MICHAEL MASSEY:

Hello, everybody. Welcome to the class. This is Flying in the Clouds with A360 Collaboration for Revit. Or BIM 360. They've changed the name I guess-- now it's BIM 360. But anyway, we know what we're talking about.

Welcome. Everybody having fun? Good AU week? I can't believe it's already over. Tuesday I was like, man, it's only Tuesday. I'm dead tired. But here we are, it's our last day, and we're almost ready to go home.

Well, thank you for coming today. I appreciate it. Hopefully you'll get something out of this presentation.

Let me go ahead and introduce myself. My name is Mike Massey. I'm with a company called Applied Software. We are an Autodesk reseller based out of Atlanta, Georgia. I actually work out of my house in Chattanooga, Tennessee. Any Tennessee people? No? Ooh! You're the second one. I've taught four classes this week, and I've seen two.

All right. But anyway, as far as my background, I've got 26 years of experience in the AEC industry. 15 of that was working as an architect doing things from houses to hospitals.

And for the last 11 years, I've been with the reseller teaching, training, and implementing primarily Revit for architects and engineers. Revit MEP. I'm not a structural guy, but I could do Revit MEP, or Revit Architecture.

I was surprised this week when I checked in. They gave me a little ribbon for my name badge and said that I was a top rated speaker last year. So thank you if you all helped out on that.

Let's see. Repeat speaker at RTC-- Revit Technology Conference-- and other AIA events. Oh, I actually wrote the training manual for Autodesk Revit MEP back in 2015, I believe it was.

But anyway, I've got all the certifications that they make me have to do this job. But that's a little bit about me.

This class-- all right. Let me make myself clear here. Anybody using Collaboration for Revit today? OK. I'm going to give you an option. You can exit right now. This is a demo of how Collaboration for Revit works.

So if you're using it and feel confident that, you know, you're using it, OK. You may want to leave because you may not get anything out of it. But for those that have not seen it, or have not used it, you'll have a good understanding of how it works at the end.

Yeah, feel free to leave. I don't want to-- I'd rather you leave now than give me bad reviews saying it was too basic.

[LAUGHTER]

But anyway, I will go through both TEAM and Collaboration for Revit and show you how they work together, and how you can kind of use it. And it's pretty fantastic. We've got a lot of customers that's using this that love it.

I've heard very few complaints. The only complaints I've heard is that occasionally-- I mean, we're talking maybe less than once a month-- their servers go down. It went down last week, and we had some support calls last week asking about what's going on. By the time I called them back, which was not very long, it had already come up again. So a little glitch here and there, but for the most part it works pretty good.

But that's kind of what we're going to be talking about today. As far as our agenda, I'm going to go over just an overview real quick, and then jump right into TEAM and talk about TEAM and Collaboration for Revit, and then we'll have plenty of time, I believe, at the end for any kind of questions that you may have there.

All right. So let's get into this. BIM 360. Like I said, they have re-branded this and brought it under the BIM 360, as opposed to the A360. It used to be A360. But underneath that BIM 360 umbrella there's lots of products, including TEAM and Collaboration for Revit.

I'm going to talk about both of these because they are two different products. But let me just say this-- when you purchase Collaboration for Revit, you get TEAM for free. So it basically is a two for one deal type of deal.

You do need TEAM in Collaboration for Revit because TEAM is a web-based portal that we're going to be setting up the projects in. Once the projects are set up in that TEAM web-based portal, then we can begin using it in Collaboration for Revit. So you need both.

You can also just purchase TEAM-- TEAM by itself. You don't have to have Collaboration for

Revit to use TEAM. So we'll talk about the advantages and disadvantages of just using TEAM, or getting into the Collaboration for Revit. But just know that there are two different products, but you get two for one if you do the Collaboration.

All right. So what is TEAM? Let's move into TEAM and talk about that. Basically, TEAM is a web portal that you can create a project on. And once you kind of create that project, you can begin inviting people to join you on your TEAM. You can begin sharing, viewing, and searching throughout your project. Basically it's a project-based website that you can put files on.

If we look at current collaboration tools today, we have email, maybe some type of SharePoint site, network drives, basic cloud storage. But all of these have problems. All of these have issues that you have to work with.

Email is not centralized. Your data is not centralized, and it's hard to find stuff. If you're like me, I've get 4,000 e-mails. Trying to find something is kind of difficult to do, unless you're really organized and organizing, but I'm not.

SharePoint, you know, that's good. But it's expensive. It's expensive, difficult to track and find things, again.

Network drives. You know, that's expensive. But it's hard to share things on network drives. If you're if you're in one building, one office, it works great. But trying to collaborate with multiple off-site buildings, it makes it difficult.

And then just basic cloud storage like Dropbox, or something like that. It works, I guess. I use it some. But it's not project centralized. It's not a place that you can set up for project-specific things in there. So those are kind of some downsides to those items.

TEAM, we can do any kind of file format. It doesn't have to be a Revit file. It doesn't have to be an AutoCAD file. It could be a Word file. It could be any file out there. Basically, it's just a file that we're putting out there to share. Any file format can be uploaded to TEAM.

The other benefit of using TEAM is that it is mobile. You can use it on any device-- your computer, your iPad, your Android, your iPhone. Whatever it is. You can use it on any device there.

