

CPRE 491 STATUS REPORT #5

November 3,2019 - November 10,2019

Group: SDMAY20-52

Project Title: KEY EXCHANGE OUTSIDE OF TCP/IP

Client & Advisor: Julie Rursch

Team Members:

- Logan Woolery Lead Integrations Engineer
 - Jacob Moody Server Developer Lead
 - Joel Wacker Android Developer
 - Andre C Server Development Tester
 - Jack Potter Client Architecture Tester
 - Jordan Svoboda IOS Developer
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Past Week Accomplishments

- ❖ Andre-
 - To speed up the testing process, defaulting to Python code stubbing then Go migration in future (if necessary)
 - Continue research to test cryptographic applications of our project
- ❖ Jacob-Continued development of backend code
 - Finalize some sample methods of passing messages to and from the server
- ❖ Jack
 - Searched for cross platform crypto library
 - Found Crypto++ - lots of implementations written in c++
 - Portable
 - Could be built into both apps easily (hopefully)
 - May need to find golang fork (probably not necessary)
 - Experimented with Android studio configuration to speed up emulation
 - unsuccessful
- ❖ Joel
 - Zbar found to decipher Qrcodes from any image, no matter the amount of background data present

- Android x86 testing with GPU rendering to reduce CPU usage
- ❖ Jordan-Continued development of prototype app
 - Did research on how to circumvent restrictions on iOS code building on Windows
 - Found an article detailing steps that could be taken to create an app that is hot reloadable for iOS but developed on a Windows machine
 - Need to spend some time testing this workaround with the sample code I've developed
- ❖ Logan
 - Flutter application skeletoning and basic test

Pending Issues

- ❖ Need to find a new way to build code for iOS
 - Continue trying to get the workaround tested
- ❖ Need to get some sample application code loaded onto some devices to test

Individual Contributions

Team Member	Contribution	Weekly Hours	Total
Jacob Moody	Team Meetings Research	5	32
Joel Wacker	Team Meetings Research	6	32
Andre C	Team Meetings Research	8	35
Jordan Svoboda	Team Meetings iOS development	6	34
Logan Woolery	Team Meetings Research	7	33
Jack Potter	Team Meetings Research	6	34

Plans for Coming Week

- ❖ Andre-
 - Continue development of test cases
 - Start writing test cases for message storage and retrieval

- ❖ Jacob-
 - Start looking at ways to store the messages on the server

- ❖ Jack
 - Find other libraries that may be necessary (communication, etc) and begin auditing for security
 - Prefer cross platform libraries
 - Write test code for crypto++ library to ensure it builds on multiple platforms as expected

- ❖ Joel
 - Android app development for taking temporary images with front facing camera
 - Images processed by Zbar
 - Possible testing with Fldigi libraries for audio transmission

- ❖ Jordan- Continue iOS app prototyping
 - Continue testing the workaround and ensure that it can be successfully implemented with the code I have developed
 - Need to figure out if workaround is reliable/safe to use
 - Continue trying to develop the prototype
 - Welcome screen for the app

- ❖ Logan
 - Implement POC for protocol outside of flutter to test viability without mobile overhead