

The Developer Community's Thoughts on App Stores and the App Ecosystem

On behalf of our membership of more than 70,000 software developers, app publishers, and stakeholders in the mobile ecosystem, the Developers Alliance is pleased to submit comments to the Australian Competition & Consumer Commission on app developers' experience with apps. The Developers Alliance appreciates the Commission's examination of potential competition and consumer issues related to mobile app shops and marketplaces and urges the Commission to continue to recognize the vital role of software developers in ensuring the creation of effective policy in this area. In the wake of similar inquiries in other jurisdictions, we'd like to specifically highlight our appreciation of the balance and neutrality of the questions presented.

Background

The Developers Alliance (the "Alliance"), founded in January 2012, is an industry association operating in both the United States and European Union that supports software developers as entrepreneurs, innovators, and creators. The Alliance supports developers and the app ecosystem by (i) promoting innovation and growth through collaboration, networking and education; (ii) delivering resources and support that enable developers to advance in their areas of expertise; and (iii) advocating for policies that promote developers' interests, including in the areas of data privacy and security, intellectual property, competition, and innovation.

Our developer members believe that digital innovation represents a key solution for future economic and societal growth. The Alliance recognizes the consumer benefit of having a dynamic and competitive global marketplace for mobile apps and services, and welcomes efforts by the Commission to promote the health of the mobile ecosystem. In support of our developer members, we have made frequent submissions before the European Commission, the U.S. Federal Trade Commission, and before both the U.S. Supreme Court and the European Court of Justice, where we are currently active on the Commission's case regarding Android.¹

While the questions presented originate in Australia, they address a marketplace that extends far beyond any single jurisdiction. The success of developers in the EU, the U.S., and in Australia depends on a global market where innovation and hard work can freely compete for the attention of billions of consumers. No single market can afford to close its doors to the vast opportunity that a global internet offers. The developer community has shared the same counsel in every country with an ambition to shape the digital future; above all, do no harm. The digital economy is thriving. It is highly competitive, supporting millions of good-paying jobs and providing a vital link for global social and economic influence. Developers in Australia are promoting their culture, values, and visibility with every line of code that lands on a foreign screen or desktop. Our members' highest priority is to maintain the complex ecosystem that enables their success.

In general, there are only a limited number of app developers that have had public disputes with their marketplace partners - though in some cases the issues have been significant. The vast majority of developers, on the other hand, trust in the ecosystem itself to address the inevitable friction that can develop. That is not to say that there isn't room for great improvement. Our developer members still feel that the costs of participation are high and that their marketplace partners should be more responsive to their concerns. Our community is clear that they do NOT desire regulatory intervention, however; there is a strong preference for working inside the ecosystem alongside partners. We would advocate for an ecosystem-driven code of conduct, complete with mechanisms to resolve disputes, improve overall transparency, and amplify concerns that might otherwise go unheeded.

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¹ Case T-604/18 - Google and Alphabet v Commission

Our community also wishes to highlight the sea-change that has taken place in how consumer data is used and the degree of user control that is now in place. For most of our developer members, user data is used purely to enable their app's features, and even then is greatly minimized. Our members place a tremendous emphasis on user trust, strong privacy practices, and a healthy respect for what data they do need. To the extent that they continue to monetize through advertising, they largely delegate the process to ad-tech partners, while they focus on building apps that users enjoy and value.



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Issue 1 - Choice Of App Marketplaces

The two largest app stores together serve upwards of 5M apps, having grown from around 3,000 in 2008. This growth has been driven by the tremendous user base that the major app stores serve and the basic business case for an app developer, which becomes more profitable as app popularity increases. When deciding which OS or app store to develop for, a developer weighs the cost of development, marketing, and support, against the potential market size. Incremental investment to port an app to a second or third marketplace is always evaluated as an investment and a return; a larger market for an incremental cost. The result is that, on average, developers build apps for between 2.2 and 2.6 OSs (mostly for iOS and Android) as acknowledged by the European Commission's analysis of the Android market.

Many developers decide in advance which markets they will support. While user characteristics on the various marketplaces vary, for many developers it is standard practice to staff and develop for both iOS and Android rather than ignore the incremental opportunity of the incremental user base. Australian developers follow global trends in this regard, with close to half of their apps available on both iOS and Android.² Those that choose to develop for a single marketplace often cite specific device capabilities, limited staff skills, or existing relationships with ecosystem partners as the deciding factor.

