know you're not going to sit there and put everybody on camera and try to figure out how many people came and did they stated they play another time right. You just kind of go off of-- you know what the raw numbers are and that doesn't really tell you a lot so you have huge limitations on figuring out how to do an update or is this game resonating with audiences right now so let's do a similar game, or let's do a sequel to it, obviously *Golden Tee* is *Golden Tee*. It's going to keep making money, so they keep making sequels, right? *Big Buck Hunter* kept making money, kept making sequels but the other certain arcade games that there is one run of them and that's it and people may never know why that didn't sell and everybody internally could have loved it people in the field test maybe loved it and then went up to the broader public and it just failed completely and all you know-- the only reason you know that is because nobody's buying anymore and there are no longer showing up in the theaters, at the bowling alley or arcades or whatever so-- there's huge limitations in that aspect of you just don't get that immediate feedback and you can't just bring in dozens of people to play test in an office right like you can't have people strolling through in a small, you know conference room with the TV and a console and play, ask feedback, play ask feedback. like you have to have a whole machine running you have to take it out into the field because it's not the same as a machine sitting in an office, right. It's just not the same environment and everything. With *Golden Tee* our joke was always you had to be able to play it with just one hand because it's in a bar so people need to be played with like a beer in one hand and play with the other right and you know you have the button spaces just correctly so that if it was good the bottle or the glass would actually just fit on the buttons just

right and not slide down the rest of machine so that you could play with two hands if you needed to move stuff around so you have a place to set your beer down but then the same time you try to make the machines pretty indestructible in certain ways because people have bar food and they're spilling beer all over buttons and know the trackball gets greasy so you have to get operators to know like how to clean it so that the trackball actually moves or people get upset because you're games plays badly but it's not because your hardware is bad or you designed a bad game it's because people are sitting there eating onion rings and drinking beer and doing nacho and they don't use a napkin and they just like slam the trackball and all of a sudden it starts rolling less and less smoothly and it's dirty and it feels oily. Well that's what you get the button starts sticking because beer's been soaped all over because somebody was drunk when they're playing right. We had those limitations too, of we need to make sure it's easy to maintain we need to make sure somebody can play it in a bar and not worry about it or they're going to need enough space not only for the cabinet but for somebody to stand back with a gun for *Big Buck Hunter* like it's not just standing at a cabinet you need to be able to stand back and move the gun right so you have all those different pieces to it that you just will never have with a console, PC, mobile, handheld, whatever game. VR you're starting to get there because obviously for a lot of VR games they want you to be able to move around a lot and you know do all that other stuff but other than VR you know for ages now-- that's been your main constrictions is you have that very physical limitation of what you're aloud to do, what information you're allowed to get...

1:34:13

CD: So what do you see as the future of the coin-op industry?

SR: Wow!!! Are you trying to make me a fortune teller? [Laughs]

CD:[Laughs] Yes, we are.

SR:I don't know if anybody can actually answer that question, not even the people that are still pumping out the coin-op games. When you're talking just coin-op machines in general, like the claw games or the ones where you put the quarter in there the thing tries to slide it all forward and maybe a few quarters fall off or maybe they don't. That kind of stuff will be around for a long time. I think it's always going to exist. You know especially while brick and mortars still exists. You know, for regular retail stores and touristy spots and carnivals. You know there's always those mini carnivals that always pop up and fests that travel from town to town. They always those types of games. So I think that is always going to exist. Video games, I think, just keep the coin-op versions just keep evolving and they're actually doing their best to take advantage of all the new hardware and changes in technology. They are getting better graphics, or they're able to use LCD or plasma screens or, you know, weird CRTs that look a little fuzzy. You're able to have always online games now instead of one that called in once a night over the phone line if the person didn't accidentally unplug it, right? So I don't think anybody can actually answer that, I think there's always a small section of people that want to play games in bars or go to arcades or have that kind of stuff. And I think, you know, especially like pinball has a huge following of people that just love pinball and they will go play pinball whenever possible. I think there's always going to be that. It's just can the companies either keep people interested in playing coin-op games now or be able to sustainably make, produce, market, and distribute coin-op machines that work for just that small niche of people. The huge trend now, and you see this a lot, is slot machines, video poker, etc. where they're adding more video game-like aspects to their game like they'll have mini games and bonus rounds and this other stuff so they're starting to borrow from video games. And so it's kind of giving the coin-op game experience a new life but through gaming machines which it has its pros and its cons.

