



STAYSYNC.

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1. Introduction

We, the students of Fonty's University of Applied Sciences, work as a group to approach the given problem and find suitable and logical solutions for them. We created an application to tackle day to day problems of a tenant in a student house.

The group consists of four people: Nazim Ahmedov, Hristov Desislav, Claudiu Badea and Luca Tomescu.

Claudiu is to be considered the team leader of the group, making sure everything is done correctly and approaches the team members if there are any points that we should pay attention to.

Nazim, Luca and Desislav will contribute as team members, putting their effort in so we can have a finished product.

2.Current Situation and problem statement

We've been approached by a student housing company to help them with various problems that's happening in their student houses. We created an application to tackle those day-to-day problems.

The company rents houses to students who move to The Netherlands. In the shared facilities, which are the kitchen, bathroom and storage spaces, there are some complaints that the company often receives.

This includes:

- Appointed persons not cleaning the shared facilities.
- Groceries are not done or paid for shared items such as toilet paper, dish soap etc.
- Garbage disposal is not done on time. - Unannounced parties, gatherings etc.

There are also smaller complaints that aren't being communicated by the clients.

Their expectations of our solution are the following.

They want:

- An application that can arrange day to day situations with the hopes it will reduce the number of complaints.
- An application that should be able to file complaints anonymously about several topics and record these.
- An application that shows the house rule. These should be updatable. - Extra features are optional.

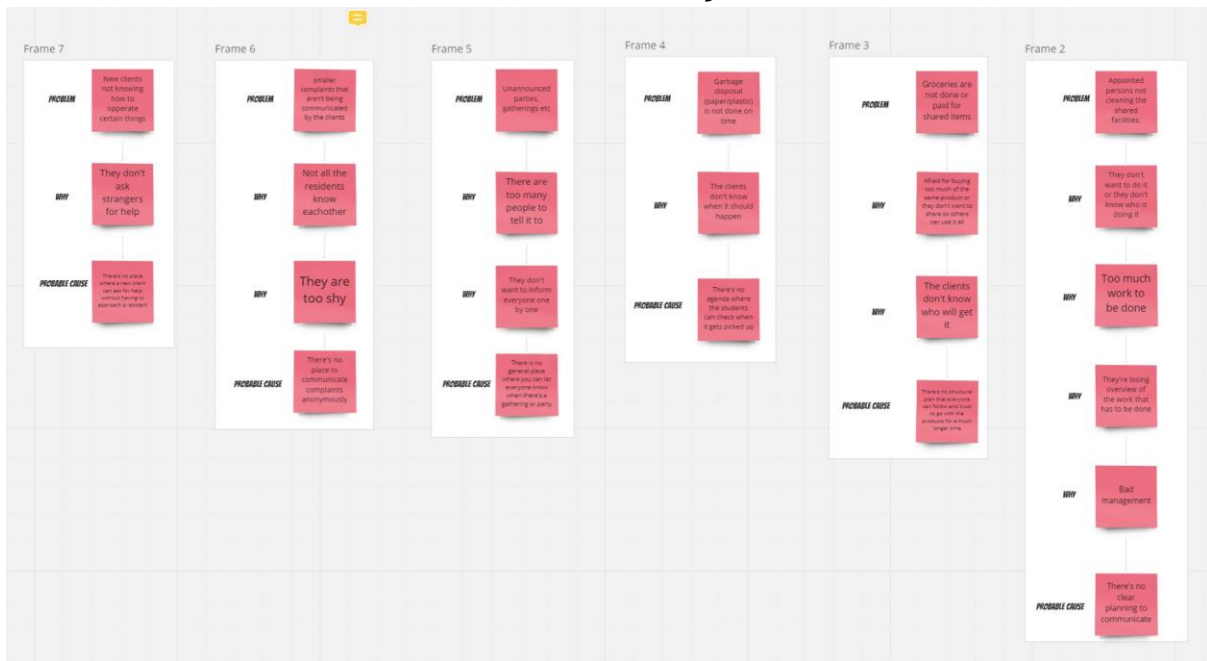
We mainly focused on the student's perspective and made the application as easy to use for them. A useful and long-lasting product is the main goal we have set for this.

