Process Report

Group 2

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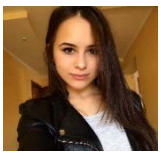
Dementie Bors-279948 

Justinas Jancys-280151 

Nicoleta Sova -267069 

Supervisors:

Jan Munch Pedersen

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VIA UNIVERSITY COLLEGE

Software Engineering

3rd Semester

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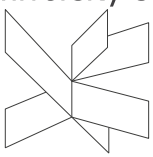

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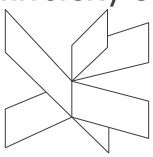


Introduction

This semester we went through a tough path. A lot of work, meetings, discussions, debates and researches where made in order to make our project.

We got a new member in our group -Sabin-Daniel Sirbu but after 3 weeks Simona Daniela Amarandei-Timus dropped out, so this semester we were 4 in our group.

Difficulties that we had during SEP-3 were solved when we had meetings - every Wednesday. We had meetings with our supervisors, and they gave us advises on how to solve some issues. Also, on Wednesdays we met to discuss about the project, divide the tasks and work. Meetings were about 5 hours, but we stayed more if we needed.

We used GitHub for version control so everyone could have their own branch that they can work on and after we finished our work, we would merge everything to the main branch.

1 Group Description

We are group number 2. We are 4 members: Dementie Bors, Justinas Jancys, Sabin-Daniel Sirbu and Nicoleta Sova.

- Justinas is 20 years old and he is from Lithuania Kaunas-city. He finished Catholic Gymnasium in his country. Justinas knows 3 languages: Lithuanian and English, German. He finished several courses at a weekend young computer users' school. He was taught programming and robotics. Also, he knows, web design and web programming and C++. He took a part in extra lessons for programming and robotics to develop his skills. He knew that he will choose this area of Software because he already had a knowledge in this.

- Dima is from Moldova, he is 24. He has finished faculty of Electronics and Telecommunication. In Moldova he had an internship at "Extralan" a company of Network administration. He knows 3 languages: English, Romanian and Russian. Dima chooses to study here because he has a background in this area. He wants to improve his knowledge and VIA will help him to achieve his goal.

- Nicoleta is 22 and she is from Romania. Nicoleta's hobby is writing. She has been studding at Medicine College in Romania for 3 years. She knows 3 languages: Russian Romanian and English. Nicoleta has been studding in VIA at Marketing for 2 semesters. In High school she liked Math and informatics, so she decided to take this area.

- Sabin is 20 years old and he is from Romania. He studied mathematics and computer science in high school. He is passionate about volunteering and eager to help the people around him. He also likes to learn new languages and develop himself. His biggest issue is that he loses his focus easy, that is why he needs to be supervised, and then put back on track.

2 Project Initiation

The most important phase in our project is Initiation phase. In this stage we define the scope of the project and the way of how we would work during these months.

The idea for the project was chosen after some debates, were all of us came up with an idea. From the beginning we choose Simona's idea. She was working at Siemens Gamesa and she came up with "Wind turbine" idea. At the moment she quit the university we had to choose another idea because we would not be able to implement the system without any information. We chose Dima's -" Sanitation Company". We thought it is more relevant in order to fulfill the requirements for this semester.

Based on one year of work with the same members of the group, we are a strong group in our opinion. Moreover, we got a new member, Sabin, which gave more movement in our group.

We worked on the project together. Sometimes separately or from home.
The agreement of working and helping each other was the most important for us so we tried to follow this rule in order to help the person who was stuck at one moment.

The main tool that we used was Excel because we needed to arrange our SCRUM Sprints. We start our project by choosing between the ideas of the project. A big help were the teachers who gave advices about what company to choose and which will be more relevant for this semester.

2.1 Project Description

"Prest Energy" is a company which provides sanitation services, parks arrangement and 30 other things in Chișinău, Republic of Moldova. The company incorporates 4 departments:

Administration – makes contracts with small, medium, and big companies to provide sanitation services;

Cashier – makes contracts with homeowners, and if the administration allows making a contract with a specific small company. Also, the cashier can supply the account for customers paying by cash and record new orders for extra services. For example, someone needs a SKIP container or draining the sewer;

Accounting – gets data from the Excel file that the cashier created and inserts the data in another program called "1C" then from that program the accountant can make and print the invoices;

Drivers and auxiliary workers – at the beginning of the day they get a paper with customers who did not pay for services and another one with new contracts and during the day they are collecting the trash bins, after that they are starting to deliver the trash bins for new customers.