Its pros is because it that it helps people cross over and consider playing coin-op games and its cons because it means you're working in gaming and a lot of people don't want to do that, or you can't play it or it's not legal in certain areas. But I don't think anybody can honestly tell you. I don't think the people running the coin-op companies would be honestly willing to say "this is the future of coin-op over the next 20 years or whatever." I don't think anybody in video games can do that. There are people now that are still saying this VR thing is not going to work. There's always people saying, "Oh, consoles are dead, or PCs are dead and then Steam comes out. Then PCs are awesome! Then hand-helds are dead. Well no, Nintendo just did 3DS and everything's great, right? So I don't think in this industry has ever really accurately said here's what's going to happen. Everybody has their dreams, their wishes. I don't think anybody can honestly tell you this is what the future of coin-op looks like.

CD:So how does the industry effect your life outside of work?

SR:[Laughs]

CD:Because there has got to be some lasting impact.

1:38:27

SR:Um, well I told you about the crunch and the 91 days and all that stuff. That, obviously, can make it tough. The one time we were crunching on one of the original Big Buck Hunters and we were working like 10-11 hour days, six days a week. And, at one point, when I get frustrated enough I start crying. It's not because I'm sad or emotional, it's just the frustration boils up and up and comes out the eyes and I just start crying and we're on our eighth week of crunch or something like that and it's 11 o'clock at night and our boss is like "Can we push to midnight? I'll even stay with it." As if that was going to make it better that I was going to have to be here another hour! I just start crying, and I'm like "If I don't go home now I'm going to have

to come into work tomorrow in a towel because I don't have any clean clothes because I was supposed to do laundry tonight. Blah, blah, and I'm like losing it. But I'm like wearing my last pair of clean clothes, right!? I'm literally going to have to start coming in in PJ's if I have any left or in bath towels, right!? This is where I'm at because I'm crunching so much I don't have time to do laundry and he's like, "Alright, alright everybody go home. We'll pick this up tomorrow or whatever." I was like, well, you just lose it and I've worked a lot with the quality of life stuff and, you know, there's these studies that show if you work, and if you stay up all night or if you work 24 hours straight, you pull an all-nighter, your cognition ability is actually equivalent to somebody that's legally intoxicated. You're at a .08 blood alcohol level. After so many hours in a week your productivity actually goes down. You make more mistakes. You start hitting this point after so many hours that, let's say you're doing a 16-hour work day, you're actually only putting in only eight hours worth of work. It actually would have been better to have you only working eight hours because you'd be fresh than if you put in 16 hours. So definitely, there's crunch. I have lots of friends who basically have housekeepers on call so when they hit crunch so that from now on I'm going to have to have housekeepers to come in once a week to clean my house because I don't have time to vacuum. I don't have time to dust. I don't have time to do any of this stuff. There are companies who will pay for your dry cleaning and take care of all this other stuff for you because you don't get to leave so that was obviously a big issue. For me, and for a lot of my friends who are developers, I play a lot less video games now in general than I did before I started making them. Part of that is because you just don't have time. Part of that is because you're playing enough games for research and you're working so much on games that you just don't want to see games when you get home or when you're done for the day. It's kinda like when someone is creating art all day or like a cook when they

get home they don't necessarily want to cook for everybody. They're like, "I just spent 10 hours cooking for everybody else, I don't want to have to see a kitchen, I don't want to cook." They'll often go grab carry out or ask somebody else to cook even if it's not going to be as great as what they made. They just don't want to do it. I've definitely noticed that with me and with a lot of other people. We don't want to play as many games as we used to before we started working because you just don't have time or you're just like I'm done seeing games for right now. I need to go read a book. I need to do something that's not video games. And then obviously, for me personally, I've done a lot of volunteering and advocacy work and video games get a bad wrap in a lot of ways and I've had to do stuff like fight the video game laws that try to make selling R rated games legal and try to censor what kinds of games we can make. Then there's stuff like diversity and inclusivity, or harassment and sexual discrimination that women and minorities get in the industry and I speak out a lot on that. I've lost clients because of that. I've had to spend way too much time on Twitter because of that despite not wanting to. I've had threats to my safety. I've had my information doxed, I've had swatting threats. I've been slandered in not reputable places. You deal with a lot of crap but you're doing it to make the industry a better place and a more welcoming place. So I do it anyways but it's definitely to the point where I have culled my friends list on Facebook a lot because I need to make sure I don't have too many friends on there that I don't know and can't trust. I have stuff that goes on personally and I don't say it out loud anymore because I don't need it getting out to people. Most people don't know where I live. I have a virtual mailbox. I have PO Box that I have to give out for my address because if people want to send pizzas or a SWAT team, I'd prefer is to go to a warehouse instead of where I actually live. There are those impacts but that's not what the average game developer has to deal with. They're definitely not dealing with that but that is something that has impacted

