



Tips & tricks for building your product faster

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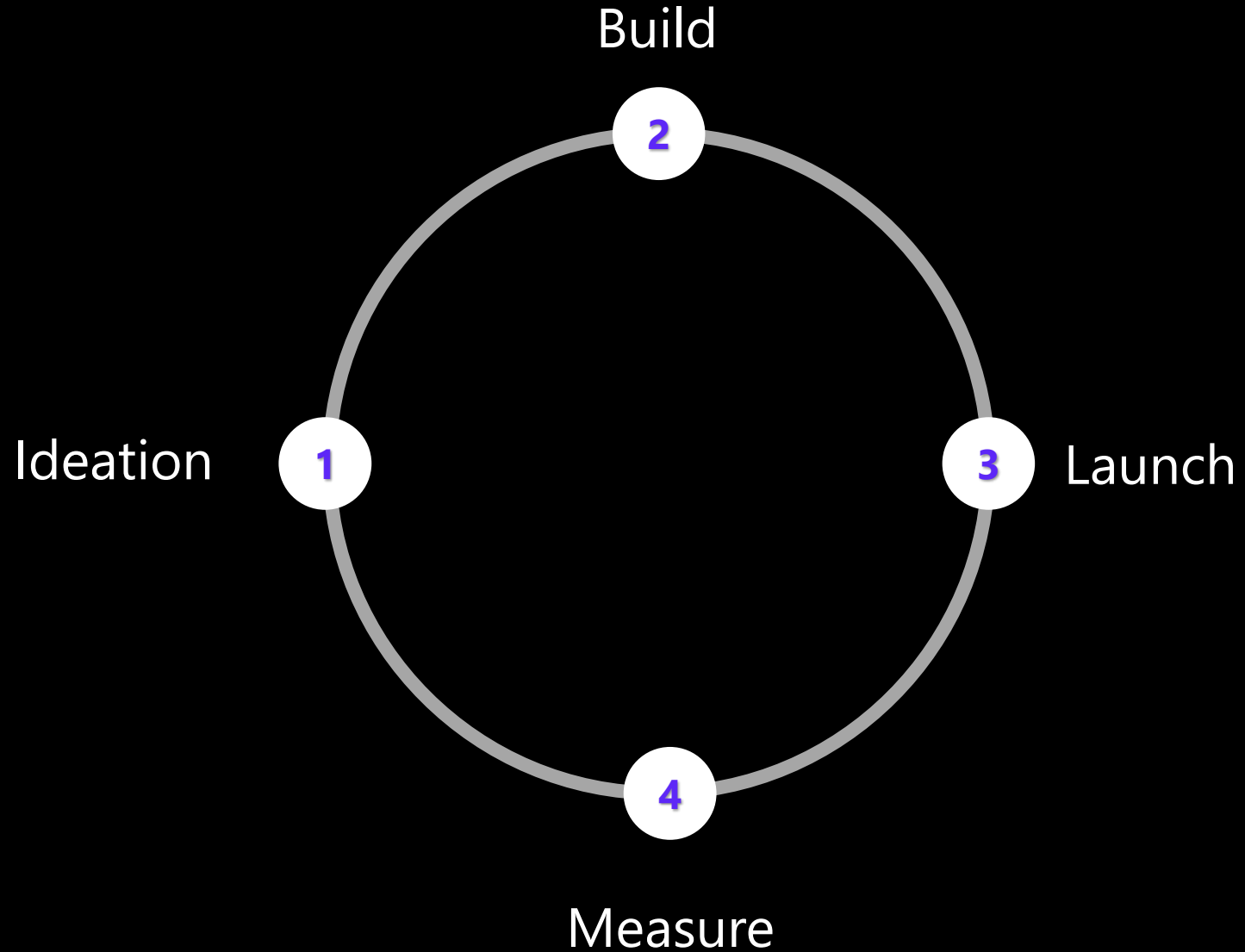
ideas

