

Programming the Microsoft Bot Framework

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Bot Framework

Bot Framework Components

Bot Framework Portal & Channels

<https://dev.botframework.com>

Bot Builder SDK

<https://aka.ms/bf-bc-vstemplate>

Bot Framework Channel Emulator

<https://emulator.botframework.com>

Bot Framework Channel Inspector

<https://aka.ms/bf-channel-inspector-learnmore>

Programming Bot Framework

Programming Languages

- Bot Builder SDK for .NET
- Bot Builder SDK for Node.js
- REST API (Azure Bot Service)

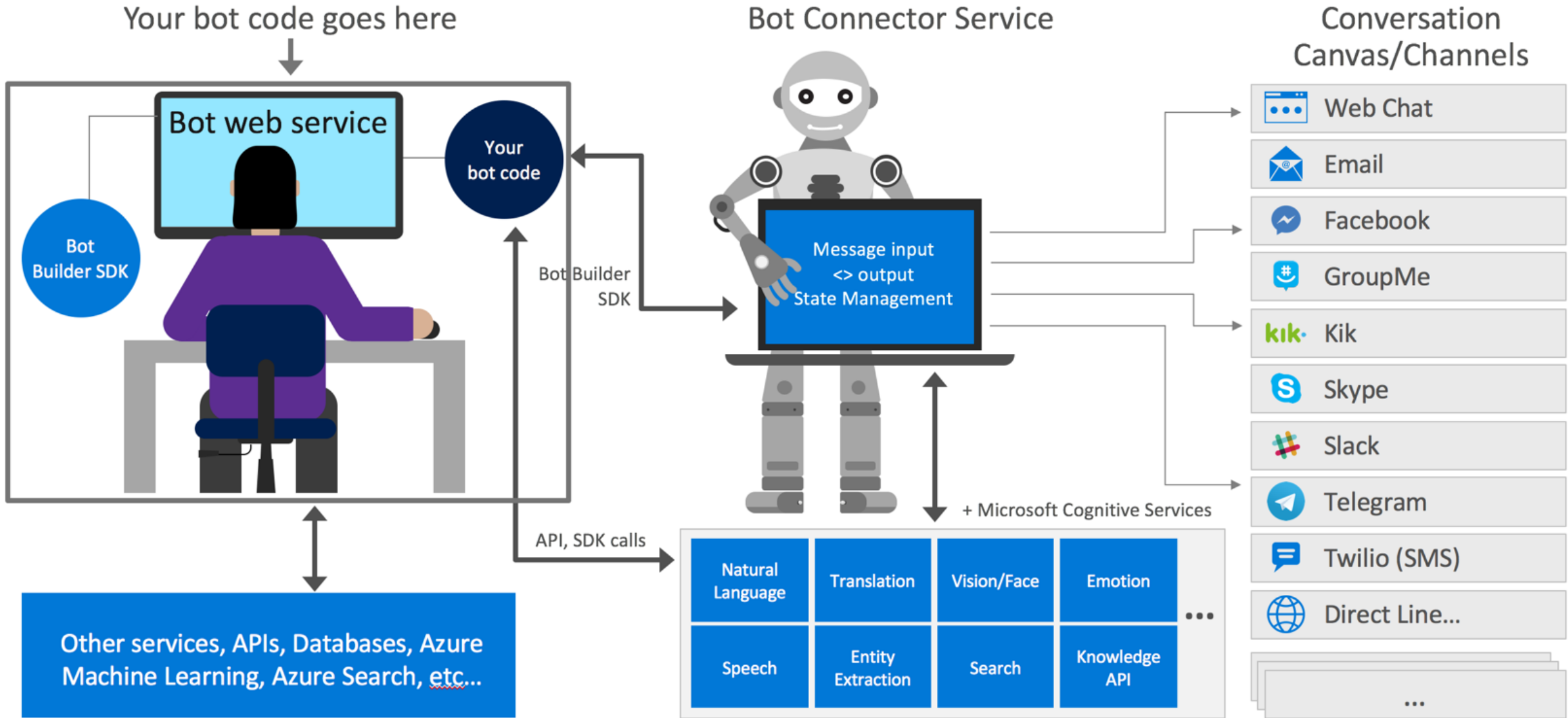
<https://github.com/stefanotempesta/botframework>

Programming Approaches

- FormFlow
- Dialogs
- JSON Schema
- Q&A Maker <https://qnamaker.ai>
- LUIS <https://www.luis.ai>

Core Concepts

- Bot Application
- Channel
- Activity
- Message / System
- FormFlow
- Dialog
- State
- Rich Cards
- Entities
- Global Handlers
- Security



Interactions



Hello user, how can I help you?



