

Lecture 11

Search Engines and Social Media

IT1100 – Internet and Web Technologies

Content

- ▶ Search Engines
- ▶ Social Media
- ▶ Accessing Social Media Data using PHP

Search Engines

What is a Search Engine?

A **Search Engine** is a computer programme that search documents for **specific keywords** and return a list of the documents where the keywords were found.

~ Webopedia ~

Common Search Engines and Tools

- ▶ Desktop Search Tool
- ▶ Metasearch Engine
- ▶ Blog Search Engine
- ▶ Enterprise Search Tools

Web Search Engine

A Web Search Engine is a tool that enables users to locate information on the World Wide Web.

Search Engines

- ▶ Search engines help to search for content / information / resources in WWW
 - ▶ Web pages, text, files, images, audio, video, etc.
- ▶ The user input the search text (query – in key words or phrase) and get the search engine results pages (SERPs) as the output

Search Engines

- ▶ Search engines maintain the details of the WWW, in order to produce the results faster.
- ▶ Web sites/applications maintain the details to be identified by the search engines.
- ▶ Meta data (using meta elements).

Seven Simple Changes to make Websites more visible to Search Engines

1. Optimize every page of the website with rich content.
2. Write unique title tags and meta descriptions for every page.
3. Weed out 404 errors.
4. Make the page/site content easily shareable.
5. Optimize images.
6. Make the Website load faster.
7. Include structured markup.

<https://www.entrepreneur.com/article/273801>

Search Engines

- ▶ A search engine maintains the following processes in near real time.
 - ▶ Web Crawling
 - ▶ Indexing
 - ▶ Searching

Web Crawling

- ▶ Search engines use an application called web crawler (*also called spider or bot*) to systematically crawl/browse through the content in the WWW.
- ▶ The web sites are optimized for the crawler to access, identify, and understand the content easily.
- ▶ Web site/application owners can submit their domain details to search engines to ensure the indexing.

Web Crawling

- ▶ Web crawler uses policies to have optimal results, yet not damaging the web site
 - ▶ Selection Policy
 - ▶ Re-visit Policy
 - ▶ Politeness Policy
 - ▶ Parallelization Policy

Indexing

- ▶ The details/data gathered by crawling are stored, for fast and accurate retrieval.
- ▶ The result can be seen as an index of web resources.

