**Process Report**

**Group 6**

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# Introduction

In the beginning of February 2018 we formed a group in order to work on the semester project. At the moment of agreeing to work as a team we didn’t know yet what we will be working on.

This project we were able to decide what we want to work on. We have received some guidelines how the system should work, but we were allowed to make up a case for the project. We came up with two ideas that all group members were excited about. Both ideas were approved by our supervisor, so we chose the one that fitted us more. We decided to work on a system that is suitable for a flight company. We named our company ZAir and we created a program where the administrator can store flights while the company’s customers cant book tickets for these flights.

Before we started to work on the project, we had to set some rules in our team. Together we created a group contract, and all members agreed to the regulations from the contract. All of us had to sign it in order to clinch the agreement.

Like every other team we went through four stages of team formation which are forming, storming, norming and preforming. In our case first three stages passed very quickly and we got without any problems to the preforming stage.

During the working time everyone found a suitable role in the team. All members fulfilled their roles in the team, which made our time together very productive. Each member had some part of the project to work on. We had it all planned on a website [www.trello.com](http://www.trello.com) to which all members had access to. If we needed help then we were able to notify all members very easily. This allowed us to keep track of the amount of work we still needed to do and what we already did. We also could see who is working currently on.

Our meeting were held always at the university. We helped each other with our problems and did what we were assigned to do. Not all meetings were long and expected. Sometimes we stayed after classes for a couple of minutes to discuss some details so we can move forward with our work.

Thanks to the very good communication among the group members the time spend together was pleasant, and the project was a success.

# Group Description

The group consists of four team members from three different nationalities.

## Belbin Roles[[1]](#footnote-1)

According to Belbin team roles each member has a certain “tendency to behave” while working in a team.

**Claudiu Rediu** (Romania)

**Sharper** – keeps the team working, takes care so that the group doesn’t lose focus. The risk is that he might get emotional in order get things done.

**Co-ordinator** – concentrates on the team’s objective and can divide work between people appropriately. Might sometimes get too excited about delegating work.

**Tudor Ciobanu** (Romania)

**Specialist** – has a very good knowledge on a special topic. Sometimes might put his work over the group work.

**Implementer** – is needed to properly plan the most efficient way of working. It might be hard for an implementer to relinquish their plans.

**Nikita Roskovs** (Latvia)

**Implementer** – is very good at finding a most efficient way to work and plan it. It might take him some time to change the plans for a greater good.

**Complete finisher** – is very good at putting a final touch to others work, to check on mistakes and return the work in a perfect condition. Sometimes might get over focused on the details.

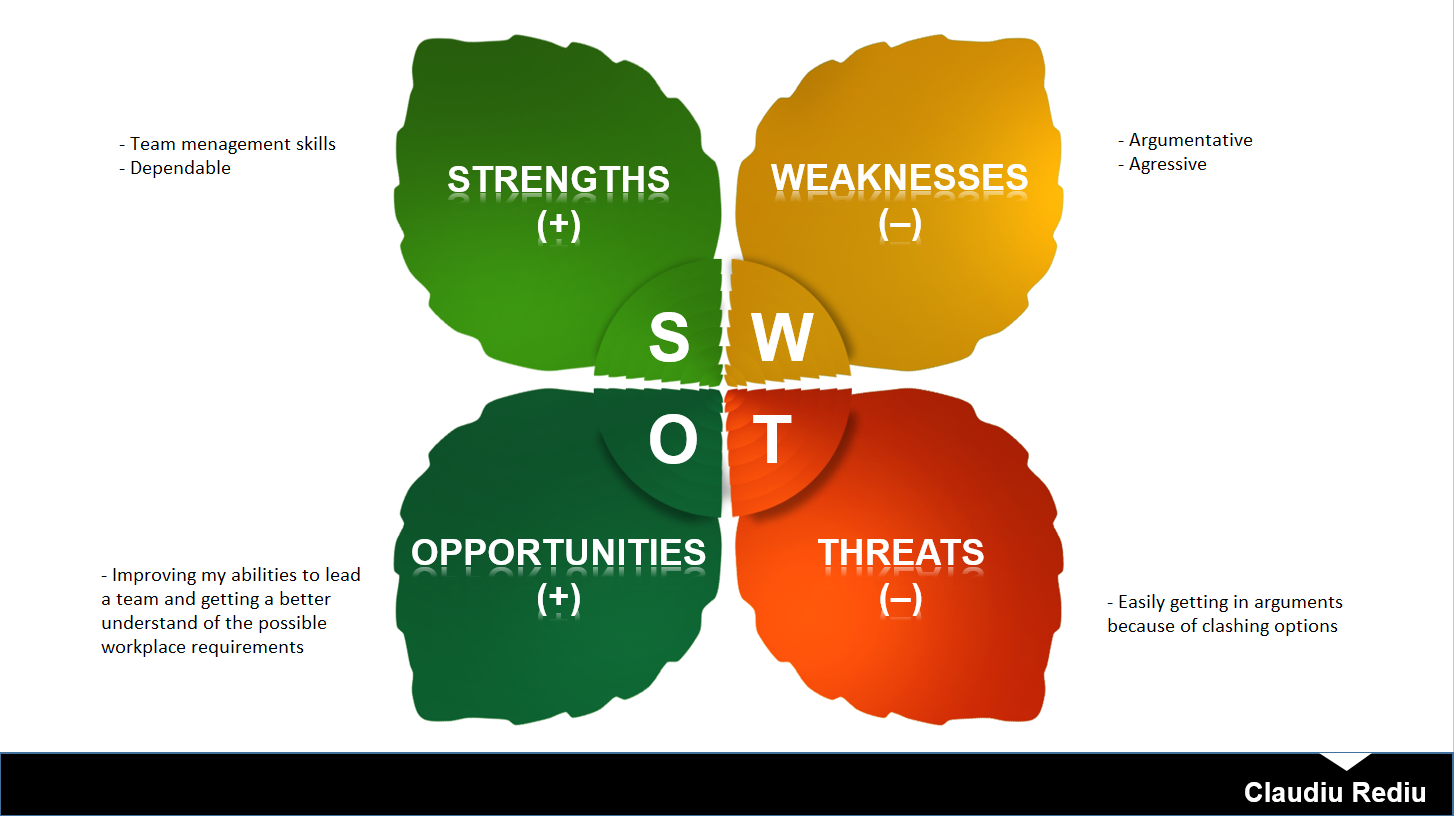
**Dominika Kubicz** (Poland)

