

1. Pre-processing for given datasets

The file encoding format for the provided datasets, e.g. DimDate.csv, is UTF-8 with BOM:

```
(base) L***-MacBook-Pro:Reporting Process l****$ file DimDate.csv
DimDate.csv: UTF-8 Unicode (with BOM) text, with CRLF line terminators
```

Therefore, these csv files can upload into tables using MySQLWorkbench only after transforming the encoding format into normal UTF-8.

This issue is not solved yet, iconv command supports UTF-8 only.

2. Tables creation

Using scripts to create tables in MySQLWorkbench.

3. Using Tableau Public to do data presentation

Firstly, open FactPagePerformance.csv in Tableau Public. All other csv files can be opened joining by foreign keys since all dimensional keys are included in fact data file.

All csv files are connected through the connection graph showing as below:

The screenshot shows the Tableau Public interface. On the left, the 'Connections' pane lists 'DimDate', 'DimDevice', and 'DimProduct'. The 'Files' pane lists 'DimDate.csv', 'DimDevice.csv', 'DimLedge.csv', 'DimProduct.csv', and 'FactPagePerformance.csv'. The main area displays a connection graph with 'FactPagePerformance.csv' at the center, connected to 'DimDate.csv', 'DimDevice.csv', 'DimLedge.csv', and 'DimProduct.csv'. Below the graph, a table shows data from 'FactPagePerformance.csv' with columns: Date Key, Product Key, Device Key, Ledger Key, Page Views, Visits, and Unique Visitors. The table contains 10 rows of data.

Date Key	Product Key	Device Key	Ledger Key	Page Views	Visits	Unique Visitors
1/6/2016	78993	3	2	15,957	9,953	9,238
1/6/2016	78992	1	2	700,423	275,604	199,604
1/6/2016	78992	3	2	482,771	271,510	209,427
1/6/2016	78992	2	2	151,075	67,025	52,131
1/6/2016	78992	-2	2	698	406	334
1/6/2016	78993	1	2	27,401	18,614	17,751
1/6/2016	78993	2	2	6,385	3,582	3,366
1/6/2016	78993	-2	2	12	12	10
1/6/2016	78994	1	2	88,744	67,495	58,254
1/6/2016	78994	3	2	23,526	19,119	16,851
1/6/2016	78994	2	2	10,416	7,838	7,022
1/6/2016	78994	-2	2	25	22	20

a). Daily Performance Per Product

In below area chart, the total number of Page visits, Visits and Unique Visitors for each kind of product will be showing on a daily basis. The date range can be chosen on the top right corner. Only one or more kind of products can be selected from the Products legend on the right side. Moreover, the detailed information will be shown when one specific part of the graph is selected.

Through this area chart, the visiting numbers changed day by day can be observed and the comparison between different products can be easily applied.

Note: The Date Key values in fact file are not really show everyday, but discrete ones like, 6 May, 16May, therefore, the total count number for different kind of product for each date can be calculated and showed as below.



b). Daily Performance Per Device

Similarly, a line chart for daily performance per device can be created as below:



c). Average Performance Per Product

Similarly, choosing text tables and horizontal bars and average measure to demonstrate the average performance per product.