Most startups fails

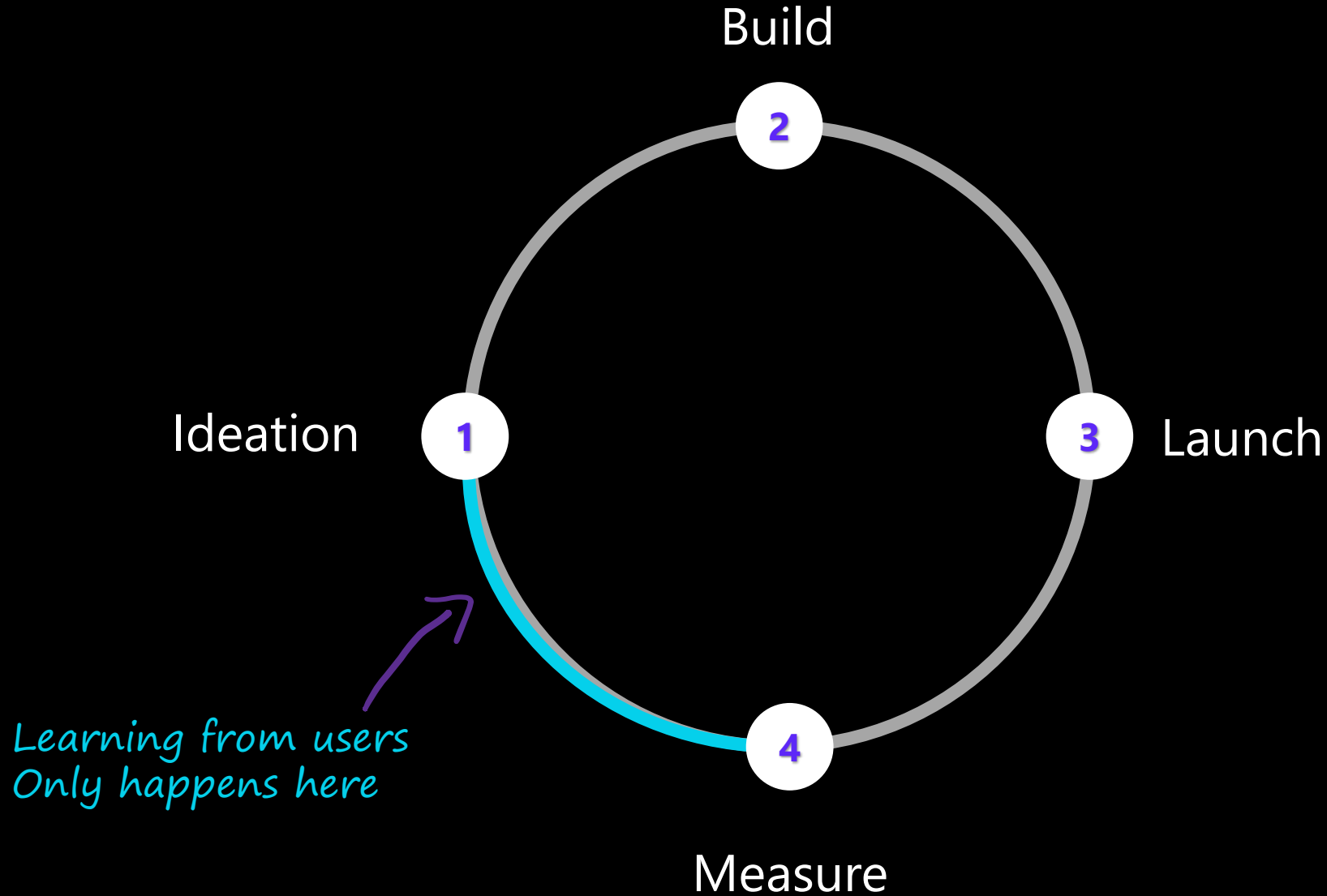
products

features

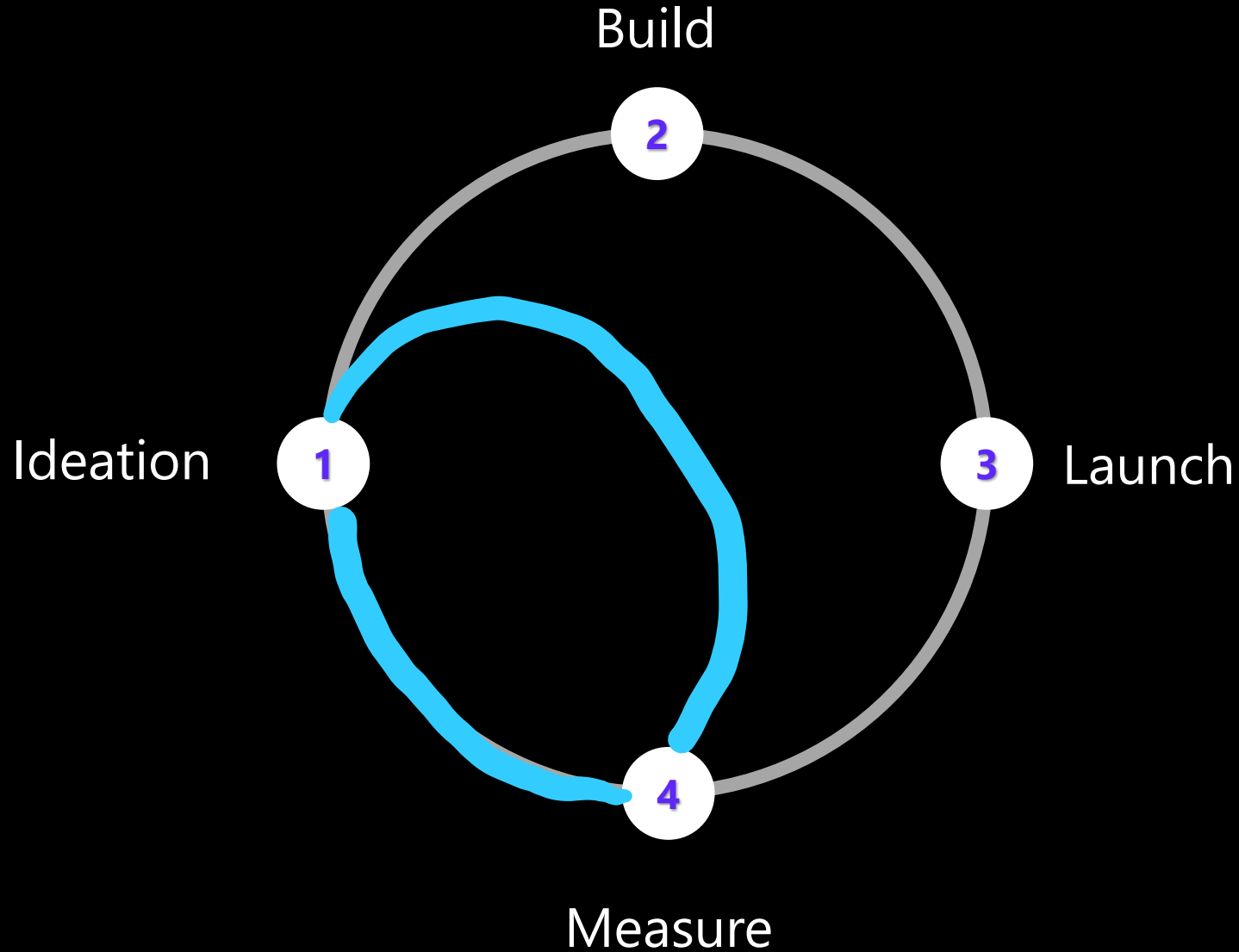
A typical project



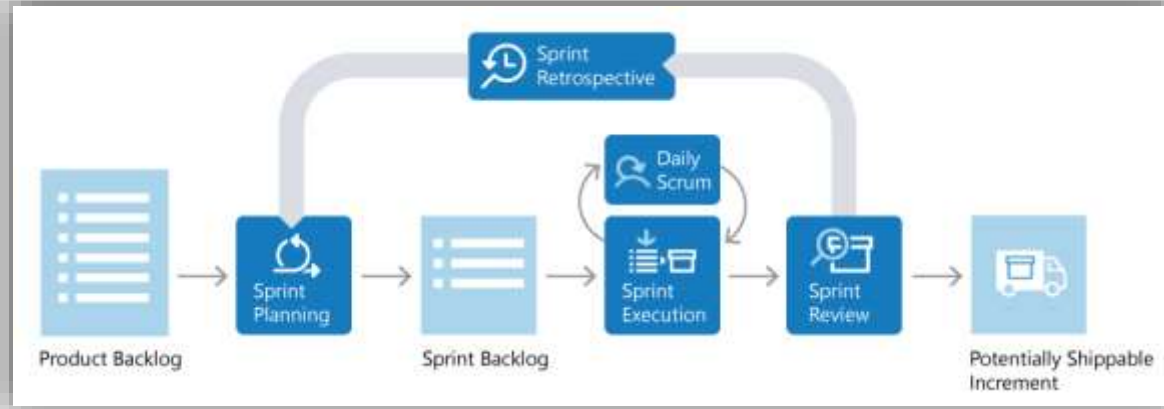
A typical project



A need for a shorter feedback loop



All of this is not new...



How to be lean and fast?

Rethink your product

Technical shortcuts

Prepare for next round

Rethink your product

Incremental: Get a vague idea with a customer journey

BENEFICIARY ACTION	Get asked for documents
TOUCHPOINTS	Face 2 Face / Email / Website

TIME



Incremental: Get a vague idea with a customer journey

BENEFICIARY ACTION	Get asked for documents	Sending documents
TOUCHPOINTS	Face 2 Face / Email / Website	Site web / Email

TIME



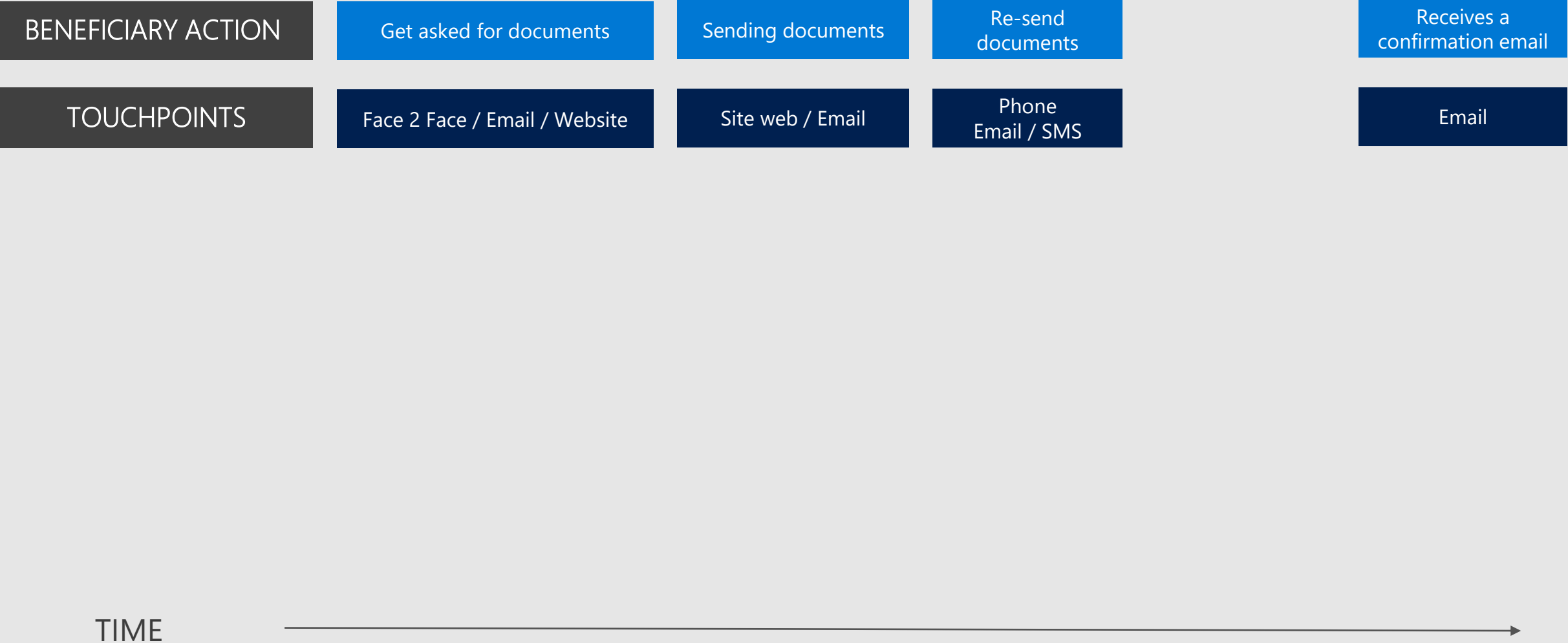
Incremental: Get a vague idea with a customer journey

BENEFICIARY ACTION	Get asked for documents	Sending documents	Re-send documents
TOUCHPOINTS	Face 2 Face / Email / Website	Site web / Email	Phone Email / SMS

