

SE/EE/CPRE 492

02/14 - 02/27

Project Title: Economic Home Security System

Group No: 42

Client/Advisor: Goce Trajcevski

Bi-weekly Report 3

Team Members:

Lucas Jedlicka - Lead Engineer DevOps

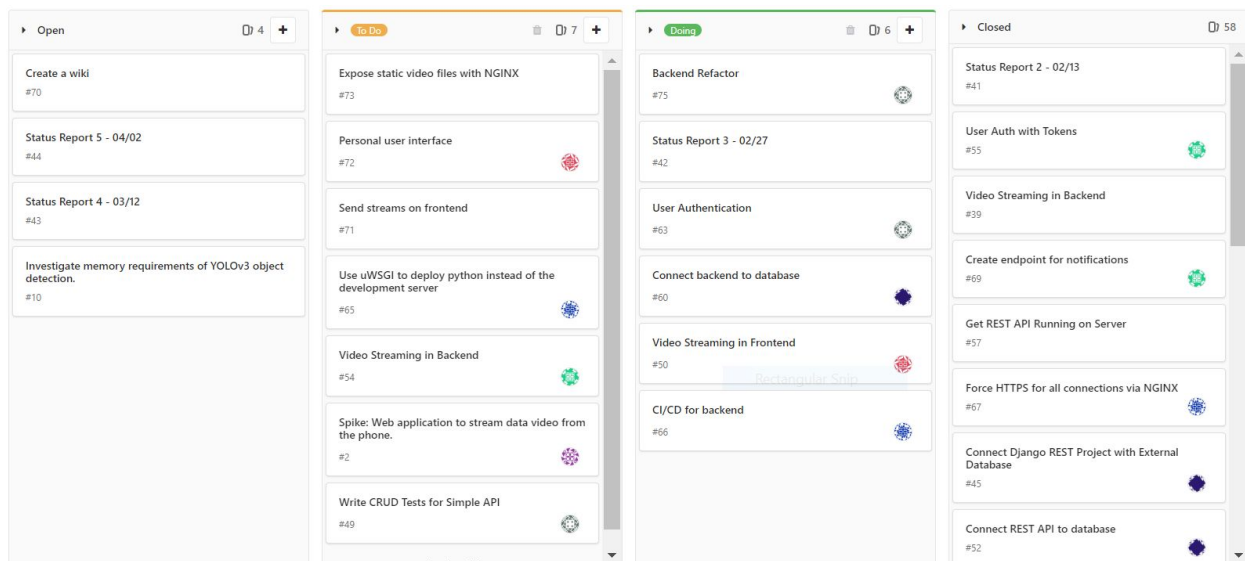
Uma Abu - Frontend

Merin Mundt - Frontend

Kamini Saldanha - Backend

Sohum Sawant - Backend

Andrew Tran - Backend



Bi-weekly Summary:

These past two weeks our team worked on establishing frontend to backend communication and basic integration and system testing. We were able to demo our application to our client. In our demo we were able to show a basic scenario in which a user stream detects a person and is able to send a movement notification to all other devices associated with that particular account.

Past Iteration Accomplishments:

Lucas Jedlicka: Eventually got ETG to fulfill the weeks pending certificate request to sign. Implemented the certificate without issue, now all devices on ISU's network can access our site with HTTPS force enabled. Implemented CD for python backend with a custom container to avoid apt installing packages every time the container restarts. The repo got a bit sloppy from people not noticing the compiled files they were committing, so I git rm . and git add . to force .gitignore changes.

Uma Abu: For the first demo, I worked on creating the pages required for the demo on the front end. I worked with the server side on authentication for a specific user to ensure that users can only see their notifications and not all other users notifications. I also wrote code that detected the person and sent a notification to the backend. I worked in the notification component that will detect that notification to the back and alert the specific user in the frontend. Lastly, I worked on making the authentication persist. If you login it, you can access any page that requires user information. If you are not logged in and you try to access a page that requires authentication, you will be sent to the login page to login again.

Merin Mundt: For the first demo, I worked on creating the start of the UI. Everything that comes after the login and sign up pages that users will interact with everytime they use the web application, is what I am making. It was not necessary for the first demo but will be necessary for the next demo.

