

PRESENTER: Good morning. I'll try not to speak too loud, some of you have probably got ringing heads, maybe, possibly. I wasn't there. I was with my band in a rehearsal [AUDIO OUT], having lots of fun. Apologies for the slightly quirky voice this morning.

Welcome. So I think, this is probably one of the full classes I've had which I'm quite impressed after all the alcohol last night. So it's all good. Very impressed, guys. Your tenacity is appealing, put it that way. So welcome.

What we're going to look at is optimizing the AutoCAD desktop to go mobile. Now, I just want to see a show of hands. How many of you actually use things like, A360 already? There's a few of you. More to the point, how many of you know of the name A360? That's good. AutoCAD 360, do we know about that one too? There's a few of you there. Just be aware-- I discovered this when I got to AU which was great, I had a chat with the AutoCAD 360 developers when I got here-- and a lot of the functionality in AutoCAD 360 is turned off at the moment. And it made me smile because I thought, nobody told me about it before I had my class here at AU.

And the reason it's turned off is they are redeveloping the product right now. And the only way they can redevelop it quickly is to make sure nobody uses that particular functionality. So there's a little question mark when you go to one of the little sort of dialogue boxes in A360, and if you click on it, it says, hey, we're making this better, but you can't use it. So just be aware of that.

OK. So a little bit about me. I've been running my own business now since 2001, CADFMconsultants. I also run a blog, not just CAD. Any of you heard of that one, maybe, possibly? I haven't blogged a lot recently. I've had a few personal things to deal with, so I haven't been as prolific, as it says there, as I normally am. I've written for AUGIworld, Cadalyst-- heard of Redshift, used to be Line, Shape, Space? It's an Autodesk one. Very, very good for small businesses. It's an SME blog, so any of you guys that are sort of little independents, there are some great articles in there, not just mine, I hasten to add. And I'm also, a lot, pretty much full time at the moment, a content author for LinkedIn Learning.

And everyone is going to go what's LinkedIn Learning? It's what used to be Lynda.com. About 18 months ago Linda.com was bought out by LinkedIn, and then about 12 months later

LinkedIn was bought out by Microsoft. So expect the LinkedIn logo to go multicolored at some point. It will probably change into four little squares. Been doing AutoCAD and Revit for a long time-- AutoCAD, 28 years now and seven years of Revit. And little bit of an aside, I'm also a singer/songwriter. I released my first album 2012 and we're working on the second one at the moment.

So I'm not going to read that to you. That's just off of the website, if you want to go read it, please do. I'm not going to do death by PowerPoint and read out every single slide to you.

So what are we going to do? We're going to show you how to set up a A360 Drive. Now, a A360 Drive is like Dropbox, Google Drive, all of those wonderful things out there that you can store stuff. So how many of you use the cloud, right now? How many of you are scared of using the cloud, right now? Come on, be honest, if you've got worries about it. There are things like security, and if the servers go down, have you got access to that data as well. Because you could have some really important drawings or designs sitting there in the cloud, server goes down, you've got no access to them.

However, having just loaded up the new A360 on my iPad this morning, you now have a lovely offline facility. But you have to have accessed the file before you can have it offline. So as long as you have accessed beforehand, you can then have it offline on your tablet, iPad Pro, whatever you use.

Now the other thing that you will need to do is, obviously, synchronize those settings. Now how many of you have opened up AutoCAD and gone what is that A360 tab on the ribbon? And clicked on it and gone, hmm, what do these mean? Well the whole idea of A360 and A360 Drive is it gives you a local sync folder. So basically you can go and save a drawing into your A360 folder and it's there in your A360 drive.

How many of you carry a tablet, or a big phone with you everywhere you go? I'm really sad, I carry all three. I've got iPhone, iPad, MacBook. They go with me everywhere. However, the idea being is you've then got access to those files. So if you save them into that sync folder they're there, any time, wherever you are. Obviously providing you've got internet which in this particular hotel is interesting sometimes.

You can also set up projects in teams. You can invite people to look at a file. Now the benefit of that is they can also be on a mobile device somewhere else in another part of the world, maybe, and they can see your file. Now if that's just sitting on your AutoCAD desktop, on your

hard drive, that's not going to happen. So the benefit is, it's making you mobile, it's allowing you to set up projects, it's allowing you to share and collaborate that data. And you can also set up security on that, you can make it public, you can make it private. So for example, you can share out to a group of people that they need to see it, or you can share out to one person that you're actually collaborating with on the design, and you don't want the design to quite go live just yet.

And the other thing as well, obviously, we're going to learn to work with the drawings, with AutoCAD 360 as well. Now as I said, I've given you the disclaimer, some of the functionality in AutoCAD 360 isn't there right now. But you can still go in and measure and view in AutoCAD 360 right now. So it's-- and of you guys use Autodesk Design Review? Do you remember that one? I think it stopped coming out about 2013 release, maybe. That's a wonderful little tool because it allows you to use the Mark-up Set Manager in AutoCAD.

So with Design Review, you can go in, do all your nice, little, red lining, like you had a fluorescent pen or a Byro. And you can then, obviously, ship that to somebody. They can open that file in AutoCAD and all that red lining appears in AutoCAD. And you can mark out whether it's been done, or whether it's for approval, or for checking and so on.

So there's a lot of tools in here that I'm going to cover, and it's going to be very generic, I hasten to add because I'm sure all of you all do different things. So give me a hands up on architectural, mechanical, production, construction. Yeah, see. So you're all going to be doing totally different things with your designs and your drawings. So I've literally just got a very boring, little, mechanical gaskety thing that is very simple in the drawings that I'm going to be using, but you can apply it to anything. You can even use your 3D models in here, as well. A360 allows you to look at any file type. I think it's 50 file types now. So if you've got a nice Revit 3-D model, you can drop that into A360, not a problem at all. So the tools are there. Inventor models, all that kind of thing can go in there, and can be viewed.

