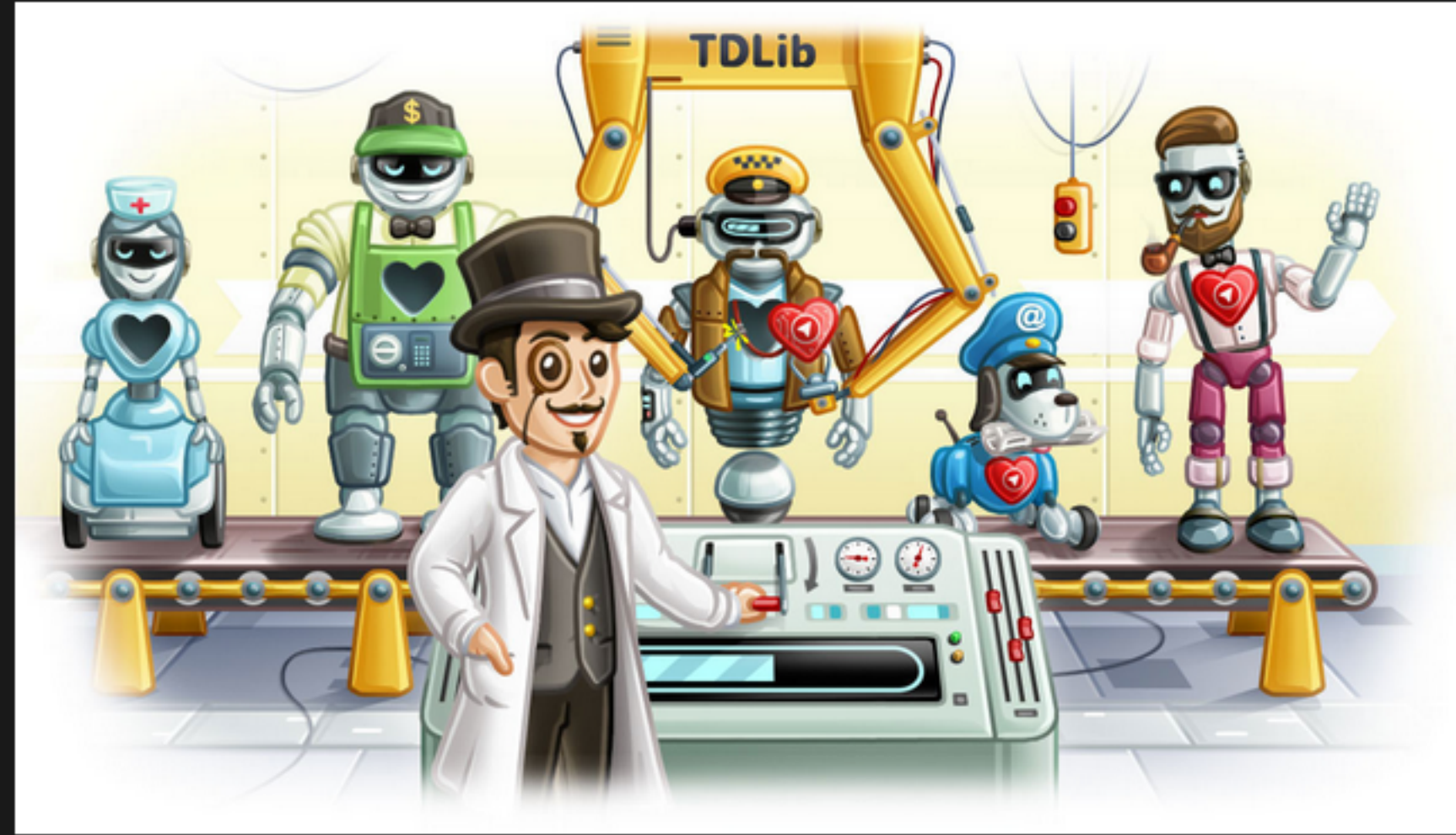# TELEGRAM BOTS

for malaga.rb user group

by @stbnrivas

Bots are...

