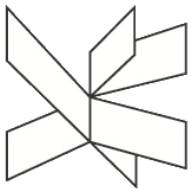

VIA University College

SEP2 CLASS Y - PROCESS REPORT

GROUP 10

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Hand in date: 03.06.2016

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Project plan

The main goal in our project was to create a chat system for a small company based on a client/server architecture with features like:

- Sending messages and receiving messages from other users/administrators.
- Logging into the system and logging out.
- Being able to switch chat rooms.
- Being able as an administrator to create,modify and delete users.

Group policy

Roles:

Mario: Scrum role: Scrum Master, Belbin role: Specialist (Plant).

Titas: Scrum role: Product Owner, Belbin role: Shaper (Complete Finisher).

Daniel: Scrum role: Development team: Belbin role: Resource Investigator (Coordinator).

Edi: Scrum role: Development team: Belbin role:

Work Hours:

From 10:00 – 15:30

Prior to start, we have decided to create a group contract, so we are clear on what are our individual and team expectations, priorities, and to have an insight on what should we expect from our collaboration. The main idea of our collaborative work was that we will follow SCRUM's theory and terms and in that way we will be able to finish up the project on time and deliver a working product. Group meetings were intended to work on the sprints and do all of the scrum events.

More so, we all agreed on the following:

- Meeting at least 5 times per week.
- Making sure that if we can't attend a meeting, we'll let the other group members know in advance.
- Everyone has permission to leave in case of emergency or something similar to that.
- All group members have to upload all material to OneDrive to ensure access for everyone.
- That we will be working together as a team.
- We'll come prepared to all our meetings.
- We'll help each other.

Consequences:

- First time: Verbal warning
- Second time: Reported to a teacher
- Last: Expelling from the group.

All rules are subject to change with prior approval of all members.

AUP

AUP stands for Agile Unified Process. It is a framework within which the developer team can plan their time schedule in four distinct phases. These phases are called:

1. Inception
2. Elaboration
3. Construction
4. Transition

We started planning the AUP phases after we got our assignment timeline, which was from 03/03/2016 to 03/06/2016. Below the AUP phase plan, as well as the start and end of each phase can be seen (Figure1). The reason for the long inception phase is that we did not have any knowledge regarding AUP, so the first phase is actually covering both working inside the inception phase but also the normal semester tutoring needed in order to make the project.

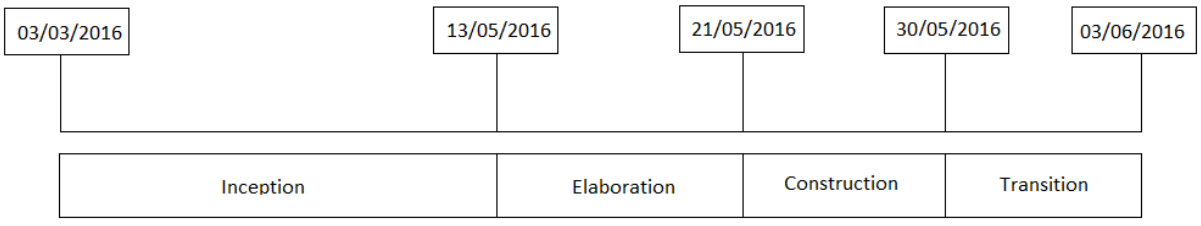


Figure 1 – AUP phases

Inception

The purpose of this phase is to figure out what the project is about, which tools to use, and how it would be possible to get started. During this phase the Project Description was created. The Project Description covers the basic idea of what the system is all about, the reason for picking this particular project, and provide background for making the User Stories, that goes into the product backlog (Scrum artifact). The date for ending the inception phase was set to 13-05-2016. At this point we knew to a good extend what we were going to do. This made it possible for us to plan the next phase, and start to plan the first Scrum sprint. For a full view of the Project Description see Appendix E.

Elaboration

The purpose of this phase is to examine the project more precisely. At the end of this phase, the developer team is supposed to reach/figure out 80 percent of the requirements. In our case the elaboration phase covered the first 3 sprints (13-05-2016 to 21-05-2016). The reason for it was that after 3 sprints we believed we would have the backbone of the system; the server/client architecture and the basic model, upon which we could build. Anything added to the model afterwards will ideally be features that won't touch the basic foundation.

Construction

The purpose of this phase is to build up the body of the project to the point just before testing and deployment. This phase was covered in sprint 4 and 6(21-05-2013 to 30-05-2013). Mainly it meant adding features to the system, as a result of this we spend more time on programming than we did on analysis, design, test and documentation.

Transition

The purpose of this phase is to prepare the project for delivery. The main focus of this phase is testing and documenting. While a small portion of the testing was done during all sprints, the main bulk was done in sprint 7(30-05-2016 to 03-06-2016). In this phase the focus was set on gathering up loose ends and putting focus on writing the reports. We were very strict about not adding or changing the system any further at this point, since that would result in changing test cases and documentation. It is important to note that Scrum and AUP are incorporated within each other. Scrum sprints are used within AUP phases, and within Scrum sprints the AUP discipline is used.

SCRUM

For a full view of Sprint Backlogs, Sprint Reviews, Sprint Retrospectives and Burndown charts check Appendix A.

Scrum Team

Product Owner

The Product Owner represents users, customers and others in the process. The Product Owner also has final say in regards to adding/removing items to/from the Product Backlog. For our team, Titas Jackus was chosen as Product Owner . His role was to maximize the value of the product and the work of the Development team. This is why Titas constantly tried to push the team to work harder. Doing this, allowed Titas to put more items into the Release Backlog and therefore get as much as possible out of the team in the given time.

Scrum Master

The Scrum Master was responsible for making sure the team was as productive as possible. The Scrum Master in our team did that by removing impediments to progress, and protected the team from outside interference. The Scrum Master in our project was Mario Burgov. In his role as Scrum Master, Mario attempted to create a stress-free environment e.g. by attempting to get a private room to work in. Mario was making sure that the team had an ideal working environment under the circumstances. Another important part of Mario's role was to make sure that we had daily meetings and sprint meetings. During the sprint meetings it was also his responsibility to make sure that the meetings were conducted according to Scrum rules and in the correct order (Sprint Review, Sprint Retrospective, and Sprint Planning).

Development Team

Each member of the Development team was doing the job of delivering a potentially releasable Increment of "Done" product at the end of each Sprint. Both Product Owner and Scrum Master are part of the Development team as well.

