Business Intelligence with Microsoft Power BI

Why Power BI

- Easy to Learn
- Latest Technology Updated monthly
- Affordable Software

Tools & Building Blocks

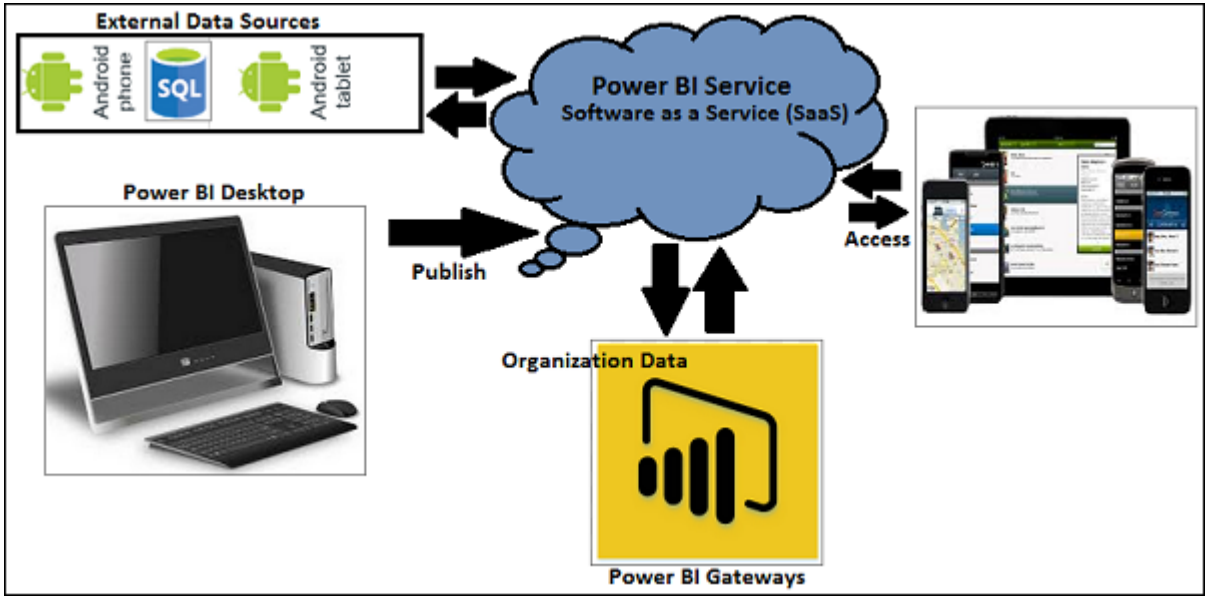
- There are Two other tools
- Power BI mobile
- For Developer

- **Power BI Desktop**
  - Local Application
- Datasets
- Visualizations
- Tiles
- Reports
- To Create New Datasets

- **Power BI Service**
  - Cloud
- Datasets
- Visualizations
- Tiles
- Reports
- To Connect Existing
- Data Sets
- Dashboards
- Share Results

components

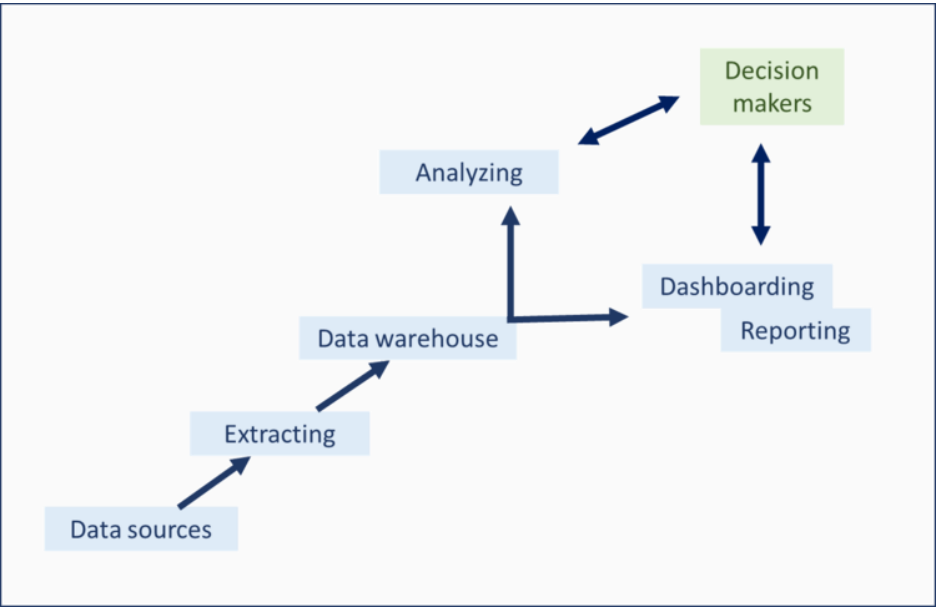
- **Power BI Desktop** – This is used to create reports and data visualizations on the dataset.
- **Power BI Gateway** – You can use Power BI on-premises gateway to keep your data fresh by connecting to your on-premises data sources without the need to move the data. It allows you to query large datasets and benefit from the existing investments.
- **Power BI Mobile Apps** – Using Power BI mobile apps, you can stay connected to their data from anywhere. Power BI apps are available for Windows, iOS, and Android platform.
- **Power BI Service** – This is a cloud service and is used to publish Power BI reports and data visualizations.


External Data Sources
Android phone
SQL
Android tablet
Power BI Service
Software as a Service (SaaS)
Power BI Desktop
Publish
Access
Organization Data
Power BI Gateways

Business intelligence Concepts

- It refer to the usage of digital computing technologies in the form of data warehouses, analytics and visualization with the aim of identifying and analyzing essential business-based data to generate new, actionable corporate insights.

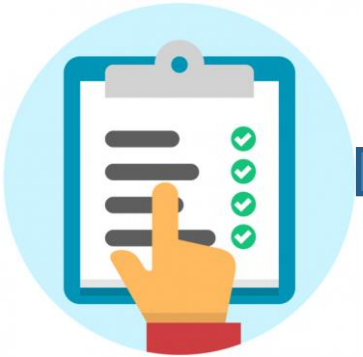
Business intelligence Concepts



- Get Data
- Clearing
- Model
- Create Visualization
- Share

Project Based Learning

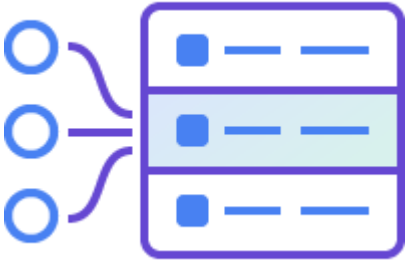
Report Development



Project Requirements

Finalized Report

End to End Reporting Project



Data source

Data Transformation

Relational Data Model

Report Design

- Get Data
  - Power BI service
  - Power BI Desktop
- Model Data
  - Power BI Desktop
- Create Visualizations and Reports
  - Power BI Service
  - Power BI Desktop

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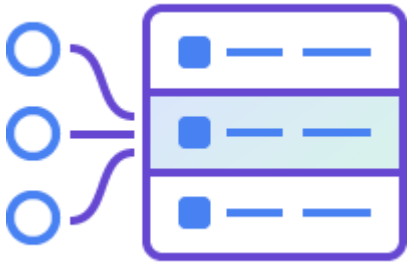
Project Requirements and Getting Data

What is the Flow of Report Development for a Business Analyst

Report Development Process

Data Source(s)