I've got a video next. I'm going to talk through this video. It might play some music. Let me go ahead and play this video. Pretty neat. I want to point out a couple of things in here as this

video is play.

[MUSIC PLAYING]

This is an Autodesk video, by the way.

[MUSIC PLAYING]

But here's a viewer inside TEAM. So it gives you the option to come in there and view the project. If you don't have Revit on your machine, you can still participate and view the project.

You can cut sections in the model by dragging and dropping. Really easy interface in here, as far as working inside this model. All the properties are there. You can go in there and isolate components and turn things on and off just like you can in Revit. So it's got some pretty good tools in there as far as viewing the model.

So here we isolated the stairs. We're kind of just looking at the handrails of the stairs. You know, we've got properties there. So all of our properties from Revit come over.

We can also see plan views. So not just the 3D model. We can export out plan views and see those as well. And, again, we can find components, isolate components. Whatever we want to do there.

[MUSIC PLAYING]

As far as sharing-- this is where it starts getting neat. Let's share our model with our colleagues. And what it is will do-- you can create a share, and basically it will send them an email with a link. You type in their email address, and they'll get a link that will take them right to whatever you're in. It will take them directly to this view.

But the really, really neat thing, I think, is the live review. And that's coming up next. So in the live review, what you can do is have two people actually looking at the model at the same time.

As I walk through the model, zoom through the model, both parties will see the exact same thing-- on their computer, their iPad, or their phones. So they can actually review the model together and see the same thing on their screen.

I could mark it up. You can do markups in there. Everybody will see the markups in there, as far as putting your questions in there, whatever you want to do. But it's a great way to

collaborate, because, like I said, everybody is seeing the exact same thing.

How you can spin around and look at that. Pretty neat. I think that's one of my favorite parts of TEAM, right there, is that live share. It's kind of built into it.

[MUSIC PLAYING]

So that is TEAM. Let me kind of talk a little bit more about it. When you open up TEAM and open start TEAM, you're going to have a project hub. And in a hub, everything is going to kind of filter down underneath that hub.

So you create one hub for your office, and then inside that hub you can create as many projects as you want. So typically you have different roles of your members that are on your team. You have a team administrator, team owner, and you have team members, or team admin people, and then different projects that they're associated with.

So I could be a team member for Project A, but I don't need to see Project B. So I'm only seeing the project that I've been invited to.

The other thing about TEAM is that one person actually has to make the purchase, as far as purchasing the entitlement. Once you have that purchase, once you have that license, you're free to invite as many people as you want to to join your team site.

So if I'm inviting my HVAC contractor in on the project, he does not have to pay for anything. I'm already paying for it. So I can invite anybody I want to for free.

In the class handout is a white paper-- basically it's a white page of how to set it up, is what this is. I think the most difficult thing about either Collaboration for Revit or TEAM is the set up process. And that's kind of out of our control. It's up to Autodesk to kind of set this up.

And when you purchase it, the first thing that you'll notice is that it's not instant. It's not like you purchase it, and it's right there. I've seen it take anywhere from one hour to three days for them to actually turn the button on to let you start using it. So that's the first kind of hiccup there.

But, anyway, we've got a pretty good step-by-step instructions for how you can go through and set this up once you purchase it, and the steps that you go through there. So it's a great tool for reference there.

All right. So let's get into TEAM and kind of see what it looks like. So inside of TEAM, when you first go into it you'll have basically your TEAM hub page. So this is the starting page that you'll first go in to. And what this is listing out in here is all my different projects that I've been invited to. So quite a few projects there.

Over here on the right, I can see kind of an activity list, as far as what's been done in my project. It's just kind of a running activity list.

Up here at the top I can create new projects. I've got a new button up there to create new projects. That's about basically that page there.

But if you drill down into one of these projects and open them up, the viewer in here is pretty good. Like I said, we can view plan views, or 2-D views. Basically sheets-- if we have sheets, we can view those.

There's some pretty good markup tools in there that we can use to mark things up. We've got some measurement tools in there to measure things with. We also have a version history, so we can go back in time. It's going to keep track of all of our versions that we upload there, as they change.

And we also have a running set of comments over here, you know if people make comments about it, or ask questions about it, we have that running list over there. So pretty good.

Also the 3-D viewer-- if you do upload a 3-D model to it. So this is great if you've got an owner that doesn't know anything about Revit, you can invite them to this project and they can participate and see the model, see the progress, and use these pretty easy user interface tools down here to zoom in, stuff like that. You can section the model. All of the properties are going to be there. So it's a pretty nice little viewer. It's pretty quick. So that's there as well.

Like I said, really this is just a web-based project site that we can invite people to, and start sharing information back and forth. Like I said, this does not have to be done with Collaboration for Revit. We're going to get to that in just a second. This is a standalone product by itself, if you just want to use this part of it.

All right. So if you kind of sum it up as far as TEAM, we've got lots of different players on our projects. We've got engineers, we've got designers, we've got owners, we've got contractors. All these different players are typically involved on a project, and they're all working with

different parts of information.

So that, you know, we've got drawings, and models, and databases, and Word files, and all these different types of files that we're working with. And then we have all these different methods of transferring them as far as coordinating and sharing the information.