Product Backlog

The Product Backlog is the wish list from the Product Owner, it contains the items that the Product Owner would like his project to contain. After the team retrieves it, they estimate the needed time for creating each item and the Product Owner then prioritizes them. When estimating time, each team member had a deck of cards with numbers ranging from 0 to 20. The numbers represented user stories. For each backlog item, the team members would put down the card with the believed amount of user stories needed in their opinion in order to finish the item. In case of dispute each member would explain his reason for the user stories that he chose and cards were put down again until an agreement was reached. Should this prove impossible it was down to the majority to decide in order to avoid a deadlock, this was luckily never needed. Below the Product Backlog as of Sprint 7 is shown. Note that the red line represents the Release Backlog which was agreed by the Product Owner and the team.

ID	Priority	Estimate	Item	Status
1	Critical	8	As an owner of the system I want to have a project report in order to get detailed system documentation.	Ongoing
2	Critical	3	As an owner of the system I want to have a process report in order to have a written documentation of the system development process.	Ongoing
3	Critical	5	As a User I want to be able to connect to the chat from different computers on the same Network and send a single message to the Server.	done
4	Critical	5	As a User I want to be able to send messages to all of the other Users and also receive their messages.	done
5	Critical	5	As a User I want to be able to not only access the general chat, but different chat rooms as well.	done
6	Critical	6	As an Administrator I can access a database containing information about all the users/administrators and chat history.	done
7	Critical	8	Only an Administrator can create, delete a user/administrator or modify an existing given information.	Not implemented
8	High	3	As a User I can sign-in and sign-out the system.	done
9	Medium	4	As a User I can delete or edit my messages in the chat system.	Not implemented
10	Medium	8	As a User I can make a private chat with one or more other users in the system.	Not implemented
11	Medium	3	As an Administrator I can request a log from server which includes the chat history of a certain period.	Not implemented
12	Medium	5	As a User I can interact with the program using a graphical user interface in order to get a more user friendly design.	done
13	Low	2	As a User I can decide to change my online status.	Not implemented
14	Low	5	As a User I can send emoticons into the chat to the other users.	Not implemented
15	Low	?	As a User I can send pictures in the chat system.	Not implemented

Figure 2- Product Backlog

The estimate for total user stories was 58.

Sprint Events

Sprint Planning Meeting

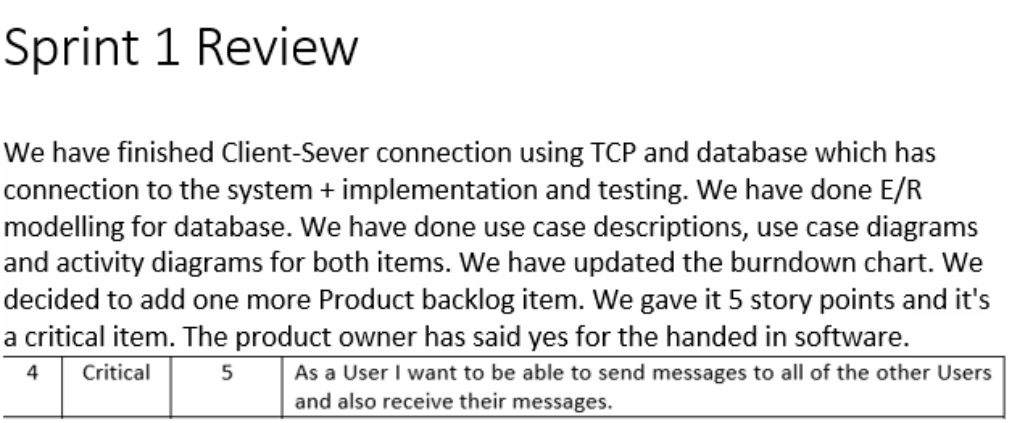
In this meeting, our team was deciding on which Product Backlog Items to put in the Sprint. Then we would break down the Product Backlog Items to smaller tasks in order to create the Sprint Backlog for that Sprint. Then we would use that Sprint Backlog in order to get a “Done” item from the Product Backlog. Below our Sprint Backlog for the first Sprint is shown.

Product Backlog Item	Number	Task Title	Estimate(user Stories)	Status
As a User I want to be able to connect to the chat from different computers on the same Network.	1	Set up Client-Sever connection using TCP	1,00	Done
	2	Design(Update) UML Diagram for Client/Server	1,00	Done
	3	Design Use case Descriptions for connecting	0,5	Done
	4	Design Activity Diagrams for connecting	0,5	Done
	5	Document creating a client – server connection	1	Done
	6	Test Server and Client connection	1	Done
As an Administrator I can access a database containing information about all the users/administrator and chat history.	7	Do E/R Modelling for Database	1	Done
	8	Create Database for storing information	0,5	Done
	9	Connect the database to the system	1,5	Done
	10	Update UML Diagram	0,5	Done
	11	Design Use case Descriptions	0,5	Done
	12	Design Activity Diagrams	0,5	Done
	13	Document creating and connecting the database	0,5	Done
	14	Test the implementation	1	Done

Figure 3- Sprint Backlog for Sprint 1(See Appendix A for other Sprint Backlogs and Scrum Events)

Sprint Review

During the Sprint Review our team was collaborating about what was done in the Sprint. Then the Product Owner would have the final word if the item has been done according to his specifications. In our case a disapproved item would mean putting that item back into the Product Backlog. The Product Backlog was adapted if needed by the Product Owner. This is how our Sprint Review for the first Sprint looks like:



Sprint 1 Review

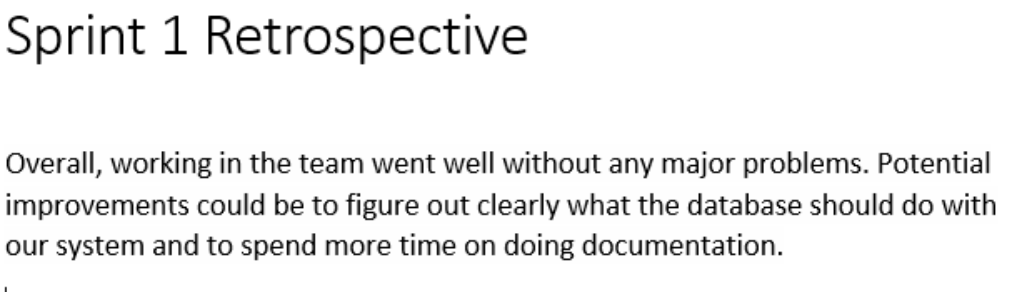
We have finished Client-Sever connection using TCP and database which has connection to the system + implementation and testing. We have done E/R modelling for database. We have done use case descriptions, use case diagrams and activity diagrams for both items. We have updated the burndown chart. We decided to add one more Product backlog item. We gave it 5 story points and it's a critical item. The product owner has said yes for the handed in software.

4	Critical	5	As a User I want to be able to send messages to all of the other Users and also receive their messages.

Figure 4- Sprint Review for Sprint 1(See Appendix A for other Sprint Reviews)

Sprint Retrospective

During the Sprint Retrospective we were identifying potential improvements to the things we have done and inspect how the Sprint went with regards to people and process. On top of that The Scrum Master was encouraging the Scrum Team to improve within the Scrum Process.



