

BUILD YOUR CROSS-PLATFORM SERVICE IN A WEEK

JOSE L UGIA

Momenta

WHO ARE YOU?



WUNDERLIST

Former Head of Android

Wunderlist is a market leader productivity app with more than 6mio. users supporting more than 5 platforms connected altogether through a central API.

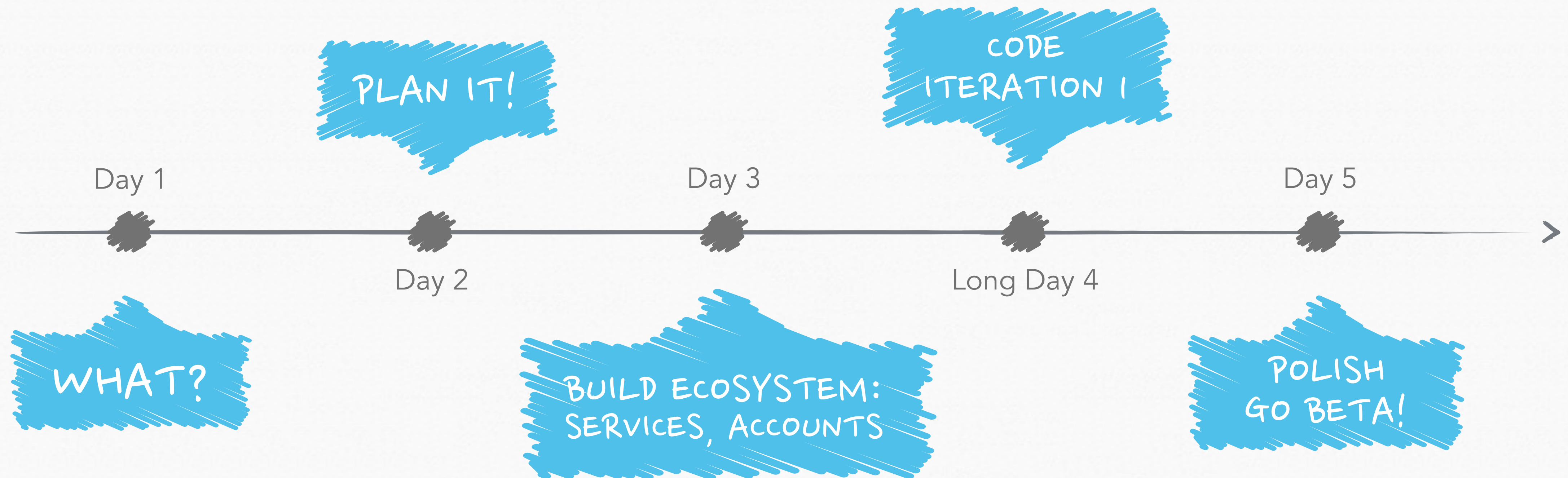


MOMENTA

Co-Founder

Momenta is an app that captures images and sound at the same time to help users keep their memories in an easier manner. Its API is built using App Engine.

A WEEK? ARE YOU KIDDING ME?



Day 1: Today, me convincing you that this is possible.

Day 2: Shape your product and design your system.

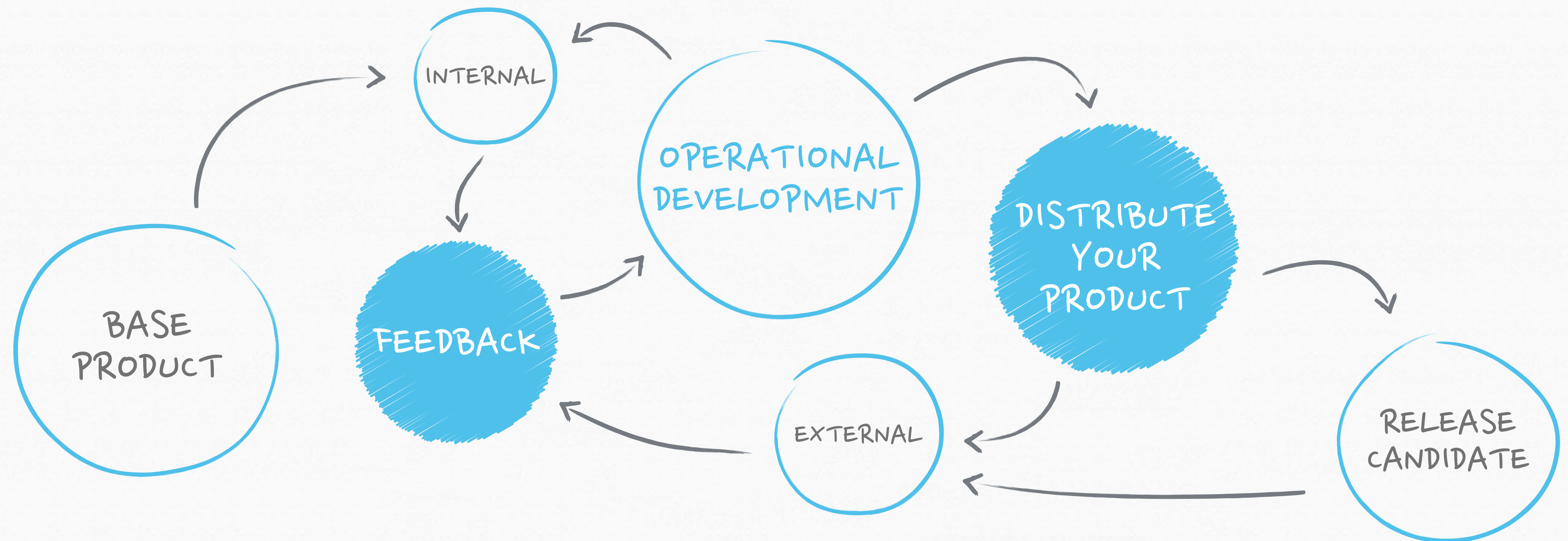
Day 3: Bring all the pieces together. Address your most important needs.

