Travel App: Currency Conversion & Airport Status

SAT 5990: Mobile Application Development

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INTRODUCTION

- Currency converter and airport status are the most needed utility tools for traveller
- Most of the time, traveller might not be conversant with the a foreign currency
- Also, the rise of delay occurrences happening at airports have made it necessary for air-commuters to have an application that can keep them abreast of airport status
- Having these two applications together would really be great, my experience as an international student motivated this idea.

APPLICATION DETAILS

- Tools: Xcode 8
- Language: Swift 3.0
- Dependency: Internet Connectivity
- Underlying Technology: Http Asynchronous Call

APPLICATION DETAILS: Currency Converter API Request

- Url: https://api.fixer.io/latest
- HTTP Method(s): GET
- Parameters: Currency code - the three letter code of the underlying currencies.
- Sample Request: https://api.fixer.io/latest?symbols=USD,GBP,JPY,CNY,MXN,KRW,ZAR

APPLICATION DETAILS: Currency Converter API Response

- Response Format: JSON

- Sample:
{"base":"EUR","date":"2017-06-23","rates":{"AUD":1.4764,"BGN":1.9558,"BRL":3.7293,"CAD":1.4783,"CHF":1.0851,"CNY":7.6413,"CZK":26.297,"DKK":7.4372,"GBP":0.87805,"HKD":8.7147,"HRK":7.403,"HUF":309.13,"IDR":14866.0,"ILS":3.9572,"INR":72.102,"JPY":124.36,"KRW":1271.2,"MXN":20.162,"MYR":4.791,"NOK":9.4613,"NZD":1.5345,"PHP":56.117,"PLN":4.232,"RON":4.5715,"RUB":66.668,"SEK":9.77,"SGD":1.5496,"THB":37.927,"TRY":3.9235,"USD":1.1173,"ZAR":14.453}}

APPLICATION DETAILS: Airport Status API Request

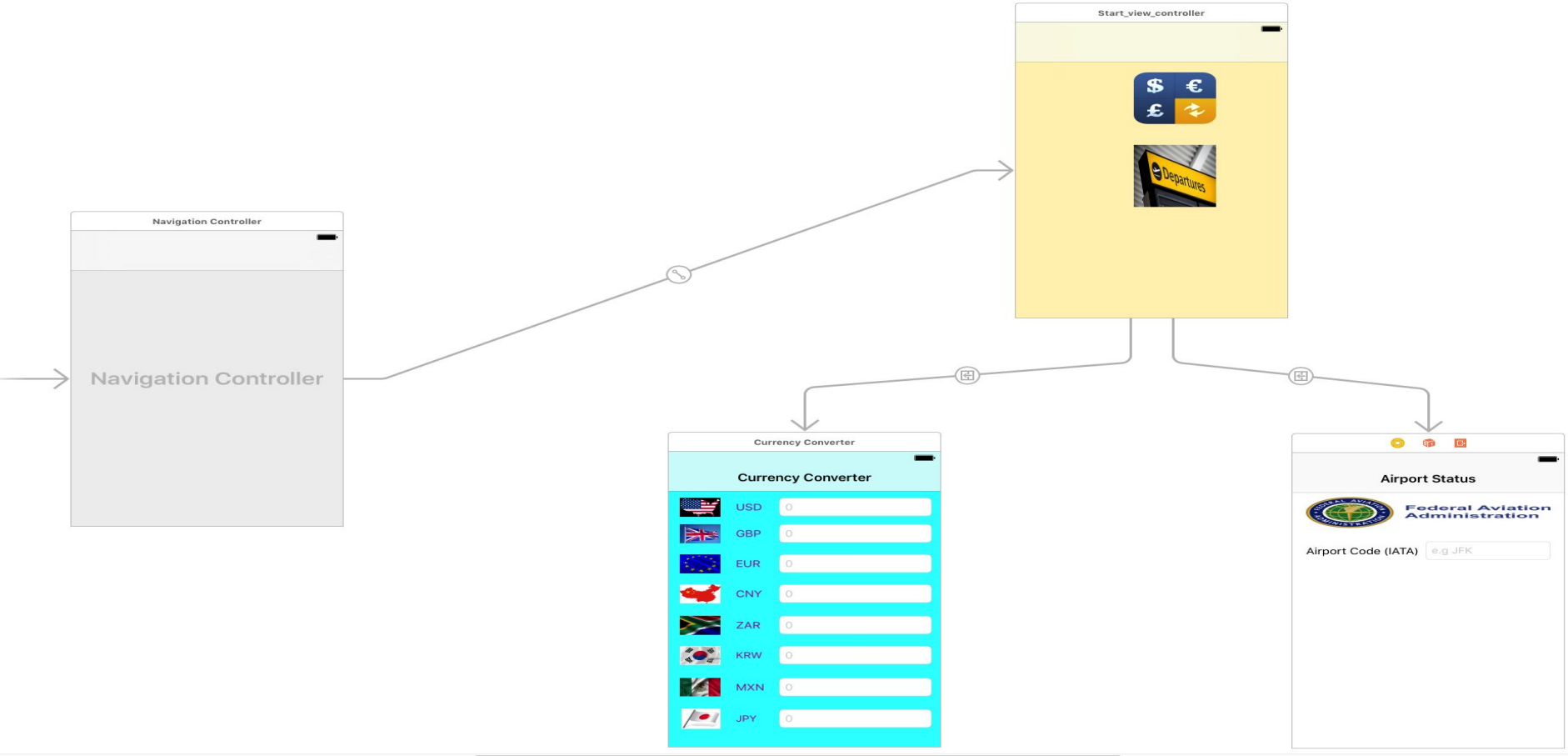
- Url: https://services.faa.gov/airport/status
- HTTP Method(s): GET
- Parameters: AirportCode - three letter airport code e.g., "IAD"
- Sample Request: https://services.faa.gov/airport/status/jfk?format=application/json