my life specifically. But, at the same time, there is the cool stuff like being at a pizzeria and getting to show my dad my name on the screen of credits and it's like "wow!" This is the pizzeria that my family went to growing up and now there's a machine there and it's got my name on it. That's something I did. I can show that. That's a huge thing. You can see people playing your game and loving it and so excited and you're like "I did that!" I can go speak at Girls Who Code or or at video design workshops for Youth for STEM or Girls for STEM and now they say they're going to consider going into the gaming industry or I'm going to do computer science for a degree. I did that! After all the advocacy, I had a colleague of mine thank me for all the speaking out I was doing and all the work I was doing and he said that when his daughter grows up and if she wants to get into the industry, it's going to be a much better place because of all the stuff you did. Now I'm like crying because I did that! So there's always trade offs. I wouldn't change it. It was always there. You get to do what you love and it's always hard to pass it up.

CD: How much time do we have left?

Chris Riley [CR]: Fifteen minutes.

CD: Fifteen. Awesome. You said on your website that you liked volunteering. Would you like to talk about that a little bit?

SR: I volunteer way too much. I actually have a friend who is kind of a mentor. One of her main jobs is to try to help me to say "No" to committing to projects. I actually got into card games because I was volunteering for the company originally. So I was a volunteer person who ran the tournaments and I started to demoing products or going to cons for them, and that's how I got into that. From an early age, my family did a lot of volunteering. We were actually the southwest YMCA family of the year one year because of all the stuff we did with a lot of their

programs. I would teach first aid classes for the American Red Cross. When I was in California actually, I got an Hours of Service award and I helped teach first aid classes and we would go work the shelters for wildfires and deal with house fires. When I was young we would host carnivals in the backyard to raise money. It was something that was always in me. When it came to games International Game Developers Association or IGDA was really big and active when I first started in video games in 1999 and I actually got involved with the Chicago chapter in 2000. I was in the Women in Games Development Committee in 1999 which is now a women in games special interest group. I got involved with that. I founded the Quality Assurance SIG with 10 other colleagues and we're all still close to this day. I was also involved and helped found the Game Design SIG and the Sexuality in Games SIG. I spoke up a lot for advocacy, adversity and inclusivity issues. I helped sponsor and volunteered and was a mentor for mentoring programs and scholarship programs. Everything started broadening from there and becoming an outreach. Then because of all the harassment a lot of the developers were getting because of all the stuff that's been going on over the last couple of years, I actually ended up on the board of a group that was working against online abuse and working with tech companies to try to make things better. Everything is kind of like attached itself to each other but then I went back and started helping the Girl Scouts and then more Red Cross stuff. It kind of like one piece after another and doing a lot of stuff locally. There's a group of us working to put on a game developer event here. I do other events and I do breaking in talks and speak with Girls Who Code. I spoke there three times this summer and the list just goes on and on and on. I don't know how to say no and I love helping people and I love to see the difference it makes. So whether it's dealing with Black Lives Matter or it's actually working to make QA more

respected in the video gaming industry or whatever it is. As long as I'm passionate about it, I'll probably say yes to it.

CD: So is there any advice you'd give to someone pursuing a career similar to yours?

1:49:15

SR: Yes. Lots of it.

CD: Alright! Go for it.

