

# Google Cloud Platform for Everyone



<Day5> Visualizing with Google Charts </Day5>

# Course Page



<https://gcpe2023.github.io/Day05>



Google Developer Student Clubs  
Universiti Malaya



# Event Page

<https://bit.ly/GCPEDay05>



# Previous Workshop

Implementing Vision API



01 Introduction to Google Drive and Cloud Storage

02 Introduction to Cloud Vision API

03 JSON Files and Google Sheets

04 Hands-on Receipt Data Extraction



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# Data Visualization

```
filterByOrg ? study.lead_organization === filterByOrg : true  
status = filterByStatus ? study.status === filterByStatus : true  
matchStatus) {  
  // ...  
  function filterStudies(i studies, filterByOrg  
  studies, filter(study
```

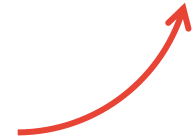
# Data Visualization



Graphical  
Representation

010110  
101101  
100010

Data  
Readability



Trends  
Spotting

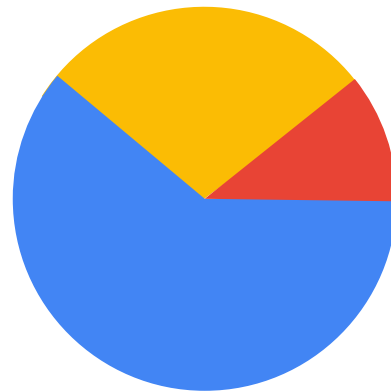
Do you choose the right graph?



# Pie Charts



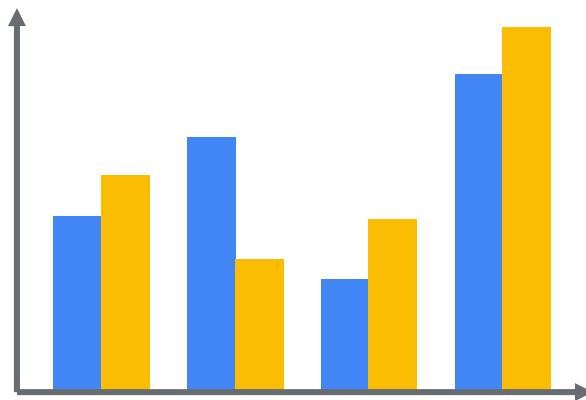
- 01 Suitable for discrete categorical variables
- 02 Shows the **proportion** for each variable
- 03 Shows how each variable contribute to a whole
- 04 Can be difficult to read small differences
- 05 Can only show **one set** of data at a time



# Bar Charts



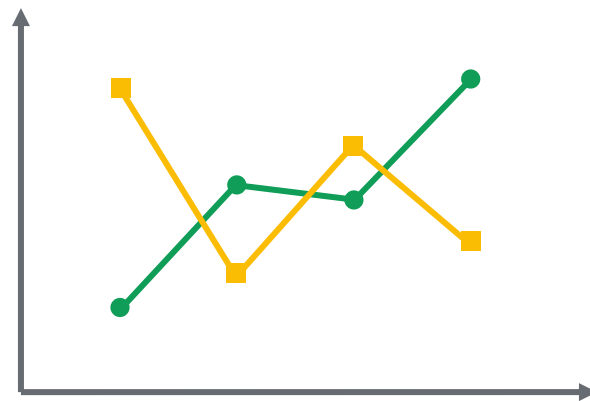
- 01 Suitable for discrete categorical variables
- 02 Shows the **actual value** for each variable
- 03 Easier to read by comparing **bar heights**
- 04 Can be vertical or horizontal
- 05 Can make **comparisons** between sets of data



# Line Graphs



- 01 Suitable for continuous variables
- 02 Shows the **trends or patterns** between variables
- 03 Commonly used in visualizing **time series** data
- 04 Can be difficult to read overlapping data
- 05 Can make **comparisons** between sets of data

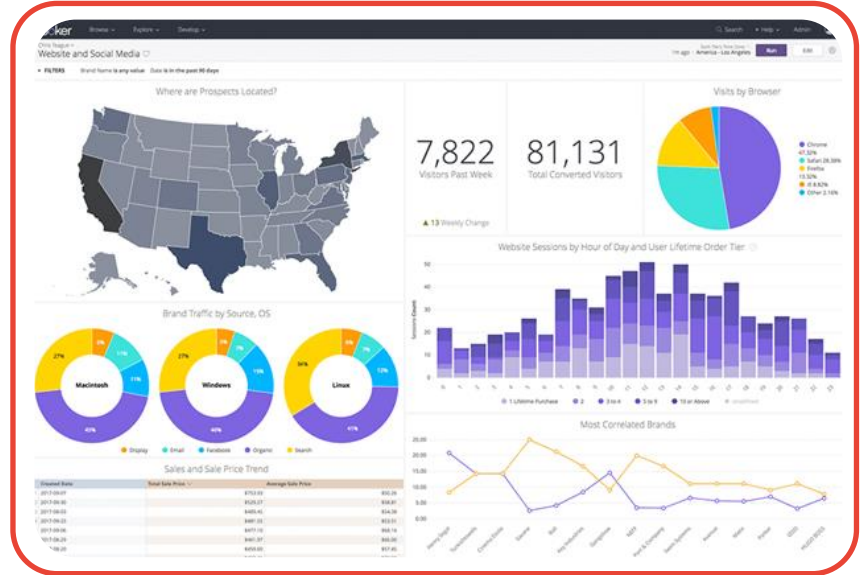


Where do we create graphs?