3.Process

3.1 The first two weeks

In the first week, each of us sat down with each other and we made agreements and set expectations for the project. After that, we started the project by analysing the problems that have been given to us and brainstorming about it. We mentioned possible solutions that could be made. Not all of them may be used, but we wanted to list them down. We prepared the following:

A Root cause analysis:



3.1.1 Root Cause analysis.

Desislav made the root cause analysis and based on this analysis we started brainstorming solutions.



3.1.2 Mindmap/Brainstorming.

Here you can see the solutions we came up with in an overview.

Further that week, we filtered our brainstorm list and divided the work amongst the group. A planning for the next few weeks was made after dividing.



3.1.5 Picture of the first version of the planning.

All of us decided to start with working in separate files to figure out how we want to design our classes that we're going to use, while Nazim was the one to keep track of all the documents that we had to start on. There was a clear understanding of what to achieve with regular meetings twice a week.

3.2 Progress of the following weeks

Feedback quickly started to roll in every week. Regarding those feedbacks, we've taken appropriate actions.

It was pointed out that we think about too many issues that we may have to solve. We made security a high priority when this should not have been the case. We agreed to drop this as we were told.

We had a hard time understanding and making an UML, but we ended up with a better one in the end after practicing often with it.

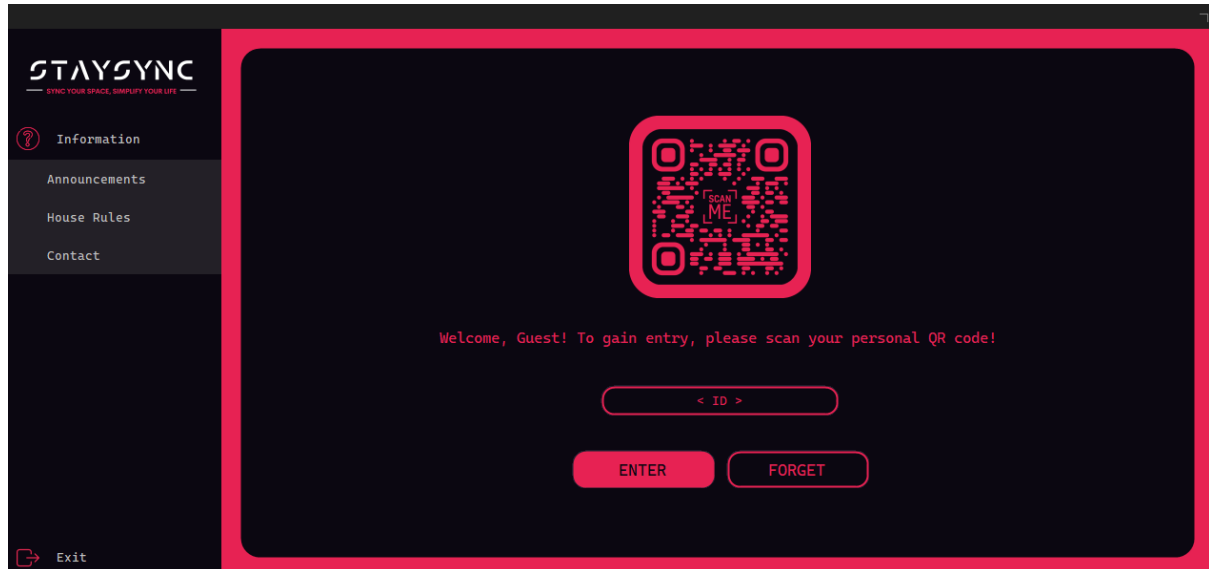
After we have gotten aware of these issues, we started to push our integrated work. Thanks to Luca's and Claudiu's quick work at the start of the project with the static user login system and form designs, it was easy for the rest of the group to adjust on the user accordingly. Nazim could work on the attendance page with the feature that only the logged in user can change their absence.

