**Project title:**

SOS NYP mobile app

**Introduction:**

In NYP, there’s a ritual that we will practice fire drill once a while. The problem is that there has been cases where some wheelchair bound students are neglected during the fire drill as students moves into assembly area. This project’s purpose is to create a mobile app that allows NYP students especially students with disabilities to seek help should they need to.

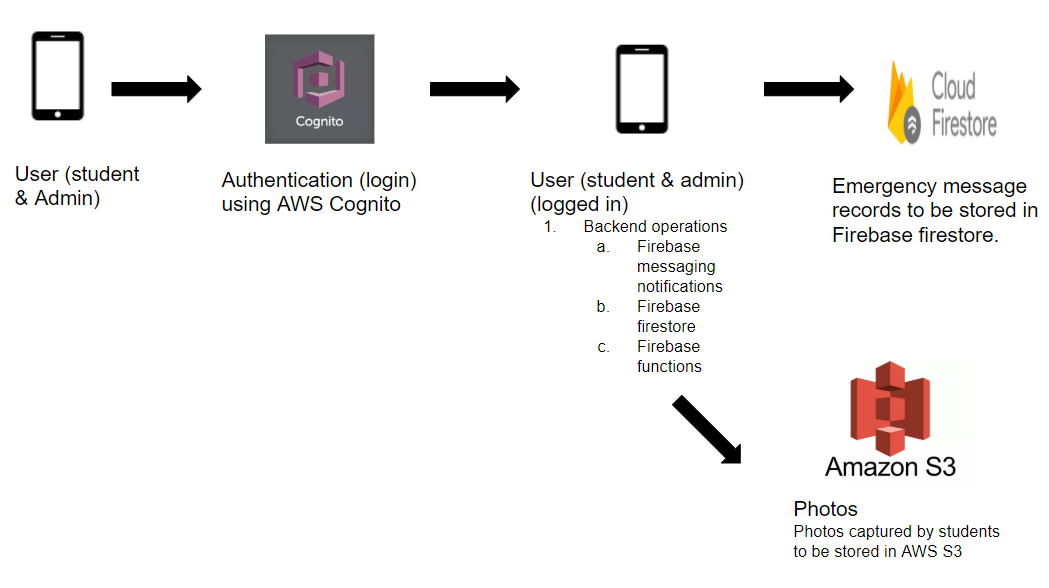
**How It Works:**

Students can use the mobile app, and with just 1 button tap, the app is able to send student’s current location (GPS must turn on for that student’s phone) to the safety warrant. The safety warrant will then receive the notification when that student sent his/her location and proceed to find that student. The student is also able to take photos of its surrounding and submit to the app. The photos will then be received by the safety warrant in order to find that student efficiently. The student can also enter some details about the location e.g (block L lvl 5 male toilet).

**Solution:**

1. Build a progressive web app (aka website but looks like a mobile app)

**Proposed Architecture:**

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**Functions:**

1. Login for both Admin and students (**COMPLETED**)
2. Notification for alert (**Sort of complete, more testing to be done**)
3. Location based services (**COMPLETED**)
4. Camera function to take and upload picture to the app, with text input for user to enter their actual detailed location such as (“I am on block L lvl 5 wheelchair bound toilet”). (**NOT YET STARTED**)
5. Can have more functions, feel free to ask your supervisor or Ms Belle(9370 6070) which is the client of this project. FYI Ms Belle is our NYP student counsellor, so no worries :)

**Tasks to be done:**

1. Go through this document thoroughly.
2. Know how the overall system works.
3. Try to run the application and ensure it works.
4. Implement the function to allow students to take picture of their surrounding and able to enter some description (e.g i am at block L lvl 5 male toilet).
5. Test about the notification alert.

**Technologies used:**

1. **Ionic 4 + Angular (IDE is Visual Studio Code)**
   1. Front end
   2. Routing between pages
2. **Typescript programming language**
   1. It’s similar to c# asp.net
      1. The UI page is page.aspx
      2. The code behind is page.aspx.cs
   2. So the Ionic 4 would be
      1. The UI page is page.html
      2. The code behind is page.ts
3. **Firebase firestore, functions, messaging**
   1. Firestore is database
   2. Functions is basically a place to store your executable functions (check out <https://en.wikipedia.org/wiki/Serverless_computing> to understand what exactly is this)
   3. Firebase messaging is for sending push notifications to alert the admin that they need help.
4. **AWS Cognito**
   1. Authentication service by Amazon Web Services
      1. Being used to authenticate user for using our SOSNYP application.

**Credentials (IMPORTANT)**

1. Firebase account for database
   1. Email: [sosnypfypj@gmail.com](mailto:sosnypfypj@gmail.com)
   2. Password: iLovenyp123
   3. <https://console.firebase.google.com> (login url to user firebase)
   4. Service used:
      1. Firestore
      2. Functions
2. AWS account (for login authentication service in the app)
   1. Ask your project supervisor to create an AWS account for you guys.
   2. <https://nypsit.signin.aws.amazon.com/console> (login url to use AWS)
   3. Service used for login on the SOSNYP app
      1. AWS Cognito at Sydney region
      2. Click on “Manage User Pools” when you are at the page
      3. You should see “NYP\_Dummy”.
      4. Technically you no need to come here and use because the login is already done.

