**Process Report**

**Fly High – Airline Management System**

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# Preface

This report has been developed during a x-weeks project. We thank our supervisors and librarians at VIA University College for the assistance and guidance provided in a spirit of cooperation and goodwill.

# Introduction

*“If you figured it all out today, what would be the point of tomorrow?” – anon.*

This anonymous quote can describe best our initial approach to planning the execution of the project. There is always room for improvement. Creating an airline management system is a complex task which requires attentive study of the current market demand, analysis of its issues and enhanced vigilance towards details. Therefore, the whole planning of the work and expected progress during the available time range has proved itself to be a demanding procedure.

SCRUM and The Unified Software Development Process were introduced to us early in the semester and can be accounted as extremely helpful in the work management. The two frameworks provided a beneficial way of organizing the work and keeping track of the progress. The burndown chart (can be found in Appendices and) it is a visual representation of the expected work flow and the actual flow. A small check of the chart offered us the possibility to examine current work situation anytime by seeing how far behind or before the schedule we were.

A screenshot of a cell phone

Description generated with very high confidence

*Figure 1 – Burndown chart*

The work has been divided into five sprints and, as it can be observed in the chart, the ideal remaining effort, representing the ideal amount of work in a time range, it is not similar to the remaining effort, representing the actual amount of work. The work has been delayed during the first two sprints and we have been behind the schedule for a while. Sprint number three was the time when we managed to catch up with the work and even to go further in sprint number four. Even if in the end the planning and the actual implementation were nothing alike, we succeeded in accomplishing the main goal, creating a functional system, and gaining experience with group working.

Overall, it can be concluded that the performance is satisfactory, the meetings’ plan was respected and the general atmosphere during group work was pleasant. We tried to learn one from each other, share the knowledge, cooperate as much as possible to achieve the common objective and enjoy the work.

# Group Description

The group consists of four members: Cristina Ailoaei, Dragoș Sîrbu, Michał Jurewicz and Michał Podgórni, originally from Romania, Moldova, respectively Poland. Analyzing the outcome of this new type of partnership from a cultural approach, the team members gained a lot of experience from such a collaboration by working with different people.

Prior to project start, we wanted to explore the strengths and weaknesses of the team by completing a team roles test in order to make sure that every team member is assigned to tasks which suits his/her aptitudes and therefore make use of his/her full potential.

Cristina Ailoaei comes from Romania. The result of the Belbin Team Roles test showed that she is a Complete Finisher and Coordinator. She strived to polish and scrutinize the work for errors and to clarify the goals. Her will to perfect everything made our project look substantially better.

Dragoș Sîrbu comes from Moldova. Through the Belbin Team Roles, his strengths associate him with a Specialist and Implementor. He made sure to provide the team with reliable knowledge and is known for turning the ideas into actions. His will of improvement pushed the project work further.

Michał Jurewicz comes from Poland. He identifies himself as an Implementor and a Plant through the nine Belbin Team Roles. His high creativity and way of solving problems in unconventional ways gave the project a fresh and an original look. Moreover, he plays the role of SCRUM Master and was responsible for organizing work sessions and making sure the work is done.

Michał Podgórni comes from Poland. Undoubtedly, he can be described as a Resource Investigator and Monitor Evaluator, as he explored opportunities to generate new ideas. He also provided a logical eye, making impartial judgements in moments where needed. Apart from this, he was our Product Owner.

The following image it’s a representation of the team roles distribution and has as purpose increasing the self-awareness of each member towards the segments where they should be mostly active.

We acknowledge that the Team Role Circle is not a personal creation but has been adapted from a sample on “Belbin Team Report”. The original version can be found at [www.belbin.com](http://www.belbin.com) . Also, the Belbin Team Roles test can be found in Appendices and contain the results for each member from where the data has been extracted.

A close up of a device

Description generated with high confidence

*Figure 2 – Team Role Circle*

The cultural differences are analyzed in the [country comparison chart](Appendices/country-comparison.png) and description enclosed to the document. As it can be observed, the only significant difference between the countries Poland and Romania is that Poland scores twice as much in individualism, thing that can be explained by the fact that there is a slight concern for people to see the work done as soon as possible. The team could only benefit from that, as we ensured that the process is not delayed. For the whole group, the execution of this project represents the second experience of this kind. We intended to use the experience gained in the first semester and the team work in our benefit by developing together our interpersonal and technical skills.

