Integrating Life With Cognitive Services

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Motion10

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Cognition

The mental action or process of acquiring knowledge and understanding through thought, experience, and the senses

What are Cognitive Services?

Cognitive services are a set of APIs that are designed to democratize artificial intelligence by enabling systems to see, hear, speak, understand and interpret our needs using natural methods of communication.

Microsoft Cognitive Services

Give your apps a human side

Vision

From faces to feelings, allow your apps to understand images and video

Speech

Hear and speak to your users by filtering noise, identifying speakers, and understanding intent

Language

Process text and learn how to recognize what users want

Knowledge

Tap into rich knowledge amassed from the web, academia, or your own data

Search

Access billions of web pages, images, videos, and news with the power of Bing APIs

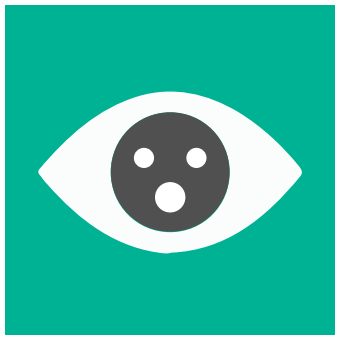
Vision

Computer Vision API

Distill actionable information from images

Face API

Detect, identify, analyze, organize, and tag faces in photos



Emotion API

Personalize experiences with emotion recognition

Video API

Analyze, edit, and process videos within your app

Speech

Bing Speech API

Convert speech to text and back again, and understand its intent

Speaker Recognition API

Give your app the ability to know who's talking

Custom Recognition Intelligent Service

Fine-tune speech recognition for anyone, anywhere

Language

Bing Spell Check API

Detect and correct spelling mistakes within your app