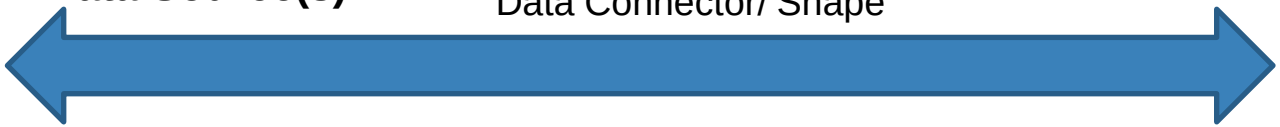
Data Connector/ Shape



Data Model

Transform

Shaping/Cleaning/Combining



Importing data

- From WWW/excel
- Excel
- Restful APIs
- Databases

Cleaning the Data

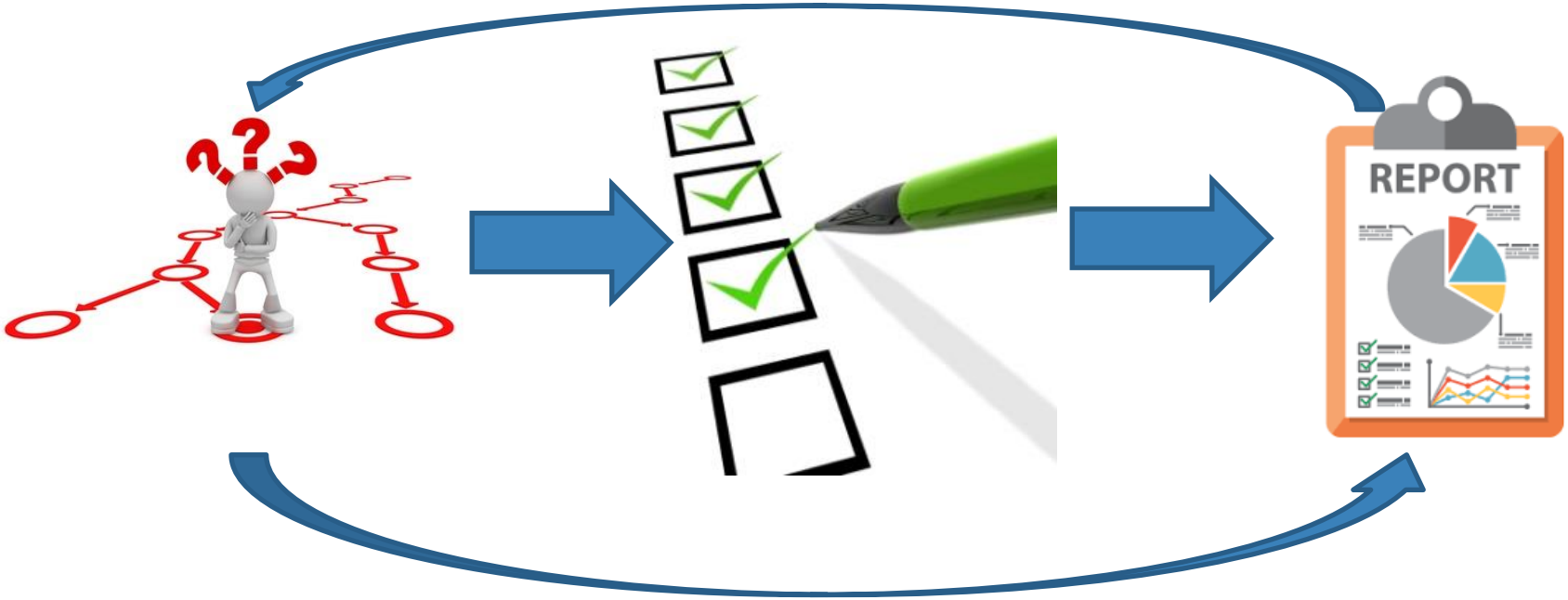
- Data preparation – remove unwanted rows and columns.
- Query Editor
- Home -> Remove to rows
- Remove columns
- Merge columns
- Change data types

Importing data to Data Model

Create Visualizations

Reviewing Project Requirements and Determining Data Sources

Report Requirements



Data & Visualization Requirements

- Net Profit & Net Quantity Breakdowns
- Year-Over-Year net profit comparison by month
- Net Profit Running Historical Running Total
- Year-Over-Year profits by product Brand

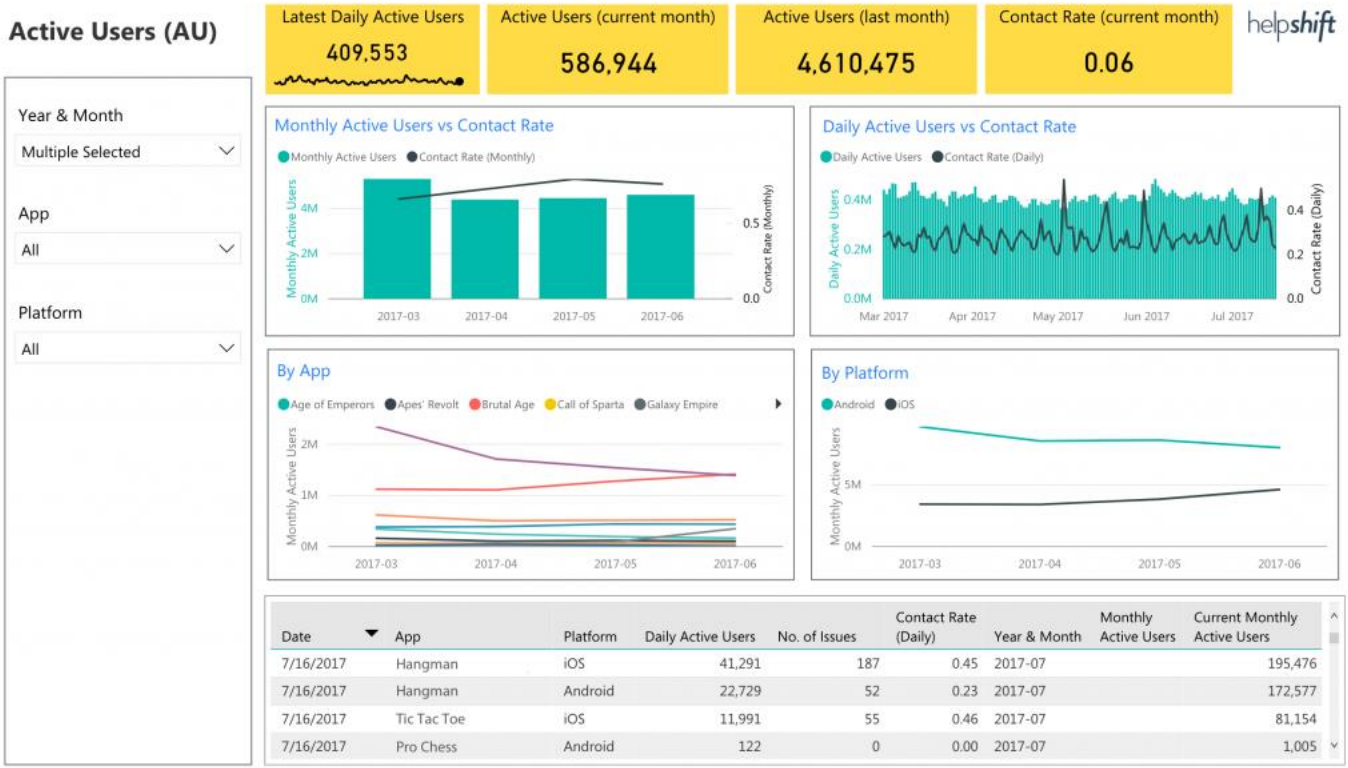
Order Details Table:

- Geography Information
- Net Profits
- Net Quantity
- Order Count
- Average Order Amount
- Year-Over-Year Net Profits
- Year-Over-Year Net Profit %

Report Filter Requirements

- Year Filter
- Channel Filter
- Geography & Store Filters
- Product Filters

Power BI Reports



Date	App	Platform	Daily Active Users	No. of Issues	Contact Rate (Daily)	Year & Month	Monthly Active Users	Current Monthly Active Users
7/16/2017	Hangman	iOS	41,291	187	0.45	2017-07		195,476
7/16/2017	Hangman	Android	22,729	52	0.23	2017-07		172,577
7/16/2017	Tic Tac Toe	iOS	11,991	55	0.46	2017-07		81,154
7/16/2017	Pro Chess	Android	122	0	0.00	2017-07		1,005