So we going to look at A360 Drive and AutoCAD 360 first. And just going to take you through them very, very, very generally. And excuse me, one moment. I will take this off so that I don't overrun, as well because I do talk a lot.

So we're going to look, first of all, cloud settings in AutoCAD. Does everybody know where that online tab is in your options dialog box? Hands up. Yes, some of you do, that's good. Now, the online Options tab is one of those tabs that if you're not interested in it, you won't go look at it.

More to the point, how many of you go into Options and change things? Yeah, you see it's-- a lot of people just literally use AutoCAD out of the box. I do, most of the time. I don't make any changes to any of the settings. I think about the only thing I do possibly change is some of the dynamic input settings so that my coordinates are there all the time. That's about it.

Now I'm going to jump across into good, ole' AutoCAD. There we go. And, as usual, the box is small. So there's my little mechanical object. I've put a little bit of Rev cloud on there. Those are purely Rev clouds, by the way. They're nothing to do with Design Review or Markup Set Manager. I've just created a layer called revisions and put some bubbles on there to make it look a little bit like it's actually being worked on. Now, this is the A360 tab I mentioned there, which we'll cover in a little while. But it's literally a right-click options and it's in here, online.

Now the reason it's given me my name there, top left, is I'm already signed in to my A360 via AutoCAD. Now some of you may notice this, that if you sign into A360 via AutoCAD, all of this technology goes live. And it's sitting there, but you've got to have a live internet connection. If you haven't got a connection, nothing is going to happen. It's all going to be offline. But it's this little bit here that's really important-- sync my settings with the cloud. Now when you're syncing those settings with the cloud, what you're doing is, all of your settings that reside in AutoCAD, you are then telling the cloud to have the same settings. So choose which settings or syncs-- that is so easy to say. And as usual the dialog comes out a little bit too small there. But the idea being, I'm not going to bore you with which settings they are as such, but the idea being is that list of settings you can go and pick and choose which settings you want to go across.

It's things like layers, layouts, line types, and so on. And you just OK that. I just normally do all of them. And you can sync your selected settings only. So if you've only picked three or four out of that list, obviously they're the only ones that will sync through. But once you set all of that up, it's done. That's it. And then you can work with that local, synced folder.

Now if I jump down here, there is my Dropbox folder right there. But if I scroll down here a bit, there's my A360 Drive. So how many of you use Dropbox or Google Drive? You must do. Pictures of the kids, pictures of the grandkids, music, yep, all that kind of stuff. I mean, if you look at my Dropbox folder there is tons of stuff in there. There's all my music in there. There's photographs from here, for example. There's photographs from my dad for some reason, god knows why. But there's things in there. So I've got Revit for Facility Managers, that's a project I'm working on. So you can see that, that is literally a repository of information. So my Dropbox is like that.

If I go and look at my A360 Drive, it's all Autodesk related. It's just another silo, another repository of information, but it's all in the cloud. So I'm looking at that, and I'm on my desktop, but everything I've got is in the cloud. And that's the important thing with all of this technology. You have the ability to literally sit at your desktop and work with cloud based documents, but then when you leave the office, you pick up one of these-- yes, it's an old iPad, before anybody says anything. I don't want any tech jealousy going on, OK. That's my iPad 3 that I've had for goodness knows how long. But the idea being is I can walk away with that, instead of that. OK, my Mac book is not that heavy, but I might have a great, big desktop HP workstation or something, just to mention one of the sponsors, there are the sponsors available.

But the idea being is, I can walk around with this. And I can walk around on site, or on the factory floor, and I can be looking at my drawing, here. Now you've all seen the wonderful adverts for all the new tech at AU this year. You've got things like, the Microsoft Surface studio which I want, by the way. If anybody wants to get me one, that's great. But the idea of being, you can see how the tech is changing. The tech is changing to allow us to do this, rather than lug one of these around or-- how many of you still use paper drawings? You can tell me, it's OK, it's fine. I still do. I'm old school. I started on a drawing board. If you read the handout for this, I started many, many moons ago on a drawing board with the old [? rOtring ?] pens and everything else. And everything has moved along really, really fast. And did all of you go to the keynote and see the Carl Bass bit where he just said-- and Jeff Kowalski, they're talking about how in the last 50 years how tech has moved so incredibly, quickly. And basically, it's still happening. And it's going faster, and faster, and faster. And well, I'm 47 and I'm beginning to get a little bit daunted by the speed of things right now.

And the idea is though, is we're going mobile. There's no changing that, no changing that all. We're not going to have keyboards soon. We're not even going to have AU passes soon, either. Because we're going to have a little, sort of, USB thing hanging around our neck instead.

Go ahead.

AUDIENCE: If you're designer has that drawing open in the office, and the inspector goes to the field, can they interact?

PRESENTER: They can interact via a thing called, Design Feed which I will cover in a little while. And basically, what the Design Feed does, it's a bit like social media. It's a bit like, those of you that

are old enough, internet messenger. Remember that one? Yeah? How many of you remember, [TAPPING SOUNDS], sitting in the office, [? getting ?] secret messages.

Well, it's a bit like that, but the lovely thing about Design Feed, which I'll show you in AutoCAD in a moment, is you have the ability to link apart the drawing to it. So you make a comment and pick apart the drawing, and your comment sits there on the drawing. You can also, I mean I know my iPad's a bit big and unwieldy nowadays, but I can be there and I can just go, click and take picture. So if I'm a facility's manager and I'm looking for a bit of ducting that might have a hole in it, I can literally take a picture of it, and then the guys back at base can go, oh it's that big. And they know exactly-- they know exactly where to look. I mean to use a phrase, a picture paints thousand words, as they say. And it really does. It really, really does.