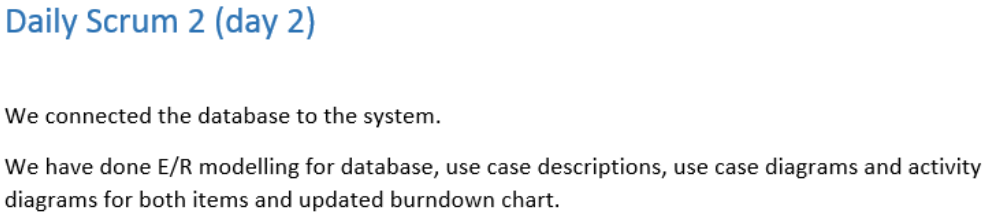
Sprint 1 Retrospective

Overall, working in the team went well without any major problems. Potential improvements could be to figure out clearly what the database should do with our system and to spend more time on doing documentation.

Figure 5- Sprint Retrospective for Sprint 1(See Appendix A for other Sprint Retrospectives)

Daily Scrum

Each day our team had a Daily Scrum meeting where each one of us was contributing in the creation of a plan for the next 24 hours. We were focusing on what was completed since the last Daily Scrum meeting, what will be done before the next one and what obstacles will be in the way.



Daily Scrum 2 (day 2)

We connected the database to the system.

We have done E/R modelling for database, use case descriptions, use case diagrams and activity diagrams for both items and updated burndown chart.

Figure 6 – Daily Scrum 2(See Appendix C for all other Daily Scrum Meetings)

Burndown Chart

The Burndown Chart is a tool to monitor workload, it shows an ideal work curve that will allow the product to be finished in time, according to the estimations made by the team. It is the Scrum Master's responsibility to make sure that the Burndown Chart is updated. In our project we worked with only one Burndown Chart which was for the entire Project showing all the Sprints on it and all of the User Stories.

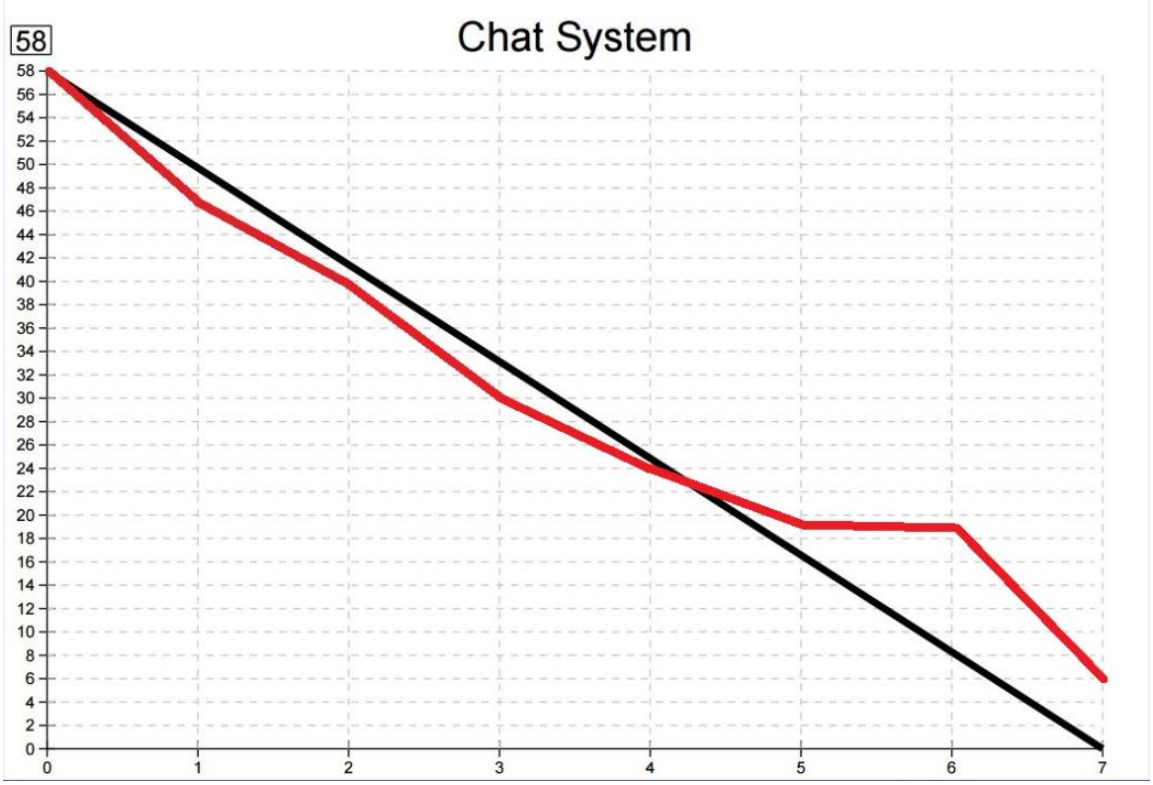


Figure 7- Burndown Chart for all Sprints

At each Sprint Review the Product Owner would either accept a User Story as finished or not finished due to not meeting the requirements for it. Then the Burndown chart would be updated with the completed User Stories and show how well we are doing with our project.