APPLICATION DETAILS: Airport Status API Response

- Response Format: JSON

- Sample:
{"delay":"true","IATA":"JFK","state":"New York","name":"John F Kennedy International","weather":{"visibility":1.00,"weather":"Heavy Rain Fog/Mist","meta":{"credit":"NOAA's National Weather Service","updated":"6:51 AM Local","url":"http://weather.gov/"},"temp":"71.0 F (21.7 C)","wind":"North at 0.0mph"},"ICAO":"Kjfk","city":"New York","status":{"reason":"WEATHER / THUNDERSTORMS","closureBegin":"","endTime":"7:45 am EDT.","minDelay":"","avgDelay":"","maxDelay":"","closureEnd":"","trend":"","type":"Ground Stop"}}

DISPLAY - MainStoryBoard



CODE SNIPPET - Currency Conversion

```
guard let json = try? JSONSerialization.jsonObject(with: data, options: []) else
 {
        DispatchQueue.main.async()
        {
            self.usdFinal.text = String(format: "%.4f", usd_Result)
            self.eurFinal.text = String(format: "%.4f", eur_Result)
            self.gbpFinal.text = String(format: "%.4f", gbp_Result)
            self.cnyFinal.text = String(format: "%.4f", cny_Result)
            self.jpyFinal.text = String(format: "%.4f", jpy_Result)
            self.mxnFinal.text = String(format: "%.4f", mxn_Result)
            self.krwFinal.text = String(format: "%.4f", krw_Result)
            self.zarFinal.text = String(format: "%.4f", zar_Result)
            self.dateFinal.text = date_Result
         }
        return
}
```

CODE SNIPPET - Airport Status

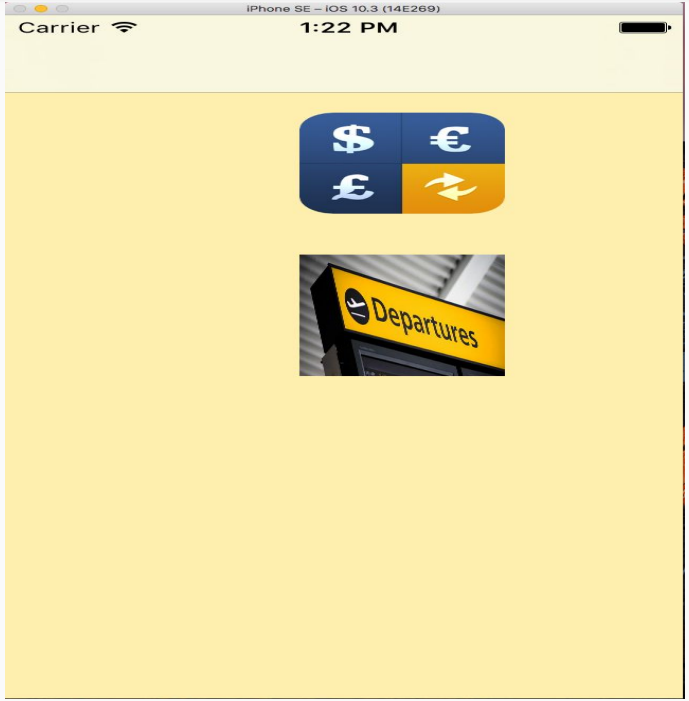
```
let link = "https://services.faa.gov/airport/status/" + code + "?format=application/json"
let url = URL(string: link)

let task = URLSession.shared.dataTask(with: url!)
{
      data, response, error in
      guard error == nil else {
            return
       }

       guard let json = try? JSONSerialization.jsonObject(with: data, options: []) else
       {
            DispatchQueue.main.async()
            {
               self.desc_Final.text = "Status not available!"
               self.clearLabel()
            }
            return
       }
}
```