Beyond a route to market, app stores provide significant resources that help developers to build a successful business. These include marketing resources, development tools, networks of experts and fellow coders, code repositories, and a brand and the quality assurance that a solo developer lacks. While a successful app or developer can move from an existing app store to one of their own, for most startups the major app stores are the best path to discovery and commercial success. That said, for closed ecosystems like iOS, the app store can be the only alternative for placing an app on the market, since sideloading is a technical feat only the most sophisticated user would even contemplate.

We often use the term "ecosystem" when describing the digital economy, and this is purposeful and significant. Just as an app developer relies on an app store and mobile OS to reach users, mobile marketplaces rely on a stable of desirable apps to make their products attractive to consumers. Those mobile marketplaces that failed to build a critical mass of app developer support inevitably failed. Hence the marketplaces invest significant energy and resources in supporting and courting developers to build for their marketplaces. What's important to understand is that developer skills are broadly (though not exactly) portable across marketplaces, and any "stickiness" is tied to the user base they can bring and the quality of the support they offer to the developers that create apps for their marketplace specifically.

Google and Apple, from a developer viewpoint, offer competing approaches to the mobile app market. Where Apple provides proprietary hardware and mobile software, Google's hardware focus is limited while its services base is very broad. The two compete across many software and service categories, presenting developers with alternatives that in turn encourage them to invest their efforts in one over the other. This dynamic tends to encourage improvement and innovation in both marketplaces as they compete for the best apps. That competition, in turn, brings more users, which attract more developers, and so on.

Issue 2 - Developing Apps For Particular Marketplaces

As the Commission notes, each marketplace seeks to satisfy the range of services and tools that a successful developer would need to build a profitable product. While in the past an app

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² <https://42matters.com/australia-app-market-statistics>

developer might need to integrate several third-party services into their app to monetize or enable their application, the competing marketplaces increasingly provide “turn-key” solutions for the major service integrations developers use most, or that users most value. Most significantly, each marketplace invests to build a complete ecosystem, including all the component parts, such that developers and apps do not need multiple partnerships to get their innovations into a user’s hands.

Part of this ecosystem oversight role includes efforts to ensure the quality, diversity, and appropriateness of the various software products offered to consumers. Marketplace owners may require developers to use particular tools, APIs and services to participate in their ecosystem in support of these quality goals. Alternatively, marketplaces may provide greater support and integration for some developer services and tools over others. The outcome is that while there is significant choice and flexibility in some areas, there are significant developer constraints in others.

As noted above, developers view the Apple marketplace and the Google marketplace differently. Where Google is more flexible, open, and supportive of partners, Apple is more restrictive and more focused on controlling important aspects of the user experience. From a developer standpoint, the experience of developing for each of the many marketplaces, including these two, is quite varied and hence there are a wide range of opinions on what is good or bad on each. This is typical of competitive players in a competitive market.

Issue 3 - In-App Purchases

The ability for developers to monetize their apps has changed considerably over time. When mobile apps first emerged, it quickly became apparent that users were reluctant to pay for something they had never tried. Reviews, marketing, and give-aways were a costly approach to getting a user community, so the emergence of advertising as a monetization model was broadly embraced since it eliminated the up-front investment of opening a market. Over time, however, privacy and security concerns have begun to erode the ad-supported business model and increasingly developers are using in-app purchases, subscriptions, “freemium” and outright purchases as alternatives.

The developer challenge of in-app purchases is the need to implement and support the financial transactions involved - something which is inefficient to duplicate across every app and every jurisdiction. Using third-party services, and eventually services through the marketplaces themselves, became the norm and is now broadly adopted, with various marketplaces offering more or less flexibility in this area. The cost for developers is the “tax” that the transaction host collects, a cost that alternatively would be paid to third parties or eaten by investment in an in-house transaction solution. The benefit to consumers of a marketplace-driven transaction is its simplicity, reduced risk, and familiarity.

It’s important to note that policies around in-app purchases, off-app purchases, direct user engagement and other transactional policies vary from one marketplace to another. Again, this reflects the competitive nature of these ecosystems, with developers weighing the opportunities and obligations as any investor would while making a business decision. The fact that there are vibrant developer communities focused on one, the other, on both at once, or on any of the other marketplace options underscores that there is more flexibility here than is generally understood.

The developer community, like any other community, pays their taxes grudgingly but with a recognition that they benefit from the services the taxes support. Many Australians may resent the taxes that the government imposes, but they know they benefit from the education, infrastructure, community services and social organization the government provides. Likewise, developers recognize that there is a cost in the marketplace’s support of the training, tools, marketing resources, and community development that they benefit from.