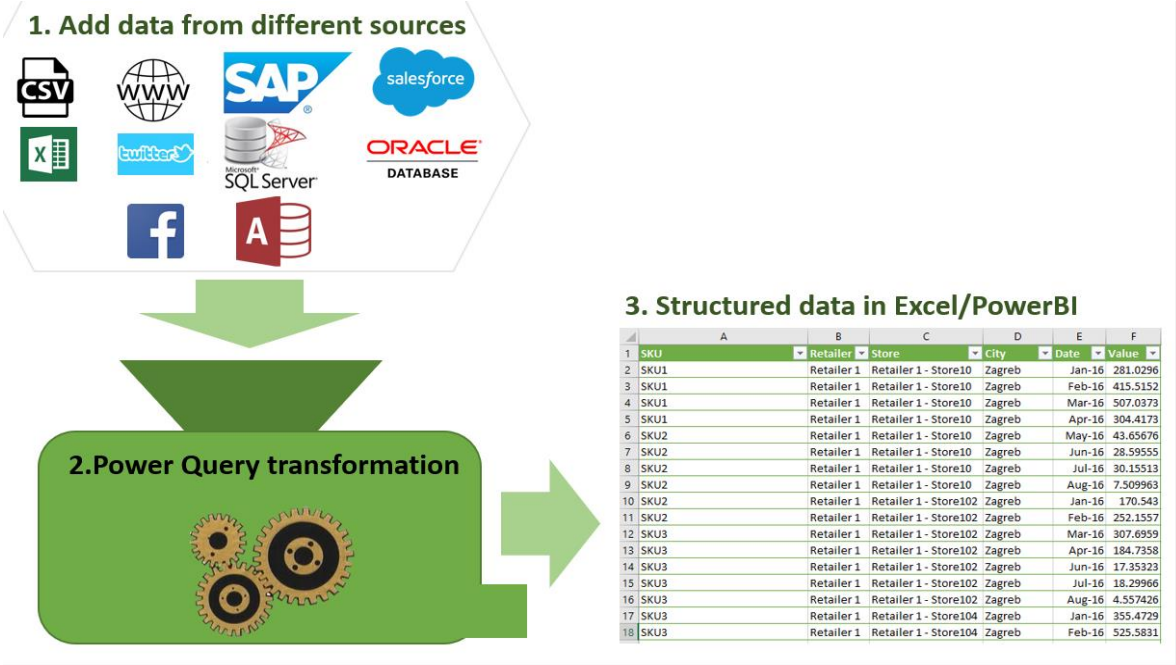
Connecting to Data Source with Power Query

Bring the attention of your audience over a key concept using icons or illustrations

Connecting to Data Source

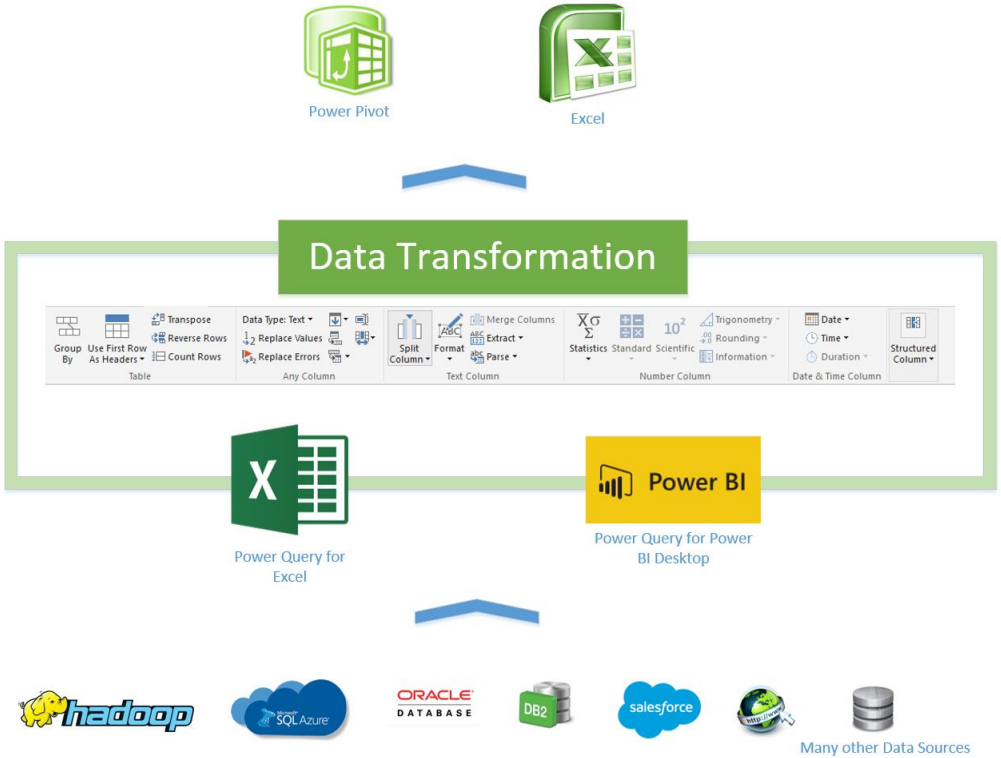
Power Query

Power Query is a data connection technology that enables you to discover, connect, combine, and refine data sources to meet your analysis needs.



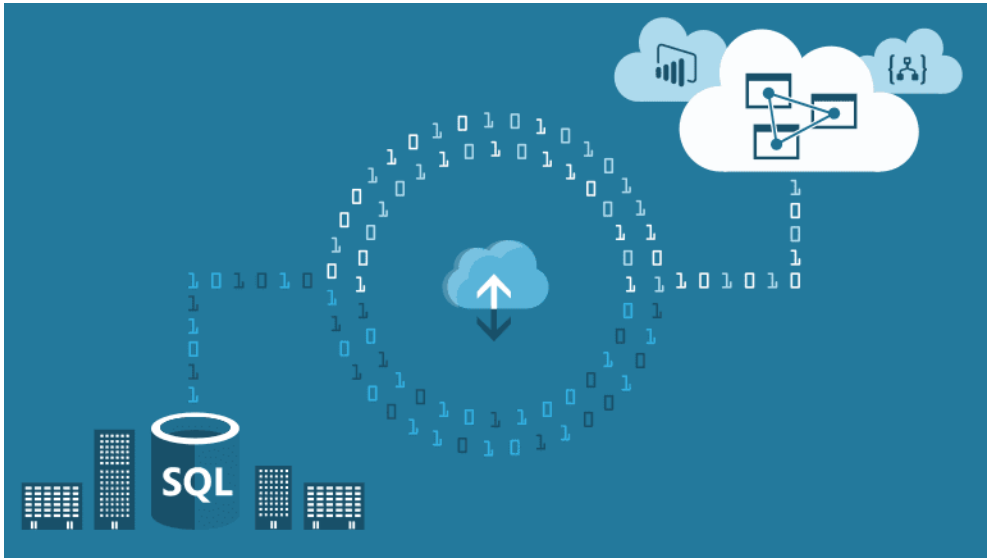
	A	B	C	D	E	F
1	SKU	Retailer	Store	City	Date	Value
2	SKU1	Retailer 1	Retailer 1 - Store10	Zagreb	Jan-16	281.0296
3	SKU1	Retailer 1	Retailer 1 - Store10	Zagreb	Feb-16	415.5152
4	SKU1	Retailer 1	Retailer 1 - Store10	Zagreb	Mar-16	507.0373
5	SKU1	Retailer 1	Retailer 1 - Store10	Zagreb	Apr-16	304.4173
6	SKU2	Retailer 1	Retailer 1 - Store10	Zagreb	May-16	43.65676
7	SKU2	Retailer 1	Retailer 1 - Store10	Zagreb	Jun-16	28.59555
8	SKU2	Retailer 1	Retailer 1 - Store10	Zagreb	Jul-16	30.15513
9	SKU2	Retailer 1	Retailer 1 - Store10	Zagreb	Aug-16	7.509963
10	SKU2	Retailer 1	Retailer 1 - Store102	Zagreb	Jan-16	170.543
11	SKU2	Retailer 1	Retailer 1 - Store102	Zagreb	Feb-16	252.1557
12	SKU3	Retailer 1	Retailer 1 - Store102	Zagreb	Mar-16	307.6959
13	SKU3	Retailer 1	Retailer 1 - Store102	Zagreb	Apr-16	184.7358
14	SKU3	Retailer 1	Retailer 1 - Store102	Zagreb	Jun-16	17.35323
15	SKU3	Retailer 1	Retailer 1 - Store102	Zagreb	Jul-16	18.29966
16	SKU3	Retailer 1	Retailer 1 - Store102	Zagreb	Aug-16	4.557426
17	SKU3	Retailer 1	Retailer 1 - Store104	Zagreb	Jan-16	355.4729
18	SKU3	Retailer 1	Retailer 1 - Store104	Zagreb	Feb-16	525.5831

