Google Developers

Startup Launch Playbook

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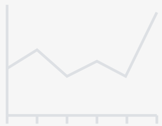
: function (x, t, b, c, d) {
        return (t==0) ? b : c * Math.pow(2, 10 * (t/d - 1)) + b;
},
easeOutExpo: function (x, t, b, c, d) {
        return (t==d) ? b+c : c * (-Math.pow(2, -10 * t/d) + 1) + b;
},
easeInOutExpo: function (x, t, b, c, d) {
        if (t==0) return b;
        if (t==d) return b+c;
        if ((t/=d/2) < 1) return c/2 * Math.pow(2, 10 * (t - 1)) + b;
        return c/2 * (-Math.pow(2, -10 * --t) + 2) + b;
},
```



Welcome

So you have a new idea for a startup, but don't have a course charted out to the finish line? Well, we're here to help you get there, with the Startup Launch Playbook. Consider this your back-pocket reference to designing, developing, distributing, and monetizing your startup with all the best practices.

Contents

01 Design

Before you write any code, you must carefully consider each aspect of your app design.

Ideation

Before you code, you must plan.

Ideation is the process of creating new ideas. No one claims to have the perfect method of ideation, but here are a few attributes Google looks for when evaluating new ideas:

- **Shoot for 10X, not 10%**: Choose goals that make an impact by an order of magnitude: a 10X goal instead of a 10% goal.
- **Solve big problems that matter:** Tackle big problems that challenge you and have the potential to change people’s lives.
- **Bring passion:** Make sure you are passionate and committed to the problem you are trying to solve.
- **Focus on the users:** When thinking about the product and solution, focus on the users and what your key value is to them.

B. Validation

Validating your idea is important, whether you do it with user research, market analysis, or simply talking to your intended users.

When you have an idea, your instinct might be to rush to develop a product, release it to the world, then see what happens. However, the most important thing you should do is slow down and make sure you don't perfectly execute the wrong plan and develop a product nobody wants.

So before you begin, observe or track human behavior to validate three things:

- **The Problem**: Is there a problem people really care about? Interview, observe, or survey people. Ask them about past behavior, not future needs. For more about identifying the problem, watch the Google I/O talk, *Perfectly Executing The Wrong Plan.*

- **The Market**: Are there enough people in the world that have (and care about) the problem you identified? Learn as much as you can from existing research using *these 7 tips.*

- **The Product**: Does your product solve the problem for the market? Ask people to complete tasks with your prototype while thinking out loud. Then step back and watch what happens. Read more about *Lean User Research*

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Exploration

After you've validated your idea, carefully explore the app design. More specifically, consider the screens and interactions that constitute your app's user experience, rather than jumping straight to the visual design. Be aware that the mode of interaction and hierarchy of screens in your app greatly depends upon the device and platform for which you're developing.

To ensure that your design is robust and integrates well, read the design guidelines for the platforms you're working with. For example, Android, Android Wear, Glass, Cast and Android TV all have separate guidelines.

