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# Background description

In the second half of the 20th century air transportation area began to grow rapidly. In the period\* from 2000 to 2016, the amount of passengers carried increased by 120% (1,674 billion to 3,696 billion passengers carried per year) (<https://data.worldbank.org/indicator/IS.AIR.PSGR?end=2016&start=2000&view=chart&year_high_desc=false>). Statistics forecasts increase in demand for passenger transportation. Thus, there is a need in the developing of new and improved airline and passenger service systems.

Another business with the name of Arkia Israeli Airlines operates scheduled flights, linking several cities from Israel as well as charter flights to some European destinations. Similar to Zair, AIA had problems with managing bookings, as they had a manual management system, which often included issues such as double-booking and the inability to relate outbound and inbound flights of specific passengers. By developing their own tailored management system, called AMSYS, they managed to not only solve their problems, but also introduce custom features, own security measures and reduce costs compared to buying a generic system from other companies.(source)

Zair is an upcoming airline business that runs on a system that it uses from the startup. Zair has its head office in Horsens, currently managing direct flights all over Europe and looking forward to expanding to other continents. Some services that it provides are booking flights, management of the price of the tickets, providing the cheapest tickets for heavy travellers, account system, discounts for the clients etc. With the present growth of the market, the current system is lacking in fulfilling the needs of the growing company.

Zair gains most of the profit from ticket revenue. Managing the price of the tickets is a vital factor in the development of the business. “The advent of advanced computerized reservations systems in the late 1970s, most notably Sabre, allowed airlines to easily perform cost-benefit analyses on different pricing structures, leading to almost perfect price discrimination in some cases (that is, filling each seat on an aircraft at the highest price that can be charged without driving the consumer elsewhere).”(Source: <https://en.wikipedia.org/wiki/Airline#Ticket_revenue>). ). The business needs a tailored system to help in the management of the price of tickets considering how much time there is until the flight.

The airline business looks forward to improving their system, so they can expand to other continents and gain a loyal following of customers while keeping its initial features of helping heavy travellers in getting their satisfaction and low prices.

# Definition of purpose

For content see Appendix 1 “VIA Engineering – Project Description Guidelines”.

The purpose of the project is to help ZAir manage their bookings in a more efficient way and gain a loyal following of frequent travelers.

# Problem Statement

The project focus is to create a system responsible for keeping track of reservations, prices and customers.

The questions to be answered are the following:

1. How can we make sure that double bookings and over-bookings are not going to happen?
2. How can we update the prices of flights depending on the amount of time until the flight?
3. How can we store customers’ personal data?
4. How can we provide a list of the cheapest flights?
5. How can we make sure that customers can choose their own seats for a flight?

For content see Appendix 1 “VIA Engineering – Project Description Guidelines”.

# Delimitation

For content see Appendix 1 “VIA Engineering – Project Description Guidelines”.

-The system will not sell the tickets and will not manage the payments for Zair

-Standard seats for each flight

-System does not keep track of the staff

-System will not keep track of delays

# Choice of models and methods

For content see Appendix 1 “VIA Engineering – Project Description Guidelines”.

# Time schedule

For content see Appendix 1 “VIA Engineering – Project Description Guidelines”.

# Risk assessment

For content see Appendix 1 “VIA Engineering – Project Description Guidelines”.

# Sources of Information

For content see Appendix 1 “VIA Engineering – Project Description Guidelines”.

**Appendices**

For content see Appendix 1 “VIA Engineering – Project Description Guidelines”.