

NOBUYUKI

So thank you for attending to the session. It's honor to me to make a speech. My name is

SHIBANO:

Nobuyuki Shibano, working for Panasonic. I wonder, I'm not good at speaking in English, so two gentlemen will support me, who are Mr. [INAUDIBLE] and Mr. Ogawa in Autodesk Japan.

I'm also a representative for my colleagues, who are Mr. Nakatani and Mr. Matsuo. We have nickname. Mr. Matsuo calls himself as Sha Wujing. This is described in the famous Chinese story. Mr. Nakatani keeps Goku. This is Goku. So they called me, for the rest, Cho Hakkai. I don't like this nickname, but--

So, by the way, this is my content today. Please let me show the company profile for a short time. Panasonic was established in 1918 by Konosuke Matsushita. About performance in 2014-- earnings was \$64 billion. Profit was \$3.2 billion. And number of employees is about 250,000 in the world.

Now, Panasonic consists of four sub-companies. AVC is, maybe, most familiar about their products, such as TV, camera, and so on. AP has air conditioners, refrigerators, washing machines, and so on. AIS has battery, car equipment, and several kinds of devices. And finally, my ES Eco Solutions has lights equipment, kitchen, bath, wall sockets, solar batteries, and so on. So only ES supplies equipment for house and building, which goes together so with Revit.

About ECO Solutions company profile-- earnings was \$15 billion. The ratio of lighting business division is 21%. We are the top shared company in Japan, probably the third in the world. So lighting much important for us.

Then we'll do the second chapter-- Light Environment Simulation with Revit. So before Revit, our proposal was very simple. Not much information. So difficult to imagine so [INAUDIBLE]. So we have been proposed like this more than 20 years. So 30 persons, our lighting designers, are engaged to propose. And the proposal is more than 100,000 proposals a year.

So you know that I mentioned high brick wall to change this work style. The trigger was just a demand from our customer, which was a famous design office. And they're using very efficiently.

At the beginning, a very so simple figure. So as a trial o change to use Revit, I made several

light families, and provided them to persons in design offices. So I thought I could meet their expectations, and was my job. But they asked me to show this light environment simulation. So I put 167 lights using 2D layout, and the rate in Revit as a reference.

This is the first output. But our lighting designers complained that this image was too dark. So I changed the value of exposure to seven. But they did not agree. They said the ceiling, and white walls weren't good. But wooden wall and floor should be more dark.

I agree with them, because they had a lot of experience to design their space. But what should I do? So I switched to use 3ds Max.

This is an image using 3ds Max. I used Revit data, we just wrote it on MAX, and rendered using mental ray method. So lighting designers stopped complaining, and approved. I showed several images two persons of design office. They also approved. So I thought I completed my job.

But, in the next moment, they asked me the presentation, more easy to understand. So I'm puzzled. But they said additionally. So they proposed the fascinating temptation. That is to introduce Panasonic to the project owner. So this is just a [INAUDIBLE] stick, I think.

So this is a panorama presentation. So this is demonstration while using the iPad. And this is rendered by 3ds Max. Not only just one figure, but looking everywhere. Sorry.

The persons in the design office were satisfied. And we bid it together, to the owner, and had a presentation, which was approved. So we come to a conclusion that most customers require light families, and, moreover, a presentation which is easy to share the light environment with all project members.

So restrictions of this old panorama view is not to walk-- just see around. So I made some views at several points. For example, here, and here, from outside.

I also made a walkthrough demo. I've changed the source, system.

Different figure, so it's working.

[SPEAKING JAPANESE]

So it has a system better, so I made both. But design office persons prefers maybe panorama,

like this one.

[SPEAKING JAPANESE]

So we come to the goal to agree with our presentation. So next trial was the development of Revit doing. So lighting designers, 300 persons, who use and simulate light environment. But they have never used Revit and experienced a 3D layout of lights. So, of course, they don't know the source, 3ds Max.

So this is a first pictures, just after starting Revit. So we added the Panasonic extension menu here. So just three icons. So the lighting designer can use Revit and 3ds Max, and create a simulation image, pushing just three icons.

So selecting first icon, they can analyze Revit data. You know, this data was made by some other persons. So our designers must struggle with this unfamiliar data. Sometimes it takes a few days to understand.

So using this tool, you can see floors. Sorry, in Japanese. And so then select a floor here. So you see the rooms list, here. And when you select a room, you see equipment belong to this room, here. So our lighting designers can understand easily with just analyzing this data. So here.

And the selected room is highlighted. So you select this room. So the room place is highlighted, here. Change the room, another place is highlighted. So they can understand the correspondence of the room name with position.

So after selecting room, push a Create button. So at the lower left, here. So you will get the ceiling plan picture. So these ceilings plan picture, so you can put light equipment immediately.

So then, select a second icon. You will get a list of light families. So when selecting one, here, uses a figure of it-- [SPEAKING JAPANESE].

So to arrange lights, our designers should drag to the proper position, such as a standard operation on Revit. So which provides several functions, here, such as copy, move, rotate, and array copy.

[SPEAKING JAPANESE]

After arrangement, you will select a third icon, which is to run simulation.

This is a picture to control the simulation. This process arises the 3ds Max application automatically, using 3ds Max script. So first select this button. So this button, illuminance distribution chart, we can get. Second button, so quick check. Third button, mental ray with HDTV resolution. Fourth button is a panorama.

So we use mental ray method on 3ds Max. This method takes a long time. So, for example, about this data, it take more than 10 hours. Of course, resolution is HDTV. So it's necessary to check quickly. So we used Iray method as quick check. It takes one minute. Here is Iray result. It's enough to just check.

