



- Announcer: Welcome to CRR Radio from the Vision 2020 Project.
- Ed Comeau: Well, welcome to CRR Radio. My name is Ed Comeau with the Vision 2020 Project. When you're out doing CRR education in the community, one of the key words to keep in mind is engagement. It is so important to engage with the audience to make sure that your message sticks. I recently learned about an innovative approach being taken by one department, and we're going to learn all about it today on CRR Radio. Mike, could you start by introducing yourself and telling us a little bit about your department and community?
- Mike Sedlacek: Sure. Thanks so much for having us on today. My name is Michael Sedlacek from Madison Fire and Rescue. We are in North Alabama, just right next door to Huntsville. Our community, it's got about just about 50,000 residents in it now. Most of them are engineers or they're military. They work on [inaudible 00:01:00] arsenals here in our community as well, so it's a pretty affluent bedroom community. It's served by three stations. We are 76 personnel strong and we are just happy to be here, happy to serve our community.
- Ed Comeau: So you have a virtual reality unit that you're using to educate, sounds like primarily children, schoolchildren. Why don't you describe it to us and then we'll get into more details on how it came to be and how you use it and that sort of stuff. But tell us a little bit about it.
- Mike Sedlacek: It is a trailer that we actually created to be a part of our community events. We're very active in the community in terms of going to fall festivals, and we've got a lot of Boy Scout troops that come by for station tours and we have a lot of events over the summertime. And our school system is just massive. I mean, we're just building another school and our student to teacher ratio is around 20 at this point. It's just ridiculous. We have so many kids with an affluent community, so we just wanted a way to be able to engage them in a way that was, not in our opinion, old and antiquated.
- We've done safe house and all of the standard fire safety talks since I was a kid. But kids these days are doing things just drastically different, so we should be engaging them in ways that they can relate to. So we developed this trailer. It's a 26 foot enclosed car hauler trailer. We built 12 kiosks inside of the trailer that has iPads. And on the iPads we house the fire safety app that we created, as well as the NFTA apps for the younger kids. And then on the outside of the trailer, we have an actual virtual reality set up for people to actually go through the VR scenarios. They are on the outside of the trailer, so it's kind of like a two-pronged approach.
- Ed Comeau: So let's talk a little bit about the VR part of it. Describe that to me. What is that?
- Mike Sedlacek: Virtual reality, for those of you who don't know, you usually see it in the application of using your cell phone that goes into a headset and you download

an app and then therefore you can go through some scenarios that are predetermined for you. We chose to go down a different route and actually developed scenarios that are live for you to be able to do anything in the scenarios. We started by, of course, developing our goals and objectives and we decided that we wanted to teach these kids how to actually get out of a house if it was on fire based on national data in terms of cooking fires and in terms of nighttime fires.

Our target audience was third graders because for us, those are our latchkey kids. They're the ones that are riding the bus home. They're going to be home for 30 minutes or 45 minutes while mom or dad might be picking up a younger sibling from daycare or they may be there for an hour depending on their socioeconomic status. Maybe the other parent has to work. We wanted to be able to make sure our students were prepared for that. So that was our target audience.

On phase one of our project where we built our scenarios, we initially had them engaging in some activities that would actually start a kitchen fire and then we put them to a nighttime fire safety scenario as well. And we decided to go away from that initially, because we just didn't feel that we should have them doing something that was going to be counterproductive to our safety standards. We don't want them starting a fire, essentially. We were distracting them with cooking. And then we went to just a total home safety survey type thing where they're going through, they're checking their smoke alarms, they are locking doors, setting the alarms, turning the stove off or checking the stove and then they go to bed in the scenario.

They wake up and there is a fire in their house. We have them either exiting through a window or through the front door as well. They have to check the door. And then also in our two story, in our apartment scenes there, they also have to use an escape ladder as well. The scenarios were created in home types that were actually from our community, so the software designers went and found floor plans from homes under construction and from current apartments that are currently built here in Madison and they modeled those in VR so kids that go through this may actually go through their own house because it's one that's really here in Madison.

Ed Comeau: So this obviously isn't something you just pull off the shelf.

Mike Sedlacek: Negative.

Ed Comeau: I'm sure it took a lot to make all happen. What was the process like?

Mike Sedlacek: It was a long process. It took us about 18 months for that to happen. From project inception through having an actual workable project or program took us about 18 months. We started by, of course, deciding what we were going to do

with our phase objectives and we thought really long and hard about this. This didn't come from some kind of formative evaluation or risk assessment. This really just came from looking at our programs and saying, "This is not enough. We need more." That's kind of where it came from. It kind of was more of like a process type evaluation and how we went through all this.