Day 4*: Don't stop coding until you see something.

Day 5: Get feedback, polish and distribute in beta mode.

* Don't crunch, it won't work. Day 4 can take two days.

WHAT AFTER? RUN THE LOOP



LEARN TO LIVE IN A BETA ENVIRONMENT. MOVE, ITERATE AND PIVOT FAST BASED ON NEW KNOWLEDGE

NOBODY CARES



Mike Butcher ✓

@mikebutcher

@imcatnoone @rrhoover @tunepics @MomentaApp

yes, not overly originally but good execution.

05/08/14 18:40

FAST ITERATION PROCESS. WHY?

1

Measure: Identify quickly technical problems, challenges and barriers

2

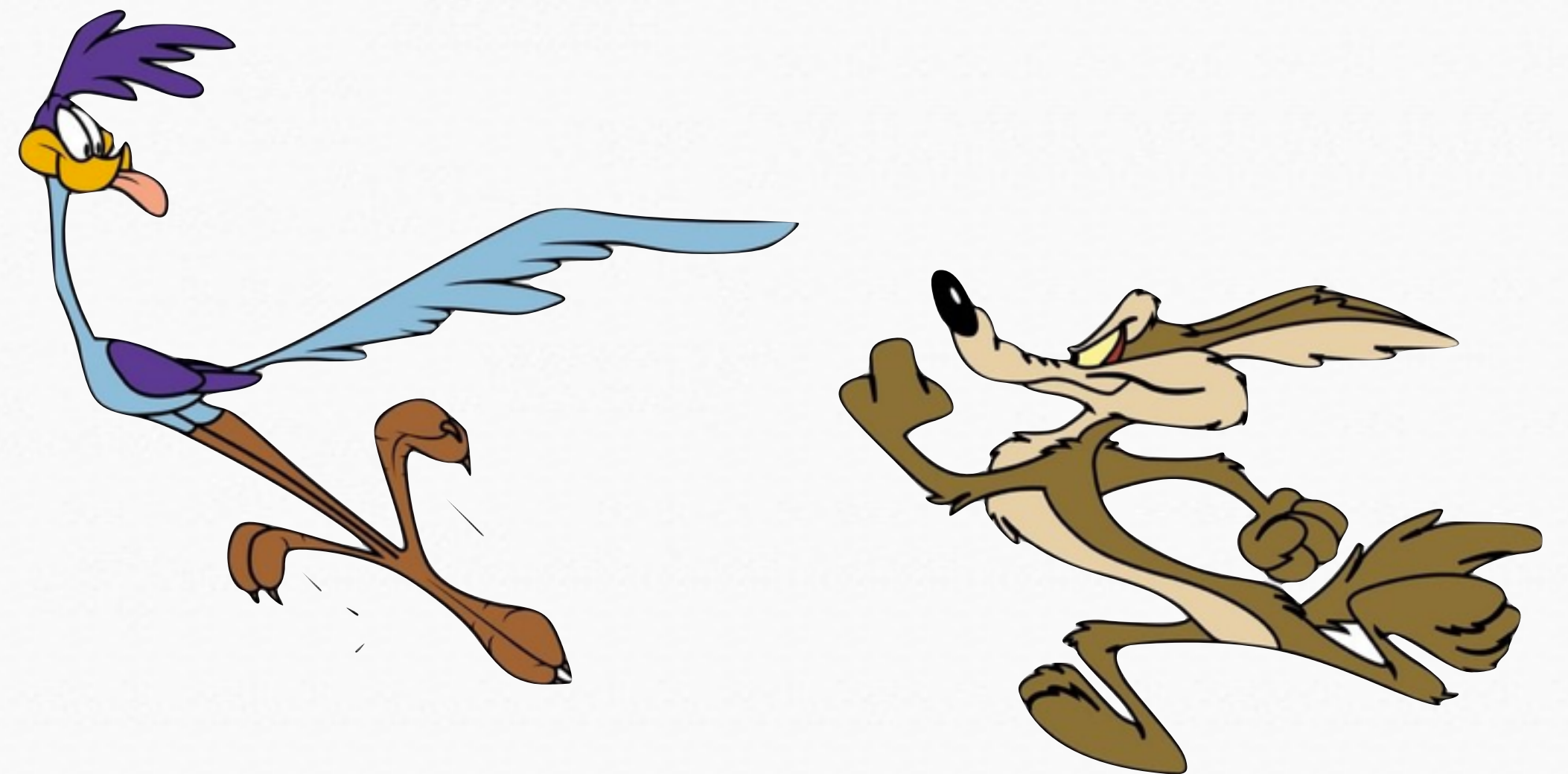
Feedback loop: Check how the market reacts towards your product

3

Visibility: Find supporters, co-workers, investors, mentors, etc

4

Find your beach head: Find a niche where to start growing



BUT REALLY...IN A WEEK?