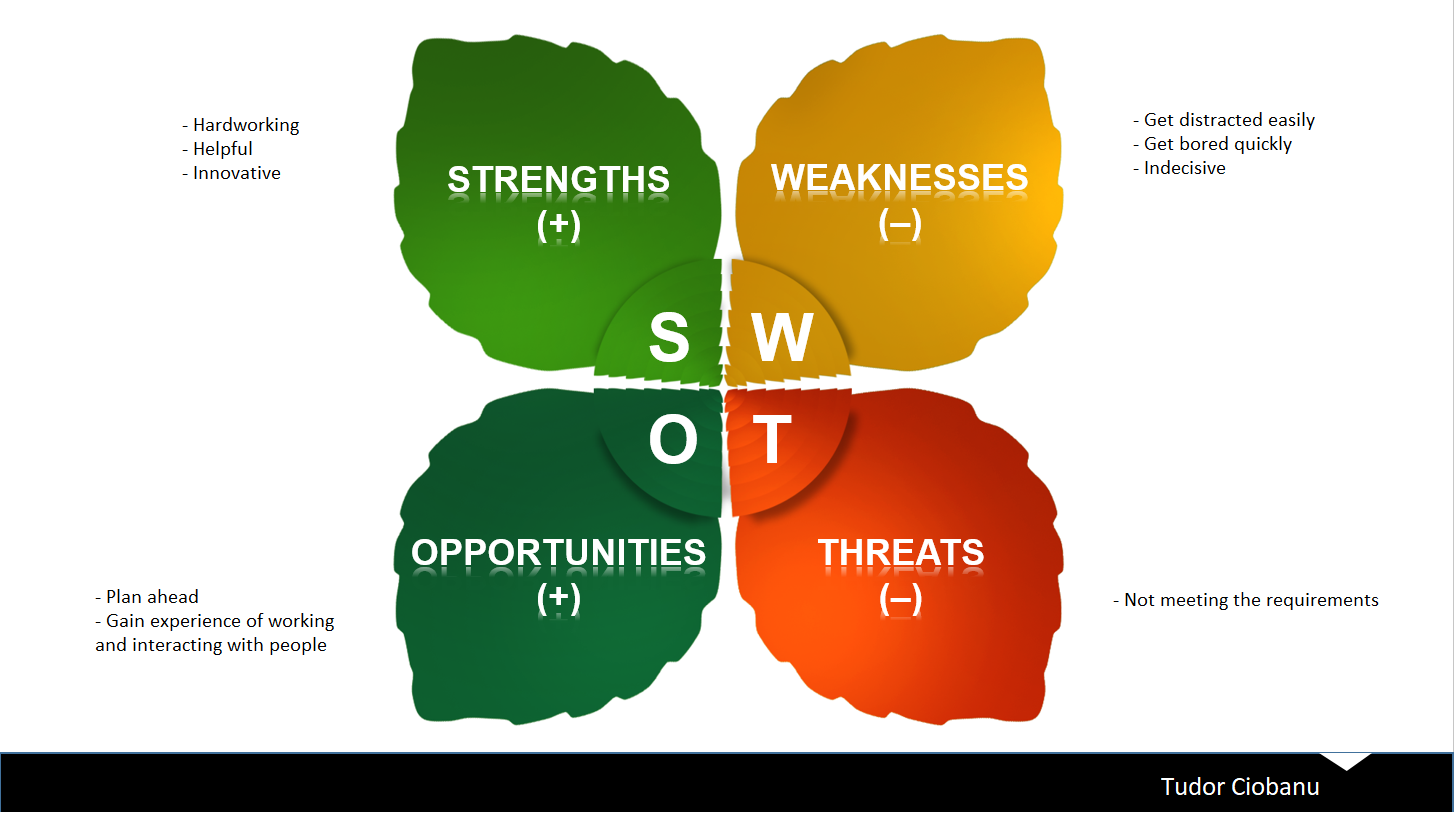
**Complete finisher** – pays a lot of attention to the details, is good at fixing small mistakes, cares for the work at its best quality. On the other hand, can get too extreme with the details.