We built our trailer. We had to kind of figure out how much we wanted to do and really do a lot of planning. We had to engage community partners. We were able to engage, of course, our union, our local was a really big one. We have a Toyota plant here. We applied for our grant through them and got some funding from them. Lowe's and Chick-fil-A and Linex and some other local companies chipped in to make the program possible as well as the city of Madison. And we really just got to work. We were able to get funding for more of the project than we were initially estimating we'd be able to get funding for, so we were able to take it to the next level fairly quickly. It's been something that's been very beneficial for us. We've seen a lot of great results and our data is just through the roof right now.

Ed Comeau: Okay. We're going to talk about the data in a little more detail, but I'd like to talk about the actual software production. Like I said, this isn't an off the shelf sort of thing. Did you have to partner with somebody to develop all the software in the first place?

Mike Sedlacek: We sure did. We sure did. And through this project, I learned a valuable lesson, and the lesson is to never stop talking about what your big goals are. As fire departments, we really start getting bogged down with the response and with trying to make sure we have people and apparatus and stuff, but what's your big goal? And I just happened to go to a meeting with the mayor one day on a completely different topic and he just asked me, "Hey, what are you doing today? What is the fire department doing that is going to be something cool? What are you doing?" So I said, "Well, hey, I just found this idea about doing virtual reality and I'm trying to figure out how to make it happen."

He says, "Well, hey, hold on a second. I have a contact for you." And he went to his cell phone and sent me a contact from a local software developer that he knew personally because his son and the software developer had went to school together. So he sent me this contact and I called him and reached out to him and he was so excited about the idea and we got together and started going down the track of trying to build something. This is not an, as you said earlier, an off the shelf thing. We really had to sit down and make some solid goals and objectives and their company had to go to work on it. It literally took a year just to get a workable product because they're building it from scratch digitally. And then we're making small adjustments as we see things and so on and so forth, so it's a back and forth project or product that's not done very easily, but it's one thing that definitely has been beneficial.

Ed Comeau: So the application is unique, but you're doing virtual reality. I mean, there are a lot other industries using virtual reality, aren't they?

Mike Sedlacek: Absolutely. I know NASCAR uses it and Major League Baseball, the National Football League, they're all using VR to be able to put people through repetitions faster. You can do more repetitions without damage to your body, without the risk of doing things that could put you in harm's way. Over the course of time, it actually becomes cheaper. We see people using this in the fire service and other applications. I know you did a podcast a while ago about a department in Colorado, I believe, where they're using it for investigation and stuff, and we see people doing things in terms of hazmat scenarios in the fire service, but it's been from the standpoint of firefighter training. We haven't found anything else that has actually been from the standpoint of educating the public with using VR. So it's been one thing that has been challenging to get this up and going because there's just nothing out here for it, so that was a challenge in creating this program for sure.

Ed Comeau: What's been the reaction to it?

Mike Sedlacek: The reaction has been absolutely phenomenal. What we're seeing now, especially on the iPad side, when the parents are inside the trailer with the kids, the parents start doing a lot of the educating and us as the fire department, we're able to stand back and allow those conversations between the parent and the child to just happen organically. And then we can step in and make corrections as they become available, according to what they're supposed to do, or we can have discussions with the parent while the child's playing the game. That really helps us do things like educate parents on the closed door campaigns and making sure they have a plan and a meeting place and all that stuff.

The reaction been amazing on that side, on the VR side as well. We are having a lot of good response from the kids especially, and the parents are getting a chance to watch this, because our TV on the outside of the trailer, it mirrors what the child's seeing in VR. So the parents are able to see that and really talk to them as well and we get so many little notes and comments from parents about how they're just so excited that their child's actually got some real education when it comes to fire safety.

Ed Comeau: It certainly sounds like what you've got has a big wow factor, but in this day and age, data is a keyword. Do you get data that shows you what you're doing and whether it's being effective or not?

Mike Sedlacek: Absolutely, absolutely. Our data that we are able to pull from this is pretty much limitless. When you build anything in VR or you build it digitally, rather, you're able to pull those data points or create little markers to be able to pull data when something happens. So I can tell how many kids actually went up to the fire. I can tell how many kids went out of a window, how many kids went out

the front door, did they crouch low? You can tell all kinds of different things. And we did this initially with our iPad by doing a pretest and post-test method.

What we started with was just asking questions. If they had a fire in their home, what was the first thing that they would do? And we'd pull the data from those questions. We asked them, "How often should you change your smoke alarm batteries? How many ways out of your house should you have?" We asked them, "How long do you have to get out of a house, and what kind of house do you live in?" And that really can give you a really, really solid data picture in terms of what these kids actually know. So you can change things around to ask any questions that you really, really want to, because that's just the beauty of using technology is you can set it the way that you want it to be.