But what I'm trying to get across initially is just this mobility, this ability to take your data with you. And I mean, well, as you probably gathered I don't come from America. The one thing I hate about coming here is my mobile phone never works properly. And then when it does, it uses up all my data usage and I then have to pay more money to use more data. And when you're working with stuff like this, that can be frustrating. But the idea being obviously, is you will be using some sort of corporate account for that, whereby you've got a corporate set of data to use, or whatever.

So I'm just going to jump back into AutoCAD again. And what we've got here, as well A360-- so if I just hit that button, that ping's straight into my browser. It takes a few seconds to light it up. And there's my A360 Drive. Come on, anytime. There we go. So there's my A360 Drive in there and there's my stuff. Everything I need to look at. So I've got A360 examples, there's my AU 2016 demo set. So if I go into that folder there, there's my drawings. And you can see there's the drawings I've got there. Now these are-- I've deliberately done this-- these are copies. OK. Of the drawings I've got on my hard drive just for safety, in case everything went completely wrong with the internet today. Which it has done.

Go ahead.

AUDIENCE: Is there any corporate level governance to overall management of these [INAUDIBLE]?

PRESENTER: As far as I'm aware, no. There's no actual like physical standard, as such. So what would normally happen, I would imagine, is you'd have a managerial level where you make that decision about folder management, file management, revisions, everything else. And the one

good thing is, is on certain drawings, if I jump into A360, again you'll see the drawings in a moment. There we go. So this is-- I'm kind of moving ahead of myself slightly here, but there are my projects.

So there's two different silos. You've got A360 which is project based. A360 Drive is storage. So it's like Dropbox, Google Drive, everything else, portable hard drive, USB stick, whatever. These ones though, are the ones where you can actually put all the documents in and assign access to others to those files. Your A360 drive is yours.

Now how many of you have got an Autodesk ID? You must have because you're here. OK. You must have signed up with an Autodesk ID to even come to AU. That's how it all works, even the web site is tied into that now. Many, many years ago Autodesk set that up to give you a unified, what they call you UX, user experience, and what it gives you is, it gives you access to everything Autodesk. And it's a bit like Google with Google Drive, and you've got a g-mail, and Google Hangouts, and everything else. But the idea being is if I go in there now, there's my drawings there. And we were talking about governance, there's your version numbering in that particular project. So that particular drawing is currently at version 5. So some changes have been made. It's been saved back into A360, and it's at version 5.

I can't remember what I did to it to get it to version 5. I think I probably, when I was practicing my class, I obviously did something. But the idea being is it then tells me the size of the file, what type of file is, which is extremely useful because you could have a great big list of files there and you just want to find the CAD files. And it tells you when they were last updated, which in this case was obviously the 13th, so that would have been Sunday, when I got here. So I was obviously running through my class.

But bear in mind, this is project related. So this is project related. One project member, which is little 'ole me. And there's my email address there. If I want to invite somebody I just put their email address in. And they then become a team member too. And they then have access to those files. So, I'm sorry, this is one thing that really, really made me smile when I loaded all of this up on Sunday, when I got here. Don't use mailing lists. Why would you use mailing lists for a project? If you've got a great big list of customers are you going to send your project out to everybody? No. It just made me smile. It's data protection gone a little bit mad.

So I'm going to send this to a different email address of mine, for example. So this is my music email address that I use, because I have a little music sideline as well. So just a different email

address to the admin one. I send the invitation, a little, blue bar goes across the top, you can just about see that there on the browser. It takes a few minutes, and done. So we've sent your invitation, at the top there. And you can see it's just there. So there's the new person on the team. And obviously once they're in the team, once they've accepted the invite, they've then got access to those files, too. But be aware, that is project related. So it's viewer, only. That's the whole idea of it. It's a viewer, and a project, and a file management tool. It's not like A360 Drive where it's a storage silo, and you can then open it, and perhaps edit it in AutoCAD360.

So if I open that file there, get a little preview of it. Takes a few seconds to load up. Now bear in mind, I don't know what the bandwidth is here, but there's my viewer there. And I can view up to 50 different file types that way. So if I've got a Revit 3-D rendered model I want to go look, I can. Mine is a bit more boring, I have to say. But you've got the usual, zoom in, zoom out on the wheel. Same tech as AutoCAD. So all the legacy commands are still there. You've got pan. So i switch pan on, I can pan around like that. I've got zoom, is there. And it's all the usual tech. I can mark it up, if I want. I can add some comments, if I click on Comments there. I can add a comment to particular part the drawing there. He says, there we go, comment on points.

There we are. I can pick a point there and I can comment for that selective point. And that's it. It's a viewing and commenting tool. That's the whole idea of it. So you'd have an admin in the project that would be the project manager, you then might have a couple of CAD techs in there, maybe a CAD manager, and they can all go in and look at those files.

Go ahead.

AUDIENCE: Can you export your comment--

PRESENTER: Yes, you can. Yes, you can. The whole idea is that you've got the ability where basically everybody can see that. So as soon as you put a comment on there all the other team members will see that and see that on that particular file. And they'll see that there's a comment in there. You can, if you want that to be live, use the design feed in AutoCAD, which I'm going to cover in a little while. But there's no actual physical work or paper publishing of that [? thing. ?] It's all online. It's all in the cloud.

AUDIENCE: So it won't export [INAUDIBLE]?

PRESENTER: I don't think so. I can check for you, but I don't think it does. The whole idea is that they're

keeping it in this cloud based environment so that it's mobile. Because as soon as you start going out to other files you then start-- you then have to have version numbering for the [? excel. ?] And if somebody prints that and then marks it up with the red pen and it goes into somebody's in-tray, it goes back to what we're trying to avoid with the cloud-based stuff.

So that's the 360 team's bit. I'm just going to jump into a little bit more of death by PowerPoint.

So we were, funnily enough, at the online Options tab. We've looked at that. And what I want to do now is just very briefly cover the A360 ribbon tab. There's not much in there. I think it's six icons, if I remember rightly. There's not a lot in there at all. And I'm just going to jump back to-- where's AutoCAD gone, there we go.

