

Airline Reservation System Project Description

Names of students:

Jan Vasilčenko – 293098

Karrtiagehyen Veerappa - 293076

Nicolas Popal - 279190

Patrik Horný – 293112

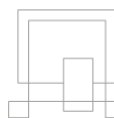
Supervisors:

Jakob Knop Rasmussen

Ole Ildsgaard Hougaard

VIA University College

Bring ideas to life
VIA University College



Software Technology Engineering

Semester 3

30 September 2020

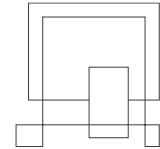
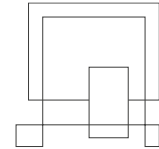


Table of content

| | | |
|-----|-----------------------------|---|
| 1 | Background Description..... | 3 |
| 2 | Problem Statement..... | 4 |
| 3 | Definition of Purpose | 4 |
| 4 | Delimitations | 4 |
| 5 | Methodology | 5 |
| 6 | Time Schedule..... | 5 |
| 7 | Risk Assessment | 6 |
| 8 | Sources of Information..... | 7 |
| 9 | Appendix..... | 8 |
| 9.1 | Group Contract | 8 |



1 Background Description

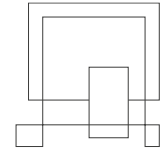
Aviation has allowed mankind to visit other countries and continents in a matter of hours. Once, aviation was only available to people of power and money, but nowadays, commercial airlines provide flights to the public. Not only that, airlines provide extra services such as hotels, car rentals and insurance to the public as well. Tickets to these flights are mainly booked online through a website.

An airline reservation system (ARS) should be simple to use and easy to understand from the customer's point of view. Unfortunately, this is not the case. A survey conducted on the satisfaction of customers using ARSs indicate that a big group of customers are more than unhappy with the ARSs that they have used.

Aviation is an unpredictable business due to the scale, weather patterns and most importantly, fuel prices (CAPA, 2017). Due to this, customers can often have unpleasant surprises such as delays and cancellation of flights, and many flight booking websites warn customers when it is too late, which leads to frustration among customers. Refunds can also take a long time to process, which often leads to customers wasting their time contacting the airlines for refunds. This entire process leaves customers confused and irritated (Blessing, Umar and Opeyemi A., 2017).

The people operating the flight booking systems, operators, have a complicated job coordinating and organizing the flights (Aviation Job Search, 2012). The last thing an operator would want to do is input or edit the wrong data in the ARS. So, easing this job with an improved ARS on the operator side will lead to less mistakes and a more efficient workflow.

In a nutshell, customers experiences with the current airline reservation systems are unsavory. ARS should be easily navigable by customers, and simple to use. Poor notification of cancellations and delays of flights to customers leads to low customer satisfaction, which will lead the customers to switch to another ARS or reserve directly at the airport, which is less efficient and more time consuming.



2 Problem Statement

Main Problem:

The airline reservation systems are difficult to operate and poor notification of cancellation and delays of flights.

The following sub-questions are to paint a better understanding of the main problem.

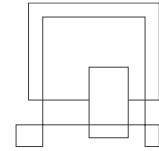
- What data is necessary for reserving seats on flights?
- What data is necessary for the operator to input to create and edit flight information?
- When should the customer be notified when their flights get cancelled or delayed?
- What information does the customer need to check in at the airport?
- For how long should be reservation for customer available?
- How many tickets can be reserved by each customer?

3 Definition of Purpose

The purpose is to help customers book flight tickets and operators to manage the flight booking system, so that the customers can manage and keep track of the status of their flight tickets, and operators can manage and update flights with ease.

4 Delimitations

1. We will not include anything regarding insurance.
2. We will not include anything beyond the flight, for example cars and hotels at the destination.
3. We will not include rebooking services.



5 Methodology

The project will be controlled using the SCRUM framework, and Git is used for version control.

A product owner and a SCRUM master will be chosen at the start. The product owner will set some requirements for a wish list to be done for each sprint, and will assess the result achieved at the end of the sprints. The SCRUM master will be responsible for enacting SCRUM features and practices during the sprints. A burndown chart will be managed by the SCRUM master for predicting when all of the work will be completed.

Each sprint has a fixed time-box of 3 days, where short daily SCRUM meetings will be held to check the team's progress. At the end of each sprint, a sprint review will be held where the product owner will inspect completed business value and establishes whether the sprint goal has been satisfied. One release retrospective and multiple heartbeat retrospectives will also be held. The retrospectives are to reflect on the project and progress, where the product owner and the team are included. Potential bottlenecks and initiate repairs will also be discussed in the release retrospectives. Heartbeat retrospectives are held at the end of each sprint, where the team will reflect on the process, how the team is working and to initiate improvements.

SCRUM is used for this project since the rules, roles and artifacts are easy to comprehend, and the tasks can be organized into manageable user stories. The burndown charts will offer great insight into how the project's progress is going, which can be useful for estimation of the deadlines. The sprint reviews make sure that each group member is up to date with the goings of the project.