We have meetings, and e-mails, and phone calls, and all of these different things. So TEAM kind of summarizes that and ties it all together in a centralized website so that we can share information back and forth and collaborate together. So that's kind of, in a nutshell, what TEAM is.

So let me open it up. I do have it open in the background. So let me go to my TEAM site. So here it is. I've logged in. It does use your Autodesk username and password. And that's another thing-- if you've got multiple user names, we've seen people have trouble because they've purchased it under one user name, and then they're trying to use a different username. So make sure you're knowing what username you're using when you purchase this. It's based off your email.

But in here I've get several different hubs, first of all. If I click over here on the left of my little picture, I can see that I can go to these different hubs. And these are different hubs that I've been invited to. Some of them are customers. Some of them are other people in my office, or whatever. But I can go look at these projects, or whatever.

But I can also set whatever one I want to be my default. And that's important as far as making this my default, because once it's your default, that's what Collaboration for Revit is going to look at when we get to that. It's going to look at your default hub, whatever it is. And so you can establish which one you want to be your default.

But in here, like I said, I could create new projects in there. I can kind of view this different ways as far as seeing what I own, what projects are owned by me, which ones are shared by me. And you can also archive projects once they're done to kind of get them off this main page list.

So let's drill down into one of these. I'm going to pick on this medical project here. And in here, you can see I've got some files. Basically it looks like I've got four different Revit files. I've got the architectural model, a furniture model, the MEP model, and the structural model all loaded in here.

I also have the ability to create folders. So if you want to create folders. I've got a folder in here that's got some renderings, so I can open up some of these renderings and look at them. So there is a rendering. They're not just Revit files. It could be any kind of file format. But you can go in there, like I said, and kind of start organizing this with sub-folders, or things like that.

It also has Wiki Pages in it as well. Wiki Pages will allow you to kind of-- if you've got a document that's changing. I don't have an example here. But if you've got a document that's continually changing-- maybe it's your BIM execution plan, or something like that-- your BEP-- that's changing as the project's going on. You can put it in here, and basically everybody can see the changes and keep it up to date as far as making sure they get the latest version of that document, whatever it is. That's in there.

There's also a calendar that you can look at. So if I go over to my calendar, this is where you can put key dates to share with your project team, as far as submittal dates, or issue dates, or whatever it is-- meeting dates. You can put it in there, and everybody will have access to that calendar.

There's also just a discussion, if you want to kind of start discussing things back and forth. It's basically just a chat session that you can chat back and forth with your team members there.

All right, so if I go back to my project and let's open up one of these Revit files. I'm just going to pick on the architectural model. And when I pick on the architectural model, it's going to initially go to my 3D model, I believe. And I'm on the conference center wireless network here, so it's a little bit sluggish. But that's OK.

All right. So here's my 3-D model. Like I said, we can zoom up and look at this. And here's a gotcha that you may want to look out for. Any civil people in here? Anybody civil? OK. You all are just backwards. I think Civil 3, the zoom on your wheel is backwards. I think it works like Civil 3D.

So when I actually roll up, it zooms out. And when I roll down, it zooms in. If you want to change that, you can change it in the settings. There's some settings over here that you can change to reverse the wheel action. It kind of bugs me when I try to zoom in, I think I'm zooming out. But anyway.

You can kind of zoom up on it. You can pick on it. All the properties there. If I pick on this and want to see the properties of this, I can go down to the bottom and look at the properties,

which is one of these buttons down here. I think it's this one. So I can see the properties of that structure that's actually a roof. See, everything that's in Revit as far as all the parameters are there.

You can also pick on something and hide something. If you want to hide it, you can hide it. You can isolate it. Do different things like that, as far as controlling what you see in there. You can also-- I typically show this. I absolutely have no idea why I would want to see this, or where I'd want to see it, but I think it's just cool. Let me turn these properties off to show you this.

We've got an exploded model button down here. And this is kind of cool. I don't know why you'd ever want to do this, but I can click on this and go woo, and it starts exploding this into a million little pieces.

[LAUGHTER]

So it's kind of fun to play with, but I don't know why you'd use that. But you can explode it and expand it out into a million pieces. So that's there.

Like I said, there's markup tools down here that I can mark it up. If I do do a markup in there, I can come in and just circle around something, mark it up. If I want to put text on here, I can save this markup, whatever I want to do. Save this.

Once you save it, it's going to put your initial there, the picture of what we're doing there. And I could actually send this to somebody. There's a share button here that I can click on share. Send an email. They would get a link right to this view so they can see my markup in there. So it's pretty nice.

If I go to the sheets and look at the sheets, as opposed to the 3D model, we're able to pick and choose which sheets we want to share. We don't have to share all of them, but we've got the ability to pick and choose there.

If I open up maybe the ground floor floor plan, it's not a PDF. I think it's a DWF. I think it's a DWF, but I'm not 100% sure what this is. But it's very crisp and clear, whatever it is. And it's pretty fast. You know, you can zoom up and pick on things just like you do in the model.

We've got measurement tools in here that we can do some basic measurements if we want to see how big something is. We can pick two points in there and say, OK, how big is it from there to there? And put a distance in there, and it tells me over here.