SWOT analysis

Mario Burgov

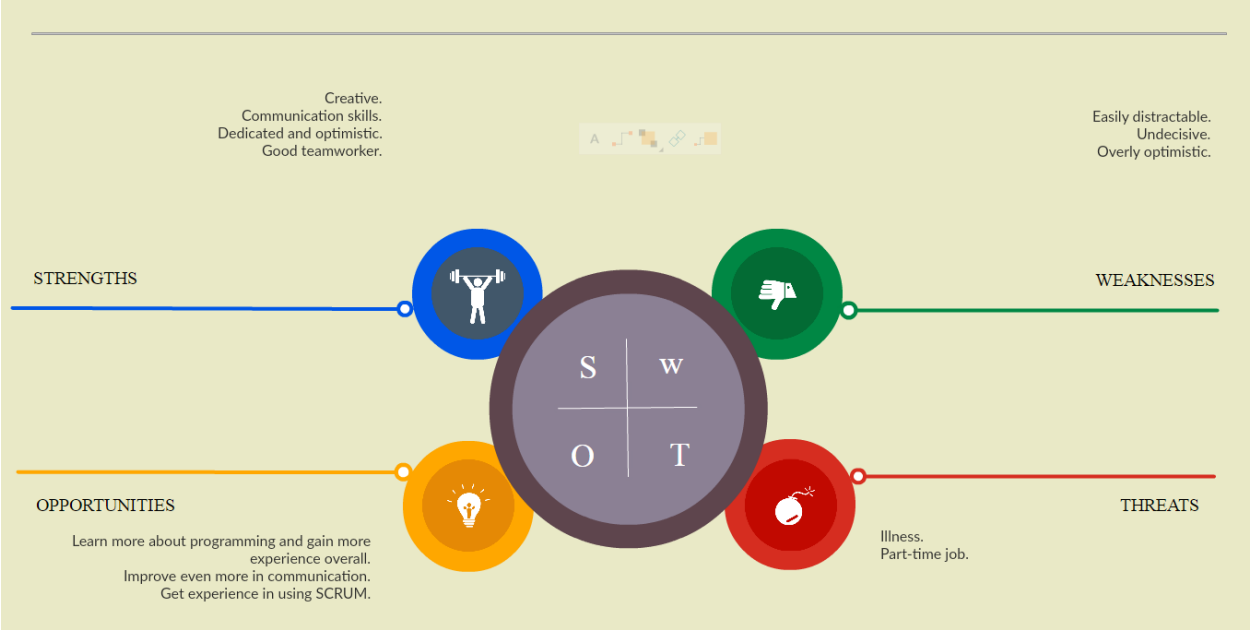


Figure 8- SWOT(Mario)

Edi Trifonov

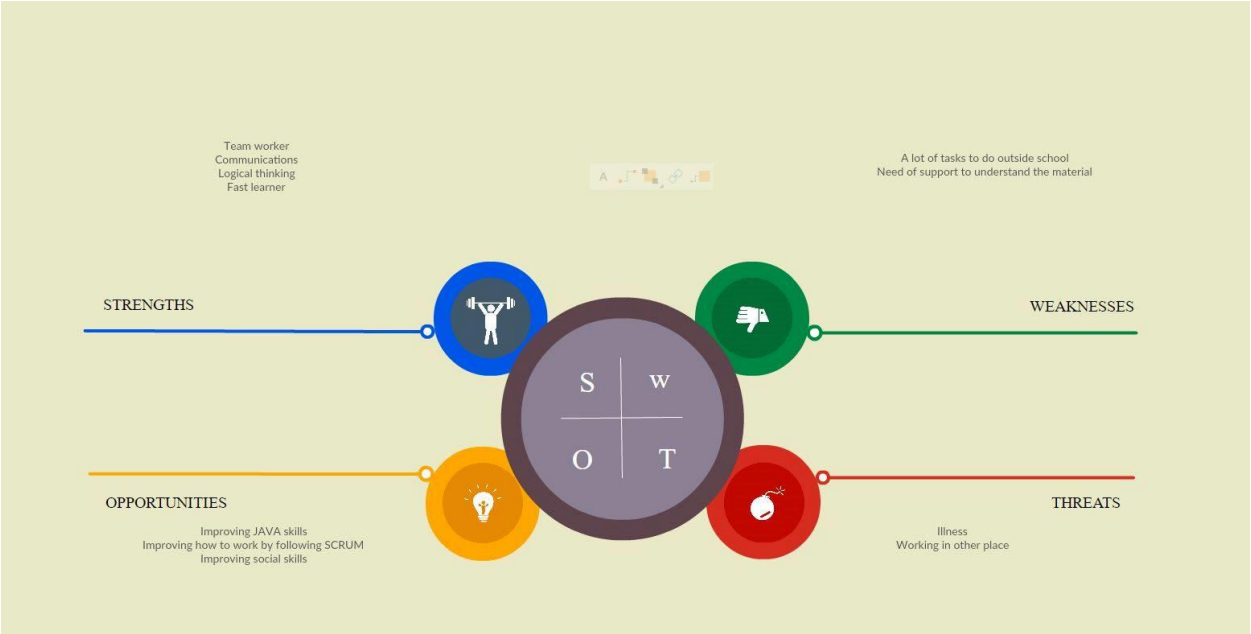


Figure 9- SWOT(Edi)

Titas Jackus

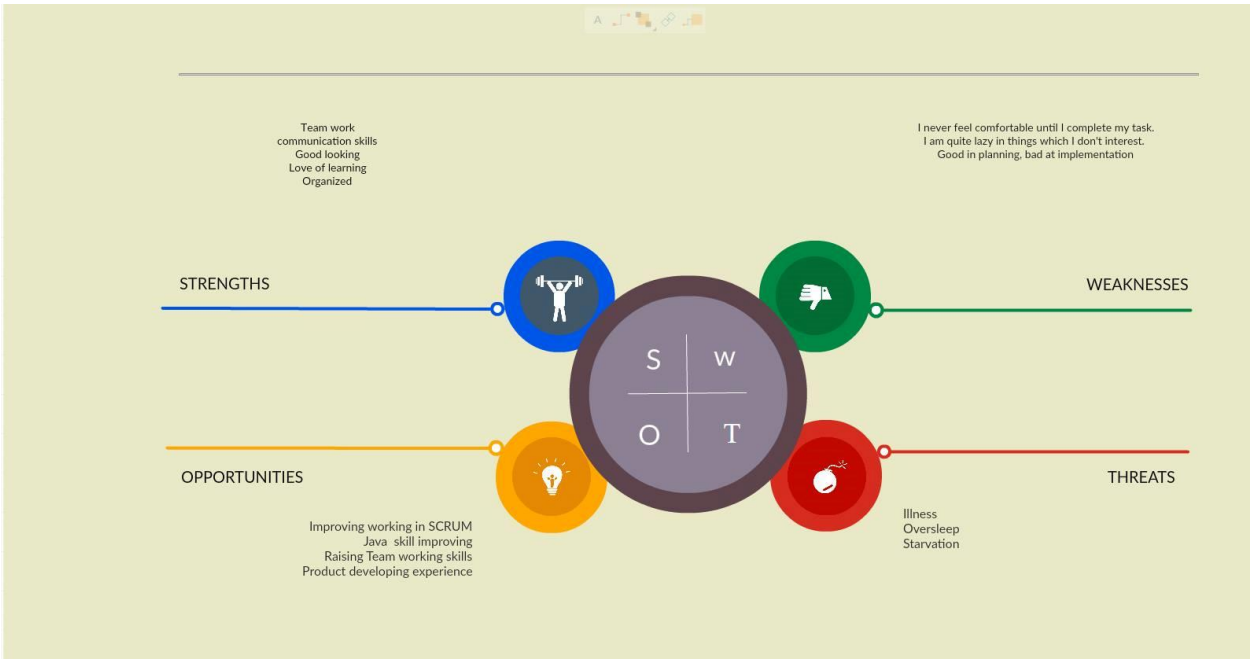


Figure 10- SWOT(Titas)

