

Flight Booking Exercise

1 Overview

We, BookFlight, are an online platform where users can find and book flights for different airlines. Users choose the flight via the BookFlight website/App and directly pay (via CreditCard or PayPal) on our platform. Before their flight, users need to check in via the airline's website/app or via a self-service kiosk at the airport. Users, as long as not checked in, can void their flight booking via our website/app – we will then pay back the full money to the user.

To each airline, we send a Credit Note at the beginning of the month, covering all bookings for that airline for the previous month. We then pay the payment amount to the airline (as the user purchase the ticket via BookFlight and not directly via the airline).

2 Database Tables

Booking	
ID	
FlightStartUTC	Departure date & time of the flight
FlightEndUTC	Arrival date & time of the flight
PriceEUR	EUR amount the user paid to us
Commission	Commission we keep from PriceEUR (= our revenue)
Status	status of the booking, can be "issued" or "voided"
VoidDate	date & time of voiding (only filled in case it was voided)
Airline	Airline of the flight ticket
PassengerNationality	3-character ISO 3166 code of the traveller's nationality
CheckedIn	boolean; defines whether the airline has set the booking to checked in

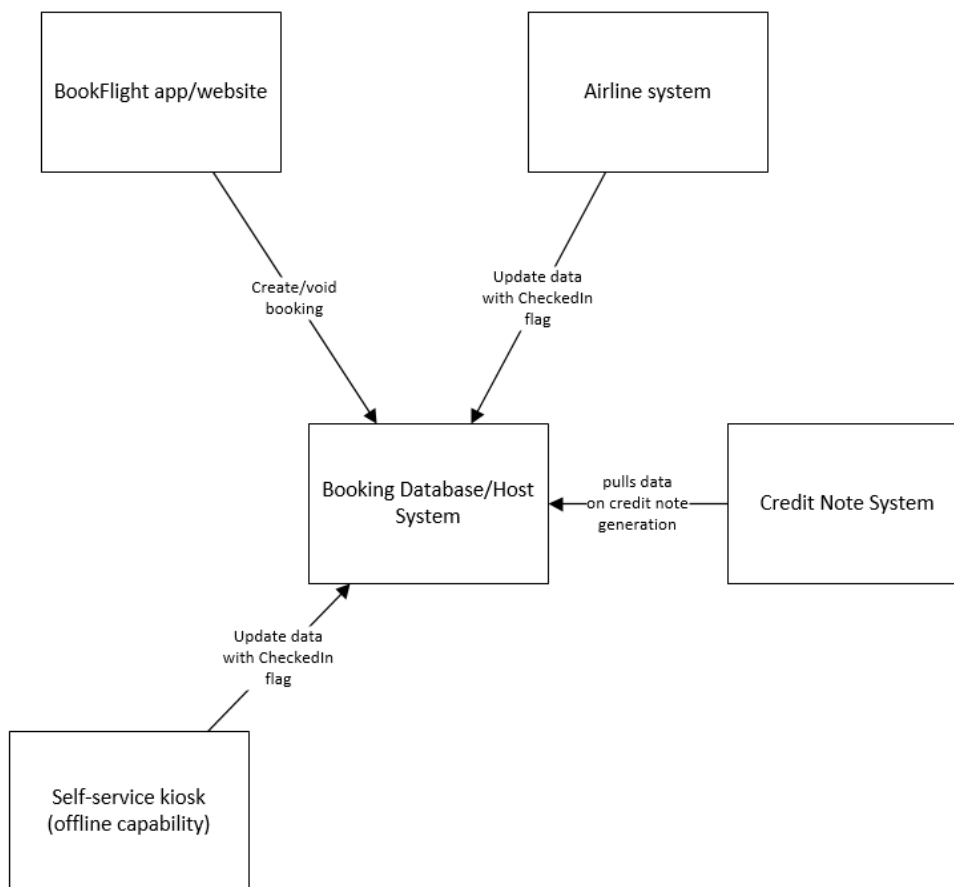
CreditNote	
CreditNoteNo	
Airline	
PaymentDate	
PeriodStart	
PeriodEnd	
PaymentAmount	

CreditNoteLine	
ID	
CreditNoteNo	
BookingID	

3 Business Rules

- Credit notes and the respective payment are sent to all airlines at the first Tuesday of a calendar month
- A credit note contains all bookings where the flight end date is in the previous calendar month. Only bookings that are checked in and not voided must be on a credit note

4 Systems Overview & Considerations



- The airline system connects to our host via a synchronous REST API
- The self-service kiosk has offline capability (due to bad internet connection at the airport). It gets all bookings of the next 48 hours from our host; the user can then check in even if the kiosk is offline. The kiosk submits an XML file with all checked in bookings to our host every 5min; in case of connectivity problems, it submits the XML file(s) as soon as it's back online.

5 Questions

Find example data in the attached Excel file.

- Which inconsistencies/errors do you find in the data and how can you explain them?
- Please write an SQL statement that ranks the September commission by passenger nationality
- How would you handle the following request: "We want to know how many % of users who voided their flight did void within 2 days of buying the ticket. Please run a query to find out whether the %age differs per airline"