The problem that the company is facing is that the departments lack communication with each other.

The current system that the company has in place consists of a Microsoft Excel file. The system stores the customers' data. For example, the customers' names, address, and if the customer paid for the services or not. The current set allows the drivers to download the excel document and work without the internet connection.

The goal for this project is to deliver to our customer a tool that will ease their work.

1. Deliver a working system.
2. Fulfill customers' need.
3. Make an easy to use program.

3 Project Execution

There are 4 members in our group. It is estimated that each member will put in 280 hours of work into the project - in total 1120 hours'

3.1 Unified Process Model

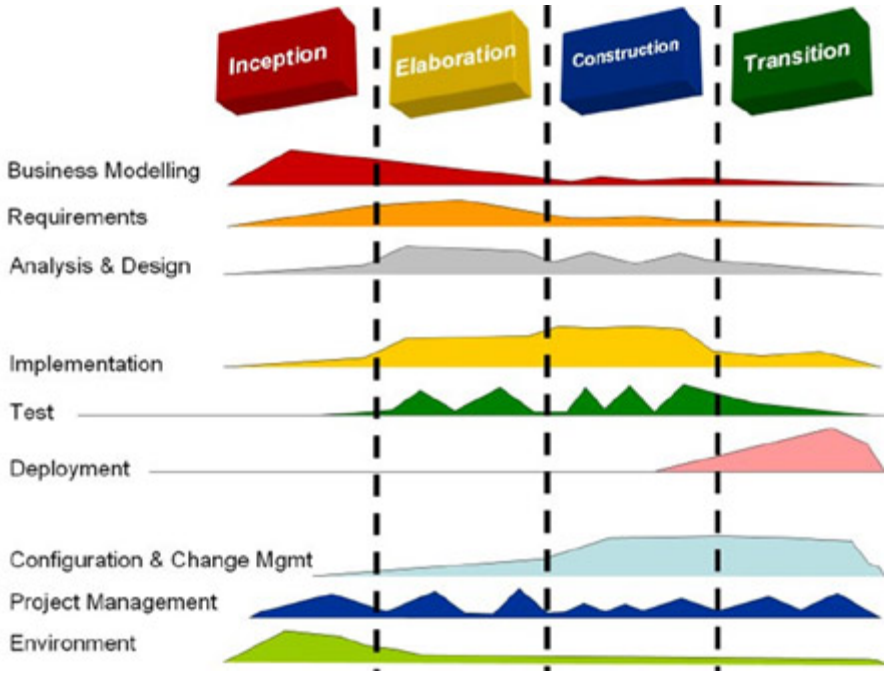


Image 1 Process Model

3.2 Inception

In this phase we debated if the project that we picket if it is worth to be chosen. We thought if we had time to make it and we agreed that it will be the perfect choice for us.

The main goal that we want to achieve with this project is to make the life of our client easier, so this is the aim of the project.

Use case Model:

The use case model shows how users work together with the system.

