

MOBILE BROWSERS AND CLOUD GAMING

Glossary of Terms

12 March 2025

© Crown copyright 2025

You may reuse this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence.

To view this licence, visit www.nationalarchives.gov.uk/doc/open-government-licence/ or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: psi@nationalarchives.gsi.gov.uk.

Website: www.gov.uk/cma

Glossary of Terms

Glossary

Term	Definition
AAA games	A loosely defined term used to denote the most popular, costly and/or graphically intense games in the gaming industry. AAA games are generally considered to be those which are typically developed by large development studios and require significant budget and time.
ACC	Android Compatibility Commitment.
Alternative App Marketplaces	App stores other than Apple's App Store, that are permitted to distribute native apps on iOS in the European Economic Area.
Android	Google's operating system for mobile devices. We sometimes refer to Android to mean the Android mobile ecosystem.
Android System WebView	A pre-installed system component from Google that allows Android apps to display web content
Android WebView	The system webview on Android, based on the Blink browser engine. This is pre-installed on Android devices and it is the default option for app developers looking to implement in-app browsing using a webview on Android.
App-Bound Domains (ABD) (Apple)	Apple's App-Bound Domains is an opt-in feature for native app developers using WKWebView that limits how much visibility the app has over user activity in an in-app browser. Apple claims ABD may protect users from 'intrusive' tracking methods'.
App developers	App providers/owners/publishers, even if strictly speaking some app providers/owners/publishers outsource the coding of their apps to third party developers.
App stores	Marketplaces for users to discover and download native apps on their mobile devices – they provide a platform that connects consumers with apps, and app developers with consumers.

Apple	Apple Inc. and its group companies including Apple (UK) Limited and Apple Europe Limited.
Apple App Store or App Store	Apple's app store through which native apps can be distributed to iOS devices.
Apple's App Review Guidelines or Apple's Guidelines	<p>Apple's rules that native apps must comply with in order to be distributed via the App Store.</p> <p>Every app or app update must be submitted for app review, where Apple reviews it for compliance with the Guidelines, before the app can be distributed via the App Store.</p>
Apple's In-App Purchase (IAP) system	Apple's IAP system is Apple's in-app system for iOS users to purchase digital content or services from app developers including, for example, one-time purchases and subscriptions. Apple charges a commission for these transactions, before passing on the developer's portion to app developers.
Application Dock or Hotseat	Specific area on the default home screen where certain applications and browsers are positioned. This area is centrally located in the row of apps at the bottom of the home screen and remains visible even when the user navigates away from the default home screen to another screen on their device.
Application programming interface (API)	A way for two or more computer programs to communicate with each other. A software interface, offering a service to other pieces of software. Often a written specification describes how to implement the connection exposed by the API. In this way, one set of software is said to <i>expose</i> its API to another.
Blink	Google's browser engine.
Browser	Applications which enable users of devices to access the world wide web, view web pages and navigate by hyperlink.
Browser engine	The underlying technology which applications (including browsers) on devices use to transform web page source code into content with which users can engage.
Browser engine provider	Entities who provide browser engines. The Three main browser engine providers are Apple, Google and Mozilla.

Browser engine steward	The entity that provides sustained support to an open-source browser engine project, and which in practice determines which changes to the open-source code of a browser engine are ultimately accepted/merged into the codebase. This entity effectively controls the open-source browser engine project. The stewards of the three main browser engines are Apple, Google and Mozilla.
Browser extension	Additional software applications that can add functionality or features to a browser and enable users to customise their browsing experience.
Browser Vendors	Entities who provide browsers.
Bundled engine IAB	An implementation of in-app browsing where an app developer builds upon its own custom (or forked) browser engine to create an IAB for the display of web content.
Choice architecture	The environment in which users make decisions. This is impacted by how choices are presented to them and influences their final decision.
Chromium	Open-source software initially developed by Google, which gives developers key components and architecture that can be used to create and customise distinct web browsers.
Cloud Gaming Services	Consumer-facing services which allow video game content to be streamed over the internet from gaming hardware in a data centre, displayed on a user's choice of supported device.
Cloud Gaming Service Providers (CGSP)	Providers of Cloud Gaming Services.
Common Vulnerabilities and Exposures (CVEs)	Publicly disclosed software security flaws usually recorded on publicly available databases with a unique identifier.
Compatibility Definition Document (CDD)	To license Google's apps and services, including its proprietary APIs, Android manufacturers must enter into the Android Compatibility Commitment (ACC) with Google. This agreement mandates that they adhere to compatibility standards specified

