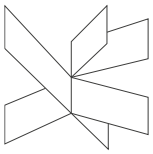

Project Description

Fly High – Airline Management System

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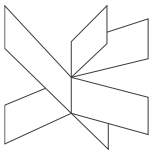
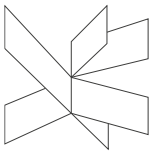


ICT Engineering

2nd Semester

19/02/2018



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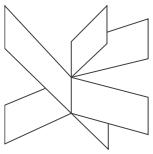


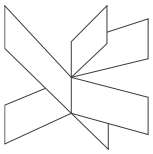
1 Background description

The use of flights, both in terms of travelling and airfreight, has greatly increased over the past decades, air travel becoming one of the most important modes of transport nowadays. Dating back to 1903 with the first flight of two American engineering brothers, the air transport is and has demonstrated itself to be a thriving market which doubles its volume of passengers every 15 years. Worldwide, in 2016, there have been over 3.7 billion passengers carried by air. The 60 % growth of the market over the last ten years shows the efficiency of air travel, including time, convenience and costs. (AIRBUS S.A.S., 2017)

The outstanding numbers clearly recommend this sector as an essential service for people today, not only in means of its obvious utility, but also being known for contributing in Europe to the employment of 12.3 million people (*Fast Facts | ACI EUROPE*, no date), needed to keep the system working properly. For instance, the operation of landing or taking off requires precise work procedures of a group of qualified personnel, both in the airport and the plane, as well as complex systems and networks running in the background.

Although air travel can be named a relatively new option of transport, this market has already achieved a lot, promising even much more than that. Studies show that until 2036, the traffic flow in Europe will expand 2.6 times than in present. (AIRBUS S.A.S., 2017) The reasons of its enhanced popularity are mainly supported by the title of the fastest form of transport and a good safety record for commercial air transport, as data from the European Aviation Safety Agency shows. (*Air safety statistics in the EU - Statistics Explained*, no date) Analyzing Denmark's situation, statistics retrieve a total of 342,000 flights in 2014, a number of 23 airports and 1047 planes in 2015. (DANMARKS STATISTIK, 2016)

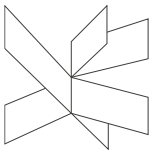
Most of airline companies have their own webpage where they can manage and display all the needed data for a client to book a flight. In most cases, purchasing a flight will also pop up some other features, such as recommendations for accommodation or car rental services at the given destination. Taking into consideration the fact that both sides, the administration of the company and the clients can meet their goals remotely



via the internet, it is a very good idea to have a user friendly interface facilitating the collaboration.

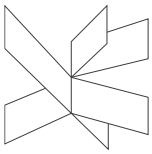
By the example of one of the mentioned websites, a person interested in booking a flight has to choose one of the possible origins and destinations, departure and returning date (or simply select “one way” option) and pick the seat number. After confirming and selecting the type of ticket, the next step is represented by filling a form with the requested personal data. The last part consists of choosing the method of payment, the ticket being then booked. Every step of the process is opened to some optional possibilities, for example taking a bigger luggage or earlier check-in. If the client does not select the check-in earlier option, he or she will have to check-in approximately 3 days before the date of the flight, for free in order to confirm the reservation and get an actual ticket. (*Official Wizz Air website | Book direct for the cheapest prices*, no date)

One specific Danish airline, Fly High, founded by Tobias Jensen and William Christensen in 2009 is a company headquartered in Vejle, which initially operated domestic flights. Now, the airline wants to expand its flights across Europe, which brought the request for a new management system. While operating internal flights, the only way for booking a ticket for a specific flight was calling the company and discussing with an employee all the details of the flight, starting with destination and ending with check-in, the ticket being sent afterwards via email. Due to the difficulty in booking tickets it is not surprising that “Fly High” has been left behind and it is not very popular. Therefore, expanding across Europe in the lack of a better management system would be totally ineffective, as the current state of things implies that both the clients and employees have to put a lot of effort into it. If there is not a more convenient way of purchasing the flight, most of the people would be very much tempted to fly with other companies. In the context of today’s society, something that does not put in use the available technological possibilities, it will not achieve the biggest possible success. Regarding “Fly High”, once the amount of data started to increase in size (new flights, new planes, change in the crew), operations such as storing and managing company’s information became very complicated to be handled on files. A simple scenario of a client who wants to change the date of a flight could create serious problems in such a system. And things can become even more dangerous, as the slightest issue can lead to cancellations and delays, risking the future of the company.



2 Definition of purpose

The purpose is to create a management system in order to help the airline company manage their data efficiently and provide the clients with a convenient way of booking tickets.



3 Problem Statement

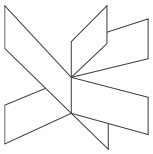
The project focuses on the way data can be managed by the user. The system will be available for the employees of the airline company, known as administrators and clients interested in booking a flight. The former user will be empowered to manage data, such as adding, searching, updating and deleting, while the latter will be able to search for information regarding flights and make a reservation at wish.

- ***How to ensure that the client is relatively happy with the way we make data available?***
  As the client is the most important part of the business, it is essential to determine what he thinks about the way the company presents things and if it is relatively easy for him to find what he needs. To solve that, FAQ and comments sections are debatable.

- ***Should the system grant permission only to a head administrator for actions as deleting data from the system?***
  Deleting data, as well as cancelling actions (for instance, cancelling a flight) can have crucial effects. Therefore, it is questionable if these operations should be performed by ordinary administrators of the system.

- ***What is to be done regarding cancelled flights?***
  A flight can be cancelled from various reasons (technical problems, bad weather conditions, etc.), either with a few days or hours before the settled time. Besides the system automatically informing the passengers, other measures have to be considered in order not to displease the client.

