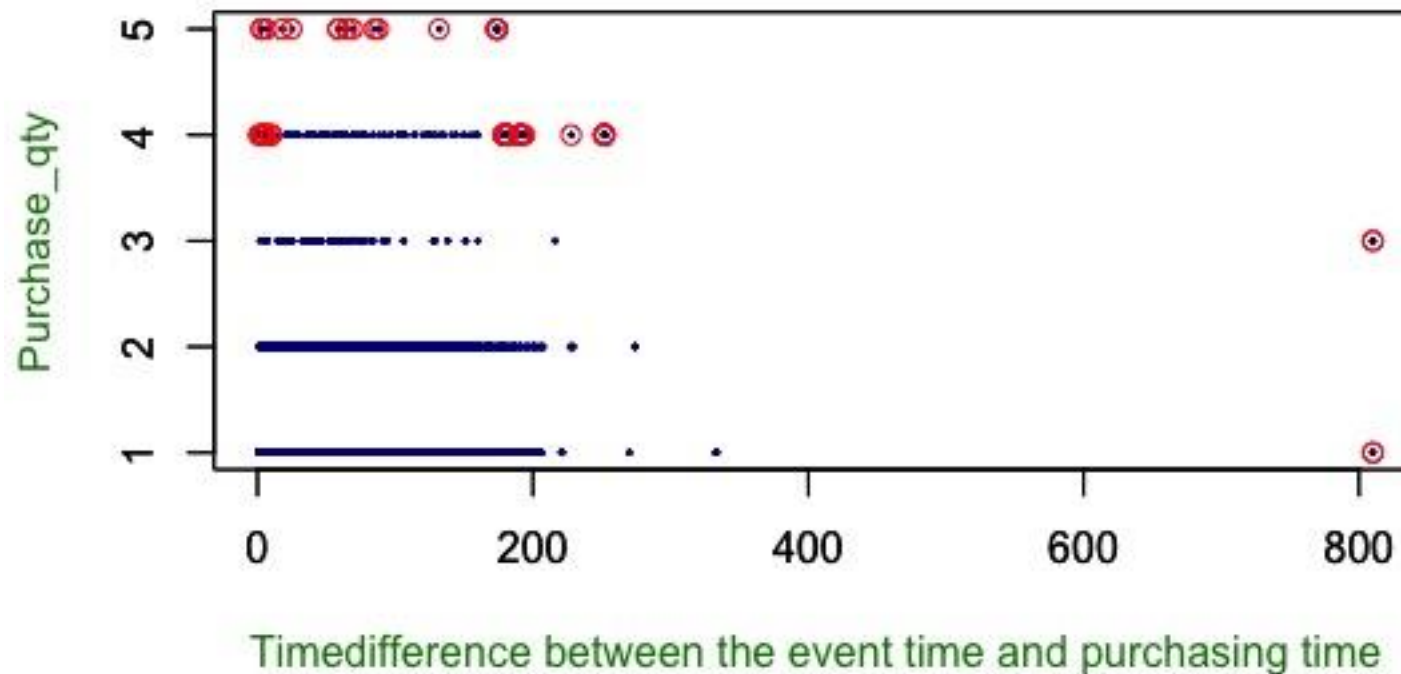


Identify Scalpers

1. In table 'Purchase', we found three related fields : "tickets_purchased_qty", difference between "sales_ord_create_dttm"(purchasing time) and "event_date_time"
2. To find scalpers we intend to find outliers data. Our hypothesis was that reseller data are most likely to be abnormal. (ie. Buy great amount of tickets when time difference is large)

We use ***multivariate Gaussian distribution and calculated Mahalanobis distance***.



One time buyer and remote buyer, Areas

1. Remote buyer: (pic 1)

We apply **Gaussian Method** to distinguish users into two groups based on dist_to_ven.