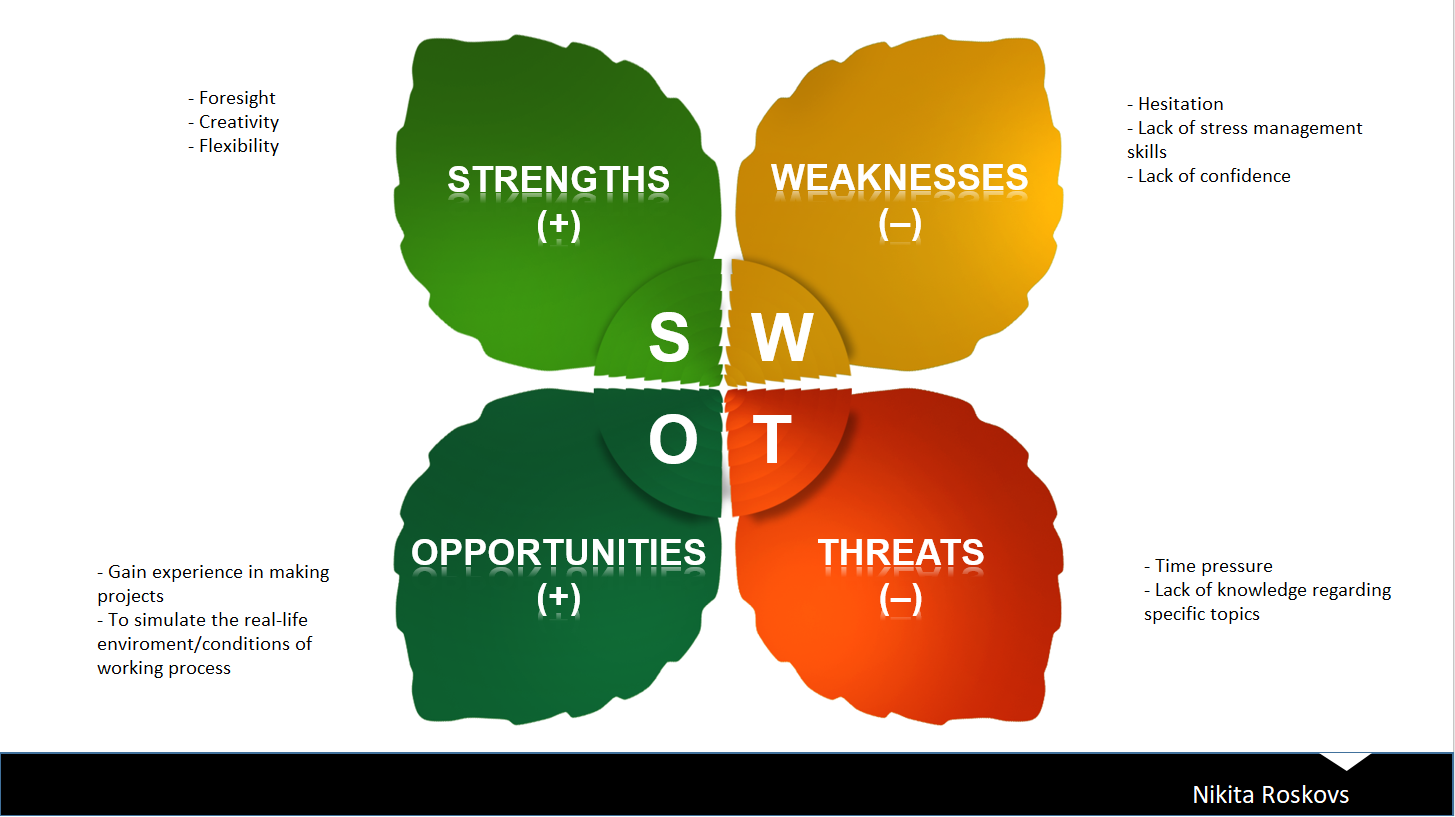
**Specialist** – is specialized in one area of knowledge. Specialist can concentrate on only his part of work.

