HCA Tech Note 141

Schedule Maker (updated 16-May-23)

Suppose you leave home for a day out. When you leave you want your home to be in "Away" mode so that lights get turned off as you go and perhaps not respond the same as when you are home regardless how they are scheduled. When you return you may want some devices to come on automatically. This is what the whole "Home Mode" concept is all about and you can read about this in the HCA User Guide if you don't understand and use it.

Now suppose you are going to be away for several days rather than just for a few hours. You can leave your home in "Away" mode and whatever you have configured for that happens each day. There is an alternative that some people prefer: Controlling lights in a way that makes your home looked "lived in". That's when lights go on and off in a believable pattern. Does it use more power than keeping everything off? Yes, it does. Is there a value to this "lived in look"? For some it may be.

There is a package in the online library called "Schedule maker". It has these goals.

1. Record all the state changes of devices each day into a log file for that month-day.

2. Create a schedule from the log file for the same day last year. If one isn't available, it uses a previous day. The idea is to have a log file for each day of the year so that lighting happens appropriate for the season. That means lights would be controlled earlier in the winter and later in the summer.

3. Automatically switch to this schedule if you are away longer than 24 hours. That is, you leave and the home goes into "Away" mode. If you don't return within 24 hours – because the house stays in "Away" mode all that time - a schedule is generated as described above and that generated schedule becomes the current schedule.

4. Automatically switch back to the regular schedule when you return home.

This package relies upon the home "Home Mode" concept. How your home enters and exits "Away" mode is not addressed here. Whatever method you use – presence sensor, manual action, geo-fence – is up to you, but that transition between "At home" and "Away" is important for this to work.

Let's get started.

Step 1.
Install the "Schedule Maker" package from the HCA Online Library.

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Step 2.

Create a sub-folder in the HCA Documents area called "Daily Happenings". This folder stores the log files for each day.

Step 3.

Figure out what devices you want to participate in this system. Which lights to be controlled when you are not home. Lighting is a good choice, but appliances are not. For those devices you want to use, edit their properties and add the tag "AutoSchedule" (No space between "Auto" and "Schedule"). The tag needs no value. Devices you don't want to use in this system don't get that tag added.

Step 4.

Open the properties of the program "Schedule Maker – Configure Schedule for Today" and choose the tags tab.

Edit the value of the "AtHomeSchedule" tag to be the name of your "normal" schedule. That's the schedule that is current when you are at home.

Edit the value of the "Vac Schedule" tag to be the name of the schedule that this package will create for you. It **shouldn't** be the name of one of your existing schedules.

Edit the value of "VacScheduleParent" to be the name of the parent of the schedule that gets created. Don't know about schedule and sub-schedules? The User Guide schedules chapter has all the info. If this new schedule is to be a top-level schedule, leave this tag's value empty.

Edit the value of the "UseSetPercentNotOn" tag if necessary. Some devices, when controlled to "On", go to their previous level. This is a property of their hardware and has nothing to do with HCA. When this new schedule is generated it can use an ON or a Set-Percent command. The value of this tag (0 = just send an ON – 1 = Send Set-Percent) controls what it does. You can also use this tag on a device, and it is then specific to that device and overrides the value of the tag value on this program.

Edit the value of the "Vary" tag. Schedule entries created by this tool can be at the exact times the log file specifies or can include the schedule entry "Vary" clause. Enter the number of minutes to use or set to 0 for no vary.

Step 4.

Open the properties of the program "Schedule Maker – On Home Mode Change" and choose the tags tab.

Edit the value of the "Enable" tag from 0 to 1 to enable this package to respond to home mode changes.

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Step 5.

In your normal schedule – or the parent of all your schedules if you use that – schedule the program "Schedule Maker - Schedule to run at 00_01" to run at one minute after midnight.

With all those changes, here is what will now happen:

- Each time a device changes state for wherever reason – controlled by you and HCA sees that change, by a schedule, or by a program – an entry in a log file is made. That log file is in the "Daily Happenings" folder and has a filename constructed with the month and day.

- Just after midnight each day a new schedule is created with the name you specified in the "VacSchedule" tag. This schedule replicates the actions on the same day as last year – or on a day before the current day. This schedule generation happens every day even if it isn't used. Let's call that schedule the "vacation schedule".

- When HCA switches to "Away" mode it starts a timer for 24-hours. If that timer expires then the "Vacation" schedule becomes the current schedule.

- When HCA switches from "Away" to "At home" mode, your normal schedule is reestablished if the current schedule when that happens is the vacation schedule.

Final notes.

If you don't use the home mode concept this package might still have value to you. You will just have to construct the mechanism for when the "vacation" schedule takes over and when it is no longer the current schedule.

The package programs all have notes which may help expand upon what is in this technical note.

##end##

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