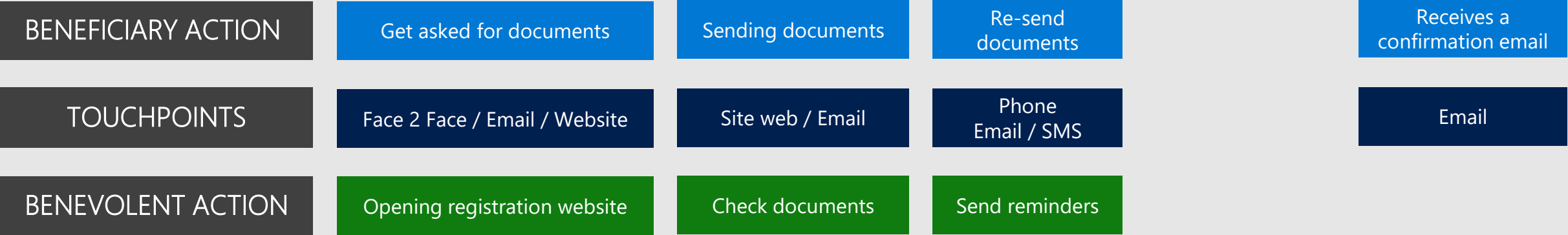
TIME



Incremental: Get a vague idea with a customer journey



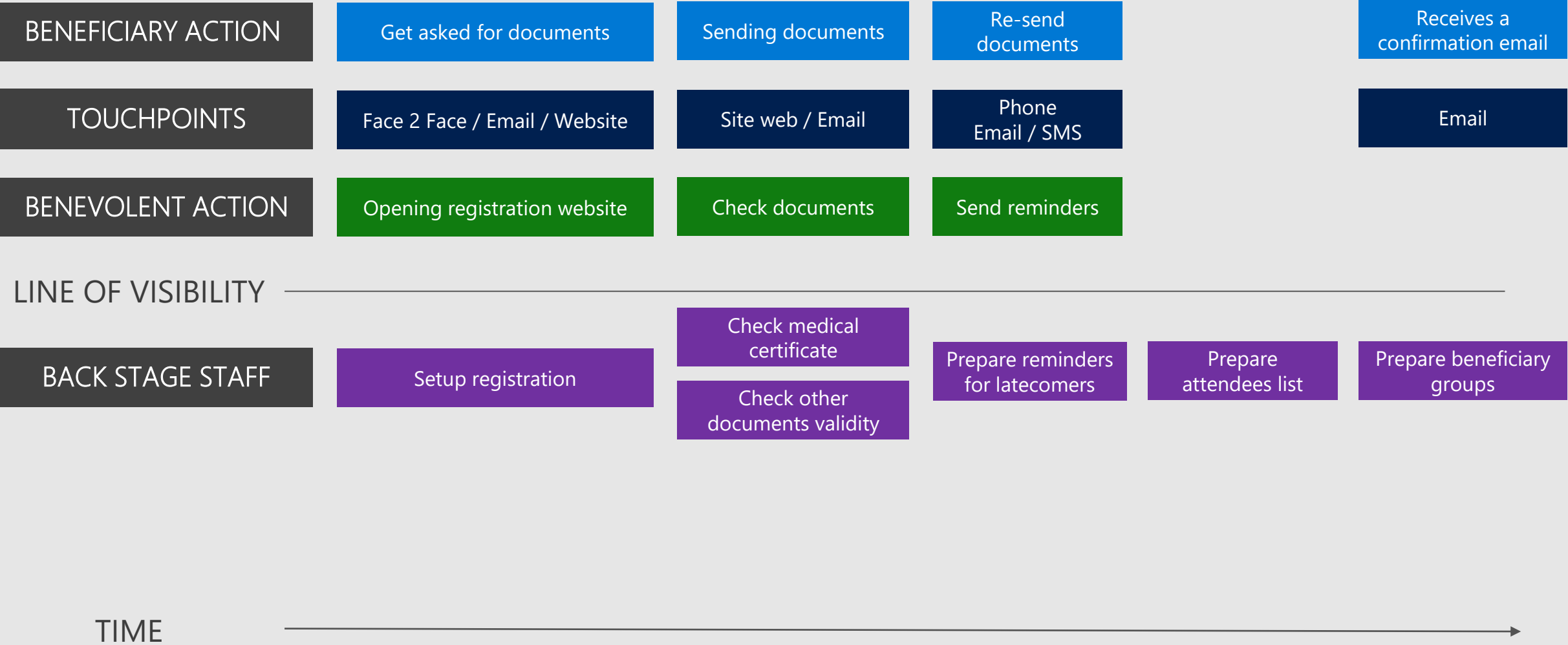
Incremental: Get a vague idea with a customer journey



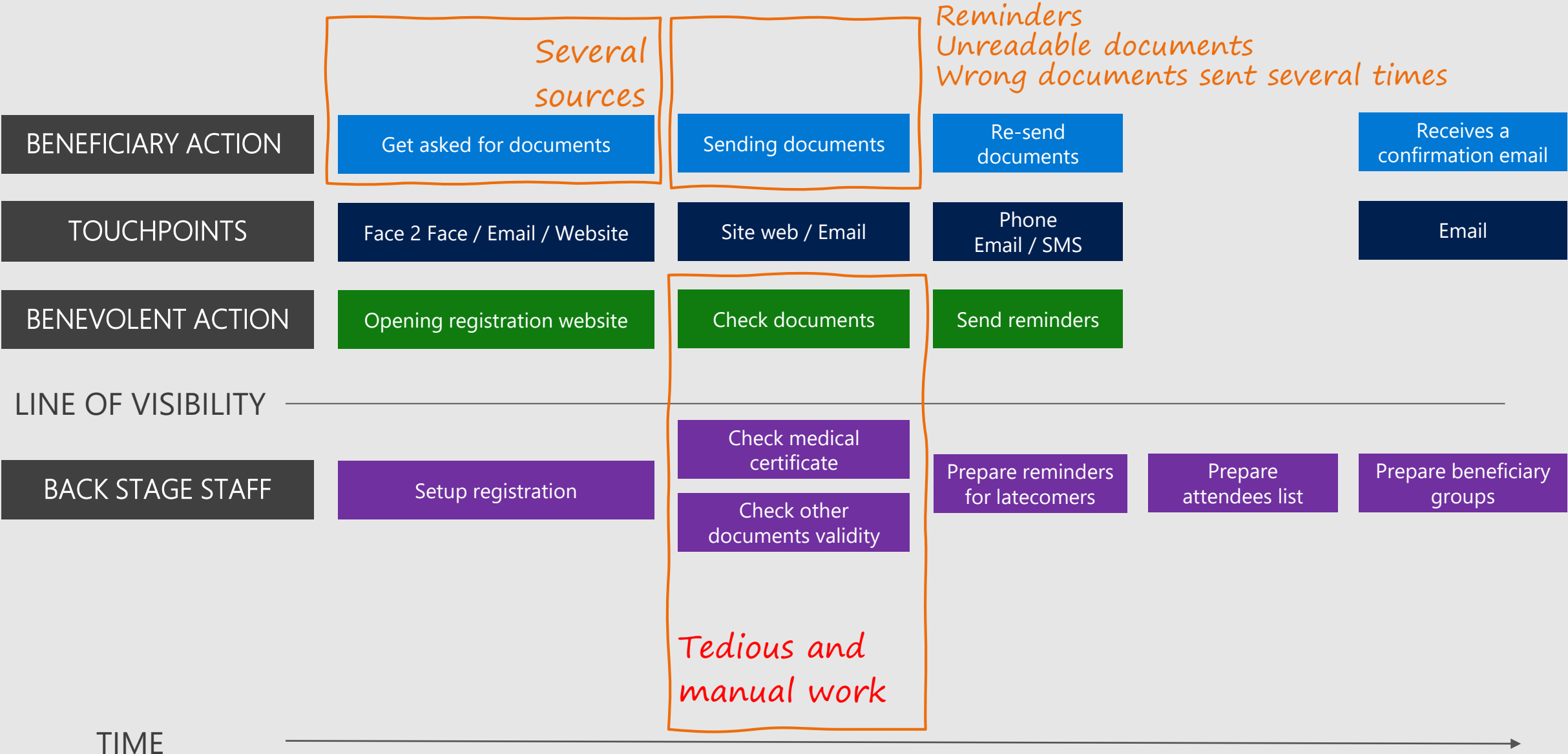
TIME



Incremental: Get a vague idea with a customer journey



Incremental: Get a vague idea with a customer journey



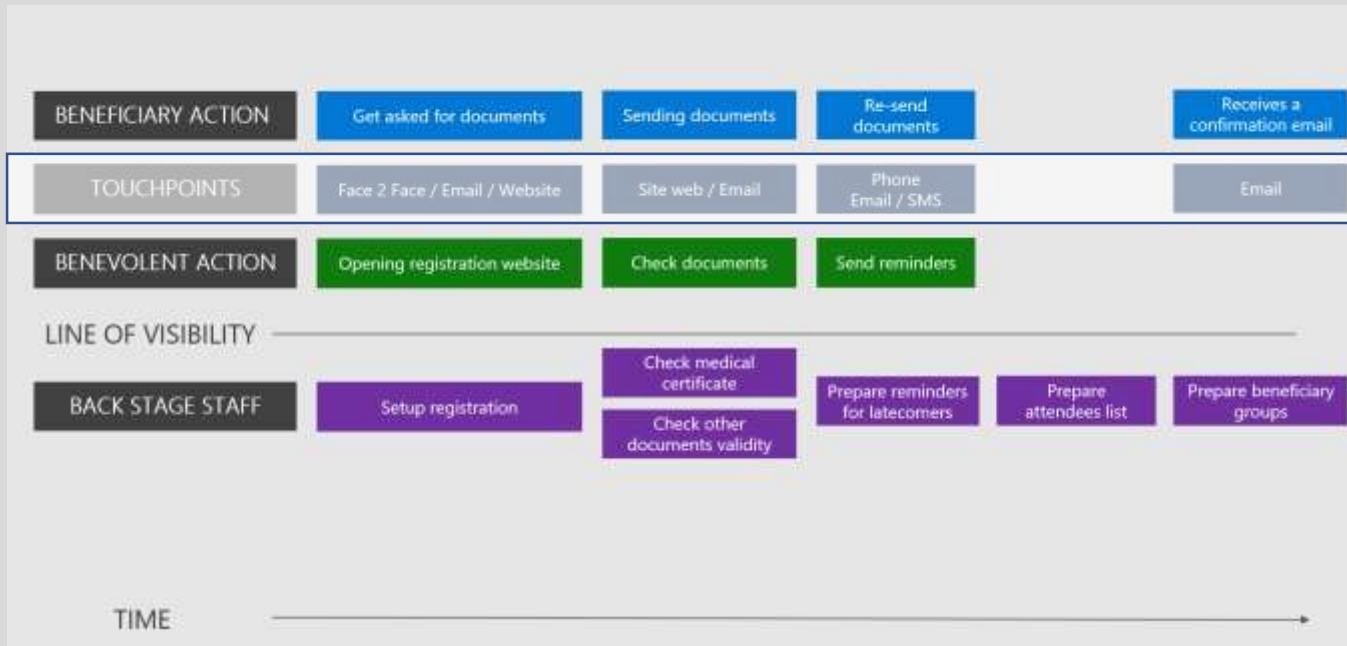
Do things that don't scale

Or Worry only about the next order of magnitude.