So an example of that is just by asking simple questions to these kids when they're using the iPads, or we can get this also in VR as well, but we could ask them what school they attended, what grade they were in, do they have working smoke alarms, have they even had a house fire before but that didn't call 911 for? And we can get a picture that would say, "Hey, you had 41 contacts of kids that went through your scenarios today. Of those fourth graders that she saw, 60% did not have working smoke alarms." You could find out that you had 5 or 6% that it had a fire in their home that they never reported, and you could say that it took them an average of four minutes to get out of this house fire. And just by having that alone gives you a blueprint to be able to go to the school systems and say, "Hey listen, we need to get in here because this is something that is a problem that we're seeing from your kids based on our software and technology that we're using at these community events."

Ed Comeau: Which is a great way to get buy-in from your partners on something like this.

Mike Sedlacek: Absolutely. Absolutely.

Ed Comeau: How about internally? How are the firefighters reacting to this? Because it's certainly a different style of education you're doing than for what many firefighters are used to. What's been the reaction to it?

Mike Sedlacek: Well, I think the reaction has been one that kind of typically happens when you are engaged in a lot of CRR. When you face things either culturally in your department or this is not the way we've done things, sometimes when you come up with something new that gets the firefighters a little bit of recognition just because they work there, then that's one thing that they've really been onboard with. I don't have an issue getting guys to come and work with me at a community event because they know what it's about.

They get excited about it, too. They're in there and they're talking to the kids and it's something they just get excited about because they understand what we're doing and it's not the same old, same old that we've done before. We've

got some buy-in because of what it actually is. And having the organizational support from the city has been a big thing as well because the mayor was a big contributor to this program, and our department absolutely buys in from the top down in making sure that this can go and do what it needs to do to make sure that our community's educated.

Ed Comeau: So how replicable is this? If I'm in another community and I say, "Geez, Mike, this sounds great. I'd like to do it in my community," I'm sure it wasn't cheap, but also you have broken a lot of ground, too.

Mike Sedlacek: Yes. It's not cheap, but we chose to do things over and above what we initially could have. We could have done this and said, "Okay. Well, we've got a computer, we've got a headset, we've got some scenarios," and we could have minimally spent, but when we decided to go above and beyond and to really do something that would really make a difference, we did end up spending more money. But it's one thing that is replicable for sure. There are mistakes that we made in the process and the process of implementing this plan, but those mistakes are easily avoidable and we can definitely walk anyone through what we did and how we did it so that way we can help spread the message of using technology and breaking that mold for how we've always done fire safety education. So it is very replicable. Our software developers that we've worked with are definitely open to working with other departments to develop things for them so that they can do the same thing. I don't believe it would take 18 months because they already have a good basis to work from now.

Ed Comeau: What's next?

Mike Sedlacek: Well, what's next is for us, we are going to be developing a severe weather scenario to go along with what we already have in our area. We are in our own tornado alley of the south. We have a ton of tornadoes that always come through here come the spring, so we have an issue with tornado siren complacency, so we're going to be developing this set of scenarios that's going to really help, that we hope anyway, we'll help deal with some of those issues with tornado siren complacency and really knowing what your safe places are and knowing how to handle severe weather and being that we have our homes already to work off of in terms of our digital homes, we'd be able to really get these things hit by a tornado in VR, which I think would be really, really cool. So you can put up a modern day twister in VR.

Ed Comeau: And is your focus audience on that still going to be kids, or are you going to move it to adults?

Mike Sedlacek: To be determined still. We'll have to see how that goes. We've put adults through our scenario here as well, and we've had them come back with the same feedback of, "Wow, I wasn't prepared," or, "I didn't think it was going to be what it was, but my God, this is much more than than what I thought. I need

to practice getting out of my house too because I couldn't tell my kids because I couldn't do it." So I think that using this type of technology can definitely encompass multiple different target audiences. I think a lot of it boils down to the instruction that you give them while they're doing that. You give them a higher level of instruction while still putting them into the same scenario and you help them notice things that they wouldn't notice before. And that's one thing.

Using VR uses so many of the senses, which is really awesome. The only thing that we're not able to use this smell, because we can't put them in a burning house where they could smell it, but they are seeing it, they can hear it and then they're doing something with their hands, so in their minds, they're touching it, and you can see how when you see this in person, people will actually get wobbly and they may even fall over and we have to catch them sometimes because it's so real for them that they're there. It's so awesome seeing that. It's just one of the things that makes me smile whenever that happens because it lets me know we're on the right track.

Ed Comeau: Well, we've been talking with, Mike Sedlacek from the Madison Fire and Rescue Department in Alabama about how they are applying virtual reality to engage with the community and they are undoubtedly taking it to a whole new level. So Mike, I really appreciate you taking the time to join us today and share what you're doing down there in Madison.

Mike Sedlacek: Well, thank you so much for having us. We appreciate it.

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