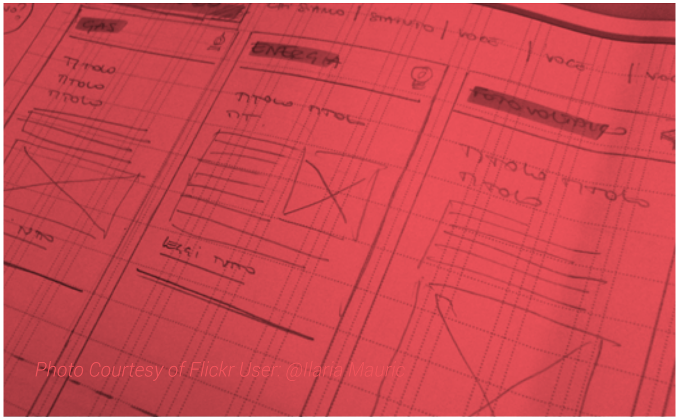
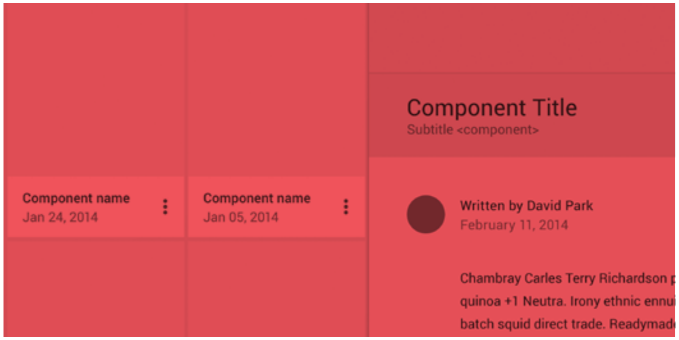


Photo Courtesy of Flickr User: @Ilaria Mauric



You should also consider using the Material Design patterns, which apply to both mobile and flexible web user experiences. These design patterns are especially useful if you'd like to create a consistent cross-platform experience, or if you're targeting Android L and later. When building a web app, you can also apply Material Design with Polymer. Regardless of the platform you're targeting, the principles of Material Design can help inform your design decisions with patterns your users might find familiar.

Once you arrive at a set of core design principles for your app, designing the user experience should start with rough sketches and wireframes on paper so you can visualize the user experience and explore several ideas for the user workflow. Also consider conducting a design sprint to rapidly iterate on alternative designs.

When you're happy with the overall flow and storyboard, move on to the visual design phase. This is another area where guidelines can help. For example, the Material Design spec site hosts downloadable layout templates, sticker sheets and color palettes to help you draw your ideas.

02 Develop

Now the fun part.

Mobile

Targeting smartphones and tablets should be your first priority.

To build apps on Android, start with developer.android.com. You'll find links to the SDK tools and developer guides that help you design, develop, distribute, and monetize your apps. We recommend that you get started by downloading Android Studio (it includes all the necessary SDK tools), but you can also use your favorite IDE instead.

Additionally, our Android Fundamentals Udacity course is a great place to start learning best practices for Android development. We also offer a suite of basic to advanced training on topics like background processing, multimedia, performance, and security at developer.android.com/training.

Wearables

Wearable devices are a new form factor that provide glanceable, actionable information at just the right time.

Providing a wearable app can enhance your existing Android app experience or provide a totally new experience. If you have an Android app that uses notifications, your app already works on Android Wear (and soon Glass, as well) because your app's notifications and attached actions are delivered to the user's wearable by default. You can also go further by customizing your notifications for wearables, or build an app for the wearable that can access sensors and provide a more customized user experience.

The place to start for Android Wear is developer.android.com/wear. Because Android Wear is an extension of the Android platform, you'll use the same SDK tools that you do when building apps for phones and tablets, but with some additional API libraries that provide wearable-specific features.

Photo Courtesy of Flickr User: @pestoverde

For Glass, you can get started at developers.google.com/glass. Google Glass is also based on the Android platform, so you'll use the Android SDK tools, plus APIs provided by the GDK.

An emulator is available for Android Wear, and the Mirror API Playground can help you preview your Glass apps, but the best way to understand how your wearable apps work in the real world is to test them on a device. In both cases, begin with the design principles for Wear or for Glass to make sure your app doesn't just run, but really works for users.

Photo Courtesy of animoca

Web

The web is ubiquitous. It's accessible almost everywhere and from a variety of devices. Building a web app means building beautiful and fast experiences that are optimized for both desktop and mobile web browsers.

When building for the web, you should always consider:

- **Multi-device Design**: More devices and device types than ever before will be accessing your site: phones, tablets, laptops, desktops, and TVs. This set is likely to increase. Ensure that your site works properly across a large range of devices. Don't design for a specific class of device, but make it flexible and know that your users will visit your site on several devices and might want to complete any action on any of those devices.