Although we all had a bit of struggles with encapsulation, we were able to help each other out. Our product became one big application slowly but surely. We made sure to communicate when someone will be working on the project, causing a rise in motivation and dedication. We helped each other when we needed it. We were guided to broaden our understanding of object-oriented programming and to keep our application simple, using the right techniques that we learn instead of getting too enthusiastic about different kinds of features. The last two weeks of the project was mainly focusing on adding and finalizing the final features in the application.

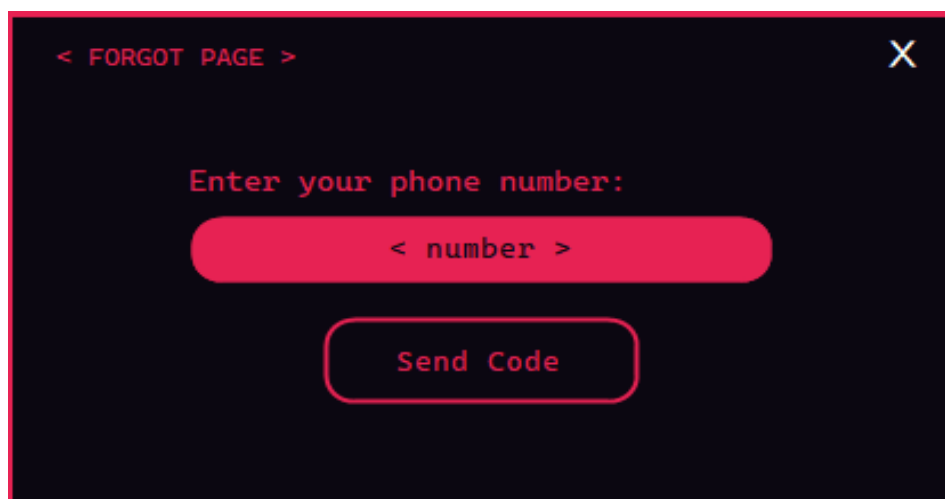
4. Results

4.1 Welcome page

Written and done by Luca Tomescu



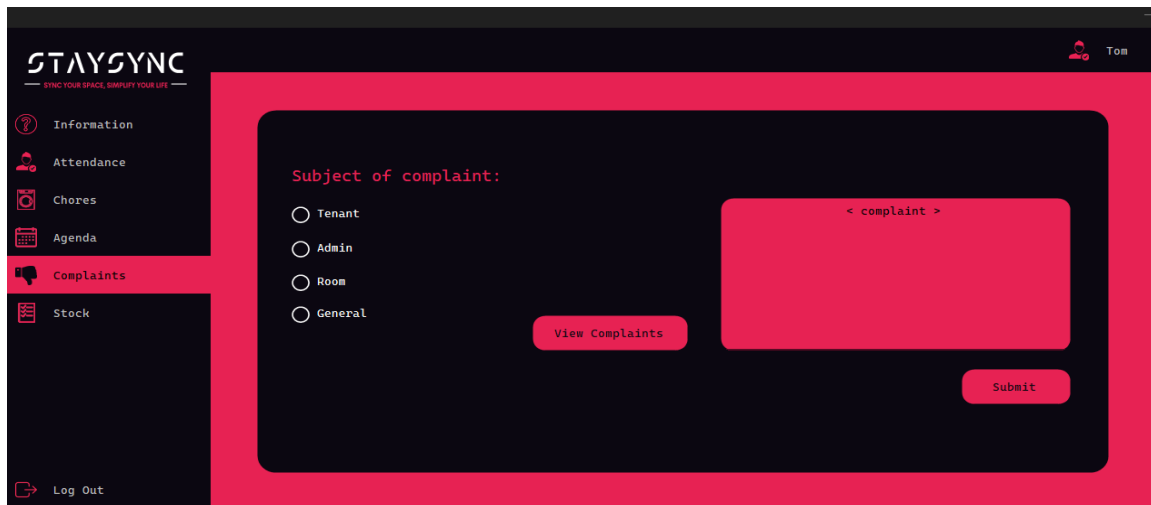
This is the guest welcome page which is shown whenever you boot up the program. It assumes that the current user is a guest and gives limited access to just a few tabs but if you scan your QR into the textbox and press ENTER you will be sent to either the admin main page or the tenant main page.




