

Screenplay

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Interview with Mikayla Armstrong about Maker Lab (2/23/17)

MIKAYLA IS A STUDENT WORKER AT THE TECH
DESK

I found out about it last year, and
I went crazy going 3D printing.
I've printed a snake hide for one
of my snakes.

ALEJANDRO
What? That's cool.

MIKAYLA
Which I haven't really done much to
it right now because I've just been
too busy, but you know like I said,
it's one of those things you can
do. Because it's like "Hey, it's
cheaper than actually going to buy
a snake hide." A: Yeah, if you
could mention that, that'd be
awesome.

MIKAYLA
Oh, yeah. Definitely.

KRISTINA
I'm ready whenever you are.

ALEJANDRO
Okay. Um, cool. If you want to
start by introducing who you are.

MIKAYLA
Hello. My name is Mikayla
Armstrong. I am a computer
information systems major here at
NAU, and I actually work at the
tech desk as an IT classroom
support.

ALEJANDRO
Cool. We're just curious about the
whole process of the Maker Lab.
Could you just let us know like
what is the Maker Lab.

MIKAYLA
So the Maker Lab is one of our 3D
printing services. We offer 3D
printing, 3D scanning, we also
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MIKAYLA (cont'd)
offer different types of applications of software as well. So it depends on what you technically want to do. When I say 3D printing, I mean just like for example, as we know, to take a radio and then go back and 3D print it out instead of actually going to buy it at the store which can cost more.

ALEX
Cool. Who can use the Maker Lab?

MIKAYLA
Anybody can use the Maker Lab. It can be community users, it can be NAU students, CCC students. Anybody, pretty much throughout Arizona or even California or anywhere can use it.

ALEX
Cool. So how do you use it? Can you just walk me through the process of where do I get a 3D design and, you know just give me the whole process?

MIKAYLA
So the process is really simple actually. We offer different types of software. So if you are the type of person who wants to make it themselves you can do Tinkercad or yeah Tinkercad not Thinkercad. Tinkercad. You can do any type of software related things like Autocad, uh Sculpture. I can't remember the, Sculpture. There's a sculpture software as I like to call. I don't use it myself, but that you can use as well. If you don't want to make it yourself, we actually offer a thing called thingiverse or thing I verse .com. Thingiverse is a different type sof- or different type of website better put where people give their ideas. So they're the people who, let's say, made the T-Rex and you can 3D print it yourself. So once

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MIKAYLA (cont'd)

you find that 3D file, we always ask that you use an stl file. No .object no .autocad. None of those crazy different types of, how do I put it, programs. Just .stl. Once we get that .stl file for you it's actually really easy as a student or a community user to use. You'll go to library.nau.edu you'll click on services. We actually have a Maker Lab link if you scroll down in the software section. You'll click Maker Lab and then right on the right hand corner of all the nice little pictures you'll see submit a 3D print request. Very simple. You fill it all out, you tell me, "Hey it's for a class, "Hey it's not for a class," "Hey it's for- I need 15 prints." Which would be interesting. You can tell us what kind of colors, and we actually offer example of those colors for you. My favorite personally is neon green just cause, it just stands out. Then like I said you go through the whole thing. My favorite thing that I like to point out to students though is we offer you 3 different types of things. You can authorize it regardless of any time or cost, you can choose to say "Hey I want less than \$10 and I don't want it to take too long" (so about 2 to 3 days to print), and then on top of that if you are kind of like "I kinda wanna know the price and the time," you can let us know to say contact me about a time and estimate. And usually, like I said we send you an email and everything like that. The next thing about this whole, you know, the whole set up that we have, you don't have to do the hard work. We do all of the slicing, we do all of the orientation, we change all of the filament colors and everything like that. That has nothing to do with the student, that comes on our side. So it makes it, you know,

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MIKAYLA (cont'd)

like I said, it makes it easier for you so you don't have worry about that. One thing I like to point out also as well is it takes 24-48 hours to process. So if you know you have a project due in 2 days, get it done in a we- or send it uh, send it to us in a week. Just to be on the safe side. And that's pretty much how the process works.

ALEJANDRO

Cool. As far as your time here as being a worker for all of this, what would you say is how is it useful, why is it a good service, and the practicality. Not just as a cool thing to have as like a--what is it called that you have on your--a paperweight.

MIKAYLA

There you go. That's a good one. As I tell people, I use it as a service for my snakes. I have 9 snakes, and it comes costly to buy decorations. Each heavy type of decoration, depending on the snake if they're not going to destroy it, it takes about 20-40, or it ta-, it's about 20-40 dollars depending on how big that decoration gets. For me, 3D printing cuts it in half. I don't have to pay 30, or 40, or 50 dollars for a decoration and think "well I'm a broke college student how am I gonna make ends meet and then make my animals happy." I use that in that case for making certain things. Like I've had, I just recently made a cage for one of my snakes. I use a 3D model which I'm still working on right now, where I'm going to put a waterfall in it. And instead of actually buying the whole waterfall set up I'm actually making it from scratch myself. And another project that I'm working on with my boss is making an electronic violin. Thought that was kinda cool. Like I said, those things can run about

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MIKAYLA (cont'd)

like 100-500 dollars. I found it for about \$60 just as easy as that. And luckily we're just starting onto the concept of using Arduino kits and Raspberry Pi's which it's a new thing even for me. So it's a learning experience to know "hey, I can take this electronic violin, get all of the parts, make an Arduino kit, put it all together, and then have a \$100, \$200 violin for like 60 bucks. So you know, it's that cost. So for students, like I said we have a lot of engineering students as well that come in and they're like "well we can go on Amazon, and spend hundreds of dollars just trying to get these molds or we can just send it in to us, it's \$50." So that's how we use it.