- **Solid User Experience**: Your users will be coming to your site to achieve a task, and you should prioritize that experience for them. You should not, for example, remove functionality or restrict it unduly on any device form factor. Instead, define user-centric goals and design to support them.

- **Performance**: When it comes to building your site, you should ensure that it loads quickly and runs at 60fps. Be sure to check out PageSpeed Insights, where you can enter your site's URL and get instant feedback on potential performance bottlenecks. WebPage Test also provides a tool that loads your site from a real-world location, giving you waterfalls, videos of your site's load behavior, and performance ratings and insight. And Chrome's DevTools' Timeline lets you profile your site's runtime performance and see your site's memory usage and frames per second.

If you're building a site from scratch, you can bootstrap your process easily by using Web Starter Kit. This gives you a "delete key friendly" starting point, with multi-device layouts, styled components, and performance best practices baked in.

For more guidance about how to build your web app to be flexible for multiple devices, support multiple browser, and provide sturdy performance, visit Web Fundamentals.

Web Fundamentals
Best practices for modern web development
Build great multi-device web experiences
HTML5 input types
Left vs Right Menu Button
Logo

Web Starter Kit Screenshot

Cloud

The cloud offers your app powerful resources for computing, storing, syncing, analyzing, and monitoring data so your app is not constrained by limitations of your user's device.

Google Cloud Platform provides infrastructure and a suite of managed services that allow you to focus on your code instead of worrying about database administration, server configuration, or scaling your app.

Specific products that may be useful for your app include:

App Hosting and Development:

- App Engine, a fully-managed platform-as-a-service, allows you to focus on your cloud-hosted app's code without worrying about patches or maintenance. App Engine can quickly scale to millions of queries per second (QPS), and supports Python, Java, PHP, and Go languages.

  Compute Engine, on the other hand, gives you access to raw, virtual machines with the flexibility to build anything you need.

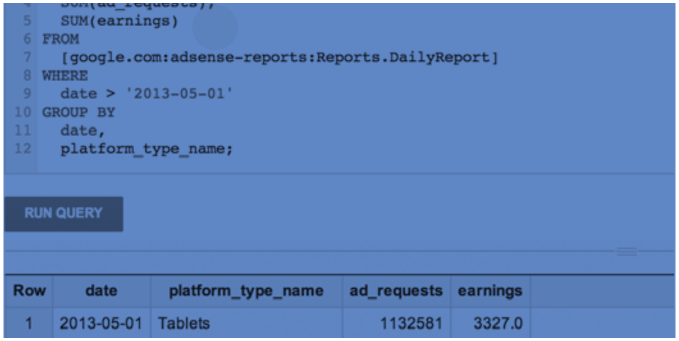
Data Storage:

- Cloud SQL provides hosted MySQL databases.
- Cloud Datastore provides globally scalable, schemaless NoSQL databases.
- Cloud Storage provides flexible object storage with global edge caching.

Data Analysis:

- BigQuery allows you to run SQL-like queries against multi-terabyte data sets in seconds.
- Hadoop on Google Cloud Platform provides large-scale data processing using Apache Hadoop's data analysis tools.

Cloud Platform also offers a suite of developer tools that improve your efficiency and integrate Cloud Platform's products into other tools, such as Android Studio with the Android Studio Backend Templates (templated back-ends that can hook into your Android front-end).



```
  SUM(ad_requests),
  SUM(earnings)
FROM
  [google.com:adsense-reports:Reports.DailyReport]
WHERE
  date > '2013-05-01'
GROUP BY
  date,
  platform_type_name;
```

Row	date	platform_type_name	ad_requests	earnings
1	2013-05-01	Tablets	1132581	3327.0

Enriching your app

Other Google APIs can help you to enrich your app and to give your users a great and valuable experience. For instance, check out the YouTube API, Maps API, Wallet API, and other great APIs available to make your app shine at developers.google.com/products.

