OULU UNIVERSITY OF APPLIED SCIENCES

PROJECT 'MEDICALL' ALEXA SKILL

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Introduction

The idea behind the project was to design and implement a programmatic solution for a voice controlled calling service using Alexa, the Amazon-created virtual assistant. The so-called Alexa *skill* was to be designed especially to help elderly people in situations where they would need to call for their relatives' help. The project is done for the product development company Creoir as per their request.

FIGURE 1. Creoir Logo

Objectives

The main objective of the project was to create an easy-to-use custom Alexa skill that would enable the user to make phone calls when in need of help to alert their contacts. The user information and contacts were to be stored on the cloud. All functionality of the skill was to be controlled solely by voice.

Methods

For the testing of the skill an Amazon Echo Dot was used to accept the speech input and echo back Alexa responses. The speech input is processed by Alexa Voice Service and with the invocation name 'Medicall' the user can specify to use the skill. The user can trigger specific intents with various phrases. For example the user could say *'Alexa, tell Medicall to make a phone call to Peter*'.

FIGURE 2. Amazon Echo Dot

The intents are then handled within the skill's lambda code ran on AWS Lambda. The lambda code, written with the JavaScript run-time environment Node.js, communicates and interacts with the DynamoDB table used to store the user and contact information.

By default making phone calls is not supported on Alexa. Medicall utilizes Twilio Voice API to accomplish that. To initiate an outbound call with Twilio, an HTTP POST request is made that, among other things, includes the TwiML instructions that specify what should happen during the phone call.

Results

The Medicall skill successfully enables the user to make phone calls by giving commands to Alexa. The contact is called and a voice mail type message is read out by Twilio's text-to-speech synthesizer. Actual two-way voice calls were found to be impossible due to Twilio's lack of support and Alexa's operating principles in general. User and contact information is adequately stored on the cloud.

Conclusions

The end-product serves efficiently its purpose by making calling for help possible using speech only. The given requirements for the project were suitably met within possibilities, and it also served the company as a research into Alexa skill development.

Company-Oriented Product Development Project For Creoir

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