Types of Data Sources

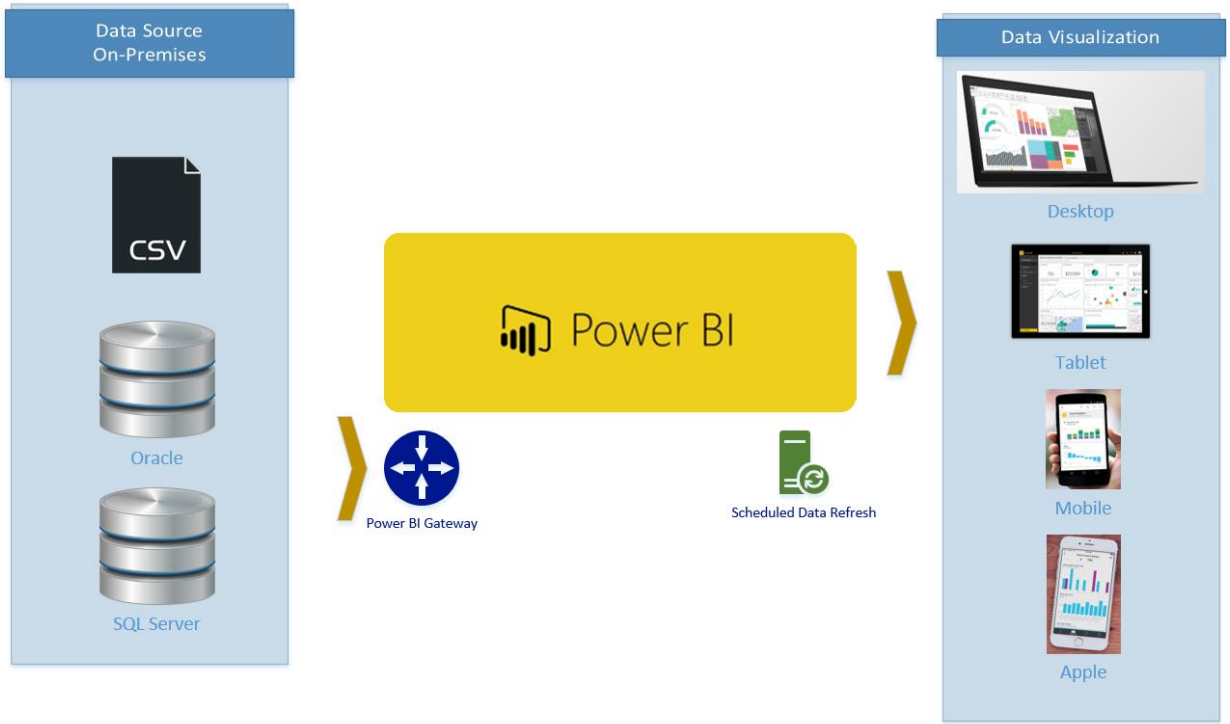


Types of Data Sources

- On-Premises(Local)
- Online (Cloud Services)



Power BI Gateway



Type of Data importing

- Categories (Text Information)

Categorical data is the statistical **data** type consisting of **categorical** variables or of **data** that has been converted into that form

Date, Geography & Store, Channel, Product

- Calculation(Math/ Aggregations)

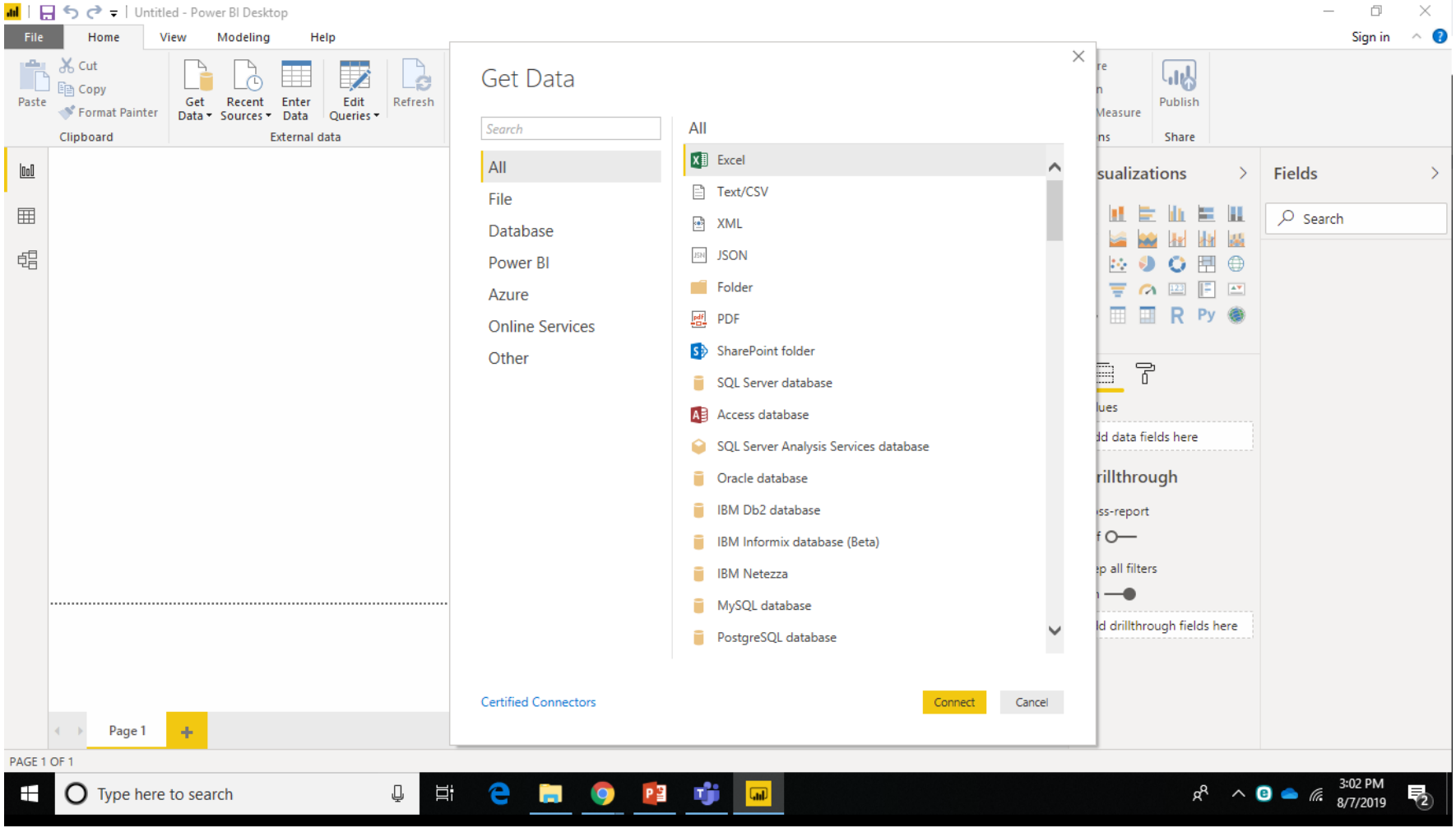
continuous data is quantitative data that can be measured.
it has an infinite number of possible values within
a selected range e.g. temperature range.

discrete data is quantitative data that can be counted
and has a finite number of possible values
e.g. days of the week.

