TRES COMMAS VOICE BIOMETRICS

Tres Commas

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COMPUTER SCIENCE
UC SANTA BARBARA

INVOCA

COSTS

Call Centers are SLOW

Call Centers are EXPENSIVE

52 cents

for every call
is spent on authentication

$15 billion

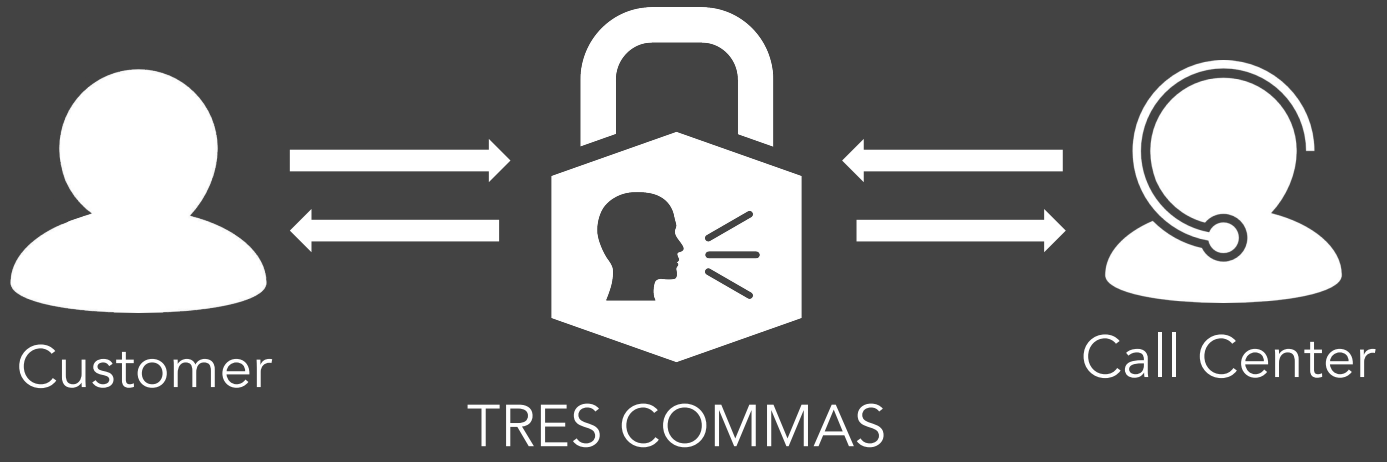
is estimated to be spent on authentication in the U.S. annually.

