ADRIAN KOREN: The first slide. Welcome to Building Handover with Building Ops. I'm Adrian Koren. I'm the lead developer on Building Ops. And Moling Guo's here, she's also a developer on the team. We're going to get started in just a minute, but I want to point you to this first slide. This is not primarily a hands on exercise, but I would encourage everyone, either now or at some point during AU, to actually get started with Building Ops. And you can do that by following the instructions here. Either go download the app, or go to the website.

It's really simple. You're going to enter your email address. You're going to say that you want to join the portfolio AU2016. You're going to get a confirmation email. You can enter a phone number, mobile phone number, and get a code. And then you'll be joined as an occupant of the portfolio.

Once you do that, you'll be able to add comments. Any questions you have, if you want to learn more about Building Ops, you can do that right through Building Ops itself. And you can actually get started on your own buildings as well. So I would encourage you to give this a try.

If you have any issues with it, Moling is here. She will help you with any problems you have, if you want to-- have any questions about how to walk through this, so go ahead and get-- if you guys want to do this on your phones, do this on your Android phones with the website. I encourage everyone, either now or some point during this conference, to go ahead and get started with it. Just try it out, and there's going to be demo here, but there's nothing quite like taking something for a test drive. So go ahead and follow this.

So, let me-- I'm going to show you what you're going to see when you do this. I'm sure it'll look different depending on whether you're on a phone or on the app, but you're going to see this. And this is going to allow you to file tickets. You probably will complain that it's too hot in here by the end of this. There's not that much we can do about it. But this is a way that you can ask questions, and we'll get back to you on any questions that you file through this. I'll just put this in my pocket. Go back to this.

This Autodesk Building Ops, Handover with Autodesk Building Ops. So we're going to be talking today about how Building Ops can help with the handover process. So, people here, are you-- who here is a contractor or GC? Is that most of you here? Do we have any owners here?

We have a fair number of owners. Do anyone here does building and operating? Sometimes we talk people who do that. No? Anyone here wander in by mistake thinking there would be donuts? No, just me? OK.

All right. So, this is going to focus on how general contractors can use Building Ops to improve the handover process. We're also going to talk about how Building Ops works and improves the maintenance process for owners as well. So the-- I think I already covered this. We're going to look at Building Ops itself. We're going to look at the handover process, how we can take some of the information that's developed during the construction and design process and get that into the hands of building owners where they can actually make use of it. And we're going to see how this can help-- for GCs, how this can help improve the handover process so that your owners have a better experience, and get started maintaining their buildings in a better way than they're able to do right now.

So, let's start by talking about Autodesk Building Ops. And even before we get to that, let's talk about why we decided Autodesk needed to build something. And we're going to start by looking at the building lifecycle. Most of us-- is that-- yeah, that's OK. Most of us here focus on the first two steps of the lifecycle.

The design, which Autodesk has been involved in since the early Middle Ages, and the construction phase, which Autodesk has been into over the last few years. And these are really important. But when you look at the actual lifecycle of building, in terms of the time, in terms of the money spent, the vast majority of a lifecycle of a building is actually in the operations phase. So really, despite everything that you do-- you spend $2 billion building a super tall structure, and you're really proud of it. That's just the beginning.

The lifecycle of a building really gets going once handover occurs, and the operations takes place. Which leads to the really important question. What happens after handover? And right now the answer to this question is a little bit murky. We have a lot of great information. We've got these great tools that we've used for building. And then handover occurs. And then what?

Well, this is kind of surprising. At least to those of us who have used all these great tools during the construction process. One half of all building owners are not using any software system at all. So they're using pencil and paper. They're making stuff up as they go along. It's not a great way to do things.

But this actually overstates the situation, because of those people using software situations, a significant number of them are using Excel. So the number of people here who are actually using dedicated software solutions to maintain their buildings is really tiny. And even that's not the full story, because of the people who are using those software solutions, many of them are not getting real value out of it. They are maybe using it, but they're not using it to their full value. Or, in many cases, they're starting to use it, finding it doesn't meet their needs, and it ends up sitting on a shelf.

And why is this? Why is it that owners are not getting a lot of value out of their software solutions? Well, just imagine you bought a car-- maybe a Tesla or a BMW, nice shiny thing, whatever your tastes are. Driving around for two years, and then you get a package in the mail. And it's the maintenance manual. And it says, after the first three months, be sure to change the oil.

Well, you've been driving it around for two years. It's a little bit late for that. This is what building owners are facing today. They are spending 18 to 24 months setting up building maintenance. So after handover, they're setting up their solution.

They're bringing consultants in. If they're using a software solution, they're bringing consultants in. They're customizing it. They're setting things up. They're trying to get all their assets set up so that they can maintain them.

Two years later, they're ready to actually begin maintenance, and the first thing they learn is that they should have been changing the filters 18 months ago. Already, the building's just getting going, and they're already way behind. This is obviously not the best way to maintain a building. And one of the results of this, is that people who are doing building maintenance, are spending most of their time reacting to crises. There's water coming out of the ceiling, or there's no power in half the building.

Running around chasing crises that people living in the building are reporting. What they'd really like to do is spend most of the time fixing problems before they occurred. Doing the maintenance as it is due, keeping the building running smoothly. They don't have the information they need to do this, because they're waiting two years to get that information. And as a result, people doing maintenance are running around dealing with crises pretty much all the time. Once again, that's not the way you want operate your building.

And there's another reason why people who are doing-- using the software solutions are not

finding a lot of value. And that's because these software solutions are often targeted at the wrong people. A lot of the software solutions they're trying to use are these big, complicated desktop solutions that do a lot for the owners, and the managers, but those are these people down here. There's an owner, there are a few managers, but most people maintaining the building is that big stack over there.

And they're not sitting at a desktop. They're walking around in the field. They're using their wrenches. They're driving around trying to fix things. That's the people who are doing the maintenance of the building.

And they're not being supported by the software packages that are out there today. Now, they do have mobile phones, so they could be taking advantage of it. The problem is, many of the software solutions that are out there either don't have a mobile solution, or it's something that was just sort of tacked on as an afterthought. It's not really providing the use that the people out in the field need. It's not providing that value.

And there's actually another group that's not even on the slide, because it wouldn't even fit. When we're talking about building maintenance and operations, who are the most important people? What's the most important group of people in a building operations?

AUDIENCE: The people occupying the buildings.

ADRIAN KOREN: The people occupying the buildings, exactly. The people who are living, working, studying in those buildings. That's why we built the building in the first place. They are not involved in this at all.

The result is that today, a maintenance situation often starts with something like this. Alice is having a problem, so she makes a phone call, or maybe she sends an email. She's not using any software system at all, it's just going through email. And it goes to-- a person sitting at a desk gets the email it, brings up the software system, types in something, categorizes it, prioritizes it, assigns it.

And then what they do with it? Then they hit the Print button. So they go over to the printer, and they've got a piece of paper with the work order. They hand this to Jacob the maintenance guy, who takes it.

And he's going to go all the way out to do the maintenance. And while he's here, he realizes

he needs to go look in the manuals. He's going to go back to the truck, look in the manual. Go back out here. Finish up the maintenance.

Now he's got to take this piece of paper, and go all the way back to the office and say, hey, desktop person, I finished this. OK, now get back on the phone. Hey Alice, your work is done. This is a state of the art solution for 2016. No, it's not state of the art. This is not what we should be doing. We should have a better solution.

Now, how does building information modeling fit into this? We generate a lot of really useful information during the design process. And now with tools like BIM360, a lot of that information is carrying over into the construction process. There's a lot of really good information about what's installed, what the building needs. And then you hit the handover process, and that information is lost.

And when I say lost, I don't mean it's thrown out. It exists somewhere. It doesn't exist in a place that someone can use it. In maybe-- in some system somewhere, it may be a big pile of paper in an office somewhere. But it's not in the hands of the guy who is waist deep in water trying to tighten a valve in a basement somewhere. And that's the person who needs this information.