Do things that don't scale

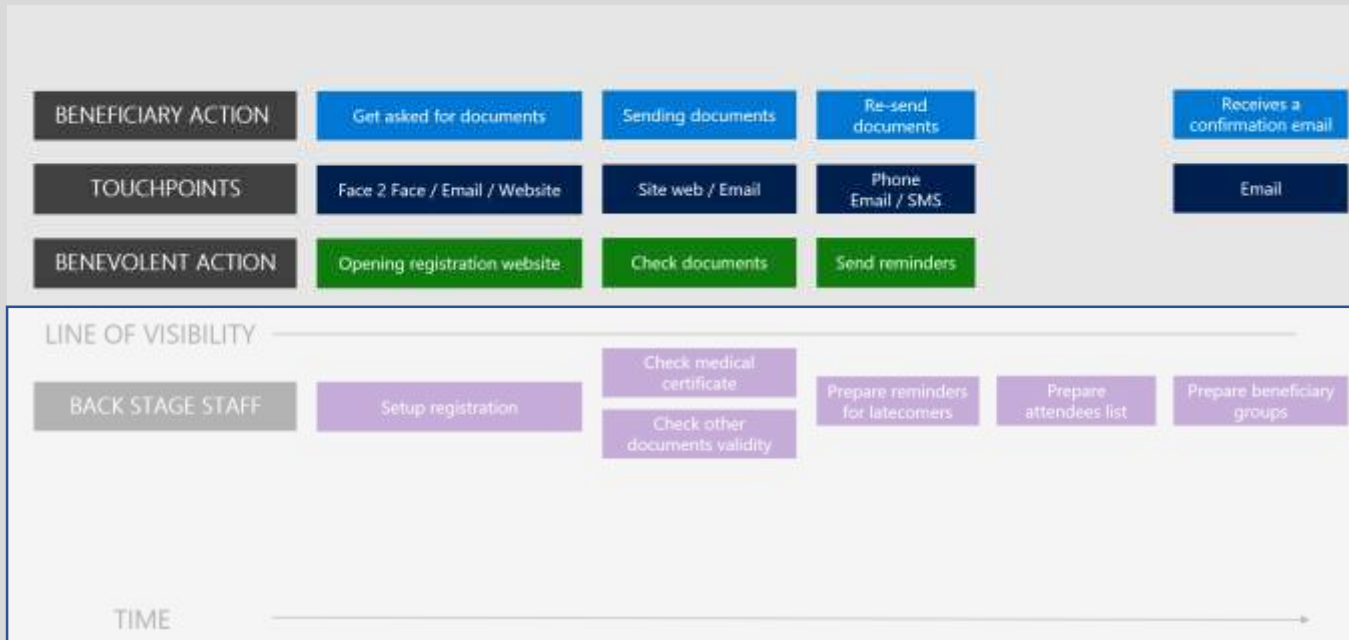
Or Worry only about the next order of magnitude.



Simplify UX with one touchpoint

Do things that don't scale

Or Worry only about the next order of magnitude.



*Do not automate this at first.
Continue do to it manually
& focus on experience*



What kind of music do you like?

Choose one to start

Rap

Pop

Rock

Dance & EDM

French music

Electronic

Classical

Latin music

Jazz

R&B

Soul & Funk

Metal

Folk & singers

CONTINUE

< Back

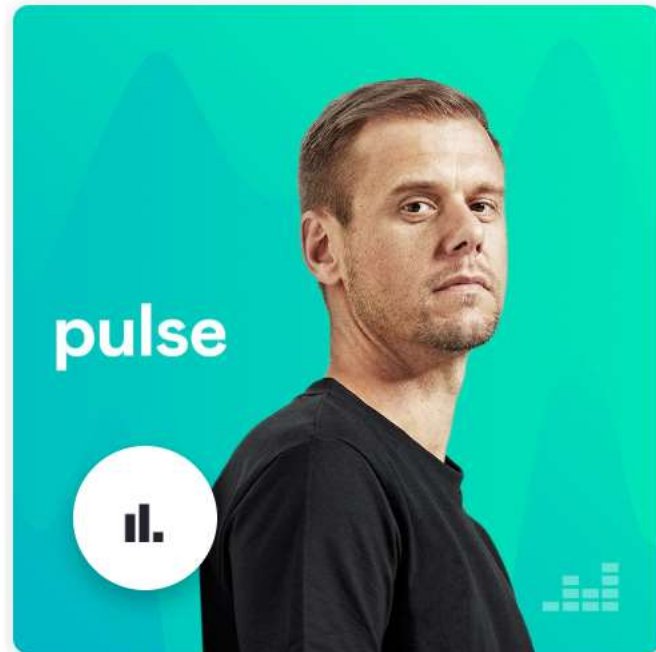
Skip >

Like any of these artists?

Q Search



Caribou

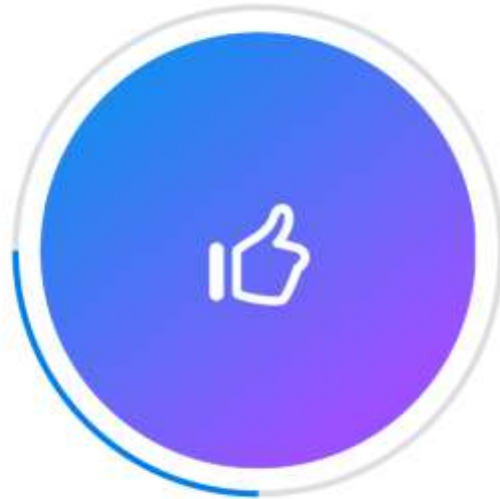


Taylor Swift



PICK 3 MORE

Awesomeness loading...



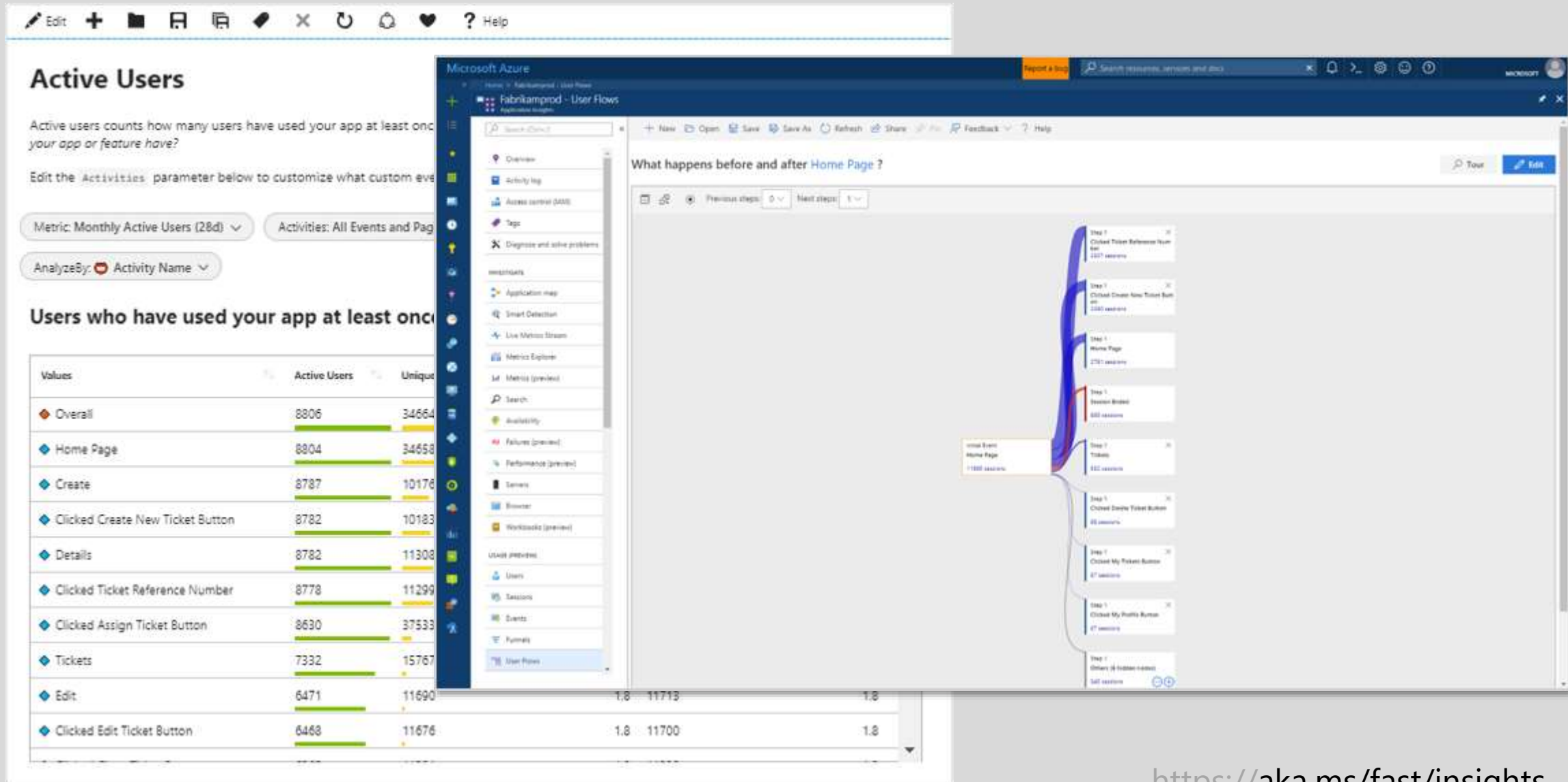
Great job. We're just getting your personal recommendations and creating your
Deezer.

