

Android Software Development for ICT Application

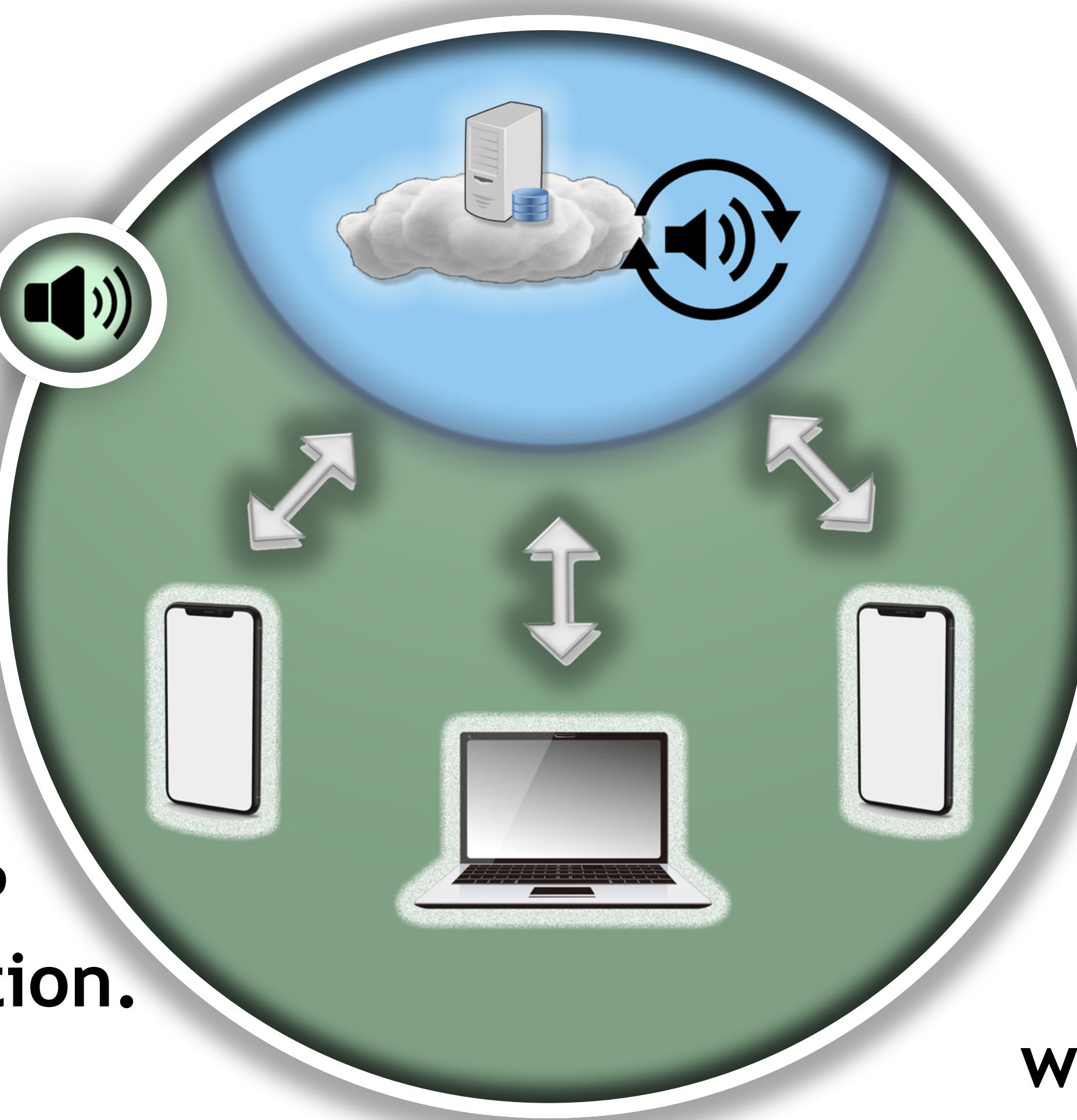
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Abstract

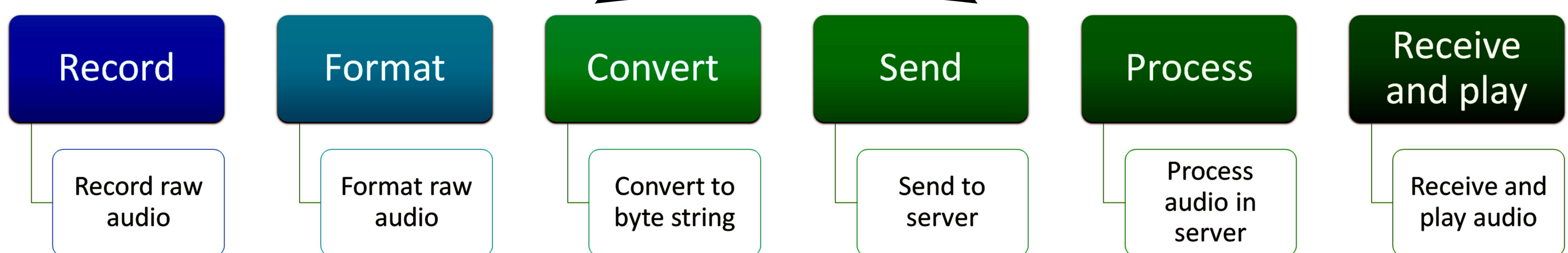
The application will prompt users to record their voices and securely transfer audio to web-based database. The stored recording can now be retrieved from any client on their device simulating patient doctor/GP interaction with the application.



Introduction

This application is part of a bigger software capable of exchanging text message, image, high quality sound, videos, MP3 and real time speech between clients. For researchers to develop such application they need an understanding of mobile phone software development and socket -level client-server communication which is achieved for audio exchanging in this project.

Method



Results

The application can record high quality uncompressed audio and send it to remote webserver via internet. The application records the audio raw in byte format and later adds wave header to make it playable. The recorded audio is then sent to a remote server, implemented in python, using socket-level client-server communication. For demonstration the application has been modified to communicate with firebase server instead. The result nevertheless remains same. After the audio is received and stored by firebase server it can be downloaded from any client and can be played without any loss in data compared to the original recording. The saved recording contains date and time postfix to make it unique while storing, due to storage limit for now the recording will be replaced everytime new audio is uploaded.



<https://tinyurl.com/ITCapp69>
<https://github.com/VoidofLimbo/SummerInternship2021/raw/main/SummerInternship2021.apk>

Conclusion

These are the learnings after completing the project:

- ▶ Record high quality raw audio in android client
- ▶ Socket-level client-server for lossless data exchange
- ▶ Server and client scripting in python
- ▶ Internet Communication in android
- ▶ Store the audio in firebase and access it from application

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