DISPLAY - Main Page

- The first icon is for currency conversion
- The second icon is the part to airport status



DISPLAY

- The interface of currency conversion page.
- Converts from the base currency to other currencies

DISPLAY

- Interacting with currency converter using USD as the base currency.

DISPLAY

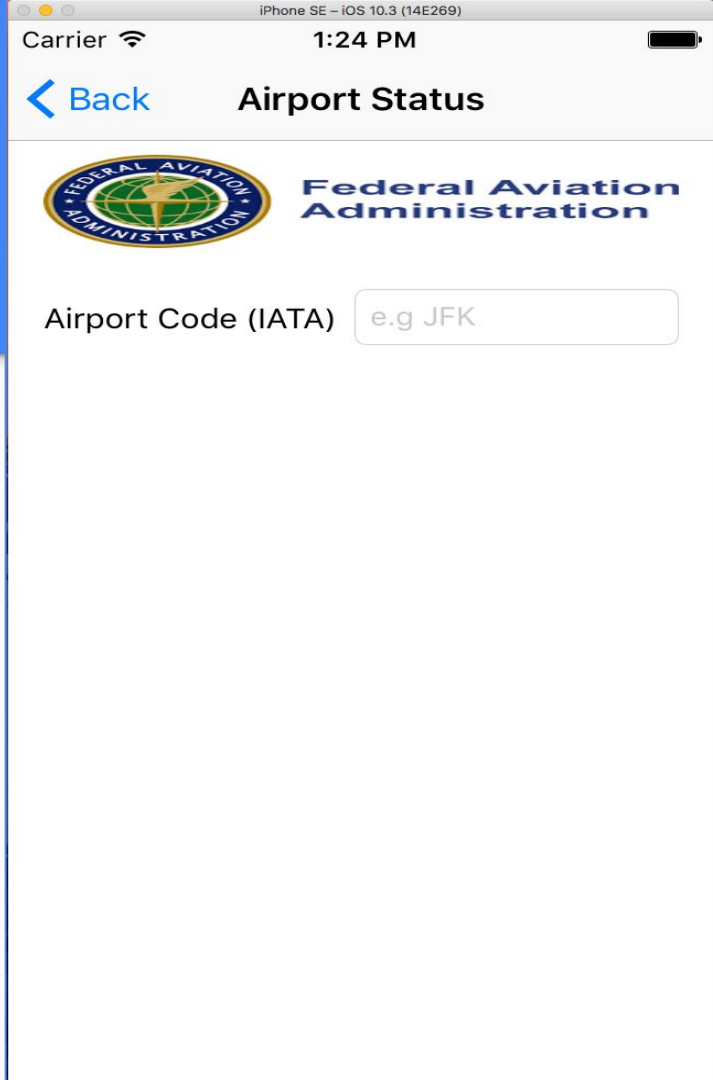
- Interacting with currency converter using JPY as the base currency.

DISPLAY

- Interacting with currency converter using EUR as the base currency.