Eventually, that information is recovered, over time. Two or three years later, they now have the information they need to maintain the building. But that's really too late. You're already way behind.

Can emerging technologies help? There's a lot of talk about things like Internet of Things, smart devices. These are producing lots of useful information, but it's only useful if it gets to the right person. A lot of these software tools are slow to adopt this technology. And even if they do, it's still not getting to the right people.

Because if you have a device that's raising an alert, saying I'm about to fail, it doesn't help if someone at a desktop sees it. It needs to go to the guy out in the field, who can then go and solve that problem before it becomes a really big problem. And the tools out there now are not capable of doing that. And so that brings us to Autodesk Building Ops. This is-- you can see the first highlighted words up there is mobile first.

What does that mean? Well, one thing it means is that we actually started by writing an iOS app. That was the first line of code that we wrote. But it's more than that, because when we

work on this app, as we add new features, everything we think about, everything we do with this, is focused on, what can we do to help the guy who's out in the field waist deep in water?

They're the people who really need the information, and need the help to get their building maintained. So whenever we add a new feature-- yes, there is now a web app. Yes, part of the story is in the desktop. But everything we do is focused on, are we helping that guy out in the field? And so whether it's using the iOS app, whether it's using the Android-- an Android device with the website, those are the people that are the focus.

So it's not the people at the desktop. We do support them. But, even more importantly, are the technicians, the occupants, the people who are out in the building. And so we're going to-- what I'm going to show you now is, as part of a handover process, we can take all that great information that we've collected over the course of design and construction.

And we're going to get it to the guy who's out there with his wrench, tightening valves. And I'm going to get into the demo in just a minute. But I'm going to stop here and ask, are there any questions so far? Way in the back?

AUDIENCE: So, as an owner that already has employed CMMS, I'm very invested in CMMS. Is this a solution that will integrate, potentially, with [INAUDIBLE] CMMS, providing a better mobile solution for [INAUDIBLE]?

ADRIAN KOREN: That's not something that we've focused on right now. What we think that people will find is that this is really a better solution. Not just for moving your information over, but for maintaining your building going forward. In fact, one of the things that I will show you here is how to get information out of your existing system into this. Because we think that the solutions that are out there now aren't really being used effectively.

AUDIENCE: When will it be ready for Androids?

ADRIAN KOREN: So, Android-- the question is, Android. I mentioned that you can use the web app on your Android. It actually works really well on that. There are some things that, with the iOS app you have offline use. You can't do that with Android. But we find that's not really a big problem.

So the issue with Android, why do we not have an Android app? And, if you're familiar with the way Android apps work, they can be very difficult because of the many form factors. You've got the different sizes, the different companies, the exploding versus the non exploding versions. And there are so many different versions of Android. So what we found is that if we

were to support an Android app right now, it would be very expensive for us, because we'd have to spend a lot of time making it work on all these different form factors.

It's an issue we don't have with the iOS. So for right now, we are spending our time and our effort in improving the platforms that we have now, which is the web app-- which as I said, does run on Android phones very nicely-- and on the iOS app. And we feel that that's where we're providing the most value. That doesn't mean that won't change in the future, but for the short term, we're not going to have a native Android app.

AUDIENCE: So, [INAUDIBLE] 3D model, is that actually in the latest release?

ADRIAN KOREN: I have no idea where this is thing--

AUDIENCE: [INAUDIBLE].

AUDIENCE: On transition, [INAUDIBLE].

AUDIENCE: [INAUDIBLE]?

AUDIENCE: iPads, is that versus phones?

ADRIAN KOREN: So this, you can work-- the question was, iPads versus phones. And you can run the app on the iPad. It is optimized for the phone. And again, the reason why we did this is, we found that the people who are out in the field doing this work, they're not generally carrying iPads with them. They want the smallest form factor. Even the pluses--

[INTERPOSING VOICES]

AUDIENCE: They are now. Ops guys are carrying iPads.

ADRIAN KOREN: You know what? As I said, you can use it, and it's something that we will continue to look at. Really, we have optimized the experience for the phone right now. And that's something that we could take a look at, as we hear more about people wanting--

[INTERPOSING VOICES]

AUDIENCE: guys, we're not here to bother [? setting up ?] your phone.

ADRIAN KOREN: Yeah, it does use--

AUDIENCE: [INAUDIBLE]

ADRIAN KOREN: It does work. It's just the UI has not been optimized to take advantage of the full size. Anything else? OK we're going to dig into the demo now.

So, I'm going to start with the assumption that everyone here has, at some point, followed the instructions from that first slide and joined as an occupant. And so what I'm going to show you here is, once you're in as an occupant, starting your own portfolio. So this is going to be the first step when you want to maintain your own building. We're going to go over here-- if you haven't gone through that step. you can go through the login process and start your own portfolio.

There's an option which says I want to join a portfolio, I want to add a new portfolio. You can go through that step, say I want to add a portfolio. If you've already logged in, you add a portfolio here from this side panel. And so I'm going to create a portfolio, and it's going to be called conference center.

AUDIENCE: What designates something as a portfolio?

ADRIAN KOREN: So, a portfolio is our notion, basically, of an account. You have a group of buildings that you're maintaining together. You have similar groups of people working on them, a single owner. Now when I say similar people working on them, maybe some technicians work in some buildings, and some work in others. But in general, it's being maintained as a single unit.

Also, when we get to things like pricing, a portfolio can be converted to a paid portfolio as a single group. When you do reporting, you can report across an entire portfolio if you want to see where you-- what categories are producing the most tickets. You could do that for a single building or across a portfolio. So, the first thing you're going to do once you've created your portfolio, is your going to create a building.

And so this is a new building that we've just completed. And we have been designing it using Revit, and we have a lot of good information in Revit and we want to get that information into Building Ops so that we can start maintaining it. So, we start by creating the building called [? Hanspile ?] Hall. And I have to type an address in here. So let's see if I can type correctly.

And one thing that I'll just point out-- I want to add a photo. You don't have to add a photo, but it's just so much nicer if you do. So there's a photo. And I want to point out, just-- there's a building prefix down at the bottom, which is currently been recommended as HH. You may

have a system already in place that says, I want to use naming differently. Now this prefix will be used as we create tickets, assets, as a prefix. I want this to fit into my existing way of working, so I'm just going to change this.

And it's smart enough to know that I didn't really type the full address in. I didn't type my zip code. So we're going to go use a GPS type system to say here's a better form of the address, which I'm going to accept. And so now I have a building. And now I'd like to get asset and equipment information into this building from Revit.

So, the first thing you're going to need to do, if you're experience with Revit, is-- you probably guess that you need a plugin. And that is in fact the case. And if we go over here to the Settings page, where we have a summary of our portfolio, and down here at the bottom you can download your plugin for Revit. I'm not going to go through the process of installing a plugin because that's not really very interesting. But this is where you would go when you're starting to work with Revit.

So now let's go to the process of getting some of our information into Building Ops. It helpfully logged me out. That was very nice of it. There we go. So, here's our lovely design.

And the first thing we're going to do is, we're going to select the information that we want to move over. Now, one thing that I could do here is just go and drag select everything, and send that over. You don't want to do that. There's a lot of information in this model that is not really useful to people maintaining the building.

I've seen some really complex models. They're really awesome, where you have a clock, and every single digit on the clock is modeled in Revit. But the reality is, people aren't going to go out and do maintenance on the number four. So don't send all that information. One of the most important things you can do in this part of the process is figure out exactly what your maintenance people need, and make sure that you send just that information over.

So in this case, I'm just going to grab a few things. I'm going to do a drag select here. And I'm going to use the filter. And I think what I really want is some lighting fixtures-- lighting devices, I think, and electrical equipment. I'm going to pick a small set here.

We have had people who've gone through this and just uploaded 40,000 pieces of equipment in one shot. You can do that. It's probably not the best thing for your maintenance people. Now that I've selected the equipment that I want to send over, I'm going to switch the add-in

tab. And you can see that we have the Export button here as part of the Building Ops add-in.