I think I may have to change my units. I don't think I set my units up. I think it's not set up yet. I need to set the scale-- tell it what scale it is. But you can measure things in there and do different things like that. So it's a pretty good way of seeing the documents in there.

I could print from here, print these out if I wanted to, save them, whatever you needed to do. So, again, a great tool, especially if you've got somebody that needs to be participating that doesn't use Revit, or doesn't have access to Revit. Now they can start seeing the models and seeing what's going on in there.

I'm trying to think what else there is in here. Like I said, it's pretty straightforward. There's not much-- I can't think of anything else right now to show you. But that's TEAM. Like I said, you can create as many projects as you want, invite whoever you want to. There are different roles. You can have just a viewer in there, or somebody that can download things and edit things as well. Or you can be a TEAM site administrator where you can actually create projects on there.

Yes?

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: You can stop doing that. You can just invite them to the TEAM, and that way they can just get it and see it when they want to. And they can print it if they want to, or whatever. Yes.

Yes?

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: It is not. It is not.

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: Yeah. When we get into Collaboration for Revit, I'm going to show you. In here, if I don't have Collaboration for Revit, in here I would just come in here and say upload, and go out and find the file, and upload it. OK?

And when we get into Collaboration for Revit, I get to pick and choose which files I want to

share with the team. And I don't have to share them all. I can pick and choose which views I want, and upload them when I want to. So if I'm not ready to upload them, I can wait until I'm ready and upload them when I'm ready.

Yes?

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: It is. Document storage and basic viewing. It is. There's no collaboration in here as far as class detection or anything like that built into it. It's basically just viewing and marking up.

Yes?

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: Whichever ones you pick. Yeah. I get to sign that inside of Revit. So I'll show you, when we get to Revit in just a second, show you which views are there. But we can pick and choose which views we want to publish.

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: Oh, before? If we just go to file and upload?

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: You don't. You're exactly right. As far as picking that--

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: OK, you stumped me right there. I wasn't prepared for that question. Let's see. I don't know if there is a way. Because when you just pick a file-- if I just pick this Revit file and upload it, there's no way for me to tell it which views to come in, so it brings everything.

AUDIENCE: [INAUDIBLE]

MICHAEL You do control it. You're right. So I don't know the way to initialize that first one. Good

MASSEY: question. Good question.

Any other questions?

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: It will be you CAD files, and Revit files, and I think that's it. Word documents. Yeah. You can click on a Word document and save it, but as far as that actual CAD viewer, as far as doing MicroStation, or something like that, I haven't tested it, so I don't know if it will do other CAD formats.

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: Yeah, you can put PDF files here. But it's not going to use that viewer, per se. If you click on the document, you'll see it. But that viewer, per se, as far as getting in here and seeing in this viewer here, it's going to be a little bit different. But you could actually open up the PDF files.

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: Mark it up?

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: I don't think you can. It would be very similar to these jpegs. If I open up this jpeg image, I don't have any tools in here to mark up. I can comment. I can put comments, but I can't actually mark it up, per se. But I do have a comment option over here. OK? Good questions.

All right. So with that, let me go back to this and continue on. And now we're moving into the Collaboration for Revit side.

So, like I said, when you purchase Collaboration for Revit, you have TEAM. So you get TEAM. So everything that's there is there. But Collaboration for Revit basically adds the fact that now we can collaborate inside of Revit with multiple people working in the same file, at the same time, at multiple locations.

Anybody ever use Revit Server? OK. Revit Server was an OK kind of fix. It was kind of expensive, I think. And a lot of setup as far as IT setup and things like that. Here there's no IT

setup, so it's basically you sign up for it, invite people to it, and you can begin using it.

So, basically the way it works is if you're familiar with how Revit works with the work sharing locally-- so if you have a model inside your office and you turn on work sharing to share the model so multiple people could work on it at the same time, it creates a central file and everybody works on their local copy. And we're synchronizing back and forth to the central model. It does the same thing.

So if we take this and move it to the cloud, what it does is it takes that central model off of your server, and hosts it in the cloud. So now your central model is in the cloud. Then, once it's in the cloud, each user can come along and create their local copies and work locally on a local copy. But now when they synchronize, now they're synchronizing with what's in the cloud as opposed to what's on your server.

So same concept, working exactly the same as work sharing does in your office, it's just now moved it out to the cloud. So we could have people in multiple locations at the same time working on the same file at the same time.

So some of the key benefits here, again, the mult-firm concurrent authoring there. Another benefit-- I don't have this up there-- but another benefit, and another way you can use this, is if you have consultants working on your project.

Maybe I have an architect, an MEP, a structural, civil guys, all these guys are working on the project. They're using Revit-- this only works with Revit, by the way. It doesn't work with AutoCAD, it doesn't work with other CAD programs. It's just Revit.

But if I have multiple people, what I can do, I can invite them to my project, they can put their models-- I still recommend having separate models for each discipline. One for architectural, one for structural, and MEP, whether that's one model, or three models, that's OK.

But either way. But we could invite them. They can put their models on the site. And the benefit there is now I can link in their models live. So I'm linking in the live model that's out on the cloud.