Daniel Borisov

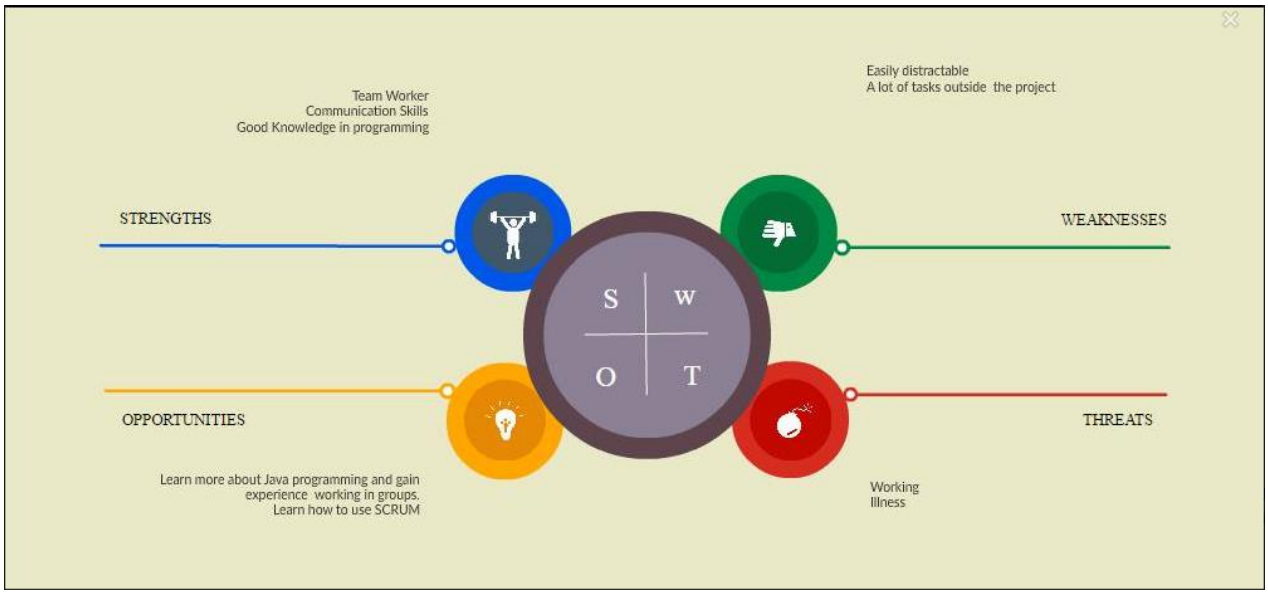


Figure 11- SWOT(Daniel)

Reflections

Reading through the SWOTs it is clear that we all share the same level of dedication and ambition towards the project. This means that we're able to work in a focused and structured manner and that the only threats to the group are outside interferences(work, illness). Furthermore, we all see that project as an opportunity to get more experience in coding and in applying Scrum theories.

Self-Assessments

Mario

Before the project- This is the second big project in VIA University for me and my first opportunity to apply SCRUM in a project period. I have barely any experience working with a group on a project using SCRUM methodology so this is a big opportunity for me. Also programming in a group is a much bigger challenge for me because I am not used to work in a group and I sometimes have a hard time explaining all my thoughts to others around me.

End of week one – First thing I had to do was to get used to my group, the members in it and their personalities. In the beginning, we all shared our vision of how the project should look like and how we should approach it. As it was expected, we had some disputes but eventually we managed to overcome them. We started with creating the product backlog, then we split the work in to adequate amount of sprints and started our work on the sprints. By the end of the week we had the first 2 sprints done and their documentation as well. The first week went way better than what I had expected and it was fun.

End of second week - So far, we had a lot of progress. We managed to do the GUI and made the program operating almost fully. There are still some design flaws but eventually we would fix them. We were respecting the product backlog until now and did minor changes to it while we were working. Everything is really enjoyable in the group and it's a lot of fun.

Last week – The last week mostly consisted of doing the project and process reports as well as fixing the use cases and activity diagrams. In addition, we started debugging the code and eventually we succeeded in doing that. Doing the reports wasn not that hard because we already knew how to make them from the first semester.

Titas

Before the project- This project is a great opportunity to apply SCRUM methodology into the team work. I like this agile way of working with the team. It looks to me that it is very efficient way of working. I looked forward working with the new group, I always liked working in the groups, because it can be helpful in various situations.

End of week one – I knew all the guys in the group, but only with one I had experience working with, with other I still needed to get used to. In the beginning, we all came with lots of ideas, but by evaluating some things like (what we can do and what we don't want to do) we decided to stick with chat system. We started with creating the product backlog, then we split the work in to adequate amount of sprints and started our work on the sprints. By the end of the week we had the first 2 sprints done and their documentation as well. I was surprised how first week went so smoothly, I was happy with the teams work and hoped it will go like this till the end.

End of second week -We had encountered a lot of programming problems in this week, which we eventually managed to fix them. I liked that we decided to do our sprints in two days that way we had time to stay longer and try fixing the problem. We managed to do the GUI and made the program operating almost fully. We were respecting the product backlog until now and did minor changes to it while we were working. We had some "minor coding fights" between our group members, but that how it should be that way we knew everyone is thinking and tries to do something. Despite some minor problems the group itself was united and enjoyable to work with.

Last week – The last week was trying to do low priority items, which we saw that we can't do in time, because team didn't really knew how to do these items. So, I as project owner agreed stick to our working system and skip these items. This only was beginning of last week and it took minor part in it, mostly it consisted of doing the project and process reports as well as fixing the use cases and activity diagrams. In addition, we started debugging the code and eventually we succeeded in doing that. Doing the reports was not that hard because we already knew how to make them from the first semester.

Daniel

Before the project-

This is the first time working on a project using SCRUM so I thought this will be challenging. I have some experience working with a group due to the fact that is not my first project. For me working in groups is quite challenging because sometimes my group members cannot understand my viewpoints and it takes a lot of time explaining them.

End of week one –

I got used to with my group members and their personalities very easy. In the beginning, we all shared our ideas of what the project should be about and how we should realize it. All of us has his own idea and as it is expected we had some disputes but we managed to overcome them. The first thing we started was the product backlog, then we arranged the tasks in different sprints and started our work on the sprints. At the end we had 2 sprints done and their documentation as well. Until this moment everything went really well and I enjoyed working with my group members.

End of second week - We made great progress during this week. We managed to do the GUI part and our program could execute the basics operations. There are still some design flaws and functionalities we should implements but eventually we would do them. Until now we were working in accordance with the product backlog and we did only small changes during our working process.

Last week – Last week consisted mainly work on the project and process report. Also we started testing and debugging the program and I think we did great job here. It was fun working with this people in on group.

Edi

Before the project: After the first project last year and all the things which I did in a wrong way, this time I will try to do them properly. In this semester I learned how to work in a group/team and this group/team seems to be nice and understandable. Of course there will be new challenges like SCRUM methodology which I haven't met till now, working with database and etc. I look forward working with this group for the project.