03 Monetize

Making money can be fun too.

Pay To Download

The most straightforward way to monetize is simply to charge people to download your app from Google Play Store or Chrome Web Store. You can be paid easily through your Google Wallet account, which you can set up in each developer console.

Consider, however, that some of the most profitable apps for Android in Google Play Store are free to download, then allow users to purchase upgrades or additional items with in-app payments. An up-front fee to start using your app is typically best when your app is too large or complex to be divided into free-to-use portions and value-add elements.

In-app Payments

When appropriate, you can sell digital content from within your app and let Google handle all of the purchasing and checkout details with Google Wallet. Use in-app billing to sell downloadable content like media files or photos, or value-add content like game levels or premium services and features.

To add in-app payments to your Android app, read the In-app Billing Overview. You can also provide subscription-based services on Android, which automatically bill the user at a regular interval in order to continue receiving new content in your app.

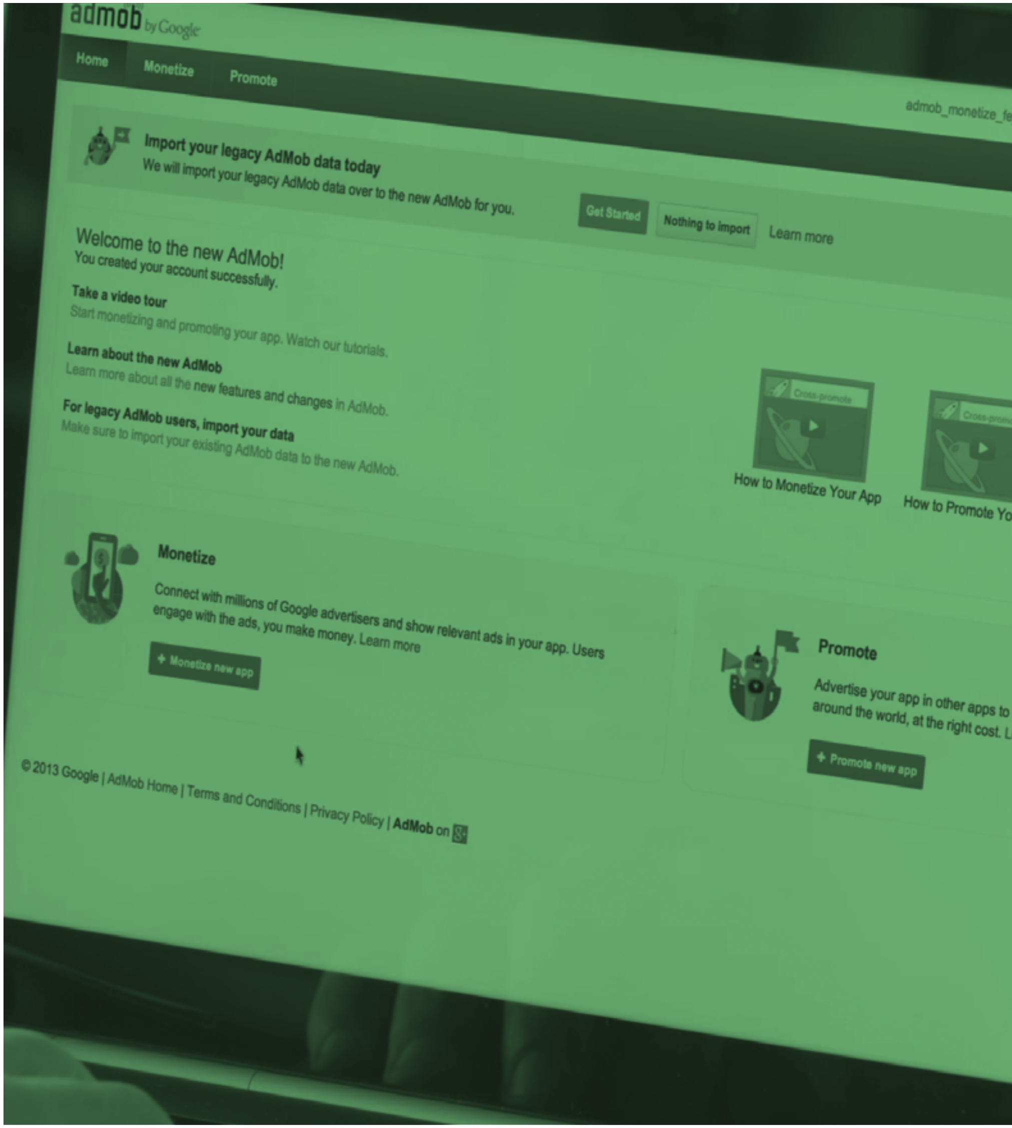
To add in-app payments for your Chrome app, read In-App Payments with Google Wallet for Digital Goods.