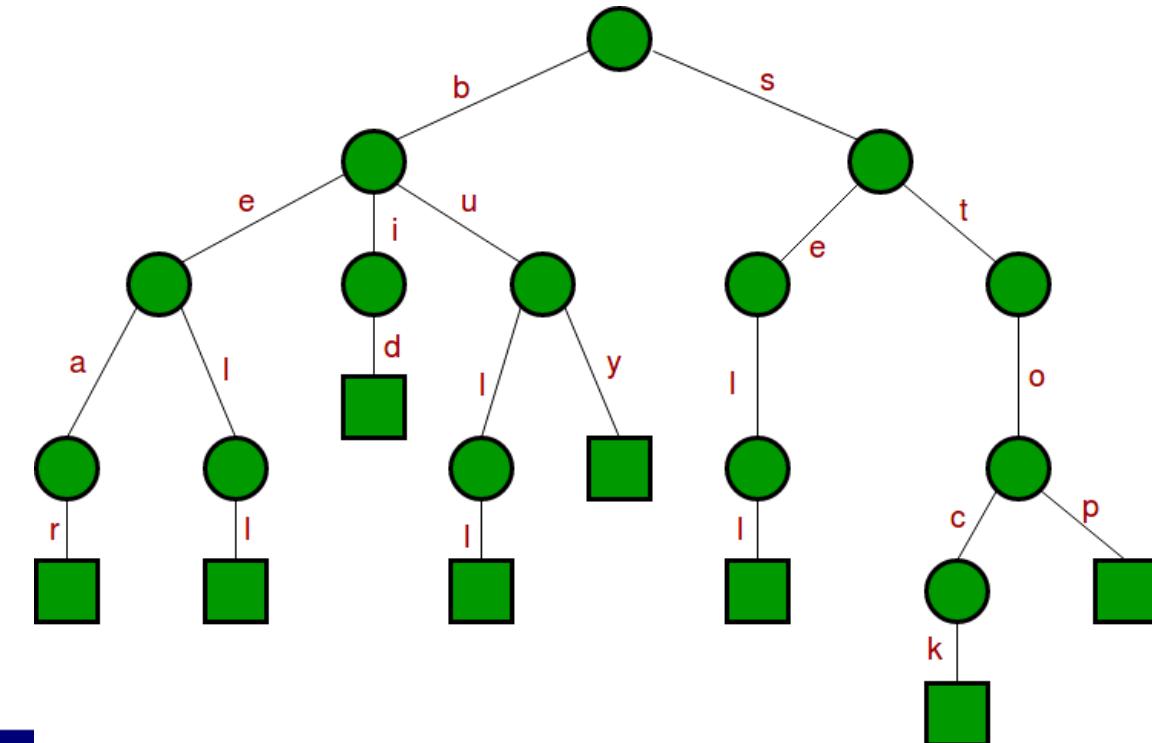
Indexing

- ▶ Special index data structures are used to improve the processing productivity.

- ▶ Suffix trees
- ▶ Inverted index
- ▶ Document-term matrix

	I	like	hate	databases
D1	1	1	0	1
D2	1	0	1	1

{bear, bell, bid, bull, buy, sell, stock, stop}



Searching

- ▶ User can specify keywords/phrases and search for content/resources.
- ▶ User's input is called a **web search query**.
- ▶ Search engines use query languages to process the query and retrieve matching content from the indexes.
- ▶ Then the matching content are shown to the user with hyperlinks to reach the original sources

Social Media

What is Media?

- ▶ Media is the plural of medium.
- ▶ Any form of communicating.
 - ▶ Newspapers
 - ▶ Magazines
 - ▶ Radio
 - ▶ Television
 - ▶ Internet (*considered as a group*)

What is Multimedia?

Multimedia means using a combination of moving and still pictures, sound, music, and words, especially in computers or entertainment.

[Cambridge dictionary]

What is Social Media?

websites and computer programs that allow people to communicate and share information on the internet using a computer or mobile phone.

[Cambridge dictionary]

What is Social Media?

- ▶ Web sites/applications that allow people to communicate and share information, ideas, career interests, and other forms of expressions on the internet using a computer or mobile phone.
- ▶ Usually the information is shared within social groups.

Uses of Social Media

- ▶ Communication.
- ▶ Collaboration.
- ▶ Opinions & Reviews.
- ▶ Brand Monitoring.
- ▶ Entertainment.
- ▶ Media Sharing.
- ▶ Paid Advertising.

Different types of Social Media



Types of Social Media

Social Networking

- ▶ Find friends with similar interest, group activities, share resources and events.



- ▶ Chat – Communication between individuals or groups, publishing announcements, resource sharing.



Types of Social Media

Blogging

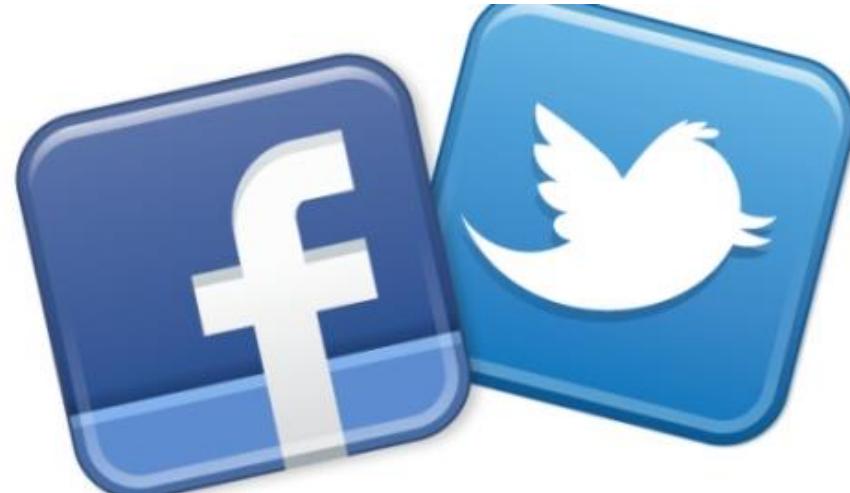
- ▶ Content writing (*articles, tutorials, technical reviews, stories, etc.*) and publishing, commenting, and reviewing.



