

Advanced Phase SHC Project

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Introduction

The current document reports the process of creating a digital solution for the problems posed by Student Housing Company (SHC).

The SHC has received many complaints from tenants in several of their sharing properties about the common shared spaces and about unconsidered behaviors by other tenants.

The plan is to create a digital solution that can help the SHC by 1) monitoring the situation of the shared spaces in the rented properties, 2) offering an easier way to receive complaints to encourage communication between tenants and SHC, and 3) offering a clear platform where all tenants can be updated about the house rules, the agreements established, and about any direct announcements by the admins to the tenants.

Chapter 1 presents background information on the SHC and an provides an elaboration on the problems they are facing with. Chapter 2 describes the process that took place to create the solutions for the problems posed by SHC. Chapter 3 includes a conclusion and further recommendations about the app for future developers. Lastly, chapter 4 consists of my personal reflection about the whole process.

1. Background and Problem Statements

The Student Housing Company (SHC) owns and rents many properties to its clients, which are mostly students renting rooms in shared student houses.

The SHC has high traffic on their renting properties, given the rapid cycle of a student renting a room in the time of his or her study and leaving it when the study is finished.

The SHC has been monitoring the situations in their properties and tries to keep an open communication channel with the tenants renting from them.

The SHC has received repeated complaints from many tenants, from different houses, during many occasions. The SHC decided to hire a group of developers to help them create a digital solution which they hope will improve the tenants' reviews and solve the common complaints.

The SHC requested help for the following points:

1. Some of the tenants were not keeping their fair share of the house chores as they should have. The lack of proactive actions by some tenants led to untidy common areas like dirty toilets, showers and kitchens, garbage staying in the houses way longer than it should be, and some repetitive collaborative activities regarding the house maintenance have been neglected. Therefore, the SHC wishes to offer student houses the option to register chores in a chore calendar.
2. The SHC wants to make it easier for the tenants to share the costs of purchases that have to be made repeatedly and shared with others, like toilet paper, cleaning products, or the internet or washing machine renting cost.
3. SHC has received many complaints about sudden unannounced gatherings or parties. SHC wants a way to insure that all tenants are on the same page in case a party will happen, that no event should occur without the approval of all the tenants of the house, and that party plans can be recorded so in case of a dispute a log would be handy to look back at.
4. Lastly, SHC is not sure if they are receiving all the feedback from the tenants. Therefore, they want a way to enable the tenants to contact the SHC admins directly and anonymously to encourage the tenants to share their thoughts more.

2. Process

Group 1 (G1) started the project with a group meeting where we scanned the document of the SHC problems and requests. We had a brainstorm session about the document and checked if there was anything we could not understand.

All the members of G1 created an account on the platform that would hold our work together. The platform is GitLab. We practiced on it together to make sure that we acquired the needed knowledge to push and sync our code together.

G1 created an initial plan and initial idea on how the program should look like. We refactored the plan many times during the time span until the project finished.

The agreed plan between the G1 members was:

1. A monitoring system that insures that all tenants know exactly what they should do, make every house chore obvious when it should be done, by who, and make it clear to the admins and the other tenants if the chore was accomplished by the responsible tenant on time or not.
2. Adding a tap in the application where tenants can share product costs automatically while having a log of which tenants use the product and the costs of it. In addition to having a sharing balance for each tenant visible to all users to avoid anyone trying to take advantage of other tenants.
3. Creating an oriented communication tap that ensures that any party or gathering will be disapproved until all tenants a give consent that it is okay to them. The event management in the program aims to keep track on who approved and who disapproved a proposed event. In addition, creating an accessible list of all the house rules, a log of previous agreements that have been made before, and the possibility to create new agreements.
4. Tenant users should be given the opportunity to create complaints easily and anonymously and receive a reply if needed from the admins about the same complaint.
5. G1 decided on making an application in a way that it can be utilized by different scales of renting companies with different numbers of admins, and for different renting property sizes.
6. The app can work with an unlimited number of admins and tenants and can contain them dynamically in the GUI without the GUI being affected by the number of users.

3. Conclusion and Recommendations

I believe that the program satisfies the requested functionalities from the SHC.

The program's object-oriented development core makes it easy to extend the functionalities later on, if the SHC would face a new challenge that was not declared in the time period of making this project.

Recommendations for further developers include:

- The program can be extended to Android and IOS.
- The GUI of receiving the complaints can be enhanced with regards to the way of wrapping the text.
- The complaints functionality is currently designed to be a short way of communication between tenants and admins. However, it may be extended with a two-way messages functionality if the SHC would prefer this over having longer communication via email.
- The cost management balance currently has no restrictions. This may hold opportunities for some students to misuse the balance system. Therefore, future developers may look into possibilities to tackle this potential problem.

Evaluation and Reflection

As the Fontys introduction project was canceled due to COVID-19 circumstances, the current project was the first software group project that I did. I was excited and motivated to work on it since the beginning. The objects and instances allowed me to create my own functionalities with large independence. I found object-oriented development practical and logical and I found it much easier to scale and refactor the project when it is made out classes.

The team experience was nice and also really needed. Duarte and Omar both have more experience in programming than me and I have learned a great deal from their advices and patient determined attitude.

After finishing around 80% of the program at week 15, I experienced a significant drop in productivity, as keeping my energy high was very challenging for me while staying at home and working without much content hours or school contacts.

I found this project a chance to learn about my limits, teamwork, and about what I like about software.

I am now equipped with a more patient attitude and more realistic expectations about what can be done in similar circumstances. Moreover, my knowledge about software increased.

I now have better insight in the way I communicate with team members, and I formulated some focus points for myself to work on in the future.

For the coming projects, I will explore more knowledge from outside Fontys, as I discovered that I could have learned more if I had researched more.