Data Warehousing

Politecnico di Torino

Tickets

Conceptual design

```
MUSICAL_EVENTS
  numTickets
  revenues

  payment
  payment_method

  purchase_mode

  genre
  tour_name
  performer
  nationality

  city
  province
  region

  event_date
  holiday (y/n)
  month

  year

  purchase_date
  day_of_week
  month
  month_of_year

  2-months
  3-months
  4-months
  6-months

  year
```
Logical design

Primary keys are underlined.

MUSICAL EVENTS (MEId, ELId, PDId, EDId, TId, PId, numTickets, revenue)

EVENT LOCATION (ELId, city, province, region)
PURCHASE DATE (PDId, pdate, pmonth, monthofyear, 2m, 3m, 4m, 6m, pyear)
EVENT DATE (EDId, edate, emonth, eyear, holiday)
TOUR (TId, tname, performer, nationality, rock, pop, ..., jazz)
PAYMENT (PId, purchasemode, paymentmethod)

Queries

Query A

Separately for each purchase mode and for each purchase month, analyze: the average daily revenue, the cumulative revenue from the beginning of the year, the percentage of tickets related to the considered purchase mode over the total number of tickets of the month

SELECT
  purchasemode, pmonth,
  sum(revenue)/count(distinct pdate),
  sum(sum(revenue)) over (partition by purchasemode, pyear
  order by pmonth
  rows unbounded preceding)
  100*sum(numtickets)/sum(sum(numtickets)) over (partition by pmonth)
FROM
  musical_events me, purchasedate pd, payment p
WHERE
  me.pdid = pd.pdid and me.pid = p.pid
GROUP BY
  purchasemode, pmonth, pyear;
Query B

Considering the events that took place in 2017, separately for each singer/band nationality and for each city, analyze: the average revenue for a ticket, the percentage of revenue over the total revenue for the corresponding region

```
SELECT 
nationality, city, 
    sum(revenue)/sum(numtickets), 
    100*sum(revenue)/sum(sum(revenue)) over (partition by nationality, region) 
FROM 
musical_events me, eventdate ed, eventlocation el, tour t 
WHERE 
    me.edid = ed.edid and me.elid = el.elid and me.tid = t.tid 
    and eyear=2017 
GROUP BY 
nationality, city, region;
```