Types of Social Media

Micro-blogging

- ▶ Status updates within groups, friends



Types of Social Media Photo Sharing

- ▶ Share/publish photos/images: personals, professional, hobbies, etc.



Types of Social Media Video Sharing

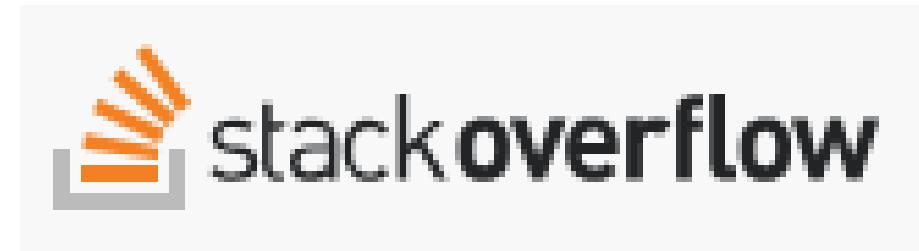
- ▶ Share/publish videos: Movies, songs, documentaries, technical, etc.



Types of Social Media Forums

- ▶ Ask questions, share experience/knowledge, learn.

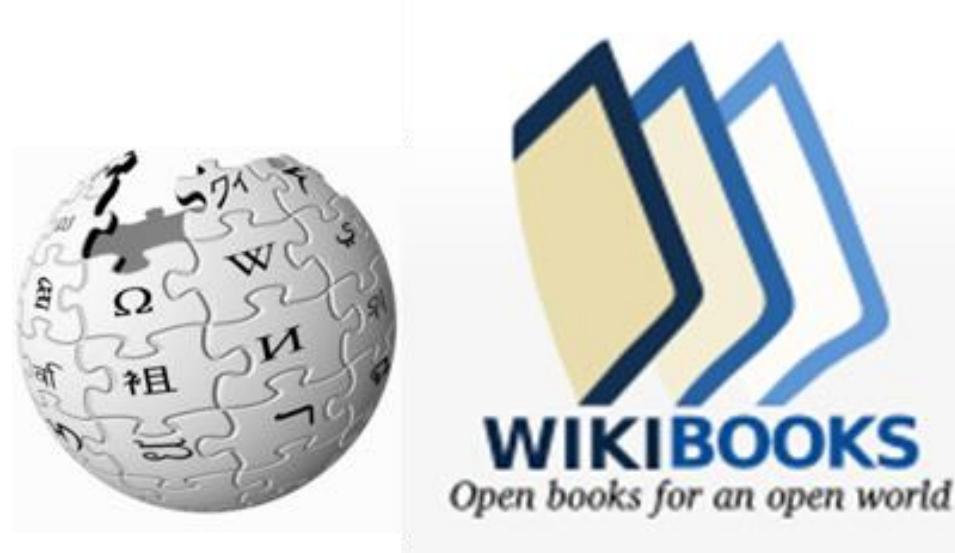
Quora



Types of Social Media

Wikis

- ▶ Content is built by the community as a group.