In-app Advertising

Another way to monetize without requiring up-front payment is to display ads in your app.

To start earning money from advertising with AdMob, install the Google Mobile Ads SDK. With over one million Google advertisers worldwide, AdMob places relevant interstitial, banner and video ads in your app. Filters and controls help you manage your ads. If you want to use multiple ad networks, you can do that too, with free ad network mediation. You earn money each time a user clicks on an ad they like. It's that simple.

If you're a large-scale publisher and have a direct sales team, Doubleclick for Publishers also helps you manage all of your ad inventory from one place. The Doubleclick tools provide a powerful ad delivery system that allows you to show interstitial, banner and video ads within your app. Using forecasting and reporting engines, uncover potential new sales opportunities and show the right ads for the right users.



Import your legacy AdMob data today
We will import your legacy AdMob data over to the new AdMob for you.

Welcome to the new AdMob!
You created your account successfully.

Take a video tour
Start monetizing and promoting your app. Watch our tutorials.

Learn about the new AdMob
Learn more about all the new features and changes in AdMob.

For legacy AdMob users, import your data
Make sure to import your existing AdMob data to the new AdMob.

Monetize
Connect with millions of Google advertisers and show relevant ads in your app. Users engage with the ads, you make money. Learn more

Promote
Advertise your app in other apps to
around the world, at the right cost. L

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04 Distribute

Share Your Creation.

Google Play Store

When you publish your Android app on Google Play Store, you're reaching over 1 billion active Android users in more than 130 countries and territories around the world. In 2013, Google paid out over $5 billion to a growing number of Android app developers like you.

To help you optimize your app listing, find more users, understand and engage them, and effectively convert active users into buyers, the Google Play Developer Console provides tools that allow you to:

- Instantly publish so you can iterate on your app at your pace.
- Scale your operations as your business and user base grows, using the Google Play Developer API.
- Create beta app channels so you can test your app and receive invaluable early feedback. Then use staged rollouts to ensure a positive response as you release your app to an increasing percentage of your users.
- View detailed statistics on the installs, ratings, and revenue performance of your app.
- Read and reply to user reviews or export them in bulk to perform your own sentiment analysis.

- Choose the business model that works for you, from paid apps to in-app products to subscriptions (monthly or annual) with Google Play In-app Billing.
- Opt-in to receive alerts over email when there are sudden changes in important stats like app installs, ratings, and crashes so you can keep track and react quickly.
- Know what actions to take with Optimization Tips, which notify you when Google detects specific actions you can take to improve your app or Play Store listing.
- Attract users with a compelling feature image and short description on the Play Store listing page that showcases your app.
- Add localized graphic assets and request professional translation for your app's UI strings.
- Finely control the geographic pricing and distribution of your app and target by specific device features or capabilities.
- Inspect user crash reports that summarize relevant information.
- Verify your website to enable deep-linking to your app from search results (once you've implemented Google's App Indexing API).
- And more.