	in the Compatibility Definition Document (CDD), ensuring their devices remain aligned with a baseline version of Android.
Cross-app functionality	A method for apps to use functionality directly provided by other third-party apps.
Custom browser engine IAB	A bundled engine IAB (see above).
Custom Tabs	A feature for in-app browsing on Android that can call on external dedicated browsers to display webpages within a native app.
Default browser	The browser launched by the operating system when a user clicks on a web link.
Default home screen	The primary navigation screen on a mobile device that shows immediately upon device start or when the user unlocks the device.
Disabling (an app)	Turning an app off on one's device. The app's icon disappears from the home screen and the app stops running in the background and stops collecting data. It does not indicate the deletion of the app.
DMA	The European Union's Digital Markets Act, which came into force in 2022.
DMCC	The Digital Markets, Competition and Consumers Act 2024 (the DMCC Act).
EEA	The European Economic Area.
Embedded Browser Engine Entitlement	Apple's proposal under the DMA for use of a bundled engine IAB in native apps that are not dedicated browser apps.
European Mobile Application Distribution Agreement (EMADA)	Under this agreement, Original Equipment Manufacturers (OEMs) pay Google a per-device licence fee to license a collection of Google apps and services, named Google Mobile Services (GMS). OEMs cannot select individual applications from GMS but must pre-install the full suite included in GMS. However, these agreements do not preclude them OEMs from installing their own or other third-party applications.

Exploits	Security Bugs and Issues which are known to have been exploited.
Fork	Another version/copy of an open-source browser engine that has separated from the main branch of code. Typically this is done by a Browser Vendor when they want unrestricted ability to make changes to the code and therefore maintain their own customised version built on top of the open-source browser engine. More generally, any repository of code (such as browser engine code, but also beyond this) can be 'forked'.
Friction in the user journey	The number and/or complexity of the steps involved in the user journey (eg in changing the default settings).
Fuzzing	<p>Automated software testing technique employed to identify vulnerabilities.</p> <p>It consists of generating and feeding potentially problematic inputs to software components, and then verifying if those inputs are handled correctly by the software being tested.</p>
Gecko	Mozilla's browser engine.
GeckoView	GeckoView wraps Mozilla's Gecko engine in a reusable Android library and can be used by apps that wish to display web content. It serves a similar purpose to Android WebView.
GMIA	Google Mobile Incentive Agreement.
GMS	Google Mobile Services.
Google	Alphabet Inc and all the subsidiaries and businesses within the Alphabet group.
Google Play Store or Play Store	Google's app store through which apps can be distributed to Android devices.
Google Play's billing system (GPB)	Google Play's billing system ('GPB') is Google's in-app system for Google Play users to purchase digital content or services from app developers including, for example, one-time only purchases and subscriptions. Google charges a service fee for these transactions, before passing on the developer's portion to app developers.

HTML5 games	Web-based games developed using HTML5 technologies, including HTML, JavaScript, and CSS, that run directly in modern web browsers without the need for additional plugins or downloads.
IAB	An in-app browser (see definition below).
In-app Browser (IAB)	The function by which users access web pages in apps which are not a dedicated browser.
In-app browsing (IAB) choice menu	A menu which allows users to switch from in-app browsing to their default dedicated browser or other installed browsers. This feature is available across different IAB implementations on Android and iOS.
In-game transactions	Transactions that occur within a game where users can purchase additional content, functionality or features (eg in-game currencies, extra levels or upgraded tools).
'In the wild' exploit	A software vulnerability being actively exploited by a malicious actor.
Interim Report	Preliminary report for the Market Study.
iOS	<p>Apple's operating system for mobile devices. Refers both to iOS and iPadOS.</p> <p>We sometimes refer to iOS to mean the Apple mobile ecosystem.</p>
iOS Devices	Refers to all mobile devices which use iOS and iPadOS.
JavaScript	The main dynamic client-side programming language of the web that most browser engines support. Examples of markup languages that may be used in conjunction with JavaScript include HTML and CSS.
Just In Time Compiler / JIT	JIT is a way of executing computer code where compilation (ie the process of accessing the source code written by the programmer and performing a check to ensure nothing is ambiguous to the computer) is done in real time during execution (unlike compiled languages where execution is done

	ahead of time). For browsers, JIT improves their performance but may expose them to vulnerabilities.
Managed entitlement	The method by which Apple enables access to some APIs, whereby developers must request permission from Apple to use them.
Memory-safe language	Memory-safe programming languages help prevent programmers from introducing certain types of bugs related to how memory is used.
MEMS or Market Study	The CMA's Mobile Ecosystems Market Study.
Mobile Devices	Electronic devices that can be held easily in the hand and have been designed with portability in mind. Our definition of 'mobile device' includes smartphones and tablets but excludes devices with larger display formats such as personal computers (PCs), both laptop and desktop, and wearable devices such as smart watches. The term in this context also excludes devices such as gaming consoles and e-readers.
Mobile Operating System or mobile OS	The pre-installed system software powering mobile devices which may be periodically updated.
Mozilla	The Mozilla Foundation and its subsidiaries.
National Cyber Security Centre (NCSC)	The UK's authority on cyber security.
Native app	Applications written to run on a specific operating system and, as such, interact directly with elements of the operating systems in order to provide relevant features and functionality.
New Business Terms	Refers to the terms for alternate distribution in the EU which were announced by Apple on 25 January 2024.
Non-browser app	A native app that is not a dedicated browser.
Original Equipment Manufacturers or OEMs	Manufacturers (of mobile devices)

