„Children are our future” sings Whitney Houston in her song with the same title. This quote is repeated more and more often, however, it is not indicating the importance of children on their own, but the importance of shaping them. This topic is strongly associated with education. In the world of today being educated is one of the most vulnerable qualifications. [[1]](#footnote-0)Bearing that in mind, a great attention to school is being paid. The most desired competencies in the 21st century, which should be cultivated by the educational system are: interpersonal skills, self-discipline, creative, innovative thinking, knowledge of foreign languages, interpersonal skills, communicativeness, teamwork, mobility and flexibility.[[2]](#footnote-1)

Unfortunately the traditional schooling is inclined toward passing tests instead of preparing for life and teaching vulnerable skills.[[3]](#footnote-2) That is the reason why innovative, modern educational concepts and schools are growing in importance.

One of those schools is eNTe. eNTe is a small non-public, modern, free school basing on internal motivation of it’s students. It is increasing both critical and scientific thinking of its students. Moreover its focus is on teaching about democracy and with means of democratic tools. The rules in the school are established on the basis of consensus after discussions of the school community. Each week there is a plenum organized where the discussions are being held.

However, this indicates an issue. It is expected to establish the rules as a school community, i.e. all students and teachers together. Due to the fact that the meetings are being held at school, absent members (e.x. sick students or busy teachers) are not involved.

That leads to the needs of eNTe. It requires a system, where the discussions concerning the rules could be held. It would not only enable all students and teachers to participate in them, but also involve the parents. Moreover it needs a place to gather arguments and perform discussions on a variety of topics to enable the members of the community to acknowledge different opinions and basing on them come to compromises, as well as to increase their critical thinking and tolerance.

Another issue being faced by eNTe are homeworks. It is easy to forget the deadlines for assignments when they are being announced in advance of one or two weeks. That is why the school is in need of a place to store all the most important information concerning them: the topic, criteria, the number of students to deliver it together and the hand in date. Additionally, in the thought of being green, the institution desires a possibility for the students to deliver their homework electronically, in order not to waste paper.

Regarding the matter of teamwork, which is one of the core skills in eNTe, a place to hold chat groups would be valuable. Not only would it simplify work in groups at home, but also would leave a footprint for the teachers concerning how each person performed, as well as how the whole group cooperated.

Another issue is the parental matter. As the fundamental of eNTe is communication, parent-teacher-child meetings are being held approximately twice a semester. What is causing difficulties in this area, is the logistics. The school needs a solution that would simplify scheduling meetings.

Last but not least the school is striving for excellence, in the meaning of exploring new means and solutions constantly. What that indicates, is the need of a maintainable system, in which there could be implemented new functionalities and made changes continuously.

Eventhough school dedicated systems already exist, none of them meets all of the needs of eNTe. eNTe is an individual and original school with specific problems, what resolves in a need of an unique system dedicated specifically for it.

# Purpose

The purpose is to make a maintainable system for eNTe that provides communication between students and teachers in the term of caring out discussions, posting and submitting homework, as well as arranging meetings with parents.

# Problem statements

Questions to be answered are the following:

1.How to store data about blablabla?

2.How to display different information for different user types?

3.How to make the system easy to extend and provide new functionalities?

4.How to provide communication between users?

5.How to make a secure login system?

6.How to schedule meetings?\*

# Delimitations

1.The system will not be a web service.

2.The system will not send sms’s.

3.The system will be adjusted only for eNTe’s needs.

4.The system will not store files.

5.The system will be only for members of eNTe school, not for members of the kindergarten as well.

# Choice of model and method

|  |  |  |
| --- | --- | --- |
| **What**  Partial problem | **Why**  Why study this problem? | **Which**  Which models/theories are expected to be used to solve the problem? |
| How to store data about users and their activities? | To enable an easy access to the data | Using PostgreSQL |
| How to display different information for different user types? | To restrict user access to information | Dynamically changing GUI |
| How to make the system easy to extend and provide new functionalities? | To have the possibility of developing the system further - i. e. database compatibility | Use UML modelling and design patterns |
| How to provide communication between users? | To allow changing information between users | Using client/server architecture and sockets |
| How to make a secure login system? | To provide user security | Using SHA hash function for encrypting passwords |
| How to schedule meetings?\* |  |  |

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# Time schedule

Project is divided into 13 one-week sprints. Scrum meetings are planned as follows:

1. 15.03.2018 - Inception ends - Elaboration starts
2. 22.03.2018
3. 29.03.2018
4. 5.04.2018 - Elaboration ends? - Construction starts?
5. 12.04.2018
6. 19.04.2018
7. 26.04.2018
8. 3.05.2018
9. 10.05.2018
10. 17.05.2018
11. 24.05.2018 - Construction ends? - Transition starts?
12. 31.05.2018
13. 7.06.2018 - Deadline

# Risk assessment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **RISK** | **PROBABILITY** | **IMPACT** | **EFFECT** | **RISK REDUCTION ACTIONS** | **RESPONSE** |
| Change  in user requirements | Low | High | Time, full project completion | Agreed requirements before | Implement project change, postpone deadline |
| Group member’s illness | Medium | Medium | Time | Divide group work in small tasks | Redistribute group work |
| Technical  breakdown | Medium | Medium | Time, completion of key tasks | Work with reliable technical equipment, Backup important files | Replace with alternative stuff |
| Group member’s sabotage | Low | Medium | Time, concord among group members | Team-buildings | Redistribute group work |
| Unrealistic planning and scheduling | High | High | Time, full project completion | Detailed pre-analysis of time schedule | Postpone deadline |
| New  group member | Medium | High | Rescheduling work, changing work, new member introduction | Be assertive | NO |

1. Michael Schulte-Markwort, 2015. *Burnout-kids. Wie das Prinzip Leistung unsere Kinder überfordert.* [↑](#footnote-ref-0)
2. Institute for the Future for the University of Phoenix Research Institute, 2009. *Future Work Skills 2020.*  [↑](#footnote-ref-1)
3. Daniel H.Pink, 2011. *DRiVE.* [↑](#footnote-ref-2)