So no longer do I have to ask them to send me an update, and reload and replace the old file with the new file so I can see their changes in there. Every time I open up Revit, I'm linking in their latest and greatest file. So that's a benefit, another benefit, a side benefit.

The downside of that is, your live file is now out there for your engineers to access. You've got to slap their hands if they open it up and start changing it, but they now have access to your live model. So some people are kind of like, ew, I don't know about that.

So you've got to make that decision whether you're comfortable with that. But there's no way to block them out of your file, because your files are going to be there just like their file is. You can do the same thing to their file.

All right. No IT setup. Like I said, Revit Server requires you to basically build a portal between the two locations to make it work. So you've got to have IT involved to set that up. Here there's no IT set up at all. No hoops to jump through.

And it also opens up the door for other cloud services. As you saw in the keynote, it's all headed here. You know, the keynote talked about the cloud services. It's getting more and more there. And they're eventually going to tie all these cloud programs together, and this just kind of opens up the door to allow you to have access to those other ones.

How does it work? I typically get asked, is it slow? Or how fast is it? OK, we're working off the internet. Is it going to take me three hours to open up this model? It's pretty fast. Let me just say that. They built in some accelerators in here to kind of speed it up.

But the main thing is, it's only downloading the cached copies. And what I mean by that is, it's only looking at the things that have changed since the last time I synchronized and downloading just the changed items. So it's not downloading the full model every time you synchronize, or every time you open it, because you've got a cached copy on your C drive that it's using, and it's just looking for the changes there.

So that does speed it up. It is slower than opening it up on your C drive, I will say that. Depending on your internet connection and your speed of your internet, I guess is there. It is dependent on the internet. So if the internet goes down, that could cause some problems as well. So there are some hiccups there, but for the most part, it's pretty good as far as speed-wise.

We've got customers using it on, you know, 4 and 500 MB files, big files. They don't complain about it. It may take 10 minutes to open, but this can take probably about that long if you open it up locally on a 600 MB file. So you can kind of play with it that way. But it's pretty fast.

The other benefit of Collaboration for Revit-- it adds a Communicator. So this Communicator is

a basic tool palette that comes with it. And on this tool palette, we can start communicating with our team members. And I think I've seen different ways of people doing this. Different ways, kind of out-of-the-box thinking as far as ways that they communicate.

Here's a picture of somebody that's got essentially a detail view inside of Revit. I'm not sure why they called it Main Stair Detail, but they did. But in here is a to-do list of things to do. And so they're trying to use this drafting view inside of Revit to coordinate and tell people what to do next, or what to check on, or just basically a to-do list. Not a great way, but I guess it works.

We also have all these different tools out there like-- I don't know if a lot of these are still in business-- but you know, we still have Link, we still have Messenger, maybe Yahoo Messenger. Different instant messengers that are out there that we can communicate with people back and forth live. You know, none of this is really project-centric. Nothing in here to just have my project team in there, so it's not really ideal for our projects.

So the key value of the Communicator is now we can start communicating with the project team. So here's a picture of it. It is a floating palette that sits over here. And everybody that's involved, that's been invited to the team's, going to be listed here. And I can either chat with the team-- everybody-- or I can chat one-on-one with somebody. Either way.

You can also come in here and do screen captures. And I can capture a part of the screen. If I wanted to comment on something like that, and I can talk about that. So we've got that in there.

We also have contextual awareness with this. It tells me who's actually in the model. So we've got either a green dot or a red dot if they're in the model or not in the model. And we can also see if somebody is synchronizing. We can see that they're synchronizing.

So just like Revit locally, two people cannot synchronize at the same time. So if you try to synchronize at the same time as somebody else, you're basically going to be kind of in a queue waiting to be synchronized.

But anyway, you can see that. You can also see when is the last time they synchronized. And so if you see in here somebody hasn't synchronized in two weeks, and they're saying, well, we don't have the latest model. We don't have that version. You can say, well, you need to synchronize. You haven't been synchronized. So you can kind of see that.

Integrated work sharing activity feed. Again, when they synchronize, you can see when they're synchronizing, when it was saved, last time they saved, things like that are in there. So it's a great way to kind of communicate with your project team members.

So, wrapping up Collaboration for Revit and kind of summarizing it, it basically allows you to have access to project data, enhance communication, and basically connecting that entire team so you can work inside of Revit.

All right. Let me open this up.

All right. So here is that project. I went ahead and opened it before the class started, because I didn't know how fast this internet would be. But let me just show you how I opened it. I went up to the big R.

First of all, let me back up even before that. You do need to sign in. And so it does use your Autodesk login to sign in. If you're not signed in when you do this, it will ask you to sign in.

I've already signed in. If you go up to the Open button, to get to my files out on the cloud, when you install Collaboration for Revit, there is a plug-in that you install. Once you install that plug-in, it will add this shortcut here at the very top of your open dialog box for the A360. And I can click on that, and it will list all of my projects.

And from there I can go into my projects, open up the project, and I will see those Revit files that are in there-- the architectural model, the furniture model, the structural model, and the MEP model. They're all four listed there. And I just opened up the architectural model, the one that I've got open.