End of week one: Every beginning is hard for everybody, so it was for me as well. We had to get known well the members of the group, to get used to the way how everybody is working, because everybody has their own way of thinking. We shared our ideas of how the system should look like and we ended up with same ideas in the end, so we split the work to sprints and together we started to work on them.

End of second week: We had a lot of progress so far and a lot of problems which we were managing to fix them. We have done GUI part and the basic operations. In the end of the week we had some problems with the programming and this slowed the process down. Working with this members is nice and understandable we don't have so many arguing.

Last week: In the end we had to do a lot of process and project reports. We did a lot of testing to see is everything which we have is working fine. In conclusion for me I can say that I

must be more strict to myself with studying and I have to spend more time exercising to gain more knowledge. We had "Positive Working Relationship" it was nice to work with them and I can say that I improved my team working and my programming skills.

Bloom Test

Bloom is a self-assessment of our knowledge in regards to the subjects covered in our studies. Red marks are for the start of 2nd Semester and blue marks are after the project.

Mario

Date : 01/06/2016	Bloom's level	Keeping a portfolio	Reflecting on learning	System development	SCRUM	Java Programming	Object-oriented design and programming	UML	Web Programming	Database design	Written English	Spoken English	Team working	Sharing knowledge	Project planning	Presentation / exam skills
Excellent	6															
	5															
Good	4															
	3															
	2															
Basic	1															
No knowledge	0															

Figure 12- Bloom(Mario)

Edi

Fill in this form – include it in your portfolio – discuss it with the rest of the group Date.....	Bloom's level	Keeping a portfolio	Reflecting on learning	System development	SCRUM	Java Programming	Object-oriented design and programming	UML	Web Programming	Database design	Written English	Spoken English	Team working	Sharing knowledge	Project planning	Presentation / exam skills
Excellent	6															
	5															
Good	4															
	3															
	2															
Basic	1															
No knowledge	0															

Figure 13- Bloom(Edi)

Titas

Fill in this form – include it in your portfolio – discuss it with the rest of the group Date.....	Bloom's level	Keeping a portfolio	Reflecting on learning	System development	SCRUM	Java Programming	Object-oriented design and programming	UML	Web Programming	Database design	Written English	Spoken English	Team working	Sharing knowledge	Project planning	Presentation / exam skills
Excellent	6															
	5															
Good	4															
	3															
	2															
Basic	1															
No knowledge	0															

Figure 14- Bloom(Titas)

Daniel

Fill in this form – include it in your portfolio – discuss it with the rest of the group Date.....	Bloom's level	Keeping a portfolio	Reflecting on learning	System development	SCRUM	Java Programming	Object-oriented design and programming	UML	Web Programming	Database design	Written English	Spoken English	Team working	Sharing knowledge	Project planning	Presentation / exam skills
Excellent	6															
	5															
Good	4															
	3															
	2															
Basic	1															
No knowledge	0															

Figure 15- Bloom(Daniel)

Reflections

Since the first test was taken at the start of the semester and the second one after the Project, the major improvements were in all of the 2nd semester's subjects. In general we have all improved our knowledge in Java, System Development and UML. The biggest leap is in Scrum since we had no prior knowledge in this subject.

Belbin Team Roles

Mario

Section	Total								
I	2	0	0	2	1	1	1	0	3
II	3	0	2	0	1	1	3	0	0
III	0	0	2	2	0	0	3	2	1
IV	3	0	0	0	0	2	0	4	1
V	2	0	0	2	2	0	0	2	2
VI	0	3	4	0	0	0	0	0	3
VII	0	0	3	1	0	0	2	1	3
Total	10	3	11	7	4	4	9	9	13

Roles	
Implementor	10
Coordinator	3
==> Shaper	11
Plant	7
Resource Investigator	4
Monitor Evaluator	4
Team Worker	9
Complete Finisher	9
==> Specialist	13

Figure 16- Belbin(Mario)

As show in the pictures, Mario is an all-around person with focus in Shaper and Specialist and weaker points in Coordinator, Resource Investigator and Monitor Evaluator.

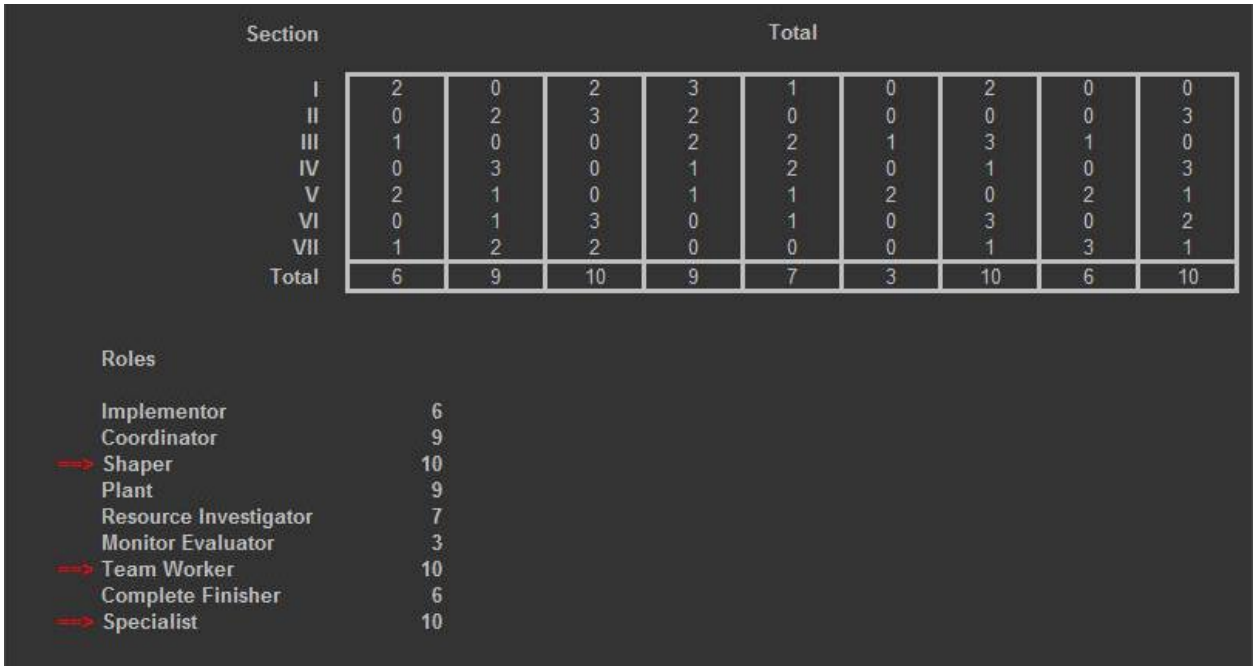
Strengths:

- Single-minded
- self-starting
- dedicated
- Challenging
- dynamic
- thrives on pressure
- Has the drive and courage to overcome obstacles

Weaknesses:

- Can be prone to provocation, and may sometimes offend people's feelings
- Tends to contribute on a narrow front and can dwell on the technicalities

Daniel



Section	Total								
I	2	0	2	3	1	0	2	0	0
II	0	2	3	2	0	0	0	0	3
III	1	0	0	2	2	1	3	1	0
IV	0	3	0	1	2	0	1	0	3
V	2	1	0	1	1	2	0	2	1
VI	0	1	3	0	1	0	3	0	2
VII	1	2	2	0	0	0	1	3	1
Total	6	9	10	9	7	3	10	6	10

Figure 17- Belbin(Daniel)

According to the test, Daniel's test is more focused on Shaper, Team Worked and Specialist and weaker in Monitor Evaluator, Implementor and Complete Finisher.

