

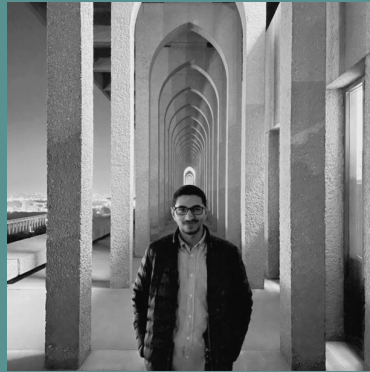
Capstone Project Vlog#4

SOS System

by Team Bugs



Li Pan




Abdelrahman Rabaa



Renz Rivero

Project Blurb

- **SOS emergency system includes an sos mobile application and public safety agency web server.**
 - **Enhance data transfer during emergency between mobile users and 911 agency.**
 - **Considering security and user privacy for data transfer.**
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- A decorative pattern at the bottom of the slide consisting of numerous vertical bars of varying heights, each composed of three overlapping circles in different shades of teal.

Project Activity

Dec.6,2021-Feb.1,2022

Li : mobile app users' files storage, mobile app users' location tracking, audio/video stream between mobile and web, realtime database implementation, statistic chart implementation, web user login/logout and setting implementation

Rabaa: app users' calling states setup, firebase development, stream chatting implementation, audio/video stream between mobile and web, mobile app users' activities display, mobile acceleration and charge, mobile app users' authentication, mobile background sensors initialization.

Renz: UI/UX, PSAP page setup and routing; project documentation

Status Description

Our project's current status is **Green**.

Project Issues/Changes

N/A

Demo

Cloud storage

- **Firestore is a cloud-hosted database that allow syncing data across different applications, which include: Android, IOS, and web.**
- **Cloud firestore is flexible and scalable NoSQL.**
- **Cloud storage provides fast, high durability storage for data.**
- **Firestore is hosted on external servers unlike MySQL which is hosted locally. Thus also if the applications were acting on localhost, the Firestore server can do the data communication.**

Security

- **Firestore service encrypts data in transit using HTTPS and logically isolates customer data.**
- **WebRTC allows the streaming of audio and video from peer to peer in real-time without requiring an intermediary, and the protocols authenticate the user identity and security.**

Next up

- **Make UI/UX look professional**
- **Encryption of client and PSAP connection**
- **Save 10 minutes of location coordinates before call**
- **Generate warnings for a potential car accident that has been detected**
- **General Optimization**

Team Reflection

Does the team feel "on track"? (reiterate the above colour status)

We successfully implemented the main function of our sos system. The data transfer between mobile app and web is accomplished. Our system can now be put into operation.

What progress does the team particularly feel good (great) about?

We appreciate our mentor and the RCMP officer leading us into a right direction, the suggestions and recommendations have helped to bring our project into a higher stage of development.

What barriers (if any) does the team feel are a current impediment to success?

The limited RAM and storage capacity of mobile devices are obstacles in our goal of saving all mobile sensor data locally. We need to overcome this technical challenge.

What help (if any) does the team require to move positively forward?

Acquire more information about security and data encryption to improve data management techniques.

Reference

<https://firebase.google.com/support/privacy#:~:text=Security%20information-.Data%20encryption,Cloud%20Firestore>

https://developer.mozilla.org/en-US/docs/Web/API/WebRTC_API

Thank you!