Conversational Interface Design Spec.

Version: 0.1 (draft)

# Overview

This is a sample document to describe the design of a chatbot. This is work in progress and the goal is to make it easier to communicate the user experience and flows to both users and developers.

# Main dialog structure:

# Scorables:

Scorables are “catch all” rules: Regardless of which dialog is handling the conversation, the user input is always checked against these Scorables and if one of these rules is triggered, the context of the conversation may change. For example, the bot may be asking the user a “yes/no” question, but the user may instead reply “help”. We want to detect that ask for help anywhere in the bot and always handle it in a consistent way. The following rules will be used to detect similar scenarios in this bot:

# Help

|  |  |
| --- | --- |
| **Name** | **Help** |
| **Description** | The user may, at any dialog or prompt, express need for help by typing utterances that suggest that intent**.** |
| **User Input:** | Examples of potential utterances are:  “Help”  “Please help”  “I don’t know what to do”  “what is going on?”  “What is this?”  “What?” |
| **Detection method:**  Using the “Scorables” model in LUIS.ai, “Help” intent. |
| **Action:**  Invokes the HelpDialog |

# Dialogs Specification:

# RootDialog

|  |  |  |  |
| --- | --- | --- | --- |
| **Event** | **Description** | | **Notes** |
| **On Start:** | Dialog initiates with the following card:  Hello! How can I help you?  Stock Quote  Manage alerts  Research | | On Start is what initially happens when the dialog is invoked |
| **User Input:** | User will allowed to click at one of the buttons above (or type one of those options on channels that don’t support buttons): | | This particular bot will run on Skype, therefore we can assume that buttons will always be available, although users can always type instead of clicking. |
| **Action** | **Effect** |
| “Stock Quote” | Leads to StockSelectDialog(“quote”) |
| “Manage alerts” | StockSelectDialog(“alert”) |
| “Research” | ResearchDialog |
| **Invalid user input:** | In case of an invalid user input:  I am sorry but I didn’t understand that. I need you to select one of the options below:  Stock Quote  Manage alerts  Research | | Assuming the user types something else and no scorable picks that up, we will reject the input and retry the question. |
| **Exit Criteria:** | This is the root dialog and therefore it never exits. | | Root dialogs shouldn’t exit. They are the very entry point where the whole experience starts. |

# SelectStockDialog

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| --- | --- | --- | --- |
| **Event** | **Description** | | **Notes** |
| **On Start:** | Dialog initiates with the following question:  Type the name or the code for the stock you’re looking for: | | Since the options are too many, we will use free text input here |
| **User Input:** | User will allowed to type a complete or partial name, code or description of the company | | An up to date index in Azure Search will be required for the search and disambiguation |
| **Action** | **Effect** |
| Any input | Run a search against Azure Search |
| **Invalid user input:** | The only possible invalid input is one that leads to no search results:  I am sorry but I couldn’t find anything with that description. Please try again: | |  |
| **Exit Criteria:** | To be defined in the alternative flows below | |  |

Alternative flow 1:

|  |  |  |  |
| --- | --- | --- | --- |
| **Condition** | Search result returned 1 to 5 results | |  |
| **On Start:** | Dialog initiates with the following question:  I found a few options with that description:  Stock 1  Stock 2  Stock 3 | | We have few enough options to just list them |
| **User Input:** | User will pick form the list above | | User will be redirected to the StockQuoteResultDialog upon selection |
| **Action** | **Effect** |
| User selects stock | StockQuoteResultDialog |
| **Invalid user input:** | If the user types something else  I’m sorry, which one of these did you want?  Stock 1  Stock 2  Stock 3 | |  |
| **Exit Criteria:** | One stock selected | | We have one valid selection |

Alternative flow 2

|  |  |  |  |
| --- | --- | --- | --- |
| **Condition** | Search returned more than 5 results | |  |
| **On Start:** | Dialog initiates with the following question:  I found too many results. Can you help me filter by some of these? You can also re-type your search.  Industry  Country  Stock type | | We will select the most likely facets from Azure Search to help the user refine the search |
| **User Input:** | User will pick form the list above | | User will be redirected to the StockQuoteResultDialog upon selection |
| **Action** | **Effect** |
| User selects the facet and filters it out down to top 5 stocks (back to original flow) | StockQuoteResultDialog if user had Stock Quote as the choice  ManageAlertsDialog if the user intends to setup price alerts |
| **Invalid user input:** | If the user types something else, we will assume this is a new search and restart the dialog | |  |
| **Exit Criteria:** | One stock selected | | We have one valid selection |

# StockQuoteResultDialog

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| --- | --- | --- | --- |
| **Event** | **Description** | | **Notes** |
| **On Start:** | Dialog initiates with the following data, based on the selection from the previous dialog:  Setup price alert  Return  Microsoft – MSFT  Current value - $60.78 | | Dialog queries the stock quote API |
| **User Input:** | User will allowed to type a complete or partial name, code or description of the company | |  |
| **Action** | **Effect** |
| “Setup price alert” | Invoke ManageAlertsDialog(stock) |
| “Return” | Back to RootDialog, clears dialog stack |
| **Invalid user input:** | If the user types something else and no scorable is triggered:  I am sorry but I couldn’t find anything with that description. Please try again:  Setup price alert  Return  Microsoft – MSFT  Current value - $60.78 | |  |
| **Exit Criteria:** | User selects one of the two possible buttons | |  |

# ManageAlertsDialog

|  |  |  |  |
| --- | --- | --- | --- |
| **Event** | **Description** | | **Notes** |
| **On Start:** | Dialog initiates with the following question:  Ok, you want me to notify you when <stock> price crosses what value? | | We already know the stock and its current price, so now we need to ask the cutting point for triggering the alert. |
| **User Input:** | User will allowed to type a complete or partial name, code or description of the company | | We will register these settings with the user’s profile store and let the web job monitor the prices. |
| **Action** | **Effect** |
| Any valid number | Register the alert  Confirm with the user:  Got it, when price of <stock> crosses by <value> I’ll let you know.  Clear the dialog stack back to RootDialog |
| **Invalid user input:** | User didn’t type a valid price:  I am sorry but I can only accept a number for this. Please try again: | |  |
| **Exit Criteria:** | Valid price provided. | |  |

# HelpDialog

TBD (Azure Search)

# Proactive Dialogs

Proactive Dialogs are initiated by events others than user inputs. Any external factor could potentially trigger a proactive dialog, which will cause the bot to initiate the conversation with the user.

# PriceAlertDialog

PriceAlertDialog will be invoked when the user’s configured price alert for a given stock happens.

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| --- | --- | --- |
| **Event** | **Description** | **Notes** |
| **Price alert configuration triggered:** | Dialog initiates with the following prompt:  Hi there, you asked me to remind you when <stock> reached the price of <X>. That event just happened. | The current conversation, if any, will be interrupted for this prompt and then automatically resumed. |
| **User Input:** | No user input is required | In the future we will add a dialog for executing buy/sell operations from here |
| **Exit Criteria:** | Exits automatically after the prompt. |  |