Net Profit, Net Quantity, Order Count

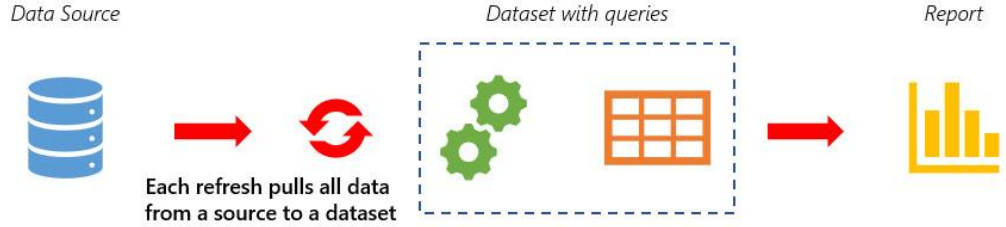
Power BI

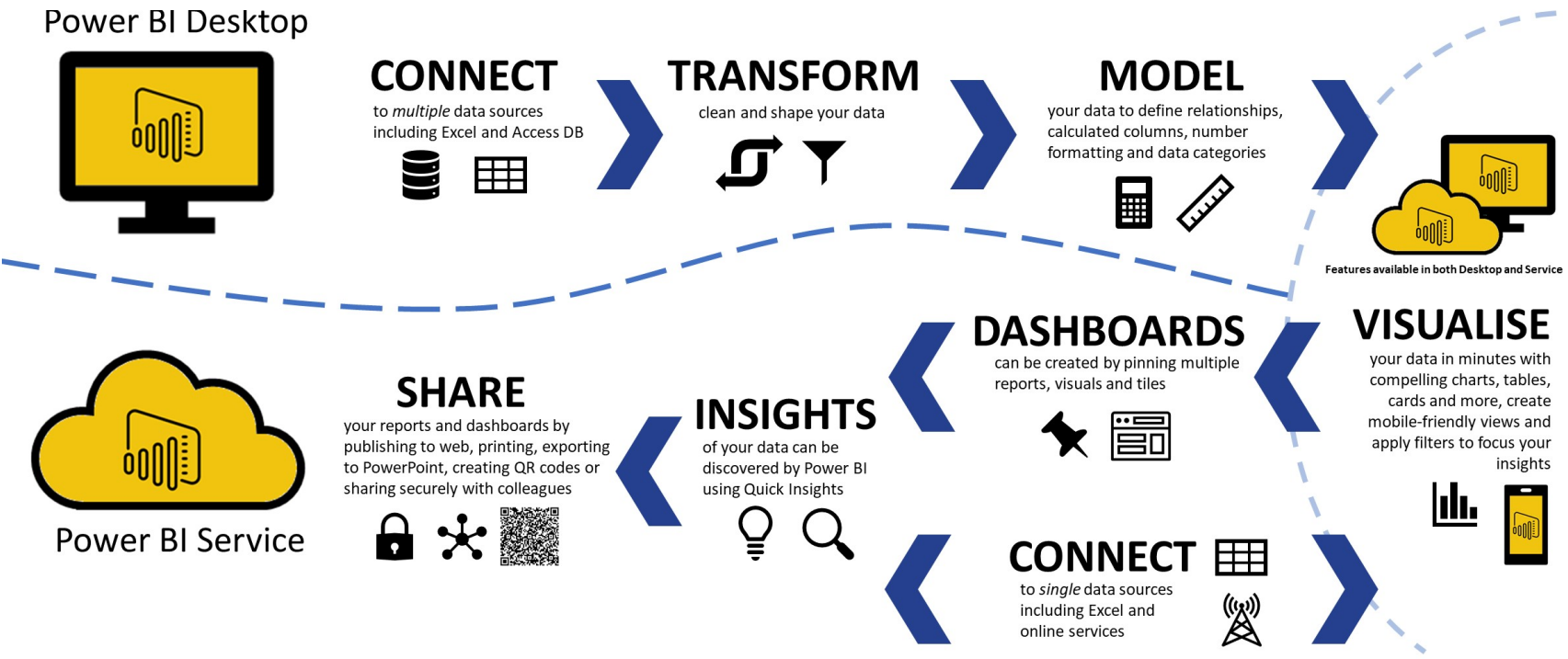
Power BI is a collection of software services, apps, and connectors that work together to turn your unrelated sources of data into coherent, visually immersive, and interactive insights.


Untitled - Power BI Desktop
File
Home
View
Modeling
Help
Sign in
Paste
Cut
Copy
Format Painter
Clipboard
Get Data
Recent Sources
Enter Data
Edit Queries
Refresh
External data
Publish
Share
Measure
Visualizations
Fields
Search
Get Data
Search
All
File
Database
Power BI
Azure
Online Services
Other
All
Excel
Text/CSV
XML
JSON
Folder
PDF
SharePoint folder
SQL Server database
Access database
SQL Server Analysis Services database
Oracle database
IBM Db2 database
IBM Informix database (Beta)
IBM Netezza
MySQL database
PostgreSQL database
Certified Connectors
Connect
Cancel
Add data fields here
Drillthrough
Add drillthrough fields here
Page 1
PAGE 1 OF 1
Type here to search
3:02 PM
8/7/2019

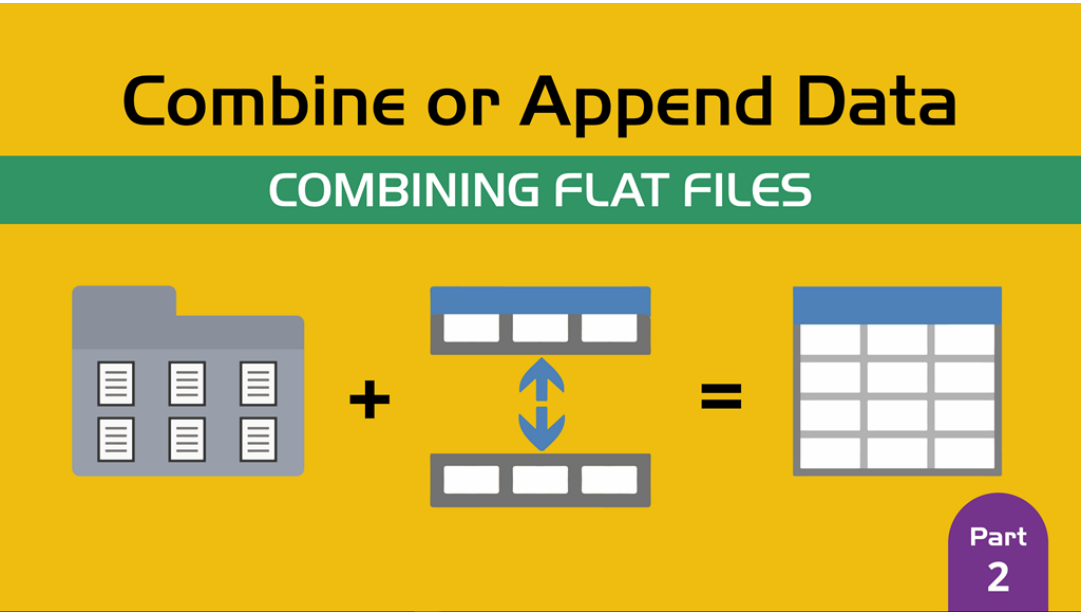
1. Open Power BI and Create New Document
2. Click Gent Data ->Select Excel
3. Select the Data table or sheet, if both available select Table -> Click Load

Report Development Process





Connecting to a Folder as a Data Source



- Data Cleanup
- Select Folder folder as a source –> send to data model
- Example: sales data for 2019, 2018, 2017 etc.