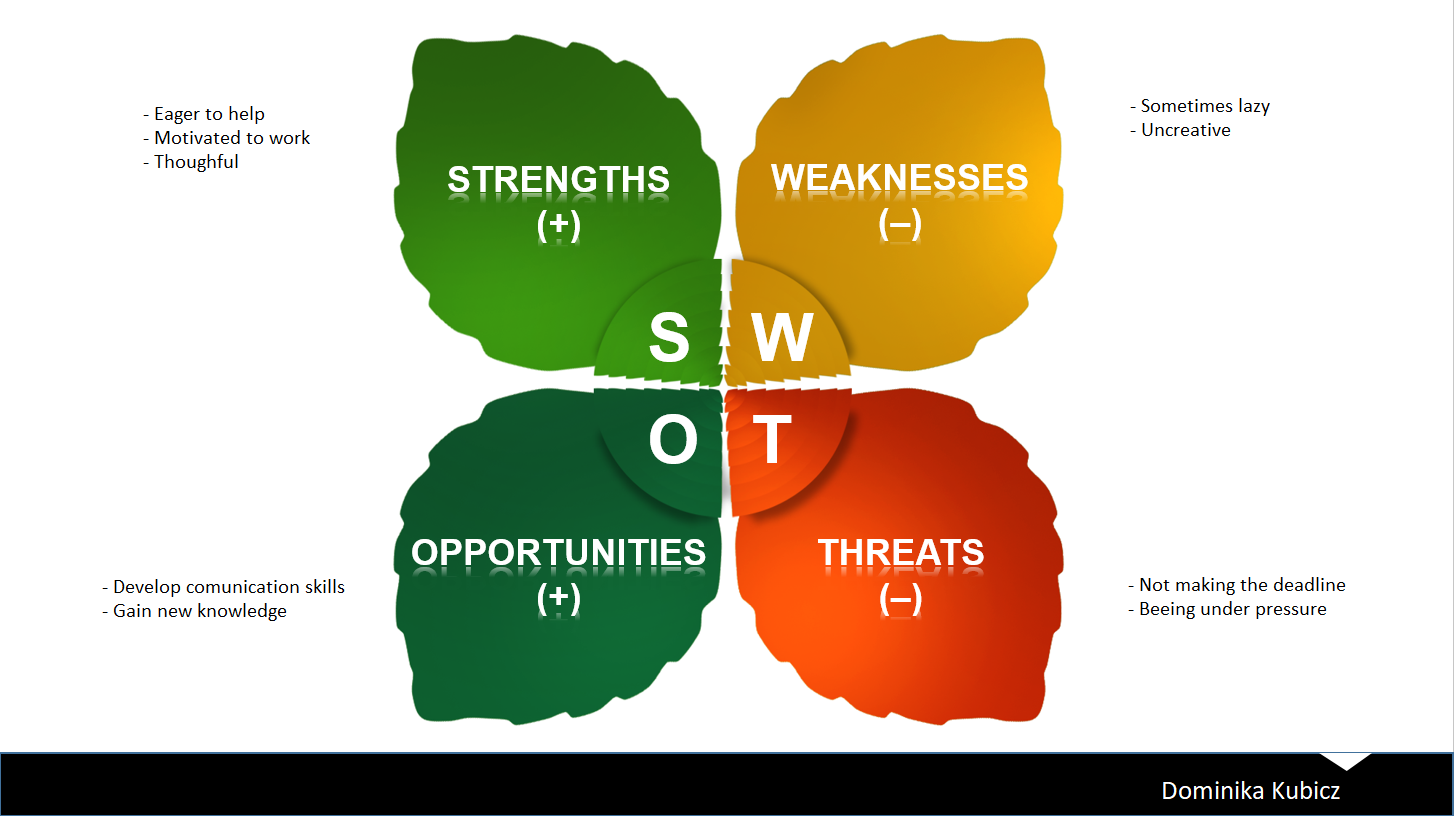
## SWOT Analysis

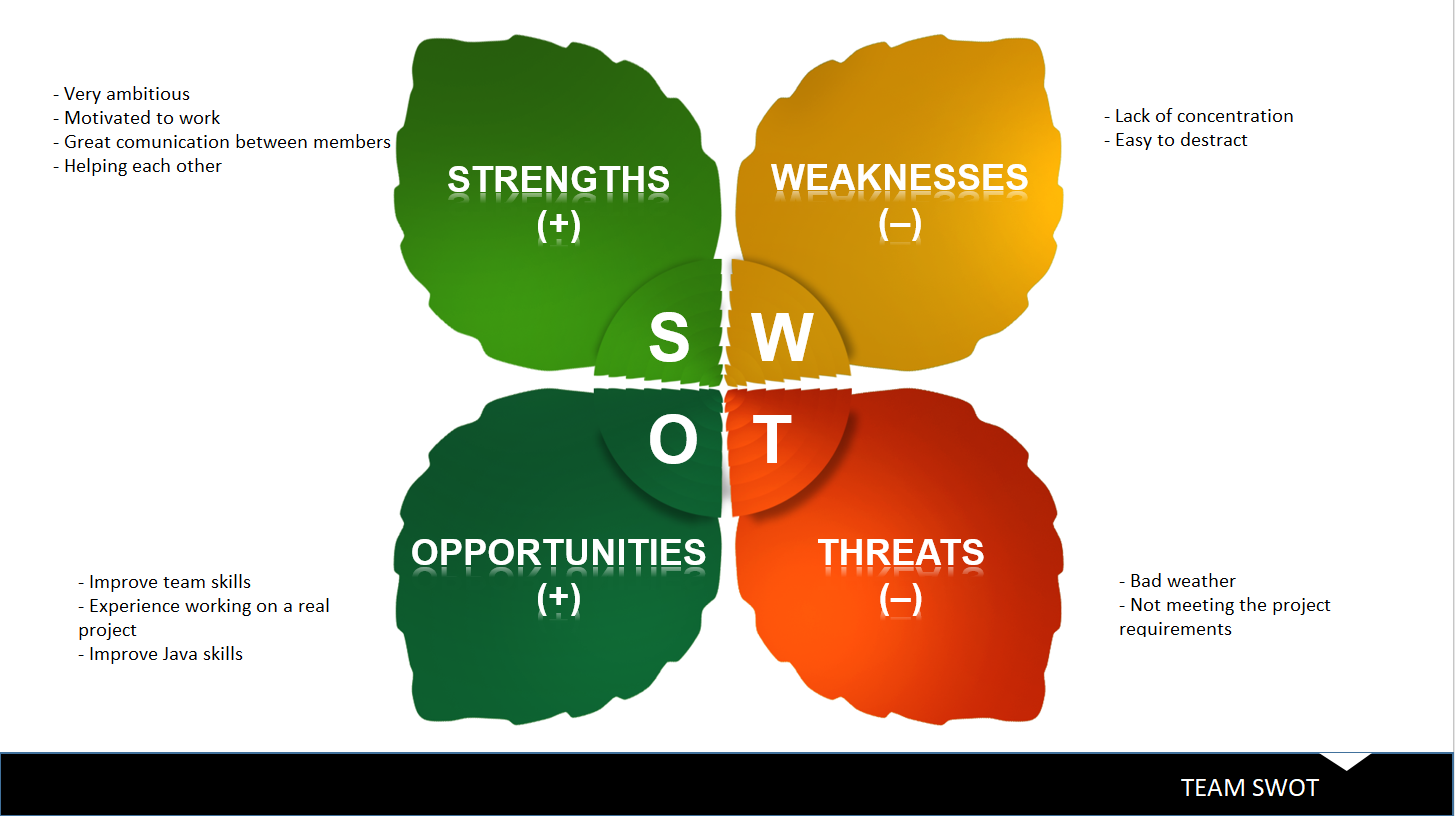
In order to better introduce all the team members, we created diagrams showing our SWOT analysis. Bellow we have five diagrams, one for each team member and one for the whole team.