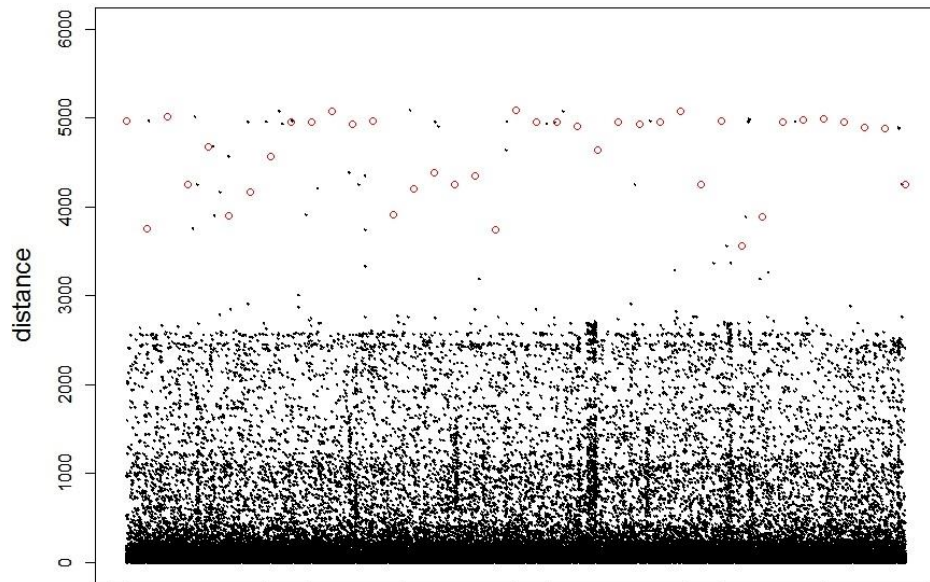
We name them remote buyer and close buyer.

2. One time buyer:

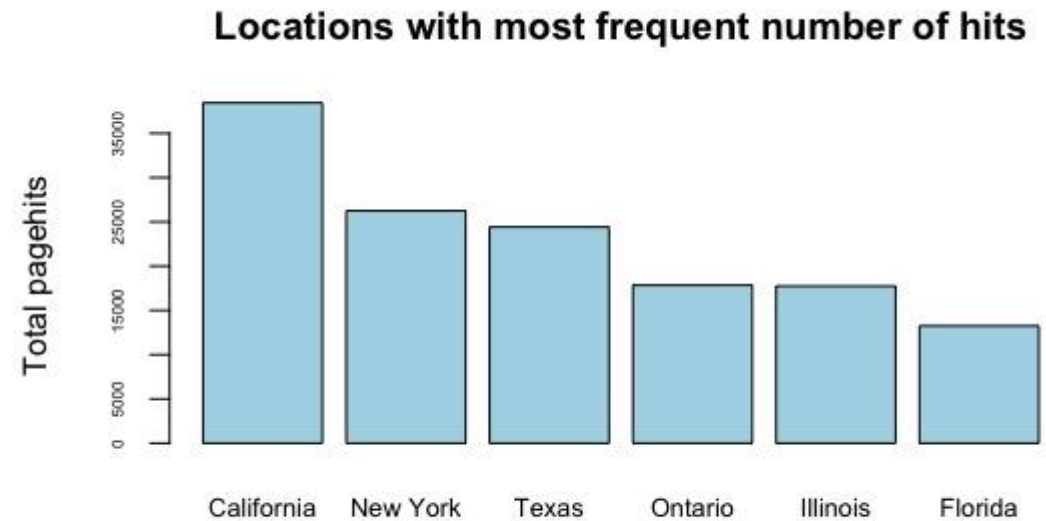
We discovered one-time buyer based on uniqueness of purch_party_lkup_id in purchase table

3. Areas: (pic 2)

We categorize users using geonetwork_region and the plot bar chart. The y-axis is total number of hits
In this area.



Pic 1



Pic 2



Marketing plans

- Raise the price of the ticket for scalpers, use several dimensions(purchase quantity, purchase time, distance etc) to detect new scalpers
- Provide a reasonable discount for remote buyers
- Over 90 percent of the buyers are one-time buyers (not “crazy” fans)
probabilistic selling
 - one-time buyers who are closed to the events (ranked 0.1% in distance) and are sensitive to price
 - one-time buyers who are insensitive to price