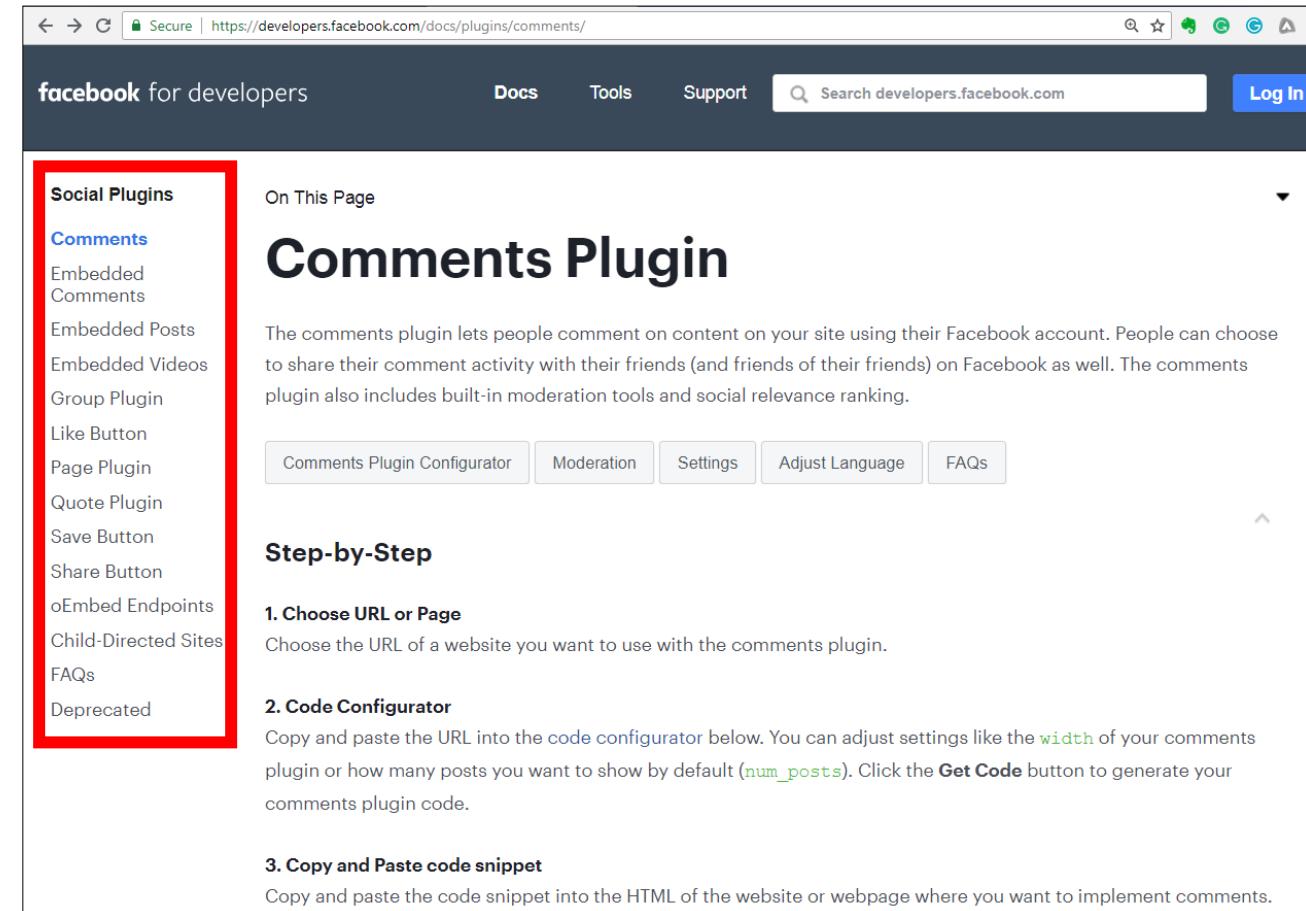
Social Media Integration

- ▶ Popular social media sites/applications provides various widgets, which can be integrated into other systems.
 - ▶ *Google logging, Facebook comments, YouTube video*
- ▶ Usually the social media site/application provides the integration details.

Social Media Integration Available Social Plugins

► Facebook comments plugin

► <https://developers.facebook.com/docs/plugins/comments/>



The screenshot shows a web browser displaying the Facebook Developers documentation for the Comments Plugin. The URL in the address bar is <https://developers.facebook.com/docs/plugins/comments/>. The page has a dark header with the Facebook logo and links for Docs, Tools, Support, and Log In. A search bar is also present. On the left, there's a sidebar titled "Social Plugins" with a red box highlighting the "Comments" section. This section lists various plugin types: Embedded Comments, Embedded Posts, Embedded Videos, Group Plugin, Like Button, Page Plugin, Quote Plugin, Save Button, Share Button, oEmbed Endpoints, Child-Directed Sites, FAQs, and Deprecated. The main content area features a large heading "Comments Plugin" and a description explaining its functionality. Below the heading are several buttons: "Comments Plugin Configurator", "Moderation", "Settings", "Adjust Language", and "FAQs". Further down, there's a "Step-by-Step" section with three numbered steps: 1. Choose URL or Page, 2. Code Configurator, and 3. Copy and Paste code snippet.

