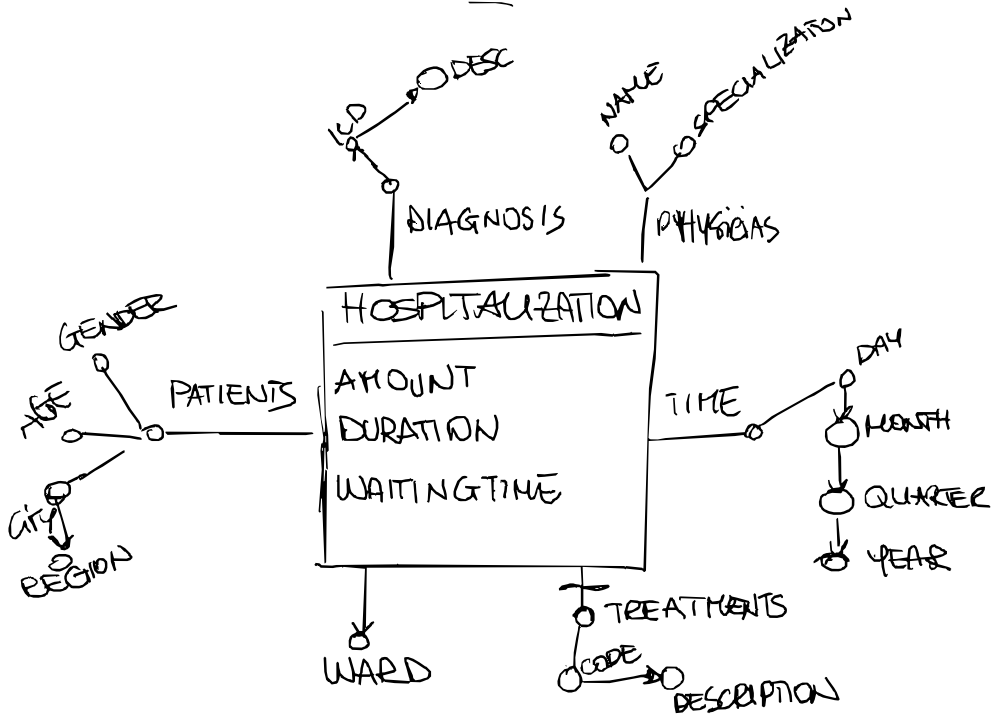


HOSPITALIZATION

REQ	DIMENSIONS	MEAS.	METRICS
Q1	DIAGNOSIS (ICD, DESC) TIME (MONTH, YEAR)	AMOUNT	TOTAL AMOUNT
Q2	WARD PATIENT (GENDER, AGE, CITY) REGION	AMOUNT	TOTAL HOSPT. TOTAL AMOUNT
Q3	DIAGNOSIS (ICD, DESC) PHYSICIAN (NAME, SPECIALIZATION)	AMOUNT DURATION WAITING TIME	TOTAL AMOUNT AVE DUR AVG-WT
Q4	PATIENT (AGE, REGION) TREATMENTS (CODE, DESC)	AMOUNT WAITING TIME	TOTAL AMOUNT AVG-WT

FACT

DESC	HOSPITALIZATIONS
MEASURE	AMOUNT, DURATION, WAITING TIME
DIMENSIONS	DIAGNOSIS, TIME, WARD, PATIENT TREATMENTS, PHYSICIAN



OPERATIONAL DATABASE

PK	NAME	CITY	REGION
1	ANNA	PISA	TOSCANA
2	VALE	PISA	TOSCANA
3	LORENZO	LIVORNO	TOSCANA
4	GIULIO	LIVORNO	TOSCANA



PRIMARY KEY

SK	CODE	NAME	CITY	REGION
1	1	ANNA	PISA	TOSCANA
2	2	VALE	PISA	"
3	3	LORE	LIVORNO	"
4	4	GIULIO	LIVORNO	"