Web Language Model API

Leverage the power of language models trained on web-scale data

Linguistic Analysis API

Easily parse complex text with language analysis

Language Understanding Intelligent Service

Teach your apps to understand commands from your users

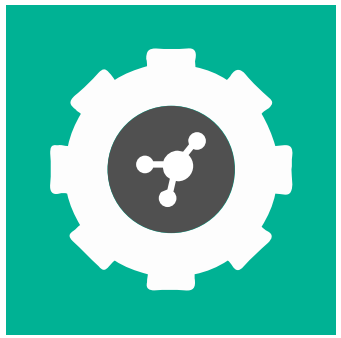
Text Analytics API

Detect sentiment, key phrases, topics, and language from your text

Knowledge

Academic Knowledge API

Explore relationships among academic papers, journals, and authors



Knowledge Exploration Service

Add interactive search over structured data to your project

Entity Linking Service

Contextually extend knowledge of people, locations, and events

Recommendations API

Provide personalized product recommendations for your customers

Search

Bing Web Search API

Connect powerful search to your apps

Bing Autosuggest API

Give your app intelligent autosuggest options for searches

Bing Image Search API

Bring advanced image and metadata search to your app

Bing Video Search API

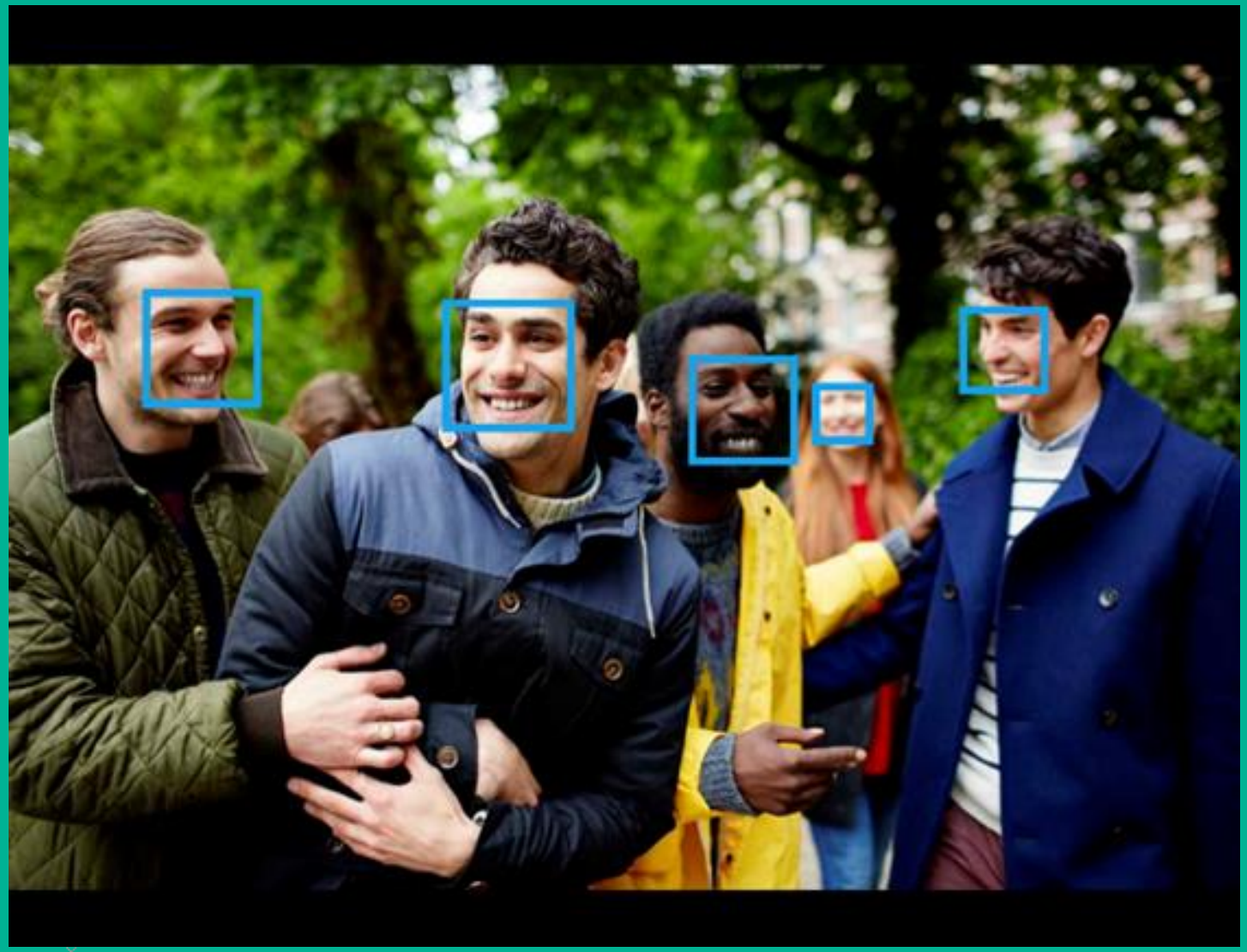
Trending videos, detailed metadata, and rich results

Bing News Search API

Link your users to robust and timely news searches

REST/JSON-based Services

```
Detection Result:
5 faces detected

JSON:
[
  {
    "faceRectangle": {
      "left": 488,
      "top": 263,
      "width": 148,
      "height": 148
    },
    "scores": {
      "anger": 9.075572e-13,
      "contempt": 7.048959e-9,
      "disgust": 1.02152783e-11,
      "fear": 1.778957e-14,
      "happiness": 0.9999999,
      "neutral": 1.31694478e-7,
      "sadness": 6.04054263e-12,
```



Bot Framework

What?

