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Introduction To Big Data

Thaveewat Khanan

2603615 Organization Data Management

What is Big Data ?

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“ Big data is data that exceeds the processing capacity of conventional database systems.
The data is too big, moves too fast,
or doesn’t fit the structures of your database architectures.
To gain value from this data,
you must choose an alternative way to process it. ”

Big Data Now: O'Reilly Media

Why Big Data ?

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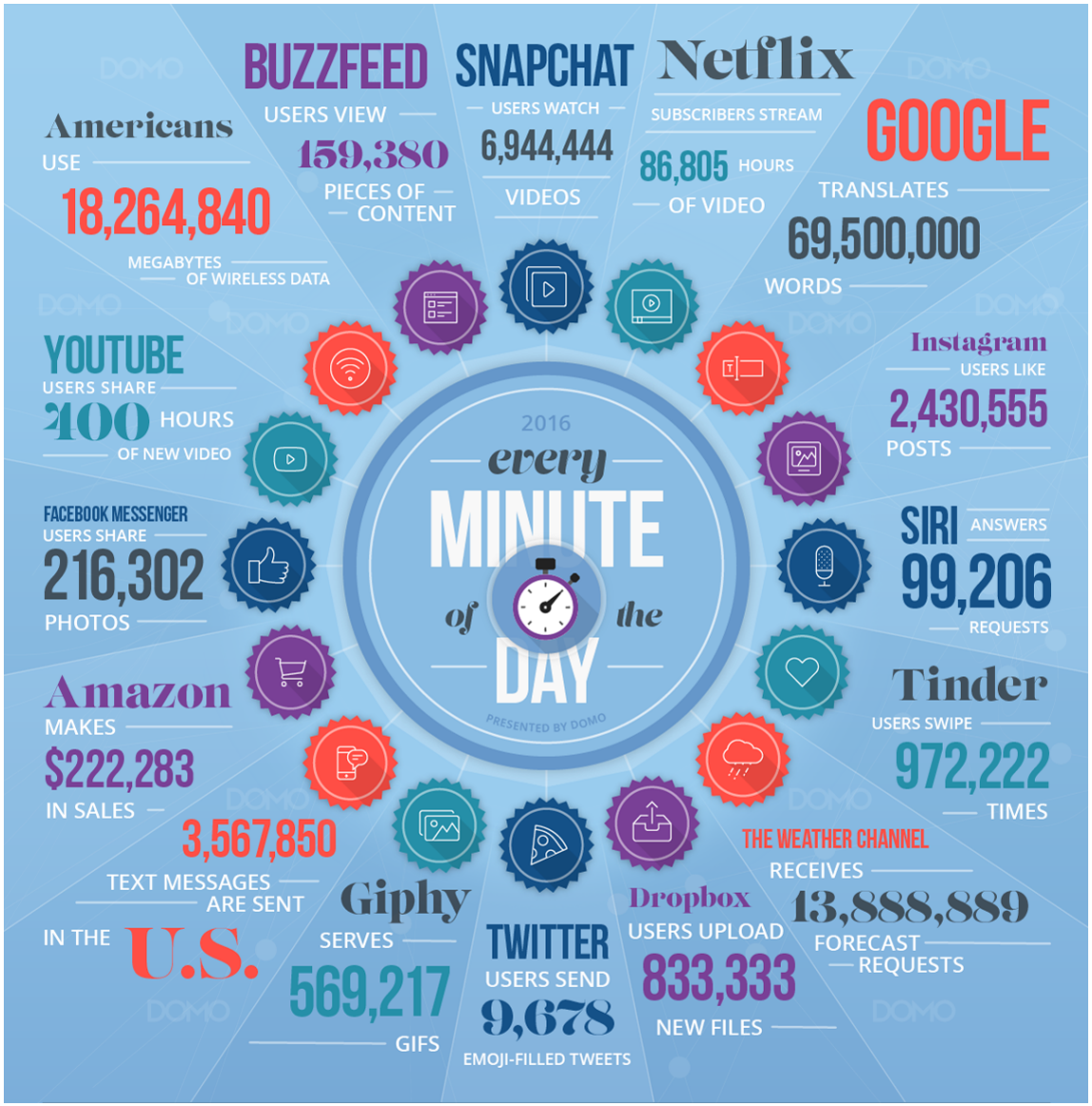
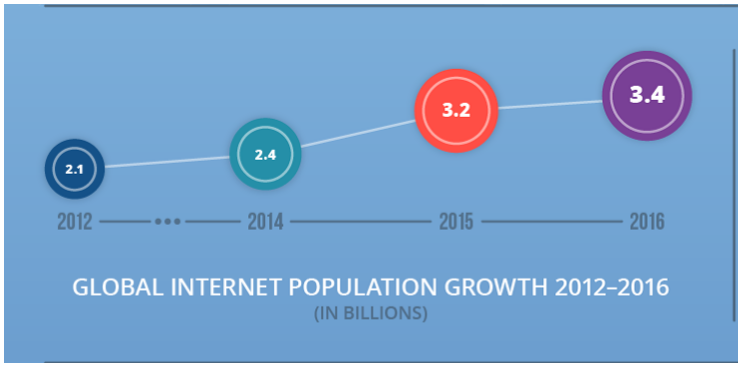


