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Project Description

SEP2

# Background Description

In human development, education plays a very important role. This, in turn, is the duty of a teacher, in any educational institute – to shape pupils’ behavior and attitude from a young age while they are still easily influenceable. [[1]](#footnote-1) The way that these individuals are modelled as children is the way they will grow up as adults, given that they will naturally associate parents and teachers as role models. Parents, being the most present people around youth, have a very strong capacity for influence, as children, as well as teenagers, seem to observe and imitate the behavior of people around them. If repeated enough, different behavior and attitude ‘can become character for them’.[[2]](#footnote-2)

A consequence can be drawn from the statements above – parents and teachers alike make the greatest difference in early human development, probably until puberty. For this reason alone, these two parts need to communicate and report any problems, in order to be able to fix flaws or create improvement in children’s behavior.[[3]](#footnote-3)

This project would like to facilitate parent-teacher communication in an educational context, with the goal of fixing and preventing behavioral issues, but also encouraging children to find their character and personality. Contact between these two parts is already possible through phone calls or text messages, using mobile applications, such as WhatsApp, to keep in touch. These have proven fast and efficient over the years, as they can boost the trust between parent and teacher, as well as offer the parents a sense of involvement.[[4]](#footnote-4)

These methods appear successful, although it would seem as though they are not always convenient and sometimes do not provide a detailed-enough overview of the pupil’s behavior, grades or problems. Hence the reason why this project wants to offer parents a closer, personalized, more intimate look into their child’s day to day life at school by giving access to a full analysis of grades, complaints, class updates, attendance, teacher’s comments, and the possibility to schedule a 1-on-1 meeting. Such digital systems exist already around Europe – the Danish school portals[[5]](#footnote-5) or Romanian online gradebooks[[6]](#footnote-6) – yet, they do not offer nearly the same number of features as the project introduced here.

Therefore, a larger-scale solution, including more detailed and personalized experiences for both teachers and parents, has the potential of boosting interpersonal trust and helping pupils grow into better and more successful individuals, through communication.

# Purpose

The purpose of this project is to create an efficient, sustainable system to store data about an institution’s pupils, teachers and pupils’ parents, in a database, as well as facilitate a connection between teacher and parent to communicate.

# Problem Statement

## Overall Problem

European schools are in need of a quick to access system that stores student grades, attendance and communication between teachers and parents inside a reliable database. The lack of such system pushes schools to use physical storage such as notebooks and grade books.

## Partial Problems

How to make the system sustainable, so it is easier to add new features and change the code later.

How to make the system user-friendly, so it is easy and comfortable to be used by an everyday user.

How to connect the database to the system.

How to create a login function, giving an authorized access to users.

How to make an admin log-in, giving the admin access to the database.

# Delimitation

- The RMI network connection will be done locally, and will not use internet access.

- The system will be made into a database.

- The system will not have a stronger security aside from a log-in authentication.

- The data in the system will be updated once a login has occurred.

# Models and Methods

This section of the paper shows the model of how the group decided to solve their problems. First off, it was important for the group to realize what they were working on. That can be seen in the section “Problem Statement”, where the group forms some problems they are going to face in this project. Afterwards they delimit the amount of things they can actually work on, based on knowledge and time.

## Problems

In the following model, you can see how the group solved some of the problems in this project. These are general problems, which can occur in any project. Furthermore, it is important to answer the problems found, which this model does.

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| --- | --- | --- | --- |
| **WHAT**  Partial problem? | **WHY**  Do we wish to study this problem? | **WHICH**  Methods will be used? | **HOW**  Will we make our research? |
| How to make the system sustainable, so it is easier to add new features and change the code later. | To make it easier to go back and fix mistakes and to change/add features in the future. | Research from the books and guidance from our supervisors. | Look at previous projects and figure out what can be done differently or improved. |

|  |  |  |  |
| --- | --- | --- | --- |
| **WHAT**  Partial problem? | **WHY**  Do we wish to study this problem? | **WHICH**  Methods will be used? | **HOW**  Will we make our research? |
| How to make the system user-friendly, so it is easy and comfortable to be used by an everyday user. | To make sure the user can figure out how to use the system, without making mistakes. | Research from the internet. | By going through similar systems and their interfaces. |

