A blue and white background

Description automatically generated**NarcoTech**

**Technical Manual**

**Alexa Physio Reminder Skill**

**Appointment Reminder System for O.P.S**

**Team Members Contact**

Tarika Birch (PRO) tarika.birch@mycavehill.uwi.edu

Dwayne Archer dwayne.archer@mycavehill.uwi.edu

Kai Hill kai.hill@mycavehill.uwi.edu

Aaron Grimes aaron.grimes@mycavehill.uwi.edu

Kelilah Mayers kelilah.mayers@mycavehill.uwi.edu

Contents

[Introduction 3](#_Toc151191411)

[Purpose of the Manual 3](#_Toc151191412)

[Intended Audience 3](#_Toc151191413)

[System Overview 3](#_Toc151191414)

[System Architecture 3](#_Toc151191415)

[Key Features 3](#_Toc151191416)

[System Requirements 4](#_Toc151191417)

[Installation Guide 4](#_Toc151191418)

[Installation Procedure 4](#_Toc151191419)

[Post-installation Tasks 5](#_Toc151191420)

[Configuration 5](#_Toc151191421)

[AWS System Configuration 5](#_Toc151191422)

[Technical Support 6](#_Toc151191423)

[Contact Information 6](#_Toc151191424)

[Issue Reporting 6](#_Toc151191425)

[Glossary 6](#_Toc151191426)

[Appendices 6](#_Toc151191427)

[Additional Resources 6](#_Toc151191428)

[Revision History 6](#_Toc151191429)

# Introduction

## Purpose of the Manual

This manual is intended to provide clarity on the architecture and functionality of the reminder system. It provides information about the key features, system requirements, installation, configuration and maintenance of the Alexa Physio Reminder skill implemented by NarcoTech.

## Intended Audience

This manual is intended to assist technical support teams, system administrators, and developers in the further development and maintenance of the skill.

# System Overview

## System Architecture

The system architecture for the Appointment Reminder Skill comprises three main components:

**Alexa Front-End:** This component handles user interactions through voice commands. It interfaces with the user, interprets spoken requests, and communicates with the backend to execute actions.

**AWS Lambda Function:** Acting as the backend, the Lambda function processes requests from the front-end. It manages the logic for appointment scheduling, reminders, and information retrieval. The Lambda function is triggered by Alexa's interaction.

**DynamoDB Data Storage:** DynamoDB serves as the data storage for appointment details. It maintains a structured database, allowing seamless retrieval and modification of appointment information. The DynamoDB component ensures efficient data management and retrieval for the skill.

**AWS IAM Role:** The IAM is used to attach polices to a specific role connected to the Lambda function. Policies can be thought of as permissions for the role. A specific policy is required to allow the Lambda function to connect to the DynamoDB.

## Key Features

This system is intended to assist users in the management of their physiotherapy appointments by providing reminders and information about their scheduled sessions. The key features of the application are as follows:

* Users can add new reminders
* Users can delete existing reminders
* Users can update reminder information
* Users can view information about a specific appointment
* Users can view their entire appointment schedule
* Users are reminded of their appointments before the scheduled time

## System Requirements

The hardware and software requirements for deploying and running the system are listed below.

**Hardware Requirements**

The recommended specifications for development and maintenance of the system are:

* 8 Gb RAM
* 256 Gb Storage
* 2.5 GHz 4 Cores

In addition, the developers will require:

* Internet connection of at least 50mbps
* Functional Microphone
* Functional Speaker

**Software Requirements**

To facilitate the advancement of the Alexa Skill each developer will need access to the following:

* Git
* GitHub Repository for Version Control
* Visual Studio Code
* Amazon Developer Account
* AWS Services:
  + DynamoDB
  + Lambda
  + IAM
  + CloudWatch

# Installation Guide

## Installation Procedure

Visual Studio Code installation process:

* Download the visual studio code installer for the Operating System being used.
* Refer to the additional resources section for a link to the installer.
* Run the executable/installer and follow steps to complete the installation process.

Git Installation process:

* Download the Git installer for the operating system in use.
* Refer to the number 2 of additional resources section for a link to the installer.
* Run the executable/installer and follow steps to complete the installation process.

## Post-installation Tasks

Visual Studio Code extensions:

* Navigate to the extension section of Visual Studio Code.
* Search for the Alexa Skills Kit (ASK) Toolkit.
* Install the extension.
* A new icon will appear in the Visual Studio Code that will allow for access to the Alexa skill.

# Configuration

## AWS System Configuration

Configuration for Lambda Function:

* Create a Lambda function and fill out the basic information.
* Select Node.js 16.x for the language for the function.
* For default execution role select create a new role with basic Lambda permissions.

Configurations for Lambda Function and Alexa Developer Console:

* A trigger must be created for the skill to work.
* Copy the ARN from the created lambda function.
* In the end point section of the Developer Console change the default region to the ARN copied and remove all other regions.
* Copy the skill id from the Developer console.
* Go back to the lambda function and click add trigger.
* Paste the skill id into the trigger configuration and click add.

Configurations for IAM

* A DynamoDB policy is needed to give the lambda functions write and read permissions.
* Go into IAM and select roles in access management.
* Click on add permissions and select attach policy.
* Search for DynamoDB and select the type of policy that is appropriate for the skill. The current policy being used is “AmazonDynamoDBFullAccess”.

# Technical Support

## Contact Information

For technical support from AWS Management Console, please follow the link below and fill out the form.

<https://aws.amazon.com/contact-us/sales-support-eks/>

Additionally, NarcoTech can be reached at [support@narcotech.com](mailto:support@narcotech.com).

## Issue Reporting

Reporting any issues with the Alexa Skill

* Navigate to the Alexa Skill app.
* Open Skills and Games.
* Select NarcoTech’s Alexa Skill.
* Click on the help section and select Having trouble the skill.
* Complete the information form and submit a help request.

# Glossary

Below are definitions of technical terms and acronyms used in the manual.

ARN – Amazon Resource Name

IAM – Identity and Resource Management

# Appendices

## Additional Resources

View the below links to access further details about Alexa Skill development.

1. <https://code.visualstudio.com/download> - Visual Studio Code
2. <https://git-scm.com/book/en/v2/Getting-Started-Installing-Git> - Git for GitHub

# Revision History

|  |  |  |
| --- | --- | --- |
| **Review** | **Date** | **Reviewed By** |
| Technical Manual Creation | 17/11/23 | **Software Developer** – Dwayne Archer  **Project Manager** – Tarika Birch |