Open Web Advocacy (OWA)	A group of software engineers working for different companies who have come together to assist regulators and policy makers with understanding the industry and any issues within it.
Open-source code	Code that is designed to be publicly accessible and not proprietary. Can be taken/forked by any company to build their own version, or companies can build off the main branch.
Operating System (OS)	The pre-installed system-level software that come with devices and that enable them to run programmes and applications.
Placement	Positioning of a browser app on the device home screen (eg prominent placement).
Placement Agreements or PAs	Agreements between Google and Android OEMs as part of which Google provides per-device 'activation payments' for each device on which manufacturers pre-install the Google Search or Google Search and Chrome apps and satisfy certain placement obligations for either Google Search or both.
Pointer Authentication Code (PAC)	iOS security feature designed to help software resist memory disclosure attacks, which makes exploitation more difficult.
Pre-installed app	An application that is installed on a device at the point of purchase.
Private APIs	APIs that have not been documented or knowingly made available to third parties.
Progressive Web App (PWA)	Particular versions of web apps which aim to create an experience even more similar to a native app compared to a normal web app.
Prompts and push notifications to switch or change default browser	Screens encountered by users (for example, on launching a Browser app) that request the user to perform an action (eg to change the default browser setting).
Public APIs	APIs publicly available to third-party developers. For Apple this includes those APIs made available through entitlements.

Public entitlement	A method of accessing some Apple APIs, whereby developers must actively declare that they are using the entitlement in their code.
Remote tab in-app browser	A remote tab implementation of in-app browsing (ie a 'remote tab IAB') is where an app calls upon a dedicated external browser to display web content within the original app, without redirecting the user to the dedicated browser app.
RET2	RET2 Systems Inc. is a computer security consulting firm that was commissioned by the CMA in 2022 to give expert technological advice to as part of the Mobile Ecosystems Market Study.
Revenue Sharing Agreements or RSA	Agreements between Google and Android device manufacturers as part of which Google shares a proportion of net advertising revenue from specific search access points on manufacturers' devices in return for meeting a number of placement and promotion requirements relating to Google's apps.
Safari	The web browser developed by Apple, which is the default browser on iOS devices.
Sandbox	A testing environment that isolates untested code changes from the production environment exposed to users. In the context of browsers, a sandbox serves as security feature which keeps applications in different processes. This means that a malicious website would need to exploit the browser and escape the sandbox to access data from other applications.
Search app	Refers to mobile applications whose primary purpose is to provide a search engine for gathering and reporting information available online.
Search Service	Refers to mobile applications whose primary purpose is to provide a search engine for gathering and reporting information available online.
Security Bugs and Issues	Software vulnerabilities within a browser engine which could be exploited.

Self-preferencing	Term used to refer to a company favouring itself compared to competitors (eg in granting access to certain important inputs).
SFSafariViewController	An integrated in-app browser on iOS. SFSafariViewController is used by app developers to enable users to view websites without leaving the native app.
Software Development Kit (SDK)	A collection of software development tools in one installable package.
System webview	The webview that is pre-installed on a mobile operating system.
Thin client	A device or software that relies on a central server, for most of its processing power and storage, rather than the local device's hardware. A thin client acts as an interface that allows a user to interact with data and applications running on a central server
Traditional gaming	A type of gaming where games are downloaded and run on the local user device, such as mobile devices, PCs and consoles. The games that can be played in this way depend on the processing power and storage capacity of the device.
UK	United Kingdom.
Uninstalling an app	Removing or deleting an app from a device.
URL bar	A user interface element in web browsers that displays the Unique Resource Locator (URL) of a website. It allows users to navigate to different web pages by entering a different URL.
User Interface (UI)	The point of user-to-browser interaction in a mobile device. The UI is responsible for user-facing functionality such as synchronisation, remembering passwords and payment details, as well as the general appearance of features such as tabs and menus. The UI sits on top of the browser engine.

Web app	Applications built based on open standards and accessible through a browser on the open web. Different from native apps, web apps are designed to be agnostic to the operating system in use.
Web Browser Engine Entitlement (WBEE)	Apple's proposal under the DMA for use of alternative browser engines in the EU.
Web Compatibility	The extent to which consumers can visit any webpage/use any web application from any operating system and any browser.
Web content	Text, visual or audio components of a webpage or website.
Web developer	A person or group who develops content that will be displayed on the World Wide Web.
WebAPK	A technology that enables web apps to be installed on Android devices as native applications. The process enabling installation is called 'WebAPK minting'.
WebKit	Apple's browser engine.
WebKit restriction	Apple's restriction on alternative Browser Engine's on iOS.
Webpage	A document for the World Wide Web that is identified by a unique Uniform Resource Locator (URL).
WebShare API	A way to share web content under the capabilities of the device operating system. This can enable web developers and app developers to integrate share functionality within their websites or apps.
WebView	A 'packaged' browser engine whereby developers who build on top of the webview to display web content cannot access the core rendering engine. The developer only has access to certain APIs that sit on top of this engine.
WebView IAB	An embedded in-app browser that displays web content within a native app.
WKWebView	The system webview on iOS, based on the WebKit browser engine. This is pre-installed on iOS devices and it is the option

	for app developers looking to implement in-app browsing using a webview on Android.
--	---