# Looker Studio



- 01 BI platform for data visualization
- 02 Wide range of customization options
- 03 Builds dashboard with graphs
- 04 Owned by Google Cloud
- 05 Requires subscription

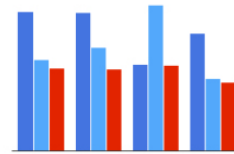


# Google Charts

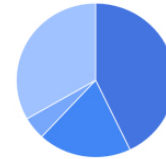


- 01 Web-based tool to create charts
- 02 Customization options are limited
- 03 Generate individual graphs and charts
- 04 Used by Google Developers
- 05 Free to use

Column Chart



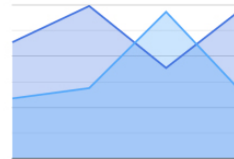
Pie Chart



Bar Chart



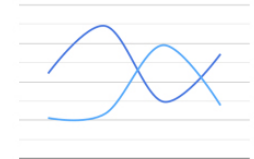
Area Chart



Donut Chart



Line Chart





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# Embedding Google Charts

```
...org = filterByOrg ? study.lead_organization == filterByOrg : true  
...status = filterByStatus ? study.status == filterByStatus : true  
...matchStatus) {  
...  
...function filterStudies([ studies, filterByOrg  
...studies.filter(study
```

# What is `<iframe>`?



- 01 A **HTML** tag
- 02 Known as inline-frame
- 03 Loads another **HTML** elements inside of a web page
- 04 Access content without leaving the current website
- 05 Commonly used to embed specific content like ads, videos and other interactive elements



```
<iframe
    src="/default.asp"      <!-- Specifies URL to be displayed -->
    seamless                <!-- No borders or scrollbars -->
    frameborder="0"        <!-- Specifies the display of borders -->
    scrolling="no"           <!-- Specifies the display of scrollbars -->
    width="100%"            <!-- Sets the width of iframe -->
    height="300"            <!-- Sets the height of iframe -->
>
</iframe>                  <!-- Closes the iframe tag -->
```



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# Hands-On Session

```
...org = filterByOrg ? study.lead_organization == filterByOrg : true  
...status = filterByStatus ? study.status == filterByStatus : true  
...researchStatus) {
```

```
function filterStudies([ studies, filterByOrg  
...status = studies.filter(study  
...researchStatus) {
```



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# Google Maps Platform

```
...org = filterByOrg ? study.lead_organization == filterByOrg : true  
...status = filterByStatus ? study.status == filterByStatus : true  
...matchStatus) {  
...  
...filterStudies([ studies, filterByOrg  
...studies.filter(study
```



# Google Maps Platform



- 01 A set of APIs (Application Programming Interface) and SDKs (Software Development Kit)
- 02 Allow developers to embed Google Maps into mobile apps and web pages
- 03 Retrieving data from Google Maps
- 04 Display real-time maps
- 05 Geocoding, Geolocation, Maps Embed API

## “



# Q&A Session

```
function filterStudies([ studies, filterByOrg = false, filterByStudy = false, filterByOrganiz
```

# Google Cloud Platform for Everyone

<GCPE2023> Recap </GCPE2023>

# Event



Photos



# Event



Photos

# Event



Photos

# Event



Photos

# Event



# Photos

# Workshop 01

- 01 History of Google Cloud
- 02 IaaS, PaaS and SaaS
- 03 Cloud Digital Leaders learning path
- 04 Hosting Minecraft server on Google Cloud VM Instance

Event Recap

# Workshop 02

- 01 Introduction to **HTML** and **CSS**
- 02 Styling website with **CSS**
- 03 Website hosting theory
- 04 Hands-on session with Firebase

Event Recap

# Workshop 03

- 01 Introduction to API
- 02 Introduction to NodeJS
- 03 GET and POST requests
- 04 Linking frontend and backend with Google Sheets API

Event Recap

# Workshop 04

- 01 Introduction to Google Drive and Cloud Storage
- 02 Introduction to Cloud Vision API
- 03 JSON Files and Google Sheets
- 04 Hands-on Receipt Data Extraction