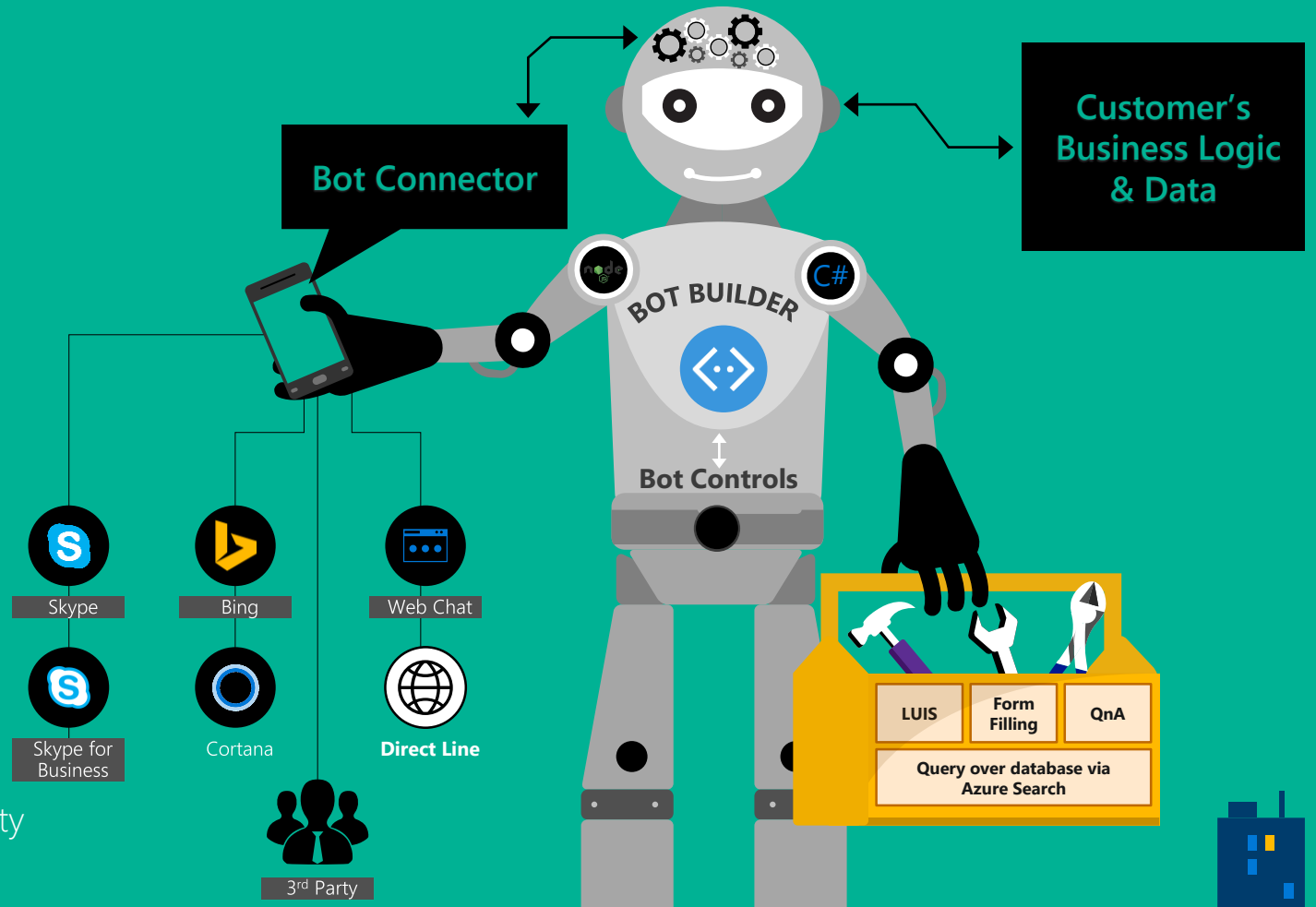
- Tools for building REST Web Sites
- Services to enrich
- Mechanisms for receive events
- Data to debug and analyze

Why?

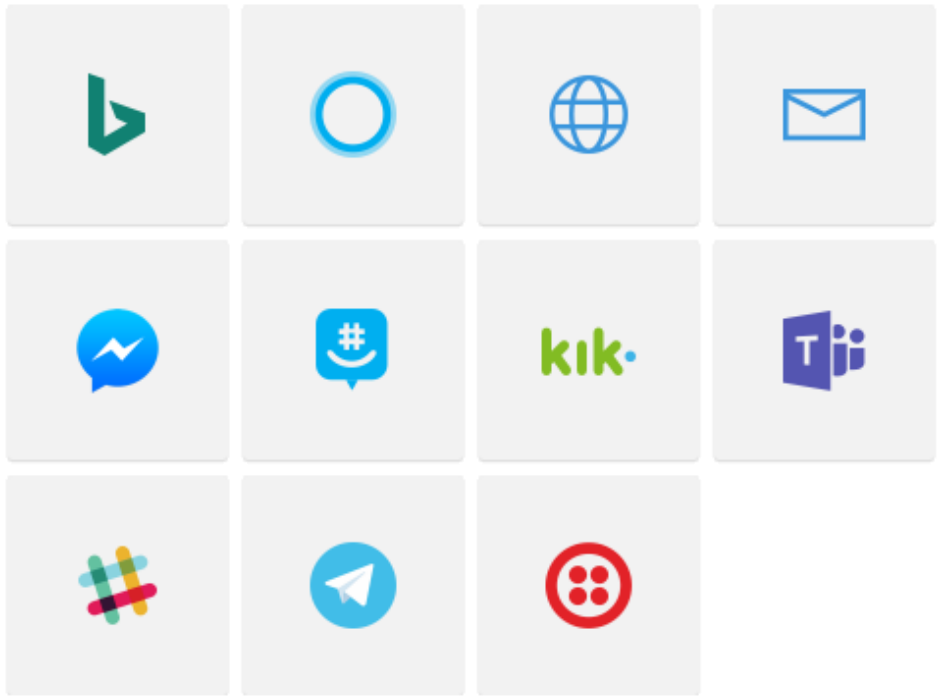
- Implements standard protocols
- Modeling conversations is hard. Tools help!
- UI across multiple canvases is hard. Cards rock!
- Language Understanding is hard
- Common and well understood patterns

