<u>APP</u>

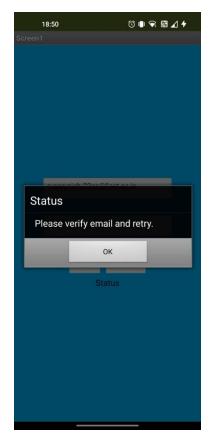
User Interface



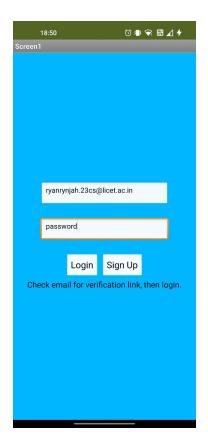
The authentication page that greets users.



Users can enter their credentials and press either Sign In or Login.



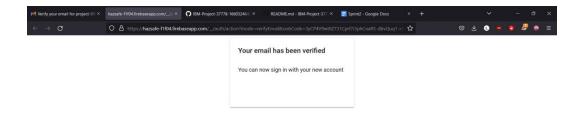
If an unregistered user tries to login, they are greeted with this error



If the user chooses to Sign Up, the status message changes, indicating to users to go check their mail for a verification link.

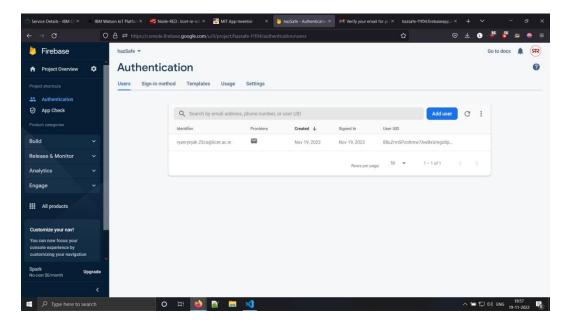


The verification mail arrives (sometimes in spam folder) with the verification link.

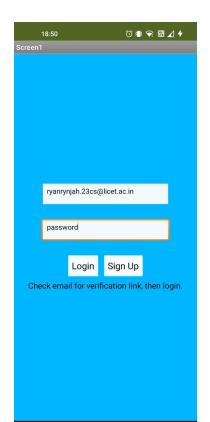




Users who click the link are redirected to the above page which indicates that their email has been verified.



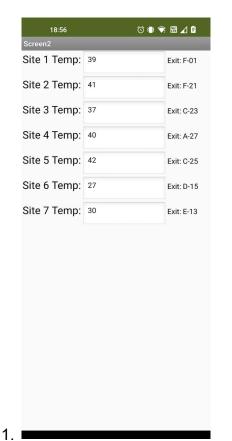
If we check the Firebase Authenication Console, we see that the user has indeed been added to the list of verified users.

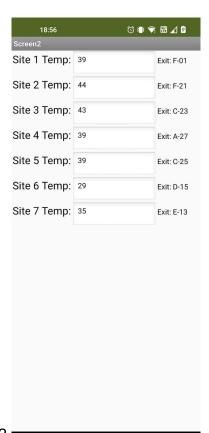


Now if the user clicks login, they are redirected to the next page.

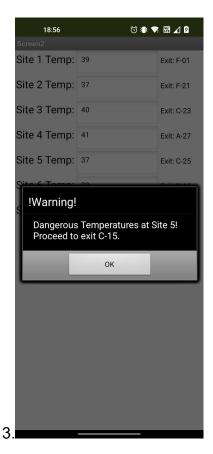
User Interface

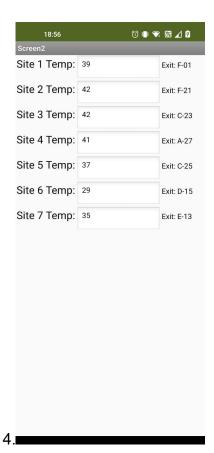
Employees can use this device to check the safety of their surroundings.





User can view site temperature, which updates periodically as new data is obtained from the cloud.





When a temperature anomaly is detected, the app sends an alert to the user and indicates to them the nearest exit.

Firebase API

The first step is to log in and create a Firebase project and obtain an API key.

```
initialize global getAccountInfo to "https://identitytoolkit.googleapis.com/v1/accoun..."

initialize global login to "https://identitytoolkit.googleapis.com/v1/accoun..."

initialize global token to """

initialize global API to "AlzaSyD57BrXD3uXk_Mil1Al74R8-q-ByAla5Dg"

initialize global createaccount to "https://identitytoolkit.googleapis.com/v1/accoun..."

initialize global datalist to create empty list
```

```
when SignUpB v .Click

do set Web1 v . Url v to pioin get global createaccount v get global API v

call Web1 v .PostText

text pioin mail= mail=
```

The above block handles account creation when the Sign Up button is pressed.

```
when Web1 .GotText
 url responseCode
                    responseType responseContent
    set Label4 . Text to
                               Check email for verification link, then login.
    set global datalist to call Web1 .JsonTextDecode
                                                          get responseContent *
                                                jsonText
    set global token to look up in pairs key " idToken
                                       pairs get global datalist
                                   notFound " " not found "
    set Web2 . Url v to
                              🧔 join
                                        get global login *
                                        get global API
    call Web2 .PostText
                                       idToken= "
                     text
                            join
                                      get global token *
                                       &requestType=
                                       VERIFY_EMAIL
    call Screen1 .HideKeyboard
```

This block sends the verification email on successful account creation.

```
when LoginB .Click
     set Web3 . Url v to
                               ioin
                                         get global getAccountInfo
                                         get global API *
     call Web3 .PostText
                                         idToken= "
                       text
                             ioin 🔯
                                        get global token *
                                 Status
     set Label4
                  . Text *
                           to
when Web3 .GotText
                                     responseContent
      responseCode
 url
                     responseType
do
    🗯 if
              contains * text
                                get responseContent *
                        piece
                                  true
    then
           open another screen screenName | Screen2
           call Notifier1 .ShowMessageDialog
    else
                                                  Please verify email and retry.
                                     message
                                          title
                                                  Status
                                    buttonText
                                                  OK
```

This block checks if the account is verified when Login is clicked. If verified, it opens the next page of the app.

Screen 2

```
when Clock1 . Timer

do set Web1 . Url to https://licet-nr-iot.eu-gb.mybluemix.net/data

call Web1 . Get
```

The above code periodically refreshes and gets data from the specified URL. The URL is generated by the HTTP noeds in Node-RED.

```
when Web1 .GotText

url responseCode responseType responseContent

do set Temp1 . Text to look up in pairs key temperature1 "

pairs call Web1 .JsonTextDecode

jsonText get responseContent ...

notFound found ...
```

On receiving data, the appropriate temperature data for the site is extracted from the JSON and displayed on the app UI.

```
then call Notifier1 . ShowMessageDialog
message
title
buttonText

Temp4 . Text > > 1 65

then call Notifier1 . ShowMessageDialog
message
title
buttonText

OK "
```

The notification block - notification is sent if temperature rises above 65 degrees celsius.