Secure Door Opener Milestone 4

Team Members:

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Faculty Advisor:

Dr. Marius Silaghi - msilaghi@fit.edu

Client:

Dr. Marius Silaghi - Graduate Professor at Florida Institute of Technology

Progress Matrix:

Task	% complete	James	Chris	Warren	Luke	To Do
Facial Recognition	100	20%	40%	20%	20%	Integrate into main server
Implement Camera Drivers	40%	20%	20%	20%	40%	
Backend Endpoints	60%	20%	20%	20%	40%	
System Integration	50%	40%	20%	20%	20%	
.apk design modifications	80%	40%	20%	20%	20%	

Task Discussion:

Facial Recognition: Changed the recognition model to no longer just check to see if there is a person in the frame. The model should now take two pictures and compare their likeness with a certain level of confidence. The metric that we used to determine if the results were good has also been changed to weigh false positives and true negatives.

Implement Camera Drivers: Began incorporating the driver software into the overall system architecture and integrating it with the other components of the project. Testing and debugging the driver were started to ensure that it functions correctly and meets the requirements of the project. The driver is not fully implemented but it can be used to capture, process, and transmit images and video data to other parts of the system.

Backend Endpoints: Refined routing for handling incoming requests. Routes handle Authentication, Login, Dashboard navigation and reAuth. Finished setting up a SQLite database to store the needed information for both user profiles and device information.

System Integration: Began to connect the hardware with the server and the mobile application. Ensured that communication between components was occurring and sent video from hardware to the server. Connected the lock to the Raspberry Pi and the camera.

.apk Design Modifications: The color scheme was adjusted. Buttons were relocated to make the pages more intuitive to navigate. Styling aspects were refined to give the sense of a more professional application.

Member Contributions:

James Pabisz:
Researched metrics to measure the success of our facial recognition model.
Revised and updated design features of .apk to fit branding.
Assisted with system integration and the creation of the project presentations.

Christopher Kiefer:
Finished the facial recognition
Changed the confidence metric to account for false positives and true negatives
Assisted with the Report and Presentation

Warren Smith:
Helped with milestone report and presentation
Researched proper usability testing parameters
Researched proper security testing parameters

Luke Bucher:

Milestone 5 Task Matrix:

Task	James	Christopher	Warren	Luke
Video Streaming to app	20%	20%	20%	40%
Mobile app unlock/lock	30%	20%	20%	30%
Facial recognition classification visible on app	20%	40%	20%	20%
Usability Testing	40%	20%	20%	20%
Security Testing	20%	20%	40%	20%
Project Board	25%	25%	25%	25%

Milestone 5 Task Discussion:

Video Streaming to app: The video streaming from the door lock to the app will be streamlined allowing for real time video at the door.

Mobile app unlock/lock: The lock/unlock buttons on the app will be connected via the server to the hardware to allow for the app user to lock/unlock the door lock from the mobile app.

Facial recognition classification visible on app: A notification will appear on the app which informs the user whether or not the person at the door is recognized as an approved visitor. Clicking on the notification will lead to the live camera feed and the lock/unlock buttons.

Usability Testing: Usability testing will be conducted on the app and changes will be made to make the .apk more friendly to use.

Security Testing: Security was a primary goal in this project. Security and Vulnerability testing will be conducted to ensure that the safety requirements of the product have been satisfied.

Project Board: The board for the fair will be completed.

Meeting Dates:

Date	Topic

Faculty Advisor Feedback below:

Approval from Faculty Advisor

"I have discussed the milestone with the team. I have evaluated the progress and will assign a grade for this milestone."

Signature: _____ Date: _____

Evaluation by Faculty Advisor:

Score (0-10)

James	0	1	2	3	4	5	6	7	7.5	8	8.5	9	9.5	10
Chris	0	1	2	3	4	5	6	7	7.5	8	8.5	9	9.5	10
Luke	0	1	2	3	4	5	6	7	7.5	8	8.5	9	9.5	10
Warren	0	1	2	3	4	5	6	7	7.5	8	8.5	9	9.5	10