Where developers feel challenged is in rationalizing how much tax they should reasonably pay. Competitive forces keep the various fees across marketplaces in relative balance (assuming comparable, though different, services), but they tell us little about the absolute levels that the ecosystem has settled on. Like taxes in the real world, developers wonder



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whether they could pay less but get more. The consensus in the community might be paraphrased as “charges aren’t obviously unreasonable”, though there are some participants that would prefer the freedom to skip the marketplaces and go it alone. The tragedy of the commons teaches us that if everyone maximizes their own interest, there will be nothing left to support the ecosystem that benefited all. The result is a grudging acceptance of the cost/value balance of the role the marketplaces play.

Issue 4 - Reviewing Of Apps

Both Google and Apple have implemented policies, procedures, tools and support organizations to help developers publish and market their apps. The experience and processes they use are similar but have marked differences that developers have broadly internalized and accommodated. The result is that some individual developer in a multi-marketplace development shop is often the “go-to” for getting the app into a specific app store. Two stores means two experts with the knowledge and connections to navigate the peculiarities of the two marketplaces.

Given the vast number of developers in the app ecosystem and the thousands of apps being reviewed daily, marketplace owners often use some automation to assist in the app submission process. For developers, this presents both advantages and disadvantages; approvals can be made quickly and using standardized inputs, but sometimes the clarity of automated feedback is lacking. Developers generally appreciate the policy and quality considerations that guide these decisions however, and they rely on marketplace owners to represent collective interests which are acknowledged to be complex and nuanced.

Both Apple and Google maintain organizations that support developers in developing and loading apps, answering their questions on app store policy, and supporting them once their app is accepted and on the market. While all sides work hard to ensure rules and procedures are clear and straightforward, the dynamism and innovation that defines the digital economy means that things are in constant flux (not least through regulatory churn). The result is sometimes confusion, frustration, and a very few public blow-ups over the process and outcomes, but this should not be interpreted as a lack of diligence or effort.

If there is a single, unified message from our developer members to the app marketplaces it is this: there is general frustration with the app approval experience despite all the effort in this area. It is often opaque, rejection rationale can be vague and feel arbitrary (especially for initial automated assessments), with little accommodation for situations where the impact on developers can be business-threatening. This is compounded by the anecdotal existence of informal mechanisms whereby developers who are “connected”, or have popular apps, stables of apps, or longevity in the app marketplace seem to have an easier time in getting questions answered or issues resolved to their satisfaction. Further, mechanisms for reconsideration can be a challenge such that some developers simply resubmit without changes and hope for a better outcome. Mechanisms for appeal seem to track the original process and provide one-time relief - seldom resulting in visible process changes or improvements.

While many developers are dissatisfied with the app approval process, however, they are not in favor of regulatory intervention. Rather, they would prefer self-regulation or codes of conduct whereby ecosystem stakeholders could work collaboratively to improve existing systems for everyone’s benefit. Each marketplace already has existing means to collect and internalize developer feedback in keeping with their focus on these valuable partners, but there is still a broad sense that developers are treated less like “customers” and more like suppliers. Further, with no-one else in a position to arbitrate where the system breaks down, developers don’t feel empowered to drive improvements and make themselves heard. We thus advocate for increased transparency, greater stakeholder collaboration, and a concerted, industry-led effort to build a more robust partnership framework.

Issue 5 - Ranking Of Apps

Our members include developers, startups, and companies at various stages of the app lifecycle. For those that are just launching an app, there is universal recognition that marketing is a fundamental measure of future app success. Especially early in an app’s life, consumer uptake is the predicate that increases visibility and lifts an app’s place in the ranking across



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both the marketplaces and multiple third party services. In short, getting consumers to download your app is key. It is only at this point that an app's performance and features can even start to be influential.

To measure the success of an app by its store ranking is in part circular; an app is ranked high *because* it is successful. Ranking is a mechanism to extend success once initial uptake reaches some tipping point. Ongoing marketing, both on and off-platform, remains critical for ongoing success and visibility. It is the first wave of experimental adopters, a few good reviews, and some marketing spend that determines whether an app will ever be successful long-term.

The developer community is in a constant quest to understand what drives app uptake. Our members generally feel that the ranking process used by marketplaces is fair and neutral, but there remains uncertainty as to exactly which factors are being considered in scoring. Greater transparency would be welcome, but developers acknowledge that too much disclosure would inevitably result in gaming the system. In any event, there is general consensus that the number of unique downloads is a significant factor, and that marketing investment is the best lever for business success.

Issue 6 - Collection And Use Of Consumer Data

There is a general trend away from the direct collection of consumer data by app developers. This is driven by both an increased focus on consumer trust and the importance of consumer privacy, and by the risks and complexity of managing consumer data safely and securely. A growing number of new apps thus rely on marketplace owners to manage the advertising mechanics while they instead focus on a compelling user experience and embedding advertising opportunities for marketplace and ad-tech partners to capitalize on.

