

Overview of the First-Aid Skill

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Flow Overview:

Upon entering the app, a user will be prompted by Alexa to state an emergency that the user needs help with. The user can simply state the emergency, but Alexa will also accept several phrases that include the name of the emergency.

Once provided an emergency, the app will tell the user how to proceed. Alexa will do one of three things:

1. Tell the user how to proceed/treat the emergency
2. Ask the user for more information
3. Instruct the user to call 911 if the proper procedure hasn't been stored

Currently the skill is capable of asking for more information about a person who is choking. It is also capable of instructing and leading a user through CPR. The user can ask Alexa how to do chest compressions and rescue breaths, while being led through the CPR cycle. Users can also ask Alexa to time compressions for them with a 'count' command in the CPR cycle.

Technical Overview:

States

Default

The 'Default' state handles the main dialog. This is where a user is able to explore the top-level menu items and learn what they need to know about a specific emergency or enter an emergency-specific state for the more complex menu items.

Users are directed to this state via 'newSessionHandlers.' Its handlers are under 'handlers.'

CPR

The 'CPR' state handles the CPR loop. Users are taught how to perform CPR, are guided through the process, and can even receive assistance in timing chest compressions. There is a verification process to leave the loop.

The CPR state handlers are under 'CPRHandlers.'

Choking

The 'Choking' state handles the choking dialog. The user is asked whether the person in need of assistance is conscious and unconscious before the app instructs them on the proper next steps.

Handlers

newSessionHandlers

- NewSession - sends users to 'default' state

handlers

- NewSession
- WhatCanISayIntent - gives the user a list of what they can say
- DefaultIntent - tells user to call 911
- GeneralIntent - tells user what they should do for a top-level menu item from a dictionary or sends them to the appropriate state to handle an emergency
- CPRIntent - sends user to 'CPR' state
- HowIntent - gives instruction on compressions and breaths

chokingHandlers

- WhatCanISayIntent - gives the user a list of what they can say
- NevermindIntent - returns user to 'Default' state
- ConsciousChokingIntent - gives instructions when someone is conscious
- UnconsciousChokingIntent - gives instructions when someone is unconscious
- HowIntent - gives instruction on compressions and breaths

CPRHandlers

- WhatCanISayIntent - gives the user a list of what they can say
- ReadyIntent - starts the CPR cycle
- DoneIntent - alternates cycle stage between chest compressions and breaths
- RestartIntent - restarts a given stage of the cycle (compressions by default)
- CountIntent - outputs a repeated, timed "push" message for compressions
- ConfirmQuitIntent - asks for user confirmation about quitting the CPR cycle
- QuitIntent - returns user to the 'Default' state
- ContinueIntent - returns user to the CPR cycle
- HowIntent - gives instruction on compressions and breaths

Slots

LIST_OF_EMERGENCIES - top-level items

LIST_OF_ACTIONS - actions for CPR (breaths, compressions)

Sample interactions for top-level commands:

User: “i need help with bleeding”

Alexa: “ call 911. Is there anything else I can help with?”

User: “choking”

Alexa: “is the person under distress conscious or unconscious?”

User: “conscious”

Alexa: “call 911.”

User: “he’s having a stroke”

Alexa: “call 911.”

User: “someone is unconscious”

Alexa: “call 911.”

CPR utterances/responses:

To get help with CPR:

- CPR
- CPR help
- help me with CPR
- help me CPR
- help CPR
- help someone needs CPR
- someone needs CPR
- someone stopped breathing
- how do i do CPR
- how to give CPR
- how do i give CPR
- what are the steps for CPR
- help me perform CPR

To start CPR:

- ready

To move to the next step in CPR:

- done

To restart compressions or breaths:

- restart (to restart compressions)
- restart {compressions, chest compressions, breaths, rescue breaths}

To start counter for chest compressions:

- count

To end CPR:

User: “done”

Alexa: “give 30 chest compressions. say count to start a counter. when you are done with 30 compressions, say done.”

User: “done”

Alexa: “give 2 rescue breaths. when you are done with rescue breaths say done.”

User: “how do i do rescue breaths”

Alexa: “tilt the head back and lift the chin up. Pinch the nose shut then make a complete seal over the person’s mouth. Blow in for about 1 second to make the chest clearly rise. Give rescue breaths, one after the other. If chest does not rise with rescue breaths, retilt the head and give another rescue breath.”

User: “restart”

Alexa: “give 30 chest compressions. say count to start a counter. when you are done with 30 compressions, say done.”

User: “restart breaths”

Alexa: “give 2 rescue breaths. when you are done with rescue breaths say done.”

User: “what can i say”

Alexa: “you can say: ready, how do i do compressions, how do i do breaths, restart, restart compressions, restart breaths, count, quit CPR.”

User: “quit CPR”

Alexa: “are you sure you want to stop?”

User: “yes”

Alexa: “What can I help you with?”