**References and help**

1. <https://ionicthemes.com/tutorials/about/the-complete-guide-to-progressive-web-apps-with-ionic4>
   1. Tutorial to follow on getting started with ionic PWA
   2. **READ the tutorial** if you are new to this project
2. <https://www.npmjs.com/package/@angular/cli#prerequisites>
   1. Install angular/cli for PWA
3. <https://forum.ionicframework.com/t/failing-production-build-of-ionic-3-app/136758/4>
   1. When you run “ionic build --prod” but got error, try this
4. <https://github.com/auth0/lock/issues/1411>
   1. Facing the issue “global is not defined…”? Try this
5. <https://ionicthemes.com/tutorials/about/ionic-4-vs-ionic-3>
   1. Ionic 3 vs ionic 4
      1. Apparently ionic 4 seems to be better, so this project uses Ionic 4.
6. <https://medium.com/@shamique/aws-cognito-service-in-ionic-b234f21c27ef>
   1. How do implemented login with Amazon Cognito service
   2. <https://devdactic.com/ionic-4-login-angular/>
      1. How to properly implement login with ionic 4 with angular
7. <https://ionicacademy.com/passing-data-ionic-4/>
   1. How to pass data between pages in ionic 4
8. <https://forum.ionicframework.com/t/storage-get-value/98160/10>
   1. Using ionic storage to get key value
9. <https://stackoverflow.com/questions/43020173/can-not-see-the-firebase-function-deployed>
   1. Why i cant deploy firebase cloud functions, because you must export your firebase cloud functions in your index.ts
10. <https://stackoverflow.com/questions/47134690/namespace-firebase-has-no-exported-member-firestore>
    1. If u got the error “has no exported member firestore”, check out this
11. <https://stackoverflow.com/questions/44033079/property-firebase-does-not-exist-on-type-production-boolean>
    1. Property 'firebase' does not exist on type { production: boolean; }
12. <https://javebratt.com/crud-ionic-firestore/?utm_source=ionic_blog&utm_medium=guest_post&utm_campaign=firestore_crud_intro>
    1. **CHALLENGE OF THE PROJECT FOR ME**
    2. Followed this link and able to display list of messages
13. <https://stackoverflow.com/questions/49743692/angular-observable-to-array>
    1. How to convert observable to array
       1. This is important as it teaches u how to access data from outside within subscribe.
14. <https://github.com/firebase/firebase-tools>
    1. Firebase CLI for you to deploy the app to live

**Config files**: (**you do not need to do anything with this, but in the case when you can’t deploy the application to live using firebase, ensure the firebase.json has the same configurations as this.**)

1. Firebase.json (already exist, must have in order to deploy into firebase)

{

"hosting": {

"public": "www",

"ignore": [

"firebase.json",

"\*\*/.\*",

"\*\*/node\_modules/\*\*"

],

"headers": [

{

"source": "/build/app/\*\*",

"headers": [

{

"key": "Cache-Control",

"value": "public, max-age=31536000"

}

]

},

{

"source": "sw.js",

"headers": [

{

"key": "Cache-Control",

"value": "no-cache"

}

]

}

],

"rewrites": [

{

"source": "\*\*",

"destination": "/index.html"

}

]