1. Get Data
2. Select Folder
3. Locate the folder

Table Types and Relational Data Modeling

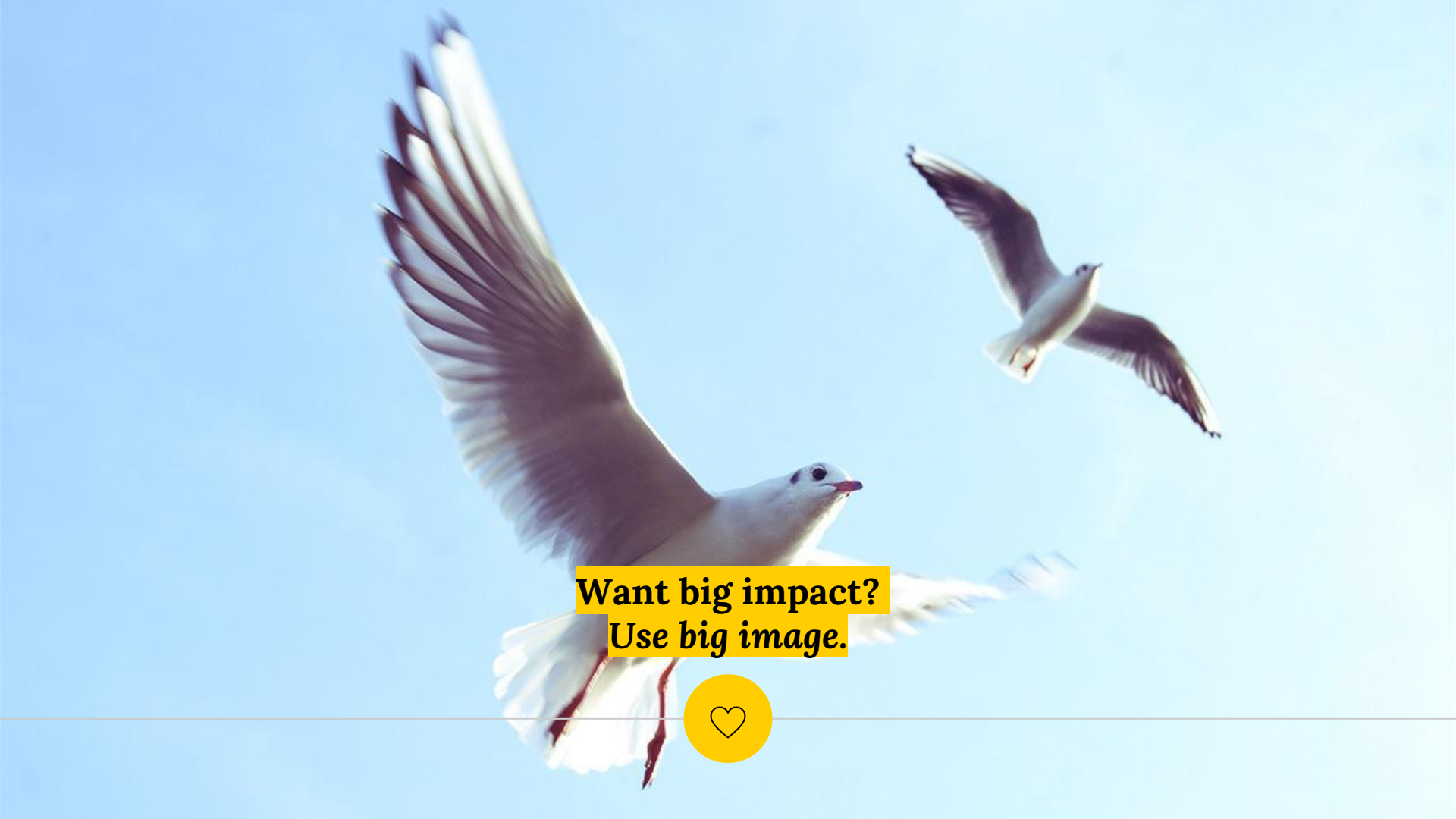
Multiple Tables in Data Models

Multiple Tables in Data Models

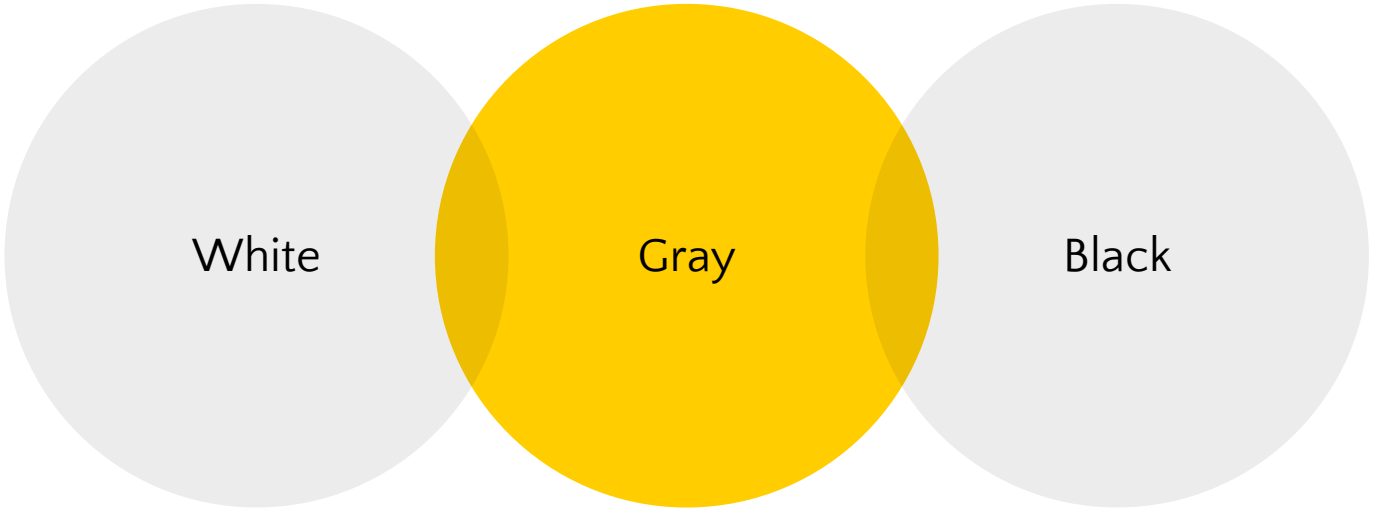
- Data Model
- Single Table
- Lookup Table
- Data Table

- Why we avoid Melty table design?

Data Table Vs Lookup tables


Want big impact?
Use big image.

Use charts to explain your ideas



Or use diagrams to explain complex ideas

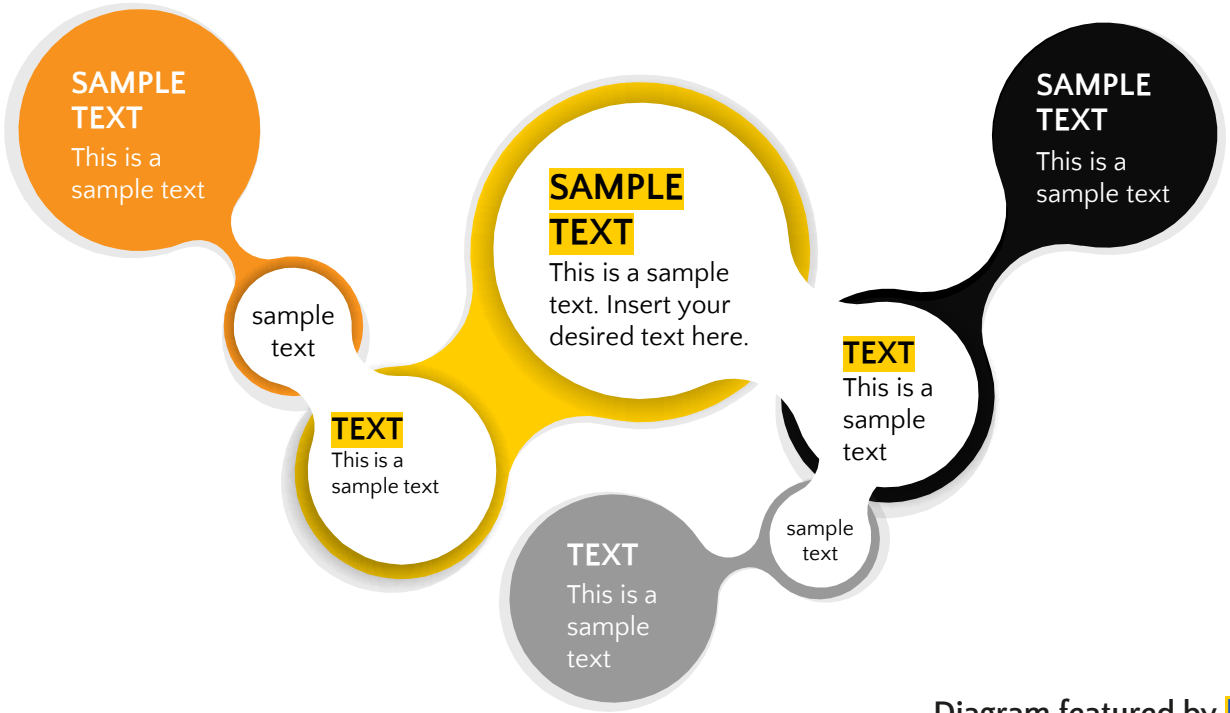
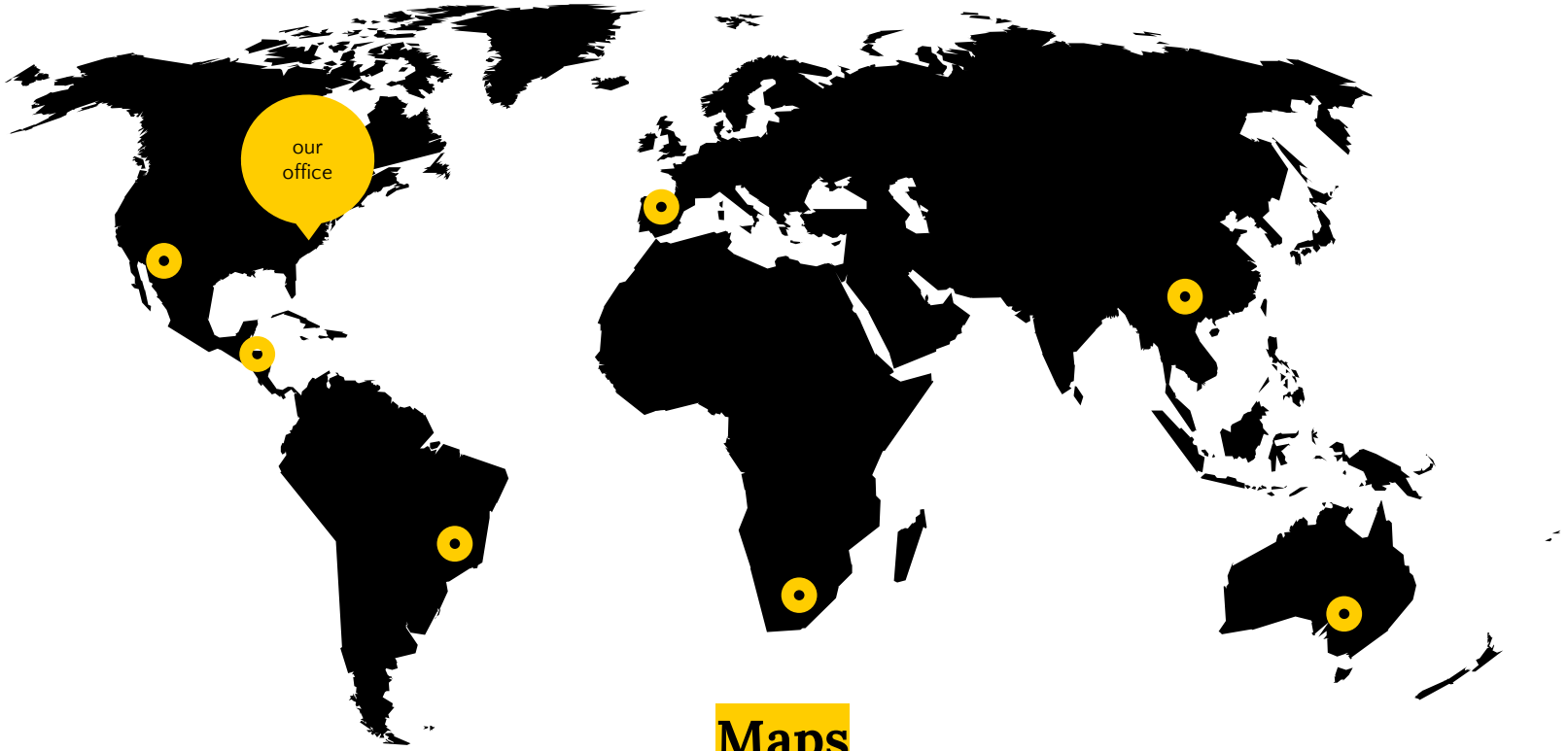


