159.352 2022/S1 – Assignment 2 Brief

Online booking system for a fictitious airline

You have been commissioned to design a Web/Internet application that implements an online booking system for a new airline that operates out of Dairy Flat Airport (just north of Albany).

The airline provides a highly specialized point-to-point service with Dairy Flat as its hub. It operates a number of light jet planes. The pride of the fleet is a SyberJet SJ30i which can carry 6 passengers in luxury. Other aircraft are: two Cirrus SF50 jets that take 4 passengers each and two HondaJet Elite planes that can take 5 passengers each.

You can use any of the tools (within reason) that are being covered in the lectures. For the purposes of this course, it is OK to have a "development" version rather than a "production" version.

Routes description

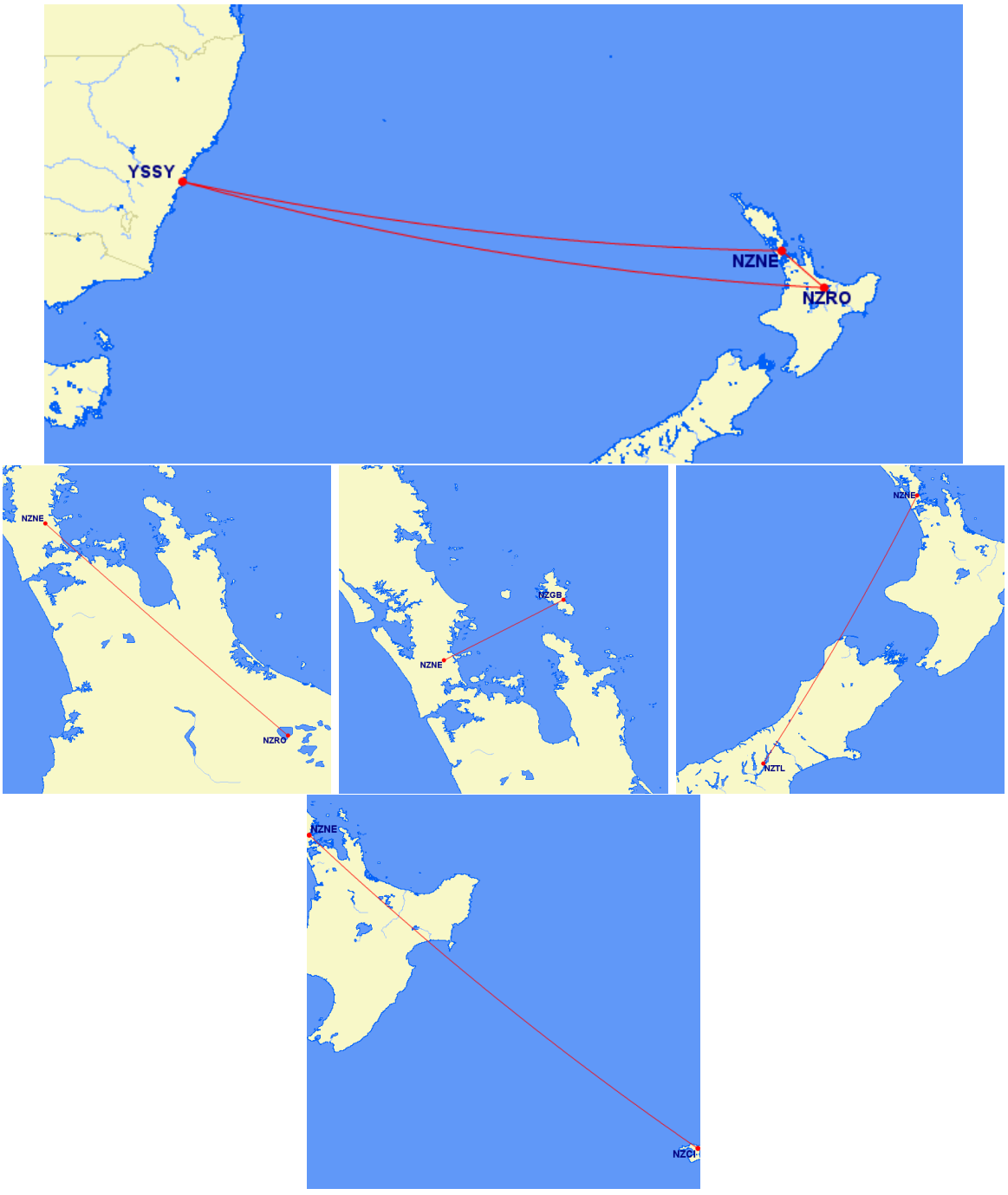
The airline operates the following routes:

- A weekly "prestige" service to Sydney using the SyberJet aircraft. The outbound flight departs Dairy Flat on Friday early morning with the return inbound flight departing Sydney on Sunday mid-afternoon (their time). Note: the outbound flight first stops at Rotorua to pick up passengers before continuing on to Sydney. The inbound flight comes straight back to Dairy Flat without stopping.
- A twice daily shuttle service to Rotorua using one of the Cirrus jets. These operate every weekday Monday–Friday. The first flight departs Dairy Flat early morning with the return flight departing from Rotorua at noon. After turnaround, the next flight departs Dairy Flat late afternoon, with the return flight departing Rotorua in the evening.
- A three times weekly service to Claris airport in Great Barrier Island using the other Cirrus. The outbound flight departs Dairy Flat in the morning every Monday, Wednesday, and Friday. The return flight departs Great Barrier Island in the morning every Tuesday, Friday, and Saturday.
- A twice weekly service to Tuuta Airport in the Chatham Islands using one of the HondaJets. The outbound flights depart Dairy Flat on Tuesday and Friday, with the return flights departing Tuuta on Wednesday and Saturday.
- A weekly service to Lake Tekapo in the South Island using the other HondaJet. Departs Dairy Flat on Monday with the return flight departing Tekapo on Friday.

Note

- You are free to decide on the prices of the various legs of these flights. You can also decide on how to allocate flight numbers.

- You will need to decide on flight times between the end points. Just decide on any reasonable values. Note that westbound flights usually take longer than eastbound flights (at least in this part of the world).
- The different timezones involved: Mainland New Zealand (UTC+12), the Chatham Islands (UTC+12:45), and Sydney (UTC+10)
- You can use the Great Circle Mapper, `http://www.gcmap.com`, to draw the routes using the 4 letter ICAO codes: Dairy Flat (NZNE), Sydney (YSSY), Rotorua (NZRO), Tuuta (NZCI), Claris (NZGB), and Lake Tekapo (NZTL).



Core requirements

Your application should have the following features and capabilities

- A suitable database for storing the relevant information. This "business logic" is the first thing to consider. It is suggested here that you have one table listing departures by date, another listing customers, and a junction table showing which customer is on which flight—together with any additional tables as you see fit.
- A landing page that functions as the entry point for your application
- The ability for a user to **conveniently** browse the database for any desired flights.
- A service to allow a user to select a scheduled flight and make a booking. The user should be provided with a unique booking reference. A booking should not allowed on scheduled flights that are full up. On making a booking, the user should be presented with an invoice page summarizing the details of the flight, i.e. price departure date and time, arrival time, etc.
- The capability for a user to cancel a booking.
- A suitable user/customer management system
- Your application should follow the REST principles
- Content presented to the user in an **attractively** formatted manner.

Additional Requirements

Add additional features as you see fit.

This section is left open ended as there are many possibilities as to additional features and functionality that can be added to your application. Rather than just itemize a list of tasks to check off, it is left to you to decide how to expand your application beyond the core requirements. You are encouraged to think about the lecture material and consider if and/or how this could be incorporated into your assignment. Suggestions will be given as we progress.

Implementing the core requirements will earn a passing mark. Implementing additional features will earn extra marks.

Due date: 2022 June 10, 11:55pm.

This assignment is worth 30 marks (30% towards your final grade).

Detailed deployed/submission instructions will be provided later.