

CS355 Project Paper

Functional Dependencies:

OP_CARRIER_FL_NUM, FL_DATE date \rightarrow OP_UNIQUE_CARRIER, ORIGIN, DEST,
CRS_DEP_TIME, DEP_TIME, DEP_DELAY, TAXI_OUT, WHEELS_OFF, WHEELS_ON,
TAXI_IN, CRS_ARR_TIME, ARR_TIME, ARR_DELAY, CANCELLED, CANCELLED_CODE,
DIVERTED, DISTANCE

CARRIER_ID \rightarrow AIRLINE_ID

AIRPORT_NAME \rightarrow AIRPORT_ID

R_1 (OP_CARRIER_FL_NUM, FL_DATE date, OP_UNIQUE_CARRIER, ORIGIN, DEST, CRS_DEP_TIME,
DEP_TIME, DEP_DELAY, TAXI_OUT, WHEELS_OFF, WHEELS_ON, TAXI_IN, CRS_ARR_TIME,
ARR_TIME, ARR_DELAY, CANCELLED, CANCELLED_CODE, DIVERTED, DISTANCE)

R_2 (CARRIER_ID, AIRLINE_ID)

R_3 (AIRPORT_NAME, AIRPORT_ID)

I believe that our normalization of this data set is well done because it is in lossless form and in 3NF. We made sure that our data was lossless by joining the tables together. This resulted in all headers being displayed and no loss of data between the three tables. Our implementation strategy for this project was for us each to take a portion of the project (split the work). Vince and Ben focused on the php and html side of the project while Chan and Robert worked on creating the SQL database and the decomposition of the data. One of the larger challenges we faced was trying to figure out the decomposition for our functional dependencies. Our first attempt created many errors just trying to create the tables, but eventually we were able to figure out our problems and move forward to the next thing. Our other larger challenge was connecting the webserver to our SQL database, but once again we eventually figured that out

as well. Our group solved problems by coming together to tackle each error and “webserver not found” head on; we encouraged each other to push forward and create something we would be proud of—and we did.