Kamini Saldanha: For the first demo, I worked on connecting the SQL database to the Django REST API. This included setting up models, serializers, views classes as well as updating the settings to have the correct info to connect to the SQL database on the docker container on the server. I also met with Andrew and Sohum several times to work on prioritizing tasks for the backend and work on goals for the demo. We discussed a lot of refactoring.

Sohum Sawant: For the demo, I worked on creating an endpoint to send and receive notifications. Due to a time crunch we could not set up web sockets to do this so we will be implementing django channels for future demos. I also met with Kamini and Andrew to discuss what tasks to prioritize from this point onwards. As a group we also met a few times during these past two weeks to figure out backend to frontend integration. Kamini, Andrew, and I worked with Uma and Merin to test integration.

Andrew Tran: For the demo, merged old CRUD functions for User/Clips/Camera tables. In hindsight, we should have focused on only creating endpoints required for our application. Had to reconsider sqlite vs SQL. Looked into user authentication as well in hopes of using our existing User model to use existing Django authentication libraries. The best way was to remove the User model we have and use the user from django.contrib.auth.models. We can add additional fields to the user as needed in the future. Also worked with Kamini and Sohum on refactoring our API, discussed with Lucas about url redirection, and frontend to sync API requirements.

Pending Issues (optional):

Lucas Jedlicka: N/A

Uma Abu: Websockets to start streaming the data to the server for further processing.

Merin Mundt: Have to complete the user personalization step when logging in and setting up their account.

Kamini Saldanha: Have to work with Sohum to implement a solution for web streaming on the server side. Currently, we are in the research stages to find the best practice that will integrate well with our work and meet the goals of our project. Additionally, have to work on refactoring and cleaning up our backend code base.

Sohum Sawant: Have to implement a solution for web streaming on the server side with Kamini. Right now we are researching how to implement web rtc and this issue should be ready by the next iteration.

Andrew Tran: Have to complete refactoring the Django project and adding/removing dependencies and services as needed.

Individual Contributions:

Name	Contribution	Biweekly hours	Total hours
Uma Abu	<ul style="list-style-type: none">● Redesigned pages for the demo● Created notification component for the demo.● Sent notification to server when person was detected● Received notification on the frontend for specific users that were logged in.● Worked on user authentication to persist.	12	24
Lucas Jedlicka	<ul style="list-style-type: none">● .gitignore force update to remove waste files● Force https/ssl● Recreate backend container to include mysqlclient● Create Django CRUD user● Backend CI/CD● Fix broken frontend CI/CD	12	24
Sohum Sawant	<ul style="list-style-type: none">● Created endpoint for notifications● Began research on implementing web rtc on our server-side application.● Worked with the frontend team to complete integration testing for our basic scenario for our demo.● Met with the team to prioritize pending issues.	13	20
Merin Mundt	<ul style="list-style-type: none">● Created welcome Page● Started on account information access● Working on notification page● Connecting all of the pages	10	22
Kamini Saldanha	<ul style="list-style-type: none">● Connected SQL database to Django REST API:<ul style="list-style-type: none">○ Views.py	12	20

	<ul style="list-style-type: none"> ○ Serializers.py ○ Models.py ○ Settings.py ● Helped debug endpoint issues to enable frontend to work ● Met with the team to prioritize issues to meet demo 1 goals ● Started researching potential ideas for streaming 		
Andrew Tran	<ul style="list-style-type: none"> ● Brute force login endpoint ● Helped get working API on server ● Added user authentication ● Code refactoring 	12	24

Plans for the upcoming iteration:

Lucas Jedlicka: Setup mail server for notifications to a device. Use uWSGI server for python deployment instead of dev-server.

Uma Abu: Work on websockets and sending a stream to the server.

Merin Mundt: Making the account page that users can interact with to personalize their security system.

Kamini Saldanha: Have to work with Sohum to implement a solution for web streaming on the server side. Currently, we are in the research stages to find the best practice that will integrate well with our work and meet the goals of our project. Additionally, have to work on refactoring and cleaning up our backend code base.

Sohum Sawant: Finish work on adding web rtc to our backend implementation. Our goal for the next two week iteration is to be able to receive and save streams from our frontend.

Andrew Tran: Finish code refactoring and look into implementing motion/object detection on the server (testing with a video file already on the server).

Summary of Advisor Meeting:

During our meeting, we had planned to demo a basic scenario to our advisor. The scenario was our application detecting a person in a camera stream and then sending a notification to all other devices associated with that particular user.