Pages

Filters

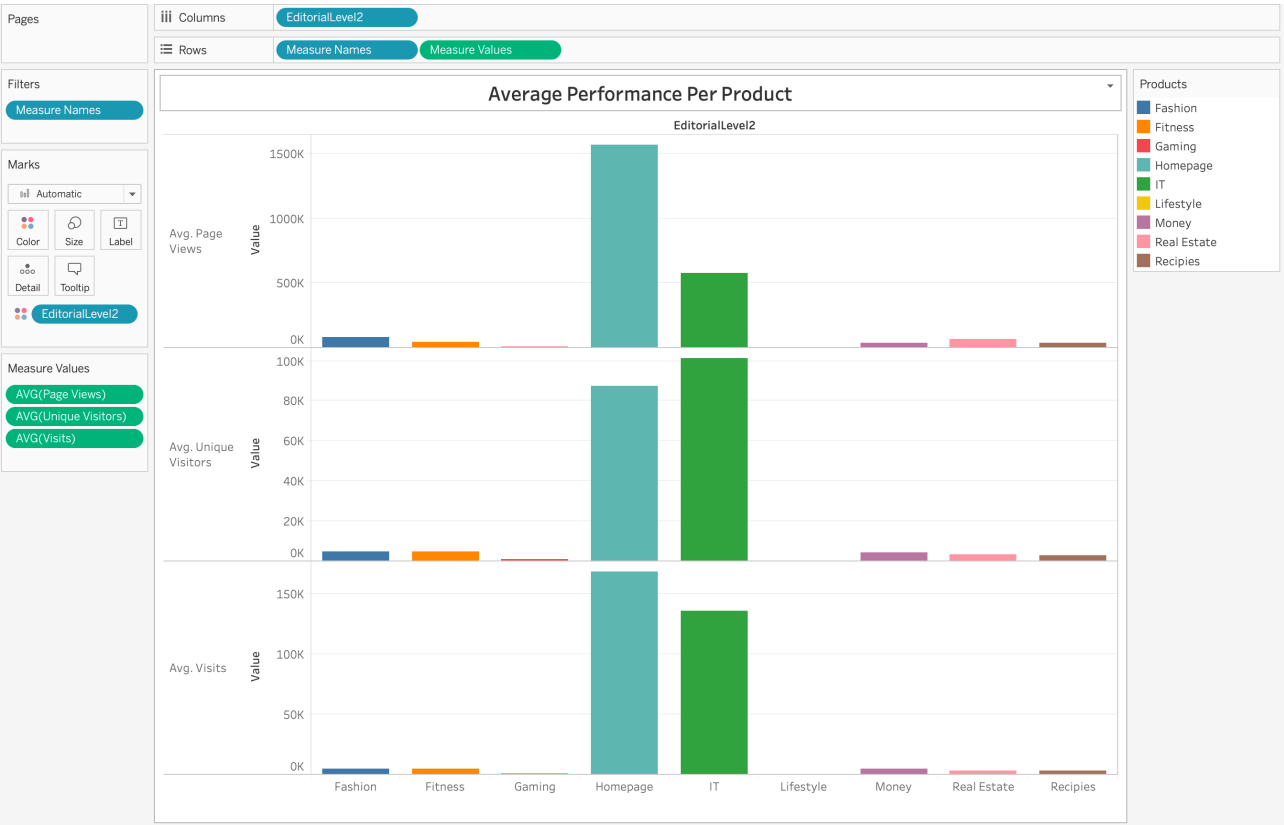
Marks

Measure Values

Columns

Rows

EditorialLevel2	Avg. Page Views	Avg. Unique Visitors	Avg. Visits
Fashion	80,263	4,653	5,020
Fitness	42,592	4,681	4,994
Gaming	4,169	872	1,024
Homepage	1,572,152	87,305	168,565
IT	576,973	101,382	135,932
Lifestyle	242	182	191
Money	33,544	4,445	4,877
Real Estate	65,789	3,285	3,486
Recipies	39,821	2,642	2,878



