

Web Engineering - Group 4

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1 Introduction

Design document of a REST API, concerning data of US airports and their flights, between 2003/2016. The data is made available by the CORGIS dataset project.

2 Definitions

To clarify certain concepts, there is a table of explanations of concepts mentioned in the endpoints section.

- Airport code: unique string that identifies an airport (for example ATL for Atlanta, GA).
- Carrier code: unique string that identifies a carrier (for example AA for American Airlines).
- Month: a month is identified with a string of first the year, then a /, then the month. For example, 2003/6 denotes July 2003. Note that January is month 0, February is month 1, etc.

3 Endpoints

1. HTTP GET `/airports`
response code: 200
Returns a list of all the US airports in the dataset.
2. HTTP GET `/carriers`
response code: 200
Returns a list of all the carriers in US airports in the dataset.

3. HTTP GET `/carriers?airport-code=`
response code: 200
Returns all carriers operating at a given airport, given by an airport code.
4. (a) HTTP GET `/statistics/carriers/{carrier-code}/flights?airport-code=&month=`
response code: 200
Returns all statistics about flights of a carrier identified by a carrier code, on a given airport identified by an airport code, on a given month. If no month is given, it will return the data for all months.
(b) HTTP PUT `/statistics/carriers/{carrier-code}/flights?airport-code=&month=` response code: 204
Modifies one or more statistics about flights of a carrier identified by a carrier code, on a given airport identified by an airport code, on a given month.
(c) HTTP POST `/statistics/carriers/{carrier-code}/flights?airport-code=&month=`
response code: 201
Creates one or more statistics about flights of a carrier identified by a carrier code, on a given airport identified by an airport code, on a given month.
(d) HTTP DELETE `/statistics/carriers/{carrier-code}/flights?airport-code=&month=`
response code: 204
Deletes one or more statistics about flights of a carrier identified by a carrier code, on a given airport idbut the processing has not been complentified by an airport code, on a given month.
5. HTTP GET `/statistics/carriers/{carrier-code}/flights/delays?airport-code=&month=`
response code: 200
Returns the number of on-time, delayed and cancelled flights of a given carrier identified by a carrier code from/to a given airport identified with an airport code. Optionally, a month can be specified.
6. HTTP GET `/statistics/carriers/{carrier-code}/delay-minutes?reason=&airport-code=&month=`
response code: 200
Returns the number of minutes of delay per carrier, identified by a carrier code. If the reason specified is "carrier-specific", it will only return the amount of minutes that can be attributed to the carrier. If the reason specified is "all", it will return the total amount of minutes of delay of the given carrier. Optionally, a month can be specified.
7. HTTP GET `/descriptive-statistics?airport-a=&airport-b=&carrier-code=`
response code: 200

Return the mean, median and standard deviation for a specific carrier (or all carriers) of the delays in minutes for a flight. The flight is given by a flight between airport A and airport B, both denoted by their airport codes. The carrier code is optional, and if it is not given, it will return the statistics for all carriers combined.