Hello! How can I help you?

Orders

Products

Help



Do you confirm this booking?

Yes

No

Actually... what was the time of that movie again?



How can I help you today?

Which movies are showing this week?

Hello?

Which movies are showing this week?

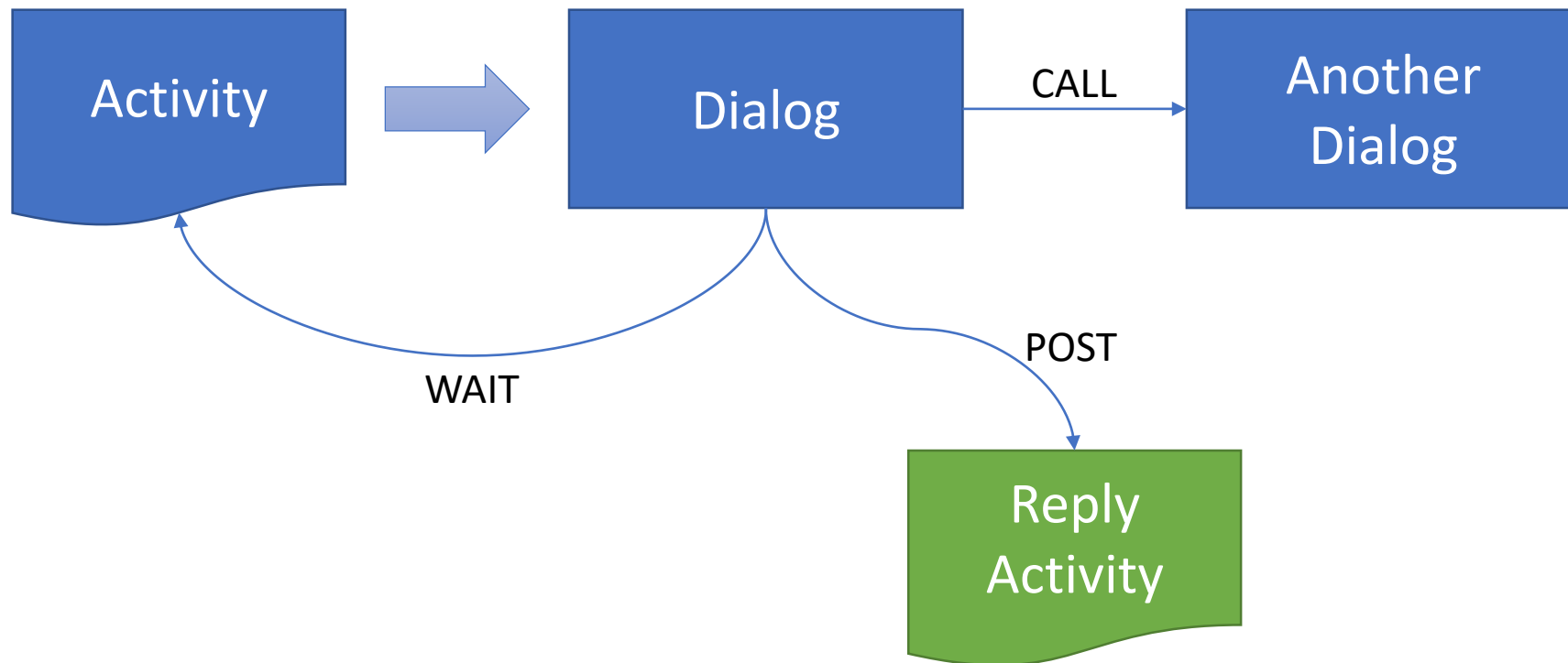
Hey bot, are you there?

