

Reflection internship Crhack Lab F4D

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Reflection internship

In this document I will talk about my experiences during my internship at Chrack Lab F4D. I spent 3 months in Foligno, Italy working there as an intern in Application Development. I will reflect on this experience both on the assignments I worked on and on the company and people in it.

1. Protocol Daemon

The Protocol Daemon was my first assignment. I created a daemon that reads the mailbox of an email address owned by Egina. When this email receives a mail, it is read and processed by the daemon. The necessary information is saved to a database as a protocol entry and is marked as unconfirmed and active. When processing is done the daemon returns a mail to the email address it received the initial mail from. Users can review all protocol entries on a web interface and manipulate the entries as necessary.

1.1 Realisation

Depending on if the mail was forwarded to the daemon or sent directly different things happen. If it was forwarded, it is assumed that the user who forwarded the mail received it from someone. It is then marked as inbound and the mail returned to the user contains a form with the information that was saved from this mail. The user can change information in this form and confirm it, this will send it to the server the protocol daemon is hosted on the daemon will change the information and mark the protocol entry as confirmed.

When the mail received by the daemon was sent directly to it, we assume the user's intent to send the mail to another person, it is then marked as outbound. The protocol daemon checks if there is a protocol number included in the mail. If not, the mail is processed as normal and a mail is sent back to the user, this time containing the protocol number of the protocol entry which is the ID it is saved under in the database. This entry is marked as unconfirmed and active. If the mail does include a protocol number, the daemon goes looking for an entry with that ID, changes the information and marks it as confirmed.

I also realised a web interface, where users can review, edit, and mark protocol entries as inactive. On the main page two lists are displayed, one containing the unconfirmed protocol entries and the other containing the confirmed ones. When clicking on one of the entries, users can edit them, if unconfirmed they can also confirm them. There is also an option to mark them as inactive, removing them from the list. If you want to view inactive protocol entries, there is another page where they are displayed in a list. Here users can also edit them and return them to an active status.

On the pages with the lists, we make use of pagination to give a clear overview. Users can filter on in- or outbound mails.

1.2 What is left?

The must haves of the project are finished. I did not have time to finish all the nice to haves. It would be beneficial if the daemon can also save attachments of the mails. Around noon, the server the daemon is hosted on goes offline temporarily, my advice would be to migrate to a different server if possible.

The protocol daemon is, as I said, hosted on a server. Project Managers have been informed about the protocol daemon and how to use it. They are supposed to use it and report to me if any problems come up.

All employees, but project managers in particular, can use the protocol daemon to save time. Before, they had to do the protocol by hand, taking up a lot of time. It also gives a clear overview of all the protocols with their information.

2. TOCC

TOCC or "Transizione ecologica Organismi Culturali e Creativi" was the second assignment of my internship. In the city of Bevagna, lasting two weeks a year, there is a medieval fair where tourists can come and experience medieval professions and life in the Middle Ages. But when this event is over it is a shame that tourists cannot experience it, that is where this project comes in. The aim is to create a browser based where tourists can discover the monuments and learn about the city. Using AR-we can help facilitate that learning experience in an interactive way.

2.2 Realisation

I was tasked with creating portals that can be placed in the real-world using AR. These portals lead to rooms where information is displayed in the form of videos and presentations.

At first, I had to use ARjs and a-frame to create this environment. I created a portal with a photosphere as the room behind. When trying to walk through the portal, the portal would move with the user, hindering them from navigating the room correctly. I, Paolo and Gabriele looked for different options and solution, we decided it would be best to switch technologies to Zapworks, this is supposed to be better in anchoring content in the real world.

Using zapworks I created these Portals, when users walk through the world around them is hidden, instead they see a room. This room was first in the form of a .glb file that was given to me, some parts of the room were not working as expected so I had to change cover those parts of the room. I also created a room using planes provided by zapworks, in the event the .glb was not fixable, which as it turns out is the case.

Once I had a room, content must be placed in them. Videos were needed so I added them to the AR-scene, and I wrote a script so that the volume of the video can be altered, and that the video can be paused. To achieve this, I added buttons in the form of pngs and added a script with an on-touch event. When pausing or resuming the video, the png changes.

Gabriele, my colleague, created the presentation and the functionality for this to work. I placed them in the scene containing the portal, room, and videos.

2.2 What is left?

My task in this project is finished. I have created a portal users can walk through. In the room they end up in after walking through the portal, they can see content in the form of videos and presentations.

The project is not in use yet, there is still work to be done in other parts of the project.

This project can increase the tourism in the region and at the same time educate both those tourists and local residents.

3. Personal Reflection

This internship meant a lot to me. Working in a different country, I learned how to live by myself and get to know myself as a person. I learned to be more independent. The people at Egina and Chrack Lab welcomed me with open arms, which I am very grateful for. They also gave me some travelling tips for the weekends. During this internship I had the opportunity get to know the scenic beautiful side of Italy but also its people.

There is a lot I learned. I got to work with Nodejs, I had to learn about the best practices but also what framework would be best for the project at hand. I learned to use a frontend fitting with the function of the system, simple and clear, not something that is beautiful or striking. I also improved my analysis skills, trying to understand the requirements of my client. Protocols within companies were fun to learn about, discovering why they need to save emails and what information in them is important. This protocol was foreign to me, so I had to ask clarification on it from Paolo and also the people who used it to understand what the system had to do and why.

I had very little experience in AR, it was interesting and fun to learn to design and position content. Problems arose when trying out different layering mode, I had to navigate the web and use the zapworks documentation to find solution and try different things, like replacing content in the provided room or building the entire room myself.

I grew into a competent software developer that can solve complicated issues. By creating a daemon that automates a protocol foreign to me I was able to this, I translated the requirements of the client into a working system that saves time.