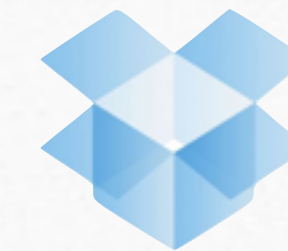
Training



Code repos



Organization



QA & Resources

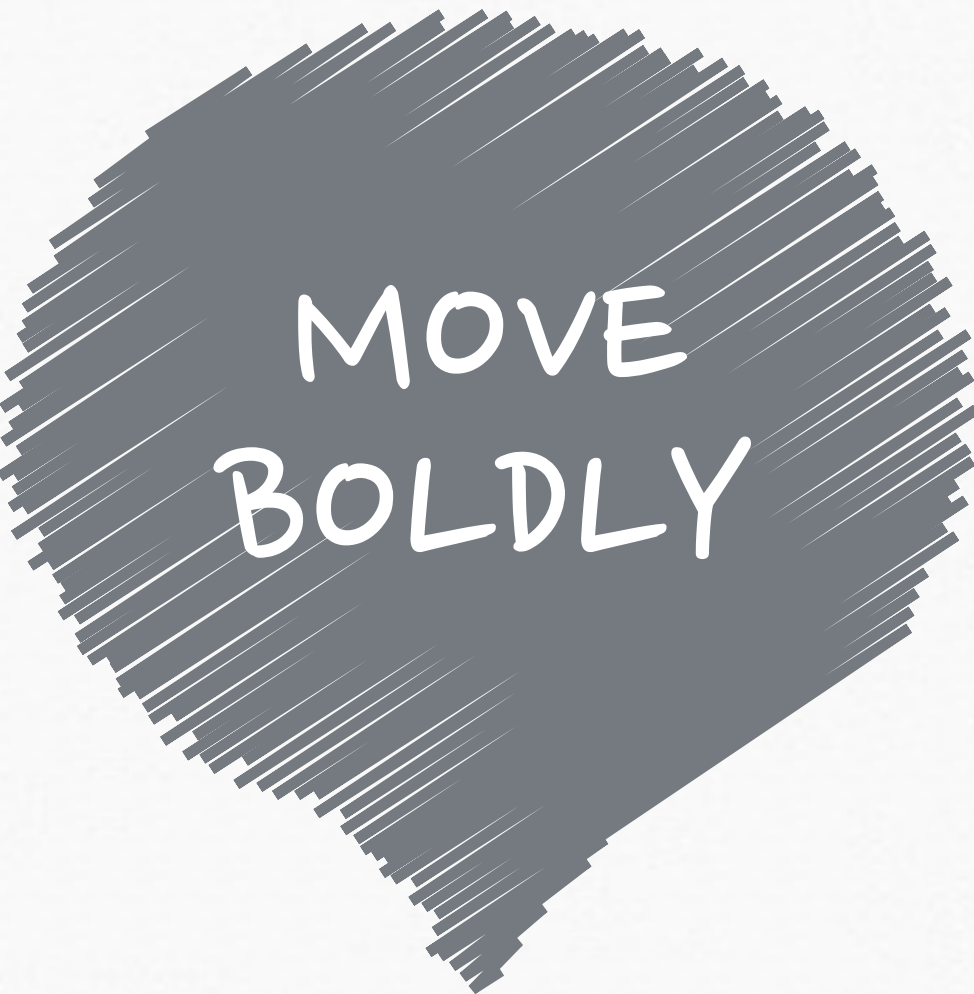


MASTER IT - PRO TIPS




BE OPEN

To new ideas, feedback, critics. Discover what others try to contribute with.



MOVE
BOLDLY

Take risks, there's not much to lose. Costs are low.



BE READY
TO PIVOT

Processing information and reacting quickly is key to move forward.

LET'S GET DIRTY



GOOGLE CLOUD PLATFORM

Hosting + Compute



App Engine



Compute Engine

Storage



Cloud Storage



Cloud Datastore



Cloud SQL

Big Data



BigQuery

Services



Cloud Endpoints



Translate API



Prediction API

GOOGLE CLOUD PLATFORM

1

Scalability: Managed by the service when on Auto mode.

2

Simplicity: The instances, ELBs, CDNs are all configured.

3

Free tiers: There's enough room as to get your project running.

