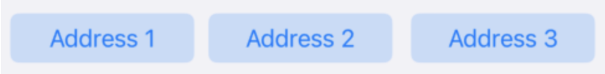
Requirement

https://github.com/ynieSalesforce/iOS_Assessment

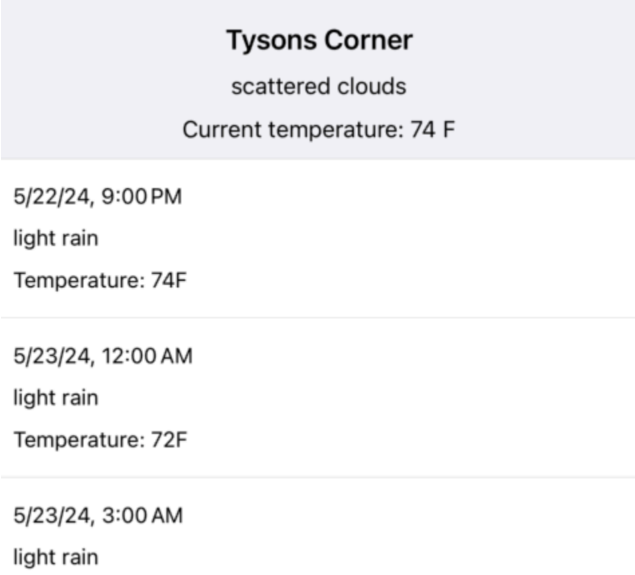
Requirement Clarification

1. Please let me know if my understanding is correct:
   In UI, “Address 1”, “Address 2”, and “Address 3” are pre-defined locations. For example
   Address 1 : HITEC City, Hyderabad, Telangana 500081, India
   Address 2 : ITPL Main Rd, Pattandur Agrahara, Whitefield, Bengaluru, Karnataka 560066, India
   Address 3 : Some Address



2. As per the requirement document, I need to use the AddressService to obtain a CLLocation for the selected address, which will then be used to fetch the weather report for that latitude and longitude.

3. Please let me know if my understanding is correct:
   When user taps "Address 1" button, app will fetch weather report for address 1 and display it in the app like below screen shot. When user taps “Address 2” button then it will show report for Address 2.



Tysons Corner

scattered clouds

Current temperature: 74 F

5/22/24, 9:00 PM

light rain

Temperature: 74F

5/23/24, 12:00 AM

light rain

Temperature: 72F

5/23/24, 3:00 AM

light rain

4. Please let me know if my understanding is correct:
   If app is unable to get CLLocation in step 2 or unable to fetch weather report in step 3, it will display alert message to user on the **same screen**.

Weather API JSON:

```
{
  "coord":{
    "lon":10.99,
    "lat":44.34
  },
  "weather":[
    {
      "id":804,
      "main":"Clouds",
      "description":"overcast clouds",
      "icon":"04d"
    }
  ],
  "base":"stations",
  "main":{
    "temp":291.36,
    "feels_like":291.53,
    "temp_min":287.41,
    "temp_max":295.61,
    "pressure":1012,
    "humidity":88,
    "sea_level":1012,
    "grnd_level":946
  },
  "visibility":7795,
  "wind":{
    "speed":0.51,
    "deg":333,
    "gust":1.68
  },
  "clouds":{
    "all":95
  },
  "dt":1719318486,
  "sys":{
    "type":2,
    "id":2004688,
    "country":"IT",
    "sunrise":1719286385,
    "sunset":1719342254
  },
  "timezone":7200,
  "id":3163858,
  "name":"Zocca",
  "cod":200
}
```

Network Layer

Implement NetworkService for API Requests:

- Created a NetworkService class to handle API requests.
- Implemented fetchData method to fetch data from a specified URL.
- Added error handling for invalid URLs, invalid data, and invalid HTTP responses.
- Utilized URLSession for asynchronous network operations.

Weather Service

The `WeatherService` struct facilitates retrieval of current weather and weather forecast data using network requests. It adheres to the `WeatherServiceProtocol` to ensure consistency in method signatures across implementations.

- `retrieveCurrentWeather`: Fetches current weather data based on location.
- `retrieveWeatherForecast`: Fetches weather forecast data based on location.
- Error Handling: Handles scenarios such as invalid URLs, network errors, and JSON decoding failures robustly.
- `WeatherService.live`: Offers a default instance configured with a standard `NetworkService`.