- another user interface (conversational)
- you can automate task
- build a bot it's about APIs stuff

there are bots everywhere and many types
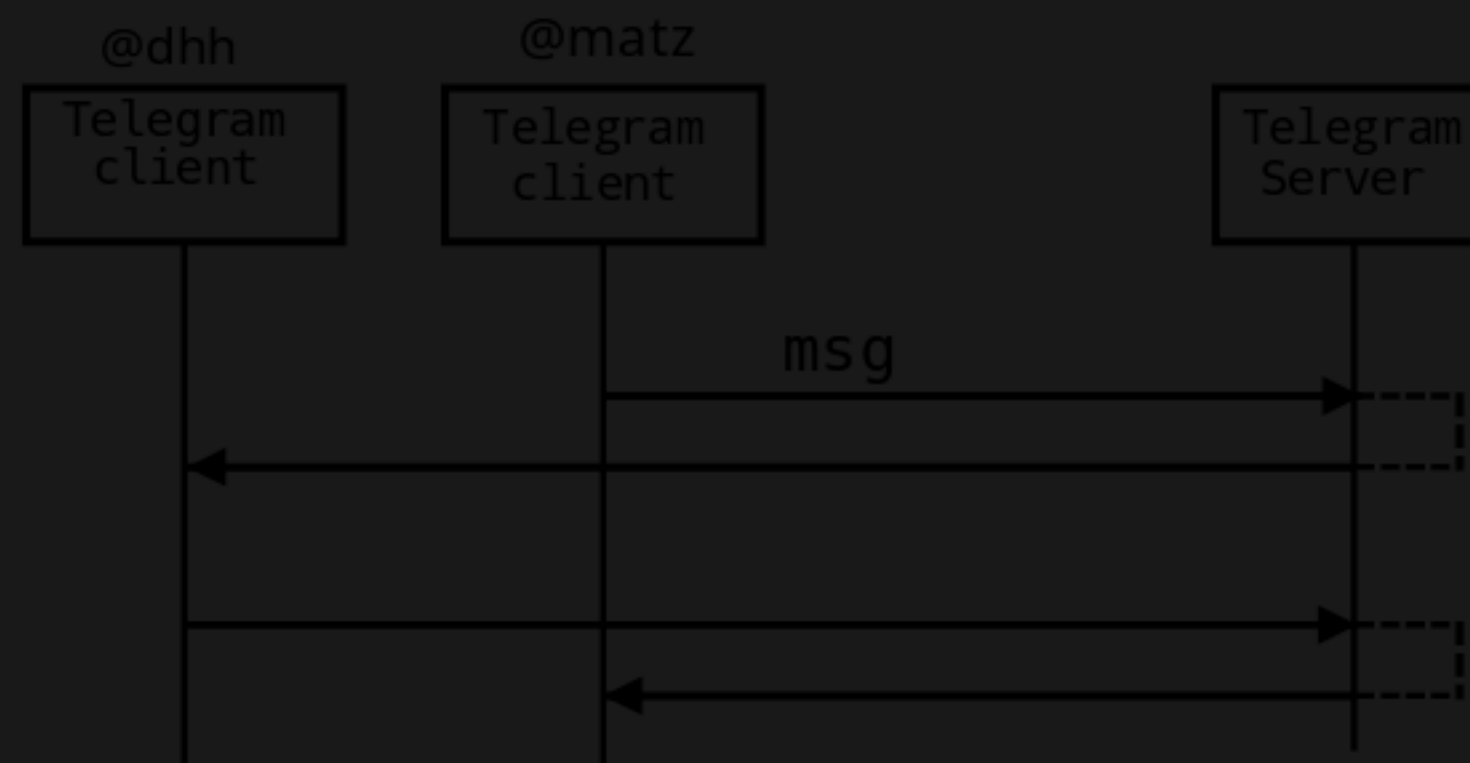(not only telegram bots)