ALEJANDRO

Cool. Very cool. Is there anything else you would like to mention to students or community members like something to keep in mind when using the like any tips basically when going into this.

MIKAYLA

Any tips I say? Creativity. As simple as it gets. You can make anything. Of course, don't make anything copyrighted. That is one thing that I forgot to mention. No Mickey Mouse's, no you know, American Dad's or whatever you call. But you can pretty much make anything you that you want. At a reasonable, copyright, non-copyrighted mount(?) as I like to say. The sky's the limit. That's the nice thing about it. Like I said, I can make giant pieces and not have to spend thousands of dollars. Like I said, I've had, I know one person at ASU that has a 3D printer himself and he's an architect. And instead of spending thousands of hours and time and money just to make this nice little

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MIKAYLA (cont'd)

intricate house, 3D printing has eliminated that. Because now all you have to do is just "Hey I got the design printed out." Same thing with an engineer. "Hey, I got the design printed out." It makes it easier for people like ourselves not to have to go through the whole process of finding it online, trying to figure out the price, trying to figure out the shipping and how long it's going to take, and then you're just going to have to wait for it. When it's like, okay, you send it off to us, you let us know what color you want, you let us know everything like that. And let's say you're like "I don't know what I want to do." We have consultation services as well. So we can sit down with you and try to figure out what you're trying to aim for. Which is what, like I said for every community user, if you don't know what you want, come talk to us. We're all really friendly. Yeah, and that's about it.

KRISTINA

Do you have any restrictions aside from like copyrights.

MIKAYLA

Not really. K: Like in size or anything. M: Size. I mean if you're going to make something like this big, I'm gonna say no. If it's like 5 feet tall, all we ask, and the nice way to put it is, cut it, you know, cut it into pieces and we can print it out that way. It's not impossible. It's just, you're going to have to take work on your side. Which we do, also forgot to mention, have services in the Maker Lab that you can use at our work station where you can just build it together. So if you have a 5 foot totem that goes up to here and you're like "well, I just want to print it out in pieces." We have soldering tools, we have hot glue

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MIKAYLA (cont'd)
guns, we have everything that you need. If you don't have it at home per se. So, yeah, you have a lot of options.

ALEX
That's cool, so, what was I gonna say. Is there like restrictions on, I don't know like if you wanted to make an NAU related item.

MIKAYLA
As long as it's not something that portrays NAU in a bad setting, so like you're putting NAU and then a gun. No, we're not gonna do that. But if you're like "Hey, I wanna make an NAU, mom little plaque." Go right at it. You know, like I said it's just like don't do illegal, you know, don't do anything that makes NAU look, you know, like I said, don't do anything that you're not supposed to, as I like to say in the nice way. But yeah, you can make a little NAU mom plaque, you can do NAU, I probably wouldn't do this, but an NAU license plate, you know, cover, but you know, like I said, it's plastic, so do know it might break. But yeah, like I said, you can do anything NAU related. It's not the en-, you know, like I said, we're not gonna get mad at you or anything, it's just, don't put it into something that's not bad. As I like to say.

ALEX
That's cool. Has anybody made like a Lumberjack? Do you know?

MIKAYLA
Not that I've seen. I think that is a copyrighted thing though, through NAU, so yeah. Because it is a marketing, you know like I said, it's marketed. And we've got our little lovely Louie all the way out in Skydome. Yeah, like I said, I don't think you're allowed to print that.

ALEX

Okay, cool. Did you have any--?

KRISTINA

Oh, how is cost calculated?

MIKAYLA

Oh, totally forgot about the cost, and that should've been the first thing I would've talked about. It's 10 cents per gram. So, like I said that's the nice thing, math, you know, fun thing. It's a, if it's a hundred grams, it's only going to be like \$10, or is that math? Yeah, that's math. It's about you know, like I said just times it by .10 and, you know like I said. It's literally we do send you 3 types of emails though, I like to mention as well. We send you "We have received it." So we'll let you know like "Hey," if you're saying "I want to know what the cost estimate is" that's usually when the first time you'll get it. In other ones, we don't really let you know. We're like "Hey, we'll let you know when we start printing. Then we let you know in the pri-, you know, once we get everything filled out, then we let you know in the printing stage like "Hey, this is how much it's going to cost and this is how long it's going to take. But this is usually for you don't care how long it's going to take to print, actually it's for all 3, but like I said, that's usually when people find out the most. But in the last stages we always ask for the com-, you know comple- we'll send you a completion email saying "Hey, we've completed your print. You're more than welcome to come pick it up, and the place that you pick it up is at the tech desk." So you'll come into the tech desk, say "Hey, my name is blah blah blah." And you'll just, I will be like "Okay cool, we'll go find it for you." You pay right at desk with a credit card. We don't accept Louie, and we

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MIKAYLA (cont'd)

do not accept cash. We are trying to get the Louie set up, but you know, like I said, it's still, it's a very big work in progress. So, like I said, just bring in a debit card, we'll pay, you know, we'll pay it all for you. And like I said, if you are like an engineering student that I've noticed where you have grants and stuff, we can also print out invoices and stuff like that if, in the worst case. So, yeah.

END OF INTERVIEW.