4

More: <https://cloud.google.com/products/>

DON'T WORRY
JUST CODE



GET STARTED



Database: SQL or **non-SQL** (object based)



Binary Storage: Blob Store or **Google Cloud Storage**



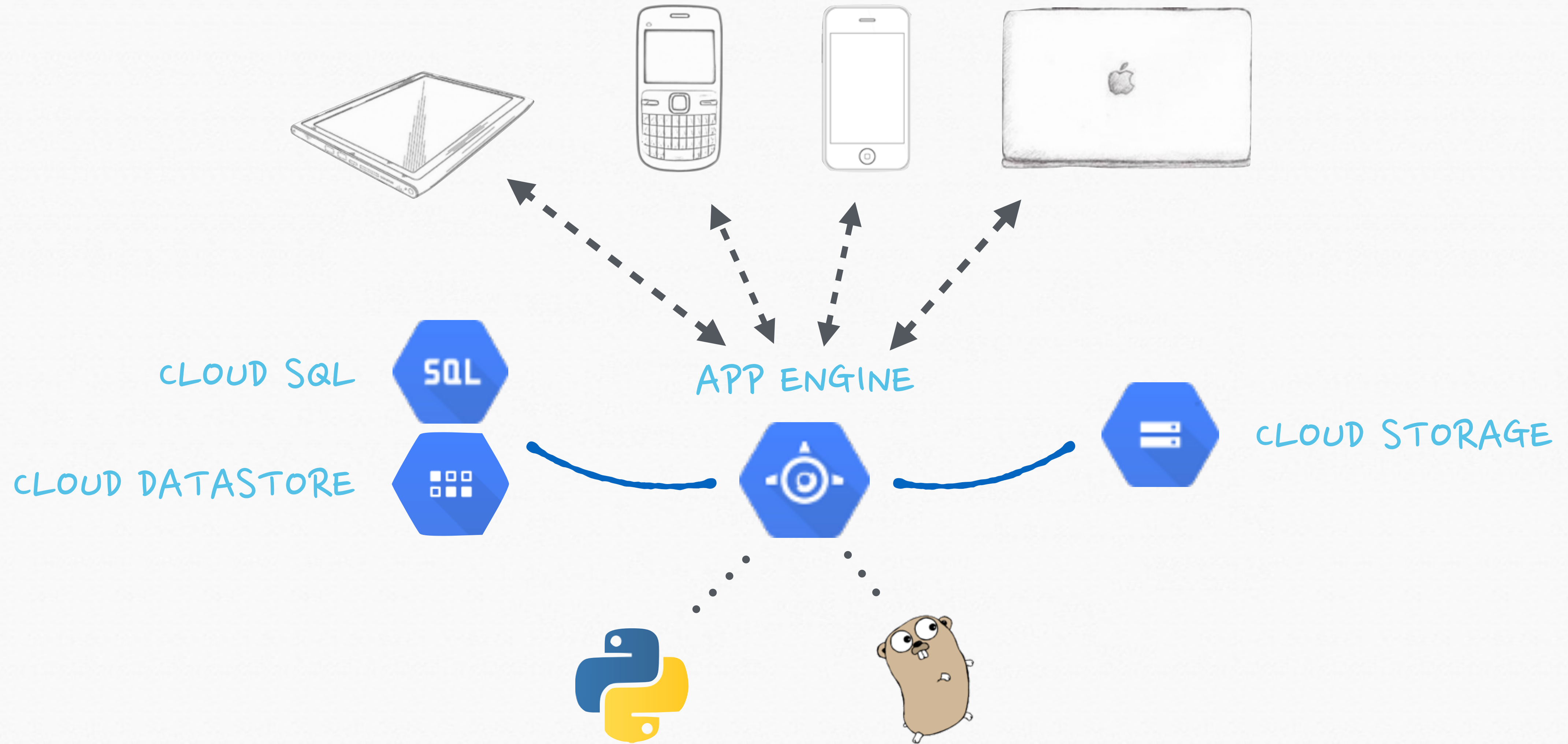
Libraries: Jinja2 (python templates), webapp2 (app engine's basic env), json, etc



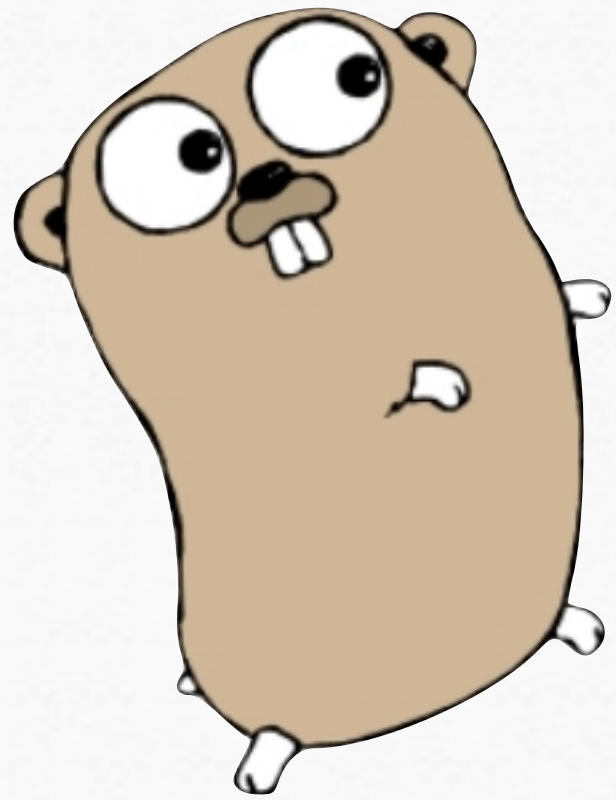
More services



THE PLAN



CHOOSE YOUR LANGUAGE



application: moscow-2014
version: 1
runtime: go
api_version: go1

handlers:
- url: /*
script: _go_app

application: moscow-2014
version: 1
runtime: python27
api_version: 1
threadsafe: yes

handlers:
- url: /*
script: main.app

libraries:
- name: webapp2
script: "2.5.1"