SK	CODE	NAME	CITY	REGION
1	1	ANNA	PISA	TOSCANA
2				
3				
4				
5	1	ANNA	LIVORNO	TOSCANA

AIRLINE COMPANIES

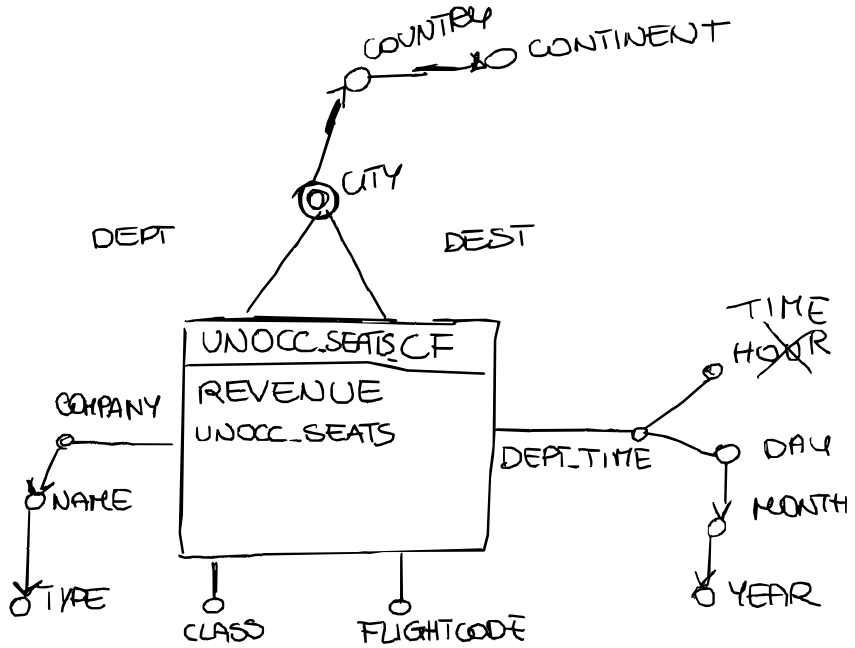
REQ	DIMENSIONS	MEASURE	METRICS
Q1	FLIGHT (CODE) COMPANY (NAME, TYPE) CLASS DEPT-TIME (HOUR, DAY, MONTH, YEAR)	UNOCCUPIED SEATS	TOTAL UNOCC. SEATS
Q2	FLIGHT (CODE) COMPANY (NAME) CLASS DEPARTURE (CITY, COUNTRY, CONTINENT) DESTINATION (CITY, COUNTRY, CONTINENT) DEPT-TIME (YEAR)	UNOCCUPIED SEATS	TOTAL UNOCC. SEATS
Q3	COMPANY (NAME) DEPT-TIME (YEAR, MONTH) DESTINATION (COUNTRY)	REVENUE UNOCCUPIED SEATS	TOT-REV TOTAL UNOCC. SEATS

100	<div> FL1 CL1 FL1 CL1 ⋮ </div>	<div> FL1 CL1 100 10000 FL2 CL1 50 </div>
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FACT

DESC	UNOCCUPIED SEATS PER FLIGHT AND CLASS
DIMENSIONS	FLIGHT CODE, DEPT-TIME, CLASS, DEPARTURE, DESTINATION, COMPANY
MEASURE	REVENUE, UNOCCUPIED SEATS