OK. Once it's open, there's no difference between this and my local copy that you're using today. Absolutely no difference. Well, the only difference is the place that it saves it. It does save it on your C drive. It is buried. It is almost hidden to find. It is under your user documents, under your temporary folders, or roaming, or something in there. It's buried down deep underneath Autodesk folders in there. But that's OK, because you really don't need to ever find that local file to open it. You always open it from the cloud, just just like I just showed you.

But now that we're in here, I can do anything I want to. It's fast. It's quick, because basically I've got a local copy opened. I'm not working live off the cloud, essentially. The only thing that's going back to the cloud is when I synchronize.

As far as work sharing, if I go to my Collaborate tab, if you're using work sets in there, it works with work sets, just like normal. So you can create as many work sets as you want to and assign things to those work sets. No difference there at all.

If I go to my links and look at my links, I do have three links in here-- I've got the furniture model, the MEP model, and the structural model. But notice I've got them linked in here from the cloud. The path there is coming straight from the cloud. So as soon as they make changes and synchronize, I can either reload the link-- I'm not going to see it instantly changed-- but I have to reopen my project, or reload the link.

Yes?

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: No. No. No. Only Revit. And I've been asked that. How do we get DWG files in here? The only way that I know-- it's not a great way, but everything about Revit is a workaround, I think-- but what you can do is create a Revit project, a blank project. Insert, or you could actually link in, I guess, that DWG. No, I think you'd have to insert it. You'd have to insert that DWG into that Revit file, and then you could put that Revit file in the cloud, then link in the Revit file that has the DWG. So it's kind of a roundabout way of doing it, but that's all we've got now.

Yes?

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: Correct. No you can. You can. Yeah. You can still link the same way. Either way. But by having it on the cloud, getting their files out there, getting them involved in the project, now I can link in their live files and not just a static saved version.

Yes?

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: Does the cloud host a link, communicate with the Communicator?

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: No. No. Yeah, the Communicator is only going to show what active project you're in. It's not going to show you anything about the links. Good question. OK?

All right. So that's there. So like I said, nothing really changes as far as my workflow once I have the project open. It all works the same. Really, now when I synchronize, if I go back to my collaborate tab and try to synchronize with this with the central,

I get the same options as far as I'm able to check something back in if I have something checked out. I typically do check this box still, as far as saving a local copy before and after site synchronizing. And now I'll perform a sync, and you'll see that it's going to be fairly quick, because I haven't done anything.

But basically it's now going out to the cloud-- or saving my local copy, synchronizing to the cloud, and then saving my local copy again. So same workflow, same process. Don't worry about this. I've got a third party program installed that is trying to synchronize with the database, and so that's-- just ignore that. You would not see this dialog box. I'm going to say no to that.

OK. Some other tools that are in here. As far as, again, what's out on the TEAM site is not this live model. This is a separate model than what's on TEAM. TEAM is a static version of the model that I get to choose when and what gets to be seen on the TEAM site to control those items.

First of all, on the collaborate tab, you'll get a new button that says views for A360. If I open up this button, this is where I can pick and choose which views I want to share with the team site. So if you are using Collaborate for Revit, to go back to your question about controlling which views, you have control here. So this gives you control.

And so I come in here and pick and choose all my sheets, or just whatever views I want to share out there. Once we kind of have that setting, we also have a manage 360 model button. If I open up this, it's going to, first of all, take me to my hub. And I can drill down to any project. And I will go to this project. Here it is.

And in there, I'll see the four files that are there. And what I can do with this is-- first of all, I see when the last time it was uploaded-- but as I roll over these buttons over here, roll over it, I can see the status of this. And right now this architectural model says publish latest. If I want to go ahead and publish this, I can, and it take those views and publish it to the TEAM site.

But, for example, if I go down to in MEP model, it says the latest version has been published. So nothing has been done in that file since the last time they published this. You can see if you've got the most current file out on the TEAM site or not just by rolling over these.

You also have an action drop down in here that you can use to rename a file. If you want to rename the main file, you can do that. There's a relinquish option right here that you can relinquish everything that you've got checked out. And there's also a version history. If I go to version history, it does track and it remembers the versions there. So every time you sync, it's going to remember that latest version.

And you can go back in time. If you want to restore one of these-- maybe something changed and you want to go back in time-- you can restore one of these options. I strongly suggest you communicate with your team and get everybody out of the project before you start restoring it. But basically, you can restore a project and go back in time if you need to.

All right. Let me close that and go back in there. Is there anything else in there that I left out? That's basically it. Delete. Be careful with that one.

All right. I guess the only thing-- there's an access here that you can click on to actually open up your TEAM website. That's what this is going to do there. So that's how you upload things to the TEAM site. So you have complete control over what gets uploaded, and when it gets uploaded.

All right. As far as the Communicator. Let me open up that. So like I said, this is a palette that comes up. It's not dock-able. I wish it was dock-able, but it's not really dock-able. You can kind of push it off. If you have two monitors, maybe have it on the second monitor or something. They haven't made this dock-able yet.

But in here I can see my members of the team. It looks like Rick Kramer is on this model right now. I didn't know he would be. But that's kind of nice. So you can see that he's in the model. Nobody else is in the model right now. You can see the last time that I synchronized in there.

I can also see my other projects that are on there. Somebody asked the question if this is just looking at just this model, or the linked versions. Actually, I can see the other projects, but I can't see the individual files there. So my answer is still no.