So I'll close Options down. And it's this tab here. So it's A360, and you can see there that you can share your design view. So that uploads a design view to your cloud location. So that goes up to A360. You've then got shared document, so you can share the document from your A360 account, which is what we've just kind of looked at already. So when you've got your team members, you can share either publicly or privately. So you can send that out to somebody publicly that isn't a member of the team or you can share it privately with a member of your team.

Open the local sync folder. As soon as I do that, I go straight back to my [? CADFM ?] consultants folder that I showed you a moment ago. Open a A360 Drive again as well. Sync my settings. And if I click here, I can choose my settings, and it's those settings which is synced in that weird dialog box where the text is way too small.

So it's literally-- those icons there, just kind of take you to the places I've just shown you. So it's like a repository of clicks where you can go to those places and actually just set up your settings. But the idea is, is that all of this is linked. So up here, I'm already signed in. So on your info bar, top right, I'm already signed in. The little, tick box is there, sync my settings with the cloud. That's why I set in the Options dialog. There's my online options, there's A360. And as usual, in true Autodesk style, you can explore your purchase options as well. That never changes.

Now, what you can do as well is there's tools at a corporate enterprise level that you-- as I said there, you can purchase. So you can go to the pro versions and the pro plus versions, and so on as well. Now all of those versions obviously, have an associated cost. But there are companies out there that are using this big time and have signed up with Autodesk, and are

on the top of the wave, and really enjoying it.

Go ahead.

AUDIENCE: Is all of this available as 2017, or is some of this available as '16?

PRESENTER: Yeah, I think all of this is '16. The actual-- the cloud based stuff is that they updated, there's no real version specific stuff in the cloud. But all of the A360 tab is in 2016. It might be slightly different and the icons might look different, as usual, but obviously it's there. And I can see another hand at the back. Go ahead.

AUDIENCE: Can you share [? drawings ?] with people who may not have Autodesk accounts?

PRESENTER: Yeah, absolutely. All they need to do is, literally, there's an A360 viewer, so all they've got to do is, literally, sign up for their Autodesk ID, and that's it. They automatically get A360. So I think--

AUDIENCE: But they have to have an Autodesk ID?

PRESENTER: That's the only thing you have to have. You have to be able to log in. I can't remember what the actual amount of storage you get, but it's like signing up for Dropbox account. And I think, please correct me if I'm wrong, it's 25 gigabytes you get for nothing now. Yeah. So you get all that storage. I mean, you could stick all your new Bon Jovi albums in there if you wanted to, it's fine. They have got a new album out, by the way. And they're here in February, not that I'm a fan.

So back to PowerPoint. That's the ribbon tab. Now syncing the settings as I showed you, I've just switched everything on. So that means that if I save a drawing back to my 360 Drive account, all the settings that are in that drawing will be the same as in my AutoCAD. It just means that everything remains consistent, but sometimes you don't want it to be consistent. There are only certain things that you want in there. I must admit, all the time I've used A360, I've just left everything switched on. Because it's a bit like when I was talking about the Options dialog box earlier. Not many of you go in and tweak all of the AutoCAD setting. You don't need to a lot of the time. And my suggestion, if you're only just starting out with this just leave everything switched on, try it, and then switch something off, and see whether you actually need it. That's the most important thing.

Now I'm going to go a little bit into the A360 Drive home page now. And it's a bit mundane. It's

like using documents, adding sub folders, but if you've never used it before, there's always that little stumble. Where it's like, where is it? What do I click on? So we're going to look at the A360 Drive home page, which is really, really simplistic now. It's much, much better than it used to be.

So let's go back. I did have a browser open somewhere. There it is. So A360 home page. There we go.

Now it's really, really simple now. It used to be that up at the top here, you had all different buttons. Now it's just a little, fly out, like that. There's your home page, there. Now your Design Graph, by the way, did we all enjoy the generative design with the chair and everything in the keynote? That design graph, if you've got loads of different 3-D models of the same thing, it allows you to track them. And it's in beta at the moment. It's very clever, very clever.

Unfortunately, I've got no 3D models in my A360 Drive to show you. But if you're working with 3-D data and you've got different iterative designs of 3D, you can go and click through them, and actually look at them in the Design Graph.

Now as I said, on the home page you've got A360, up there, A360 Drive. A360 is your project. A360 Drive is your storage. Don't mess that one up. I've had so many people come to me when I've run classes on this back in the UK for companies. Because I go in and consult on this stuff and, we talked about governance, I helped them set up their standards and everything, and get all the file folders set in the right place and everything. And so many people dump everything 360 Drive and go, where's all my project drawings? It's really, really simple, but it's just that user stumbling barrier that you do get sometimes.

So if I jump into 360 Drive people don't realize how, actually, how simple this is. So again, the bandwidth depends on how quick it is, it takes a few seconds to load up. So that'll take a little while there. I'll take a [? slip of ?] my Coke. Otherwise, I will have no voice for my next class. There you go. This is what happens sometimes-- pregnant pauses while you're waiting for internet pages to load. There we go.

AUDIENCE: Can I ask you a question while that's loading?

PRESENTER: Yeah, go for it.

AUDIENCE: How many A360 users can you have? Is that based on the number of subscriptions you have?

PRESENTER: Yeah, if you're using a corporate one-- yeah, I think it is per user. But if you're just using all the free stuff, like I am, you can just add as many as you like. Yeah. But obviously with A360 drive it's specific to the person. But with the regular A360, the project side of it, I've added anything up to 15 people on a team, so far. But, I think there are limits. When you hit that-- when you start-- when you hit that person, that 99th the person, I think there is a prompt to say you can only have so many, but I've never exceeded it yet I've tried to, but I've never exceeded it yet.

