SPEAKER 1: We created a lock system. And so this lock, it works through sound. So we have a microphone here, and it detects a specific rhythm. See it have the right tempo and right space between beats for it to detect the-- for it to unlock. So let me just plug this in.

So it starts in an unlock state. We have a server right here. This is for concept. It's not the most sturdier things, little cardboard little flap. So I'll put that here to demonstrate.

So plug that here. So let's say we want to set a code. So we're going to hold the button for two seconds-- or that.

HARRY: So it detects it three times in a row, both to make sure you can enter the code repeatedly, and also to average your results together. So that if you were a little quick or a little slow on one of the taps, that you don't have to do that consistently, that it knows what you meant to do after a few tries.

SPEAKER 1: Luckily we replace that code, so instead of boring you all, we'll just lock this, but we'll lock the safe.

HARRY: Let's reset.

SPEAKER 1: Yeah.

HARRY: We were having hardware issues with our button.

SPEAKER 1: This button is not very cut.

SPEAKER 3: It was working really well.

SPEAKER 1: Oh, geez.

HARRY: And beat to set it to easy unlock. His single clap is always--

SPEAKER 3: So now if we press the button--

SPEAKER 1: Well, this is embarrassing, because this worked two minutes ago.

SPEAKER 3: It worked two minutes ago. Can you come back to us?

SPEAKER 4: Some too tight in there. Now the lights.

SPEAKER 1: Yeah. Yeah, so the lights-- basically, we have a lot of light and sound systems that denote different things. That's if it works.

Let's say we put a code that's wrong. So let's do that a couple more times incorrectly. So now on the third fail, it'll kind of lock. It's a simulated calling the police.

Let's just try programming. We'll try programming a code. It's OK. Hold on. Let me just reset this whole thing. [INAUDIBLE] This'll work.

OK, let's try programming a new code. No. Not that. [INAUDIBLE] Unfortunately, the sensor-- to determine what kind of sound it's supposed to register-- there are a lot of difficulties. And Harry can talk about those.

HARRY: The sensor has a tremendous amount of drift, about five times as much drift is actually the sensitivity to sound. So before every sound measure, we have to take a background reading.

It also only detects low pitched claps. If you hit your fingers to your palm, it won't detect that noise. If you palm to palm, it will detect that noise.

It also requires fairly loud claps. A gentle clap won't set it off. You have to really make a fair amount of noise.

Also, depending on how your hands come together, the sound comes out in different directions, causing it to detect they're not detected. So obviously, part of phase two, if we were to expand on this, is to get a better piece of sound-sensing hardware that is capable of detecting a broader range of sounds, with a little more sensitivity.

SPEAKER 1: Yeah. That's our project.

HARRY: But it worked for proof of concept.

SPEAKER 4: Number one [INAUDIBLE].