Now, I just want you to remember that this is a process that is currently taking people 18 to 24 months to get this information in. I'm going to show you how you do it here. I'm going to hit the button, and it's going to ask us for a code. Where are we going to get this code? We're going to get this code from Building Ops.

We're going to go back to the building that I just created. And I'm going to say, generate a code for me. This is a secure, single use code that I can grab from here. And I'm going to drop that code right into Revit. It verifies, is that the name of the building I wanted to import to? It is, and now we're going to export. And we're sending the information.

Again, this is something that has taken two years now. And I think it's done. Let's go see if the information is there. There we are. We have a whole bunch of assets that we have had in Revit. They're now available right here in Building Ops for us to maintain.

Let's take a look at some of the information that we've pulled over. That one does not have much useful information. Let's find one-- get something better. Here we go. We've pulled over some-- the various properties, these things when I expanded through this More or Less button.

These are properties that we don't natively support in Building Ops. But we pull them over anyway, because they might be useful. We've also brought in the-- recognized the fact that it is a lighting device, because when you're maintaining you might want to do reports or assignments based on what type of device it is. We've pulled in the name of the device. There's something else we've pulled that's really useful to maintenance people, which is the location.

You can see that we've identified the location. And I'll show you now that we've actually produced a list of rooms in the building, which you can now use to maintain it because that's how people are going to maintain. They're going to walk into a room and say-- a maintenance person will go into a room and say, what do I need to do here? But we also have the 3D model and let's take a look at that.

And it's important to note that the way maintenance people use a 3D model, it may be a little bit different from the way you're using it when you're constructing it, because you actually have the building in front of you. But what you really want to see here, is sort of the context. You

want to see the model-- the device, as it sits in the building. What's connected to it? What's behind the wall? And so on.

And of course it's helpfully going really slowly right now, because it's a demo. OK, there should have been a 3D model up here by now. This is going very slowly. That's what happens when you have a wireless network with 10,000 people banging out at the same time. OK we're going to try this again a little bit later with a different model. Hopefully that will happen a little bit faster.

As I said, we also have information-- in addition to [INAUDIBLE] information, we've brought in a lot of room information. So we know how many floors there are. We know what the different rooms are. And from each of these rooms, we can then go in and see-- in this workshop-- we can see the assets that are in it. We can also see the associated tickets.

We're not doing any maintenance yet, so there are no tickets. But this means that someone who's doing maintenance in a room can go and look into them and see what else is there to do work on, while I'm here in this room. And we don't have to set this up. We don't have to spend months putting this information in, doing data entry, because it's all coming from Revit. Was there a question?

AUDIENCE: The [INAUDIBLE] that's automatically associated with the room?

ADRIAN KOREN: Right, because in the--

AUDIENCE: In the model it was associated?

ADRIAN KOREN: The model, it was associated with location. And so we brought that information in here.

AUDIENCE: Are you going to [INAUDIBLE] bringing over the information from [INAUDIBLE]?

ADRIAN KOREN: That's the next thing I'm going to do.

AUDIENCE: What's file type formats? [INAUDIBLE]?

ADRIAN KOREN: Basically, the way we have this set up is that you're going to export the information directly from Revit, or from BIM 360 Field. We do some processing behind the scenes to have it in a format that we can display easily when the wireless network is working better. So you don't actually have to worry about what file formats are being stored, because we take care of all that when you do the export from Revit or BIM 360 Field, which is what we're going to do next.

We do that transfer, and we take care of all that for you.

AUDIENCE: [INAUDIBLE]

ADRIAN KOREN: I don't think we have the ability to do that now. Right now, everything is done through the tools, which is done through Revit. It's done through Field. So if you're using it in those, we can bring it in. If we don't support it, we'd like to hear about your use. Go to the AU2016 portfolio and post something about it.

AUDIENCE: [INAUDIBLE]

ADRIAN KOREN: As I said, we're actually importing from Revit. So you may need to convert, bring it into Revit, and so on.

AUDIENCE: Are you going to make customized so different owners can actually customize for their needs, because different owners have different needs and some of them may not use some of the [INAUDIBLE].

ADRIAN KOREN: So the question is, will we be able to make this customizable so that different owners can use different functionality? The answer is yes, with a caveat, which is that it depends on what-- we want to ask the question first, what do they want to customize? There are some ways that this can be customized now. We do want to be really careful with this, though, because one of the prize things we've achieved with this is that it is very easy to use.

The more we make it customizable, the harder it is use. And then we've stretched out that initial period, so that instead of in 10 minutes you're getting started, you're bringing in consulting, and now you're back to six months. And we've lost some of this value. So the question is going to be really, what kind of customization do you need, and how can we accommodate that without making the tool suddenly so complicated that we we've lost what's really great about this right now? So we'd be interested in hearing what type of customization-- and I will talk about that a little bit later, some of the customization that you can do already.

AUDIENCE: Is there the capability of exporting this material that you can pull out of this model to another model?

ADRIAN KOREN: Right now, you can export the information from this to a CSV file, which then gives you a lot of flexibility and other tools to bring it in. What we really found though is that, when we get to this point, we have the information in the form that's most useful to maintenance people. They, at

this point, are able to start maintaining the building. And the general feedback we've got is, that they're now happy with this in this form.

AUDIENCE: I'm thinking that as a building owner, I may have an object, a renovation, or a wing, or something, of a building. And I want to get that information from that project back to my model of the building.

ADRIAN KOREN: If you're doing renovation, probably the flow that you're going to follow is, you're going to go back to the model, either from Revit or from BIM 360. And you're going to start with that, because that's your as-constructed model. That's probably the best place to start for doing renovation. Once you do that and you make changes, you can then re-import.

And we won't generate lots of duplicates. We will match the existing assets. We'll recognize that you've added certain things, added certain rooms. So that's probably the best way to achieve the scenario that you're describing. Way in the back, in the green?

AUDIENCE: Are you able to connect through [INAUDIBLE]?

ADRIAN KOREN: That is done through BIM 360 Field. And that's actually what I'm going to show. You can-- Glue connects to BIM 360 Field. Then Field would go-- and I'm going to be showing that in just a minute.

AUDIENCE: [INAUDIBLE]

AUDIENCE: [INAUDIBLE] Is it possible to [INAUDIBLE] the [? extraction ?] [INAUDIBLE]

ADRIAN KOREN: I'm going to be getting to that, absolutely. The answer is absolutely yes. And after we go through BIM 360 Field, I'm going to be showing more about the use of tickets, and that's going to include how we do reporting with it. There's a lot that you can do with that. OK, so, there were a couple of questions about Field and Glue, so I'm going to go ahead and get to that right now.

I'm going to start by creating another building. We've got another building we've built. And again, I have to type an address. Of course we have to add a photo. It's a very modern, postmodern architecture, as you can see.

So, now we have a building that's just been constructed. And we've constructed it using the BIM 360 suite of tools. So we have a lot of information in BIM 360 Field that we want to bring

over. And so there is our old friend Ben 360 Field.

And there's the equipment that we have. Same caveat that we had before with Revit. We want to be careful about what we bring in, because not everything that's important during instruction is important during maintenance. Best thing to do is talk to the maintenance people and find out what they really need. In this case, I'm just going to filter-- now, I want to give you one warning here.

Some people have tried to do this-- use the check boxes here to select what they want. That doesn't work. Everything that's on this list will be exported. So if you want to export a subset of this, use the filters. That's what I'm going to show here. I'm going to filter down to just a handful of cooling towers. That'll be enough for the purpose of this demo.

And if we go over to More Actions here, you can see that there is a menu item built in. There's no plugins, there's no configuration here. It's just there-- right there in Field already. And it says Export to Building Ops. If I select that, we're back where we saw before. We need a code. And I'm going to generate a code the same way we did before. Grab the code.

It's verifying the name of the building. And now the export is taking place. And I'm going to give it a couple of seconds. But the information is now being sent-- you know what? While we're waiting, I want to look at this a little bit more. Because I want to see what we have in Field that's useful. There's a lot of really good stuff in here.