So I'm just going to jump into there. There we go. It doesn't want to play. I'm just going to try that again. We have during the course of this AU we have had a few niggles with this where, and it's not my fault, it's the Autodesk servers, OK, nothing to do with me. But, yeah, it's been a bit slow recently. And I think it's purely because everybody's using it while they're here. So-- And I know that Autodesk use it a lot to store things for classes and, who knows, maybe even the keynote was run off of A360 Drive. I don't know.

AUDIENCE: I have a question, [INAUDIBLE].

PRESENTER: Go for it.

AUDIENCE: [INAUDIBLE] My business is [INAUDIBLE] cloud [INAUDIBLE]. But I knew [INAUDIBLE] technology [INAUDIBLE]. Do you have to sync with Autodesk servers, or could you set up this service to sync with [INAUDIBLE] servers?

PRESENTER: I'll say, yes, advisedly. The way-- one of the ways that I work with the mobile data on here, is I've got a Dropbox account. And one of the lovely things about the A360 on here, is I can literally upload something from Dropbox. Now I know a lot of companies have Enterprise level Dropbox accounts. And you've got things like FTP as well. Now, I'm pretty sure that the technology that is there regarding server could be linked to this, or to this, but it would need a more individual approach obviously, rather than the generic approach I'm doing today. But I would say, probably the best thing to do, I'm assuming you've got an Autodesk reseller that you deal with, ask them about it. I'm sure they can escalate that to Autodesk and the A360 guys to find out exactly where you would need to go with that. But I would say, yes, but advisedly.

Purely from the view that, obviously, it is internet based. And as some of you put your hands up, there are security issues there. I mean, I go into government and military organizations, and as soon as you say internet cloud, like you say, forget it. Ain't going to happen. Ain't going to fly. But saying that, they do have their intranets as well. So if you got an intranet based

environment, I can't see a problem. Because all of this is, literally, just browser based. So as long as you've got an internal browser rather than one guide to the outside, I can't see why it can't point at folders and locations, hyperlinked, obviously, within the internal infrastructure rather than going outside. But that would, as I said, probably at a much, much more of an individual approach. Yeah.

Well, my A360 Drive doesn't want to play, which is fabulous. So I'm just going to shut that down. Yes, it's definitely not playing. So just give me one second, guys, and we'll crank up Google Chrome again.

So just so you know, while I'm here actually, there's the splash page for A360. If you haven't got an Autodesk ID set up for this, you hit the sign up for free button, and off you go. Once you've got that ID you just hit sign in there. There we go. It's awake now, brilliant. That's better.

While I'm waiting for that-- Yeah, well I'm obviously logged in, so A360 Drive obviously has a-- oh, hang on, it's loading. So we've got that one there, and I'll jump back to there. I'll leave that in the background, loading up.

Basically, A360 Drive, when you sign in, you basically get a splash page and it just lists all of your files and folders. And, literally, top right corner of the screen is upload. There's an upload button. And there's a create folder button and it's that simple. So you have your main root folder which is your A360 Drive, and if you've got to set up different categories, like I said, your Bon Jovi files, your Whitesnake files, and so, you can obviously have those individually set up as sub folders, and put the files in. It's that simple. It's just like a Windows folder structure.

But, obviously, I'm really with you on the governance thing because when I go into some of these companies and you go into their A360 Drive there is just stuff everywhere. It's all just all over the place. And it just requires that little bit of control because, obviously, it's completely open, this environment. You can just throw things in, upload, upload, upload. My Dropbox is messier than I would like it to be, for example. I'd like to organize it more, but you've got to have that. If you're working on a project you've obviously got to have that degree of control, that discipline, and to make sure that everybody does it the same way.

So if you were a manager of an organization, or a manager of a department, you would probably create some sort of document that would actually govern how you use it. And I've been in and created procedures, documents, and so on, and you just upload the documents

into the appropriate folder. It is that simple.

Now, selecting files, again in A360 Drive which I'm hoping might work in a little while, is the ability to select a file. You, literally, just click on it. Just like in any other environment on the internet, if you want something, you click. Go to Amazon to buy something and you click on it, and then you hit, buy. It's that simple. You select it. Dragging and dropping is nice though.

How many of you have got a nice big double-screen setup at work? Jealous. I've got that. But basically-- well, I'm very mobile, I travel all over the world doing all this kind of work. So basically that is fine for me. The thought of dragging a 27 inch monitor around just doesn't fill me with any enjoyment, whatsoever.

But the idea of being is you can drag and drop files. So you might have one window open on one screen, got your A360 open on another screen, you can literally just drag and drop. How many of you use things like tool pallets in AutoCAD? It's exactly that workflow. You click on it, you drag it, boom, it's done. It's that quick and easy. You can upload multiple files. So if you hit the Upload button, go and select four or five drawings, hit the Load button, just puts them straight in there. And as I said, you can organize those files into the sub folders. And you can have that hierarchy as detailed as you want.

It's just like in Windows. So you got the root, you then got the folder, the subfolder, the sub subfolder, and it goes on ad nauseam until you fill up your 25 gigabytes and then you've got to pay for more storage space. But the idea being, is that you can just organize things. And the one thing I will say is be organized from day one. Don't just throw stuff in there and think, oh, I'll do that Friday. Because I can guarantee you on Friday when you've got a deadline to hit and it's about 4:50 in the afternoon, you're going to be going, where the hell is that file? It happens. It's happened to me, a lot, back in the day. But not as often now. Slightly wiser now.

So setting up a project, and your projects and teams. So I'm just going to jump across and that's all working there. That's interesting. [INAUDIBLE] That's all right, they all begin to look alike after awhile. There we go, the A360 Drive working, finally.

OK. So there's the silo there. Now, I'll talk about projects and teams in a second. I just want to quickly go back to where we were waiting for this to load up.