While there are certainly exceptions, what data the majority of app developers collect is primarily used to enable or improve app performance, rather than for improving ad targeting. For the most part, users that prefer to limit data access see limits in-app functionality versus lower app charges. Developers have long recognized that user trust is fundamental to their success and have invested time and resources into improving their privacy practices over time. Since most developers are also prolific app users they understand first hand the impact of intrusive data policies. Beyond this, developers that abuse user trust by mischaracterizing their data practices clearly violate the privacy laws that are now widespread across most major internet jurisdictions.

Beyond self-regulation within the developer community, the marketplaces themselves have placed greater and greater restrictions on the data that apps can access and share through their APIs and services. Likewise, improvements in device security and improvements in OS implementations now mean that data "leakage" from and between apps and marketplaces has become quite restricted over time. What data is shared by the marketplaces is generally focused on providing developers with a sense of context in how consumers use their app in relation to the many others on their phone or in the app stores.

App Developer Summary

While headlines might make it appear that marketplaces and app developers are at war with one another, for the vast majority of developers the ecosystem they inhabit works quite well. Developers generally are collaborative problem-solvers, and often provide blunt group-feedback about their likes and dislikes to their partners. The marketplaces themselves are widely receptive to this, and they continue to improve their products and services in response to developer input.

That is not to say that marketplaces don't need to improve. While developers see themselves as "customers", there is still a tendency for marketplaces to view them as partners or suppliers. While developers have no desire for regulatory intervention - and many would actively oppose it - there is a growing desire for a greater voice in how marketplaces treat them, and in the app submission and review process, in particular, to be upgraded. The Alliance believes that an ecosystem code of conduct that promotes transparency, created in collaboration with industry stakeholders, would go a long way toward improving the situation for everyone involved.



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On data and advertising practices, developers are participants in an evolution towards trust-enhancing policies and procedures, significant limits on data collection, and a growing focus on practices designed to provide users control over what limited data apps still need to function. The overwhelming majority of app developers focus significant attention on data minimization as a governing principle.



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Section II - App Marketplaces Generally

Background

As key participants in the digital economy, developers have a unique opportunity to observe the interaction and performance of the various players, even though they may not directly interact with all of them. The Developers Alliance, through our broad range of ecosystem members, also has a unique perspective on the relationships of the various market participants. We offer these additional observations in support of that border inquiry.

Market Structure

Over time there have been several app marketplaces focused on mobile, desktop, console and now on the digital assistant marketplace. As these marketplaces have evolved, we have seen a range of strategies and specialization aligned with hardware or app categories, or with interface options. In all, we would categorize this market as tremendously dynamic over time and would caution any assessment that treats the current snapshot as somehow permanent or stable. Each successive wave of marketplaces has been tightly coupled with advances in technology and user preference. Walled gardens aligned to legacy telco infrastructure have given way to more open ecosystems where smartphone hardware played a larger role. The emergence of in-car information systems is now seeing extreme competition from traditional automotive accessory makers, entrants looking to leverage a new category, and of course, Google and Apple seeking to move laterally into a new consumer market.

Beyond these lateral plays, the evolution to voice interfaces, AR/VR and other advanced interfaces has opened the door to new markets and new participants, such as Facebook, Amazon, Microsoft and others. Barriers to entry can thus be said to rise and fall alongside innovations in user interface, app category, and the essential instability of a market predicated on a rapidly advancing technological base. In fact, one can certainly argue that both Apple and Google are demonstrating behaviors in keeping with a "maturing" market, while well-financed and capable brands are grabbing real estate in the markets of the future.

Marketplace Substitutability

Google and Apple take different approaches to the app marketplace in keeping with their differentiated approach to the consumer market. While Apple maintains control over many aspects of the apps it promotes within its closed ecosystem, Google offers more flexibility to developers in how and what they build. This is of course in keeping with a healthy and competitive market as seen by the fact that neither approach has dominated either the consumer or developer user base. While the inquiry seems to focus on whether it is technically feasible for a developer to bypass the largest app stores, a better question is why is there so little interest in doing so?

As mentioned above, app stores provide far more than a repository and conduit between developers and consumers. They provide tools, resources, marketing, and a strong brand that vastly reduces a startup developer's barriers to consumer market entry. In fact, without app stores, it is unlikely that any particular app would ever survive long enough to be discovered and reach scale. Comparing the market entry experience on Android versus widgets on Alexa (admittedly an imperfect comparison) highlights just how deep or slim the various developer alternatives can be. Developers would not have it any other way.