d). Average Performance Per Device

Pages

Filters

Marks

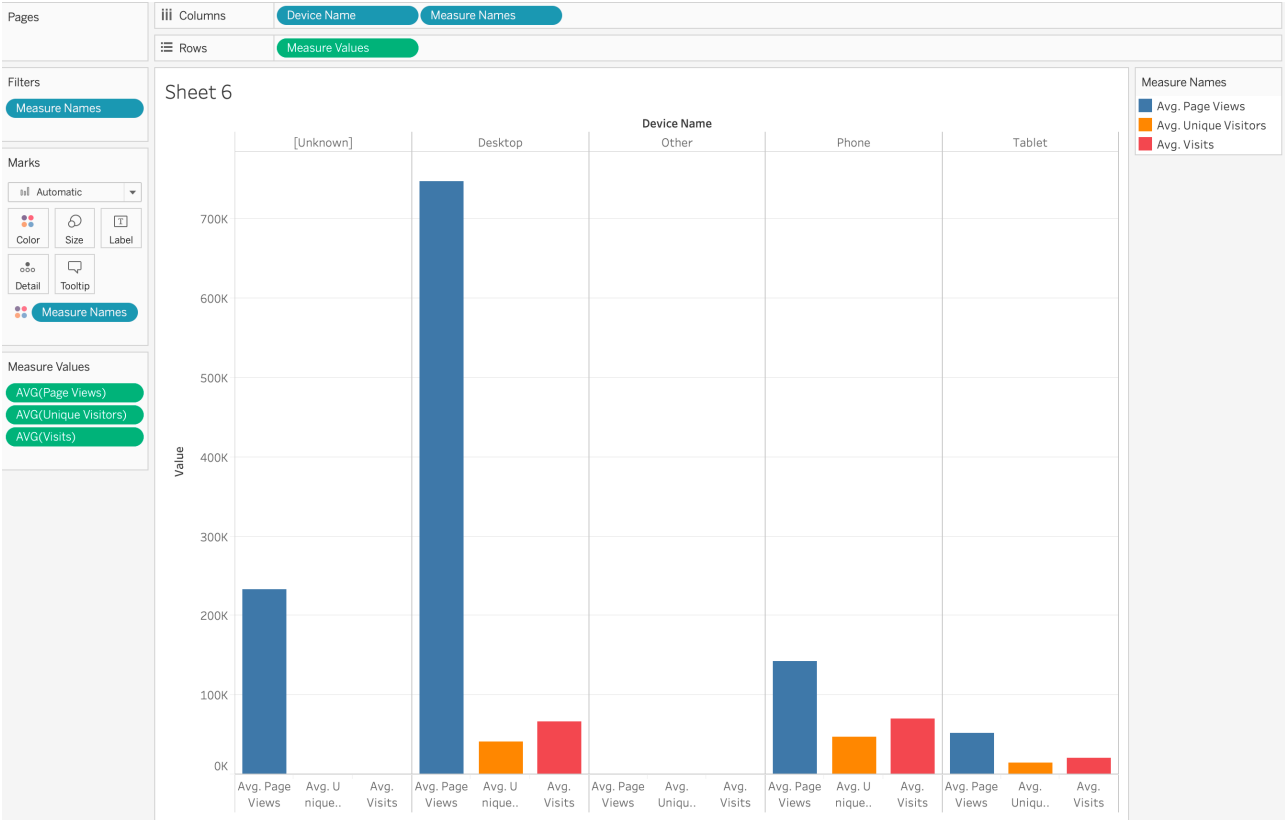
Measure Values

Columns

Rows

Average Performance Per Device

Device Name	Avg. Page Views	Avg. Unique Visitors	Avg. Visits
Tablet	52,095	14,534	21,078
Phone	142,494	46,816	70,441
Other	164	64	88
Desktop	747,456	40,766	66,621
[Unknown]	233,253	0	0



e). Total Performance Per Product

Pages

Filters

Measure Names

Columns

EditorialLevel2

Rows

EditorialLeve.. 2	Page Views	Unique Visitors	Visits
Fashion	40,292,136	2,335,696	2,520,251
Fitness	21,381,030	2,349,879	2,506,863
Gaming	1,584,180	32	389,160
Homepage	789,220,283	43,86	84,619,769
IT	289,640,275	50,86	68,237,740
Lifestyle	91,658	68,620	72,176
Money	14,793,112	1,960,170	2,150,760
Real Estate	33,026,030	1,648,870	1,749,798
Recipies	19,990,079	1,326,447	1,444,962

Measure Values

SUM(Page Views)

SUM(Unique Visitors)

SUM(Visits)