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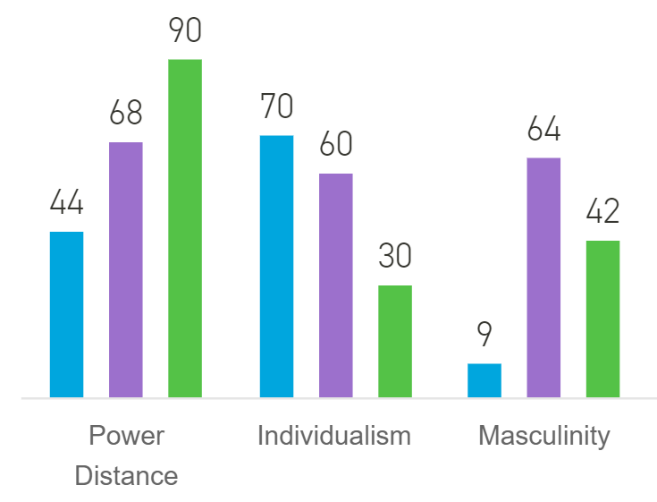
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## Cultural Difference[[2]](#footnote-2)

Our team consists of members from three countries. All countries scored a certain amount of points for different dimensions. The scores are shown on the figure 1.



*Figure 1*

**Latvia**

In the power distance dimension Latvia scored lowest from all three countries. That means that Latvian people prefer to work as a team and equality between the team members, although they still show respect towards the authorities.

Individualism is also very popular in Latvia. Children from the beginning are taught that it is important to take responsibility for their action. Also they tend to speak their mind, and are very tolerant towards other.

Latvians motivation is that they do what they like. They don’t feel comfortable with praising, and are very careful not to offend anybody. All of that is because they vave very low masculinity.

**Romania**

Because Romania scored very high in the power distance dimension, that means that the people are used to a hierarchy and accept their place. They are used to others telling them what to do.

The score of individualism shows that in Romania there is a collectivistic society. That means that they take group responsibility very seriously, and they also take very serious relationships between group members.

Romania has a Feminine society, which means that people “work in order live”. They value equality and solidarity. The conflicts between them are solved very easily.

**Poland**

Just like Romanian society Poland also is a hierarchal society, because of its high power distance score. People agree to their place in the hierarchical order, and are used to being told what to do.

In the Individualism dimension Poland scored quite high, meaning that they care about themselves and the closest family. In such society offence causes a loss in self-esteem and guilt. The promotions and hiring is based not on the relationship but on merit.

Poland is considered a Masculine society. That means that people “live in order to work”. The conflicts are settled by fighting them out.

## The Group

All group members have experienced before working in a group of people. Dominika and Tudor have already been working as a team last year.

Even that our cultural background was different we managed to work together. There were no fights between team members. The relationships between each other were very friendly. Everyone felt comfortable during the meetings.

In our group we had members with Belbin roles from each of the following dimensions:

* Action Oriented Roles (Nikita – implementer, complete finisher)
* People Oriented Roles (Claudiu – Co-ordinator)
* Thought Oriented Roles (Tudor, Dominika – specialists)

Thanks to the fact that we had all the tree dimensions covered, our team members worked together very well, and enjoyed the time we spent together.

# Project Initiation

As every other team, in the initiation phase we went through the four team formation stages, which are Forming, Storming, Norming, and Performing.[[3]](#footnote-3) In the first stage all members were exited about the upcoming challenge and working with new people. Storming phase was almost unnoticeable in our team. Everyone found their place immediately, there were no fights. None of us tried to impose their working style, we found a way to work together. Norming came surprisingly quickly, because of the lack of disagreements between members. Reaching the preforming stage was no challenge for us.