- business bots
- consumer bots
- ecommerce bots
- notification bots
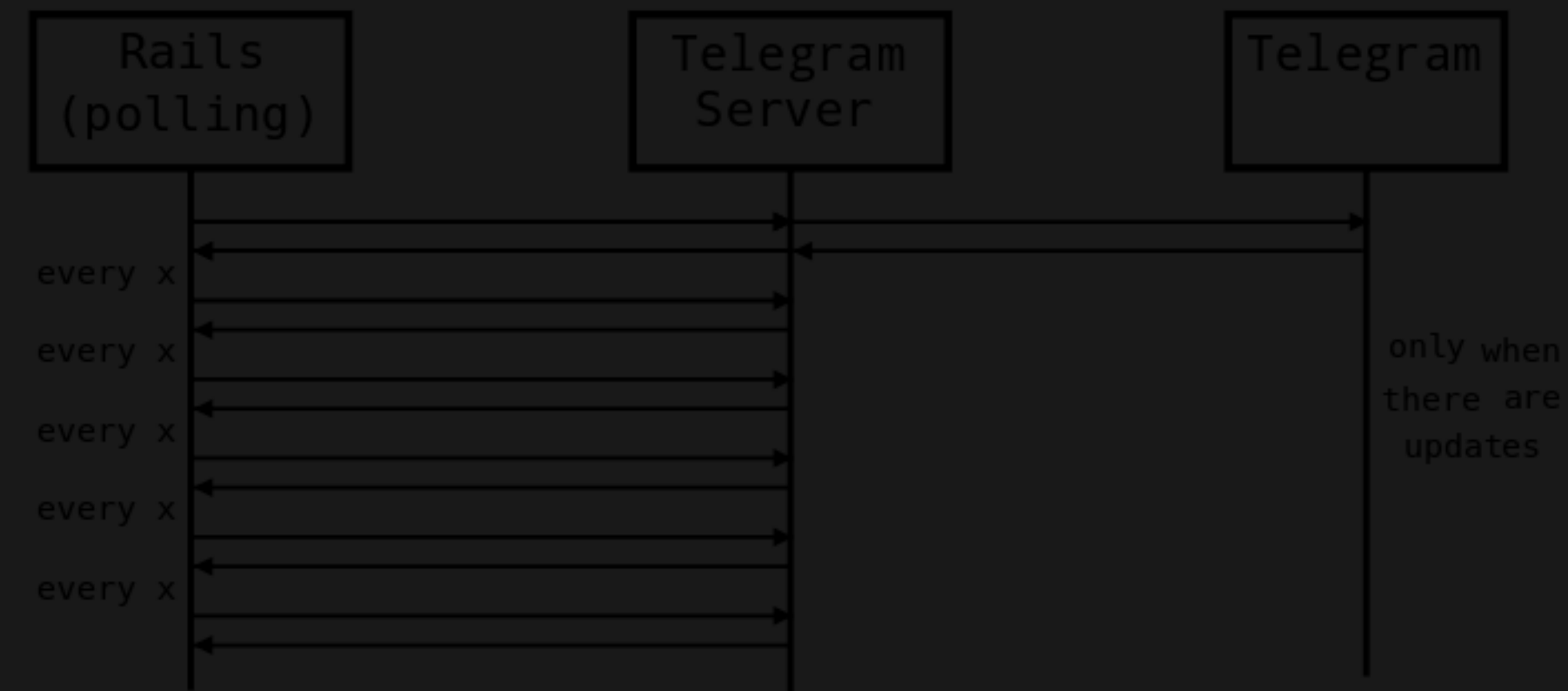
requeriments to understand
how to do your own bot

- APIs
- nginx or ngrok
- rails
- heroku
- SSL

requeriments to understand

telegram and his users

requeriments to understand

telegram has two excluding modes of work with bots

- polling (done on telegrams server)
- webhook (done on our server, like subscriptions)

OPTION A:
the bad thing in polling

- need scheduling (sidekiq)
- more use of server (network, cpu)

OPTION B:
the bad thing in webhooks

- single endpoint to webhook, rails MVC unused
- probably a good use case for GraphQL

BOT CREATION: BOTFATHER

Someday, and that day may never come,
I will call upon you to do a service for me.
But until that day, accept this justice as
a gift on my daughter's wedding day.