6 Time Schedule

The time schedule is based on the phases from Unified Process and hand in deadlines set by the supervisors, and SCRUM will be used as a framework for managing the project, where each sprint will contain several of the Unified Process disciplines.

Project Description (Group 1)

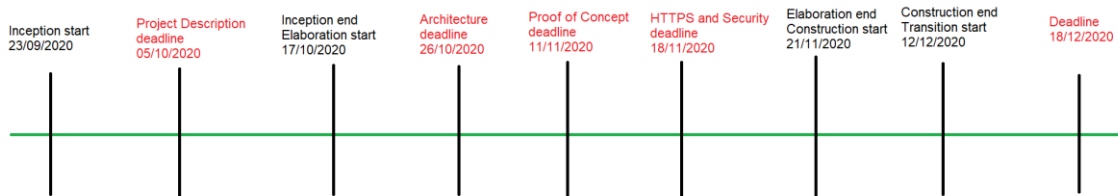
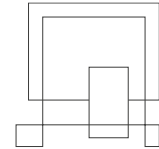
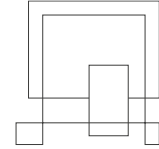


Diagram 1: Shows the timeline for the project.

Inception phase is from 23/09/2020 to 17/10/2020, where elaboration phase starts. The deadline for the elaboration and construction phases are both estimated and cannot be set until their previous phases end. The estimated deadline for the elaboration phase is 21/11/2020 where construction phase starts. The construction phase is estimated to end on 12/12/2020 where transition phase starts as well. The transition phase will end at the deadline for the whole project, 18/12/2020

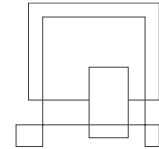
7 Risk Assessment

| Risks | Likelihood Scale: 1-5 5 = high risk | Severity Scale: 1-5 5 = high risk | Risk mitigation e.g. Preventive and responsive actions | Identifiers | Responsible |
|--|---|---|--|--|----------------|
| Security breach | 3 | 5 | Security measures | Data breach | Nicolas Popal |
| Customers will not use the software | 1 | 5 | Testing of software and its design | Low use of software | Jan Vasilcenko |
| Too many customers using the system at the same time | 1 | 5 | More servers to serve more clients and proper indexing of the database | Slow response and possible crashes of the system | Karstiigehyen |
| Customers can input invalid information about themselves | 5 | 1 | Set parameters for information inputs | Invalid data the database | Patrik Horny |



8 Sources of Information

- 1) Center For Aviation, 2017. *Uncertainty, unpredictability – and unprofitability? – in 2017*. [online] Available at: < <https://centreforaviation.com/analysis/airline-leader/uncertainty-unpredictability--and-unprofitability--in-2017-322620>> [Accessed 30 September 2020].
- 2) Blessing, A., Abisoye, O., Umar, A., 2017. *Challenges of Airline Reservation System and Possible Solutions (A Case Study of Overland Airways)*. [pdf] I.J. Information Technology and Computer Science. Available at: < https://www.researchgate.net/profile/Abisoye_Blessing/publication/312923998_Challenges_of_Airline_Reservation_System_and_Possible_Solutions_A_Case_Study_of_Overland_Airways/links/5c680b454585156b57014486/Challenges-of-Airline-Reservation-System-and-Possible-Solutions-A-Case-Study-of-Overland-Airways.pdf> [Accessed 30 September 2020].
- 3) Aviation Job Search, 2012. *Aviation Planner: Job Description*. [online] Available at: < <https://blog.aviationjobsearch.com/aviation-planning-job-description/>> [Accessed 30 September 2020].



9 Appendix

9.1 Group Contract

Group Name (optional):
Scrummers

Date: **02/09/2020**

These are the terms of group conduct and cooperation that we agree on as a team.

Participation: We agree to....

Actively participate in all the assignments and project works, which are assigned to us.

Communication: We agree to...

Honestly and openly communicate with each other without any prejudice. Inform other group members if something is not clear, so they could help us.

Meetings: We agree to....

Schedule frequent meetings and meet on discussed time. If a group member is not present, he is obligated to inform the other group members of his absence. If absent group members regularly miss meetings and decline to inform other group members, their dismissal from the group will be considered and discussed with the supervisor.

Conduct: We agree to....

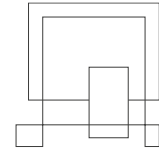
Be on time, be active, and be prepared for the meetings. Listen to the others group members opinions and respect it.

Conflict: We agree to....

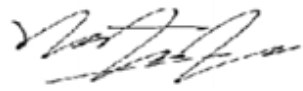



Discuss about the conflict and try to reach a resolve, where all group members are satisfied. If the conflict cannot be contained, the group will discuss the matter with the supervisor.

Deadlines: We agree to....

Project Description (Group 1)



We agree put constant effort into the assignments and not start the assignments at the eleventh hour, so that we would not have to rush the assignments to meet the deadlines and hand in our assignments on time.

| Group member's name | Student number | Signature |
|------------------------|----------------|---|
| Karrii gehyen Veerappa | 293076 |  |
| Jan Vasilcenko | 293098 |  |
| Nicolas Popal | 279190 |  |
| Patrik Horny | 293112 |  |