So if I go into my demo set now, there's my demo set folder there. So I just go in there, click on it, takes a few seconds to load, and there's my drawings. Now these are drawings that are

stored in my A360 Drive. They're not project drawings. There's no version numbering here. This is, in essence, the master drawing before you put it into the project.

So if you go over here, you'll notice you get all these little icons over here. So if I click on that down arrow there, I can upload the new version from my AutoCAD desktop, I can copy a file, but more importantly, it's that little step there. If you want it to go into a project you upload it to A360.

Now it took me about four days to find that. I was thinking, why aren't these the same drawings as these drawings? What's going on? And then I realized that there was this copy to A360. Because A360 is your project. A360 Drive is your storage. Go ahead.

AUDIENCE: [INAUDIBLE] but is it that you're taking your files ultimately putting them to the drive and assigning [INAUDIBLE] project [INAUDIBLE]?

PRESENTER: Spot on. Got it. Absolutely. And the idea being is you've then got the ability, as it says there, to upload the new version. So if the drawing changes on your desktop, and goes to say revision three, you upload that into here, into your storage, you then copy it to A360 if it needs to go into the project at the next revision. So it's a three layered process.

AUDIENCE: So you have to go through that three layer process each time you want [INAUDIBLE]?

PRESENTER: No, because A360 Drive should already be synced. So that drawing-- obviously it's not in this case because I've kind of put a fail-safe in there both on local and cloud-- but that drawing 0 0 1, for example, if that's changed in my AutoCAD and I've set all those sync settings, it will update. Yeah. Next time I save it. And the trick is as well, is don't have it all stored in separate folders. Put it in your A360 Drive folder. Use that as your main repository of drawings. Because if you got any-- I mean, if you're working back at base, on the desktop, you're going to have internet. Unless something drastic happens and The Walking Dead kicks in.

Go ahead.

AUDIENCE: [INAUDIBLE] are you working off of the internet then? Your drawing--

PRESENTER: In that folder, yeah.

AUDIENCE: Well how does that work [INAUDIBLE] you're working on like a gigabyte file? Would you have to--

PRESENTER: That's when you'd work on it offline and upload it to A360 Drive later. So this comes back to [AUDIO OUT] that all of this process is very, very open. And you must tie it into a procedure, a workflow that you use. I can see your hand at the back.

AUDIENCE: How would that work if you have, for instance, two people working on the same drawing, like the same building of the same floor, two different projects at the same time? Does that make sense?

PRESENTER: It would be fine because it's all based around when you next save that file. So as soon as they save those changes should roll through it.

AUDIENCE: So if person A saves, and then person B saves it would overwrite?

AUDIENCE: Yeah. Yeah, that's exactly what would happen.

AUDIENCE: So they'd still have to get together to--

PRESENTER: Yeah.

AUDIENCE: --make sure they-- Now, is there something in-- do you check things out of the 360 Drive? Or how is it somebody knows--

PRESENTER: There's-- this is where, me as a Virgo and a perfectionist, where A360 kind of makes me a little bit edgy because there is no real what I would call, checking out process. It's not a full EDM, Engineering Document Management system yet.

AUDIENCE: So you might not know that somebody else is working--

PRESENTER: Correct. Absolutely right. However, if you were using a big, SQL server type document management system, yes, there would be a signing out facility there, whereby-- I mean, for example, how many of you use Revit and Work Sharing? Any of you use Revit and Work Sharing? Revit and Work Sharing is a prime example of that. If you're working on a particular work set within a Revit model and your Work Sharing, no one else can touch that work set. Unless they hit a little button and request permission to do so. So the technology is there in some Autodesk products already, but this, as I said, this is a very open environment. So with regard to governance, and standards, and procedures, and workflows, you have to tie it down to how you want it to work.

However, I'm sure give Autodesk another five years, this will probably end up being their engineering document management tool. Now have you had heard of Buzzsaw? Yeah? Buzzsaw has a signing out facility. When you work on something, it's signed out. The whole idea of this though, is it's making you mobile. It's not about checking things out. It's all about just being able to carry stuff around so you don't have to get a great big, or a zero drawing as we call them in the UK, four house bricks and hold it down on the bonnet of your car while you're trying to highlight it with a highlighter pen, which I have done, many years ago.

So the idea being is in here, this is where you would keep your files, and that is your A360 Drive folder. Let me just jump back to the PowerPoint so I actually know where I'm going. There we go.

So projects and teams. I want to get onto this one because this is where A360 is really, really useful. Even just at the basic level, if you just want people to see drawings all they need is an Autodesk ID and they sign up. That's it. They've automatically got then A360, and A360 Drive. And A360, if they get invited to be a member of a team, they can just go and look at a drawing.

So the idea in A360, he says, there we go, is I can just jump in here, and I don't have to be a CAD user, I don't have to be a Revit user, I don't have to be an Inventor user, but I can go in here and go, ah, look, Sean Brian is added to that project. And he's commented on that drawing, there. And he's done that, and he's done that.

Now I've got, as you can see, various projects there. As you can see I'm on the AutoCAD blog account, so for example. And I can go in there. That's one of my projects there, I'm a team member. So if I go in there there's all the details of the blog account. It's all the sub folders in there. Webinar files, we've done various things in that-- so we've got a Fusion logo, which I think Sean Hurley uploaded recently. Yep, September. And then I just go back to the Home tab, and I'm back with all my projects there.

So there's my AU 2016 project, there with a few drawings in it. And, as you can see, I'm at version 5. So what would happen, is if I uploaded another drawing of the same name, the next time I look in there that would then be version 6. Now the benefit you have there is I'm sure all of you when you're working on drawings you must have a revisions column, right? Notes column on the right hand side, there's a revision column. Check to prove, signed off, etcetera. The whole idea is to tie that in to your version numbering here.

So if it's at version 5 here, the drawing on your desktop should also be at version 5. When you

make a change, you upload it, and then you have a consistent method of monitoring the tools that are in there.