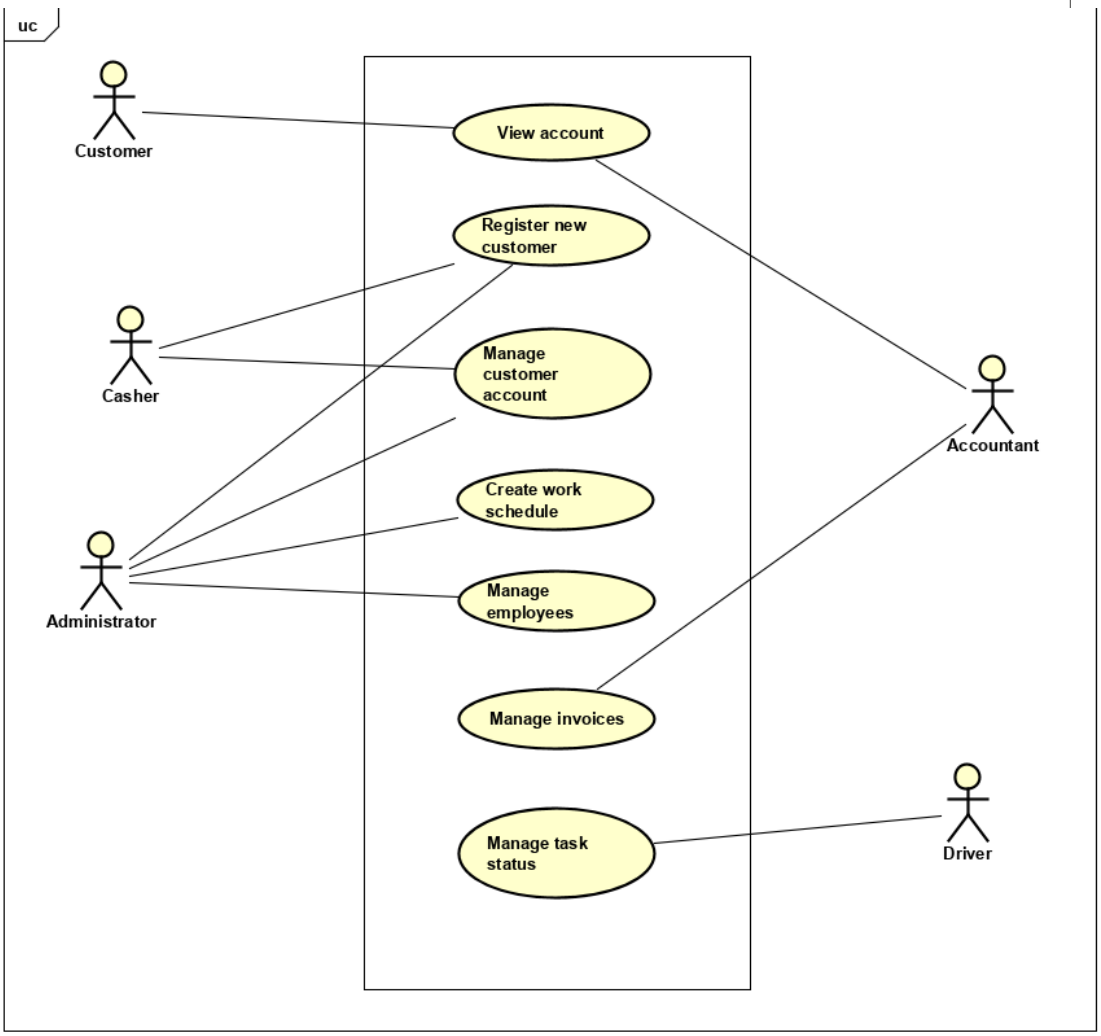


Image 2 Use Case Diagram

3.3 Risk list:

1. Personal life:

   We are 4 in group and we all have our personal lives that includes job, family, activities. Surprising job calls can make some of us not come at the meeting or even make us reschedule it.

   We are from different countries and we have different times when we would like to go home.

   Sickness is also a risk that can create little problems to our project because the person who is ill will not be able to work enough.

   The best way to overcome these problems is just to understand. Also, we have to communicate everything so it will not affect the process of work.

2. Project:

Because the company that we took the idea from is in Moldova we had a big risk not to be able to have all the information that we need. We had to work with what we have.

3.4 Elaboration

In this phase we bettered the information that we collected in previous phase. The design and domain model are made (More about that can be found in “Project Report”).

