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CENG319 ONA

JD Security Solutions

Smartphone Security Camera

<https://www.github.com/jakears93/JDSecuritySolutions>

Summary Document

Team Name: JD Security Solutions

A smart security system using old smartphones as camera nodes. The premise behind it is people have old devices they do not use. Users will be able to remotely monitor camera nodes from any device logged into the same account. The videos taken are also stored locally on the device.

Work Distribution:

Application Concept Design	Jacob: 40%, Daniel 60%
UI Design	Jacob: 100%
Application Flow Design	Jacob: 100%
Development of Login/Register Activity	Jacob: 100%
Development of Video Recording	Jacob: 100%
Development of Video Playback	Jacob: 100%
Integration to Firebase	Jacob: 100%
Integration to Google Sign-In	Jacob: 100%
Presentation and Required Documents	Jacob: 100%

Peer Review:

This section is not applicable to the project as it was fully completed by Jacob. Daniel O'Donnell did however aid in developing the concept of the app and credit should be given to him for that aspect.

Usage:

To test this application please use the following credentials:

Username: jacob

Password: password

Detailed Instructions on the Following Page.

NOTE: As stated in the documentation, the MediaRecorder class provided by Android is not guaranteed to work on emulators. I have had success using a Pixel 3/3a on api30, however, my Nexus 6 emulator on api29 and api30 would not play back newly recorded videos (videos recorded off my Samsung Note 9 were fine). I believe it has to do with the emulated camera environment. The application runs perfectly fine on my Samsung Note 9 API level 29.

Application flow:

- To start, enter in the provided credentials to log in. (You may check off Remember Me to prevent this step on every start up)
- At any time during app usage, you may navigate using the bottom navigation bar.
- To logout, press back on the choose configuration page or go to settings and click logout.
- To start a recording, click recorder in the bottom navigation or from the choose configuration page.
- You will be presented with a request for permissions on first use.
- Rename the room name edit text view to your desired room name. Use Haki as an example as no rooms named Haki exist yet.
- Toggle the start recording button. A on-going notification will be created to indicate recording is active.
- Video will start recording. Videos will be saved both locally and to your user account folder on Firebase.
- To stop recording, toggle the switch on top or press back to return to the choose configuration page. This will disable the on-going notification.
- To view your video, navigate to the Viewer option in bottom navigation or main menu.
- Click on the room you would like to view. I have provided example videos under the rooms: Bedroom and Living Room.
- Video playback will begin, and continue until all videos have been played.
- You may seek through videos using the seek bar underneath the video view.
- You may also wish to go to the settings page.
- I ran out of time to implement customizable settings but in the future I will put in the follow:
 - Resolution selection for videos
 - Storage: Local only or local/server or server only
 - An option to delete data from a specific room or all roomsThe first two will be implemented as settings in SharedPreferences where as the deletion will be a function private to the Settings class object. (Stay tuned for version 2.0)