For example, we've got some user's manuals. there's a maintenance manual right there. That's exactly the kind of thing that our maintenance people want to have available to them when they're out in the field. We've got some photos. We've got all sorts of good stuff in here, in addition to the model and the other information. So let's take a look in here at what we've got.

And there they are. And there are the manuals, there are the photos. Model is thinking, there's a little bit of processing going on right now that sometimes takes a couple of minutes. The 3D models are just not cooperating today. We'll give that a try in a little bit, later. But what you see now is that we've taken information-- it might have been in Glue originally, it was passed into Field. And now we've-- in a matter of minutes, we've taken all that information and made it available to Building Ops.

So one of the questions that sometimes comes up when you are dealing with someone who

has an existing system is, even if they want to adopt this system, what do they do with their existing information in some of their existing buildings? So, another way that you can get information into this is through a CSV import. I'm going to show that just very briefly here. Add just one more building. Have to type yet another address. One more photo.

And so if-- that's the wrong CSV. Let's go to the one with assets in it. So, this is the format. And this will actually look familiar if you've seen the export of CSVs Field. It's designed to be very similar so that it's easy to go from one to the other, if you're not going through the export process.

If you have information in this form, it's very easy for you to import this into Building Ops as well. So let's take a look at that. Figure out a list of assets, and I go to the Add button up here. You can see there's this little Document button. This is how you can download a template. So if you're not sure of what the format is, download the template. It's got instructions in it.

I've already done that, so I'm just going to go straight to Import from CSV. Let's get the right CSV. And now I've imported all those assets in. So now if this is a building that already exists, so we built the new building, we've imported from Field, we want to bring over the existing buildings into the system as well.

We go to, perhaps, an existing system that we're not happy with. We export from CSV, munge it a little bit, bring it into the system. Now all of our buildings and all of our maintenance information is set up in Building Ops.

AUDIENCE: Can you also import the associated documentation?

ADRIAN KOREN: Right now, through the CSV, we don't have a way of importing the documentation. CSV is not really a good format for that. So there would be some manual process for that right now.

AUDIENCE: Can you import [INAUDIBLE] hyperlinks? [INAUDIBLE]

ADRIAN KOREN: There is a way that you can have a custom-- so let's take another look at that CSV. If you look at these things way at the end, we've got these things, expected life replacement code. Those are custom fields. Those are not things that Building Ops natively supports. But we do bring those in.

So if we take a look at-- down here we've got the More button. And you can see that it's fairly smart about it, in that we recognize that the date was in fact a date. And so you could put links

in there as well. And they will appear as hyperlinks, and so you could link documentation that way.

AUDIENCE: [INAUDIBLE]

ADRIAN KOREN: We don't yet have the way to go back from Building Ops. And the reason for that is, really, for most people who are doing this maintenance, handover really is kind of a Rubicon. Once you cross over it, you're not going back. You want this information in this new format. You still have those field-- your Field project, if you want to go back to it and do a large renovation project. But in most cases, for the purposes of doing maintenance, this is the format that you want. And they don't really want to bring the information back to their Field model, because the owners are not using Field. They're not working with it in that format. So there isn't really use for them to take that information and bring it back, because this is what's going to be working with, day to day.

AUDIENCE: What's the best way to get information into a model during the times [INAUDIBLE] so it's packaged and ready to go?

ADRIAN KOREN: What's the best way to get information into the model? That's actually something that I'm not-- I don't know all that well. I just mostly know the operation side of it. It really is something that should be coordinated with the maintenance team. What information do they need? A lot of the information is already going to be there.

The most important thing is the list of assets and their locations. That's the thing that they most want to have, and that they don't have right now. As far as what properties they have that are on there, a lot of it probably is already there. The problem that most maintenance people have during these transfers is usually too much information, not too little. There's so much information that's coming over that they can't filter out the things that they need, usually.

So the biggest challenge for doing this, is really to find out what your maintenance people really need, and not send that information over. Or find out the things they really need, and only send that information over, and not send out all the other things. But the best way to really nail that down is to talk to the maintenance team. And wen I say the maintenance team, one of the things that you should talk to are the people who are out there doing the maintenance, because a lot of times you'll talk to the owners and they say, we need these 40 things.

And then you talk to the people who are out in the field, and they say we only need these six things, and two of them are not in those 40. So, the more you talk to people, the more you find out that there's really only a few really important things that they need. But those things are really important.

AUDIENCE: If you're doing a major renovation, [INAUDIBLE] updates [INAUDIBLE] included?

ADRIAN KOREN: If you're doing a major renovation, what that probably means is that you're going back to Revit or BIM 360 Field, and working on it there. Once you do that, you can re-export. You can go through the process that we've done already. We can do that again. It will not create a bunch of duplicate assets. It will identify the assets that have been newly added, and add those to your system so that you can-- as many times as you want, you can update Building Ops from models that might be changing and keep your maintenance information up to date that way.

AUDIENCE: Can the update reuse some [INAUDIBLE] of the redevelopment? If I do something [INAUDIBLE] I conveniently export from the [INAUDIBLE]?

ADRIAN KOREN: Can you give me an example of something that-- some information that you're concerned about losing in this?

AUDIENCE: We went through [INAUDIBLE] renovation. We re-export the [INAUDIBLE]. But, if I do some [INAUDIBLE], we lose [INAUDIBLE] in If re-export?

ADRIAN KOREN: If you re-export-- if there are assets that are already there, it's not going to overwrite them and clobber the information that's there. It's just going to bring in things that are newly added. So it's not going to overwrite information that you've--

AUDIENCE: You could have duplicates.

ADRIAN KOREN: It will identify-- if you are re-exporting a field model, it uses the field identifier to recognize which assets are already in the system. So it won't be re-export those.

AUDIENCE: [INAUDIBLE] deletes the [INAUDIBLE] it won't anymore? The [INAUDIBLE] is gone, and the field identifier [INAUDIBLE]

ADRIAN KOREN: It won't-- so one thing it won't do is actually delete things, because part of our policy is we never delete anything, because historical information is always important. I think that it will mark those as no longer in use. So assets have a status indicating whether they're in use,

they're being commissioned, maintenance, and so on. And so we can mark things as being no longer in use, and I think that's what we do when we do an export and assets are no longer there. I'd have to check that though.

AUDIENCE: [INAUDIBLE] got me thinking. I'm an [INAUDIBLE] guy, so we sometimes make our own [INAUDIBLE] What if we're making terrible

[LAUGHTER]

AUDIENCE: [INAUDIBLE]

[INTERPOSING VOICES]

AUDIENCE: You want the [INAUDIBLE] number. The [? family ?] is geometry. And you use the [INAUDIBLE] point method for it to [INAUDIBLE] that groove [INAUDIBLE] is located at, [INAUDIBLE] But not really the family. And then you have the contractors go off their information about that.

[INTERPOSING VOICES]

AUDIENCE: [INAUDIBLE] For a bunch of confusing reasons, [INAUDIBLE] aren't supposed to do the room. They're best, in my opinion, as a contractor, not posted at all, because they're associated with concrete.

AUDIENCE: You can make them a piece of mechanical equipment and use that room point [INAUDIBLE] method to pull that down into the room, and then it recognizes the space that it's in.

AUDIENCE: So the general contractor would have to be enforcing the fact that it moved.

AUDIENCE: Well, the engineer should be [INAUDIBLE]

AUDIENCE: Well, [INAUDIBLE]

[LAUGHTER]

ADRIAN KOREN: I'd like to discuss this more. I would love for you to post this question, and let's talk about that. Because it sounds like there's an interesting scenario there. So please post it to AU2016, and let's talk about that scenario.

AUDIENCE: [INAUDIBLE], our information is coming from [INAUDIBLE] Field, [INAUDIBLE] equipment. Not

issues or anyplace else, [INAUDIBLE].