The FORGET page is used for recovering the code of the tenant or admin. First you fill in the phone number that is connected to your account and then you get a verification code. If you input the verification code correctly an email containing the code and a picture of said code will be sent to the account connected to the phone number.

4.2 Complaints page

Written and done by Luca Tomescu



The tenant complaint page allows tenants to complain about a subject. They can first select a subject and then specify who or what they are talking about before proceeding to write the complaint text and submitting them. The view complaint button takes the user to the view complaint page.



People	Rooms	General	Admins
From	Subject	Who/Where	Complaint
Tom Stephenson	TENANT	John Doe	test_1
Marilyn Jackson	TENANT	Jamy Lee	test_2
Jamy Lee	TENANT	Marilyn Jackson	test_3
Mary Jones	TENANT	Tom Stephenson	test_4
John Doe	TENANT	Mary Jones	test_5

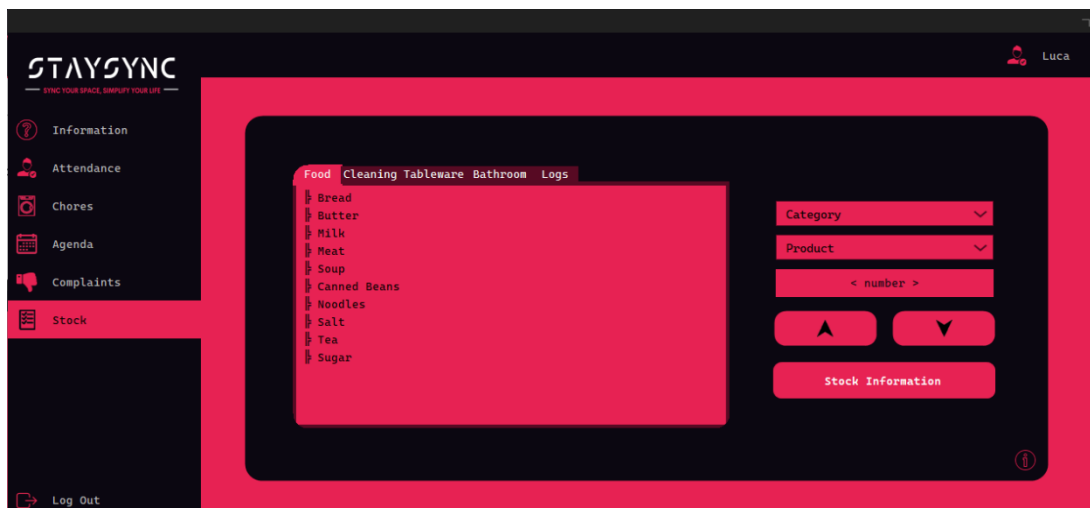
The admin complaints page is only accessed by an admin. Here the admin can view complaints made by tenants. Lastly once the admin has seen the complaint, he can press the delete button to delete the complaint.



The complaint viewer page is only accessible for tenants. It shows them complaints that are either about them, about certain rooms, or general complaints. The name of the person who filed the complaint however remains hidden unlike the admin complaint page.

