

Project Plan

Student Complex



University of Applied Sciences

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Table of Contents

1. Introduction

2. Project Definition

- i. Project Background
- ii. Problem Definition
- iii. Project Goal
- iv. Expected Result
- v. Way of Working
- vi. Scope

3. Resources

4. Deliverables

5. Project Structure Organization

- i. Project Leader
- ii. Project Members
- iii. Tutors

6. Risk Assessment

7. Planning

1. Introduction

The project plan has been divided in 7 sections - Introduction, Definition, Resources, Deliverables, Structure Organization, Risk Assessment, and Planning. The problem and the background are defined inside the Project Definition. The number of team members and the constraints are also defined there as well. The Structure Organization section mentions the project leader, the members, the roles of members and the monitoring tutors. The possible risks associated with the project is explained in Risk Assessment section. The section Deliverables explains the whole process and the plans to be implemented in brief. And at last, the Planning section shows a breakdown of the tasks among the three people in the group as well as mentioning the timeline.

The main agreement among the group to create the project is "Finish the must-have elements first, then add the extra features." We as a team also agree to complete the parts assigned to individuals themselves, in-time. At all the time of the development process, all the team members will keep the deadline and other risk factors in mind. The requirement of the client gets the top priority in the process.

The completion is estimated to be within 7 weeks of the start of the project. All the further changes in the plan will be agreed between the 4. The tutor will have an overview of the progress every day.

2. Project Definition

2.i Project background

The student complex consists of 6 student apartments. Each apartment houses at least 4 students. The apartments will have an internal network (LAN), connected to each other apartment.

Each apartment will have the below features –

- Webserver including info of all people living in it
- Advertisement blocker
- Apartments can visit websites of different apartments
- One shared internet connection between all apartments
- A measured and validated security level
- Real time monitoring of energy consumption

2.ii Problem definition

As the student complex is for ICT students, they need an internet connection to communicate within themselves, and with other apartments. They need an ad-blocker to block unwanted ads and have a secured network. Moreover, it is preferable for the students to have the energy consumption monitored.

2.iii Project goal

The goal of the project is to have a stable network connection within the residents of an apartment and within the apartments. For each apartment, the goal is to:

1. Have a webserver
2. Have an ad-blocker
3. Monitor the energy consumption
4. Secure the network

2.iv Expected result

When the goals are met, we expect to have a full working system what will work seamlessly with other apartments and with the residents of each apartment. The Expected results are:

1. Webserver that all the apartments can access
2. Block all the ads within that network
3. Secured all browsing within the network
4. Brief details of the electricity consumption in the website

2.v Way of working

We are going to work every day and present our progress to the tutor, to get some feedback and improve our project based on requirements they ask us to. We are also going to divide the work among ourselves by working on the small things first to create a good foundation and evolve from there.

Task Breakdown:

- Maksym
 - Leader
 - Team coordination
 - Routing
 - Troubleshooting
 - IoT devices

- **Farhan**

- Front-end
- Server
- Documentation
- AdBlock

- **Rayane**

- Front-end
- Back-end
- Security tester

- **Murthid**

- Reviewer
- Bug tester
- LAN establishment

2.vi Scope

As the description says in the previous heading, we will create a network infrastructure for the student complex by having a LAN and a WAN, which will be connected to one internet connection. We will build a webserver for each apartment which will contain data about the residents. Also, all the residents will have a safe browsing environment with an ad blocker and a secure network connection. The energy consumption will also be monitored automatically. A Database Management System (DBMS) may be used to store and access data.

3. Resources

In this chapter we will give you a short overview of the resources that we will be using during this project.

Every member of our group has a laptop available to work on. The laptops will be used to make the website and write the necessary code and documenting the process of our project. So, to give a short overview we will be using the following programs on our computers:

- Word & PowerPoint – To document and demonstrate our work
- Visual studio code – to write code
- Virtual machine/VMware (Linux) – to test our network
- To realize the network, we received a raspberry PI and a switch with the necessary cables.
- Raspberry PI will be used for hosting the webserver.
- Switch will be used to make internal networking possible.
- Furthermore, we will be using the internet excessively for research and tutorials.

The teachers will also be considered a resource since we can ask questions and get feedback from our teachers.