Secure | https://developers.facebook.com/docs/plugins/comments/

facebook for developers Docs Tools Support Search developers.facebook.com Log In

Social Plugins

Comments

- Embedded Comments
- Embedded Posts
- Embedded Videos
- Group Plugin
- Like Button
- Page Plugin
- Quote Plugin
- Save Button
- Share Button
- oEmbed Endpoints
- Child-Directed Sites
- FAQs
- Deprecated

On This Page

Comments Plugin

The comments plugin lets people comment on content on your site using their Facebook account. People can choose to share their comment activity with their friends (and friends of their friends) on Facebook as well. The comments plugin also includes built-in moderation tools and social relevance ranking.

Comments Plugin Configurator Moderation Settings Adjust Language FAQs

Step-by-Step

- 1. Choose URL or Page**
Choose the URL of a website you want to use with the comments plugin.
- 2. Code Configurator**
Copy and paste the URL into the code configurator below. You can adjust settings like the `width` of your comments plugin or how many posts you want to show by default (`num_posts`). Click the **Get Code** button to generate your comments plugin code.
- 3. Copy and Paste code snippet**
Copy and paste the code snippet into the HTML of the website or webpage where you want to implement comments.

Social Media Integration Google Sign-In

► Google Sign-In

► <https://developers.google.com/id/entity/sign-in/web/sign-in>

Integrating Google Sign-In into your web app ★★★★★

Google Sign-In manages the OAuth 2.0 flow and token lifecycle, simplifying your integration with Google APIs. A user always has the option to [revoke access](#) to an application at any time.

This document describes how to complete a basic Google Sign-In integration.

Before you begin

Before you can integrate Google Sign-In into your website, you must create a client ID, which you need to call the sign-in API.

To create a Google API Console project and client ID, click the following button:

[CONFIGURE A PROJECT](#)

When you configure the project, select the **Web browser** client type and specify the origin URI of your app.

After configuration is complete, take note of the client ID that was created. You will need the client ID to complete the next steps. (A client secret is also created, but you need it only for server-side operations.)

Accessing Social Media Data Using PHP

Accessing Social Media Data Using PHP

► Facebook SDK v5 for PHP

- ▶ Enable PHP developers to easily integrate Facebook login and make requests to the Graph API.
- ▶ Makes it easy to upload photos and videos and send batch requests to the Graph API among other things.
- ▶ Whether you're developing a website with Facebook login, creating a Facebook Canvas app or Page tab, the Facebook SDK for PHP does all the heavy lifting for you making it as easy as possible to deeply integrate into the Facebook platform.