CONCEPTUAL MODEL



REVENUE → additive
UNOCC_SEATS → additive

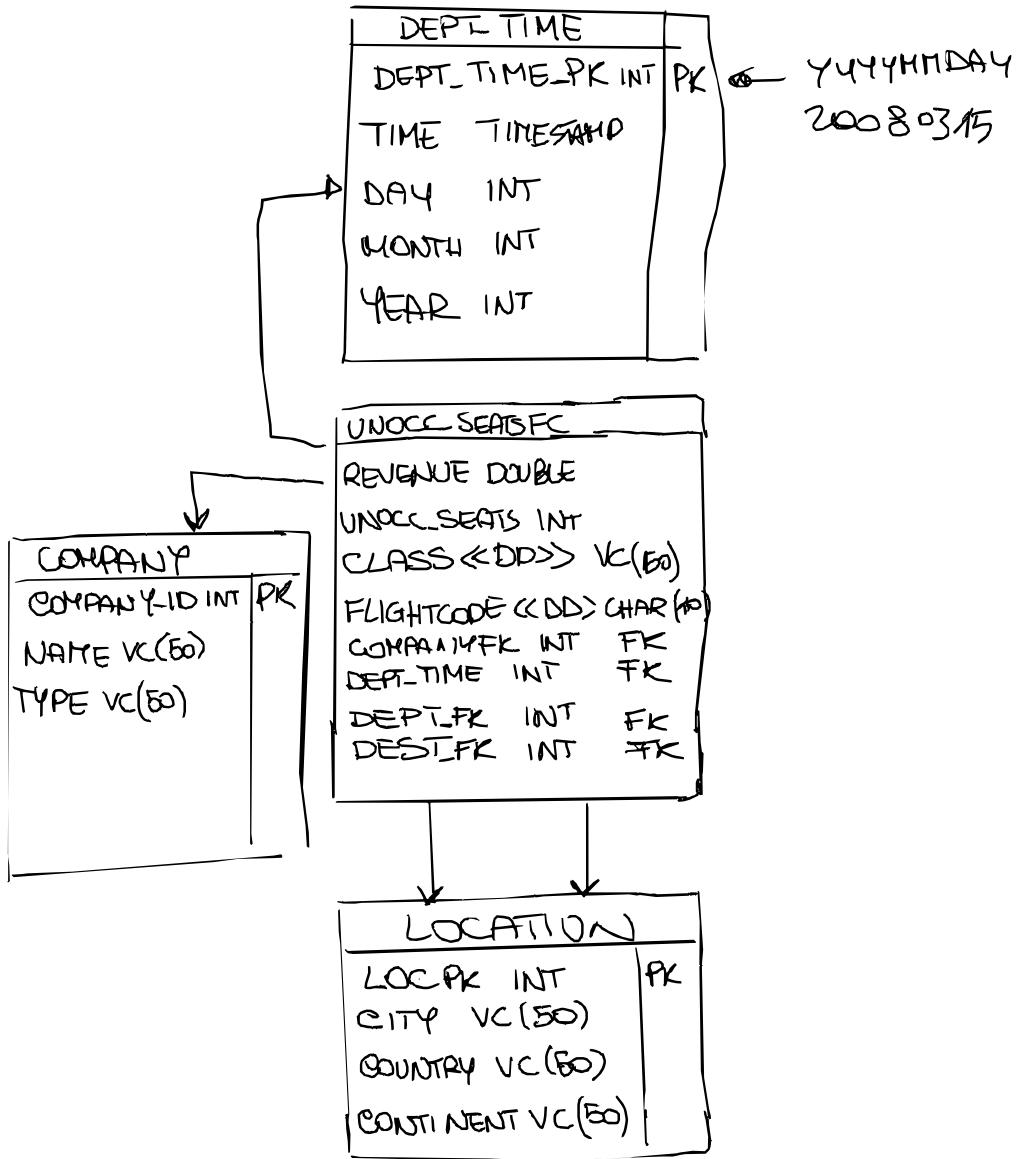
A	B
a1	b1
a1	b1
a1	b1

A ~~X~~ B

a1 b1

a1 b2

LOGICAL MODEL



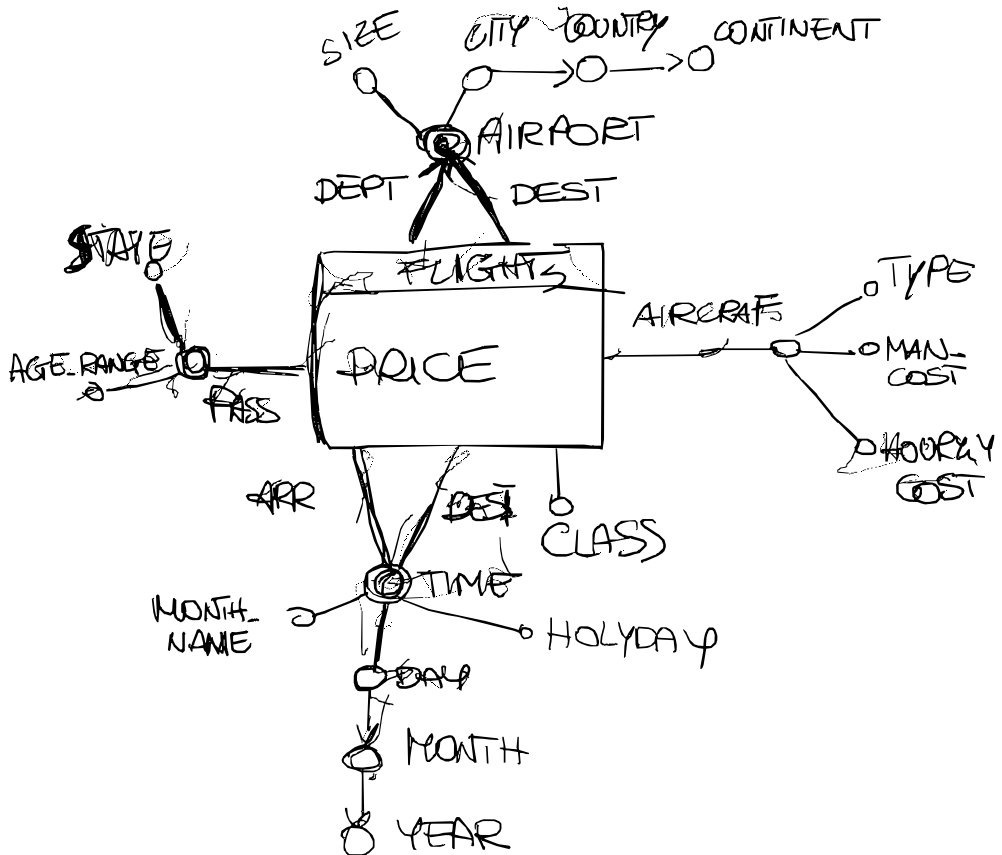
AIRLINE FLIGHTS

REQUIREMENTS SPECIFICATIONS

REQ	DIMENSIONS	MEASURE	METRICS
Q1	DEPT.TIME (YEAR, MONTH) PASSENGER (Age - RANGE) STATE CLASS	—	N. of passenger
Q2	Passenger (State, Age Range) DEPT.TIME (year, month) DEPT.AIRPORT (CONTINENT) DEST.AIRPORT (COUNTRY)	PRICE	N. of passenger TOTAL-REV
Q3	DEPT.AIRPORT (CITY) DEST.AIRPORT (CITY)	—	N. of FLIGHTS
Q4	DEPT.TIME (MONTH) AIRCRAFT (TYPE) DEST.AIRPORT (COUNTRY)	—	AVG - passenger
Q5	CLASS DEPT.TIME (HOLIDAY)	—	AVG - passenger
Q6	DEPT.TIME (YEAR) DEST.AIRPORT (SIZE)	—	N. of passenger
Q7	DEST.AIRPORT (COUNTRY) AIRCRAFT (TYPE, MAN.COST) ARRIVAL.TIME (MONTH, QUARTER)	MAN.COST	TOTAL - MANAGT.COST, N. of FLIGHTS