Diagram featured by http://slidemodel.com

And tables to compare data

	A	B	C
Yellow	10	20	7
Blue	30	15	10
Orange	5	24	16



Maps

89,526,124

Whoa! That’s a big number, aren’t you proud?

89,526,124$

That’s a lot of money

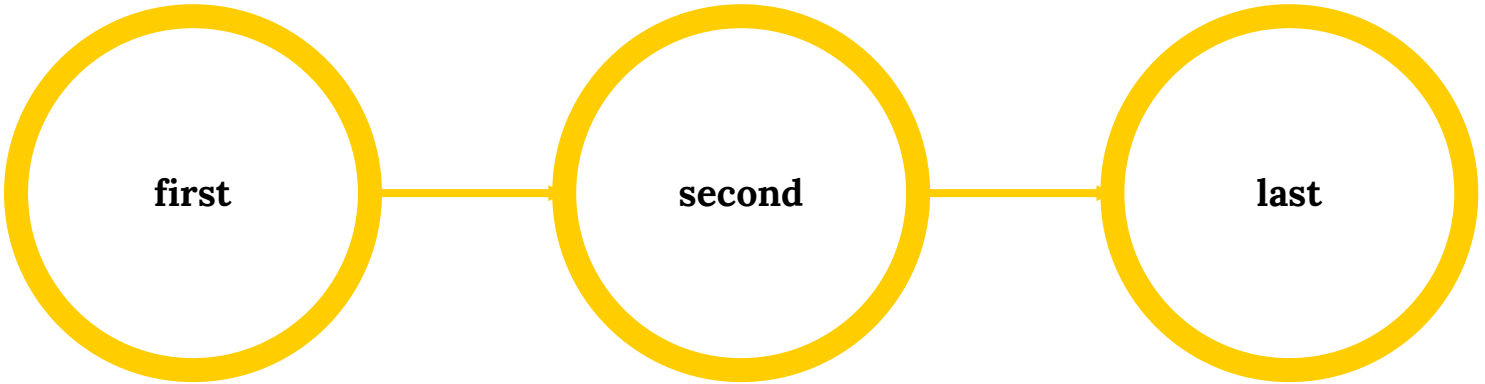
185,244 users

And a lot of users

100%

Total success!

Our process is easy



Let’s review some concepts

Yellow

Is the color of gold, butter and ripe lemons. In the spectrum of visible light, yellow is found between green and orange.

Blue

Is the colour of the clear sky and the deep sea. It is located between violet and green on the optical spectrum.

Red

Is the color of blood, and because of this it has historically been associated with sacrifice, danger and courage.

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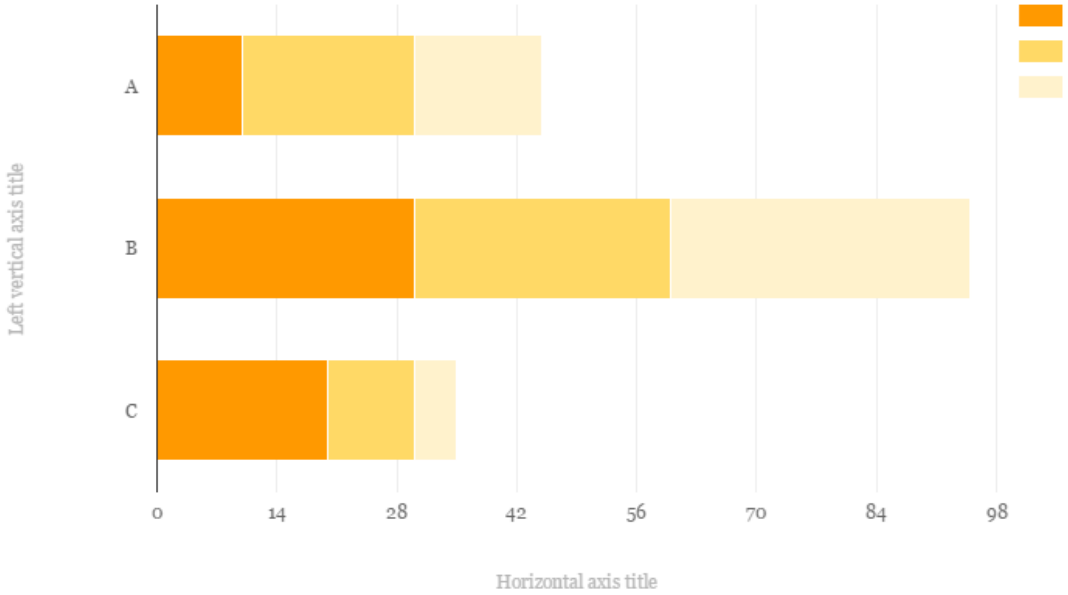
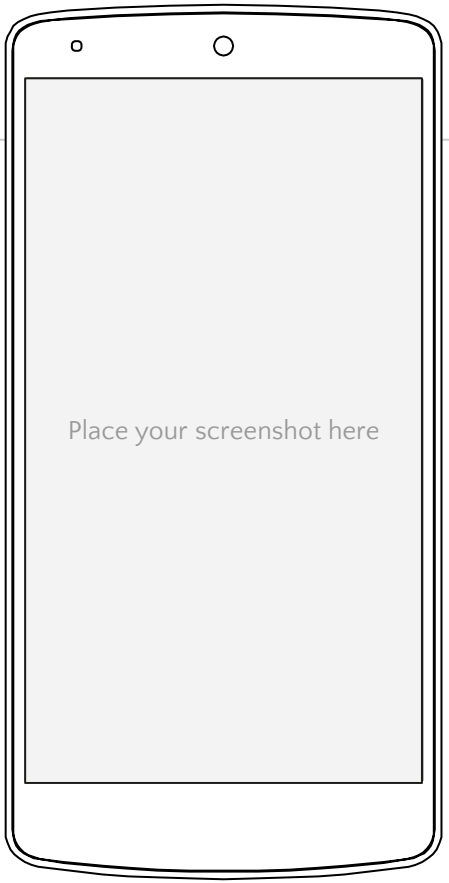


You can copy&paste graphs from Google Sheets

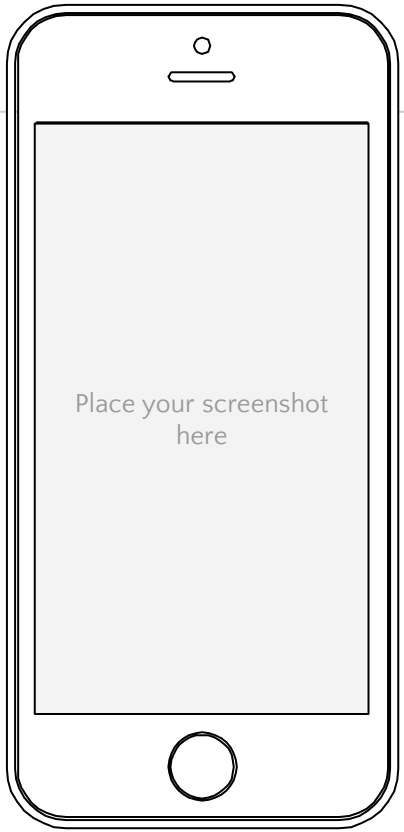
Android project

Show and explain your web, app or software projects using these gadget templates.