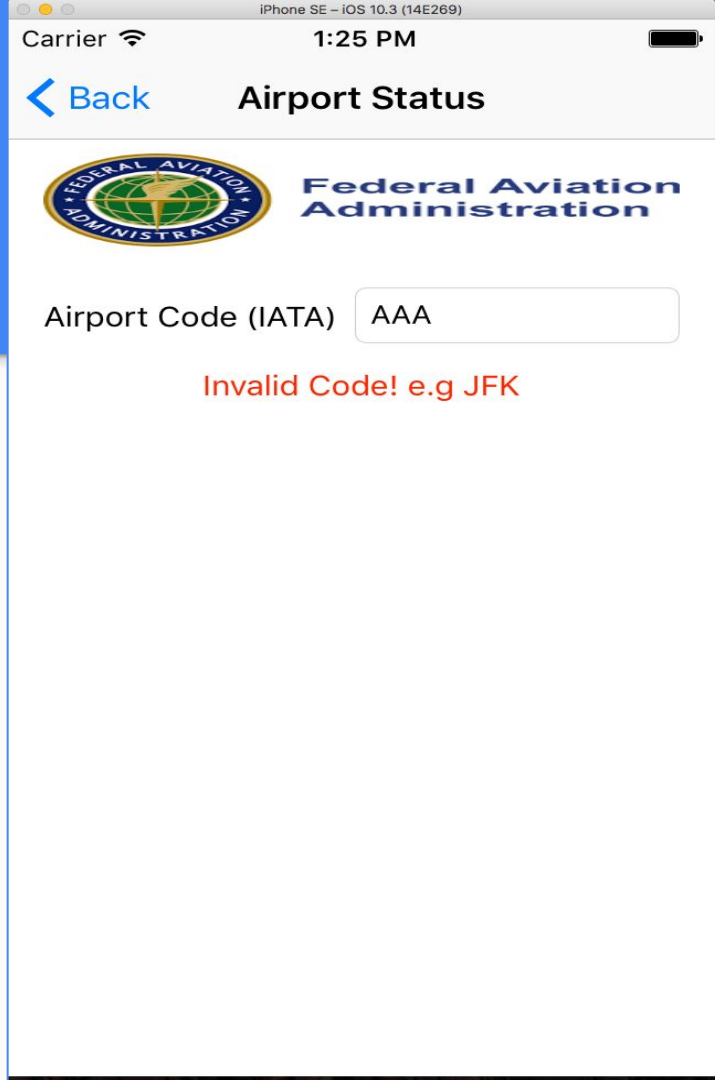
DISPLAY

- The interface of airport status page.
- Displays airport information



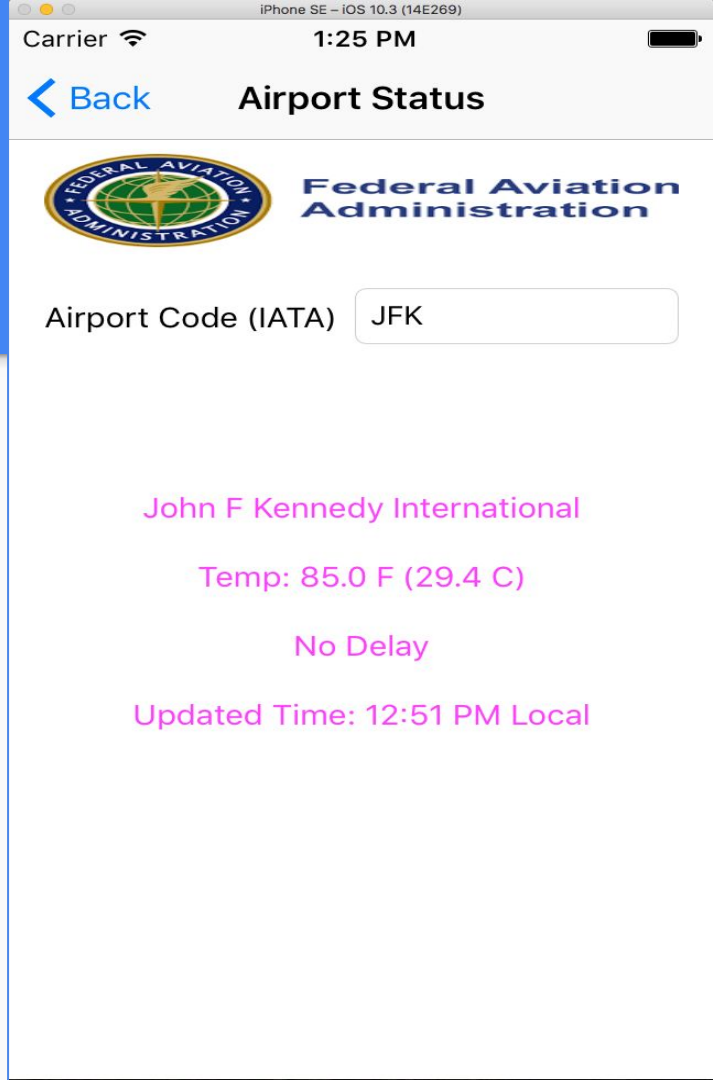
DISPLAY

- Interacting with airport status using an invalid airport code.