SR: I do a lot of breaking in talks, too, which really helps. The main stuff I always say and it counts to everybody, job hunting wise, it's the basics: proofread your resume, know what you're applying for, tailor your resume and you cover letter, act professional, shower, use deodorant, use a toothbrush, use a brush or a comb. Don't smell. Don't come with food stuck in your teeth. Right!? Actually I have a whole series of slides just on that where I ask people, "Do you know what this is?" They're like, "Deodorant" and I say, "Good, use it!" There's that kind of stuff where it's the basics, right? But then it's stuff like I talked before, there's a misconception of working video games must be fun and being a tester means you get to play video games. No, it isn't! It means you spend eight hours a day trying to take this character up a bunch of stairs and see if they fall through because before it was a bug and they'd fall through and crash the game. Or you run down the side of a hallway to see if your character will fall through the wall. Or you're just doing server load testing so all you're doing is starting up 16 consoles at once for an online match and taking them down and seeing how it handled it. That's not playing a game all day! You're playing broken build, you're playing early build, you're playing builds that suck. So don't expect it to be this magical cure for having this dead end, boring job. I spoke at Cal Poly once and in the Q&A this guy comes up and he's like I'm a third year CS student and I came here trying to figure out if games was something I might consider or not because I find

programming boring. I was like “What?” Why are you CS degreeing? Programming boring? I don’t understand. He’s like it’s too late now and I say, “No, it’s not too late because you’re going to hate your job! Whether it’s games or banking or anything, if you don’t like programming don’t go get a programming job. You’re going to be miserable.” A lot of people are like maybe gaming will solve it because I’m working on fun stuff and it’s like, “No.” The end product may be fun but in a lot of ways it’s still hard work. Games just don’t appear out of nowhere. So make sure you know what you’re getting into. Make sure you know there are still a lot of companies that do a lot of crunch and you’re going to work a lot of hours. Like I said, don’t go work for a company whose games you love because you’re going to end up hating it and you’re never going to want to play their games again. You’re going to see everything that happens and you’re going to see the broken builds and you’re going to see all the features that get cut. So don’t just go in there expecting this to be your dream job and don’t also expect to go in there thinking I play games all the time so how hard can this be? No, it takes a lot of skill and a lot of people to make a good video game. You may be awesome at playing a game but that doesn’t mean you will necessarily be awesome at testing a game. If you can’t communicate what’s going on, if you can’t think outside the box, if you don’t know how to play like a new player, or that weird player who tries to do stuff that no pro player ever would because why would you ever try and snipe someone from there, then you’re not going to be a good tester, right? If you’re just in it to beat games then that’s not why you do it, right? You do it because you love video games or because you love creating art and fun but loving to play video games does not equate to loving to make games. So I think it’s a huge reality check for a lot of people that just because the end result is something that you have fun playing doesn’t mean you have fun doing it along the way all the time. A lot of us have fun making video games but it’s not all sunshine and daisies, right?

A lot of people just assume making games must be this big ball of joy. Well no, it's not always the case, it can be just as frustrating as any job.

CD: Is there anything else you want to say before the interview is over?

SR: [Laughing] That's a very open ended question!

CD: It's a very open-ended question.

SR: I think I'd like to say that dealing with interviews with coin-op is very interesting. It speaks to me personally because of how much this area is overlooked by the rest of the industry because they don't think there's a big industry here or there's a hotbed of development here. We're here, we've been here for decades and a lot of people don't respect the past or its history or they don't learn from it. You'll see developers now who are fresh out of school and farming there own little studios or whatever, or even some of the older reps but they're still new compared to some of us and they're making the same mistakes over and over again that we already figured out how to fix in the 80's and 90's. There's a reason why they say respect your elders and learn from them. We figured out how to solve all this stuff and so I think when you get to talk to coin-op developers specifically, especially those who have been around since the beginning, you get to really understand where video games came from and why it is so many of us do what we do and how video games got to this point. Hindsight is always 20/20 but I think, with video games specifically, like I said I'd would never be willing to fortune tell the future but I think looking at coin-op tells you a lot about how we got here to console to to mobile to handheld. You can see parts of the UI and user experience in mobile handheld games that are kind of essentially borrowed from coin-op games because they have to be easy learn and they have to be easy to use because you're limited on what you have for control. So, I think it's really important that you guys are getting to interview actual coin-op developers and hopefully more of them and really

get to hear about the past because it's not only the past of video games it's the past of the Chicago gaming industry. It's the past of an art form and I think that's a really big thing that people don't understand and they don't realize and respect. There's so many people don't realize how much of this came out of Chicago and I think that's a huge thing to be like, "No," this was born here and we're here to stay.

CD: Thank you very much.

SR: Thank you.