The most important document for us was the group contract. We created it by discussing together, everyone was able to add some rules that they wanted the whole team to follow. In order to prove our will to work on the project, everyone agreed to the rules from the contract and signed it. All team members did their best to respect the regulations.

From the start the whole team agreed to meet at university. We also considered holding meetings thorough the internet, but there was no need for that. For the meetings all members showed up. There were couple of times when one or two members couldn’t show up because of some personal reasons, but apart from that the attendance was perfect.

At the very beginning we received from our teachers guidelines for the project. We were allowed to pick a case ourselves, but it had to match the guidelines. We came up with two ideas. Frist we thought of making a car rental system, with different cars for rent. Our second idea was to make a flight booking system. Both of our ideas got approved, and the teacher let us choose the one we preferred. We decided to proceed with the flight system.

Our team had no problems in working together ever since we started. We had to choose a product owner and SRUM master in order to follow the SCRUM framework. We decided that Tudor will be the Project Owner, Claudiu the SCRUM Master and Nikita and Dominika were the team.

# Project Description

Creating project description was much easier for all of us this time. We already had experience from last semester, so we knew how to properly do it. Because the project case was created by us we could very precisely describe the project. We started with the background description. From all the sources we found, we chose the one that were most reliable, and appropriate for our case. Finding an airlines which was struggling with the same dilemma of creating a tailored system was very helpful to properly show the problem that ZAir was struggling with as well. More troubles came with the definition of purpose. We knew what the goal of the system was, but we had to explain it with proper words. Our first draft of the problem statement was not good enough. After one meeting with one of the supervisors we had to reformulate it. Delimitations were easy to make. We had many creative features for our system, but we were aware that we are not able to implement them all, so we gave some of them up. We created a proper Time Schedule at the end knowing that it will most probably change in time. Most trouble we had with the Risk Assessment. We had to assign responsibility to prevent a risk to a certain person We didn’t know each other too well so it was challenging to pick a right person to assign it to.

The goals we set up worked well for us. We managed to implement everything we wanted to. Because we knew from last semester how to set realistic goals we did it properly this time.

To conclude the Project Description phase went smooth, without bigger problems. With already some previous experience we were able to stand up to the challenge and do our best to properly write the document.

# Project Execution

## Scrum Planning

### 5.1.1 SCRUM Roles

SCRUM Master: Claudiu Rediu  
Product Owner: Tudor Ciobanu

### 5.1.2 Sprint Planning

1st Sprint:

16th of April – 11th of May (4 days, 6 hours a day, 24 hours per person, 96 hours a sprint, only Thursdays)

2th Sprint:

14th of May – 18th of May (4 days, 6 hours a day, 24 hours per person, 96 hours a sprint)

3th Sprint:

21st of May – 25th of May (4 days, 6 hours a day, 24 hours per person, 96 hours a sprint)

4th Sprint:

28th of May – 31th of June (4 days, 6 hours a day, 24 hours per person, 96 hours a sprint)

5th Sprint:

1st of June – 4th of June (4 days, 6 hours a day, 24 hours per person, 96 hours a sprint)

6th Sprint

5th of June – 8th of June (4 days, 6 hours a day, 24 hours per person, 96 hours a sprint)

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### 5.1.3 Group Meetings

Group meetings will be work days that we decided on in the sprint and after each sprint as SCRUM Reviews and Retrospective. There would be approximately 96 hours of work per sprint.

Group meetings, SCRUM Reviews and Retrospective would be held at the university.

### 5.1.4 Sprint Backlogs

1st Sprint

SPRINT REVIEW:

Tasks were not completed at the ideal rate, the reason being that the team chose to delay the work on the project for external assignments like the Course Assignment. When the focus was brought back on this project the team has started completing the tasks at an intended pace for a sprint. By the end of the sprint every task was completed with proper documentation.

SPRINT RETROSPECTIVE:

WHAT WENT WELL:

-TEAMWORK

-COMMUNICATION

WHAT COULD BE IMPROVED:

-WORK PACE

-FOCUS

After the delay brought by other immediate priorities, the team has started completing the tasks intended. There is wish for the pace of the project to be faster, so the project will be completed before the deadline. The way we split tasks to each member has been satisfying and teamwork is in a good state as any issue is usually resolved, and help is offered at any difficulty encountered. Fast response time and understanding between teammates has made communication in the team helpful.

FINISHED WORK:

The database for the system was created together with the ER diagram and logical data model.

The following feature was implemented with documentation done.

As an administrator I want to manage the flights, so that I can add, remove and manage details.

Testing was done for the model.

2nd Sprint

SPRINT REVIEW:

During this sprint, meetings was scarce and short for the most part. Although the circumstance, the intended feature for the sprint was achieved and even some that were needed for the cohesiveness. As a result, from the lack of meetings and communication, documentation was not made in a proper manner for each feature implemented.

SPRINT RETROSPECTIVE:

WHAT WENT WELL:

-WORK PACE

WHAT COULD BE IMPROVED:

-TEAMWORK

-COMMUNICATION

In comparison with the previous sprint, the work pace for developing of the project was better. More was achieved in less time. Although there was an improvement in the load of work did, communication and teamwork could be improved as the meetings were not often enough and documentation was not done for all the completed features. In the coming sprints, the team would strive for better communication and will shift focus on documentation as most of the features are complete.