FormFlow

- Chain → From → Do
- Properties
- Enumerations
- (Optionally) Fluent BuildForm
 - Add custom messages
 - Dynamic values
 - Field Validation
 - Confirmations

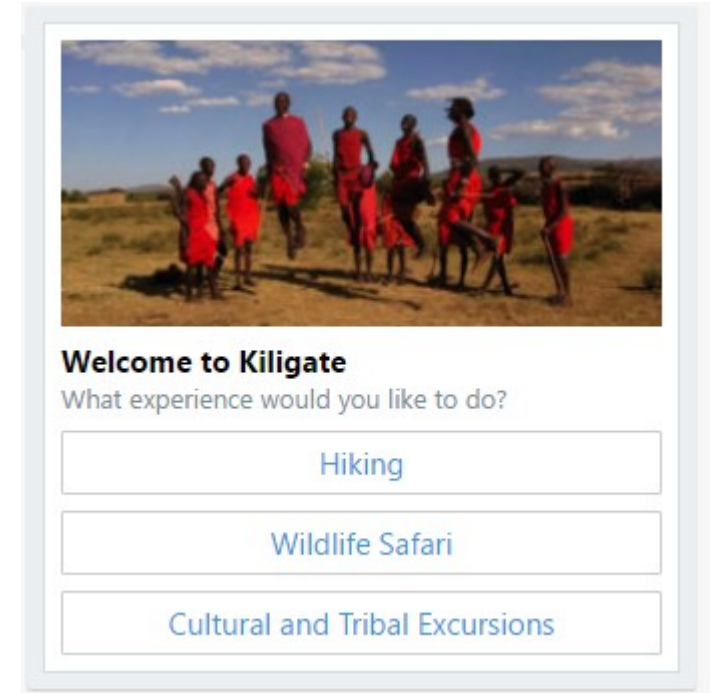
Dialogs

```
public class RootDialog : IDialog<object>
```



Rich Cards

- Suggested Actions
- Attachments
- Hero card
- Thumbnail card
- Video / Audio / Animation card
- Receipt card
- SignIn card
- Adaptive card



Adaptive Cards

<http://adaptivecards.io/>

- Body
- Actions
- Speak
- BackgroundImage

 Microsoft.AdaptiveCards

Version: Latest stable 0.5.1

Install

Options

Description

This library implements classes for building and serializing adaptive card objects

Version: 0.5.1

Author(s): Microsoft

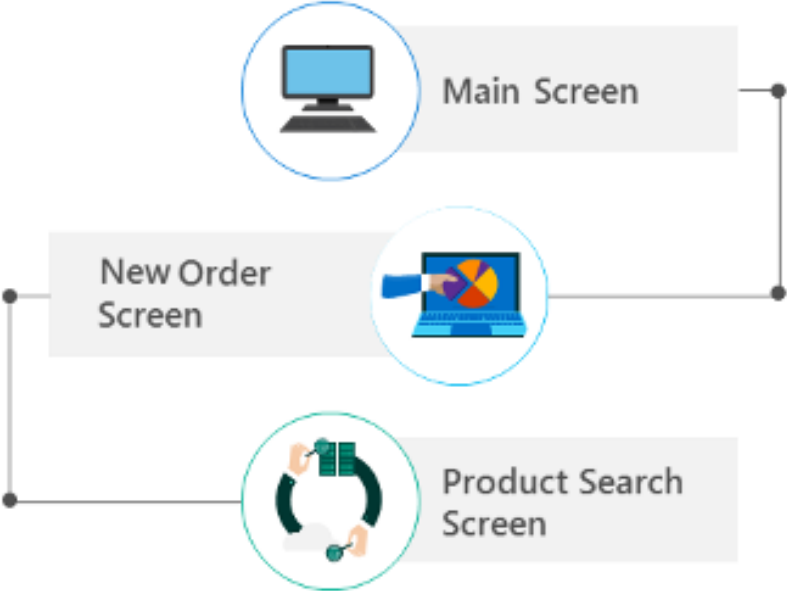
License: <https://github.com/Microsoft/AdaptiveCards/blob/master/LICENSE>

Date published: Sunday, September 17, 2017 (9/17/2017)