Find out about these and other Google Play features to help your app business succeed at developer.android.com/distribute, and set up your developer account to start publishing apps at play.google.com/apps/publish.

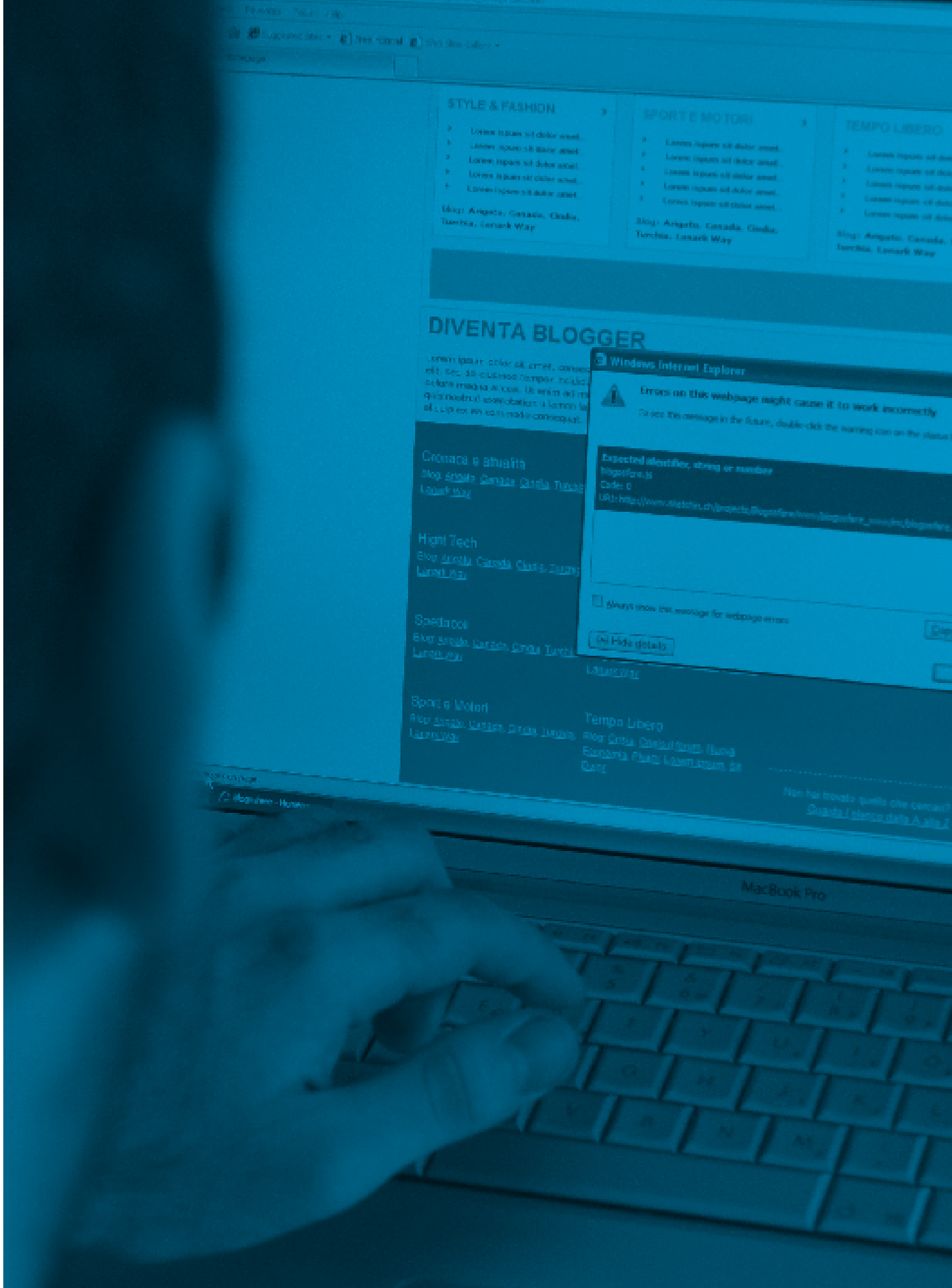