Goals

- Start Simple. Add Complexity. No dead-ends.
- Bot adapts to the user, based on context
- Composable and intelligent controls to manage complexity



Channels



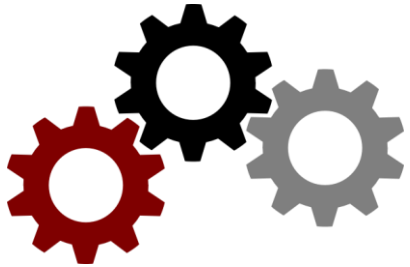
LUIS

Book me a flight to Cairo

Order me 2 pizzas

Remind me to call my dad tomorrow

Where is the nearest club?




```
{
  "query": "Book me a flight to Cairo",
  "topScoringIntent": {
      "intent": "BookFlight",
      "score": 0.9887482
  },
  "intents": [
      {
          "intent": "BookFlight",
          "score": 0.9887482
      },
```

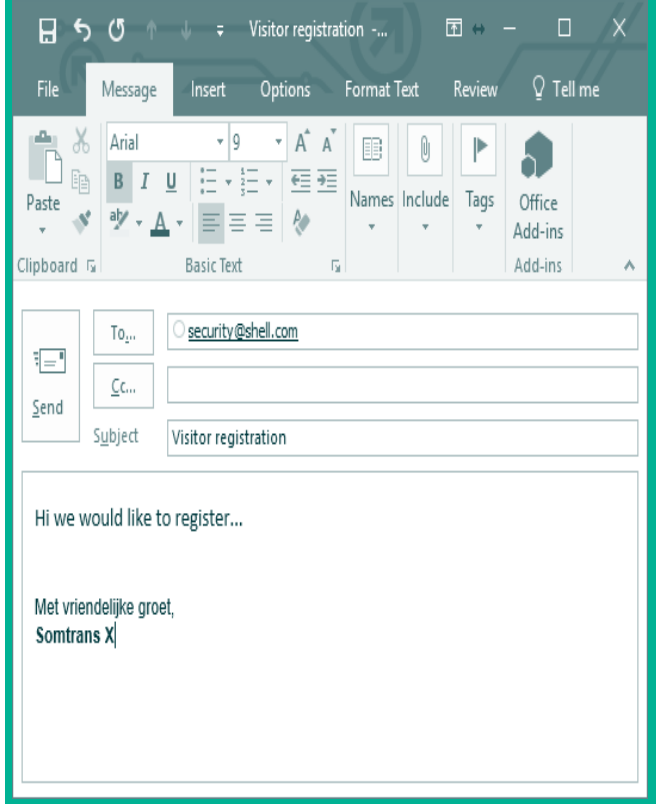
FormFlow

```
public string NameOfVessel;
[Numeric(1000000, 9999999)]
[Prompt("Please enter your {&}")]
public int OfficialVesselNumber;
[Pattern(@"^(?:\+\d{1,3}|0\d{1,3}|00\d{1,2})?(?:\s?\(\d+\))?(?:[-\/\s.]|\d)+$")]
public string PhoneNumber;
[Numeric(2, 20)]
[Prompt("Please enter the {&}")]
public int NumberOfPeopleOnBoard;
public Cargo? PreviousCargo;

public static IForm<ShipRegistrationDialog> BuildForm()
{
        return new FormBuilder<ShipRegistrationDialog>().Message("Welcome to Rotterdam
TankTerminals").OnCompletion(StartStoreRegistration).Build();
}
```