PROJECT STRUCTURE

- APP.YAML
- INDEX.YAML
- MAIN.PY

MODEL

CONTROLLERS

- SESSIONS.PY
- USERS.PY

- APP.YAML
- INDEX.YAML

CONTROLLERS

- SESSIONS.GO
- USERS.GO

PYTHON

- INDEX.YAML DEFINES INDICES FOR DATA MODEL
- MAIN.PY ACTS AS A ROUTER FOR CONTROLLERS
- MODEL DIR HOSTS DATA MODEL
- CONTROLLERS DIR HOSTS DATA CONTROLLERS

GO

- INDEX.YAML DEFINES INDICES FOR DATA MODEL
- CONTROLLERS DIR HOSTS DATA CONTROLLERS
- EACH CONTROLLER HOLDS ITS OWN MODEL AND

ROUTER

MAIN.PY, YOUR ROUTER

```
#!/usr/bin/env python
```

```
# Imports go here!!
```

```
# Requested URLs that are not listed here will return 404
```

```
ROUTES = [
```

```
    DomainRoute('<:(moscow-2014\.appspot\.com|localhost)>', [ # Allowed domains
```

```
        # Attendees
```

```
        Route(r'/users', handler=AttendeesController, name='attendees')
```

```
    ]
```

```
]
```

```
app = webapp2.WSGIApplication(ROUTES, debug=False)
```

PRO-TIP: ALL YOU NEED TO KNOW ABOUT ROUTING

[HTTP://WEBAPP-IMPROVED.APPSPOT.COM/GUIDE/ROUTING.HTML](http://webapp-improved.appspot.com/guide/routing.html)

YOUR FIRST CONTROLLER

```
#!/usr/bin/env python  
# Imports go here!!
```

```
class AttendeesController(webapp2.RequestHandler):
```

```
    def get(self):
```

```
        # Retrieve attendees  
        results = []
```

```
        ...
```

```
        if(self.response.status_int == 200):  
            self.response.write(json.dumps(self.outputBody, cls = JsonSerializer))
```

```
    def post(self):
```

```
        ...
```

PRO-TIP: GET THE WHOLE SOURCE AT

[HTTPS://GITHUB.COM/JLUGIA/MOSCOWI4-API-PYTHON](https://github.com/jlugia/moscovi4-api-python)

GET

```
def get(self):
```

```
    # Retrieve attendees
```

```
    results = []
```

```
    q = User.all() # Can also use q = User.gql(args)
```

```
    for user in q:
```

```
        results.append(user)
```

```
    self.outputBody = results
```

```
    self.response.status = 200
```

```
    if self.response.status_int == 200:
```

```
        self.response.write(json.dumps(self.outputBody, cls = JsonSerializer))
```

PRO-TIP: DETAILS ABOUT GQL

[HTTPS://CLOUD.GOOGLE.COM/APPEENGINE/DOCS/PYTHON/DATASTORE/GQLREFERENCE](https://cloud.google.com/appengine/docs/python/datastore/gqlreference)

POST

```
def post(self):  
  
    if authorization == fuck_up:  
        self.response.status = 401  
    elif validation == fuck_up:  
        self.response.status = 422 # You can also return errors in the body  
    else:  
        new_user = User(**self.inputBody)  
        new_user.put()  
  
        self.outputBody = new_user  
        self.response.status = 201  
  
self.response.write(json.dumps(self.outputBody, cls = JsonSerializer))
```