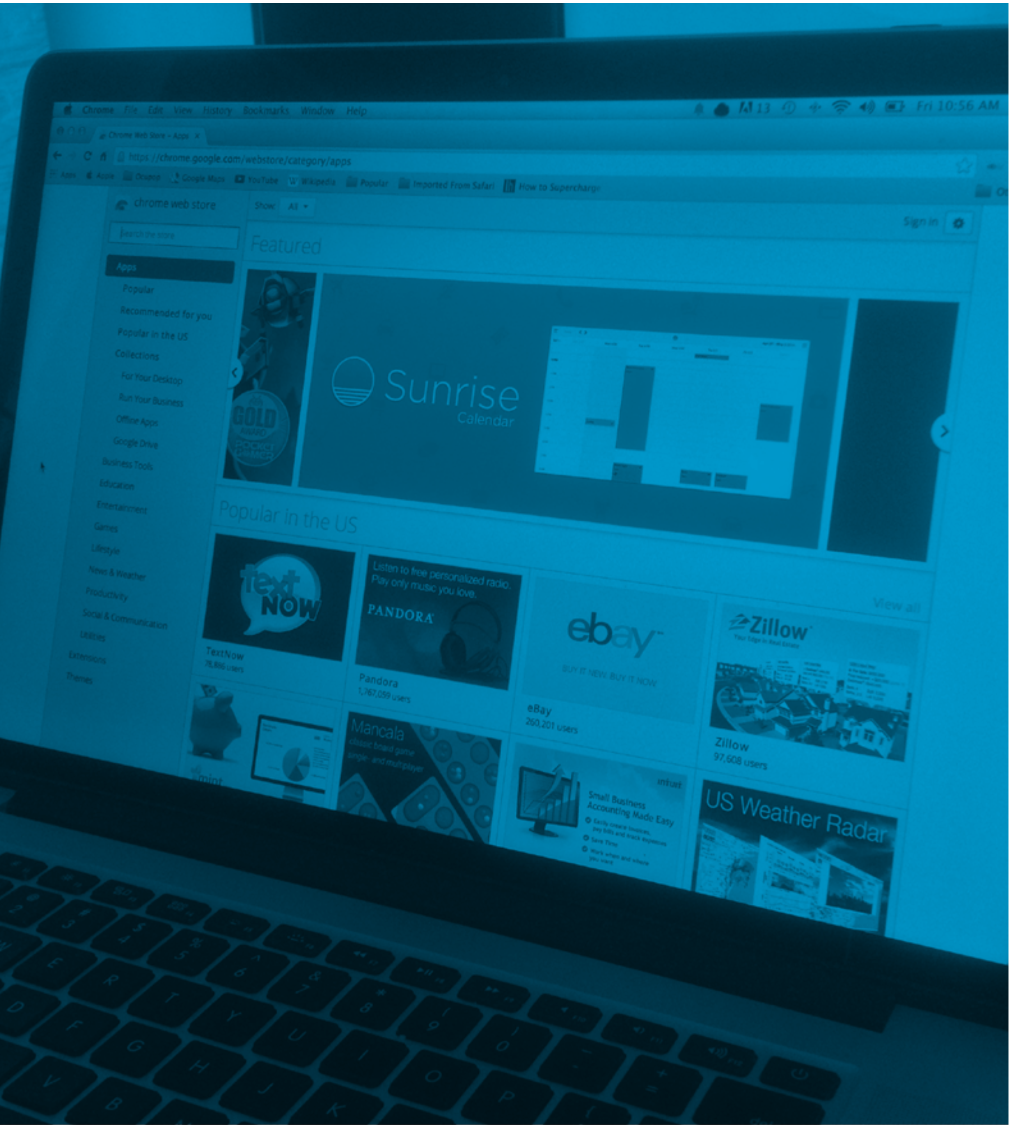


Photo Courtesy of Flickr User: @lucamascaro



Chrome Web Store

Getting your web app discovered can be a challenge. But with over 1 billion Chrome users all around the world, using the Chrome Web Store to distribute your app can help you succeed.