From the consumer standpoint, the dividing line between device, OS, and app is often fuzzy. While marketplaces often compete for consumers by trying to build exclusive app franchises (console games are a great example), the ability for developers to port their apps between systems often makes this differentiator short-lived. Consumers, in turn, assess marketplaces at

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every device upgrade cycle, taking into account promised innovation, past experiences, and where apps have been purchased, their investment in the current ecosystem.



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Marketplace Conduct - Related Services

Like any maturing market, the past few years have seen the emergence of more and more specialized app support tools and services, followed by the integration of these into suites, and ultimately the integration of some into the basic toolsets of the marketplaces themselves. While the pace can seem rapid, this is typical of the lifecycle of any complex supply chain. Given their inherent competition for both developers and consumers, marketplaces must constantly improve their capabilities to attract and retain partners. What is key to note is that developers have no particular allegiance to any particular platform or ecosystem: they are driven by business decisions as to how much to invest, what resources to insource or outsource, and what consumer markets to target. For a marketplace, this means delicately balancing incentives to avoid “tipping” the developer ecosystem toward a competitor. Several failed marketplaces can attest to how swiftly developers can abandon ship when they feel they are better served elsewhere.

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Beyond the specific bundles and services that a marketplace can provide, developers are keenly aware of how their peers at the companies that support ecosystem services are treated. Developers are a loosely knit but well-networked community. As such, a platform treats its partners poorly at its own peril.

Marketplace Conduct - Self Preferencing

Much has been made of the relationship between independently-created and in-house apps. In general, developers are pragmatic and recognise that there are certain categories of apps that are fundamentally advantaged by being tightly coupled to the OS and hardware. Hence one “perk” of building your own OS is that there will be a few key apps where you can outcompete even the best third party. On the other hand, technology moves on, and if a marketplace loses focus or shifts strategies they will quickly find competitors emerging in those segments where they enjoyed an advantage.

Likewise, developers understand that consumers are loath to buy devices that come without apps or functionality; consumers expect basic features to work right-out-of-the-box. The process for choosing these “default” apps then has to be resolved somehow, and in general, developers understand that reserving this small advantage to the platform owners is commensurate with their role in the marketplace and ownership of the initial brand and quality facing the consumer. Developers are willing to wait and compete aggressively to supplant the incumbent once the user starts downloading additional apps. This is simply the privilege associated with a platform’s role in the ecosystem, and while it would be nice to be King, building a better app will eventually lead the market your way.

Outside of OS/hardware synergy, there are examples of marketplace owners strategically targeting app segments in which there is no obvious technical reason for advantage (Apple in music is one common example). In these situations, transparency is an appropriate obligation to demonstrate fair-dealing and honest competitive behavior.

Data

As mentioned above, developers are less and less inclined to collect and store user data. Typically, they restrict their data access requirements to what is needed to provide and perfect the service offer. Developers rely on the marketplace to provide them with meta-data on the overall marketplace and their place in it, their apps’ performance, broad user characteristics or insights, and to aid their participation in the advertising market should they choose that approach. Beyond this, marketplaces facilitate user reviews and help developers understand user behavior outside of their app that might provide insight for future innovation.

Developer And Marketplace Relationships

Marketing is the key to launching any successful product, and apps are no exception. Developers broadly understand that marketing is also the key to the ranking process, user trial, and sustainable uptake - second only to app performance. While app store searches are

an important tool for discovery and download, there are many, many marketing investments outside of the app stores that can encourage user uptake. Sophisticated developers take advantage of all these channels to create demand.

App Provider Satisfaction

It must be emphasized that in general, our members are satisfied with the current state of the app market. This does not mean that they don't see an opportunity for improvement. Today's app marketplaces are large companies, and as such, they can be bureaucratic and it can be challenging for a small developer to be heard. While marketplaces have built systems to assist and enable the developer community to engage with their platforms, the community would generally say that more could be done. That does not mean that the broad developer community would welcome regulatory intervention by an "outsider"; developers have learned this almost always does more harm than good.

Trends In Apps And Marketplaces

We have commented extensively elsewhere on the impact of a balkanized internet. The emerging trend toward extraterritorial regulation has already resulted in barriers to the transport of data between the U.S. and the EU. The inevitable consequence of this will be a fractured internet and increasing digital nationalism. Under this scenario, Australian developers will face a shrinking market offshore but reduced competition at home. It is our opinion that this is now a matter of when, and not if. Developers everywhere should prepare for this next evolution of the internet experiment.

For apps generally, we anticipate that contextual advertising will eventually eclipse targeted ads as a default monetization model. This means that apps themselves will need to drive segmented appeal and manage the presentation of timely marketing interventions.



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