Now I've got 15 minutes left, so I just want to make sure that we get through everything. Hearing the clapping next door.

So setting up your AutoCAD for A360 Drive. You use the A360 tab. So we've covered that, the little tab that you kind of think A360, what's that? You go in there and you set up your settings.

You've then got your local sync folder which in my case is the [? CADFM ?] consultants folder. Opening up A360 Drive, you log in, hit the little A360 at the top, you get your three options, A360, A360 Drive.

Opening up a synced document, that would be one in your sync folder, not one locally on your local drive. Now I keep talking about governance which is really important with this stuff because you've got to make sure that all your folders work together. Something that I recommend with any company when they're using this stuff is have a local drive with everything in it, all at the same version number, and have the same folder structure in your synced folder. That way, you've got a backup. Because, as I said, you know, *Walking Dead* kicks in, you've got no servers. OK? Sorry, I like the *Walking Dead*. I'm only on series four though, so don't tell me what happens.

But the idea being is if something fails, you've still got it locally. And it's just a case of, save as, and save it in a different folder. And you've got that backup there. And then you can open the sync document every time when you're logged into your A360 Drive and it's just a case of save, safe. It's one, two extra clicks maybe, well, depends on what your folder structures like, obviously. But it's a couple of extra clicks to make sure that you've got a backup. And that's the one thing I will say, as much as I love this stuff, and I love the fact that it's in the cloud, and I love the fact that I can walk around with my iPad, and everything else, it can fail. And you should always plan for that. Always plan for something not working because I can guarantee the time when you expect it to work, is the day it won't work. So always check that.

Now adding a drawing to the A360 Drive is easy, really, really easy. As I said, save it to the local sync folder, when you're logged in it's there. You can then open your A360 Drive in the browser, took a few minutes, but you obviously opened it up, and it's there. Finding the drawing in A360 Drive, it should have the same file name as your local file, so you should be able to find it very easy.

Preview the drawing in A360 and A360 Drive. Well we've touched on that a little bit. The last bit though, is commenting.

Now somebody, I think it was you, commented on whether the comments are exportable. They're not exportable as such. But when I'm in the internet, like this, and I want to comment on this particular file, here, what I would do is, I click on it to open it in the viewer, and I commented on points earlier, so if I come up here, I just want a comment on this generally, I can go there. And all of my comments start to kick. Now these are your generic comments. So these are just on the drawing itself. So it might be save this drawing with file name, such and such.

However, you've also got down here, as I showed you earlier, the technology to comment on points. So if I come over here, I can snap to a point there, click there, and I can comment on that particular selected point. And you might [? sound ?] that mechanical part at a fillet radius of 3 millimeters, or 3/8 of an inch because we're in the US. That kind of thing. So the idea being is you can be specific with your comments on the actual drawing itself. Or you can be generic with your comments in the overview comments on the right hand side.

Now, as I said, this is all cloud based. So getting it out to Excel and stuff, maybe. Don't know. I would have to check with the A360 guys on that one. There must be some kind of trail there, some kind of audit trail there. But whether you can get that out, and put it into a separate file, I don't know. My suggestion would be though, don't. Keep it all cloud based. That's the whole idea of it. Lose the paperwork. Maintain that governance so that it works. So that's the commenting there.

So mobilizing the desktop. You open a drawing in AutoCAD, make your drawing ready for A360 Drive. So we're talking, naming structure, revision structure, build that up. Make sure that you've got some documentation so that everybody knows.

One of the things I used to do, I was a CAD manager for seven years. Many, many moons ago now. And one of the things I did was, I had like an introductory document. Everybody that started with me that was new, whether they were contract, permanent, it didn't matter, they got this-- it was about that thick, it was a little [INAUDIBLE] folder and it just had everything in it, all the CAD standards, more importantly, who to talk to about what. Because I assign different tasks to people. So if we had a new project come in, it went to a particular person. They set up

all the folder structure on the server with all the correct naming terminology. And that person took the new person through how all that structure worked. Because as a manager, what do you do? You delegate.

You don't want to do all that kind of stuff. I'm more worried about fighting for my next year's budget to get the new version of AutoCAD on the new machines that are needed to run it. So I would delegate that information out, and make sure that those people knew what they were doing. And that's contract stuff as well. How many of you guys employ people? Are they permanent or contract? So there's no people here that employ temps or contract?

Back in the UK there's still this little bit of stigma when you're a contractor as such. As in, shall we train them? Shall we let them know what we're doing, kind of thing? Here's my philosophy on that. If you train them and they leave, so be it. If you don't train them and they stay, what happens? Think about it. It's one of those ones-- don't train them and they stay, it all goes very, very wrong, very, very quickly.

So make your drawing ready for A360 Drive, like I've just said, with the naming and everything else. The Design Feed I'm going to show you in a moment. I'm just going to jump into AutoCAD and show you that in a second. And you can highlight the drawing areas of interest using the Design Feed. And you can add images to enhance that Design Feed as well.

Now I'm just going to show you this in AutoCAD. You can do this online on the tablet, as well. So if I just jump through--

What I want to do now is, run the Design Feed and it's really quick. Type it in. So Design Feed open, and Design Feed closed. That's it. So Design Feed open, and there it is there. Takes a few seconds to think about it. Now this is online, I hasten to add. So you've got a little-- it's a bit small, actually, but for those of you that remember Internet Messenger, it's like a little column, and you type it in, and your comments appear. OK.

So at the top here, I create a new post, and I type in what I want to type. And there's some icons here. I can associate the post to an area in the drawing. I can associate the post to a point in the drawing. I can tag people that are in my team, in the post by way of email. So I can say, oh, I've added this to the drawing, and they will get an email saying that something has changed in the drawing. And more importantly, I can attach an image to that post as well.