Call Centers are INSECURE

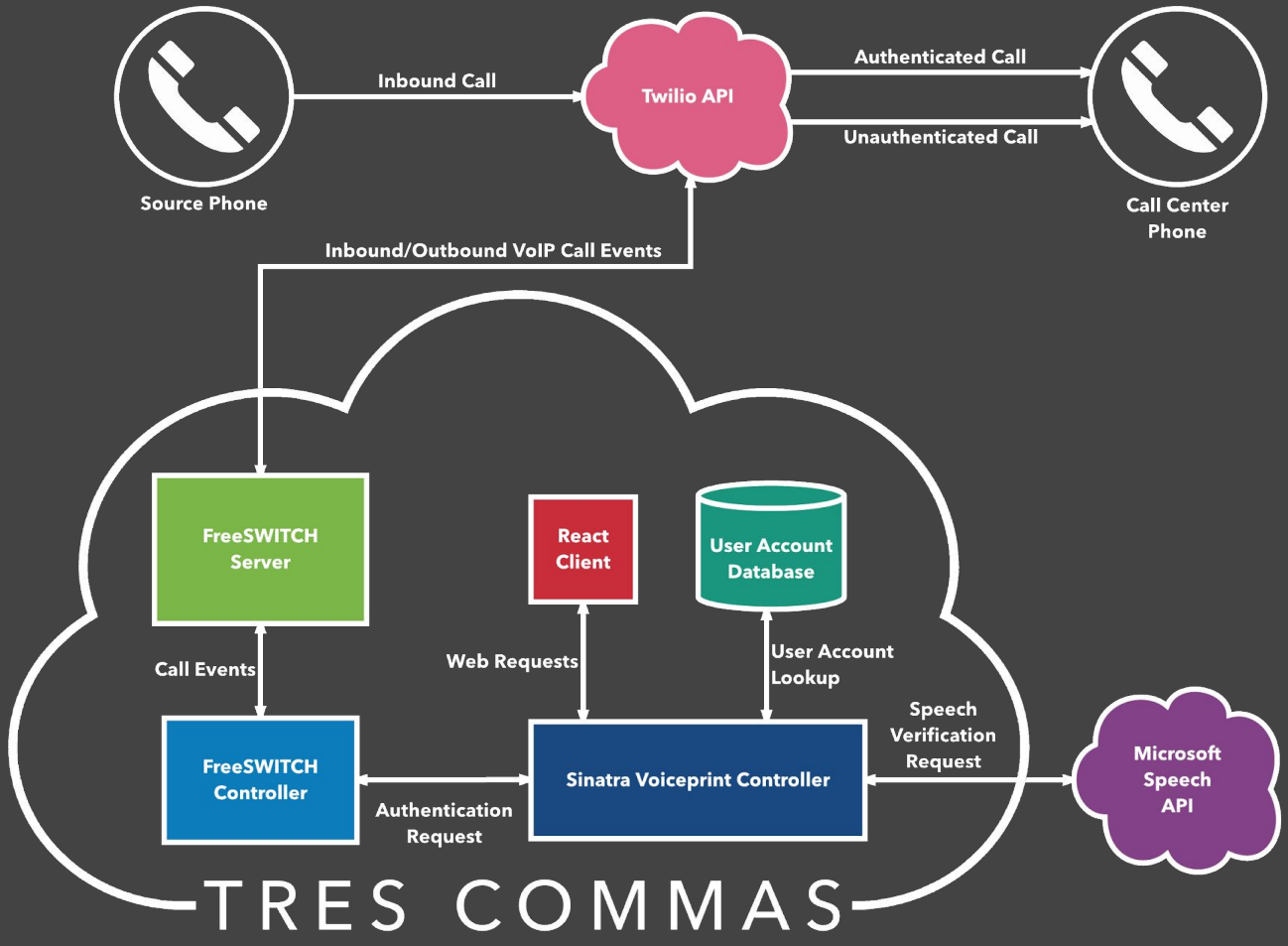
SYSTEM OVERVIEW

EASE OF SETUP

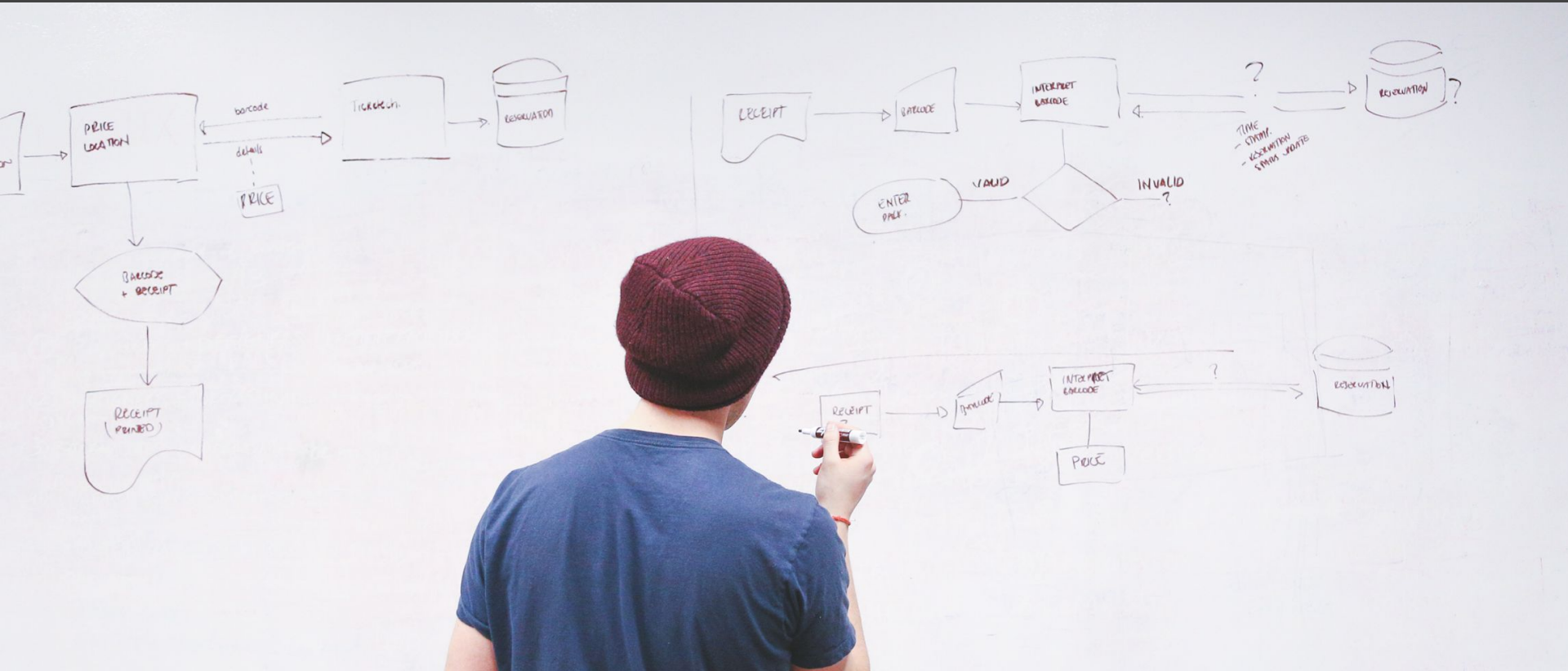
EASE OF SETUP



Architecture Overview

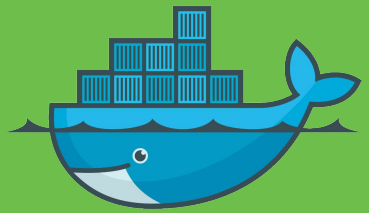


Tres Commas Development Process



FreeSWITCH

Microsoft

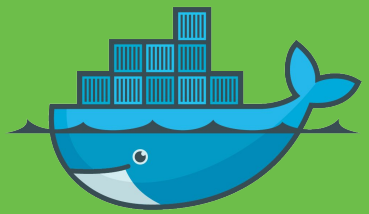


CODESHIP

amazon
web services™

twilio

FreeSWITCH



CODESHIP

freeswitch_controller/freeswitch_controller.rb

```
56  +  end
57  +
58  +  def create_user(username, number)
59  +    response = Unirest.post "#{SINATRA_SERVER_URL}/create_user",
```

mikeweaver 12 days ago

You should create a single function that knows how to call the sinatra server. That way you will have a nice choke point to modify should you need to change the headers, URL, etc. Something like

```
def send_request(route, query_string_params)
  Unirest.post("#{SINATRA_SERVER_URL}/#{route}",
    headers: {"Accept" => "application/json"},
    parameters: query_string_params)
end
```

Reply...

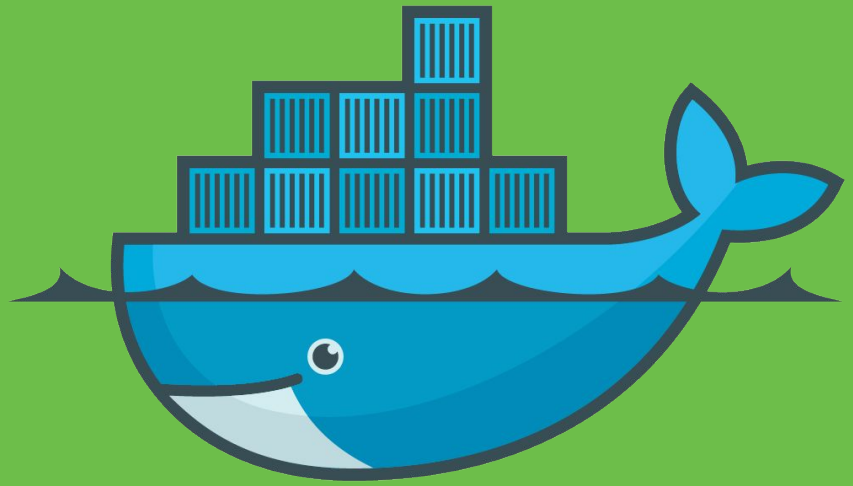
freeswitch_controller/freeswitch_controller.rb

```
38  74                }
39      -    user_id = response.body.user_id
    75  +    if !response.body[:error]
```

mikeweaver 12 days ago