}

}

**Commands**

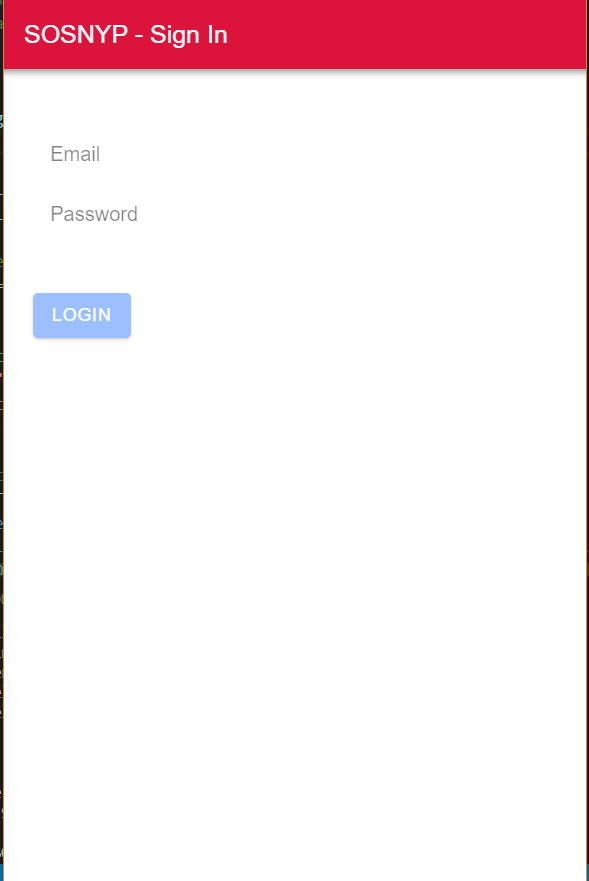
1. To run local production server for the app (**AKA Localhost**) (**2ND STEP**)
   1. Note: everytime u want run the server, run this command.
   2. **Also need to refresh the website many times so that changes will take effect (no idea why)**
      1. **If refresh many time still does not make changes, stop the server by pressing “Ctrl + c” on the command line. Then run the server again**
   3. **Command to run the server**:
      1. http-server ./www -p 8888
2. To build the ionic app after making changes (**1ST STEP**)
   1. Note: everytime u made changes, run this command.
   2. ionic build --prod
3. To deploy the app into live
   1. Before u run this, you must login your terminal to firebase first.
   2. Type “**firebase login**” and enter the firebase credentials stated above.
   3. firebase deploy --only hosting
4. To deploy the functions into firebase functions
   1. Before u run this, you must login your terminal to firebase first.
   2. Type “**firebase login**” and enter the firebase credentials stated above.
   3. Firebase deploy --only functions

**User manual guide (how to run the application)**

1. **Admin (Notifications only work for android phone browser)**
   1. **go to** [**https://sosnypfypj-96657.firebaseapp.com**](https://sosnypfypj-96657.firebaseapp.com) **on google chrome**
   2. **You should see the login screen**
   3. **Below the screen, there should have a popup asking you to add the app to home screen. Press add and add the app to your home screen**
   4. **At your home screen, tap on the app, you should see the login screen.**
   5. **Login with credentials**
      1. **Email:** [**sitadmin@test.nyp.edu.sg**](mailto:sitadmin@test.nyp.edu.sg)
      2. **Password: iLovenyp123**
   6. **Upon login, you should see a popup below the screen asking you for permission to send notification. Press allow.**
   7. **Then, logout and login again.**
   8. **Upon login again, you should see a popup on top of the screen saying “subscribed to sos”.**
   9. **Once you see the popup “subscribed to sos” on top of the screen, you are done.**
2. **Student**
   1. **go to** [**https://sosnypfypj-96657.firebaseapp.com**](https://sosnypfypj-96657.firebaseapp.com) **on google chrome**
   2. **You should see the login screen**
   3. **Below the screen, there should have a popup asking you to add the app to home screen. Press add and add the app to your home screen**
   4. **At your home screen, tap on the app, you should see the login screen.**
   5. **Login with credentials**
      1. **Email:** [**165327J@mymail.nyp.edu.sg**](mailto:165327J@mymail.nyp.edu.sg) **OR 165463F@mymail.nyp.edu.sg**
      2. **Password: iLovenyp123**
   6. **Go to your phone settings to allow location based services on your phone browser. E.g allow location based service on google chrome.**

**Screenshots of app**

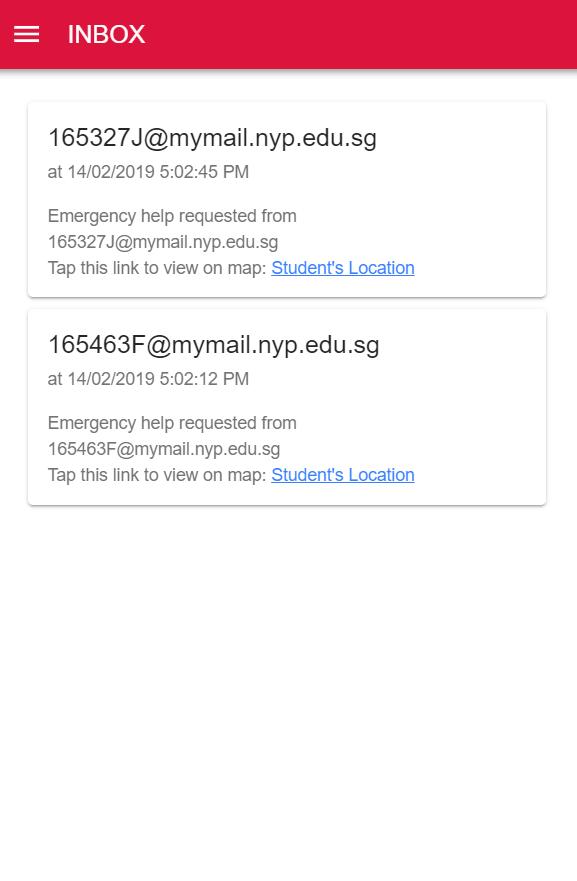
**Login(both admin and student uses this)**

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Admin home screen



Admin inbox screen



Student home screen