Now that runs in the same way, here. But obviously you can't see my iPad screen because it's

not connected to that. So it's kind of null and void. But the idea is, if I come in here and I click here, that little box goes blue, and it's now asking me to specify an area to associate with the post. So if I click, say, about there, and just put that area around that revision there, that Revcloud there, can you see the dashed line? So that's basically now associated that area with the post that I'm putting in here.

So what I might do here is just type in something like, check dimensions. And then I hit post. Now this is live. This is internet based. So as soon as I do this, if I'm in here, if somebody is in a mobile device somewhere, and they've got Design Feed open, and they've got this file open, it'll come up. So I hit post, and it just pops up here. Can you see? So there's each one there.

Now you'll notice here, I've got the option, like with e-mails and things, I can reply, I can resolve, so if somebody has checked the dimensions, they hit the resolve button, and that little one there gets marked up as resolved in the Design Feed. And then last, but not least, once it's resolved you don't want it cluttering up space, you can delete it. And it's up to you. I mean, we talked about having an audit trail for this. Don't delete them, and then you've got an audit trail. Every time you go into Design Feed you can just scroll down the comments and check who did what. And I'm not trying to assign blame, but that will obviously give you a dialogue if something hasn't happened that should have happened, and vice versa. So the technology is there, as such.

So you'll notice there, I don't know if you see that, there's a little what looks like a post-it note, just sitting there in the middle. That now links to that comment there. And obviously if I went into A360 on here, went into Design Feed in there, when into AutoCAD 360, it would show up in there as well. So this particular file here, now has some markups on it, and they're in Design Feed.

Come in there, AutoCAD 360.

Now these are separate drawings so the actual comment won't show up. I just want to show you the Design Feed in AutoCAD 360 as well.

Now this is the bit that made me smile, here. We are working to improve AutoCAD 360. Some of the features, including drawing tools have been turned off as part of this process.

So that's literally what you've got. So you can add text, you can measure, add some dimensions, and erase things. That's pretty much it.

AUDIENCE: Can I ask a question? You're running with those [INAUDIBLE]. Is there a reason you're not using the app? Because a lot of those, quote, locked features are actually unlocked.

PRESENTER: Yes, I know. And it's one of those things where-- I'm just running it here, purely because it's nice and big and easy to run on the screen. That is literally the only reason, but the idea being is, you're quite right, in the app there's more functionality. And I think what they're trying to do is just get everything together and get it to work properly together. But the idea would be in here, obviously, with more tools you can go in and edit that drawing as well.

Now that drawing there could be on an iPad, could be on an iPad Pro, could be on a Surface, could be anywhere. So if I just-- I'll just quickly get this to wake up.

So for example, there at the moment-- I'm right there-- you can just about see it hopefully, there's my A360. I haven't got anything uploaded on that particular account there, but if I went into something like the house design file, he says, is that going to wake up? There we go.

So if you can see that, there's a Revit 3-D model sitting there on my iPad for me to view. And that's the whole idea, that all of this technology is saying-- see there you've got parts, properties, home view, snapshot, markups. So if I hit mark up, I can go in, mark that up, he says, trying to press on it and hold it up the same time. But you can see there I can go in and mark that up. I've got Undo and Redo as well. I've got the ability there to draw a box. There we go. And I can mark things up like that. That's the whole idea.

Now obviously, trying to show you that on a piddly, small iPad screen is not easy. But the idea being is the files that you've got here, that view there, would also be on here, on your mobile device.

And obviously, as that last bullet point says, if you've got a mobile device you can take a picture and assign that to the drawing as well. Or the Revit design or whatever.

Now as I've just said there, A360 on a mobile device. Depending on what device you've got, whether it's obviously, Android, Apple, whatever, go and find it in the app store, and you load it up, and it's there. You can edit the drawing while mobile, obviously in AutoCAD 360 or A360. Remember, project storage. And as I said, you can add the comments via the Design Feed.

So that Design Feed will also pop up in AutoCAD 360 here, on the mobile device. And if you're live-- the lady at the back there was talking about same users on same files. If I make a

comment here on my desktop in the office that comment will also show up on the mobile device on the Design Feed there as well.

And then obviously, as you go through these steps you get back to the desktop. So I might be done with being on site. I bring my iPad back to the office. I just-- that should all synchronize through. And you download it. And you can download a file very easily once you've made the changes. He says, looking-- there we go. And there we go.

So if I come back in here and back in here or over there I can upload the new version there if I want to from the desktop. But more importantly, all of this will synchronize and then when I come back into my drive, which I'm hoping will load up this time for me-- so changes that have been made in the cloud-- Bear in mind these are all separate drawings as a fail safe for me just in case the internet-- but I can download the file there. So if I hit download, as you can see at the bottom there, I'm downloading the latest cloud-based file to my local machine. So it works in tandem, both ways.

And then obviously, usual things, edit the drawing, save the drawing. And then the next time you put that into A360 Drive you will have updated the revision column. You then copy that across the A360 and it's the next version. And all you've got to do there is just make sure that everything tallies up. Checks and balances. Always make sure that you check everything and balance everything on every project.

So fingers crossed, and he's says, looking for his watch. It's on the desk That's got us at 9:31, so I haven't done too badly there. Please fill out your class survey. Obviously that's all on the app, as well. And give the feedback. If I was terrible, please tell me. It's always good. And we do get feedback in real time, sadly now, which is even worse. So I could walk to my next class now thinking, god, they hated me. So there's all that fun there as well.

Just very briefly, LinkedIn Learning are here. We're one of the silver sponsors here. I do a lot of work for them. There is a free 30 day trial of LinkedIn Learning to all AU attendees. So you can go in and get 30 days of loads of courses. So enjoy that. There's the link there. There's also, if you want to do it via paper, there's a code on each one of those you can use as well. And I've got a few little [? LinkedIn-y ?] bit freebies there, if you want them.

That's me. So if you want to get in touch it will all be on the handouts, email address, and Twitter.

Thank you, very much. Have a good day.