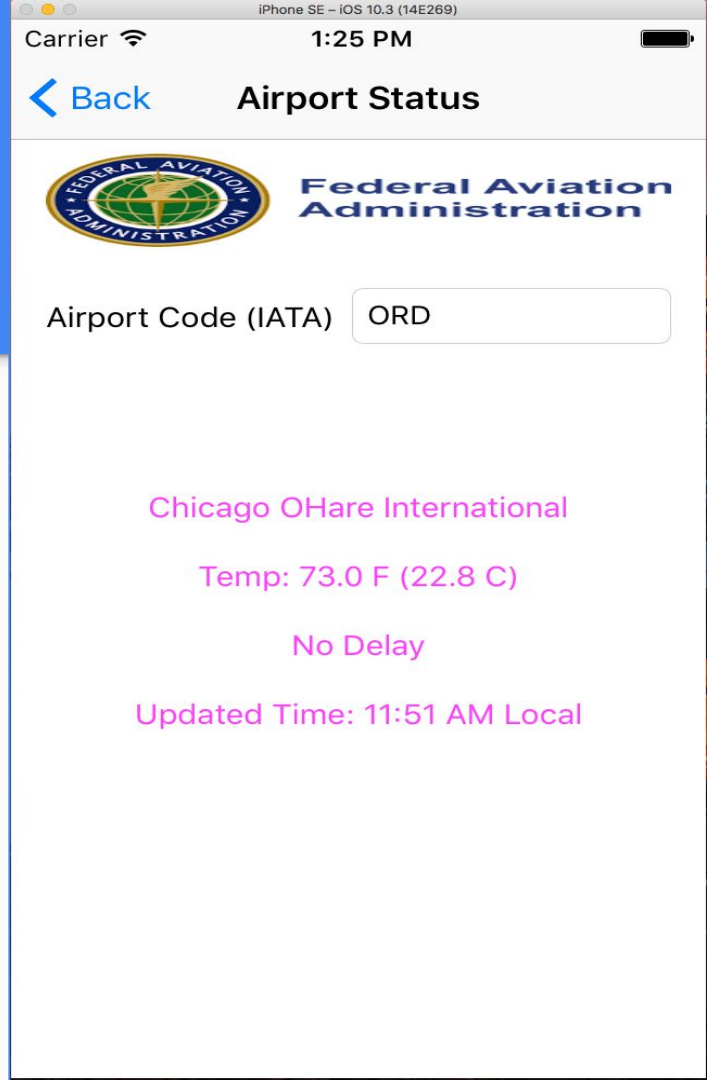
DISPLAY

- Interacting with airport status using an JFK.
- There is no delay at JFK.
- The temperature around JFK is 85.0 F.