BOT CREATION: BOTFATHER

- get the token to speak with telegram server
- set mode `polling`
- set mode `webhook` (favorite)

- rails new --api --database=postgresql rails-bot
- environment local
- environment heroku

ENVIRONMENT LOCAL

- need open ports NAT into your router
- need self signed cert SSL
- need nginx as reverse proxy
- need postgresql
- need `bin/rails s -b 0.0.0.0`

ENVIRONMENT HEROKU

- heroku will do ... NAT
- heroku will do ... cert SSL
- heroku will do ... nginx proxy
- heroku will do ... postgresql
- heroku will do ... rails

TAKE IT EASY AND REST

TAKE A LOOK TO TELEGRAM API BOT

- https://core.telegram.org/bots/api#available-methods

REQUESTS FOR CONFIGURATION

- https://api.telegram.org/bot{{TOKEN}}/getWebhookInfo
- https://api.telegram.org/bot{{TOKEN}}/setWebHook?url={{SUBDOMAIN}}

two bash script also to switch from local to heroku into deploy folder

take a look into postman 🔭

REQUEST INPUT TO OUR BOT (I)

- telegram server send a request to our bot
- json payload common to webhook mode and polling mode
- we should do "things" if needed
- the "things" can be a request to telegram
- we should response with ok

take a look into postman 🚀

REQUEST INPUT TO OUR BOT (II)

In general every update from telegram is like

```
{
  "update_id": 200420911,
  "message": {
    "message_id": 663,
    "from": {
      "id": 12860953,
      "is_bot": false,
      "first_name": "stbn",
      "language_code": "en"
    },
    "chat": {
      "id": 12860953,
      "first_name": "stbn",
      "type": "private"
    },
    "date": 1571671633,
    "text": "hello"
  }
}
```

REQUEST INPUT TO OUR BOT (III)

input reply from our bot to telegram server

```
{
  "status": 202,
  "message": "request accepted"
}
```

REQUEST OUTPUT TO OUR BOT (I)

we can do many things... like sendXXX

- sendMessage method
- sendPhoto method
- sendVenue method
- ... even a precheckout

a bash script to send message

take a look into postman 🪐

REQUEST OUTPUT TO OUR BOT (II)

take a look into postman

```
{
  "text":"Hello I'm malagarb_bot , how can I help you?",
  "chat_id":12860953
}
```

```
{
  "method":"sendMessage",
  "text":"Sorry I can't understand you",
  "reply_markup": {
      "remove_keyboard":true,
      "selective":false
  },
  "chat_id":12860953
}
```

REQUEST OUTPUT TO OUR BOT (II)

take a look into postman

```json
{
        "ok":true,
        "result":{
                "message_id":171,
                "from":{
                        "id":1040231689,
                        "is_bot":true,
                        "first_name":"malaga.rb",
                        "username":"malagarb_bot"
                },
                "chat":{
                        "id":12860953,
                        "first_name":"stbn",
                        "type":"private"},
                "date":1582076252,
                "text":"mmmmm"
        }
}
```

take a look into database

TALK IS CHEAP...
SHOW ME THE CODE

ok let's open a telegram
in your phone @malagarb_bot and ask something
mmmm `next meetup`

YOU CAN CHECK THE CODE INTO

https://github.com/malagarb/2020-talk-telegram-bots

#TODO

- Use images / sticker to replace words
- Use buttons in a conversation
- Bot anatomy ... about IA (not this time)
- Building a bot with Simple State Machine
- NLU (Natural Language Understanding)
- Context / Memory "memory is the diary that we all carry about with us"
- Analysis and continuous improvement

THANK YOU TO ALKIMII
FOR HOST THE MEETUP
;-)