ADRIAN KOREN: That's correct. Things that are issues in construction, presumably they're resolved. The people who are doing maintenance don't care about things that happened during construction. They just want to know what they're getting. And that's the equipment.

AUDIENCE: [INAUDIBLE]? Like a [INAUDIBLE]. Is it possible to export these to [INAUDIBLE]?

ADRIAN KOREN: When we export from Field, we do use the internal Field IDs, which are [INAUDIBLE]. I'm not sure if Field exposes those in their export or not. We generally don't do that, because it's kind of internal. But that's something we-- if that were something critical, for-- there were a reason to do that, it's something we could do.

AUDIENCE: [INAUDIBLE] discuss [INAUDIBLE] this had [INAUDIBLE] or how you want to maintain your assets.

ADRIAN KOREN: Actually, that's the next step. The first step is getting your assets into Building Ops. And the next step, which I'm going to be talking about in just a minute, is setting up the maintenance schedule. So I'm going to dive into that right now. How are we doing on time? We're actually--

So let's take a look at the first building that we brought in. Actually, we're going to go to this one. And we're going to start talking about setting up the maintenance schedule, which, thank you for providing that segue. Because now that we have these assets, the thing we want to do with them is keep them running. And so there's a couple of things we're going to do.

We're going to do a little bit of setup here. It's not 24 months worth of set up but there's some configuration that we can do. And so let's go to the Portfolio Settings. Not the Building Settings. And so the first thing we're going to do is ask ourselves, when do people do maintenance?

Because we want to build the schedule around that. Out of the box, we have maintenance pretty much happening around the clock. But it may be that our maintenance people don't work on weekends, and on Wednesdays they have professional development days, or something. So we're going to limit it to just those days. And we're going to limit their work day hours to, let's say they start at 5:00 AM and you go home at 4:00.

So any maintenance that we schedule is going to be slotted into one of those time periods. Now there's some other things that we can customize here in the end-- we had a question about customization here, and these are some of the things that we can customize out of the

box. We're allowed to customize priorities. So for example, I'm going to add a new priority called Critical. Critical, which is due in two hours.

Now we can actually have priority. This is for tickets that are reactive, so people are filing complaints about things. You can mark them to be done in as little as 15 minutes. If they need to be done in something less than, that like if the building's actually on fire, I recommend that you don't use Building Ops and just call 911.

Another thing that we can do is, we're going to set up some SLAs. Now with SLA, a Service Level Agreement, is something that you may not use when you're operating a building. But if you do have these, these are legal agreements that says certain types of project, you have a legal obligation to finish them in a certain period of time. So those are really important to manage. So for example, a water leak incident might be considered urgent, and therefore it's committed to be done in the time period that's defined by the urgent priority. And we're also going to mark that as plumbing, because we want to be able to manage those very easily.

Now, I'm going to bring in some people to do some work. You can't do maintenance unless you have maintenance people. I'm going to do this very quickly now, because we're way behind schedule here. But the easiest way to bring in people is through a CSV. You probably have a list of technicians who work on it. I'm going to bring those in right now, so now I've got people who can work on it.

And I'm going to create a checklist. This is-- so we've determined what equipment needs to be worked on, we've determined who's going to work on it by bringing in some contacts. And now we're going to determine what work needs to be done. So when we change a filter, what do we need to do? Well, we need to install the new filter and dispose of the old one.

OK, so now we're all set to schedule some maintenance. Let's go find an asset that we want to schedule. Let's take this first one here. And so this particular cooling tower is kind of inconvenient. We have to change the filter every day.

So, we have a change filter task that needs to be repeated every single day. And I'm going to go down here and see that we create tickets. You don't want your means people to be surprised, by and large, by saying, oh, you have to go right now and change a filter. So we're going to create tickets one week in advance so they can manage their days and see in advance, on Tuesday I need to change this filter.

We're also going to schedule the starting and end date. It's going to start today, and it's going to run for next two weeks. And that checklist I just created-- it's not here. Oh, I put it in the wrong building. It doesn't matter.

AUDIENCE: We'll change the filter in that building, too.

ADRIAN KOREN: OK, we now have tickets created. I have just scheduled maintenance, daily maintenance, to change the filter on this. There are those tickets. We can assign things now. I actually forgot to do a step here. I was supposed to assign the asset to Kimberly before I created those tickets. If I had done that, they would have all been preassigned to her. I didn't do that, so I have to assign them now.

You can do them in a batch, in fact. The easiest way to do that now is-- I went to the wrong place. There are all my tickets. I can just go ahead and collect them all and assign them all in one shot. If we look at this, you can see that the location has already been set up. The categories for the tickets are inherited for the asset, so that when, if you are signing this ticket, you want to get your HVAC specialist, because that's what kind of a ticket it is.

You can see that the due date has been set up. We can assign the service level agreement, which will in turn update the other information. And if we look at the dates, one of them was due the 17th. One is due the 18th. There was not one due tomorrow on the 16th. Why not?

Because tomorrow is Wednesday, it's their personal development day. So we respected the schedule that we set up on the portfolio at the beginning, and did not assign the ticket. So on Wednesday, the filter doesn't get changed. So there we have-- in just a few minutes, we have maintenance that's been scheduled on an asset. And this is something that takes two years to do with the current systems. And we've just done it right here in a few minutes. Any questions now about the scheduling maintenance?

AUDIENCE: Is there an option to make a recurring [INAUDIBLE]?

ADRIAN KOREN: Sorry?

AUDIENCE: So say there's a [INAUDIBLE] type annual [INAUDIBLE] that's set for three [INAUDIBLE].

ADRIAN KOREN: Yep.

AUDIENCE: Is there an option to make it recurring to [INAUDIBLE]?

ADRIAN KOREN: So is there an option to do maintenance every year? I set this up for every day just for the purpose of the demo. But there is an option. You can do it every week, every year. There's a bunch of options you can do. So you can schedule maintenance-- every day maintenance is probably not the most common scenario. It's mostly just for demos. But yeah, every year, every month, those are far more common.

AUDIENCE: Sorry, one more question. To me this is [INAUDIBLE] an option to be able to [INAUDIBLE] developing [INAUDIBLE] this is all done within Ops?

ADRIAN KOREN: This is all happening within Building Ops, right. So the flow is going to be, at the-- shortly before handoff, you're going to go into Field and export all your information into here. And at this point, through Building Ops, you're going to start setting up your maintenance in this way. So what I'd like to do now--

AUDIENCE: [INAUDIBLE] question.

ADRIAN KOREN: Oh, one more question.

AUDIENCE: So are you going to show how this works on the iOS device?

ADRIAN KOREN: Yes. That's a very good point. I spent all this time earlier talking about how this was mobile first, and I've been showing you a web app. And the reason for that is, there's some things that you don't need to do when you're out in the field. And setting up stuff from Revit into Building Ops is not something you do while your knee deep in water. That's something that you do do in the office.

But now we're at the point where we've done the handover. We've set up our maintenance. And now the building lifecycle is going to take place. And this is a great segue, because the next thing I'm going to show is how that building lifecycle takes place. And that's where the people out in the field with their phones come into play. And we're going to look at that right now.

So I'm going to actually switch to a different portfolio for the purposes of this demo. And we are going to start with our friend Alice, who made the phone call earlier. That is the wrong thing. Where did it go? We have this, and we have-- so Alice is an occupant of a building, and she wants to complain that water is leaking.

So this is what Alice is going to see, depending on what form factor she's using. She might be

working on a desktop. She might be working with the iOS app, as you can see there. She may be working on an Android phone using the web app. And you can see that, if that's what she's using, she's going to get a view that looks kind of like this. And this is the Android or mobile view of the web app. As you can see, we've tried to make it as much like the iOS app as possible, because we want this to be as clean an experience as using the iOS app is.

Now one of the things you might see here is that these are our out-of-the-box, what we call quick tickets. These are the most common things that people are going to find tickets about. The vast majority of the time, people are going to be complaining that they're too hot or they're too cold. That's what people complain about all the time. So those are the top two here.

