

When coming up with the sound design, the priority levels were especially helpful to how detailed the messages for certain events were made to be. Generally level 1 events would have a detailed description read out, level 2 events would have a short description, and level 3 events would largely go ignored. Level 1 object (pet-only) and people movements also include a short saw-tooth wave clip to signify that there is something that requires immediate attention like a child or pet being in an unsafe situation. The saw-tooth wave was chosen because it sounds very different from most of the other earcons so it immediately grabs a user's attention.

Events

DOOR	<ul style="list-style-type: none">• Sonified only in contexts where it wouldn't be excessively distracting• In contexts where it wouldn't be distracting, sound only plays when priority level is higher than 3
PERSON MOVE	<ul style="list-style-type: none">• Largely limited to keeping track of children• In high priority cases, a saw-tooth wave alert is used to catch a family member or babysitter's attention
OBJECT MOVE	<ul style="list-style-type: none">• Largely limited to keeping track of pets• High priority (pet-only) movements

	<p>trigger the saw-tooth wave alert</p> <ul style="list-style-type: none"> • High priority regular object movements get a simple text to speech message
APPLIANCE STATE CHANGE	<ul style="list-style-type: none"> • Earcons for stove turning on and off. The stove turning off is the stove turning on but played backwards.
PACKAGE DELIVERY	<ul style="list-style-type: none"> • Always an alert for when a package arrives • The contents of a package are revealed in contexts where privacy is not an issue
MESSAGE	<ul style="list-style-type: none"> • A jingle is always played regardless of priority • If the message is high priority and the context allows for it, the message is played out

Audio Contexts

DINNER AT HOME	<ul style="list-style-type: none"> • Largely a baseline for the other contexts, with
----------------	---

	<p>descriptions of level 1 alerts being well described, level 2 alerts having a short audio clip playing, level 3 alerts generally being ignored.</p>
PARENT'S NIGHT OUT	<ul style="list-style-type: none"> • Generally there is more sonification here as the babysitter might not be as familiar with the smart home as the family would • Packages are mentioned as appearing but are not described to preserve the privacy of the family in what they order. • ObjectMove events are not sonified because the babysitter would probably rather focus on the movement of the kids rather than TV remotes or cellphones (though they can consult the console if they have time).
PARTY	<ul style="list-style-type: none"> • PeopleMove and ObjectMove events are not sonified unless there is a PriorityLevel of 1 such as is the case of the dog going to the front porch • Doors are not sonified even if they are at a PriorityLevel of 2 because there are so many doors being opened and closed, all of the alerts would disrupt the party • Level 1 Alerts are largely limited to simply

	<p>“appliance” “error” instead of a more detailed description like the other contexts to not disturb the party too much but still inform that there is an error, which the family could check in their own time</p>
WORK AT HOME	<ul style="list-style-type: none"> • PeopleMove was prioritized around the kids moving around because Spouse 1 would want to keep track of the kids relatively closely but wouldn’t want to be disrupted too much by the housekeeper moving about. • Unlike Parent’s Night Out, a package is described because perhaps Spouse 1 would like to bring a package in quickly (like the LEGO Mindstorms present to keep it a surprise for the kids)

Detailed Scenario (Karen at a Party):

- Karen is hosting a house party with a close group of friends in celebration for the end of the quarantine.
- Auditory cue: the stove burners have been turned on
 - Karen assumes that her husband Kyle is cooking up his famous étouffée and continues her conversation with friends
- Alert (saw-tooth wave) followed by dog bark earcon followed by “front porch”

- Karen immediately perks up and rushes to the front door to pull Fifi, the family's overly enthusiastic dog, back inside before she can tackle any guests coming in
- Karen hears a message notification
 - She glances at the console. Kyle was asking to bring a bag of ice from the garage freezer. Karen picks up and drops off the bag of ice into the cooler near the kitchen.
- Karen returns to her friends, playfully complaining about the dog's naughty behavior when she hears a Wi-Fi error
 - Karen quickly explains to her friends that her Wi-Fi has been having issues lately but it shouldn't be too big of a deal considering they are busy enjoying each other's company
- Karen hears stove error.
 - She glances at the kitchen to see what is going on. Luckily, Kyle was able to turn off the stoves before his étouffée got too soggy and mushy
- Karen hears sink error guest bath
 - She asks her daughter Kayleigh to go turn off the sink in the guest bathroom. She returns to her party guests.