4.3 Stocks page

Written and done by Luca Tomescu



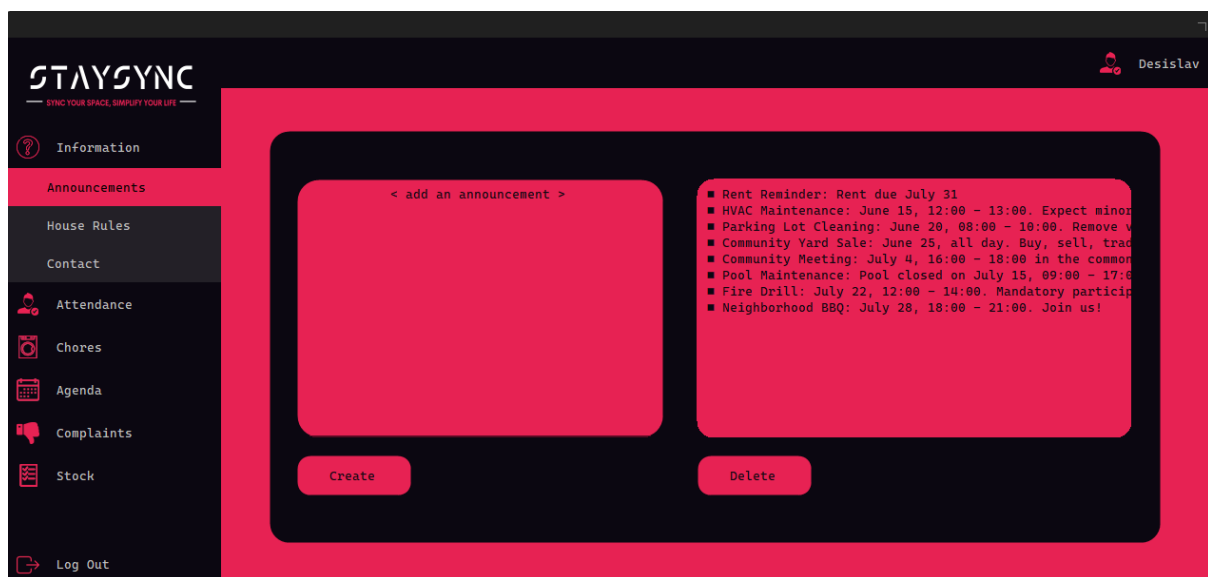
The admin stock page allows admins to look at the number of items that are left in the household. Admins can choose to increase or decrease the stock at will and even view who increased or decreased a particular item by how much and when.



And lastly, we have the tenant stock page, here tenants can simply adjust the stock of a particular item as well as view how much stock of an item is left.

4.4 Announcement page

Written and done by Hristov Desislav



This is the announcement page (only accessible by admins). Here you can create/delete/view announcements.



This is the announcement page for tenants. Here they can see all the announcements and when they double click the announcement or press the more info button, that specific announcement will show up.

Because the announcement page is the front page, and we make use of parent and child forms.

4.5 Agenda page

Written and done by Hristov Desislav



This is the agenda. Here admins and tenants can create an event. When you click on an event all that event information will show up.

In this window, you fill in the details for your event and it will be created.

4.6 Attendance page

Written and done by Nazim Ahmedov

Name	Status
John Doe	Absent
Jamy Lee	Present
Mary Jones	Absent
Marilyn Jackson	Present
Tom Stephenson	Absent

This is the attendance page. If a person is going on vacation and thus is absent, they can change their presence. It will only change for the logged in person and the admin can change anyone's presence.

You can search your own name for simplicity's sake.

4.7 Chores page

Written and done by Nazim Ahmedov



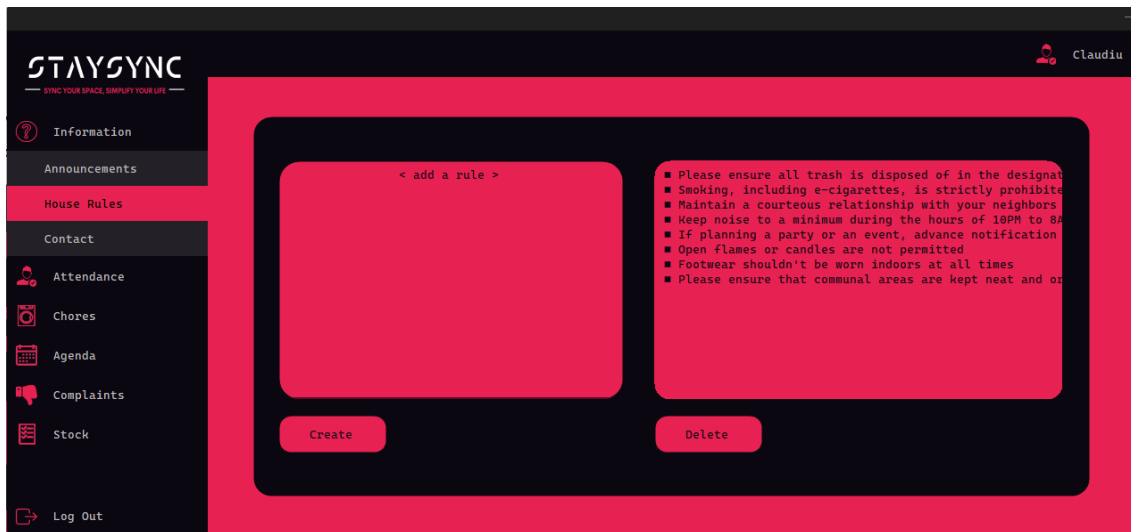
This is the chores page that the tenants will be seeing. Each chore will be assigned to a person if they are present. If they are not present, they will not be assigned to a chore. There is also a method that makes sure a person does not get multiple chores. However, if there are more chores than people, it is unavoidable.



