

## Support.com's "Secret Shopper" IoT Support Experiment

Early in 2015 a small group of people at Support.com decided to see firsthand how the home automation segment of the Internet of Things was being supported. Each of us bought a kit from a different manufacturer, through typical channels, including online and major retail brick-and-mortar stores. The kits consisted of a basic assortment of lighting, thermostats, security cameras, motion and leak detectors and door sensors. We had guidelines for getting pre-sale, installation and usage assistance, including contrived problem situations.

The following contemporaneous log was kept by one of the people on the team, and is presented here with no editing other than hiding the name of the retailer ("Retailer") and manufacturer ("Mfg"). It is limited to the experience he had with installation, and he logged highlights only, not the details of every interaction.

### Day 1

Retailer was completely out of stock on every item sold under its own name, so I bought a different brand they claimed was "even better."

Didn't need to artificially create a support situation. Tried to install the kit and ran into an actual problem: Unable to activate new account for the downloaded app. Called the mfg's support number and found out they're only open during business hours M-F and until 3:00 pm Saturday. Called the number Retailer had given me for their own support people and they referred me back to the mfg.

Called Monday morning 6:10a. Took the "16-minute wait; we can call you back" option. They called back 45 minutes later.

Mfg support agent was clearly looking things up as we spoke. Tried it off the top of his head first and then said, "Wait, ignore that."

Said that you can't set up the account until the hub is on-line, because the setup process needs to find the hub in order to create the account. Also said that, if using an iOS device, you have to ignore the text that's presented, answer the activation email first, and then respond to the text. None of this was in the instructions that came with the kit, but (and my bad), it does say in the app that the hub has to be connected first. Let's call it a typical user mistake, not unexpected.

As it happens, once the hub is connected, the account set up is fast and none of those responses is even required.

## Day 2

Tried to install camera. Didn't work. Called in and IVR said 2-minute wait. 12 minutes later got another message saying 5-minute wait. Phone finally answered after 30 minutes total. (Note: Was offered option to get a callback but declined.)

Agent was very good. Patient, expert, technically knowledgeable. Don't believe she was using a script, but she did look up details of my wireless router. They turned out to be wrong. What she was trying to do should have worked, but it didn't.

Spent 61 minutes of detailed technical steps (renewing DHCP leases, configuring IP addresses, changing ports, detecting IP configs, plugging in and out of both router and hub, running router and camera admins on computer, etc.). She offered to screenshare, but I declined, as I wanted to understand the process she was going through. Finally had to quit the session without fixing it. 91 minutes total, and twice she suggested I return the kit for replacement or refund. (I was pretty sure there was nothing wrong with the hardware.)

Interesting that agent treated all of this as routine. There was supposed to have been a software CD included, according to online instructions, but they apparently went to an online software model without telling anyone. (Or maybe they tried to: Instructions that came packed with the device were for a dimmer, not a camera.)

Worth noting that she did some things awkwardly, albeit inadvertently, that would not have happened had there been something like Nexus® Guided Paths® available to her. As an example, when I was looking at six different possible places to type in an IP address, she'd say "Enter 192.168.1.1 into the first DNS box." Sounds reasonable on paper, but unless you know in advance where you're going to be entering the address, you have to either write it down or memorize it while she's giving you the number, or ask her to repeat it after she tells you where it's going. Also should have told me to write down IP and port numbers in anticipation of repeating some steps, which we did many, many times. (This is a classic support phenomenon: If it should have worked but didn't, do it a few more times before giving up.)

Had I been my father, the call would have taken three days. Had I been a real consumer, I would have heaved the whole kit through the window.

No telling how the agent reported the experience back to the product team to make sure it wouldn't happen again, and no telling if she did anything about the problem afterward. She never asked for my name or account number or any other identifying information. Obviously, no follow-up or survey possible. So data about the call were doubtless lost.

I got on the mfg's website and found some setup documentation. It was wrong (outdated), but I was able to find a software download. I told another agent that, but said I couldn't open it

because it was a ZIP file. She asked if I had WinZip; I decided to say no. She said I'd need a utility to open the file, but before we do that let's try something different. Which we did, for an hour.

After we ended the call I unzipped the file, installed the software and, with a little fiddling, finally got the camera going.