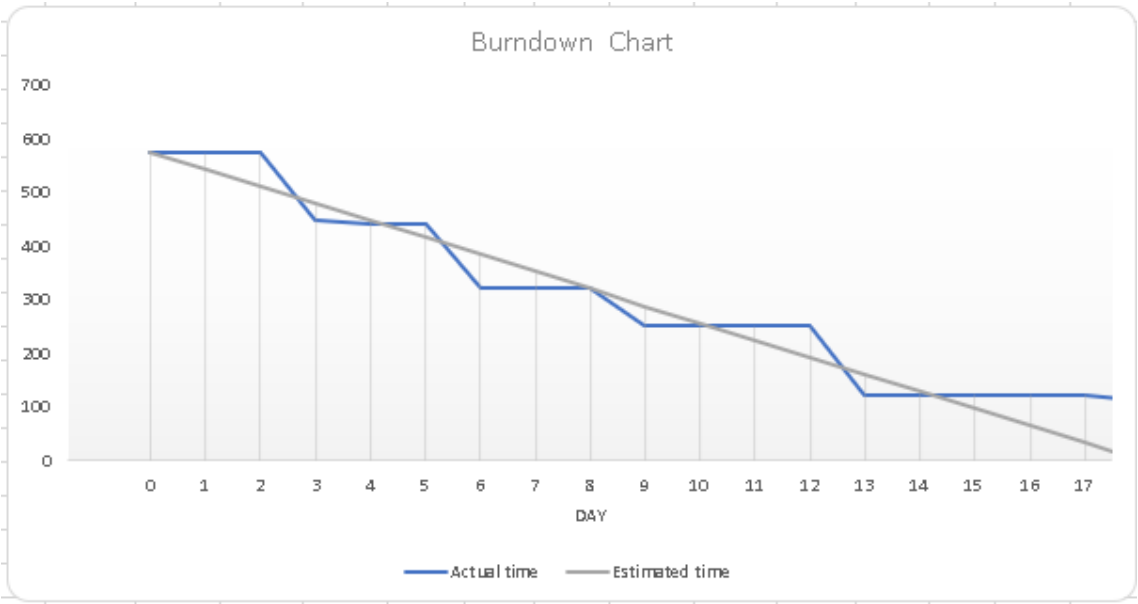


Image 3 Burndown Chart

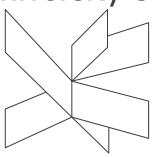
3.5 Product Backlog

The collection of all user stories has been placed in the Product Backlog. It contains a list of items, where each item has an ID, level (low, medium, high, critical) and estimate hours.

Table 1 Product Backlog for Prest Energy company

ID	Priority	Estimated. h.	Item
1	Critical	25	As an administrator I want to be able to give access from the drivers to edit client’s data for that specific day, so that the drivers could pick up trash and log it.

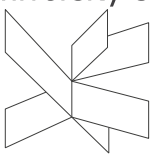
2	Low	5	As an administrator I want to upload contracts into the system in a pdf format, so that I can have access to all the customers who requested the company's services. (saved with the name of the customer and the number of contract).
3	High	10	As an administrator I want to be able to register new clients to the system
4	Medium	15	As an administrator I want to be able to register new employees and give different access for them.
5	High	20	As an administrator I want to be able to create a schedule for the drivers, so that the drivers know when to go to which area.
6	Medium	10	As an administrator I want to be able to view all clients that are registered to the system
7	High	13	As a casher I want to be able to register new clients to the system.
8	Medium	5	As a casher I want to be able to add money to their accounts. (no bank transactions) (log every transaction that the casher does)
9	Medium	19	As a casher I want to be able to undo the changes to customers account for 24 hours.
10	High	20	As a driver I want to be able to see which customer need they bins emptied.
11	High	20	Drivers should be able to log how many trash bags did they collect on each customer's account.
12	High	29	As a driver I want to be able to mark which customers bins have been emptied.
13	Low	10	As an accountant I want to print invoices for each client.
14	Low	15	As an accountant I want to be able to view all the clients that are registered to the system
15	Medium	17	As a customer I want to be able to view my balance in the account.
16	Low	20	As a customer I want to be able to download my invoice.
17	Medium	20	As a customer I want to be able to see when the collection day is.



Sprint 1

Table 2 First Sprint

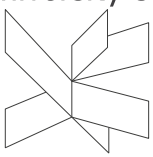
ID	Priority	Responsible	Estimate h.	Item	Actual h.
1	Critical	Sabin	25	As an administrator I want to be able to give access from the drivers to edit client's data for that specific day, so that the drivers could pick up trash and log it.	28
				UseCase diagram	
				UseCase Description	
				Activity Diagram	
2	High	Dima	15	As an administrator I want to be able to register new clients to the system.	15
				UseCase Description	
				Activity Diagram	
3	Medium	Nicoleta	10	As an administrator I want to be able to register new employees and give different access for them.	10
				Activity Diagram	
				UseCase Diagram	
				UseCase Description	
4	High	Justinas	20	As an administrator I want to be able to create a schedule for the drivers, so that the drivers know when to go to which area.	30
				Activity Diagram	
				UseCase Description	