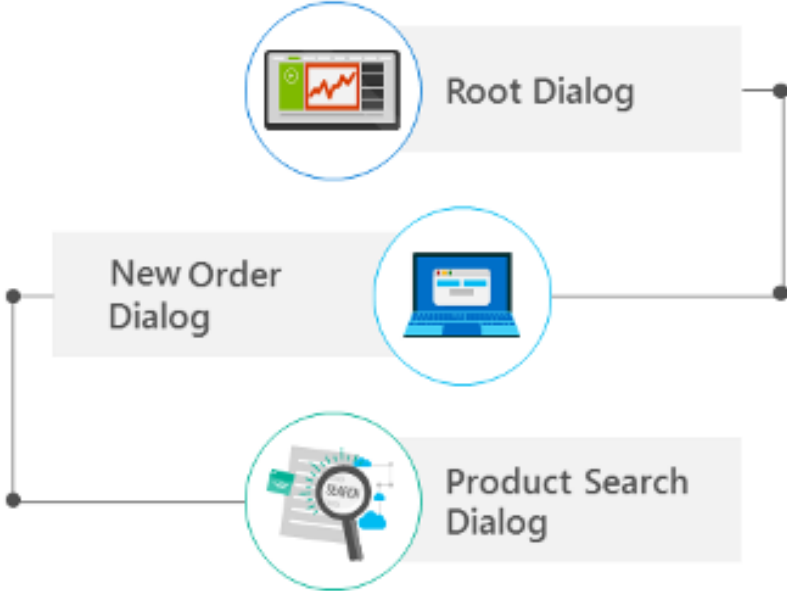
Project URL: <http://adaptivecards.io/>

Dialog Flow

TRADITIONAL APPLICATION



BOT



State Management

- User Data
- Conversation Data
- Private Conversation Data

StateClient

- Dialogs automatically store state
 - Bot Connector State Service
- CosmosDB or Azure Table Storage

JSON Schema

<http://json-schema.org/>

- JSON FormFlow
- References & Imports
- Templates
- Properties



Microsoft.Bot.Builder.FormFlow.Json

Version: Latest stable 3.1.3

Install

Options

Description

Microsoft Bot Builder extension for specifying a guided FormFlow dialog using an extended JSON Schema. Most of the annotations are declarative but you can also include C# code fragments that are dynamically compiled.

Version: 3.1.3

Author(s): Microsoft

Date published: Wednesday, May 10, 2017 (5/10/2017)