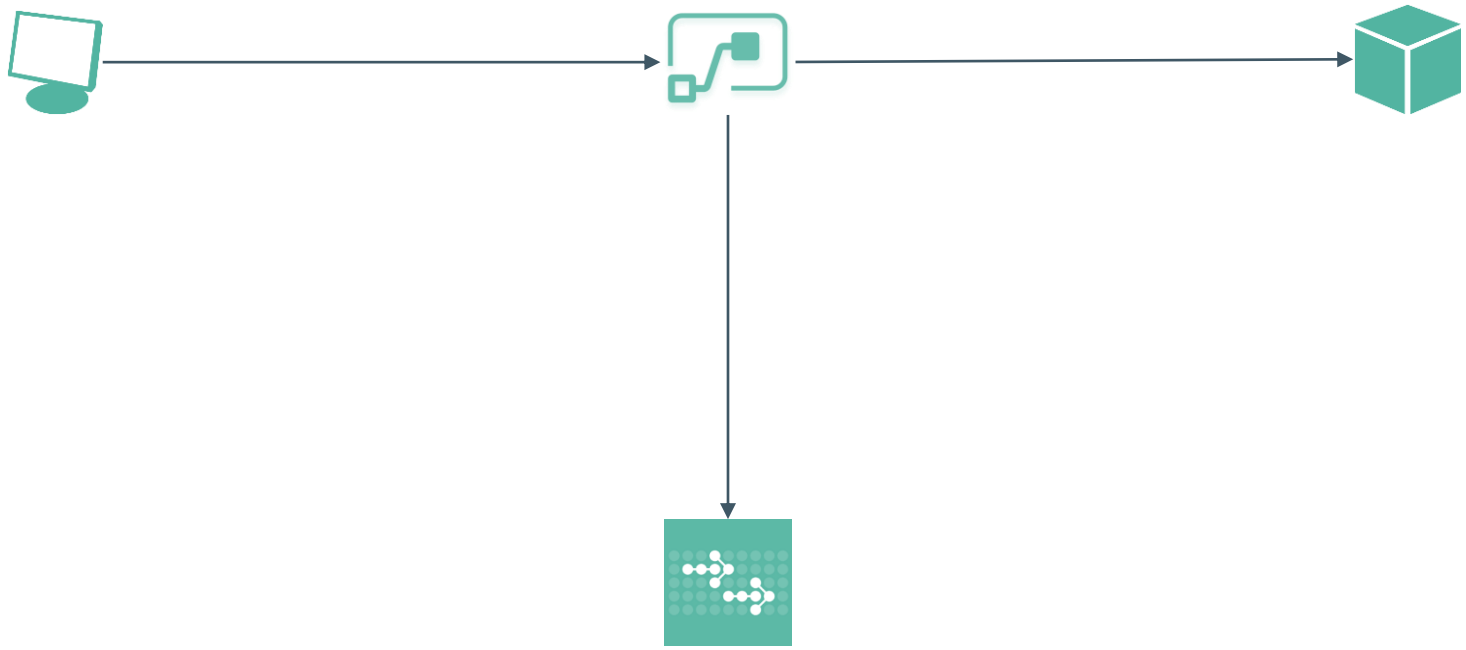
Dialog

```
[Serializable]
public class EchoDialog : IDialog<object>
{
    public async Task StartAsync(IDialogContext context)
    {
        context.Wait(MessageReceivedAsync);
    }

    public async Task MessageReceivedAsync(IDialogContext context, IAwaitable<IMessageActivity> argument)
    {
        var message = await argument;
        await context.PostAsync("You said: " + message.Text);
        context.Wait(MessageReceivedAsync);
    }
}
```