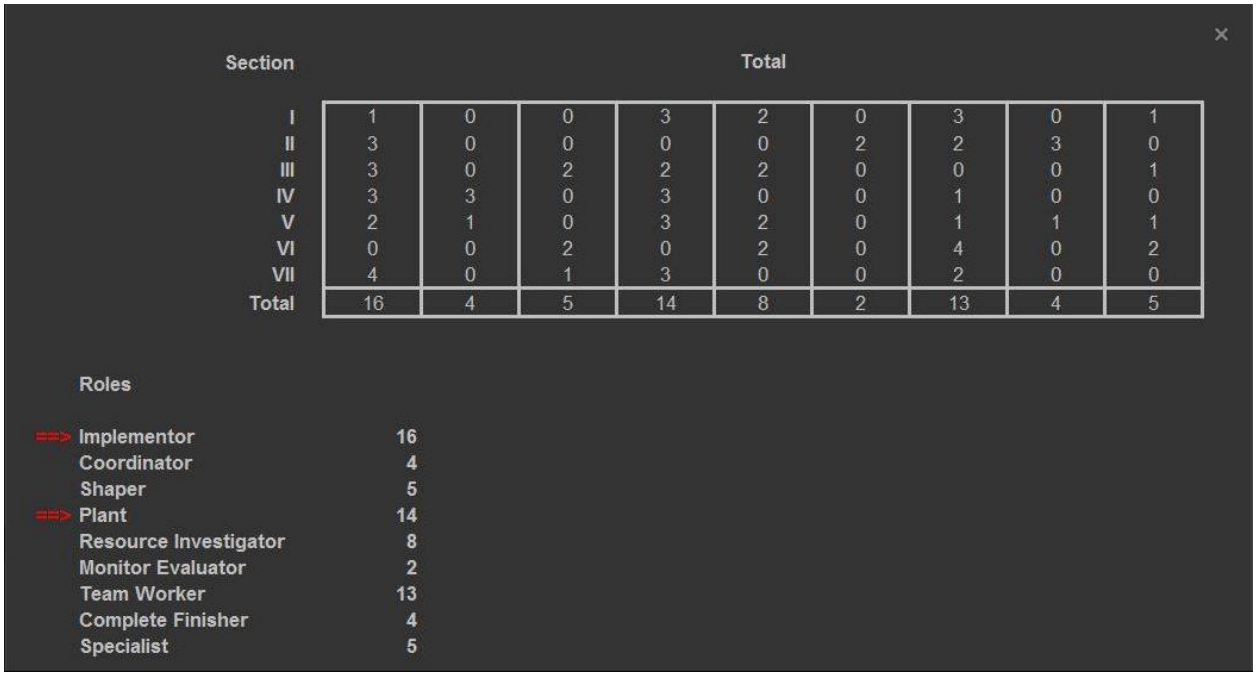
Strengths:

- Single-minded
- self-starting
- dedicated
- Challenging
- dynamic
- thrives on pressure
- Has the drive and courage to overcome obstacles
- Co-operative
- perceptive
- diplomatic

Weaknesses:

- Can be prone to provocation, and may sometimes offend people's feelings
- Tends to contribute on a narrow front and can dwell on the technicalities
- Can be indecisive in crunch situations and tends to avoid confrontation

Edi



Section	Total								
I	1	0	0	3	2	0	3	0	1
II	3	0	0	0	0	2	2	3	0
III	3	0	2	2	2	0	0	0	1
IV	3	3	0	3	0	0	1	0	0
V	2	1	0	3	2	0	1	1	1
VI	0	0	2	0	2	0	4	0	2
VII	4	0	1	3	0	0	2	0	0
Total	16	4	5	14	8	2	13	4	5

Figure 18- Belbin(Edi)

As seen in the test, Edi is an Implementor and a Plant and he is weaker in Monitor Evaluator, Coordinator and Complete Finisher.

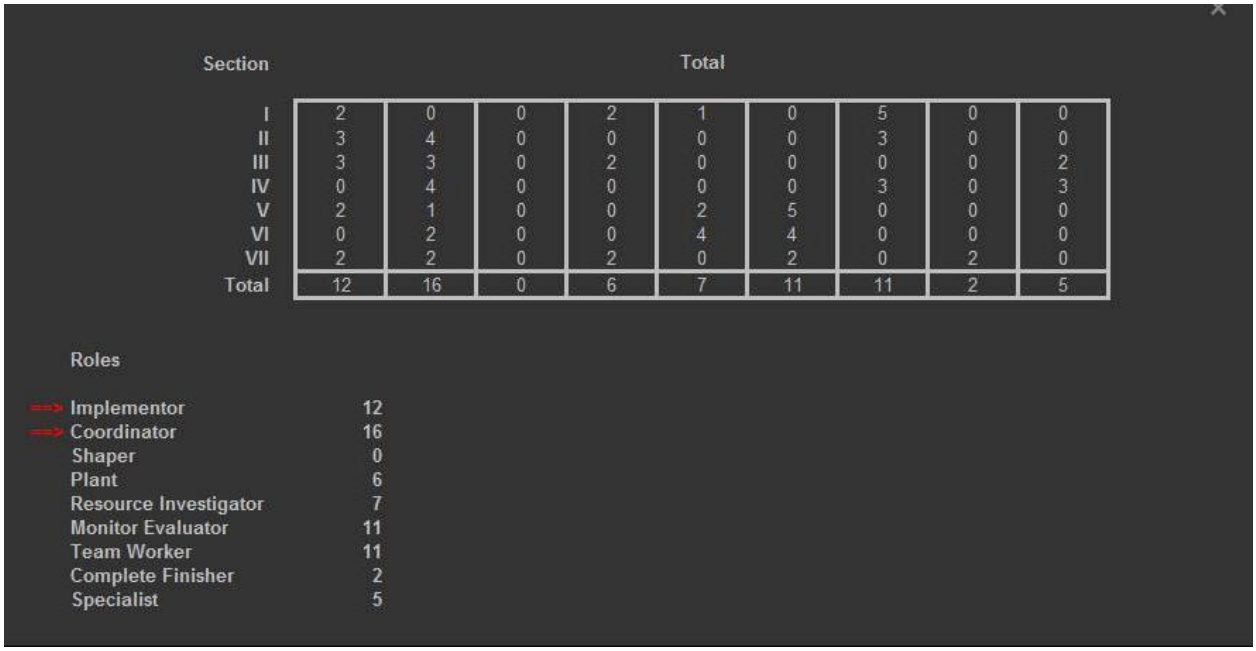
Strengths:

- Practical
- Reliable
- Efficient
- Turns ideas into actions
- organises work that needs to be done
- Creative
- Imaginative
- free-thinking
- generates ideas
- solves difficult problems

Weaknesses:

- Might ignore incidentals
- may be too preoccupied to communicate effectively
- Can be a bit inflexible and slow to respond to new possibilities

Titas



Section	Total								
I	2	0	0	2	1	0	5	0	0
II	3	4	0	0	0	0	3	0	0
III	3	3	0	2	0	0	0	0	2
IV	0	4	0	0	0	0	3	0	3
V	2	1	0	0	2	5	0	0	0
VI	0	2	0	0	4	4	0	0	0
VII	2	2	0	2	0	2	0	2	0
Total	12	16	0	6	7	11	11	2	5

Figure 19- Belbin(Titas)

According to the test, Titas is an Implementor and Coordinator. His weaker spots are Shaper, Complete Finisher and Specialist.

Strengths:

- Practical
- Reliable
- Efficient
- Turns ideas into actions
- organises work that needs to be done
- Mature
- Confident
- identifies talent
- Clarifies goals

Weaknesses:

- Can be seen as manipulative and might offload their own share of the work
- Can be a bit inflexible and slow to respond to new possibilities

Peer – assessment

Two days before the hand in date, we made a small recap of what we have done. We realized that the most important part of teamwork is talking with each other. We managed to keep the group policy, but there was a lot of understanding between the members, because some people had to be absent a few time during the meetings, based on various reasons, but there was not even a single absence before each and every member of the group has agreed that the particular person can be away. We started as a randomly selected bunch of peoples and we ended up with a team that was able to create a somewhat good system for a limited amount of time. We learned countless number of things not just about programing, but also about teamwork, Scrum, AUP and so.

Like every team we had our disagreements, like one of us wanted something to be done this way and the other one wanted their way, but we always embraced the problems and put them on vote. And whoever “Lost” was not angry or mad at the others, but grateful, because we all make mistakes and only the experience can help us get better.

We are thankful to VIA University College for the opportunity that was given to us and we are certain that this was extremely useful experience and we can only get better from now on.

Meeting with supervisors

The meetings with our supervisors were necessary and extremely useful. Sometimes we had very small problem and the solution was so easy to find, but we had spent hours and hours to find a solution. Then at the meeting we just asked our supervisor and we solved the problem. We were always guided how to make, we were never told how to do it, but the right things were always pointed at us. We were taking notes of the meetings and we used those notes later as a reminder of what we have missed. We had the tradition of spending some time, usually more than necessary, to discuss the meetings and trying to get the best outcome from each meeting with the supervisors. We were never denied a meeting and the supervisor was always there when we needed him. We believe if we haven’t had those meetings the outcome would have been much different than it is now.

Individual reflections on learning outcome

Mario

Looking back at the start of our project, I wasn't really keen on the fact that I had to work with a leftover group for my project period. To be honest, I did not even expect to finish the project. It turned out that the experience was not as bad as I expected it to be after all.

This whole group work is really significant for me because I gain a lot of experience and as a future programmer I would definitely work in a group atmosphere. I am slowly starting to understand that working in a group is overall better because it increases the productivity and it makes things easier.

Applying Agile Unit Process and Scrum in our project was a completely new thing for me as I had no previous experience with it except some tasks in class. I think now, I have gained quite a lot of knowledge about those concepts and I can easily apply them in future projects.

Finally, I had no problem communicating with my team since I am pretty good at expressing my thoughts and my English is on a high level. Of course, my English speaking level took a bit of improvement because I was having problems with confidence while talking.

Edi

In the beginning of the project I was a little bit scared, because I didn't know how the guys works except one. They looked fine, but I had no idea is everything will go smooth and are we going to understand each other. I really like the group working, because you are filing each other. When you have question you can ask somebody beside you and he will show you the way so you can be back on track really fast. For this semester new things for me were Agile Unit Process and SCRUM, so to follow them was really hard thing for me, but now I think I know what I have to do when I need to use them In the future. It's normal some members of the group to know more things than others, but that is a good experience for both sides, because if you don't know they can explain you and the other way while explaining to somebody you are improving your knowledge. We had no problems with the speaking barrier, because our English I can say is on high level, of course sometimes we had a bit difficulties to explain the things in the way how you see it, because sometimes the direct translating from one language is not the same to other. But exactly in that moment we are gaining our speaking level.

Titas

I looked forward at the start of the project. I liked the idea that we could come up with our own idea on the product itself. I knew the group members, but only have experience to work with one. So, I didn't know other member programming skills. I liked that our team is kind of average we are not all geniuses, but we also know what to do. That way we split work equally not overwork one person and kind of get same challenges which we try to figure out together. Applying Agile Unit Process and Scrum in our project was a good experience to test what I learned from the classes about them. I saw that it's really agile and efficient way of working on the project with the group. The group itself was awesome, we didn't had problems communicating and understanding each other's needs. If somebody had to be absent in the morning for example, we then adapted to his schedule or gave him homework.

This project gave me lots of improvements like: working in group, applying SCRUM and Agile Unit Process to project, enchanted my programming and documentation skills.

Daniel

At the beginning of the project I was quite worried how things will gone because I worked with only one member of the group. I thought that we will not be able to complete the project at all.

During the project, I get surprised how quickly we teamed up and managed to make a group that does its job very well. It was helpfully for me because I gained experience how to work with people who i am not familliar with. I realized that teamwork is much faster and more fun because it increases the productivity and it makes things easier.

Using SCRUM methodology and Applying Agile Unit Process in our project was a completely new thing for me. This project give me the opportunity to apply this method in working environment closer to the real one. I gained some experience about this things and i think i can easily use them in a future projects.

In conclusion, I can say that I manage to make a progres. I got my language and programming skills improved. Furthermore i develop my communication skills even more than before because now is more easy for me to explain my thoughts.

Appendices

Appendix A – Sprint Backlogs, Sprint Reviews, Sprint Retrospectives and Burndown Charts

Appendix B- Project Description

Appendix C- Daily Scrum