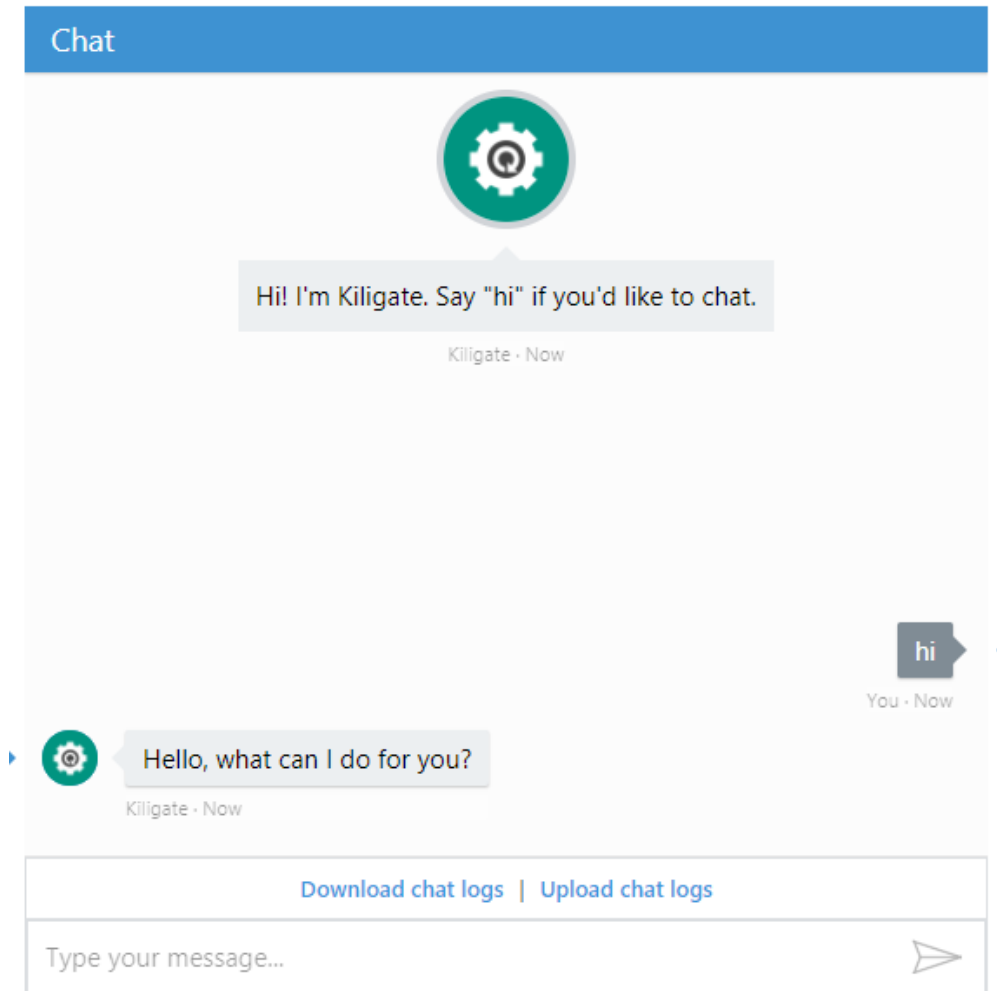
Smarter Bots

- Q&A Maker
- LUIS (Language Understanding Intelligent Service)
- Cognitive Services
 - Image and video understanding
 - Speech recognition and conversion
 - Text Analytics
- Bing Spell Check
- Web Search

Q&A Maker

<https://qnamaker.ai>

- Knowledge Base (Q&A)
- Train & Publish
- Alternative phrasing
- Best match
- No need to use Bot Framework!

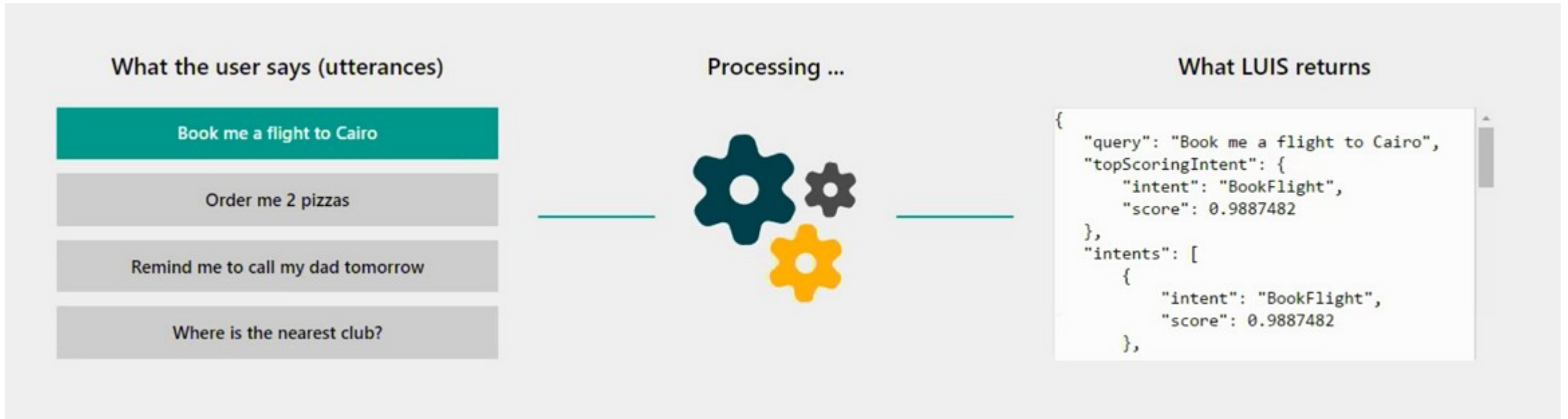


LUIS

<https://www.luis.ai>

- Intent
- Utterance

- Entity (Custom and Prebuilt)
- Domain
- Train & Publish



Security

- Registration

```
<configuration>  
  <appSettings>  
    <!-- update these with your BotId, Microsoft App Id and your Microsoft App Password-->  
    <add key="BotId" value="YourBotId" />  
    <add key="MicrosoftAppId" value="" />  
    <add key="MicrosoftAppPassword" value="" />  
  </appSettings>
```

- Authentication

```
[BotAuthentication]
```

```
public class MessagesController : ApiController
```