DATA NEVER SLEEP 4.0



https://www.domo.com/blog/2016/06/data-never-sleeps-4-0/

Facebook Usage Statistics

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June 2014

- 829 million daily active users on average
- 654 million mobile daily active users on average
- 1.32 billion monthly active users
- 1.07 billion mobile monthly active users
- Approximately 81.7% of our daily active users are outside the US and Canada

June 2016

- 1.13 billion daily active users on average for June 2016
- 1.03 billion mobile daily active users on average for June 2016
- 1.71 billion monthly active users as of June 30, 2016
- 1.57 billion mobile monthly active users as of June 30, 2016
- Approximately 84.5% of our daily active users are outside the US and Canada

Source :http://newsroom.fb.com/company-info/

Google Usage Statistics

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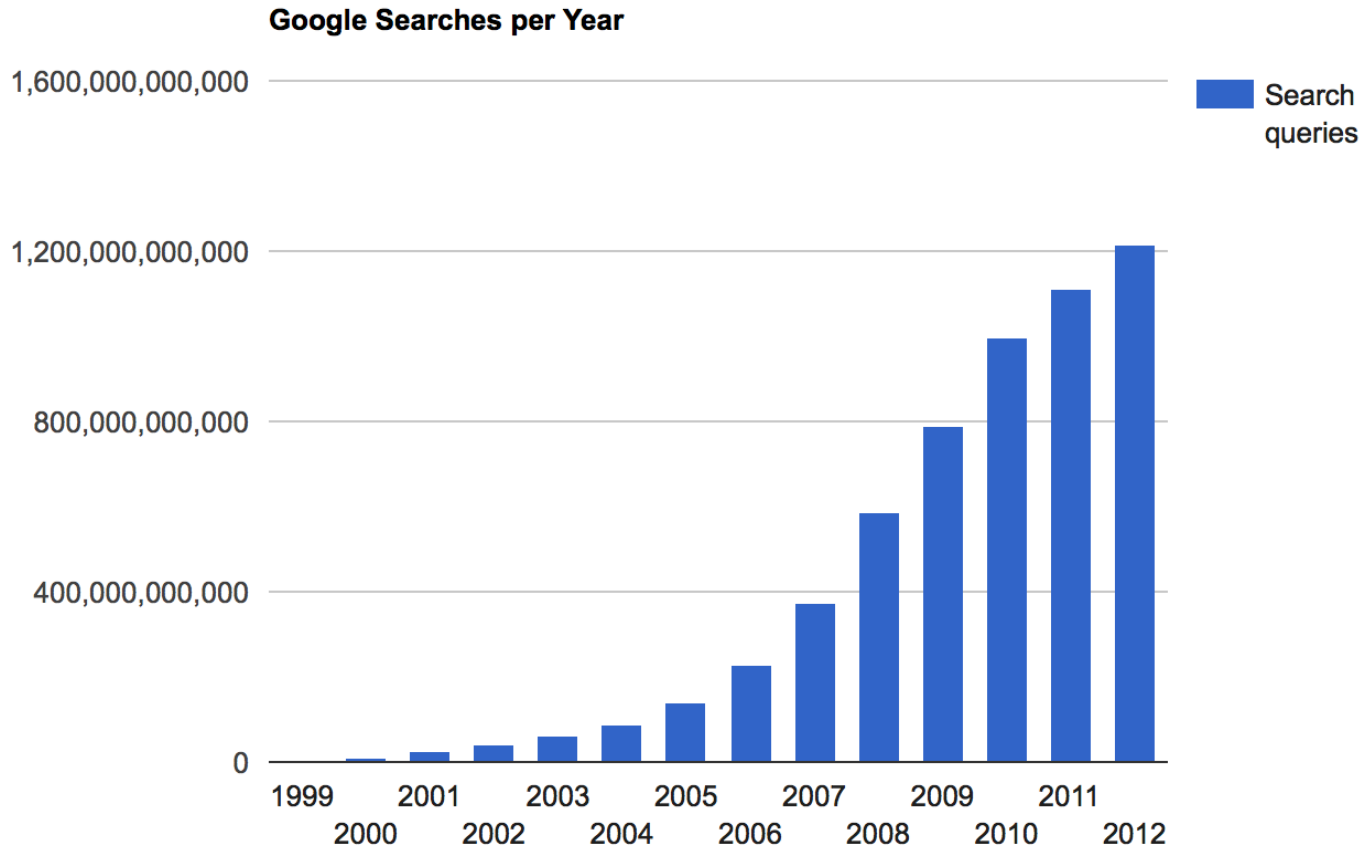
Google now processes over **40,000 search** queries every second which translates to over **3.5 billion searches per day** and **1.2 trillion searches per year** worldwide



Source: http://www.internetlivestats.com/google-search-statistics/

in 1 second, each and every second, there are...