Seems like you should use HTTP response codes for success/failure, not messages in the body

Open Source Telephony Platform



FreeSWITCH

FreeSWITCH
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ON THE HORIZON

EXPANDED SERVICES

Natural Conversation Authentication

- Passive authentication - NLP

  No voice phrases

  No interruptions

Advanced Call Analytics

- Live monitoring - WebRTC
- Sentiment analysis - Speech-to-Text

CUSTOMERS DON'T LIKE THE PROCESS

85% of customers are **dissatisfied** with the authentication process.

3 out of 4 customers have failed the authentication process before.

AUTHENTICATION IS TIME CONSUMING

7 out of 10 customers

think the process is **too slow**

The authentication process takes on average

30-45 seconds

AUTHENTICATION IS COSTLY

A Call Center Agent receives about 80 calls/day

A mid-sized Call Center has ~100 employees

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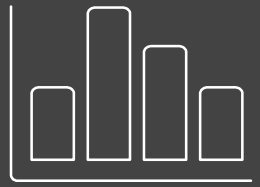
A Call Center Agent receives about **80** calls/day

A mid-sized Call Center has **~100** employees

8000 calls a day, at **52¢ per call**

$~$4000 per day spent on authentication



$1,500,000

Approximately spent annually at a mid-sized call center on authentication

THANK YOU.