- ***Which of the passenger information should be stored in the system?***
  As obvious as it is that the system should contain essential data about every client who booked a flight, it can become unclear to what extent the passengers' personal information is relevant to the company.



4 Delimitation

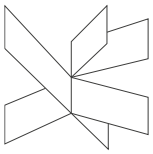
- The application which will be used by both users and employees will be written solely in English. Therefore, it will not have multi-language support for the moment. This might represent an obstacle in the airline company's ambition to expand globally.

- The software will not be able to use algorithms to automatically assign a seat to the passenger booking a flight. Consequently, this action will have to be performed manually by the passenger in the application.

- The application will lack AI (artificial intelligence). Even though the system will be able to store and archive passenger information regarding their past flights, it will lack the feature to suggest flights to the user based on their previous trips and overall information collected from their browsing history.

- The passenger with a booked ticket will have to check-in right after the purchase, rather than in a given period time before the flight

- The passengers will not be able to use an electronic ticket at boarding. All the tickets will have to be printed.



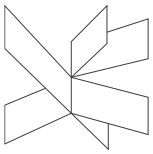
5 Choice of models and methods

Every company needs to follow technological progress, otherwise they will not be able to evolve. *Fly High* is a great example of an old, good prospering company with obsolete managing system. If they want to stay on the market they need to change.

The primary issue of the “Fly High” company is that they lack a client/server system which would be easy to access and will guarantee them a way to present and sell the product. It is considered an important factor for every business, as it can increase the number of clients and the demand for offered services.

The objective is to provide Fly High with a preset-day tool to help the company administrate their data and manage their relationship with the clients. The expected outcome is to build the “bridge” between the company and their clients, which would be beneficial for both sides, saving time, money and concerns.

The project will be conducted by a team consisting of 4 people. The team will use the SCRUM framework in order to divide the work in timeboxed iterations, which is a modern and efficient method, used by software developers. It defines a flexible, holistic product development strategy where the team works as a unit to reach a common goal. In this case there is no leader in the team, every member being equally responsible for the workload and the workflow, being expected to spend approximately 280 hours in order to develop the system. The team must understand the problem and comprehend the field of work of the client first. Next, the project group will learn how to use the tools they will need and they will follow the pattern of SCRUM framework, developing the system within next 13 weeks.



6 Time schedule

The project period has started once with the beginning of the second semester and the deadline is set to the eight of June. Every member of the team is expected to spend approximately about 280 hours working on the project which results in about 1120 hours in total.

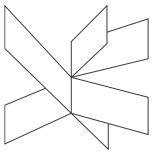
The unified process will be used in order to complete the project, meaning that more parts of the project will be done concurrently, but with different intensity.

Firstly, the most the part on which the team will focus will be business modeling and requirements, where the main goals will be set so that every team member will know what exactly has to be done. Later, the group will also work on the analysis and design parts, which have as a main purpose to plan a strategy in order to achieve the goals.

In the next step, when every team member is accustomed with the plan, the focus will fall on implementation parts, together with testing.

In the end, there will be the deployment part, which will allow the project group to check if the carried work has been done correctly and if not, a chance will be given to improve the system.

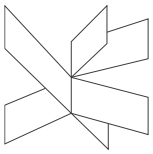
Every step in developing the project may have multiple elements on focus at the same time.



7 Risk assessment

Risks	Description	Likelihood Scale	Severity Scale	Preventive & Responsive actions	Identifiers	Responsible
Risk 1	Not meeting the deadline	2	4	The team will track the previous projects and divide work among teammates	Delays, additional work, wrong estimation	Michał Jurewicz
Risk 2	Unsettled project objectives	3	3	The team will set goals, responsibilities and terms of cooperation	Lack of agreement	Cristina Ailoaei
Risk 3	Teammate's disease	2	2	The team members will take care of their condition	Absence during team meeting	Michał Podgórni
Risk 4	Lack of knowledge	3	2	The team members will study more, as well as helping each other	Not being able to finish the tasks	Dragoș Sîrbu
Risk 5	Bad leadership/ no leader	3	1	The members will discuss team hierarchy and leadership	Issues with making decisions	Michał Jurewicz
Risk 6	Lack of experience	4	1	The team does not have to be experienced to finish the project, but members can gain experience by exercising	The team does not know how to react when unpredictable situations arise	Cristina Ailoaei
Risk 7	Lack of communication	2	2	Every team member will be active and will be encouraging others to take part in meetings	The members do not know other member's opinion	Michał Podgórni
Risk 8	Lack of commitment	3	2	Every team member has to be committed to the project to a high extent	The members do not perform expected tasks	Dragoș Sîrbu

Scales: 1-5; 5 – high risk



8 Sources of information

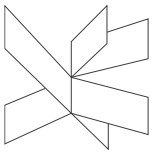
Air safety statistics in the EU - Statistics Explained (no date). Available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/Air_safety_statistics_in_the_EU (Accessed: 6 March 2018).

AIRBUS S.A.S. (2017) *Growing Horizons*. Available at: http://www.airbus.com/content/dam/corporate-topics/publications/backgrounders/Airbus_Global_Market_Forecast_2017-2036_Growing_Horizons_full_book.pdf (Accessed: 6 March 2018).

Fast Facts | ACI EUROPE (no date). Available at: https://www.aci-europe.org/policy/fast-facts.html (Accessed: 6 March 2018).

Danmarks Statistik Statistisk Årbog (2016) Available at: VIA University College, Biblioteket, Campus Horsens.

Official Wizz Air website | Book direct for the cheapest prices (no date). Available at: https://wizzair.com/#/ (Accessed: 14 March 2018).



Appendices