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- **7,370 Tweets sent in 1 second**
- **745 Instagram photos uploaded in 1 second**
- **56,645 Google searches in 1 second**
- **132,881YouTube videos viewed in 1 second**
- **2,529,971Emails sent in 1 second**
- **38,625 GB of Internet traffic in 1 second**

Source : http://www.internetlivestats.com/one-second/#google-band

Three Characteristics of Big Data

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Volume

- Volumes of data are larger than those conventional relational database infrastructures can cope with

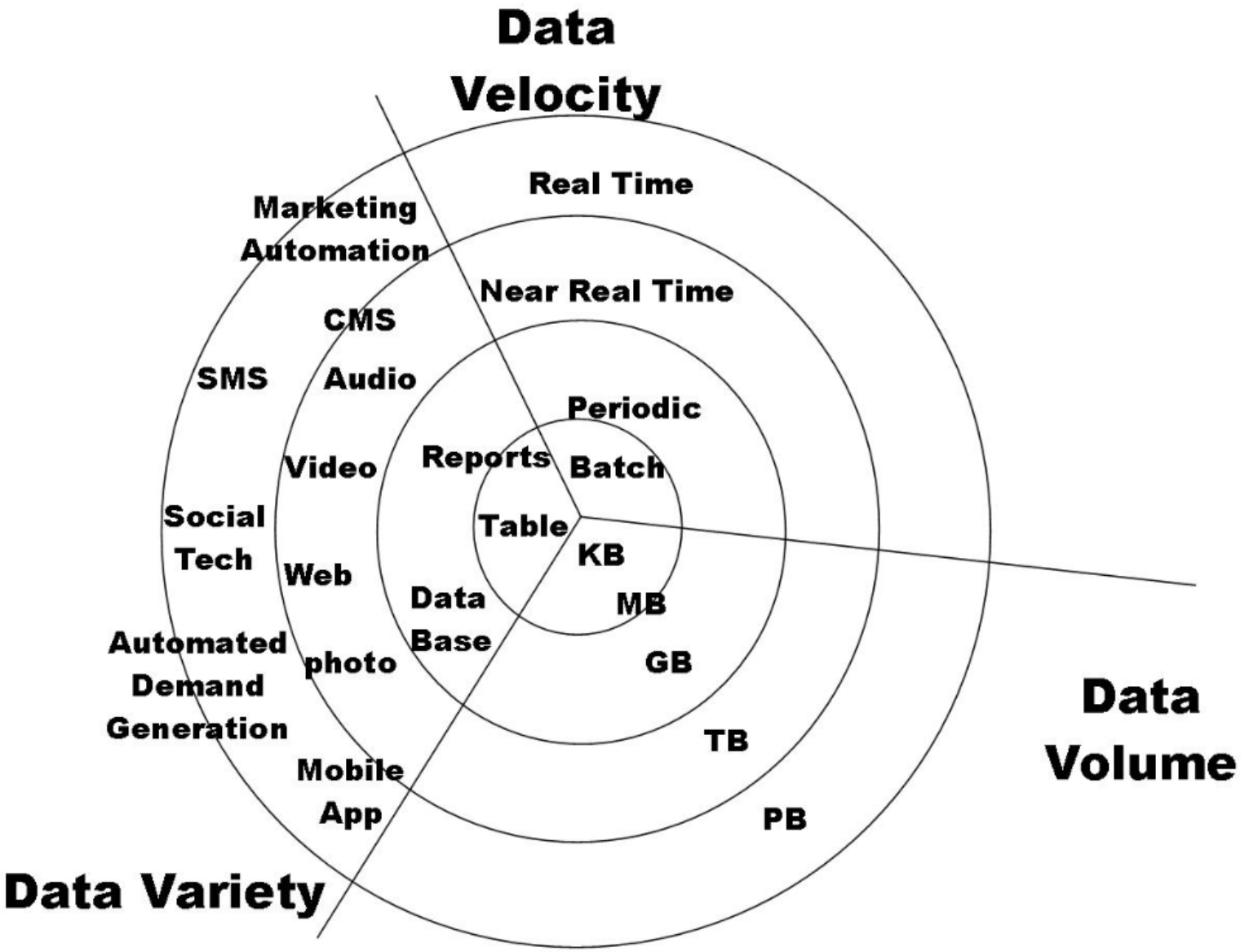
Velocity

- Rate at which data flows in is much faster.
  - Mobile event and interaction by users.
  - Video, image , audio from users

Variety

- the source data is diverse, and doesn't fall into neat relational structures eg. text from social networks, image data, a raw feed directly from a sensor source.

Source Introduction to Big Data: Dr. Putchong Uthayopas


Data
Velocity
Real Time
Near Real Time
Periodic
Batch
Marketing
Automation
CMS
SMS
Audio
Video
Reports
Table
Social
Tech
Web
Data
Base
KB
MB
GB
TB
PB
Automated
Demand
Generation
photo
Mobile
App
Data
Volume
Data Variety

4Vs of Big Data