**Unit 10 Reading**

**What is an API and Why Ecommerce Sites Use Them**

[**https://www.bigcommerce.co.uk/articles/ecommerce-website-development/what-is-an-api/#ecommerce-sites-are-using-apis-to-grow-customer-bases**](https://www.bigcommerce.co.uk/articles/ecommerce-website-development/what-is-an-api/#ecommerce-sites-are-using-apis-to-grow-customer-bases)

**API = application programming interface**

“They are the basis for much of what keeps people digitally connected” – they connect different systems together into single platforms. Allow applications or Internet of Thing devices to access data and create connections to external systems**.** Can be inserted to connect digital world via HTML without needing to know a programming language.

Many applications are simply APIs with a user interface, most webpages or systems use some sort of API.

Examples from article:

**Banking.**

Transferring funds from bank-to-bank online.  
Viewing bank accounts from different institutions on one platform.  
Using a smartphone to pay at retail stores.

**Travel.**

Searching for the best hotel price on a single website.  
Using your phone for your boarding pass.  
Getting real-time status reports on delayed flights.

**Searching on Facebook.**

Able to search by name, including incomplete names.  
Searches are prioritized by physical location.  
Images with a specific person tagged are included in search.

**Finding a New Restaurant.**

Reviews from multiple sites are consolidated on one site.  
Make reservations through a third-party application.  
Find a restaurant closest to you, listed by the kind of food you’re looking for.

**Staying up to date with social media.**

Viewing tweets associated with a specific topic.  
Easily sharing a news article on Facebook.  
Embedding a YouTube video directly into a page.

E Commerce can use APIs in most parts of their web applications, from inventory management to order fulfilment, to product information, to search, to checkout.

**Reflections:**

API use is extensive and absolutely critical for the connected world we take for granted. Accessing data in it’s varied big data formats and putting it to use is one of the main functions of APIs across hugely varied sectors. Connecting different systems with different data and purposes in to one platform enhances the user experience and opportunities for organisations.

**Cooksey, B. (2014) *Real-Time Communication - An Introduction to APIs.* Zapier.**

**Chapter 7**

APIs make it each to share data between two systems. Link systems together to form an integration makes things easier for users. For example an integration allows one system to update another.

Generally two type of integrations or communications enabled by API. Client driven, a user makes a request and it tells the other system or server to update something. For example, ordering a Pizza through an app, sends a request to the restaurants server.

The other is server driven, updates back from the server to the user. For example, updates on the pizza order back to the user. These are trickier to implement and there are four main ways they can be done.

* **Polling**: Repeatedly requesting a resource at a short interval.

Client constantly asks server for updates – e.g pizza app asking for updates on the order. Main flaw is that it is very inefficient, repeatedly asking when likely no changes, does not scale well.

* **Long Polling**: Polling, but with a delayed response; improves efficiency.

Server waits for a change before responding to client. So for Pizza example, does not respond until ready. Holds the client’s request until a change but server may only be able to hold so many of those request and could be issues if connection lost

* **Webhooks**: When the client gives the server a Callback URL, so the server can post updates in real time

Client both makes requests and listens for them. Client becomes a server too. Enables two-way communication. Client provides a callback URL for the server to return updates to. Changes happening on the server are sent instantly to the client. Webhooks are efficient since there is only one request per update

* **Subscription Webhooks**: Informal name for solutions that make setting up webhooks automatic

Similar to the subscription but are more automatic, no need to enter the callback URL.

**Reflections**

Another example of how critical APIs are for the communication and updates people take for granted. The various methods of communication allow systems to exchange system changes and provide user with updates.

**Connolly, T. M. & Begg, C. E. (2015) Database Systems: A Practical Approach to Design, Implementation and Management. 6th ed. Essex: Pearson.**

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