Sprint 2

Table 3 Second Sprint

ID	Priority	Responsible	Estimate h.	Item	Actual h.
2	Low	Sabin	10	Implement the structure and classes for Tier 1 (Customer side)	3
				Make the connection between Tier 1 client and Tier 2 server	7
				Activity Diagram	2
6	Medium	Justinas	20	Connection between tier 3 and tier 2 (on the driver side)	10
				Sequence diagrams	2
				Configuring the database	8
7	High	Nicoleta	20	Class diagrams for Tier 1	9
				Sequence diagrams	2
				Implement the structure and classes for Tier 1 (Administrator side)	7
8	Medium	Dima	20	User interface for drive	10
				Connection between tier 1 and tier 2 (on the driver side)	10



Sprint 3

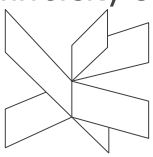
Table 4 Sprint 3

ID	Priority	Responsible	Estimate h.	Item	Actual h.
9	Medium	Sabin	20	Test execution for client tier 1 and server tier 2	14
				Make the connection between Tier 1 client and Tier 2 server	5
				Activity Diagram	1
10	High	Justinas	20	ER Diagram	2
				Architecture planning	7
				Configuring the database	10
11	High	Nicoleta	20	UseCase Description Diagrams	3
				UseCase diagrams	2
				GUI for Administrator part	7
12	High	Dima	30	Architecture planning	29

Sprint 4

Table 5 Sprint 4

ID	Priority	Responsible	Estimate h.	Item	Actual h.
13	Low	Nicoleta	15	Creating Employee class for tire1	4
				Creating use case for Employee	1
				Creating GUI for the Employee	6
14	Low	Justinas	27	Class and sequence Diagrams for tier 3	4
				Creating the structure and classed for tier 3	4
				Modifications on the database	19
15	Medium	Sabin	30	Creating class and sequence diagrams for Tier 2 on the customer side	5
				Modifications on the use case descriptions (Tier 2 customer side)	2
				Design user interface (Tier 1 - Customer side)	7
16	Low	Dima	20	Modifications on the architecture design (Only one client on the administrator side of the system)	10
				Creating class diagrams for the "Driver" client	10



Sprint 5

Table 6 Sprint 5

ID	Priority	Responsible	Estimate h.	Item	Actual h.
13	Low	Nicoleta	55	Process Report	20
				Project Report	25
				Use Guide	5
				Modification in Use Case Diagrams	2
				Backbox testing	4
				Fixing the client part UI	5
				Class Diagrams	3
14	Low	Justinas	30	Code Testing	4
				Project Report, Process Report	10
				Fixing the bugs	5
				Documentation	4
15	Medium	Sabin	30	Modifying class and sequence diagrams	3
				Project Report	15
				Test execution	5
				Testing	4
16	Low	Dima	20	Modification on class diagram	3
				Process Report	4
				Security assignment	8
				Testing	3
				Analysis Part	3

3.6 Roles

Each member from the group has an important role. Everyone have fulfilled their roles well.

3.6.1 Product Owner:

The product owner must be sure that the features are in the Product Backlog. He also ranks the items and plays a big role in the Sprint Review meetings and he communicates the requirements to other members.

In our project Dima is the Product owner. The choice was made based on a group talk. As a product owner he has to take on some leadership role which he is really good at.

3.6.2 Scrum Master:

The role of the Scrum Master is to be sure that the Sprint goes well and as planned. He must be sure that all team members have tools that they need in order to fulfill their tasks. Scrum Master schedules meetings and helps the Product Owner make the Product Backlog.

Scrum Master for this semester was Sabin. He took control of the daily scrum meetings and some of the documentation.

3.6.3 Scrum Team:

The Scrum Team takes the responsibility of making the product that meets the client's needs. All participants of our group are the scrum team, including Scrum Master and Product Owner.

3.7 Daily Scrum Meetings

In each Daily Scrum Meeting, the team were examining the work that was done since the las summit. We planned what to do next and we discussed some problems that occurred. We used those meetings to be aware of what is happening in the group and how is the work process going. Each group member explains what he worked on and what he couldn't do. Other members can volunteer to help him. Scrum Master makes

sure that everybody is doing good with their work and the group decides on next responsibilities.