But you may find that No Internet isn't really appropriate for your building, because you may have an IT department that's handling those. So that's something that we can customize. And we'll go take a look at that right now. We'll go to our Settings, and look at our quick tickets. And we can see, No Internet is not really what we want.

But this particular building, we've got a lot of problems with water leaks. So I'm going to make a water leak quick ticket. I'm going to mark it as plumbing. And if I go over here and refresh this-- in fact, this is so important I'm going to move it up in the list. It's sliding back and forth because it's trying to figure out, based on my location, what is the current building I'm in. We do a lot with current location. It's a little confused right now, because these are-- this is demo data.

But you can see here that I've now made Water Leak very easy to reach, because that's something that happens a lot in this particular building. So Alice is going to complain about water leaking. And she's going to add a photo. And she's going to add a room number. That's actually-- let's pick, the kitchen is where it's leaking. So let's add that. And we can add some more text.

And she has now filed a ticket. And now she's going to add a comment, because she realizes that she didn't really capture just how urgent this is. So she's added a little comment to let people know this is really important. We got to work on this. So in this scenario, this is now going to go to our building operator, who is back in the office, and who is going to go look at this. He's going to look at his list. Now, there are some things here that he might want to look at. We've got 22 overdue tickets. That's pretty bad. He's going to need to get to work on those pretty quickly, figure out someone to do with those.

We've also got three tickets that needs attention. What does that mean when a ticket needs attention? Sometimes the guys working in the field, and discovers that they can't actually fix the problem. They need to raise a flag back to the manager of the building and say, I need something-- there's something that's blocking me. So let's take a quick look at those.

And you can see that we have three tickets, and each one is tagged with the reason why it's blocked. So we're awaiting parts for one of them and we need to get a vendor. So we we're have to go back and assign a vendor to that one ticket. But for right now, we're starting our day. We want to look at our new tickets.

And there's that water leaking one. And that looks pretty bad, so we're going to take care of this right away. Now we have an SLA. Let's assign our water leak. You see in SLA, it's filled out a bunch of stuff. And now I'm going to assign it.

And if I were to assign it, you can see that we've recommended some technicians. And we use a bunch of criteria for this. One thing that we're using right now is, who's available? In this sample portfolio, a lot of people have no tickets assigned to them. So it's recommending that we keep them busy by giving them some tickets.

We also have a couple of them that are located currently nearby where the incident is. So we could assign those. We also sometimes will use expertise. So someone who is an expert on a particular thing like plumbing or HVAC will be recommended. And those-- we have the little icons that are telling you what's leading the recommendation.

In this case though, I have someone in particular in mind that I want to work on this. That's Jacob here. So I'm going to assign it to Jacob. Now at this point, I am going to hope that I can get this to display, because-- QuickTime, New Movie. I had a really nice way I could do this wirelessly that worked really well until this morning, when I went to try it out and it didn't work anymore.

So we have the wired solution. So, we have our technician Jacob, who's using his phone, and he's starting his day. And this is the same Jacob we saw earlier, who was carrying around a piece of paper. Now he's got his phone. And he's starting his day, and he's looking at what he needs to work on.

And he's got six tickets. And they're all in Lightfoods Furnace. So he's going to head right over there. And he doesn't have anything overdue. He does have something upcoming. He also

might want to look at the Nearby, to see-- and he has one ticket that's near where he is right now. In fact, let's take a look at it on the map.

You can see we're here, and there's a little blue pin. I don't know if you can see it that well on the screen. That's where the ticket is. So it's right nearby, so he's going to head right over and try to deal with that. So, is that the one that's here? There it is. It's the upcoming one.

So we're right here, and we're going to take a look at this. And one of the things that we're going to try to do is, let's figure out what asset is responsible for this. Let's take a look at some of our assets. And, you know what, let's take a look at the sump pump. And let's view the model.

Hey, the model worked! This is the first time this demo the mode's cooperated. And now we can look at the sump pump in its context, and we can see that that's probably the source of this problem. So, I'm going to go back here. I'm going to mark that sump pump as being the asset that caused the problem. And I just hit Cancel. That's not what I wanted to do.

So, we've identified the asset. And let's take a look. We've got get the photo. That's some pretty bad flooding going on there. We better deal with that. So he's going to get to work on it right away. And so we're going to mark it. We've got it-- it's assigned to me. I'm going to mark it as In Progress.

Now, this is the life cycle of the ticket. When a technician picks this up and starts working on it, they're going to move it from Assigned to In Progress. And this sends information back to everyone up the chain. So the person back in the back office can say, oh, good. I'm glad to see that Jacob has started working on this already. And even the person who originally filed it can see that, oh good, my problem is being worked on.

I mentioned that sometimes they're blocked. So I could go over here and say, well, you know, I can't actually access the property. It's too flooded. I can't even get into the room. So I'm going to mark it as Needs Attention. In this case, the guy is going to actually start working on it, so we'll just mark it as Needs Attention.

So he goes out, does his work. We have the asset information here that we saw. So if he needs any manuals, he's not going back to the truck. He's just looking on the phone. Let's see if this asset has any manuals associated with it. Yeah, look at that. There's some useful information right here.

And so, we've repaired the problem. The flooding is done. Let's mark the amount of time we spent on it, because we do want to track that. So, we spent one hour-- 1 and 1/2. One hour, 30 minutes working on it. So we've reported that. That's useful for tracking later on.

And I'm going to add a comment. Oops. Offset, so-- and finally, we're going to mark this as Completed. And now at this point, everyone who's looking at this ticket knows that the work has been done. There's no need to go back to the back office. There's no need to go make a phone call. That information is now available.

And so in fact, if we go back to the guy sitting here in the back office, he can now see that he has a completed ticket. Now the typical flow we have with this is that the person out in the field doesn't mark a ticket as being Closed. He marks it as Completed, because there might be a step here where someone wants to go and validate that, in fact, it was done properly. But in this case we know Jacob. He does good work.

We're just going to go ahead and say, this is closed. This is done. And now I mark it Closed. It now goes into the Closed bucket. It's off of everyone's to do list. It's still historically available. We can go look at our Closed tickets. But we're done. With one more step involved, because people like to get good feedback.

And so Alice is going to come in and take a look. And she can see everything's finished. Now right at this point, this ticket is pretty much locked up. We do have a new feature coming up that for 30 days, Alice can add comments to it. So for example, if it wasn't really fixed, if there's still issues, Alice will be able to add comments to it. That's not how it works right now, but that is something that's coming up shortly.

There is one thing that Alice can do, though. Maybe Alice comes home, looks at it, and everything's great. Everyone loves feedback, so let's give our technician some feedback. We're going to give him a thumbs up.

And so he's going to get a little notice that says, you did a good job. And that's just a nice way to go about your day. He worked really hard, and [? this ?] got really wet. And now he knows it was appreciated. It's just a nice thing. Everyone enjoys a little appreciation.

And so now our lifecycle is done. We've modified it. We've taken the ticket. We brought it into the system, from the occupant directly into the system. Nobody had to Cut n Paste from email. It went directly to the person out in the field. Had access to all the information he needed, the

model, the documents, everything. He fixed the ticket, fixed the problem, reported it back. And now everyone knows that it's fixed and he even got a thumbs up.

This is not something that you can do with existing systems today, except for Building Ops.

AUDIENCE: So do you have any live case studies from this?

ADRIAN KOREN: We do have people using it. I can't talk about those right now, but please contact us and we can talk to you about what we can. Of course there are legal things about what we can say and what we can't.

AUDIENCE: Is there a way to prioritize automatic [INAUDIBLE]? Other than move them around like you did?

ADRIAN KOREN: So, one of the things that we can do is-- actually one of the things that we don't have right now is that quick tickets don't have priorities. That might be a way to accomplish that. That would be a useful thing that we could add. There is something actually that we do, which I haven't shown here, which is that we have-- when we get into the Internet of Things, and we have integration with Panoramic Power. Which does some really cool stuff, because it allows the devices to tell us when tickets are-- when things are going wrong, or things are about to go wrong.

And in that case, we do actually bring in the priorities from the Panoramic system. And one of things that we're working on now as well, is we have some machine learning going on. So for example, we do categorize tickets. We can recognize by the description that something is probably plumbing related, and we'll add that tag.

And one of the things that we're looking to do beyond that is automatic assignments, and automatic categorisations, things like that. So that just based on the description, if someone says something's on fire, we'll recognize that as being urgent. That's hard to get right, but it's something that we're working on right now. I don't know who is--

AUDIENCE: Is it bought on a per-year basis? Or how is that--

ADRIAN KOREN: How do you how do you pay for this? So, first of all, are you a contractor? Or are you an owner?

AUDIENCE: I am actually in maintenance.

ADRIAN KOREN: OK, so you're on the ownership side. So the first thing that's important is that everything that I've shown you right now, all these imports and everything, can be done without paying a penny. I didn't enter a credit card. You can do all of this right now. Bring your [INAUDIBLE] information from Field. For the GCs, just go ahead and do this. You don't need to pay anything. You don't have to sign up for anything, other than just put your phone number and email address in.

You can do-- once you do this, you can start maintaining your building. And you still don't have to have to pay anything. At some point, if you are getting a lot of value out of this, you will generate a lot of tickets. At that point, you will run into some limits where older tickets start to sort of fall off the end. At that point, you would want to become a paying customer, and it is charged per building.

So if you have five buildings that you're maintaining, that would be the basis for the cost. So there's no number of technicians you have. The number of owners, occupants who are working with it. We don't charge you a price on that. Let me go in the back here.

AUDIENCE: I might be missing a step, but I don't see any materials in that work order, just to track the cost of that work order.

ADRIAN KOREN: So that's actually something we're not doing right now, is tracking building materials. But that is something that we've heard people talk about. That's something that we will look into.

AUDIENCE: So the big picture is, I bring that [INAUDIBLE] model, or BIM 360 for the equipment. I bring it into Building Ops, [INAUDIBLE] maintenance schedule, consider any service [INAUDIBLE]. And if I were renovating, this would be [INAUDIBLE] the model [INAUDIBLE]?

ADRIAN KOREN: That's correct. Yep.

AUDIENCE: That's excellent.

ADRIAN KOREN: Great.

AUDIENCE: What was your first name again?

ADRIAN KOREN: I'm Adrian.

AUDIENCE: How's the plan integration, or shop drawings, or [INAUDIBLE] from [INAUDIBLE]? So, I'm actually doing PDF drawing, or mark-ups in Redline, or--

ADRIAN KOREN: Yes, absolutely, your-- all the attachments that are added in Field, your PDFs, your documentation, your drawings, your library items, those all com in to Building Ops. So all of that is available.

AUDIENCE: Specific to the equipment?

AUDIENCE: So how does [INAUDIBLE]? Do you have an example of that?

ADRIAN KOREN: Well this is-- if I go back to this. Well, you know actually, it's one of the things that we saw here. If you brought in PDFs, you're going to see them in a PDF viewer. If you brought in-- when Field stores attachments, they usually store them in two formats, either as a PDF or as an image. And so you can view those in either of those formats. So if you have photos, they're going to be your photos. If you have PDFs, you'll see them in a PDF browser.

Which is actually the same as you're already seeing in Field, so it will be very familiar. OK.

AUDIENCE: In the part [INAUDIBLE].

AUDIENCE: Hi. Where does the reporting [INAUDIBLE]?

ADRIAN KOREN: Reporting-- that was the next-- I keep getting great segues here. So yes, I'm going it talk about reporting in just one minute. You had something? So, reporting. One of the most important things that you're going to get out of this is that you have some historical information about the work that you're doing. What are your problem spots? How many high priority versus low priority tickets are you working on?

And in keeping with the general philosophy that's, we've tried to make this as easy as possible. We do not have this separate reporting plugin that you have to learn how to use a whole separate mechanism. It all comes very easily as you're looking at the system. Let's take a look at the tickets that we have right now in this portfolio. And we can sort by priority.

So now we can get a sense of high priority, low priority, critical ones, and so on. But this list isn't really telling us very much, unless we start scrolling up and down. But you'll see that there's a little button up at the top, a list versus a graph. Let's take a look at the graph. Well there's information about what's in the system right now, for high priority, low priority, in a way that's very easy to see just by switching from the list view to the graph view.

I can break this down further. Let's take a look at the buildings and we can see that [? Vicogil ?

] seems to have a lot of Medium. We don't have a lot of urgent ones right now, that's really good. Let's take a look at the medium ones in [? Vicogil. ?] There's our list.

So we can go back and forth very easily from our graph view to our list view, which makes it very easy for us to see high level views, and then drill into them and see more specific details. So here's something else that you can do that's kind of neat. If I'm looking at this-- and let's actually go back to the All Buildings. So, All Buildings here-- someone asked about the role of the portfolio. All Buildings is our view of the entire portfolio.

So all the open tickets, everything that's going on throughout all of our buildings, we can see at a glance right here. And let's say that I have-- I'm having a particular problem with the doors. Maybe when we installed the doors, something was defective about them. They had termites in them or something. So let's take a look at all the doors in this system. So there's our list of doors.

And if we switch here, we're now getting the same view of the categorization-- the graph here. But the filter that we saw in the list view, is also being applied to the graph view. So everything we do in one place, goes to the other. So really we can get these graphs just by pushing a button.

Again, if we want to break down by ticket type. Now, in this case, everything's reactive. Which means that all our doors are failing and people are running off to fix those. And we've got some urgent overdue tickets there. So that's probably something we need to attend to right away.

AUDIENCE: [INAUDIBLE] set to [INAUDIBLE] format for something higher up that I don't understand, [INAUDIBLE]?

ADRIAN KOREN: In fact, let's take a look at some of the other things that you can do here. If I look here, I can print it. I can download information in a PNG format. And one other thing I can do is, let's say that I-- regularly, I'm concerned about my doors. I can actually save the report. And that means that I can just go and hit this button at any time, and come back to this. So if there are things that you look at once a day or once a week, you save the report. Now with one click you can go and bring up that graph.

AUDIENCE: Is there a place in Ops that does have all the floor plans of the building? Because maintenance and purchasing, a lot of times they want to know. They need those plans--

ADRIAN KOREN: So, yes there is. So you can-- if I go to a specific building, there's a place here where I can look at plans. And so I can add PDFs, so if there's any sort of global information about the building, like as you said the floor plan for the entire building, things that I need to know about everything that are associated with a specific asset, you can see them right here. And of course, there's a Plans View on here as well.

AUDIENCE: Does it report by asset [INAUDIBLE] categories?

ADRIAN KOREN: Let's go look at reporting my assets. Let's go look at our assets. We were looking at reporting of tickets, but let's go to Assets. And let's look at the graph view. And let's break it down by category, and then by location. One location, not very interesting. So here we have the list of all of our assets. And they're broken down by what category they are. [INAUDIBLE]. And I can click on any of those. If I specifically want to see what those electrical assets are, I can click on that, and dig in--

AUDIENCE: [INAUDIBLE]

ADRIAN KOREN: Sorry?

AUDIENCE: [INAUDIBLE]

ADRIAN KOREN: So this, what I'm looking at here-- the reporting that we're doing now is something that someone will do in the back office. This isn't really something that someone out in the field-- someone who's out in the field dealing with a water leak doesn't care about how many leaks occurred in HVAC equipment over the last two weeks. So they're not going to be using this. This is actually something you do through the website. This is not something that you do on the phone. So, yeah, this is something that you would-- for this, you would need to have an internet connection.

AUDIENCE: In that specific event [INAUDIBLE], but you could do the same function for the whole [INAUDIBLE]?

ADRIAN KOREN: Yep. So-- in fact, one click to do that. [INAUDIBLE] furnace. Let's switch that to All Buildings. And I don't think any of the other buildings in this portfolio have any assets, but there you go. That's the view you're looking for.

AUDIENCE: So you can export from the Graph View to [INAUDIBLE] stay in the List View?

ADRIAN KOREN: You can-- from the graph view, you can download a CSV. And that will have-- for example, if you want to produce a report in CSV format of your tickets. This is something that one of our customers, they want to give a report of, how many tickets are overdue in the last month? How many times did they miss their deadline for their SLAs? And they do this through-- it's through the graph view, but you can do a TSV export, and that gives you the complete list.

AUDIENCE: So you can't print the list view and [INAUDIBLE]?

ADRIAN KOREN: You can print, as well. It's not enabled here. We're actually actively trying to discourage people from printing too much, because you've got your phone. But people do need to. And so it's something that can be enabled. And we do have people who are using that. So you can print out individual-- if you really prefer to have-- and we actually have a customer who prefers to give a piece of paper and have them walk over, and-- I don't know why.

AUDIENCE: [INAUDIBLE] the List View [INAUDIBLE].

ADRIAN KOREN: Yes, so you can get-- you can do that as well.

AUDIENCE: They charge extra, though.

ADRIAN KOREN: We have joked about wanting to do that. Yes, there's a number of things you can do. You can get a CSV. You can print out a PDF of that list view. They're are all things that you can do.

AUDIENCE: Are you going to show the widget on iOS?

ADRIAN KOREN: What's that?

AUDIENCE: The widget.

ADRIAN KOREN: The Today widget?

AUDIENCE: Yes.

ADRIAN KOREN: Let's see, do I have where's QuickTime? So, if you're starting your day-- Jacob's starting his day. He's checking the weather. He's checking the news. He's checking his schedule. And he can see he's got nine tickets. And you can expand it and see, oh, there's one nearby. I'm going to go and attend to that right away.

AUDIENCE: Let's pretend this building is like a factory, for example. Is there a workflow [INAUDIBLE]? The assets in that factory are heavy machinery, robotic farms. Is there a workflow [INAUDIBLE] a

manufacturing facility like that? Could you use this to manage stuff?

ADRIAN KOREN: That's not something we've encountered. What I would be interested in asking is, what is it that we do now that doesn't fit manufacturing?

AUDIENCE: That would be the export assets from [INAUDIBLE]?

ADRIAN KOREN: OK, so there may be other ways that you want to get your assets into our system. And we'd be interested in hearing about that. So if you have AutoCAD, other systems, whatever you have now, we're definitely interested in hearing. One of-- there are a couple of big things, takeaways, that I'm hoping you're getting from this. And one of them is, we want to make it really easy to get assets into the system so that you're maintaining your building on day one.

We have Revit, we have BIM 360 Field. We'd like to hear about other ways that you want to do that. OK, I actually have-- running out of time here. There were a couple of other slides that I was supposed to show. You can probably skip most of them, but-- and, let's start at the very beginning. That's helpful.

All right, so what are the-- most of you here are contractors. Why is this important to contractors? Hopefully, I've already answered that. But just as a review, when you're doing handover, there are a couple of things that you really want to do. You want to make the handover experience as effective and pleasant as possible. The more information you can give in a useful way, the better. And the emphasis is on useful. If you give them a stack of binders, that's not really helpful.

Giving them information in this format, will be a lot more helpful. People-- and the people who are maintaining it, people who are running the building, will greatly appreciate it. This is a service that you, as a contractor, can provide so that when you turn over the keys, they have a positive experience and they're left with a really good state. You've just worked really hard building this building. You want it to be maintained properly. And this is a way you can ensure that.

And in many cases, you may have warranty obligations. In Europe, this is particularly significant. It's true in the US as well, that you've committed maybe for a year to maintain the building. Or to-- not to maintain the building thoroughly, but to warranty some of the equipment in the building. If that equipment's not being maintained effectively, your warranty costs are going up. This is a way that you can help make sure that those costs are brought down.

And then just, last of all, you just make sure that that building that you built is just going to maintain properly. It's going to be a better experience for everyone over the long term, over the 20, 30, 50 years that that building is in existence. The more effective the maintenance is done, the happier everyone is going to be. And that's going to make everyone look good, from the owners, to the maintenance people, to the GCs who built it in the first place.

I'm just going to skip over that one. I'm back to this slide again. Again, I want to encourage you, if you haven't done this, sign up. As I said, you can-- if you're a GC, you can go in right now, create a portfolio, create a building, start exporting stuff from Revit or Field. You can do that right now. You don't have to enter a credit card. You just get started on it. Give it a try.

If you're an owner, go and create your own portfolio. Create your own buildings. Start filing tickets. Invite some of your technicians, have them try it out. They can-- you'll get a feel for it, and you have access to all the functionality. We want you to see it, try it out, and love it. Please get started on it right away.

And then I have to end with-- this is the first time I've done a presentation at AU like this, so I'd love to have any feedback, what I can do better. So please, give feedback. Please let other people know if you're excited about this. As you can probably tell, I'm excited about it. Let people know about this if you think that this is something that you want people to know. OK, other questions?

AUDIENCE: Are there plans to do any [INAUDIBLE] any energy usage [INAUDIBLE]?

ADRIAN KOREN: Are there plans for that? There are certainly plans for it. It's certainly a thing that will be really valuable, as we're learning to maintain the building better. It's not something we have right now, but it's definitely something we want to embrace as we have this Panoramic Power integration that's just the start. We want to get information out of smart devices. And it's something you'll see more of in the future.

AUDIENCE: Is there going to be any plans for [INAUDIBLE]? You can build for instance, like if you download stuff [INAUDIBLE]. [INAUDIBLE] intelligence [INAUDIBLE]

ADRIAN KOREN: So, when you bring over the actual 3D model. Not just the piece of equipment, but the 3D model, and only bringing over specific information. That's actually an interesting idea. It's something that we will look at. I don't know any specific plans for that, but that is something.

So one of the things that we found with maintenance people is that the model is one of many tools that they use. They don't-- unlike construction people, or design people, they're not spending their whole time in the model. So they don't depend as much on having the model be in a certain way. But it is really important to them to be able to see it when they're-- as we saw earlier, we were looking at which asset was at fault. We brought it up. We could tell immediately that that was the problem asset. So that is-- and getting that right for technicians is very important.

AUDIENCE: [INAUDIBLE] design all the stuff. [INAUDIBLE] function? [INAUDIBLE]. And then being able to remove [INAUDIBLE]

ADRIAN KOREN: Absolutely. And what some people have done-- and this is currently manual-- is they've gone into their models and they just pull things out, because they know that they're not going to be needed. That's not ideal. But I can see that automating that would be a useful thing.

AUDIENCE: [INAUDIBLE]

ADRIAN KOREN: That is an interesting idea. And it's something that we'll want to take a look at. Especially if we have issues with people, because I know the models can get very, very big. And a lot of that information is not as important to the maintenance people.

AUDIENCE: Many of [INAUDIBLE] we work with have their current systems connected to their to their other enterprise [INAUDIBLE]. Like say whatever accounting softwares they use. So is there any plans in the future to allow access to the back end, either directly or through like an API?

ADRIAN KOREN: Are there plans? There are definitely plans. And what would be very useful to us, is if you could point us to the systems that are most important to your users. And we would prior-- as we learn more about what systems are out there to be used, we would prioritize that. We're still-- this product has been in commercial use for about a year and a half now.

So we're still learning a lot about what our users want. And that's an area that there's definitely opportunity. And we would need to learn-- there's a lot that we could do, but we need to learn what are the places that we can produce the most value quickly. So please, as I said, we have the AU2016 portfolio. That's a perfect place for you to submit that. OK. Anything else? As I said, the best way to do all this is to go in and start trying it out. You'll learn there's a lot more I haven't touched on.

AUDIENCE: How much [INAUDIBLE] to tell us who the management of the building [INAUDIBLE]

ADRIAN KOREN: [LAUGH] I'll have to check with the lawyers about that.