# Project Initiation

The project group decided to undertake this project because its execution involves more than building and designing a system, as it is connected to people and created for them. This way, the project will not only be a technical experience, but it will provide the team with better understanding of the human factor and its changing needs. Thinking from a different position, that of a user, will help the team to spot weaknesses and mistakes and will prepare it for future projects.

Specify that is not the first time working together-------

As a group, we can say that the planning was overall successful, because we didn’t have any important personal issues, only some different opinions about our tasks. Whenever a new task was given to us, we always first discussed the matter and split the work equally. Of course, there were times when the opinions of some of us didn’t match, but actually we consider it as being a benefit, as we had the chance to turn the problem around and look at it in different ways until we could choose the most convenient option. So, these small, but favorable delays didn’t affect the planning of the project.

SWOT Analysis---------

# Project Description

The problem our team was faced with was:

***How can the airline company efficiently store and manage information regarding its flights and provide a way for the customers to buy tickets?***

# Project Execution

The biggest difference from the first semester was the methods of working we used. Unlike before, we were supposed to do all the steps of creating the project at once due to the Unified Process. That had big influence on how we divided the tasks and how we planned everything.

Organization of work was being prosecuted in compliance with SCRUM, which means that we have chosen the SCRUM master, who was Michał Jurewicz and Product Owner: Michał Podgórni.

SCRUM master’s role was mainly to help the other team members to follow the project, divide tasks and encourage so the whole team would achieve the best results. Product Owner was making sure that the project is heading the proper goal, deciding what exactly should be done next and what in specific all the team ought to focus on.

Whole process was divided into 5 sprint, each lasting 3 days. Although at the beginning we did not fully follow the SCRUM methods, later, in the third sprint we finally understood how to use these methods as they were meant. This does not mean that for over 2 first sprints we used different method of working, mostly it was case of not fully proper documenting what we were doing but then we filled this small gap.

The initial product backlog was as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Priority | Estimate | Item |
| 1 | Critical | 40 | A project report has to be presented in order to get a detailed system documentation. |
| 2 | Critical | 32 | A process report has to be presented in order to have a written documentation of the system development process. |
| 3 | Critical | 28 | As an administrator, I can add airports, airplanes, crew members and flights to the system. |
| 4 | Critical | 16 | As an administrator, I can find airports, airplanes, crew members and flights in the system. |
| 5 | Critical | 24 | As a head administrator, I can cancel flights. |
| 6 | Critical | 28 | As a head administrator, I can delete airports, airplanes, crew members and passengers from the system. |
| 7 | Critical | 16 | As an administrator, I can edit data for airports, airplanes, crew members, passengers and flights in the system. |
| 8 | Critical | 16 | As a customer, I can select departure and destination airport and the departure and return date (or departure only) for flights in order to get the available flights. |
| 9 | Critical | 16 | As a customer, I can enter personal information and choose a seat, size of luggage, method of payment in order to book a ticket. |
| 10 | Critical | 16 | As an administrator, I can select date/time range for flights in order to get flights in a specified range. |
| 11 | Critical | 16 | As an administrator, I can select cities for flights in order to get flights from/to the specified cities. |
| 12 | Critical | 12 | As an administrator, I can get a list of all flights and club members. |
| 13 | High | 12 | As an administrator, I can set the annual fee for club members. |
| 14 | High | 8 | As a customer, I want to receive the ticket via email. |
| 15 | Medium | 8 | As a customer, I can become a club member in order to get discounts. |
| 16 | Medium | 10 | As a customer and club member I can search only for cheap flights from my city. |
| 17 | Medium | 6 | As an administrator, I can maintain a FAQ section. |
| 18 | Medium | 5 | As a user, I can read FAQs so that I can find answers to different questions regarding flights. |
| 19 | Medium | 5 | As a user, I can subscribe to the newsletter in order to receive new information regarding flights and offers via email. |
| 20 | Low | 10 | As an administrator, I can log in the system in order to manage data. |
| 21 | Low | 7 | As a head administrator, I can see the profiles of all administrators. |
| 22 | Low | 15 | As a head administrator, I can create or delete an administrator account in order to ease the management of accounts. |
| 23 | Low | 5 | As a customer and club member, I can log in the system in order to take advantage of the benefits provided. |

\*It is assumed that a head administrator can perform all the actions of an administrator.

\*It is assumed that the estimated time refers to the work for the whole team (~ 350 hours).

In the end we have not deleted or added any point to this list and on each sprint we marked what has been already done.

