Part A: Hard cases for Speech Recognition

Confidence is stored in lastResult, which is an array. Confidence is a numeric value (number) between 0 and 1 that indicates how certain the system is about an utterance.
Via typescript I can use/call the value with:

- context.lastResult![0].confidence

When I tried similar cases I began with uttering "Princess Leia" and in the first attempt the system was 61% confident I said "Princess Leisure" and in the second attempt it was 71% confident I said the same thing, third time it correctly recognized "Princess Leia" but was only 44% confident. I also tried with a couple of fictional names from different novels. When I said "Frangelica" the system got it correct directly but only with a 6% confidence. Then I tried the more complicated name "Xisisrefliel" and the system never got it correct. The first try, system was 6% confident it was "Cisse's Refuel", second try also 6% confident that it was "Sisus, Raphael" and the third try it was 12% confident it was "Say Sis Rafael".

I think there are multiple reasons why recognition faltered in the examples I tried, both my swenglish and that I had some television background noise with the Olympics in the background.

A way to solve the problem with transcription of something we did not intend to say could be to fine tune as in Part A-VG. Azure Custom Speech.

But another solution is to also look at the confidence score and depending on the value give implicit or explicit confirmation, and if the score is too low let the user repeat what they said.

The only problem with this would be that some of the previous correctly recognised utterances would with Pearl's (2016) example end up in a loop of repeating.

> **USER**
> Please buy more paper towels.
> **VUI**
> [>80 percent confidence, implicit confirmation]
> OK, ordering more paper towels ....
> [45-79 percent confidence, explicit confirmation]
> I thought you said you'd like to order more paper towels. Is that correct?
> [<45 percent confidence]
> I'm sorry, I didn't get that. What would you like to buy?
>
> Source: Pearl, C. (2016) *Designing voice user interfaces : principles of conversational experiences*. First edition. Sebastopol: O'Reilly.

Part A-VG. Azure Custom Speech
Endpoint-id: 8fe0d26e-48c0-45ae-ada1-df0753a92e8c

Now "Xisisrefliel" is recognised but with varying confidence scores between 5-69%. "Frangelica" was correctly recognised with a 99% confidence and "Princess Leia" was also correctly identified with a 98% confidence. With this fine-tuning, the risk of ending up in confirmation loops could be reduced.