STUDENT HOUSING GROUP PROJECT

Date: 15.06.2023

GROUP: S2-4

1. Introduction
2. Current Situation
3. Problem Statement
4. Process and Results
   1. Application Features
   2. Implementation and Testing
5. Evaluation and Reflection
6. Conclusion and Recommendations
7. **Introduction:**

The purpose of this report is to provide a detailed overview of the project undertaken by the team consisting of Danila, Ivan, Angel, and Ivaylo. The project aimed to address the challenges faced in the student housing facility through the development and implementation of an IT solution in the form of a windows form application (WPF). Specifically, the team aimed to solve the following issues:

1) students not cleaning the facility.

2) trash not being put in the trash bin.

3) incomplete grocery shopping.

4) unannounced parties.

This report will present the current situation, problem statement, the process and results of implementing the IT solution, an evaluation and reflection on the project, as well as conclusions and recommendations.

**2. Current Situation:**

There have been numerous problems with the student living complex, including poor sanitation, ineffective waste management, unfinished grocery shopping, unannounced parties. These issues have caused an unclean environment, damaged resident relationships, and a subpar living situation. Due to the failure of earlier attempts to solve these problems, a novel and complete solution is required.

**3. Problem Statement:**

The following are the primary issues found in the student housing facility:

1) Lack of cleanliness: Many students shirk their duty to keep the place clean, resulting in accumulated dirt, unsanitary conditions, and an unappealing living atmosphere.

2) Poor waste management: People don't put their trash in the authorized containers, which leads to littered common spaces, unpleasant scents, and possible health risks.

3) Inadequate grocery shopping: The lack of a comprehensive system for managing shared groceries leads to discomfort and arguments among the inhabitants, which results in insufficient supplies and unmet needs.

4) Unannounced parties: Regularly occurring unannounced parties cause noise disturbances, and violations of the rules governing housing.

**4. Process and Results:**

4.1 Application Features: To solve the problems found, the group created a desktop application using WPF:

- Task Management system: now every task (cleaning, groceries, trash) is assigned to a student on random basis. The owner of the building will be able to see who hasn’t done his part of the duties and act to that situation.

- Task schedule: every user now is able to see who is responsible for a specific task in a task schedule tab and will be able to see if he is in charge of the task not searching all around the application.

- Shared Grocery System: The program enables tenants to keep track of spending, and delegate responsibility for purchase, ensuring that necessities are always available. This promotes effective administration of shared groceries.

- Party Registration: As a way to ensure adherence to housing laws, reduce interruptions, and encourage responsible behavior, the app asks tenants to register any scheduled social gatherings. And our application allows students to vote for a specific event so users themselves will decide if the party will take place.

4.2 Implementation and Testing:

Our teem separated duties and started implementing different classes in importance order. We stumbled into problems such as miscommunication and procrastination. But in the end, we managed to achieve functionality that was an aim in the beginning.

**5. Evaluation and Reflection:**

After the IT solution was put in place, the project undertook a phase of review to see what could be improved during the next group project. We came up with following improvement point:

* Better time management and communication among teem members. That could lead to a much better final product and a more structured code.
* Having a TODO list for feature implementation. That would help a lot during the last development stage, because we were lost in tasks that have already been done and tasks that should be included. That made us spend extra time discussing what should be done and that time could be saved and transferred into improving code.
* More code showing to each other and giving feedback. In the end we found out that some parts of the code were very difficult to understand. That could be avoided by coding more in a group and discussing specific code blocks.

**6. Conclusion and Recommendations:**

We have successfully created a usable application with all the required functionality, to sum up. It is simple for users to log in, including using their Google accounts. Systems for party management and task management are included in the application. Users may become comfortable with the interface quickly because it is simple to use and intuitive.

We made sure that the classes were well separated in the code structure, which makes it simple to maintain. Despite not having enough time, it won't be difficult to incorporate databases in the future. The remaining logic can be maintained while only a few functions need to be rewritten.

We should concentrate on enhancing the team-building procedure going forward. Initial reluctance on the part of some team members to share their ideas and work hampered the introduction of some further features. We can get beyond these obstacles in future projects by cultivating improved communication and encouraging active engagement from every team member.

In conclusion, our efficient application demonstrates our diligence and hard effort. It offers a strong basis for future improvements with its user-friendly interface and well-organized code structure. We should put a priority on team cohesion and open communication to successfully incorporate all needed features in our next projects in order to assure even greater results.