Measure things early



Not implementing the audio preview
made the key metric for this feature grow
by ~200%

Measure things early



Technical shortcuts

Which service you'll *not* build yourself?

- Exceptions Telemetry
- Logging
- Email gateway
- SMS / Push notifications gateway
- Payment processing
- User management
- CD/CI agents
- DNS Servers
- Search
- Content moderation
- Personalization (if not core business)
- SSH Bastions
- In-App Chat

Use existing tools, prepare for replacement

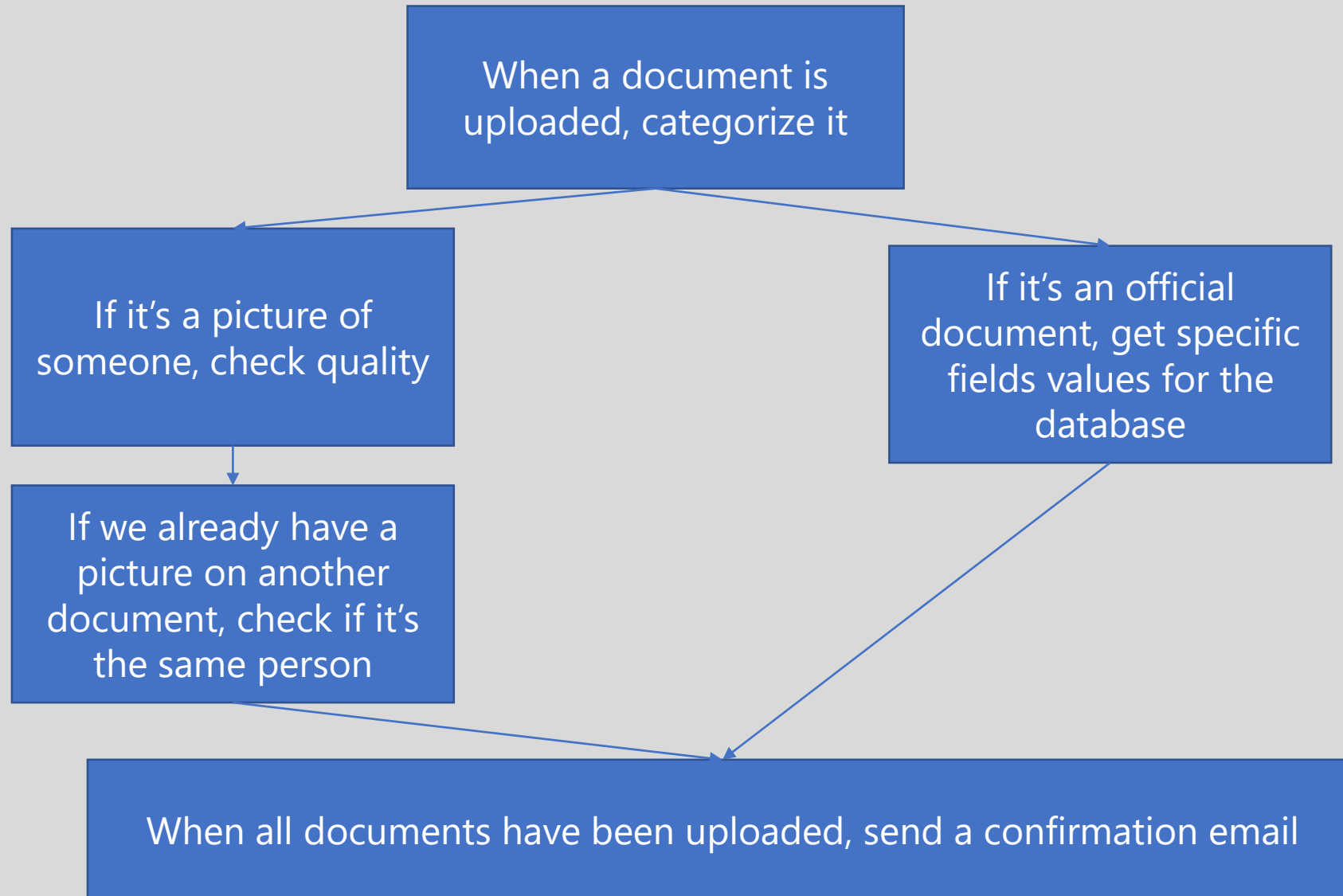
```
public interface ITelemetryService : INotifyPropertyChanged
{
    internal sealed class AppInsightsTelemetryService : ITelemetryService
    {
        public async void TrackException(Exception ex, string message, bool isFatal)
        {
            // For now, all data are not send in an ExceptionTelemetry
            // We send it also as a custom event
            Dictionary<string, string> properties = new Dictionary<string, string>();

            properties.Add("a.env", _appConfiguration.Environment.ToString());
            properties.Add("Type", ex.GetType().ToString());
            properties.Add("Message", message);
            properties.Add("RawException", ex.ToString());
            properties.Add("StackTrace", ex.StackTrace);

            ulong appMemoryUsage = MemoryManager.AppMemoryUsage / 1024 / 1024;
            ulong appMemoryUsageLimit = MemoryManager.AppMemoryUsageLimit / 1024 / 1024;

            properties.Add("d.memused", appMemoryUsage.ToString());
            properties.Add("d.memlimit", appMemoryUsageLimit.ToString());
        }
    }
}
```

Use “off-the-shelf” APIs and services

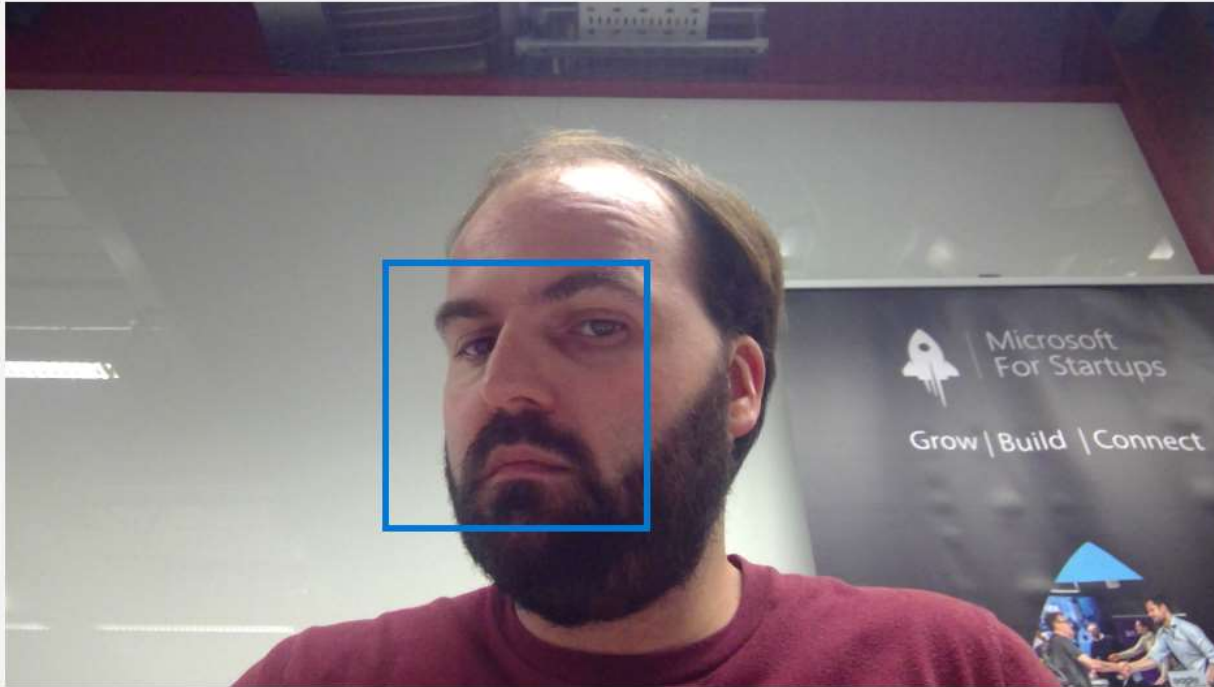


Use “off-the-shelf” APIs and services

The screenshot displays the DemoUNC web application interface, which is used for managing and analyzing training images. The interface is divided into several sections:

