

Odin's Eye- Log Book

March

05/03/2021

Had a meeting today with project supervisor. I informed him that I have received the camera that will be used for the project. Also told him about the difficulty in having installing opencv on raspberry pi. We came to the conclusion that I should try to get some of the coding done on my computer. Before I try that, I'm going to try install a new 64bit os on my raspberry pi using ubuntu as the os. We also discussed new features that could be achievable for the project, like creating a email notification warning users about the change in the video warning of potential security threats and the use of crontab as a way of making sure that the programme is always refreshed and restarted every day.

We also discussed the grading of the project and the rubriks for the marking.

06/03/2021

I managed to install a 64-bit ubuntu system on my raspberry pi which allowed me to install opencv on my raspberry pi. Once this was done, I started researching the uses for opencv and how to record video using it. I have discovered code online that allows me to record video in a .avi format and it works. This will not work for the overall project as websites can not play .avi files. My best chance is to use a .mp4 file format since that is the most commonly used. I haven't been able to figure out how to do this though.

07/03/2021

I have not been able to figure out how to figure out what to do for the Codec yet so have decided to refocus on what I am doing and have installed some development on the site and installed essential tools like apache2 and have been able to connect to it locally using a different device. After I confirmed a successful connection I redirected the Root page to the folder I am using for the website by going to the WWW folder and editing it to direct queries to the 'OdinsEye' folder.

08/03/2021

Spent the day trying to troubleshoot crontab as even though I am setting the programme to run a print every minute, it doesn't seem to work. Have been unsuccessful so far but will keep working on it.

11/03/2021

Went back to the codec issue, tried to use some codecs such as h.264, still getting errors though. Haven't been able to figure it out, will continue to research the problem.

12/03/2021

My supervisor has informed me that I may need to install additional libraries to use other codecs. With his advice I have installed an ffmpeg library as this includes mp4 file formats.

13/03/2021

I am no longer getting errors for using a different codec, but with the code I have made, although the video is saved. The videos doesn't play on the website or the raspberry pi itself. I will continue to troubleshoot these problems.

14/03/2021

I have started to plan for the interim report and will be using the template provided to me. My supervisor has informed me that it is important that I hit certain points within my report, such as ethical issues for the uses for the camera and a rough plan is made for how I want the project to development.

15/03/2021

Made a first draft for the plan for the project and objectives. This will be improved though in a few days.

18/03/2021

Worked on the ethical issues with the project and completed the project, once this was done, I put the final edits on the report.

19/03/2021

Sent report to Supervisor. Have project work for other subjects so will work on those for the rest of the week.

22/03/2021

Started working wireframes for the final design of the wire frames. Decided that since the name of the project is "Odin's Eye" I wanted to have a Viking/ Norse aesthetic. This would mean using darker colours and finding suitable images for the pages.

25/03/2021

Started to make the rough shape of the webpage using html for the login page. This included the forms that the users will use.

26/03/2021

Planned and developed the mariadb database. For this project I just wanted to use the one table since not many columns are used. I did however make a user id variable which allows for further expansion later if needed.

27/03/2021

I developed some php code to make sql queries. This is in preparation for the check login system .

April

01/04/2021

further developed the php code to perform a check on the login information for the so that when the user information it can check the information on the database.

02/04/2021

Developed the webpage that allows the user to search for the recorded video. For this, I need to concatenate the video file format onto the end of the string that the user inputs. So for example if the user inputs todays date, the ".mp4" format needs to be added so that the video can be viewed

03/04/2021

now that the basic functionality of the login is working. I wanted to add some security to the logins regarding the integrity of the database. This can be accomplished using php filters, but I'm going to do some research as to the best ones I can use.

05/04/2021

After reviewing some websites, I found that some of the most used filters are checking for string and checking email formats. For now I'm just going to implement the string filter for both the email and password login.

08/04/2021

now that the functionality of the website is implemented, I want to add some of the design element using css. As discussed in previous entries, I want a Viking/ Norse theme for the webpages. For me this would mean using dark colours for the background. And lighter writing font colour. I am doing some research on different sites to find out what the best layout and styles would be for me.

09/04/2021

I have decided to use a navy colour and have also found suitable images that match the aesthetic for the webpage.

15/04/2021

I have had a lot of project work to do with other subject, so haven't been able to put as much work since my last log entry. Since I have most of the design done, I want to refocus onto the surveillance code. When I last looked at it, I was having trouble recording with mp4 format. It wouldn't display properly on the website. I am researching reasons as to why this is happening.

17/04/2021

I haven't been able to find a reason as to why this error is occurring. However, I tried converting the file to OGG format and that worked . I was able to play the file on the website successfully.

19/04/2021

With the discovery that the OGG files work, I wanted to try change the codec to one which will allow the video to be recorded in the OGG format. I did find that the Vorbis(VP8) format worked, but the lag that came with the recording was substantial, so I don't view this as a viable option. From some Research I found that Theora is able to record in OGG format. I also found the 4-character code is 'T','H', 'E','O'. However, when I tried to do this it didn't work and said that the codec was not recognized.

22/04/2021

After trying some more research I found out the reason why the MP4 file wouldn't work is because some codec don't work with HTML websites. When I was recording with MP4 I was using the "Motion JPG" codec. After changing to use a codec call "h.264" the MP4 file worked.

27/04/2021

Now that I have the website displaying the video, I have added more to the recording code. Now I can record for a set amount of time. For the purposes of testing, I am recording for a minute, but if the project was used in reality, I'd set it to run for 24 hours

30/04/2021

Now that the project is done to a standard which I am happy with, I am now starting to plan the final report.

May

05/05/2021

I organised a meeting with Kevin to discuss the project and any advice he has with the report.

07/05/2021

I had a meeting with My supervisor, He showed how to implement motion detection into the video recording code. This will help to save on memory, I want to add a timestamp on the frame so that the user knows what time events occurred.