

# INFO5992 Understanding IT innovations

## Tutorial 04 Summary

### WEB API Product Platform

Q1. List the three most used Apps by all group members. Determine whether these Apps use any API services. Are these APIs provided by the app developer or third-party API providers?

- Booking.com uses third-party APIs for maps and login, while the booking feature is provided by the app developer.
- Uber uses third-party APIs for maps, payment, and other services such as public transport timetables, while the time estimation, delivery details, and cost estimation features are provided by the app developer.
- WeChat uses its own APIs for login, payment, maps, and other features, as well as third-party APIs from Tencent Maps and Tencent AI.
- Facebook uses the Facebook Graph API as a widely used API, and integrates with third-party APIs such as payment APIs and location-based APIs.
- Instagram uses the Facebook Graph API and its own APIs, as well as third-party APIs from social media management platforms and photo editing apps.
- Google Maps provides its own APIs for directions, acquiring map data, and place reviews, while using third-party APIs for third-party integration (e.g., showing Lime bikes and providing estimated costs in DiDi and Uber).
- Twitter used to offer a free API to developers for analyzing tweets, but now offers a paid version instead.
- Spotify uses login APIs provided by Google, Apple, and other companies, as well as its own API for generating playlists.
- TikTok uses APIs for sign-in, video editing, music, and sharing videos through APIs provided by Apple, Google, Facebook, WeChat, and QQ.
- ChatGPT uses the Google database API.
- Canvas uses third-party APIs such as cloud storage and email APIs, as well as those provided by Zoom, MS Office, Echo, and Okta.
- Okta MFA provides its own API as a third-party API provider.
- Amazon uses Visa and AWS APIs as third-party API providers.
- TripView Lite uses third-party APIs from Transport NSW public API.
- Google Chrome uses various APIs provided by Chrome and third-party API libraries for Chrome extensions.

Q2. Match four examples of API services (i.e., Alpha Vantage, Strava, Australia Post, and OpenAI API) to any of the API service categories and explain why.

Alpha Vantage is an API service that falls under the category of "**API as a product**". It provides real-time and historical equity, forex, and cryptocurrency data as well as technical indicators to developers, traders, and investors. **The API is offered for free but with limitations, and a premium feature is provided and removes those limitations. The main purpose of the API is to attract users to pay for the premium service, which provides faster and unlimited requests.**

Strava is an API service that falls under the category of "**API enhancing existing products**". It provides additional features to Strava's existing platform. Third-party developers can use the API to create new apps or tools that enhance the Strava experience for its users. **By providing the API, Strava can improve the integration of its platform with other hardware manufacturers and attract more developers and users to join its platform.**

Australia Post is an API service that falls under the category of "**API promoting existing products**". **It promotes the existing services** of Australia Post by allowing third-party developers to integrate shipping and tracking tools into their websites or apps. By using the Australia Post API, developers can provide customers with more shipping options and better tracking information.

OpenAI API is an API service that falls under the categories of "API as a product" and "API enhancing existing products". It provides natural language and programming code capabilities through HTTP requests, making it a standalone product that can be used to build new products or features that involve natural language understanding, image generation, and code completion. By providing the API, OpenAI can enhance the existing products of its clients, such as chatbots or language learning apps, by improving their natural language processing capabilities.

Q3. For each of the API service examples try to determine whether the usage of API services allowed service-providing companies to adopt open innovation strategies. If your answer is yes for a company, try to determine whether it is an outside-in, inside-out, or couple process type of open innovation.

**Alpha Vantage:** Inside-out process. Alpha Vantage provides API services that allow external developers to access and use the company's financial market data to develop trading algorithms and innovate in the market. This promotes its own technology by bringing it to the market.

**Strava:** Coupled process. Strava's GraphQL API allows external developers to access the company's fitness tracking data and build applications and services that enhance the Strava experience. At the same time, Strava uses the data from the API to continuously improve its own platform.

**Australia Post:** Inside-out process. Australia Post's Partner API allows third-party vendors to integrate with Australia Post's shipping and tracking services, providing tools for shipping, tracking, postage assessment calculator, delivery method selection, and online payment gateway functions. The external organizations or individuals would be able to make innovations based on the information they retrieved through the APIs.

**OpenAI:** Coupled process. OpenAI's API allows internal developers and external partners to access the company's language processing and machine learning capabilities. This allows external developers to build new products and services based on OpenAI's technology, while OpenAI is able to gather data and improve its models based on how developers use the APIs. Additionally, OpenAI sells some of its APIs and the plus version of ChatGPT to external users, monetizing its NLP ability and bringing it to market.