- Header:** Includes the DemoUNC logo, navigation tabs for Training Images, Performance, and Predictions, and buttons for Train, Quick Test, and user settings.
- Left Sidebar:** Contains a Filter section with an Iteration dropdown set to 'Workspace', a Tags section with 'Tagged' and 'Untagged' buttons, and a Search For Tags input field. Below this is a list of tags: 'certificat 5', 'licence 7', and 'niveau 1', each with a checkbox and a three-dot menu.
- Main Content Area:** Features a toolbar with 'Add images', 'Delete', 'Tag images', and 'Select all' buttons. Below the toolbar, a grid of diving licenses is displayed. The licenses are from the Fédération Française d'Études et de Sports Sous-Marins (FFESSM) and are valid for the year 2018. The licenses shown include:
 - Philippe:** FRA/F00/P2/16/017370/18/05/00000158670, Niveau 2, Validité permanente.
 - Catherine:** Licence N° A-05, Club: CLUB DE PLONGEE DE BOULOGNE.
 - Habib:** Licence N° 07 92 0742, Club: CLUB DE PLONGEE DE BOULOGNE.
 - Amelie:** Licence N° 07 92 0742, Club: CLUB DE PLONGEE DE BOULOGNE.
 - Marjolaine:** Licence N° 07 92 0742, Club: CLUB DE PLONGEE DE BOULOGNE.
 - Roxana:** Licence N° 07 92 0742, Club: CLUB DE PLONGEE DE BOULOGNE.
 - Philippe:** Licence N° 07 92 0742, Club: CLUB DE PLONGEE DE BOULOGNE.
- Bottom Right:** A green 'Get started' button.

Use “off-the-shelf” APIs and services



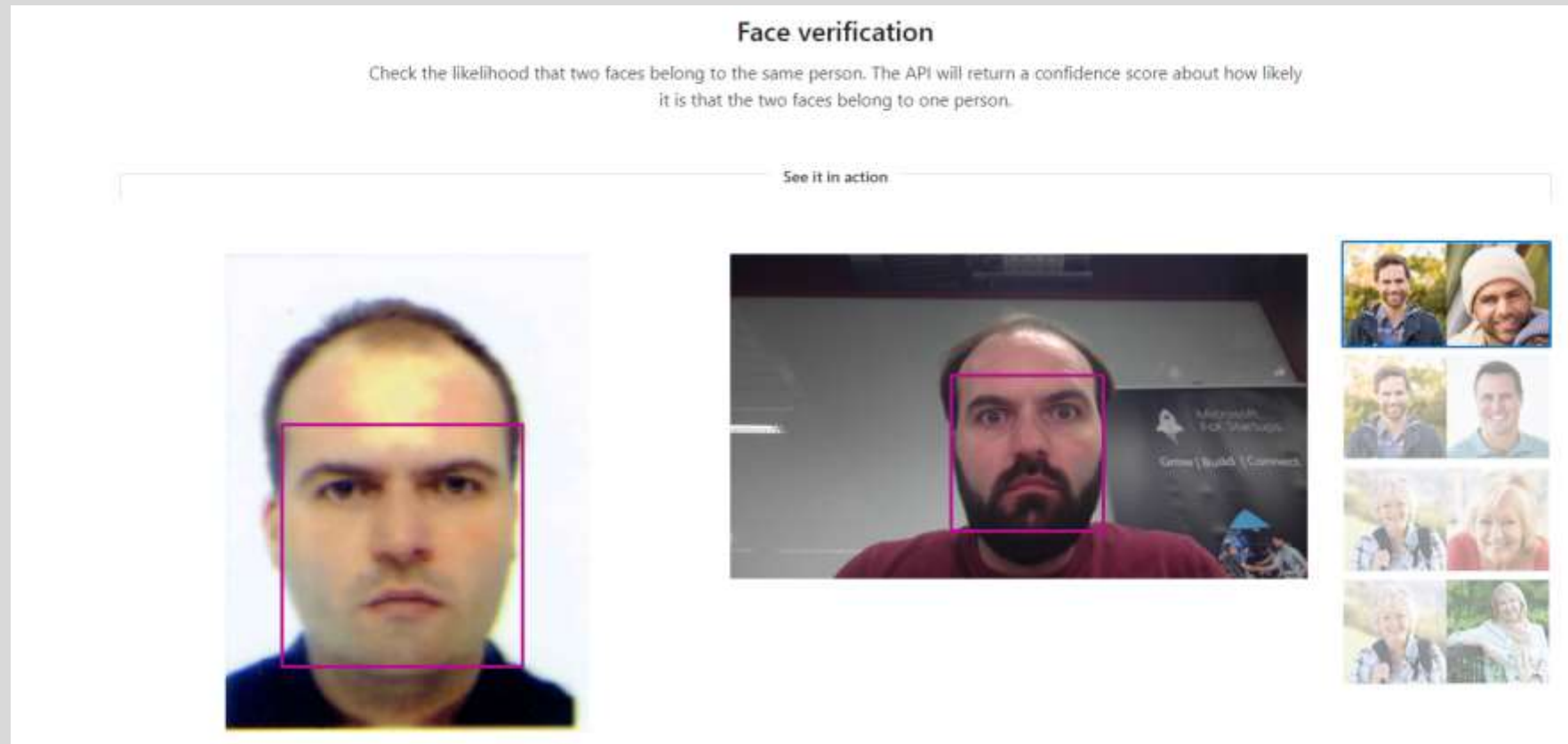
```
    },  
    {  
      "color": "blond",  
      "confidence": 0.06  
    }  
  ]  
},  
"smile": 0.0,  
"headPose": {  
  "pitch": 15.5,  
  "roll": -4.1,  
  "yaw": -27.1  
},  
"gender": "male",  
"age": 37.0,  
"facialHair": {  
  "moustache": 0.9,  
  "beard": 0.9,  
  "sideburns": 0.9  
},  
"glasses": "NoGlasses",  
"makeup": {  
  "eyeMakeup": false,  
  "lipMakeup": false  
},  
"emotion": {  
  "anger": 0.0,  
  "contempt": 0.002,
```

Use “off-the-shelf” APIs and services

Face verification

Check the likelihood that two faces belong to the same person. The API will return a confidence score about how likely it is that the two faces belong to one person.

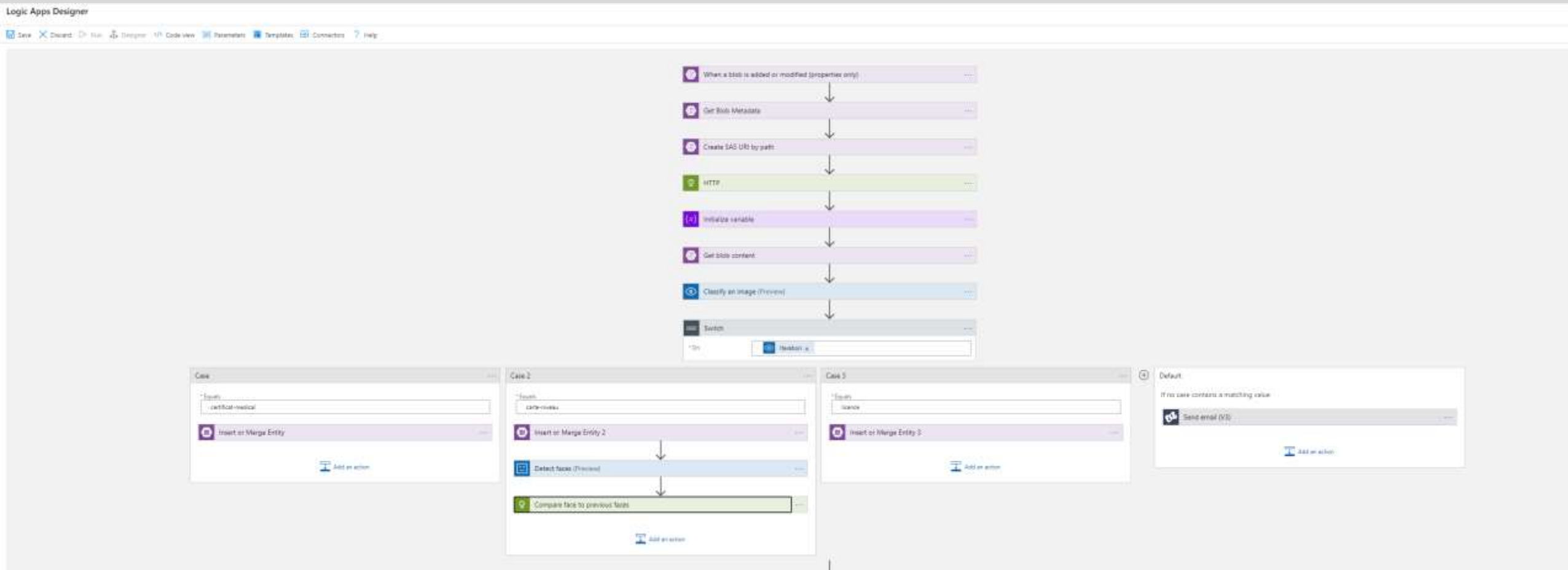
See it in action



The screenshot displays the Microsoft Face API documentation for face verification. It features a main heading 'Face verification' and a descriptive paragraph. Below this, a section titled 'See it in action' contains three images: a large portrait of a man with a red bounding box, a smaller portrait of a man with a beard and a red bounding box, and a grid of six smaller portraits of various people, each with a red bounding box. The background of the grid shows a Microsoft event banner with the text 'Microsoft For Startups' and 'Grow | Build | Connect'.