The admin will see this as the chore's page. delete to it. I also originally wanted to make a timer that the admin can change as well. It determines how much time the tenants get to finish a chore.

4.8 House rules

Written and done by Claudiu Badea



This is the admin house rules page. Here the admin can add/delete rules. The purpose of this page is to allow the admin to implement new rules or change old ones so that the guest/tenant can view them and get the information they need.



This is the guest/tenant house rules page. Here the guest can view the rules added by the admin and get a view over at what's allowed or not.

4.9 Contact page

Written and done by Claudiu Badea

The screenshot shows the STAYSYNC application interface. The left sidebar contains a menu with options: Information, Announcements, House Rules, Contact (highlighted), Attendance, Chores, Agenda, Complaints, Stock, and Log Out. The main content area is a dark blue form with the following fields:

- Phone Number: < phone number >
- E-mail: < e-mail >
- WhatsApp Number: < whatsapp number >
- Address: < address >

A "Change" button is located at the bottom of the form.

The screenshot shows the STAYSYNC application interface with the Contact page selected. The left sidebar is the same as the previous screenshot. The main content area displays the following information:

CONTACT DETAILS

- Telephone Number: +3113 204 0149
- WhatsApp: +31 6 83 40 60 07
- Email Address: info@studenthousingholland.com
- Visiting address: Willem II 6A, 5038 BG, Tilburg

OPENING HOURS

- Visit us: Monday to Friday from 9:00 am to 5:00 pm
- Contact us by phone: Mon-Fri from 8.00 to 5.00 pm.

On the right side, there is a preview of a website with a "FAQ" section. Below the preview, there is a text block:

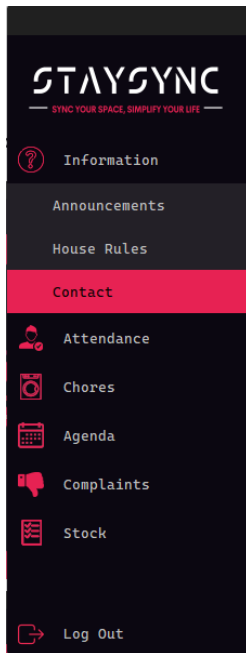
Emergencies? In dangerous situations, such as a leaking gas pipe and serious water leaks, you can reach us 7 days a week, 24 hours via +3113 204 0149

This is the contact page for the guest/tenant. Here the user can view relevant info on how to contact the organization if there are any issues or if any help is needed.

I also wanted to make it possible for the client to change the opening hours and emergency line as well, but I didn't have much time to implement the changes.

4.10 Tab control

Written and done by Claudiu Badea



Another thing I've made was the tab control that's docked to the left via a panel. It also serves as the main form. There's another panel above the tab control that opens the tab you intend to open. By clicking the buttons in the dock, it allows you to switch between pages depending on which user you're logged into. Clicking a tab button closes the current form and opens the page you intended to open.