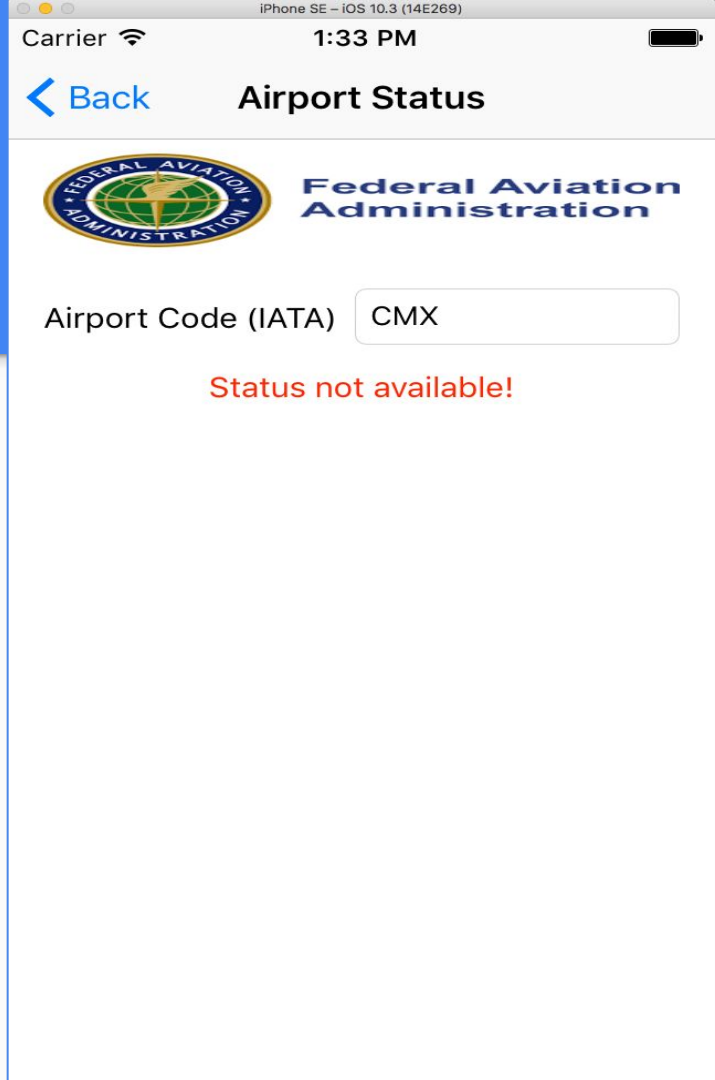
DISPLAY

- Interacting with airport status using an ORD.
- There is no delay at ORD.
- The temperature around ORD is 73.0 F.



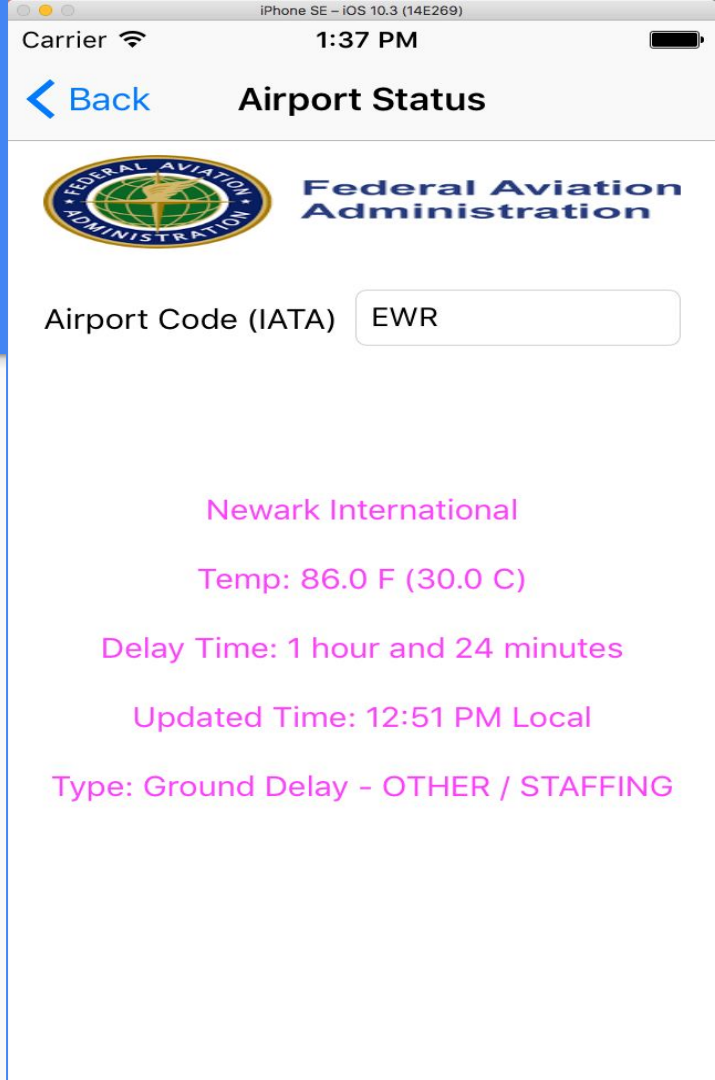
DISPLAY

- Interacting with airport status using an CMX.
- There is no status available for CMX.



DISPLAY

- Interacting with airport status using an EWR.
- There is delay at EWR.
- Delay time is 1 hour and 24 minutes
- The temperature around EWR is 86.0 F.



CONCLUSION

- This is an awesome application that might be handy to local and international travellers.
- I look forward to improving this application and possibly launch in apple store.

REFERENCES

[1.] https://services.faa.gov/

[2.] https://jsonformatter.org/

[3.] https://stackoverflow.com/

[4.] https://api.fixer.io/latest?symbols=USD,GBP,JPY,CNY,MXN,KRW,ZAR

[5.] https://developer.apple.com/swift/blog/?id=37


Thank
You