Verification result: The two faces belong to the same person. **Confidence is 0.89343.**

Use “off-the-shelf” APIs and services

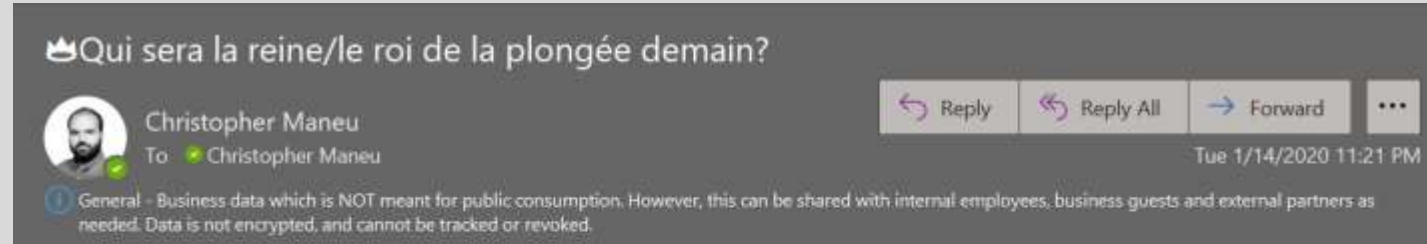


No UI

- Reduce the amount of UI needed
- Try to see if you can have an email-based / chat-based / etc.. UI
- AMP-project can help you create interactive emails

<https://amp.dev/documentation/examples/?format=email>

<https://docs.microsoft.com/en-us/outlook/actionable-messages/index>



Séance du lundi 13 janv.

Bonjour à tous,

Demain est l'une des séances *spéciales* de l'année: c'est la séance de la galette 🍰!

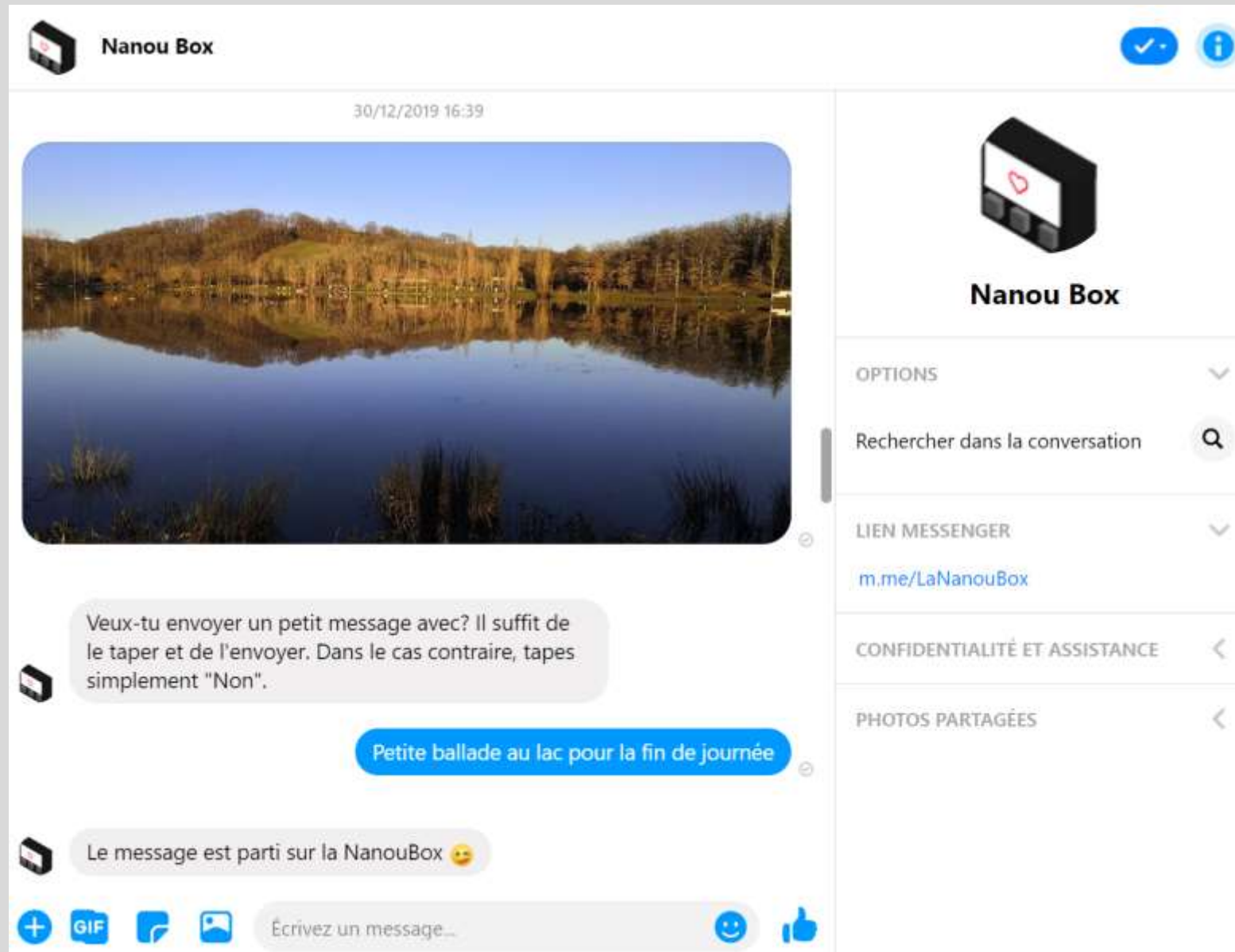
Est-ce que l'on te garde une part ? (Et oui, il faudra se mettre à l'eau pour la mériter 😊)

A bientôt, Christopher

Je serai présent 🙋→

Pas cette fois 😞→

No UI



No account management



**Get a magic link by email
that will sign you in instantly!**

We'll send you a one-time login link to the email
associated with your domain on ImprovMX

YOUR EMAIL OR DOMAIN

r.hendricks@gmail.com or piedpiper.com

Send me a magic link

Don't have access to your email?

No account management – JWT tokens

Encoded

PASTE A TOKEN HERE

```
eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzUxMiJ9.eyJpc3MiOiJSZWN1cnJpbGlzImIhdCI6MTU3OTA3MTMzNCwiZXhwIjoxNTc5NDE4MTQzLCJhdWQiOiJyc3ZwLnJlY3Vyci5pbiIsInN1YiI6IjA5NTU0NWRkYjhjNTQwYjFhN2UwMDE5MmRiZWY3NDc4IiwiaWJlbnRlbnR5IjoiYXNjaW5kaW50IiwiaWF0IjoiMTU3OTA3MTMzNCJ9.RTNmFkEj0WmkAVHbZbc9ayVPf4ioN3P1-AiuCuG1yQyRzkkIBW-4U8AX0kmH3gC2wV8f0VgrAs3GoxqP7yYoeQ
```

Decoded

EDIT THE PAYLOAD AND SECRET

HEADER: ALGORITHM & TOKEN TYPE

```
{
  "typ": "JWT",
  "alg": "HS512"
}
```

PAYLOAD: DATA

```
{
  "iss": "Recurrin",
  "iat": 1579071334,
  "exp": 1579418143,
  "aud": "rsyp.recurr.in",
  "sub": "095545ddb8c540b1a7e00192dbef7478",
  "GivenName": "Christopher",
  "Email": "chris@bulles.org",
  "Role": "Attendee",
  "EventId": "06c2767ab9cc400c8e3cc2739493f2b1",
  "Date": "20200119"
}
```



Recipes for account management

- JWT Tokens
- JWT Tokens + Revocation
- Outsource user management (Azure AD B2C)
- Roll you own user management