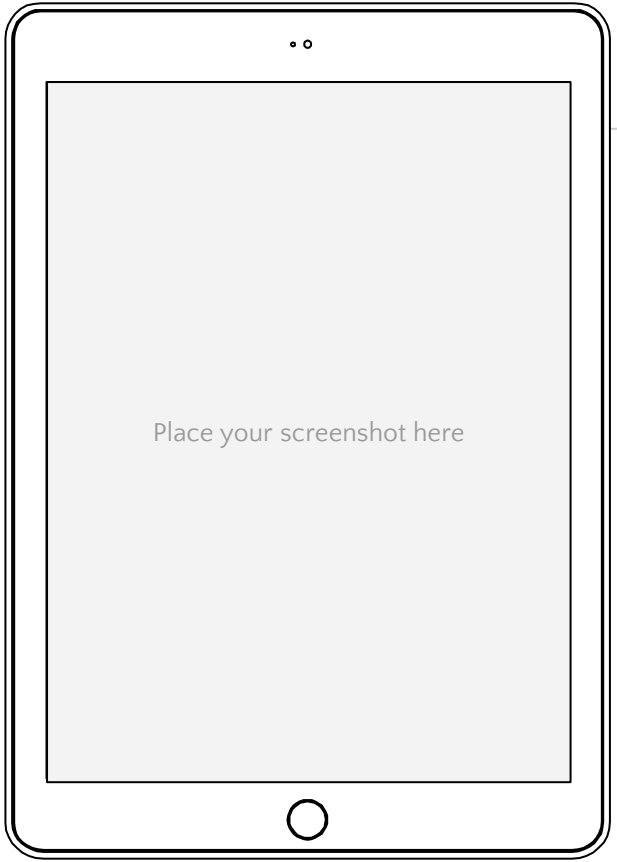
iPhone project

Show and explain your web, app or software projects using these gadget templates.



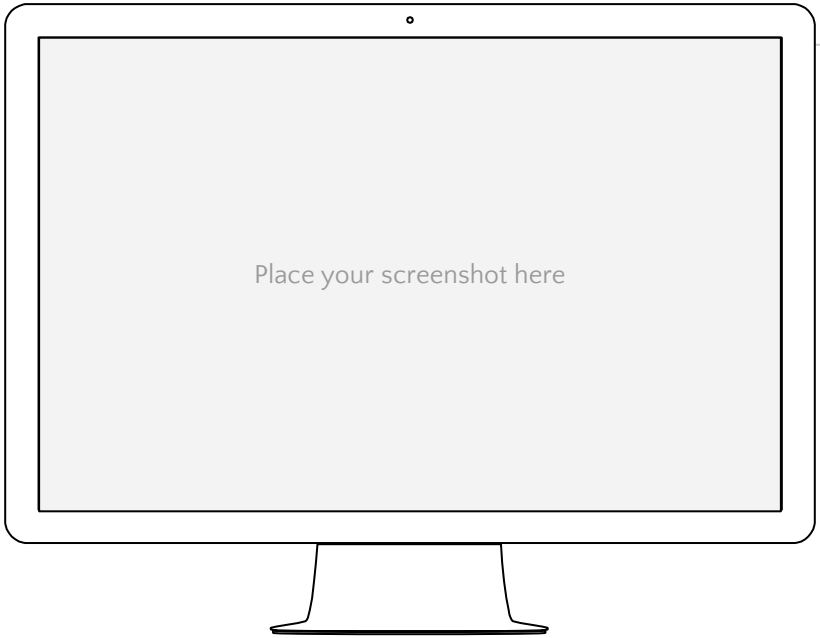
Tablet project

Show and explain your web, app or software projects using these gadget templates.



Desktop project

Show and explain your web, app or software projects using these gadget templates.



Thanks!

Any questions ?

You can find me at

- @username
- user@mail.me

Credits

Special thanks to all the people who made and released these awesome resources for free:

- Presentation template by SlidesCarnival
- Photographs by Unsplash

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This presentation uses the following typographies and colors:

- Titles: **Lora**
- Body copy: **Quattrocento Sans**

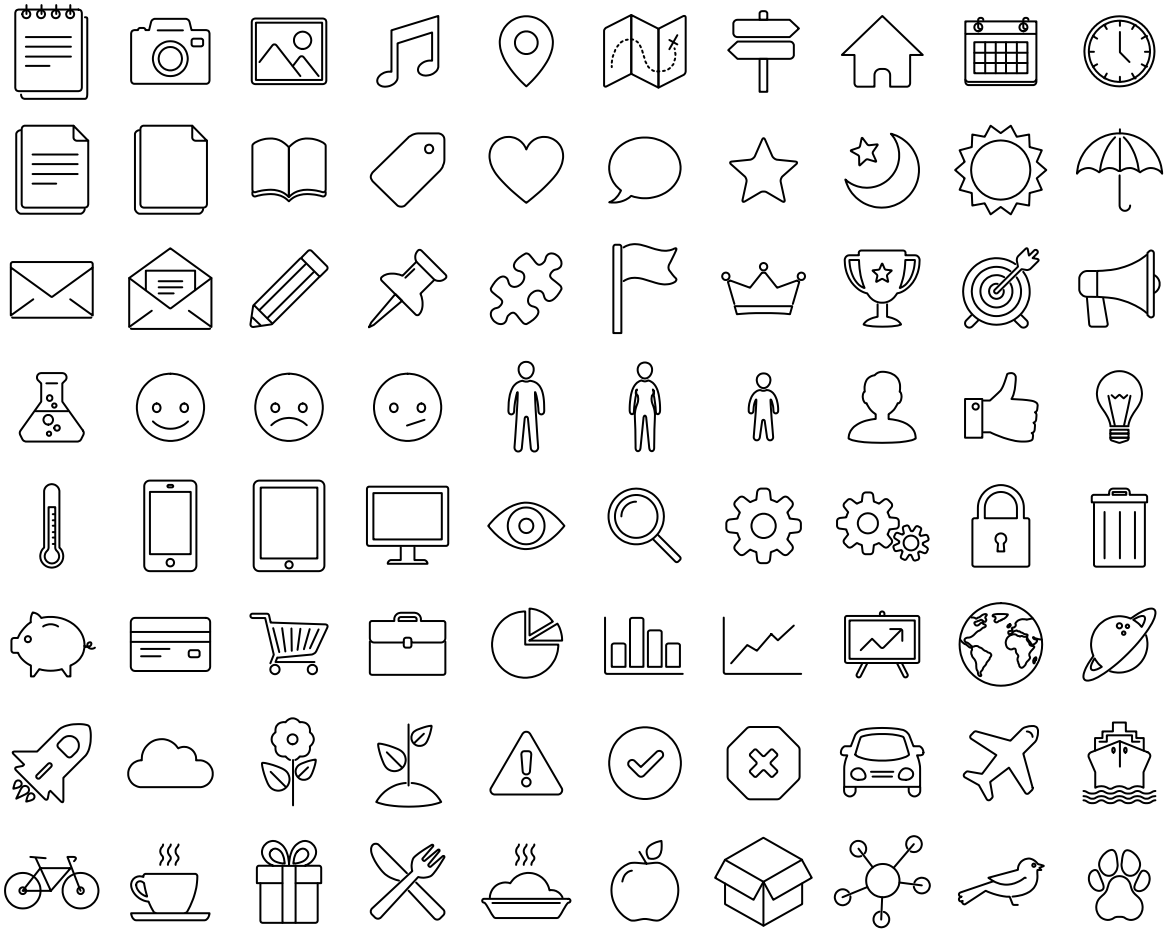
You can download the fonts on these pages:

https://www.fontsquirrel.com/fonts/lora

https://www.fontsquirrel.com/fonts/quattrocento-sans

Yellow **#ffcd00** | Black **#000000** | Grey **#cccccc**

You don't need to keep this slide in your presentation. It's only here to serve you as a design guide if you need to create new slides or download the fonts to edit the presentation in PowerPoint®



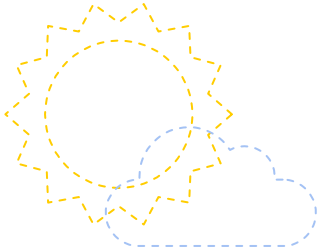
SlidesCarnival icons are editable shapes.

This means that you can:

- Resize them without losing quality.
- Change line color, width and style.

Isn't that nice? :)

Examples:



Now you can use any emoji as an icon!
And of course it resizes without losing quality and you can change the color.

How? Follow Google instructions
https://twitter.com/googledocs/status/730087240156643328