But if I want to communicate with Rick-- let's say if he's away-- I can double click on Rick's

name, and I can say, "Hi, Rick. I am live in my AU class." So I can communicate back and forth to Rick. If I want to do a team-wide communication note, I can do a team-wide communication note as well. So I can send it individually, or one at a time.

If I wanted to do a screen capture, I've got to capture screen button down here-- a pair of scissors that I can use, and I can then just draw me a box around the room or something like that. It's just like a snippet. And capture that image, and it basically puts it in the message part of the dialog box. And I can say, "This is the latest design." How about that? And publish that, so Rick can see that. And Rick's probably wondering what in the world am I doing, but that's OK.

[LAUGHTER]

So anyway, it's really easy to communicate back and forth.

Some of the other options-- if I go back to the start of this, again, I can see my frequent contacts in there. It's just another way you can kind of pick on people's names if you want to. If you have a long list-- we don't have very many in here-- but you could kind of organize your contacts in there. Chat back and forth to one another. It keeps the chat history in there, so you can go back in time and look at that chat history to see previous versions of the chat.

And then you can also go to the last button over here, to the timeline, and see when the last syncs were. So you can see I've done this a lot-- a lot of different demos where I've come in here and synchronized back and forth. You see the one that I just did at 2:06 eastern time today. But you can see that sync as well.

So it's pretty nice. You know, it's not something you have to use, but it's just an additional tool that kind of comes with it.

Any questions about that? It kind of makes sense?

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: Yeah. I mentioned-- let me go back. I mentioned for TEAM, one person can purchase TEAM and invite anybody they want to for free. For Collaboration for Revit, everybody using it has to have the entitlement. And so you can't-- it's not one person purchases it and shares it. Everybody's got to have it. So if you're a Revit user and needing to work live in the Revit

model, you need to have the license for each user. That's correct.

Whereas for TEAM, I could purchase it and invite everybody in here for free to it.

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: You can. Yes. And they've gotten better at that on your Autodesk account page. Basically, it's the software coordinator. Whoever has that assignment to them on your account, they can go back there and swap them out back and forth, push them back and forth to other people.

And if they're not in your office, basically you can just do an email address and send it to their email address to invite them to your project. Or, actually, you can give the license to them, even if they're not in your office.

I've seen general contractors purchase this for the project, and they are pushing those licenses out to the other people on the project. So they're actually paying for it for their services.

Let's see. Trying to think if there's anything else that I can show you about this. Like I said, it's pretty straightforward. If you understand how work sharing works, it works the same way. You're still synchronizing back to the central file. You're opening up a cached copy of it that's saved in there.

Let me just show you on the links-- I don't think I showed you this-- but if I go back to the managed links, if I just want to link in a Revit file, same thing happens when you when you start the link button. You have the option up here to link from the cloud, and I can click on the cloud button and go to my A360 site, drill down into my project, and find the links that I want to bring in. So that's how I would insert that link initially from the cloud.

Yes?

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: Does it take the links with it? OK. The question was-- I'm sorry. I'm supposed to be repeating the question. He told me that, but I didn't do it. The question is, does it take the links or-- is that the question? I think it does.

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY:	OK. You all are the experts. Anybody in here experienced a way to not have the links in here? It seems like I've been asked that question before, and the only way that I've done it is, I'm thinking of renaming, or having a different name in there-- kind of breaking that path in there, having a different name.
AUDIENCE:	[INAUDIBLE]
	--textual links. And when you publish, it takes all of that with it into the cloud, which is nice, but--
MICHAEL MASSEY:	Sometimes you don't want that.
AUDIENCE:	Sometimes you don't want that. Also, then, when you download that from the TEAM hub, it then takes all the links with it.
MICHAEL MASSEY:	All the links with it as well.
	Like I said, the only way I know how to do it is you rename it. If you make a copy of it-- you can actually, on the TEAM site, you can make a copy of it-- and rename it. So if it's a different name, then it would only download the ones that are in there. So try that. That's the only work-around that I've seen.
AUDIENCE:	[INAUDIBLE]
MICHAEL MASSEY:	That's a good way to do it. Yeah. You still have the save button. Yeah. That's a good point. I can still-- if I want to say this, and especially if I want to save it, maybe it's the end of DDs, or something like that. I want an archive set. I can still go up and do a save as project and save it to my network locally, and have an archived version of this. So, you know, you don't have to save it to the cloud every time. You can still save it as another copy out there.
	But you can do that. The suggestion was to save it as a different name, strip out the links, and then publish that one. That's more steps, but you could do that.
	Yes?

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: Mm-hm. OK.

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: You can. You can. So the question was, if you've got consultants that are not using Collaboration for Revit, can you publish to the TEAM site and then download it? Yes, you can.

So that's another new way-- now, instead of emailing it or using an FTP site to share models back and forth, you can invite them to the TEAM site for free, and they can go download it off the TEAM site. So, yes. That's a new workflow that you could establish that would be easier, I guess.

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: Wow. I hadn't seen that one.

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: Yeah. Yeah. He said that, basically, he had an issue where he opened it up and it said there was no license available for him, and it was a bug on Autodesk, and that they had to force him another license, or something. Yeah.