Q9	DEPT.TIME (MONTH, YEAR) DEST.AIRPORT (COUNTRY)	PRICE	TOTAL - REV
Q8	DEPT.AIRPORT (COUNTRY) DEST.AIRPORT (COUNTRY) AIRCRAFT (MAN.COST, HOURLY-OPER.COST)	PRICE	AVG - PROFIT

FACT GRANULARITY

DESCR	TICKET OF A PASSENGER
DIMENSIONS	PASSENGER, DEPT-TIME, CLASS, DEPT-AIRPORT, DEST-AIRPORT AIRCRAFT, ARRIVAL-TIME
MEASURES	PRICE



TIME	
TIME_ID	PK
MONTH_NAME VC(30)	
DAY INT	
MONTH INT	
YEAR INT	
HOLIDAY BOOL	

TICKETS	
PRICE DOUBLE	
CLASS VC(100) <<DP>>	
AIR_FK INT	FK
DEST-TIME INT	FK
ARR-TIME INT	FK
PASS INT	FK
DEST-AIR INT	FK
DEPL-AIR INT	FK

PASSENGER	
PASS_ID INT	PK
STATE VC(100)	
AGE-RANGE VC(80)	

AIRCRAFT	
AIR_ID INT	PK
MAN-COST DOUBLE	
HOURLY-COST DOUBLE	
TYPE VC(100)	

AIRPORT	
AIRPORT_ID INT	PK
SIZE DOUBLE	
CITY VC(100)	
COUNTRY VC(100)	
CONTINENT VC(100)	