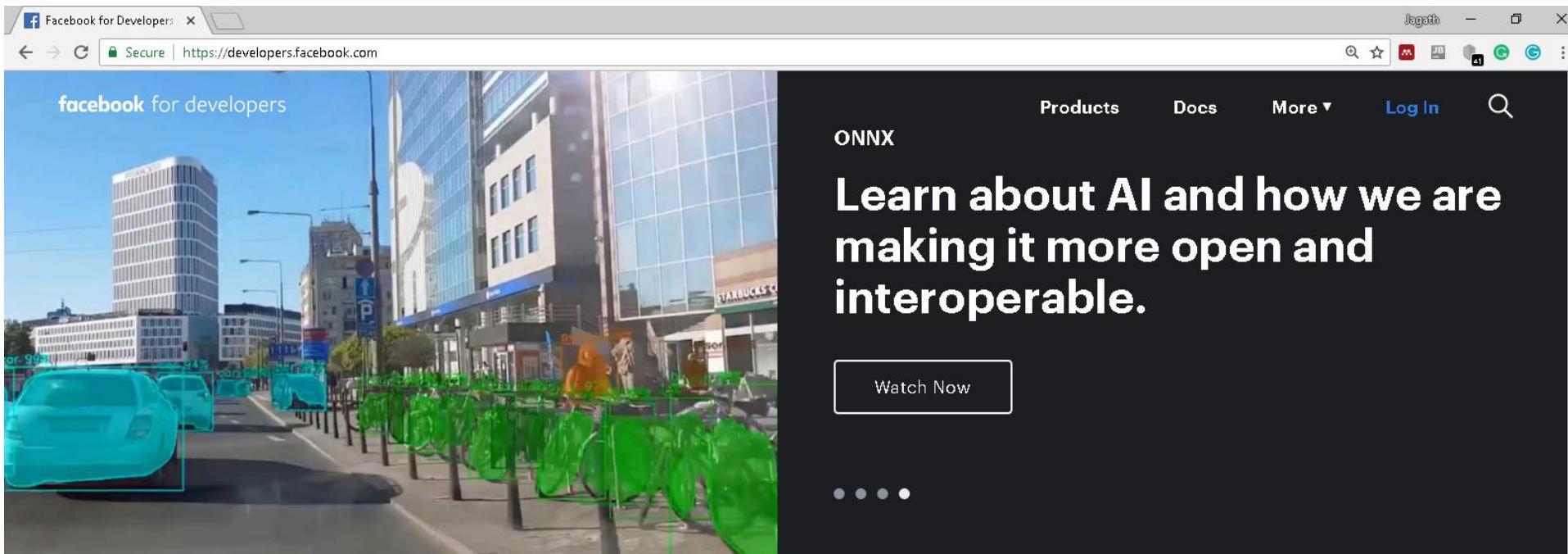
References

<https://developers.facebook.com/docs/reference/php/>

The screenshot shows a web browser displaying the Facebook SDK v5 for PHP documentation. The URL in the address bar is <https://developers.facebook.com/docs/reference/php/>. The page title is "Facebook SDK v5 for PHP". On the left, there's a sidebar with links for "Web SDKs" (JavaScript SDK, PHP SDK), "Getting Started", and "Reference". The main content area starts with a brief introduction about the PHP SDK, mentioning its integration with the Graph API and its extensibility. It then lists examples under "Examples", which include "Authentication & Signed Requests", "User profile", and "File Uploads". Each example has a corresponding list of tasks or operations. The browser interface at the bottom includes the Windows taskbar with various pinned icons like File Explorer, Google Chrome, and Microsoft Edge.

References

<https://developers.facebook.com/>



The screenshot shows the Facebook Developers homepage. At the top left is a video thumbnail titled "facebook for developers" showing a street scene with various objects highlighted by colored bounding boxes (blue for cars, green for trash bins). The top right features a navigation bar with "Products", "Docs", "More", "Log In", and a search icon. Below the navigation is a large section titled "ONNX" with the sub-headline "Learn about AI and how we are making it more open and interoperable." A "Watch Now" button is present. At the bottom of the main content area are four cards: "Winners of the Developer Circles Community Challenge" (with a "Learn More" link), "Manage App Roles and Get Notifications in Facebook Business Manager" (with a "Learn More" link), and "Regional Winners for the Developer Circles Community Challenge Announced" (with a "Learn More" link). The bottom of the page shows a Windows taskbar with icons for File Explorer, Edge, and other applications, along with a system tray showing the date and time.

References

<https://developers.google.com/>

The screenshot shows the Google Developers website with the URL https://developers.google.com/ in the address bar. The page features a navigation bar with links for Home, Product Index, Events, Developer Programs, and Blog. The main heading is "Build anything with Google". Below it is a search bar with the placeholder "Search products and documentation". A "Events" section is displayed, featuring two event cards. The first card is for the "Android Dev Summit 2018" held from November 7-8 in Mountain View, USA. It shows a group of people in an audience and includes a "LEARN MORE" button. The second card is for the "Chrome Dev Summit 2018" held from November 12-13 in San Francisco, USA. It shows a group of people seated on chairs and includes a "LEARN MORE" button. The bottom of the screen shows the Windows taskbar with various pinned icons.



Summary

- ▶ Search Engines
- ▶ Social Media
- ▶ Accessing Social Media Data using PHP