4. Deliverables

MoSCoW Table:

Must Have	Should have	Could have	Will not have
Net kit & Routing	SQL Database	Firewall	Wireless LAN connection
LAN connection			Smart home
Local webserver			
LAN with external and internal connection			
Hosting the website	Monitoring system	Responsive website	Public availability website
IoT service			
Security	AdBlock	VPN	Two factor authentication, Fingerprint scanner

5. Project Structure Organization

Our organization will consist of four people. Due to the size of our organization every member will have specific thing to do in the project. For example, Murthid and Rayane will be the front-end and the reviewer and responsible for check the bugging as a bug tester.

5.i Project Leader

Maksym Holovin

5.ii Project Members

1. Maksym Holovin
2. Md Farhan Tahmid
3. Rayane Mouahbi
4. Murthid Al-habsi

5.iii Tutors

1. Ali Odaci
2. Jorg van den Berg
3. Bart van der Zanden
4. Mehrzad Verdizadegan

We all have to hold each other responsible and motivate each other to complete the task. Rather than having one leader we choose to make decisions as a group and the role of leader is more meant to keep each other in check so we don't procrastinate or hand in low quality work.

Communication is key to complete the project. That's why we have made some rules we must abide by to ensure the quality of our team work as well as our final product.

1. Let your team members know when you are: late with an assignment, not coming to school or you will be late.
2. Communicate regularly what and when you will be doing a task and give each member a specific time to show what they have done.
3. Ask for feedback every day.
4. In case of a disagreement, we vote.

These are the important rules to keep the team functioning.

6. Risk Assessment

In this chapter we will describe the potential risk that come with this project. We will also describe ways to mitigate the risks so that we can finish the project in time without any critical problems.

The risks are as follows:

1. Activities are missing from scope:

When we overlook important activities that needs to be done. We can mess up our workflow.

Disrupting the workflow is never good and when it happens you need to get back on track as soon as possible.

2. Authority is unclear:

Authority should be clear. In a project it is important that there be a person who makes executive decisions. That will improve the work process of the project and avoid unnecessary delays.

3. Decisions are incomplete:

Decisions are made to make progress within a project. Neglected decisions meaning decisions that are left unfinished can derail the progress made within a project. If we cannot agree or complete an important decision the project will simply come to a stop which can result in missing deadlines.

4. Estimates are inaccurate:

When you plan for a task, you also estimate the time it will take to finish the task. Often you will take longer than you planned which can result in delay and in the worst case failing to achieve the deadlines.

5. Design is not fit for purpose:

The front end is the first thing a customer noticed. After all we are not all a computer expert. So, it is important that everything is easy to understand for everyone. Especially when you are selling a service. Design can make or break your product.

6. Design is infeasible:

When we as a team set unrealistic goals. It will result in poor execution and failure to meet the requirement of the client. It is therefore important to be realistic in making decision regarding design and the rest of the project.

7. Low team motivation:

The team is essential to make the goals a reality. Without a team there is simple no product. Keeping the team motivated is important to finish the project in a good and reasonable time.

8. Users have inaccurate expectations:

The final project might be way more different than what the client was expecting due to miss communication between both ends. The same can go the other way around like explained in the point 10 Project team misunderstand requirements.

9. Team members with negative attitudes towards the project:

Team member who does not believe in the project will show it. Through negative comments, his appearance etc. This can negatively impact the motivation and workflow of the other members of the team.

10. Project team misunderstand requirements:

There is nothing worse than wasting time. When you don't understand the requirement, you can and should not work further on the project because that will lead to an incomplete product. Within a business this is fatal and will lead to angry clients.

Risk	Probability	Impact	Mitigation
1	Likely	Extremely harmful	By constant reviewing our process we will avoid missing activities.
2	Unlikely	harmful	Before the start of the project a team leader was assigned.
3	Likely	Harmful	Finish a decision before continuing and if we are stuck the team leader makes an executive decision.
4	Highly likely	Harmful	Plan ahead of the deadline and leave some extra time in case we need it.
5	Unlikely	Extremely harmful	By testing our design, we can make sure it is clear.
6	Likely	Slightly harmful	Be realistic and make decisions based on our knowledge and skill level.
7	Likely	Harmful	With a good planning we can take breaks and divide the workload, so we don't lose our motivation
8	Likely	Harmful	Always reporting feedback to the client to make sure all parties understand the task
9	Likely	Harmful	By make a few basic rules we can mitigate this risk. If that doesn't work, we can remove the member from the team assuring a good work environment again.
10	Highly unlikely	Extremely Harmful	By checking on the requirements with the teacher as well as other teams we can make sure that we understand the requirements correctly.

7. Planning

This is how we as a team plan to break the tasks down in a weekly basis:

Link to the Image: <https://imgur.com/a/6WZpZwI>