3.8 Sprint Review

In the Sprint Review the team demonstrates the work to the product owner and decides what to do next. The review is done at the end of every sprint. It helps to see what improvements have to be made in the next Sprint. The last word is taken by the Product Owner, so he decides - either agrees with our work or not.

3.9 Meeting Log

20/09/2019

Working on project description and analysis

30/09/2019

Redoing the project description and analysis based on supervisors advises.

09/10/2019

Working on design part of the project

14/10/2019

Doing the parts in the project that are not working.

30/10/2019

Get the feedback from teachers

01/11/20

Work in redoing the design part based on teachers' feedback.

13/11/2019

Presentation of the proof of concept.

15/11/2019

Working on the project and redoing the proof of concept.

20/11/2019

Working on the project

27/11/2019

Working with the group on the project

4 Personal Reflections

✪ **Nicoleta Sova:**

The start of the project went well. From the beginning we were working based on SCRUM meeting schedule and finished the work in time.

The process went very well. We divided the tasks and we stuck to the plan.

This semester was easier to work on the project, we know each other better and it was easier to communicate for the project. Also, a new member was a good addition to our team.

The idea of working with SCRUM, as we did last semester, was also one of the good decisions that we have taken.

✪ **Dementie Bors**

At the beginning of the project we worked well. We gave work for everybody, so every member of the group can contribute to the project. That makes us fill involved and useful in this project. A good part of this semester is that we are closer, and that thing help us to communicate more easily during the project. This semester we didn't have big issues with the teamwork because we are more responsible and understand the importance of this project.

For this project I was chosen to be the Product owner. This role was challenging but it made me more responsible and I learned to be more insisted with my decisions and stronger in communicating my opinions.

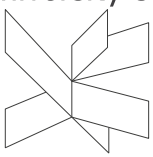
I also stocked to the idea of helping others because mainly at the end we were a bit confused.

✪ **Justinas Jancys**

This semester I felt strong, we were 5 and this made me fill that our group will be able to handle easily the project. Simona left the studies after 3 weeks, so we remain just 4. However, in my opinion we remain solid.

Our team skills grow as we also try to improve ourselves day by day. We are very united, and, in my opinion, we became a comfortable team where is easy to work and communicate. I also tried to help every time someone asked my help. I was trying to be in touch whenever someone needed my help.

We used SCRUM again because we think this is the most relevant, easier and best way of managing and implementing a project.

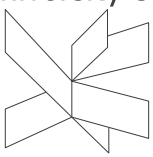


✪ Sabin-Daniel Sirbu

This project allowed me to meet new people and learn how to work with them, given that I met them this semester. When we started, I was confident that we are going to work well together. Moreover, we had a meeting with Siemens Gamesa at the beginning of the semester, and the project that they proposed to us made me very enthusiastic. Unfortunately, we ended by not working on their project, so we had to reconsider our alternatives. So, the only option that we had was Dima's idea regarding the Sanitation company.

In the SCRUM meetings I was fulfilling the role of the SCRUM Master and I tried my best to keep the team motivated and made sure that they accomplish their tasks in time.

I think I have learned a lot during this semester and the project period, especially about teamwork and time management. And in the future, I would like to improve them and eventually master them.



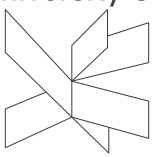
5 Supervision

Supervisors were a good help for us. Their advices were the best solutions for us and for our problems with the project.

The meetings that we had every Wednesday were really helpful. Supervisors gave us a secure felling. We always knew that we could ask for help and it will be given. We made some unnecessary work in our 3 Tier system (RMI). Because of them, we saved some time and didn't implement this part. Other meetings with the supervisors went well. We showed them what we were working on and what problems we had at that time.

One meeting was with Jan, we had a problem with the database. An error occurred (the database couldn't communicate with visual studio).

A problem with sockets (Tier 3 server wasn't seen by tier 2 client) was solved because of Jakob and his advices.



6 Conclusions

This semester we understood that we are working well together. Although a member left our group, we could manage to keep us united until the end. We are more responsible and hardworking this semester although it is getting harder and we have more work to do.

Also, we think that we have to start working on implementation earlier in order not to hurry and be stressed at the end. We think that the better way of working is not apart, but working together, so we can ask questions and be more productive.

Appendices

https://study.com/academy/lesson/unified-process-model-definition-application.html
[Accessed December 5, 2019]