GOHEALTHY

Surrounding Electromagnetic Field Measurement & Safety Health Alert

SOURCE OF HIGH LEVEL EMF

- Electrically Hypersensitive People might have bad health conditions if living within the location with high level electromagnetic field.

- Sources that generate high level EMF are:

    - Thunder

    - Radio frequencies

    - Voltage spikes (dirty electricity)

GOHEALTHY APP

- GoHealthy application measure the surrounding electromagnetic field and send warning messages to users when they are in a place with extreme high EMF or when some unusual EMF values are detected in the surroundings.

GOHEALTHY APP

- GoHealthy can be very helpful for electrically hypersensitive people: select the bed location within the sleeping room with safe level of EMF, warning when they are entering a high level EMF places, warning when some unknown sources generate unusual high level EMF...

- GoHealthy is all about living in a healthy environment!

GOHEALTHY APP

- GoHealthy application leverage the AWS Services:

  - AWS Cognito

  - AWS IoT

  - AWS Kinesis Firehose

  - AWS Kinesis Analytics

  - AWS Lambda

  - AWS IoT Android SDK

GOHEALTHY

- Safety Health Alert: entering a place where the EMF level is over the safe level and GoHealthy will notify user so that the user is aware of the EMF high level and encourage the user leaving the concern zone to a safer zone!

GOHEALTHY

- Safety Health Alert: go out exercise, go fishing in the nature where the EMF level is under the safe level and GoHealthy will notify you that you are leaving the concern zone to the safer zone!

GOHEALTHY DEPLOYMENT & TESTING

- Create Stack using the following CloudFormation template: https://s3.amazonaws.com/awsprojects-code/iotGettingStartedTemplate.json

- Get the GoHealthy source for mobile from Github:

  https://github.com/nguyenducphuong1978/GoHealthy.git

- Import the project to Android Studio

- Change the 2 values below to your values:

  ```
  CUSTOMER_SPECIFIC_ENDPOINT = "a1v7w14ym09nkn.iot.us-east-1.amazonaws.com"

  COGNITO_POOL_ID = "us-east-1:cc1b8022-bef8-46db-8318-e1f81b8a0e4f";
  ```

GOHEALTHY DEPLOYMENT & TESTING

- Create IoT Thing that respresents the mobile device

- Create Cognito Pool (for simplicity, enable access for unauthorized users)

- Create Policy that allow roles associated with the Cognito Pool to subscribe/publish to the mqtt topic "arn:aws:iot:us-east-1:YourAccountID:/device/mobile/emf"

GOHEALTHY DEPLOYMENT & TESTING

- Create 1 Kinesis Firehose stream

- Set up AWS IoT to receive and forward incoming data to that Kinesis Firehose.

- Create a Kinesis Analytics application to process data

(The SQL source is in Github: KinesisRealtimeAnalysis.sql)

GOHEALTHY DEPLOYMENT & TESTING

- Define 2 Kinesis streams as the Destination of the Kinesis Analytics application

- Define 2 Lambda functions that triggered from the 2 Kinesis streams created in previous steps and publish the result message (Health Alert) to the mqtt topic "/device/mobile/alert" (source of the lambda functions is in Github: LambdaAnalysis function.txt and LambdaKinesis.txt)

GOHEALTHY DEPLOYMENT & TESTING

- Start the GoHealthy mobile app (either by installing the GoHealthy.apk from Github, please notify the author: nguyenducphuong@cfvg.org for starting the Kinesis Analytics application)

- Or build the app from source from Github and using your own Kinesis Analytics application created as instructed in previous step.

- Click the "Connect" button and the GoHealthy mobile start sending the EMF value to AWS IoT and AWS Kinesis Analytics app will process the data and Lambda function publish the result Health Alert message to the mqtt topic that the mobile device is subscribed for. Then the Health Alert message will be displayed in real time in the GoHealthy mobile app.

THANK YOU

- GoHealthy: submission for