PRO-TIP: MORE ABOUT DATASTORE

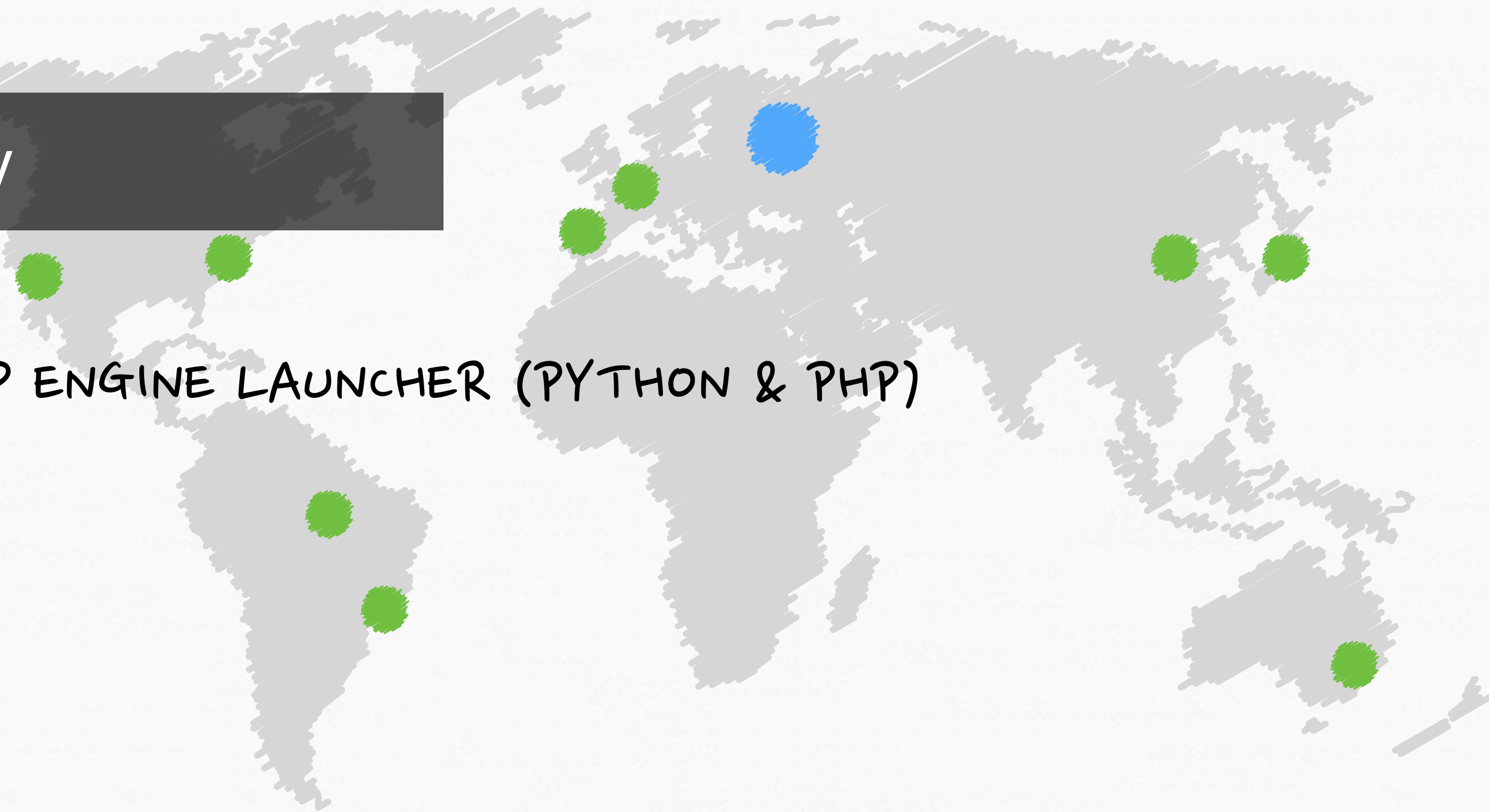
[HTTPS://CLOUD.GOOGLE.COM/APPEENGINE/DOCS/PYTHON/STORAGE](https://cloud.google.com/appengine/docs/python/storage)

DEPLOY TO THE WORLD

`$ goapp deploy`

OR

USE GOOGLE APP ENGINE LAUNCHER (PYTHON & PHP)



PRO-TIP: DEPLOY YOUR GO APP

[HTTPS://DEVELOPERS.GOOGLE.COM/APPEENGINE/DOCS/GO/TOOLS/UPLOADINGANAPP#GO_UPLOADING_THE_APP](https://developers.google.com/appengine/docs/go/tools/uploadinganapp#go_uploading_the_app)