Having all the tasks exactly specified for each meeting was for sure a lot of help for every of us. Despite the fact that for both Michałs it was a bit strange to play some other role during part of the meeting, in the end the SCRUM methods brought a lot of facilitation into organizing everything.

In our opinion we ended with a functional piece of software that is documented in an easy to understand way and even though some of the planned tasks were not fulfilled exactly how we though at first, the result is satisfying to a high extent.

# Personal Reflections

**Michał Jurewicz**

*“Due to the fact that our group has not changed after the first semester, first I thought that there will not be much more to write about my reflexions on how we worked and what I think about my group, therefore I wanted to use my part, or at least most of it, from the previous process report. But after reviewing it I realized that I am not quite right and not everything is the same. To be more specific – most things changed.*

*To begin with, I did not change my opinion on the other group members and I consider us a good team in general. Except for minor disagreements, that we solve without any difficulties, we agree for the most important parts and can work together well. I feel satisfied with what we have achieved and think that the other group members can say the same.*

*If it comes to the international environment, some can say it can be a bit problematic to cooperate with people who have been grown up in different countries. Nevertheless, the fact that we all do not belong to the same nationality does not really play any role for us, especially that we all come from European countries, so that there are not so many culture differences.*

*Every of us tried to do their best in order to perform our duties and I am sure that we were all dedicated to this case. However, we are still beginners in our field and many things that come up suddenly are a bit surprising so that we did not always know what should we do then. That is why we have not achieved everything we wanted but what we have now covers the most of our expectations.*

*The part that tells the current project from the first one the most is, obviously, way of working. In the first semester we used the waterfall approach, while now the method was the unified process. In my opinion this time, even though we did not know how to use it one hundred percent properly at the beginning, in the end everything was a lot more under our control, compared to our first experience of making a group project. By this I mean that at every essential point of developing our system we could make most changes we wanted without sitting many hours and reediting hundreds lines of code. That is a thing which can decide whether we achieve our goal or not.*

*Farther, after over half a year, our knowledge was noticeable bigger than at the beginning and we also had something to base on. Thanks to learning many design patterns and seeing sample parts of different systems, we could apply them in our own project and reach what we needed in the simple way instead of doing everything all around. It also worked on the other way around, because when we could not really understand how something works, trying to implement it helped to get to know the idea and cleared up a lot for all of us.*

*Except for the new way of organizing work, the fact that we already knew each other well was also very helpful. This time everybody was prepared a way better and appreciated what we can expect from the future. Thanks to a lot of practice, patience and effort, we managed to achieve what we set for ourselves and the result is something that we are not ashamed of.”*

# Supervision

Any part of the project could not be done without proper knowledge. It is obvious that huge majority of information about everything in terms of developing both the system and the documentation came from the supervisors.

Not only owing to the classes we had during the semester but also group meetings, we learnt all what was necessary and received a lot of valuable feedback, which helped us to understand our mistakes and showed the way how to correct them.

Both sides: us and the supervisors have taken everything seriously and shown big commitment, which resulted in a very good cooperation. For every case we tried to solve our problems on our own but sometimes the solution we came to was too much unsure to use it officially. Fortunately, anytime we needed to get to know something about any part of the project, we could ask a question during the classes or send an email and set a meeting in order to receive the answers we needed. We, as a group, are fully satisfied with this relation and are aware of the opportunities we received.

Each member of our team can honestly say that the collaboration with the supervisor was essential and only thanks to it we ended with a satisfying result.

# Conclusions

As all the group member have known each other from the first semester, when we had created exactly the same project group, it was really easy to cooperate. Everybody knew what to expect from other persons and what are weaknesses and strengths of us together and alone. Although there were some minor conflicts about some details, we were solving them fast, mostly because of that everybody was aware of the fact we are working to achieve a common goal. All in all, we are content with the group work we managed to organize and can honestly say that we felt well in the group.

Anyways, the situation was different from the one in the first semester, because of both new approach of working and bigger challenge to fulfill our tasks. We learnt a lot of new things from the process and therefore can recommend some things to do as a team and advice against some others:

**Do:** stay positive in all situations, be open-minded, respect others, listen and pay attention to your group, ask for help when needed, don’t be afraid of showing your opinion

**Don’t:** blame other teammates, be aggressive toward the group, try to put group under pressure, ignore others, dominate

For sure each of us will remember this experience and in future projects it will become a really helpful and important factor we will consider in order to create a good cooperation.

**Appendices**

Appendix A – SWOT Analysis

Appendix B – Meetings Plan

Appendix C – Sprints

Appendix D – Product Backlog