Finished Work:

The following features are implemented but with lacking documentation:

As a customer I want to be able to book flights so that I can use the services Zair provides.

As a customer I want to view and search flights, so that I can gain information on what I am interested it.

As a customer I want to be able to view all details regarding a flight, so I can make my decision when I am buying one.

As a customer I want to be able to get my flight history, so I can check details about my previous flights.

As a customer I want to be able to choose my seat, so I can get my desired seat in the airplane.

No test cases were made for the features yet.

3rd Sprint

SPRINT REVIEW:

During this sprint, meetings happened more often than the previous one. The coding of the system is brought nearer to completion. Steady work on the documentation and process report has been done, but not much in terms of completion. The database was updated for ease of use and easier extension. Splitting work has not worked that well as the team was not fully focused. Looking forward, the project period will start and there will be a lot achieved in the next period.

SPRINT RETROSPECTIVE:

WHAT WENT WELL:

-MEETINGS FREQUENCY

WHAT COULD BE IMPROVED:

-WORK TIME

-COMPLETION OF DOCUMENTATION

In comparison with the previous sprint, there was less satisfaction with how much was achieved. There was a lot of fixing involved in the existing code to prepare for the completion of the system and get the system ready to be fully documented. In this sprint, meetings happened more often, but had less focus than previous ones because most of the small tasks were done. Although not fully satisfied with the pace, the percent in which the project is complete is satisfactory considering the time left until the hand in.

FINISHED WORK:

The final state of the database

Belbin roles documentation

4th Sprint

SPRINT REVIEW:

During this sprint, work and meetings were at the desired level. As expected, entering the project period helped with freeing the schedule of everyone and having the opportunity of meeting often and working together to maintain pace and quality. Satisfaction with the work is high and documentation is becoming the priority as the system is in the testing phase and complete in terms of features.

SPRINT RETROSPECTIVE:

WHAT WENT WELL:

-MEETINGS FREQUENCY

-WORK TIME

-FOCUS

-COMMUNICATION

WHAT COULD BE IMPROVED:

In comparison with the previous sprint, everything went as intended and work put brought the results that were waited for. Everyone was satisfied with the schedule, work load and pace. Focus was on the project. Now the documentation and testing are the main priority, shifting away from coding the system.

FINISHED WORK:

All features intended for the system

5th Sprint

SPRINT REVIEW:

During this sprint, meetings were short as the focus was finishing the remaining tasks that mostly included documenting the system and tying lose ends in the system. Communication was kept at a minimum as it was not needed in the measure it was in previous sprints. Another important was having a clear idea of what was needed for handing in the result.

SPRINT RETROSPECTIVE:

WHAT WENT WELL:

-MEETINGS FREQUENCY

-WORK TIME

-FOCUS

WHAT COULD BE IMPROVED:

Compared with previous sprints, meetings weren’t as long because of the constant approach towards the finalization. Most work was done outside of the usual environment of the school.

FINISHED WORK:

-Test Cases

-Junit Tests

6th Sprint

SPRINT REVIEW:

During this sprint, meetings were short and concise. They had the focus of finishing the documentation. The system is ready for handing in. As the end was approaching the meetings weren’t as frequent as each team member preferred to work outside the school.

SPRINT RETROSPECTIVE:

WHAT WENT WELL:

-WORK TIME

-FOCUS

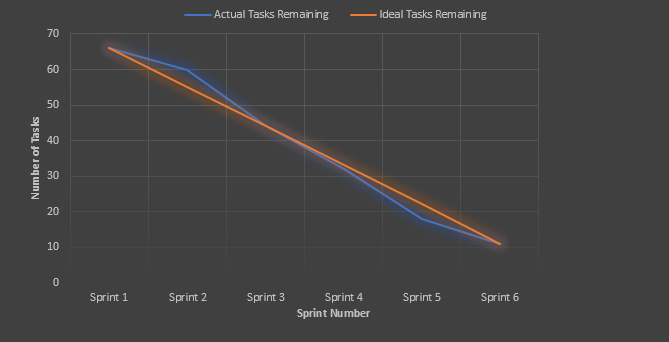
WHAT COULD BE IMPROVED:

-MEETINGS FREQUENCY

As the final sprint, everyone was satisfied with the system and had the priority of finishing the documentation. Looking back, things we could improve are communication and cohesiveness between team members. What was done well was splitting the work between team members, meetings frequency, focus.

FINISHED WORK:

-All Documentation

5.1.5 Burndown chartThe burndown chart’s axes are consisted of the number of tasks and the sprint number. The chart was created to represent the team’s work pace. The first 2 sprints were affected by delays and external priorities, resulting in slow completion. Over the course of the next sprint, the external issues were solved, and work resumed. During the last 3 sprints, work was being completed as intended. They were characterized by an increase in completion as remaining tasks were finally completed.

## Unified Process (UP)

### Inception

During the Inception phase, the team focused on formulating a scope of the project and preparing the working environment. Working together with SCRUM, this phase was mostly in the first sprint. It consisted of creating the project description, sprint planning and creating the product backlog. Project description was created to formulate a scope, introduce boundaries, a vision for the system and gain acceptance and estimate what the product should end up like. SCRUM was used in this phase to estimate a schedule and delimit what the system should and should not do through the product backlog. The requirements and the first use case are created for the system, to define the direction and help in creating the first working build of the system.