BASIC ANDROID APP



Structure: Fragment based, drawer pattern



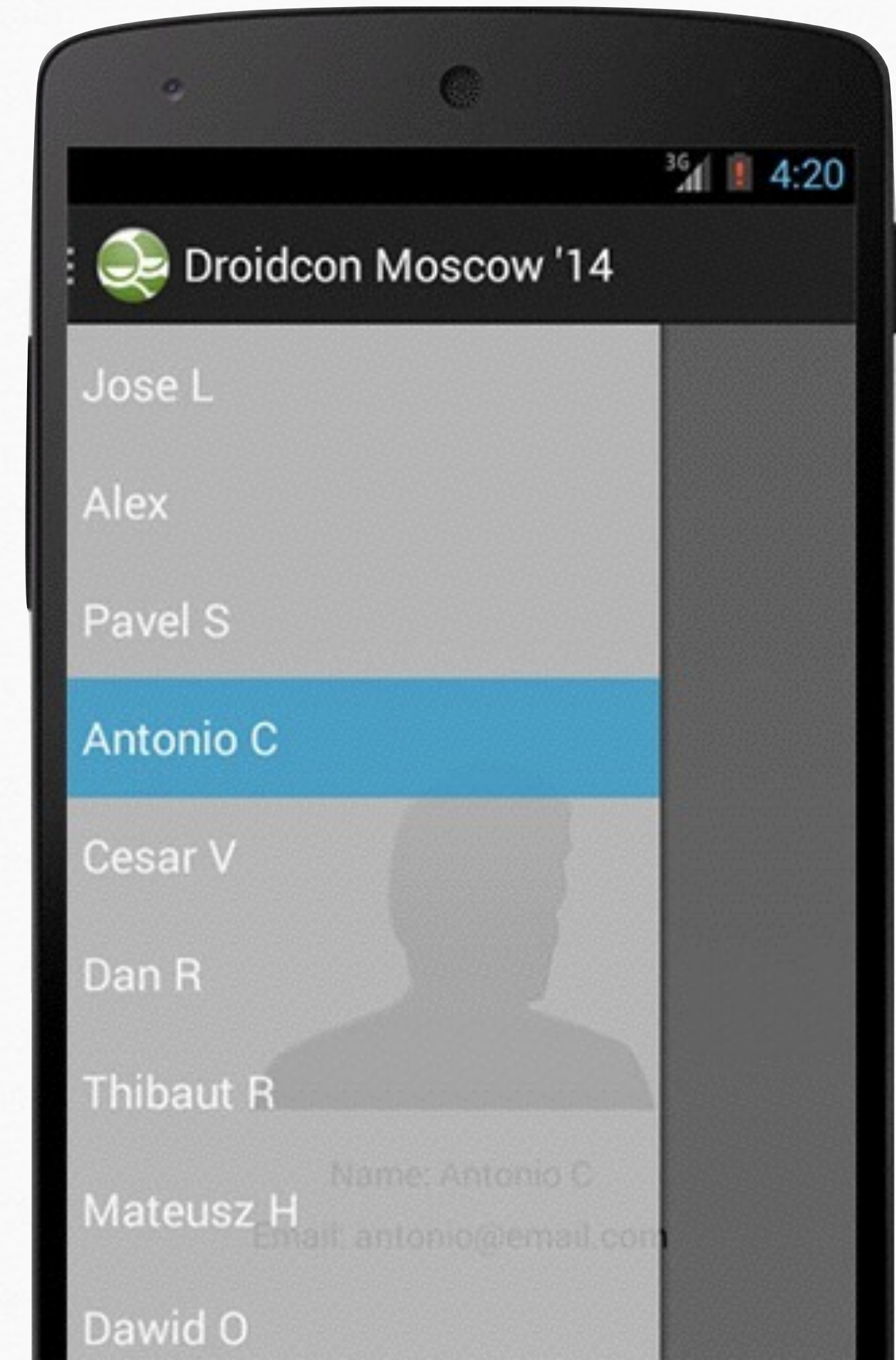
Networking: OkHttp



Threading: New threads and executors. Services and IntentServices are also valid



minSdkVersion 14



CALLS TO API



```
new Thread(new Request().forUri("/users").callBackTo(new Request.RequestCallback() {  
  
    @Override  
    public void onSuccess(String responseBody) {  
  
        Type collectionType = new TypeToken<List<Attendee>>() {}.getType();  
        final List<Attendee> attendees = mGson.fromJson(responseBody, collectionType);  
  
        runOnUiThread(new Runnable() {  
            @Override  
            public void run() {  
                mNavigationDrawerFragment.updateAttendees(attendees);  
            }  
        });  
    }  
});  
}
```

MADE WITH...