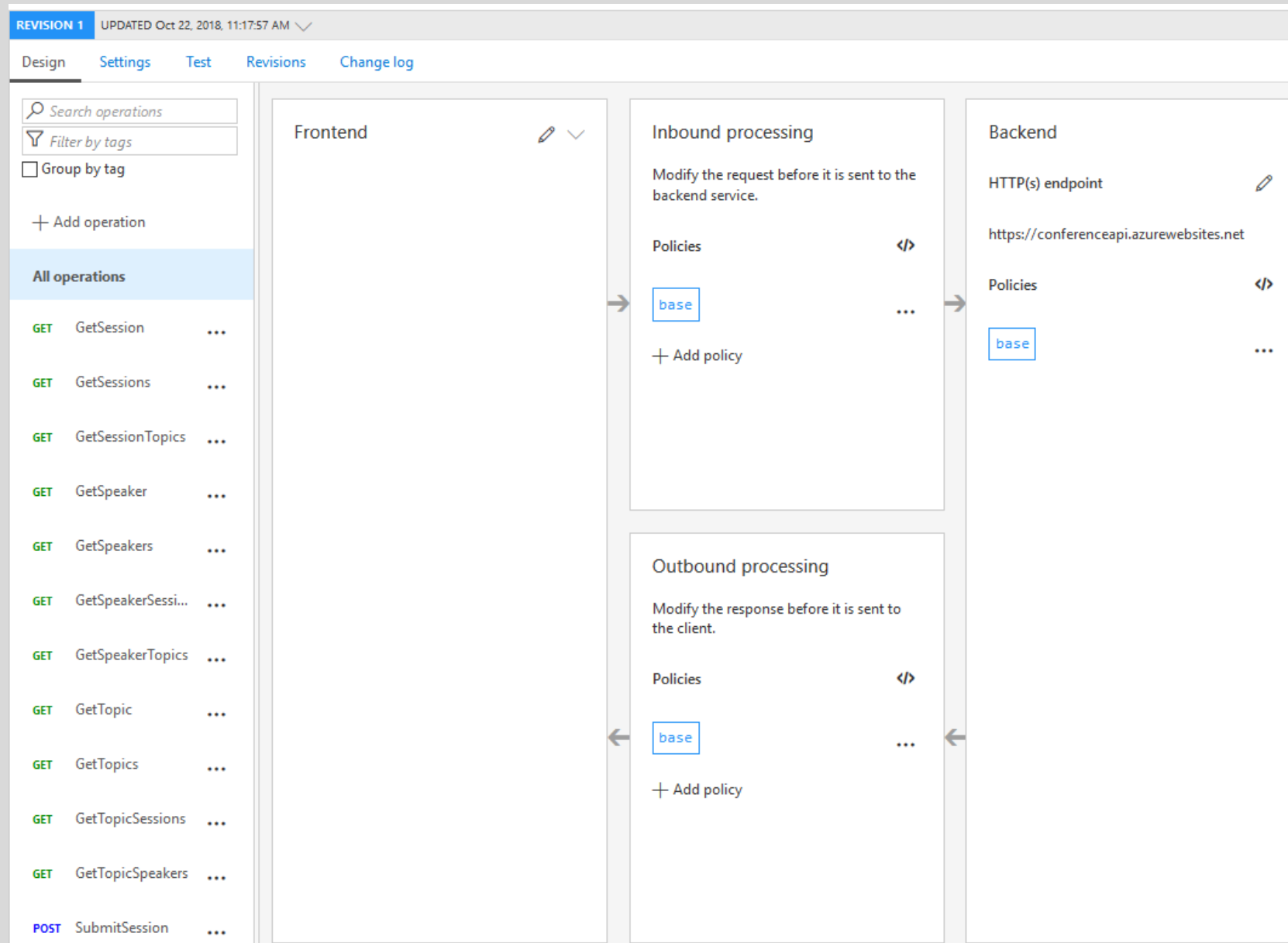
Widen your definition of “Databases”

- CSV and simple storage FTW
- Table storage
- Document storage
- NoSQL Databases (MongoDB, ...)
- Excel files on a storage / share



Prepare for next round

Use an API Gateway



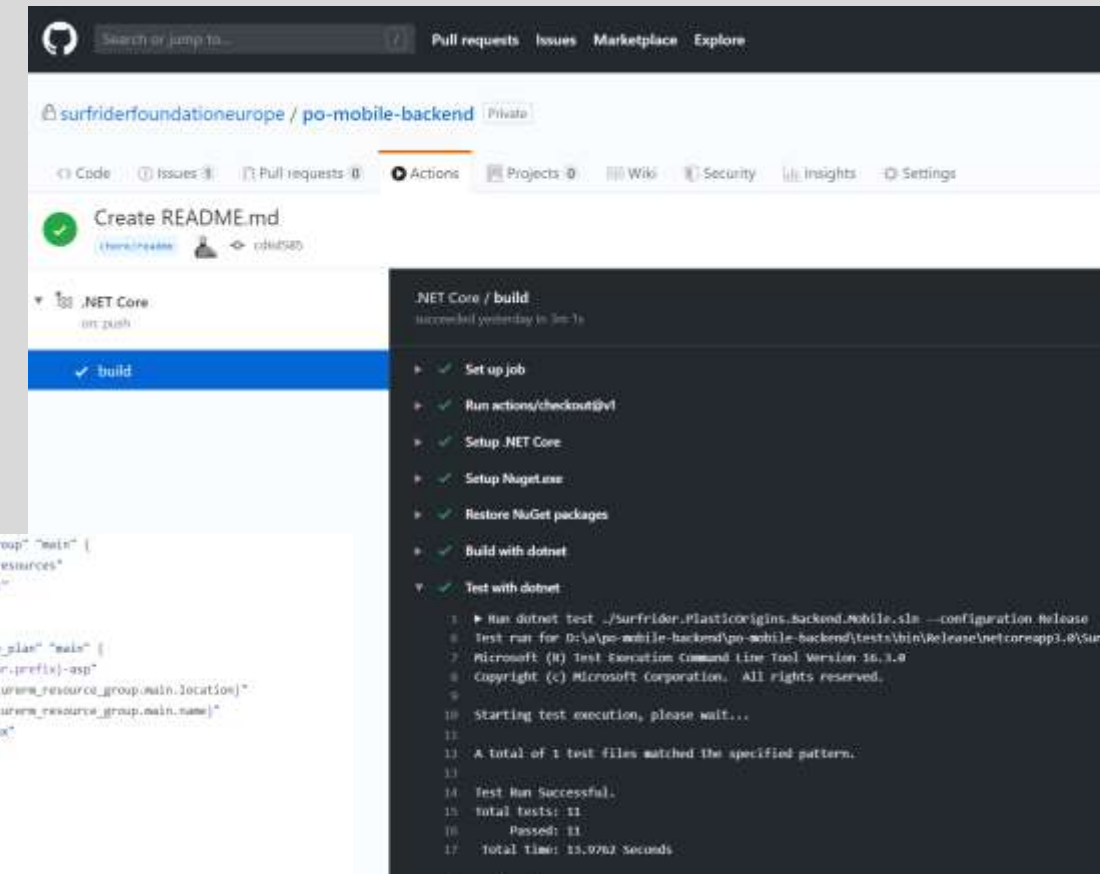
Use *scientist* libraries

```
public bool CanAccess(IUser user)
{
    return Scientist.Science<bool>("widget-permissions", experiment =>
    {
        experiment.Use(() => IsCollaborator(user)); // old way
        experiment.Try(() => HasAccess(user)); // new way
    }); // returns the control value
}
```



Automate all the things

Infrastructure, Code deployment, ...



GitHub Actions

```
"resources": [{
  "type": "Microsoft.Storage/storageAccounts",
  "name": "[variables('storageAccountName')]",
  "apiVersion": "2017-10-01",
  "location": "[parameters('location')]",
  "sku": {
    "name": "Standard_LRS"
  },
  "kind": "Storage",
  "properties": {}
}, {
  "apiVersion": "2017-10-01",
  "type": "Microsoft.Network/publicIPAddresses",
  "name": "[variables('publicIPAddressName')]",
  "location": "[parameters('location')]",
  "properties": {
    "publicIPAllocationMethod": "Dynamic",
    "dnsSettings": {
      "domainNameLabel": "[concat(parameters('tagDnsPrefix'),uniquestring(resourceGroup().id))]"
    }
  }
}, {
  "comments": "Default Network Security Group for template",
  "type": "Microsoft.Network/networkSecurityGroups",
  "apiVersion": "2019-08-01",
  "name": "[variables('networkSecurityGroupName')]",
  "location": "[parameters('location')]"
}]
```

Azure ARM template

```
resource "azurerm_resource_group" "main" {
  name     = "${var.prefix}-resources"
  location = "${var.location}"
}

resource "azurerm_app_service_plan" "main" {
  name            = "${var.prefix}-asp"
  location        = "${azurerm_resource_group.main.location}"
  resource_group_name = "${azurerm_resource_group.main.name}"
  kind            = "Linux"
  reserved        = true

  sku {
    tier = "Standard"
    size = "S1"
  }
}

resource "azurerm_app_service" "main" {
  name            = "${var.prefix}-appservice"
  location        = "${azurerm_resource_group.main.location}"
  resource_group_name = "${azurerm_resource_group.main.name}"
  app_service_plan_id = "${azurerm_app_service_plan.main.id}"

  site_config {
    app_command_line = ""
    linux_fx_version = "DOCKER|appsvc/sample/python-helloworld:latest"
  }

  app_settings = {
    "WEBSITE_ENABLE_APP_SERVICE_STORAGE" = "false"
    "DOCKER_REGISTRY_SERVER_URL"        = "https://index.docker.io"
  }
}
```

Terraform template

Rethink your product

Map a customer journey

Do things that don't scale

Measure early

Technical shortcuts

Use & abuse existing APIs

Find ways to remove UI

Widen your definition of databases

Prepare for next round

Use an API Gateway

Use *scientist* libraries and features flags to refactor

Automate early



Q&A

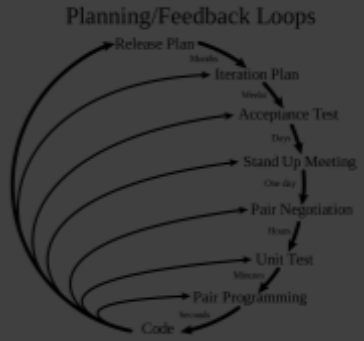
Christopher MANEU
Azure Engineer & Advocate @ Microsoft R&D
@cmaneu



Thanks !

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Azure Engineer & Advocate @ Microsoft R&D
@cmaneu

Image credits



DonWells -
<https://en.wikipedia.org/wiki/File:XP-feedback.gif> CC BY-SA 3.0