I designed the prototype of the app, then the other team members added their own controls for the functionality according to what page they had assigned. I also tweaked all visual elements of all pages for the final product so that it matches with the aesthetic we were going for.

5.Recommendations

Our product is easy to use, due to our simplistic but overlooking design. All pages have self explanatory buttons and functions that explain themselves. It can be used for almost everything, but that means that you also need to login and mark it down. we could see that for some that will be a hassle.

We do not necessarily recommend another product. We just think you need to put in a bit more effort, but in the end, you have a good overview of all things that need to be done or that are taking place.

An issue that could occur is that the users can become forgetful, since you must keep it updated and check whether new announcements/events take place, you also must keep the chores in mind. However, this could be fixed by the house keepers to be more active and lead them to follow the application.

6. Reflections

6.1 Nazim

The teamwork was surprisingly going well. We we're taking our project seriously from the start and kept our promises to attend meetings, listen to each other's opinions and adapt to each other's style of work. Nobody had any hard feelings nor took anything personal. We kept looking from a professional point of view and handled our disagreements with a proper discussion and an end decision that made everyone happy. Claudiu was an irreplaceable team member. He helped the group often as he understood some code related subjects better than the rest.

As it was our second large project, making a prediction on how something will go was quite difficult. This led to eventually a bad planning and dip in progress after two weeks. We also were sometimes confused about what to deliver. We knew what we wanted to eventually have as a product, but we should've thought more about what to deliver with documentation. I took responsibility for a large part of that, but maybe I could share it more across the group next time and clear all my misunderstandings from the start. I was mostly confused about the difference between a Process report and a project report.

Knowing how a project would flow now, I can prepare a proper beginning to end view for the next time. Listing out what should be thought of throughout the entire project and writing this down. I also think having a recap of what we eventually should prioritize would be nice. Refreshing your priorities after a few weeks would keep us better on track.

Even with the setbacks that we have gone through, I'm happy with the end results of the product. I can see some things that we might have done in a different way which was also pointed out through feedback; however, I'm satisfied with our hard work.

6.2 Claudiu

A lot of work was done so fast and so well that I can't complain about the product. I'm really satisfied with how it came out, bringing my prototype to life together with my teammates, it's a nice feeling of accomplishment in the end.

The flow of the teamwork was amazing in the beginning, we all came up with ideas and decided on which things we should do, meetings and talks took place and we gathered to talk about our tasks, improvements or if we needed help with anything.

Communication has been a strong point, also helping each other out when we most needed it, or solving the shortcomings of others if they had personal troubles that came up. I perceive the project to have gone smoothly.

Honestly, I want to try meeting up with my teammates physically, over at someone's place or somewhere quiet that's not the university campus, just because I haven't done this with anyone and I want to experience it, do work but also have fun at the same time.

PHP and a DB for the QR Manager page, which I couldn't implement because it wasn't really that important since it's just a mock functional website, and there wasn't much time left.

6.3 Desislav

To put it simply I am satisfied with the product. The others put a fair share of work in their pages, and it came out nicely. The teamwork was good with Claudiu being the leader of the team and me being the support for any code related questions. All in all, the Teamwork was good.

Communication was key in the team as we had regular meetings to discuss what we were going to do and how things were going. The planning at the start was a bit poor as we did not know what to do and what to prepare for, but this was eventually solved with due time. Next time all I would do differently is wait before coding as problems will be explained in due time.

6.4 Luca

Overall, I am happy with it. The more time I put into it, the more I want to add or change to make it better but given the time I am not able to. The teamwork was great. We had regular meetings, and you could ask anyone for help. Personally I preferred the meetings in school rather than the meetings we had online. I see that we have grown as a group as you compare the teamwork in the beginning and right now at the end.

It is nice to work with people that pick up certain things fast as they can help me explain it. That was great to have in this group. Our communication went great as we had regular check ups. We started strong, had a dip and then we went strong again. So, we did not spread our work even among the total time.

This led to thinking we were ahead when we really were not that far ahead. This led to laid back behaviour for 1 to 2 weeks. So, we could use some work in the planning department.

7. References

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