GITHUB



SOURCETREE



ANDROID STUDIO



SUBLIME TEXT



APP ENGINE + LAUNCHER



GRAPHICAL HTTP CLIENT

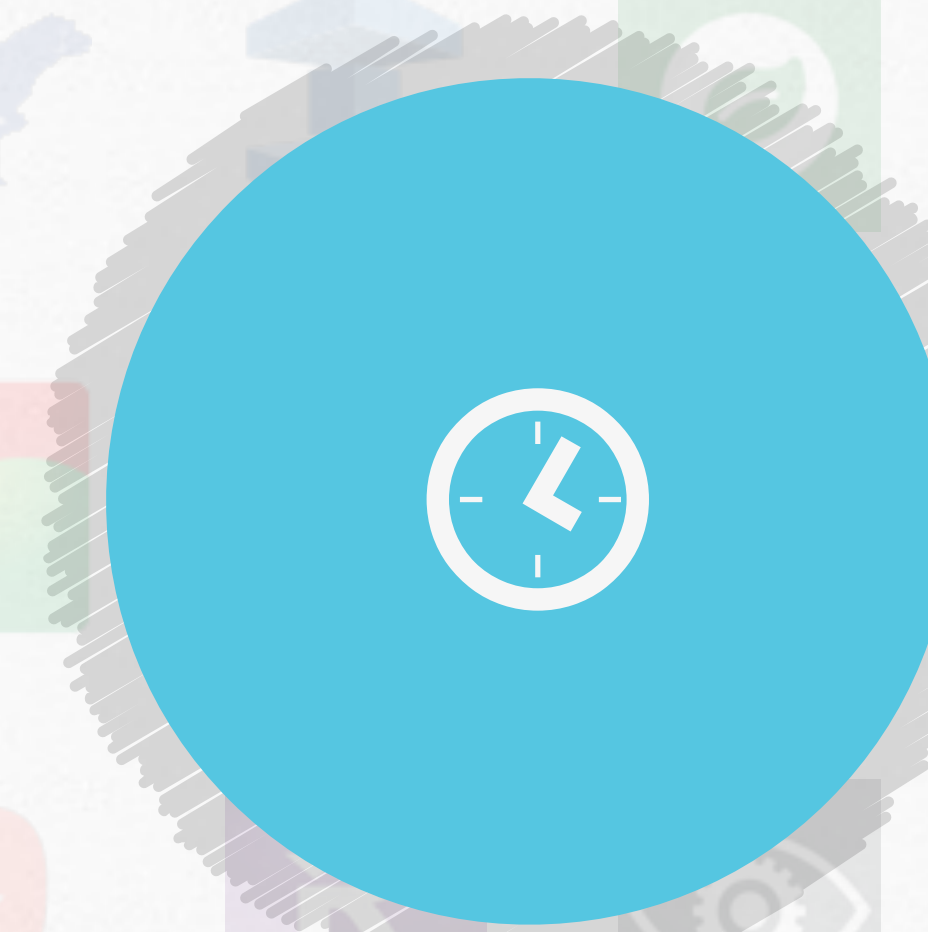
YOU ARE NOT ALONE



SAVE IN RESOURCES



IMPROVE QUALITY



SAVE TIME

Github/ToolsOfTheTrade

<https://github.com/cjbarber/ToolsOfTheTrade>


stackshare.io

STACKSHARE


★

Airbnb


Tech Stack




Application and Data




Utilities



DevOps




Business Tools




★

Uber


Tech Stack




Application and Data



Utilities




DevOps




★

Dropbox


Tech Stack




Application and Data



Utilities

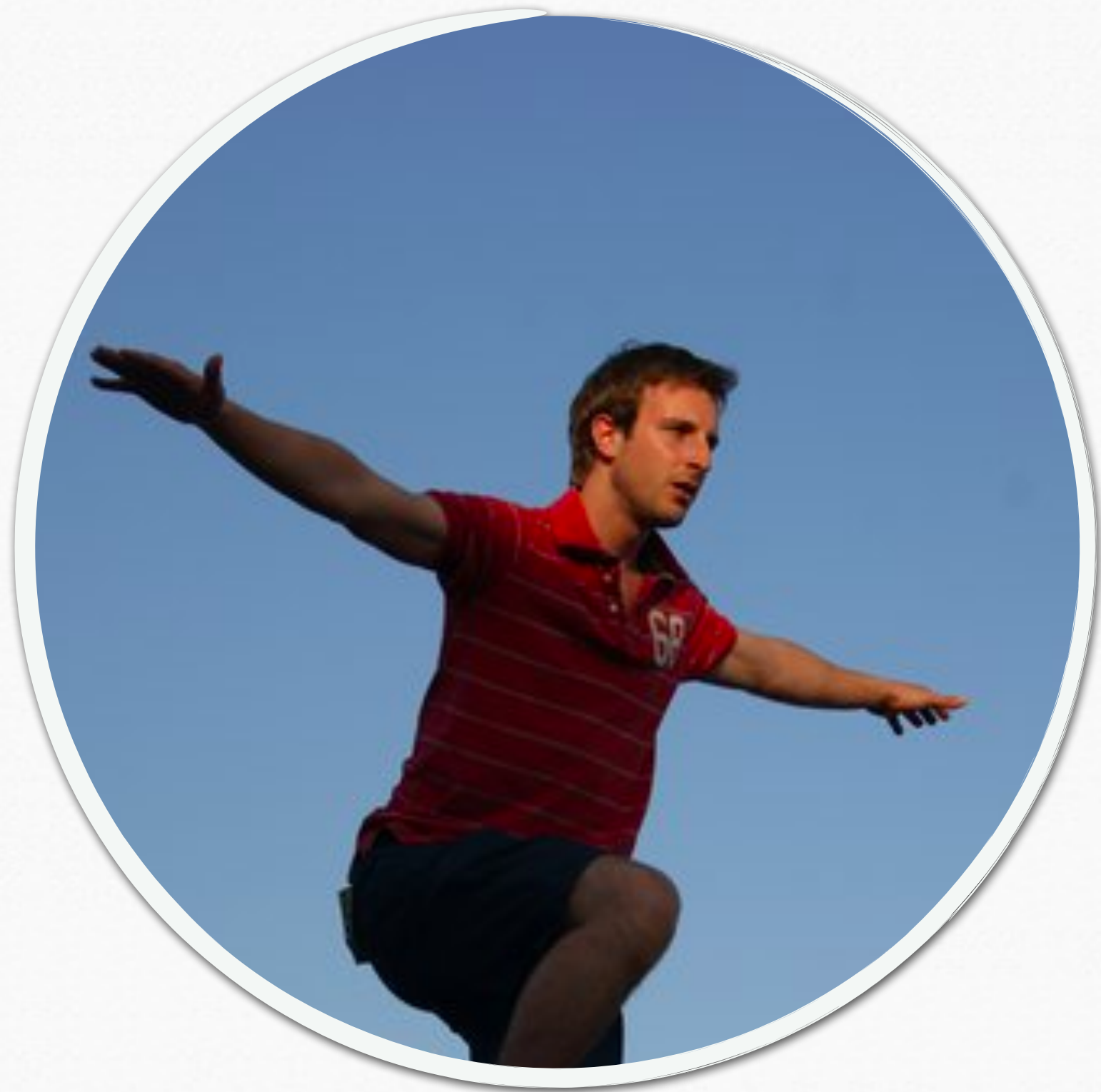


DevOps



KEEP TRYING AND BE NICE





@JL_UGIA



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THANKS A
MILLION!

API PYTHON: [HTTPS://GITHUB.COM/JLUGIA/GAE-STARTER-API-PYTHON](https://github.com/jlugia/gae-starter-api-python)

API GO: [HTTPS://GITHUB.COM/JLUGIA/GAE-STARTER-API-GO](https://github.com/jlugia/gae-starter-api-go)

ANDROID APP: [HTTPS://GITHUB.COM/JLUGIA/GAE-STARTER-ANDROID](https://github.com/jlugia/gae-starter-android)

CREDIT:



Google