Had this company been using Guided Paths, I think they would have figured out that it pays to walk the customer through the download at the outset, as counterintuitive as that seems. Better yet, she could have pushed it to me.

In other words, a perfect object lesson in the value of Nexus, not only for guidance but for post hoc analysis for optimization

#### A week later

Discovered that everything worked only when I was in the house, on my local WiFi. Over the cell system, couldn't connect at all.

Called for support. Agent said this was easy: Problem is that the port used by Mfg isn't open so all I need to do is port forward it, by going to portforward.com and following the directions. He wasn't willing to walk me through it but told me to call back if I still had problems.

Portforward.com turns out to sell a utility bundle for \$39.95, which the agent neglected to mention. I found a way to get a free trial, and here's how easy it was:

- . Instructions said the hub can't connect to a dynamic IP address so it sent me elsewhere to change mine to static. I had to download another utility that detects the current address, detects what other addresses I'm using in order to preclude conflicts, then asks me to select from a number of candidate static addresses (presumably based on my expertise as a networking wizard).

- . Once I convert my PC to a static address, I access my router's admin module via browser to do the port forwarding. I go into the "single point forwarding" section and create an application, then manually enter the port number of the Mfg hub into both the external and internal port fields, choose both the TCP and UDP protocols, enter my new static address, then opt to enable the new configuration.

- . I go back to the original portforward.com utility to confirm that the port is actually open. It isn't, so I go back and try a few other settings until it is.

- . I go back to the Mfg app to test it. Still doesn't work. I try forwarding a block of ports instead of the single one. Still no good.

. I call Mfg back. Agent says it's simple: My ISP has the port blocked, so just call them and tell them to open it up. I called the ISP; after half an hour, they determined that the port can only

be opened via remote access, which is only available if I have a dedicated server on their system. They suggest I call Mfg back and ask them to call the ISP themselves so they can discuss the possibility of opening up a different port.

. I call Mfg back and get a very smart guy on the line. He tells me that the camera works differently from the other devices hanging off the hub and needs to be separately port forwarded. Tried that and it didn't work. So we set up another static IP and a separate port forward, and that didn't work, so he connected to my computer and uploaded an IP Camera Config utility (*What...!*), which discovered that the new static IP that I set is actually different from what was enabled. On top of that, the camera requires a different one from the hub altogether.

I ask the rep how an ordinary mortal was supposed to have done this, and he said, "That's why we're here," but, by the way, mine is an older hub and now they've got a new one that does all the port opening and forwarding automatically. (I didn't ask him why none of the six other people in the contact center I'd spoken with knew any of that or how to fix, or even identify, this problem.)

Estimate of time to get this working: 12 hours

Number of phone calls: 11

Site visits: 6

Number of times I was told to return everything and get a refund: 4

Number of conflicting pieces of information: Too numerous to count

The really unnerving part of this experience is that, now, everything works and works well. There was nothing wrong with the kit. But had I been an ordinary consumer, everything would have been returned and I would have tried another manufacturer. Had that one not worked, I'd wait about five years before trying again.

### Lessons learned

. Everyone in that contact center was flying solo. The fact that some really savvy cowboy eventually got my gear going is not good news; it's terrible news. Every other agent should have had a way to tap into that knowledge and solve the problem.

. There was no context available to the agents. They never asked who I was and therefore could record no history. Every interaction started from scratch, and even now there's no record anywhere of who I was and how my issues got resolved. Obviously, I couldn't be surveyed, either, and it's unlikely that either the retailer or the manufacturer ever learned of this experience.

. Had I been a regular consumer, not only would I have returned the kit, I also would never have bought anything else from that retailer or manufacturer. I might also have been happy to post this write-up on social media, using actual names.

. There's an argument that says I should have returned this kit and gotten the one that an agent told me automatically avoided all of these problems. I didn't think that was worth trying, since it would have to have been issued within a week after I bought the "old" kit, and I'd need a way to know I was buying the new one. A trip back to the retailer's website disclosed no such distinction.

. I'm happily using the Internet-accessible camera and thermostat now, and they work very well. It's a shame that adoption of these great gadgets is so badly compromised by a poor installation experience. All of this could have been avoided if they were using Nexus in the support center.