So I will conclude this chapter. We have developed Revit Addin, and a automatic simulation, using 3ds Max. We have just developed the 100 customer's Revit data. And our lighting designers to be able to this work.

Then go to the third chapter-- Realization of Revit aided control system. So first, please look at this video.

So with nine lights at the experimental room. So those lights controllable intensity and color s
So we have products such as controllable lights. To control them, operators must sit at a work site taking a lot of time. So, in some cases, there are some errors. OK.

So we have tried to control lights with Revit. We added the VMax here. VMax menu, so here, it means BIM-aided control system. I will explain the operation of Revit as office example. In this picture, we make some groups of lights to control at the same time.

We have three groups. And we make three groups. And after select group, so set dimming level and the color temperature for each group. So this is a make rendered image to using light environment simulation.

So select scene as control buttons. So this system can control real scene after setting lighting control. So it's easy to understand, to select a preset scene. So push the simulation menu. Then control the real scene.

So I will conclude this chapter. So we have developed Revit at BIM. And it can control lights. So we have found out that's a possibility, that Revit can control a real scene, dynamically. So

we think it's possible to apply for, not on the light, but also air, energy, and security, in near future.

Finally we go to the fourth chapter, "I HOW'S PLAN"-- WEB Kitchen Products Planning.

So we have developed the light environment simulation. But it occurs since WEB kitchen product planning system, named iHOW's plan. So we created this system about three years ago. This image is an example. It's rendered by 3ds Max, not by Revit. So let me explain about this planning process in a short time.

This is a web page And this is the start page of it. Sorry it's written in Japanese, but just button start, here. So the customer can create their own kitchen planning.

So first select layout of the kitchen, here. L-shaped kitchen is selected. Then select the part of kitchen. So here, IH-- induction heating cooker-- is selected. Then select the details of parts of kitchen. Here the door material is selected, or change it.

So finally, customers can get the image and estimate. So if they will order, they can get this kitchen. So in one week later. The price is maybe more than \$10,000. So they will visit our showroom to see real kitchen, or maybe give up.

OK. So, in this system-- it's an important thing, so-- the geometry of each part is created just after customer selection. We don't have an object in the database. But we have the rules necessary to create parts. For example, the cabinet is created using length, width, height, material, door knob position, right-hand, left-hand open, and so on.

So we can fit a kitchen by one centimeter accuracy. So the combination number of kitchen parts become infinity. So we think that real equipment manufacturers, we should supply the data, but also supply the real product. So we should be the best proposal. So based on the [INAUDIBLE] and know-how as a maker. What I want to tell is, we want to realize this kind of system in the light environment simulation.

We got the commendation by Ministry of Japan this year.

So conclusion-- the first developed Revit Addin, and automatic simulation, using 3ds Max for lighting designers. Confirmed the possibility that Revit can control a real scene dynamically. And third, we realized the light environment simulation for the best space proposal.

So just ourself, it's very difficult to realize this system. So I want to say, would you try to pursue the benefit provided by Revit with us, together? So this is end.

So sorry to speak faster or that. Maybe first off, please give me a question.

MINO BARADA: Yeah, my name is Mino Barada. I'm an engineer for that Autodesk. They're working for that Dr. Shibano and the Panasonic team. Then any questions regarding for that-- Yeah. OK. Thank you. I appreciate it.

AUDIENCE: Your Revit Addin, did you create it for doing this kind of work? About how long did it take you to write that plot?

NOBUYUKI SHIBANO: The question is that, is this Addin is for their operations? That is first question. Yes. Then also, the second question is, how long does it take to write, or making these customization Addins?

[SPEAKING JAPANESE]

[SPEAKING JAPANESE]

So, of course, we apply this software to real work, real business. But not yet justified, now. So for maybe half year, we will make conclusion to, this system is possible to use or not. So to develop this kind of system, it could maybe six months. So mainly to understand that Revit SDK. So after understanding Revit SDK maybe it will take us two months, or not.

AUDIENCE: My katakana is a little rusty, so it's going to be in English-- the instructions.

NOBUYUKI Sorry.

SHIBANO:

AUDIENCE: It's going to be an English, right? Not katakana? The instructions, the tabs, are going to be translated to English?

NOBUYUKI Sorry the--

SHIBANO:

[SPEAKING JAPANESE]

NOBUYUKI Hai, I understand. Sorry. Of course, it's not so difficult to exchange to English, I think. So to

SHIBANO: develop this kind of system, first we should get a [INAUDIBLE]. So we want to cooperate together.

PRESENTER 2: One of his goal for this presentation is looking for that needs and your needs and then dock up to get to realized this kind of roles-- for that real business, your business. I mean, that designing, or real commercial applications. That's why he's working to create this kind of add-ons, with Revit. And also for creating that real image-- real rendered image in these kind of PC environment.

AUDIENCE: Are you going to add some other functionality into it? Because I know there is some other programs out there to do lighting calculations for light levels on the floor, and stuff like that. Some of the programs don't do a very good job like-- I think it's AGI, or ElumTools for Revit. Because they added a whole bunch of 0s, which basically kills your lighting calculations.

[SPEAKING JAPANESE]

NOBUYUKI A little understand. So please translate.

SHIBANO:

[SPEAKING JAPANESE]

So we are not so professional on simulation program. So about for air condition, air for simulation, we should use a specialized software simulation. So we just want to combine with lighting simulation. So we, as a maker of lighting equipment, thought we develop this kind of software.

[SPEAKING JAPANESE]

PRESENTER 2: Any more questions? I think that we have more time to discuss with Dr. Shibano directly. So that if you are interested in talking with him. So please just approach to him, directly. I can make a translation, so.

NOBUYUKI Please.

SHIBANO: