William Yau
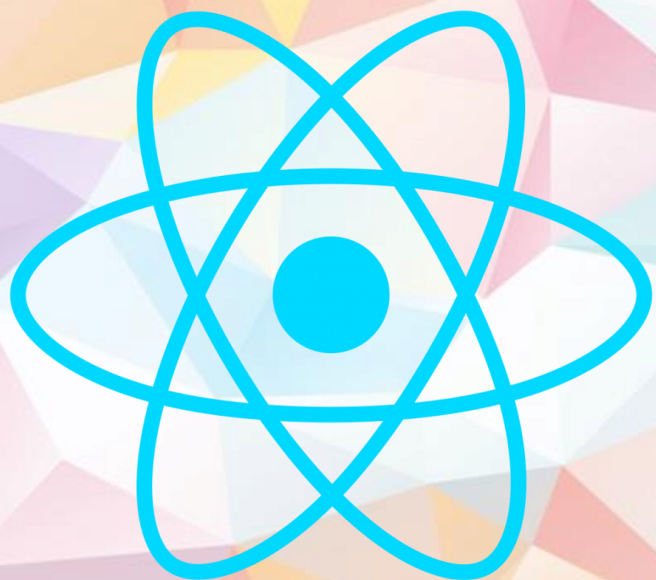
FULL – STACK WEB DEVELOPER CASE STUDY

Project Overview

"Chat" the mobile application created with React Native, Firebase and Expo was designed to allow users to receive and send messages with anonymous authentication. Messages within conversations can be displayed whilst users are offline, and users would also be able to send photos and their own location.

Goal and Duration

The goal of the project was to create a chat application for mobiles devices using React Native. The app would provide users with a chat interface and options to share different types of media (images and their location). Four features were kept in mind:

1. A page where users can enter their name and choose a background colour for the chat screen before joining the chat.

2. A page displaying the conversation, as well as an input field and submit button.

3. The chat must provide users with two additional communication features: sending images and location data.

4. Data gets stored online and offline.

July 15th: Started project with two screens in React Native and tried using Expo Mobile to test

July 17th: Began designing interface with new Gifted Chat React Native library

July 19th: Created Firebase database and integrated it in user screen for messaging

July 23rd : Implemented real – time network connectivity detection system and allowed storage of messages for offline mode

July 27th: Completed application after adding image upload and location sharing features

```
JS App.js > ...
  1   // import the screens
  2   import Screen1 from './components/Start';
  3   import Screen2 from './components/Chat';
  4   // import react Navigation
  5   import { NavigationContainer } from '@react-navigation/native';
  6   import { createNativeStackNavigator } from '@react-navigation/native-stack';
  7   // import firebase
  8   import { initializeApp } from "firebase/app";
  9   import { getFirestore, disableNetwork, enableNetwork } from "firebase/firestore";
 10   import { getStorage } from "firebase/storage";
 11   // import useNetInfo
 12   import { useNetInfo }from '@react-native-community/netinfo';
 13   import { useEffect } from 'react';
 14   import { Alert } from 'react-native';
 15
 16   // Create the navigator
 17   const Stack = createNativeStackNavigator(); // Creating a new stack navigator using the createNativeStackNavigator function
 18
 19   const App = () => {
 20     // Your web app's Firebase configuration
 21     // For Firebase JS SDK v7.20.0 and later, measurementId is optional
```

Purpose

This project would allow me to further develop my React skills and apply it in a different environment. In addition, the project expanded my skills repertoire into the mobile side of development. I would start becoming more comfortable with libraries and technologies that I wasn't familiar with, and I would progress my problem - solving skills.

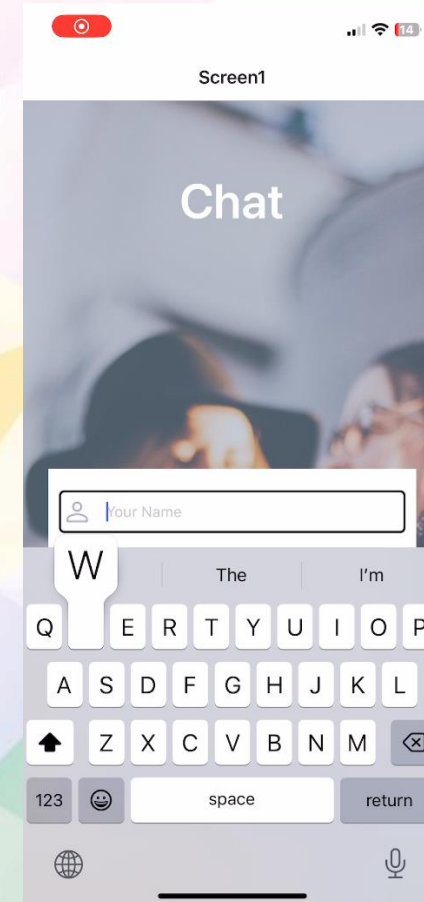# Firebase Storage

Google Firebase is a development platform for both mobile and web applications. It provides services related to application authentication, data storage, security etc. Cloud Firestore was the cloud-based database used to store data from the users. It is a NoSQL database similar to MongoDB, it can organise the data in documents, which are them organised into collections.

React Native with Gifted Chat

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Final Conclusions

The positives?

I expanded skillset into mobile application development and managed to complete project with all goals met and features implemented. I felt more comfortable with technologies that were unfamiliar with and it allowed me to become more independent.

The negatives?

Some of the design choices could have been made better and I believe it would have been better to test on multiple different devices using Android Emulator rather than just a singular device.

What could be done better next time?

The application currently doesn't allow connections to other users, and it would be better to add features that would allow users to add each other.

Final thoughts?

I believe having a UX/UI designer to help with the visuals of the app would be beneficial and to allow connections between real users would be the next step. Overall, I am proud that I managed to use completely new technology to create a new application in a different environment.