|  |  |  |  |
| --- | --- | --- | --- |
| **WHAT**  Partial problem? | **WHY**  Do we wish to study this problem? | **WHICH**  Methods will be used? | **HOW**  Will we make our research? |
| How to connect the database to the system. | To get the system up and running with a database. | Research from the books and guidance from our supervisors. | Do exercises on the topic until we have found solution that satisfies the group. |

|  |  |  |  |
| --- | --- | --- | --- |
| **WHAT**  Partial problem? | **WHY**  Do we wish to study this problem? | **WHICH**  Methods will be used? | **HOW**  Will we make our research? |
| How to create a login function, giving an authorized access to users. | To make sure only those who are supposed to use the system have access. | Research from the books and guidance from our supervisors. | Exercise with patterns and made up algorithms. |

|  |  |  |  |
| --- | --- | --- | --- |
| **WHAT**  Partial problem? | **WHY**  Do we wish to study this problem? | **WHICH**  Methods will be used? | **HOW**  Will we make our research? |
| How to make an admin log-in, giving the admin access to the database. | To make sure someone has access to the backend, to fix any potential errors. | Research from the books and guidance from our supervisors. | Trial and errors, since the group has an idea of how to it. |

# Time Schedule

The group will use SCRUM as it progresses through the project. Every sprint will have roughly the same ratio of Analysis, Design, Implementation and Testing. More time will be invested in Analysis and Design as the overall goal of the process is to create a system that comes the closest to the envisioned design.

The time spent on Analysis will give an overall idea of what should be done in the design part. All the features will be carefully looked at, discussed, researched and planned so the group is prepared to initiate a proper design phase.

The group will tackle with new problems and a proper planning is required. That is why the Design phase will take up most of the time spent on the project. Every feature will be carefully examined and discussed, as well as its alternative solution in case the feature takes more time to be integrated into the system.

If the Design phase is executed properly and it addresses everything in detail, then the Implementation and Testing phases should not require a lot of time.

Ultimately changes to the Design can occur, and as a response to that, the group has planned to invest some extra time into Implementation and Testing.

Taking in consideration that one ECTS is equal to 27.5 hours of work, every group member will have to spend approximately 280 hours on the project. The combined work time of all group members sums up to 840 hours. The graph below is a visuaRepresentation on how the time will be sorted.

# Risk Assessment

## Lack of Constant Verification

Without the regular check-ups and validation from the supervisors at every step of the way, such as the ones in SEP1, it is naturally more likely for teams to feel more insecure or unsure about specific aspects about the project. It is possible the group might be hindered by specific tasks that the supervisors are not allowed to offer guidance through or tasks that are not validated at all before the final project hand-in. This could cause frustration amongst the group members, as well as periods of possible unproductivity and demotivation.

## Personal events:

Personal dealings differ from person to person and considering the group consist of four members, that can come as an issue. Unexpected job callings can occur and interrupt a scheduled meeting or postpone an assigned task. Three out of four members are not from Denmark, therefore the project will slow down during holiday periods as a consequence of traveling. As a result of bad weather, some members might get sick and be unable to work on the project for a certain amount of time. Family business and spouses have a chance of delaying the process of work.

## Time Schedule

A time schedule can help any kind of project or group work for the better. However, there is such a thing as a bad time schedule. Which will only hinder the project and make it harder to progress. There is also the possibility of not having fulfilled or followed the schedule, which again will only give problems. Making a proper schedule and following it is the ideal way of making a project. When making a time schedule it is also important to document if things are finished in time or not.

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1. <https://files-eric-ed-gov.ez-aaa.statsbiblioteket.dk:12048/fulltext/EJ1077393.pdf> (2.2) [↑](#footnote-ref-1)
2. <https://files-eric-ed-gov.ez-aaa.statsbiblioteket.dk:12048/fulltext/EJ1077393.pdf> (2.3) [↑](#footnote-ref-2)
3. <https://files-eric-ed-gov.ez-aaa.statsbiblioteket.dk:12048/fulltext/EJ1077393.pdf> (2.3) [↑](#footnote-ref-3)
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