### Elaboration

During the Elaboration phase, the essential activities that composed it were defining and refining the vision and structure of the system, finalizing a schedule for the construction phase through sprint planning and ensuring the project is worth further advancement. The use cases were created to demonstrate that system will support the requirements of the system. It was ensured that they would reflect the system that will be developed. Elaboration phase is mostly characterized by the analysis and design of the system while making sure that the risks are mitigated. Risks like the system not being maintainable, understandable or not respecting the requirements.

### Construction

During the Construction phase, the main priority is constructing the system as rapidly and practical as possible and having the analysis, design, implementation and testing complete. As each feature is implemented, the system is assessed against the requirements and specifications created in the previous phases. Emphasis is put on the working process and its efficiency. The approach was that after each feature implemented, the system could be on its own a product that would work. In this way, the focus was to create it in a way that makes it maintainable and open to the adding of new features.

### Transition

During the Transition phase, the main goal was that documentation, the user guide and have it ready to present to the customer. By the end of this phase, bug fixing, and enhancements made to the system must be complete. This phase is to ensure that the software is available for the end users. User feedback should be considered for fine tuning the product. The system must be deployed in the way the customer solicited, respecting the plans laid out.

### Distribution between effort and schedule:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Inception | Elaboration | Construction | Transition |
| Effort | 10% | 25% | 60% | 5% |
| Schedule | 12% | 21% | 60% | 6% |

These table was filled with values that resulted from the time spent in a sprint and all over the course of all sprints. The inception and elaboration are consisted mostly of the first 2 sprints. Most of the first sprint was dedicated for the inception and a part of the elaboration and then the second sprint was only for the elaboration. During the next 4 sprints, most of the time was in the construction phase, barely revisiting the other phases. A lot of effort was put in creating a system open to new features and to be done by the schedule.

# Personal Reflections

**Claudiu Rediu**

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**Tudor Ciobanu**

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**Nikita Roskovs**

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**Dominika Kubicz**

What I really liked about working with my project group was that all group members were always helpful. Whenever I had a problem with my part of work they helped me find a solution. Also I appreciate that all members came to all the meetings. Another thing was that the work was organized very well. I always knew what to do, and what others were doing. The team always kept me updated about the project, even when I took a trip back home for a weekend. During some meeting I had to leave earlier, because of work or another meeting I had and my group always let me go what was very nice.

What I didn’t like about working with my group was that during the meetings we very often got distracted and talked about topics not connected to the meeting. Also sometimes some of our group members talked in their mother tongue and I wasn’t able to keep up with the conversation which usually was connected to the project.

# Supervision

Through the duration of the project we had numerous supervisor meetings. Our first supervisor meeting was with Mona Wendel Andersen. We were at the point of creating our Background Description in our Project Description. We wanted to make sure that the project will be properly introduced. Mona gave us useful tips, which we immediately executed. She advised us to put the statistics in the beginning of the description, to better familiarize the reader with our case.

Our next meeting was with three of our teachers at once. Ib, Joseph and Mona gave us feedback on the whole Project Description. The gave us a better insight on our problem statement, which we improved after the meeting. Another detail we had to change was our risk assessment. Ib made us realize that assigning a certain risk to all members is almost the same as assigning it to no one, because none of the members would feel fully responsible for it.

On the 29th of May we had a meeting with Ib Havn in order to clarify our doubts about the Use Cases.We were not sure whether we should consider log in as a separate use case. Another doubt was about sprints. We were following the SRUM framework, so we had some difficulties with it. As it usually happens, we didn’t manage to fulfill the number of sprints we originally planned to. What we wanted to know was how to properly document the changes in our plans.

All the supervisor meetings we managed to have during the project, really helped us to do our best. They clarified our doubts, and we were able to do the project properly. The supervisors explained us all the problems in a way we all understood them. All supervisors were friendly and always happy to help. The communication with teachers went smoothly. Usually one group member was asking questions, and the supervisor answered them.

# Conclusions

Our group consists of four members from three different nationalities. Each nationality has its own culture of work environment. Despite our differences we managed to find a compromise and work as a team. The cultural differences was almost unnoticeable during our meetings. We worked very well together as a team.

Even though we already had previous experience with working on a project we still had difficulties with some parts of the work. In order to make group decisions we discussed between each other, and agreed on what was best for all of us. Some doubts we were not able to figure out ourselves, so we went to ask for help our supervisors who helped us find the solutions.

During the project we had to experience working using the SCRUM framework. We got to know how a real work environment looks like. We had our own Scrum Master and Product Owner. Now we know different types of SCRUM meetings, we understand how to properly follow SCRUM and we know how to work in sprints.

We worked on the project in total if576hours. At the time of working on it, we improved our skills of java programing, crating a database, writing documentation and working with other people. The project helped us develop ourselves and gain some new knowledge.

**Appendices**

1. <http://www.belbin.com/media/1336/belbin-for-students.pdf> [↑](#footnote-ref-1)
2. https://www.hofstede-insights.com/country-comparison/denmark,latvia,poland/ [↑](#footnote-ref-2)
3. https://www.mindtools.com/pages/article/newLDR\_86.htm [↑](#footnote-ref-3)