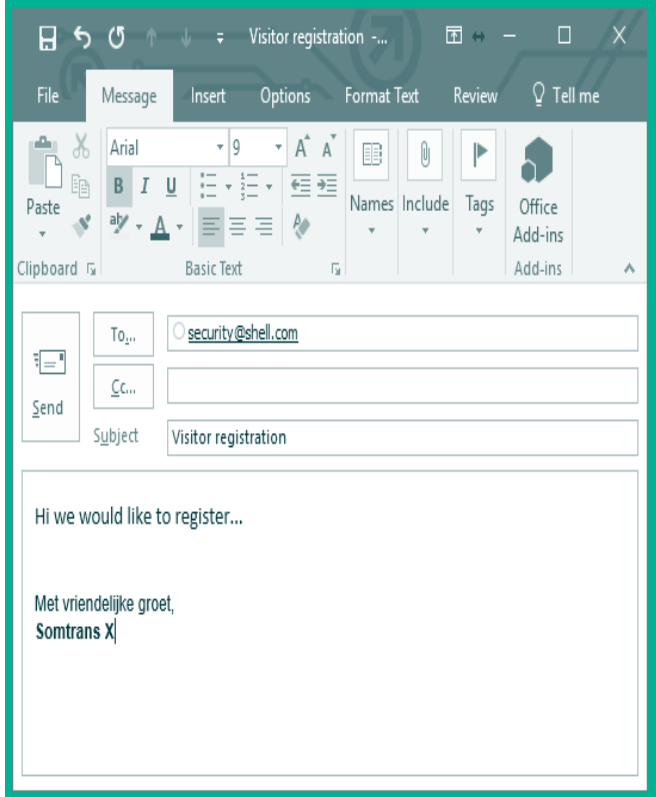
Scenario


Visitor registration -...
File
Message
Insert
Options
Format Text
Review
Tell me
Arial
9
Paste
Names
Include
Tags
Office Add-ins
Clipboard
Basic Text
Add-ins
Send
To...
security@shell.com
Cc...
Subject
Visitor registration
Hi we would like to register...
Met vriendelijke groet,
Somtrans X

Registration Bot



Scenario


Visitor registration -...
File
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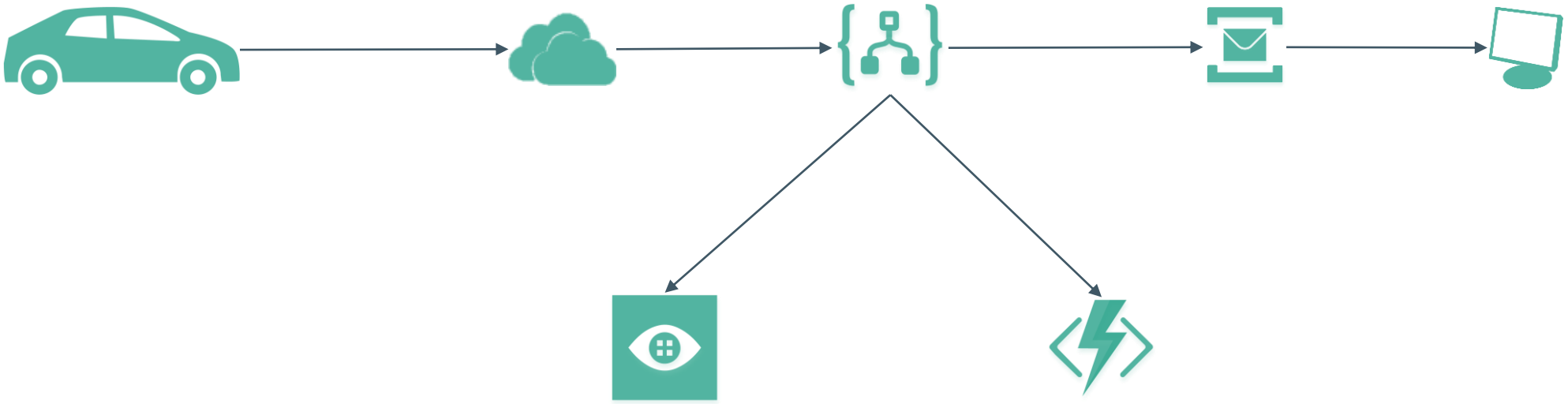
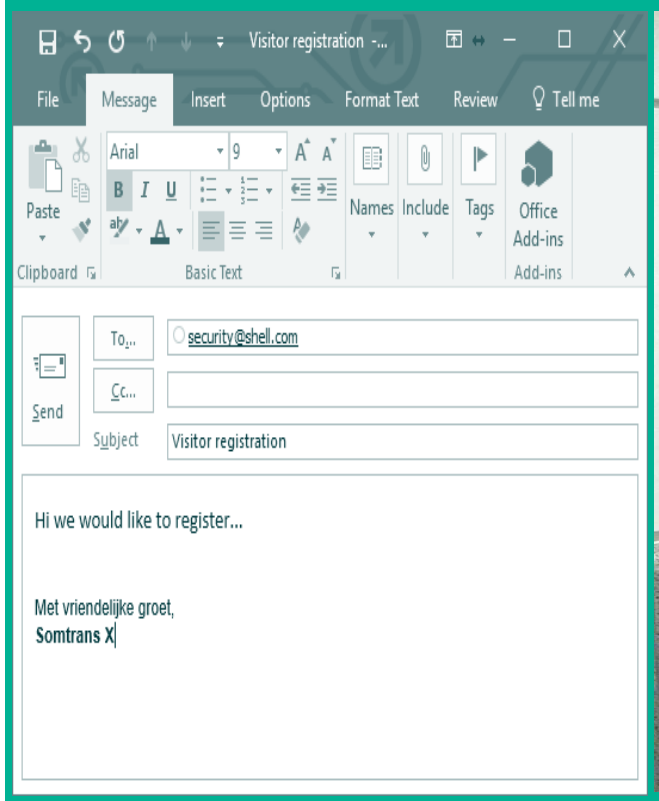
Options
Format Text
Review
Tell me
Arial
9
Paste
Clipboard
Basic Text
Names
Include
Tags
Office Add-ins
Add-ins
Send
To...
security@shell.com
Cc...
Subject
Visitor registration
Hi we would like to register...
Met vriendelijke groet,
Somtrans X