I haven't seen that one, but I've seen this one, too-- at one time there was a demo for Collaboration for Revit. You could download for a 30-day trial. And since then, they have eliminated the ability to demo this, to have that trial version.

But if you did demo it, basically you created a hub. And so we've had problems with customers that had the demo trial version, and then they had the paid version, and the licenses were getting mixed up. And so the licenses were saying that it was expired, but that was the demo license. And so give your reseller a call, or call us. We'll be glad to kind of help you sort through that if you're having license problems out there.

I would show you the account page, where you can assign the license on the account page,

but I'm not the software coordinator. So I don't have those rights. Somebody else at my office is the software coordinator, so I can't even see that and show you that. But basically the software coordinator can go in and issue those licenses.

OK. Again, in my hand out I do have pretty good steps in there of setting up projects and getting this started in there. So feel free to download that from the AU site.

Let me kind of wrap up with this, just kind of summarize, and talk about these three products. There's also A360. I didn't really talk about this, and they may have changed the name, but basically there's a free version of A360 out there that anybody and everybody can create an Autodesk username and password. And it gives them an A360 account where they have, I think it's like 25 gigs worth of storage out there.

But A360 by itself is just basically a glorified Dropbox is what it is. It's not Project Centralized or anything like that. But that's there. Then you have the BIM 360 Team. That's the web page portable, and you can have unlimited projects, unlimited number of team members there.

And then the Collaboration for Revit. The main thing is each user has to have the paid entitlement, a license, to use the Collaboration for Revit.

All right. Let me wrap up with two slides. These are important, so don't walk out yet. Surveys, surveys, surveys. They are very important to us as speakers. It's very important for Autodesk, for us to come back next year and speak. I've made it really easy for you. There's the answer right there. Five's the answer for all your surveys. But do fill that out.

The last thing is, who likes free training? Applied Software is going to give somebody in this room a year's worth of free training. Free online training with a live instructor. We offer all subjects-- basically anything from Autodesk we offer. So you can sign up to win this. And, like I said, you can pick and choose what training you want to listen in on or partake in. It's a year's worth of live training that you can sign up for.

If you go to our website-- go to this website-- www.asti.com/au16-- on the left side, you'll see this little button that says Live Lab Learning Annual Pass Contest. That's where you pick. If you try to do it on your mobile phone, you have to go to the desktop view of the website because your mobile phone will give you a mobile version of the website that doesn't have that link. So you have to do it on your PC, or tell your phone to show you the desktop version of the website.

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: It's per class. Every class is going to get one. So, yes. If you were in my last class, you get another chance here. And there's not very many here, so better chance.

All right. So that is it. Thank you.

Yes? One more question.

AUDIENCE: [INAUDIBLE]

--that when I go to go back into it, it takes forever to get into that model.

MICHAEL MASSEY: Yes.

AUDIENCE: Is it remaking my local model because my local model is out of date?

MICHAEL MASSEY: OK, the question was, if you haven't been in it in a while, it takes forever to open up after you haven't been in a while. It's because things have changed, probably. Have other people been in there?

AUDIENCE: Not in my model. Not in my model.

MICHAEL MASSEY: Huh. It should remember that. It shouldn't delete it unless-- I don't know if there's a time period that it makes a new one. There could be. There's not one that I know of.

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: Yeah, if other people have saved it--

AUDIENCE: Is it sensing, OK, that's a month old. I've got to make a new local model?

MICHAEL MASSEY: It shouldn't have to do that, but it may.

AUDIENCE: They do delete the cache after some amount of time.

MICHAEL There is a time frame in there that deletes it?

MASSEY:

AUDIENCE: Yeah. Nobody knows what it is.

MICHAEL MASSEY: Two days. Is that what you said? A couple of days?

AUDIENCE: Two days?

MICHAEL MASSEY: Maybe. They're-- OK. I don't know.

AUDIENCE: [INAUDIBLE] --that I've encountered in using it is that if I'm not in the model on a regular basis, it takes forever to open it back up again.

MICHAEL MASSEY: Yeah.

AUDIENCE: And if we're doing, like, RFIs or ASIs, you know, we're out of the model for a little bit, and then we've got to go back in. And now it's taking 10 to 15 minutes to open that model.

MICHAEL MASSEY: You'd think there'd be a setting somewhere in there that we could tell it, you know, when to clean out the cache in there. But there's not one that I know of.

AUDIENCE: Yeah. And if you've got really large models, that could take a long, long time to open those models.

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: Depending on the size of it. Hm.

AUDIENCE: That's my only frustration with the software right now. When you get in it, it runs seamlessly. But getting that model open initially can be--

MICHAEL MASSEY: Painful.

AUDIENCE: --really time consuming. Yeah.

MICHAEL You just get the circle of death. Just the circle of death sitting there spinning. That's all you get.

MASSEY:

AUDIENCE: [INAUDIBLE]

MICHAEL MASSEY: They turned it back on. Wow. OK. He's showing me here that there's a 60-day trial for C for R that they announced yesterday. So they had it, they took it away, and looks like now they're pulling it back. So now there is a trial version. So there you go. You learn something every day.

AUDIENCE: Thank you.

MICHAEL MASSEY: All right. Thank you all.