Event Recap



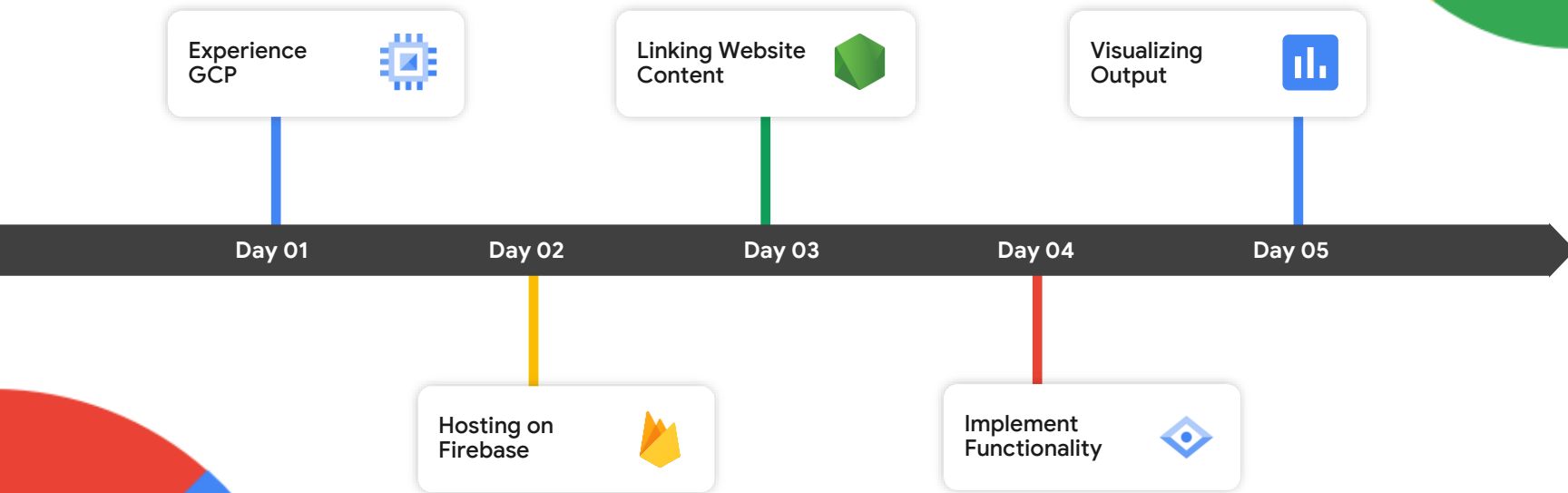
# Workshop 05

- 01 Introduction to data visualization
- 02 Choosing the right visualization techniques
- 03 Overview of Google Maps Platform
- 04 Embedding Google Charts in website using `<iframe>`

Event Recap



# Project Review



## Event Recap



# Participants **Sharing** Session

```
function filterStudies([ studies, filterByOrg = false, filterByTopic = false ]){  
  return studies.filter(study => {  
    if (filterByOrg) {  
      return study.organization === 'NIH'  
    }  
    if (filterByTopic) {  
      return study.topic === 'AI'  
    }  
    return true  
  })  
}
```

# Welcome Guest of Honour

“



# Speech by Guest of Honour

”



# Assoc. Prof. Dr. Suraya Hamid

Deputy Dean (Student Affairs)  
FSKTM Universiti Malaya

```
function filterStudies([ studies, filterByOrg = false, filterByYear = false, filterByLevel = false, filterByStatus = false, filterByOrganization = false ]){  
  return studies.filter(study => {  
    if (filterByOrg) {  
      return study.organization === filterByOrg;  
    }  
    if (filterByYear) {  
      return study.year === filterByYear;  
    }  
    if (filterByLevel) {  
      return study.level === filterByLevel;  
    }  
    if (filterByStatus) {  
      return study.status === filterByStatus;  
    }  
    if (filterByOrganization) {  
      return study.organization === filterByOrganization;  
    }  
    return true;  
  });  
}
```



# Mr. Syamsul Faizal Ahim

Account Director (Education)  
Google Cloud Malaysia

```
function filterStudies([ studies, filterByOrg = false, filterByCountry = false, filterByOrganization = false ]){  
  studies.filter(study => {  
    if (filterByOrg) {  
      return study.organization === filterByOrg;  
    }  
    if (filterByCountry) {  
      return study.country === filterByCountry;  
    }  
    if (filterByOrganization) {  
      return study.organization === filterByOrganization;  
    }  
    return true;  
  })  
}
```





# Prize Giving Ceremony

<Day5> Data Visualization </Day5>



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# Cloud Digital Leaders

<https://www.cloudskillsboost.google/paths/9>

- 01 All courses are FREE
- 02 Get a digital BADGE upon completion of each course
- 03 Be updated with the LATEST technological trends
- 04 Prepare to be Google Cloud certified



# Thank You

<Day5> Visualizing with Google Charts </Day5>