License Plate Recognition



Scenario


Visitor registration -...
File
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Add-ins
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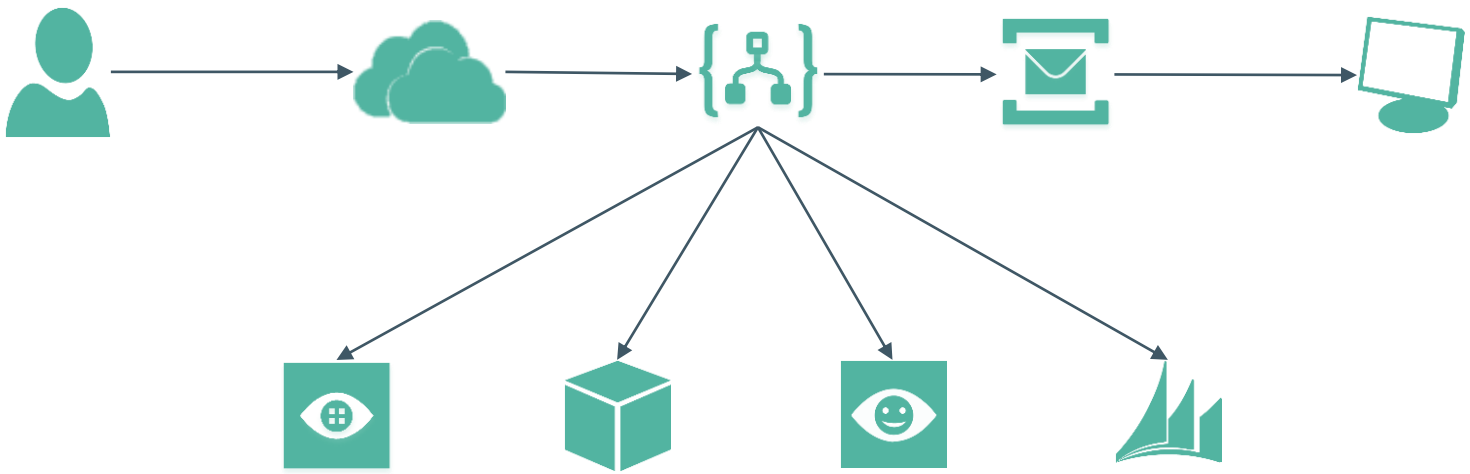
Check Known Person



Key Takeaways

Easy	Very easy to do complex work
Extensive	Many options and keeps expanding
Integrate	Use results from cognitive services in your processes
IoT	Big opportunities within IoT space

Thank You!

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Move