If you already have a web app, simply create a small manifest file, create some promotional images and descriptions, and publish your app to the Web Store as a hosted Chrome app. This doesn't require any changes in the app itself. This offers a way for users to discover your web app, and a new way for you to get feedback and reviews from your users.

Additionally, there are three types of Chrome products that you can distribute only through the Web Store: Chrome extensions, Chrome themes, and Chrome packaged apps. A Chrome theme provides a way for the user to personalize the way Chrome looks by adding colors and images to the browser UI. A Chrome extension is an add-on that implements new features for the Chrome web browser. A Chrome app is a web app written using web technologies such as HTML5, CSS, Javascript, and Native Client. Chrome apps are offline-enabled by default, run in a separate window as native apps, and have access to Chrome features that are not available to a usual web site through a set of Chrome APIs. Additionally, you can automatically convert Chrome packaged apps to Android and iOS using the Cordova project.

AdWords

Once you put your product out there, advertising it with Google AdWords helps bring you new users.

Mobile is growing, with users spending an average of 2 hours and 42 minutes per day on their mobile devices. You can connect with this growing audience by driving awareness of your app using mobile ads with AdWords. In over 200 countries, you can reach more than 900 million users across the AdWords network of mobile apps to gain a deeper level of insight and optimize your app promotion with measurement tools that show you engagement rates, number of downloads, conversions, and more.

With targeting options, you can promote your app based on user behavior. You can take into account what kinds of apps they use, how often they use them, and how often they purchase app upgrades to efficiently hone in on your perfect audience. You can target your text, image or video ads to users by age, gender and placement (specific apps where your ads appear), new mobile devices, as well as types of apps previously installed such as “Games” or “Health” app categories.

You can also drive app engagement by:

- Showing ads to existing customers, reminding them to use your app. When they click the ad, your app opens.
- Promoting your mobile app right in Search ads through a download link using Mobile App extensions, allowing you to reach users who may be searching for your brand but might not know you have an app. Beta participants who used Mobile App extensions saw a 6% lift in CTR.

05 Iterate

Analyze data to improve your app and business.

Google Analytics

To improve your user retention and monetization, you should tweak your app and optimize your advertising strategy based on user trends discovered with Google Analytics.

For both your web and mobile app, Analytics provides several features to help:

- With Event Tracking and Flow Visualization, you can see the exact screens where users are taking action, pausing, or leaving your app, so you can identify how to improve the experience and retain your users.
- With Traffic Sources (and Google Play integration for your Android app), you can understand who your current users are, what devices they use, and where they came from, so you know how to attract more of the users you want.
- By setting conversion goals, you can track user success each day such as purchase completions, clicks, or time spent in your app.

If you're using AdMob to monetize with ads, then your Analytics data is available directly in the AdMob interface, allowing you to learn about your app traffic, conversions, and in-app metrics all in one place.

For your mobile app, use Mobile App Analytics to measure the impact of your app and discover new potential customers.

What’s Next?

The Startup Launch program provides startups in all stages with the platform, resources, online content, mentorship, and training they need to succeed. From first idea to implementation and growth, our target is to help startups worldwide become successful on the Google Developer’ platform and open source technologies.

Join us today at g.co/launch

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                if (t==0) return b;
                if (t==d) return b+c;
                if ((t/=d/2) < 1) return c/2 * Math.pow(2, 10 * (t - 1)) + b;
                return c/2 * (-Math.pow(2, -10 * --t) + 2) + b;
        },
        easeInCirc: function (x, t, b, c, d) {
                return -c * (Math.sqrt(1 - (t/=d)*t) - 1) + b;
        },
```