



Mobile Apps Overview

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Description

- This talk aims to present an overview of mobile apps development



What's up

1. The World of Apps
2. Mock-Ups (Balsamiq)
3. InfiniteMonkey
4. AppInventor



The World of Mobile Apps

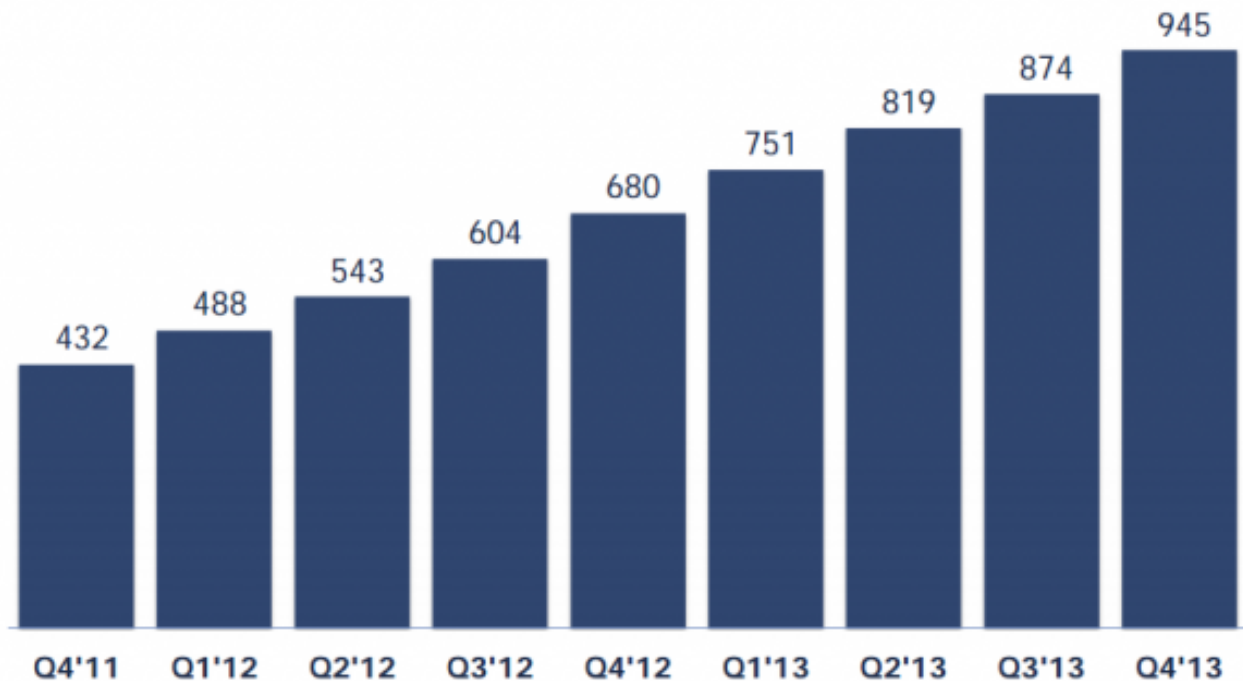
Mark Zuckerberg, Founder, Facebook



Mobile has become the company's most important focus, the platform that it will use to sign up the site's next billion users.

Mobile Monthly Active Users (Mobile MAUs)

In Millions



Facebook's about face

- o **Facebook had fewer than 20 people on their core mobile team in early 2012**, and changes to the mobile app came every three to six months — compared to the desktop version, which was updated twice per day -- Cory Ondrejka, Facebook's VP of mobile engineering.
- o When Facebook decided to revamp its mobile approach last summer, **Zuckerberg refocused the company, giving each team mobile engineers and developers so that updates and new features could be built with the mobile experience in mind.** "[Mark] said, 'You know, we need to think about maybe putting mobile first and being a mobile-first company,'" Facebook Vice President of Business and Marketing Partnerships David Fischer told Fortune's Adam Lashinsky in February (2013). **"We realigned the company around, so everybody was responsible for mobile."**

App Development Costs

- A study by backend-as-a-service (BaaS) platform provider AnyPresence revealed the majority of companies, 54 percent, are spending **between \$25,000 and \$100,000 on each mobile apps they develop**, whether it be for customer or employee use.
- **Additionally, another quarter are investing more than \$100,000 into each app.**

In 2



"Best Cruise Line Itineraries"
-Recommend Magazine



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Mobile 'apps' to be \$58 billion market: study

AFP | Tuesday 01 February 2011

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Mobile applications downloaded from online stores will be a \$58 billion worldwide business by 2014, as tablet computers such as Apple's iPad stoke the surging market, a new study said Monday.

Ads by Google

Best Expat Interest Rates

Independent Report Gets You The Best Interest Rates On Your Savings
www.offshoresavingsdesigner.com

Dragon Pals Adventure

The figure marks a huge increase on the \$5.2 billion spent on mobile applications in 2010, technology consultancy Gartner said, predicting there will be 17.7 billion application downloads this year, more than double the 8.2 billion in 2010.

By the end of 2014, Gartner forecasted that

PEOPLE



'Sex comes into every evaluation of a woman'

Jon Snow admits he thinks about sex every time he meets a new woman

Google Play Store stats

Current number of Android apps in the market:

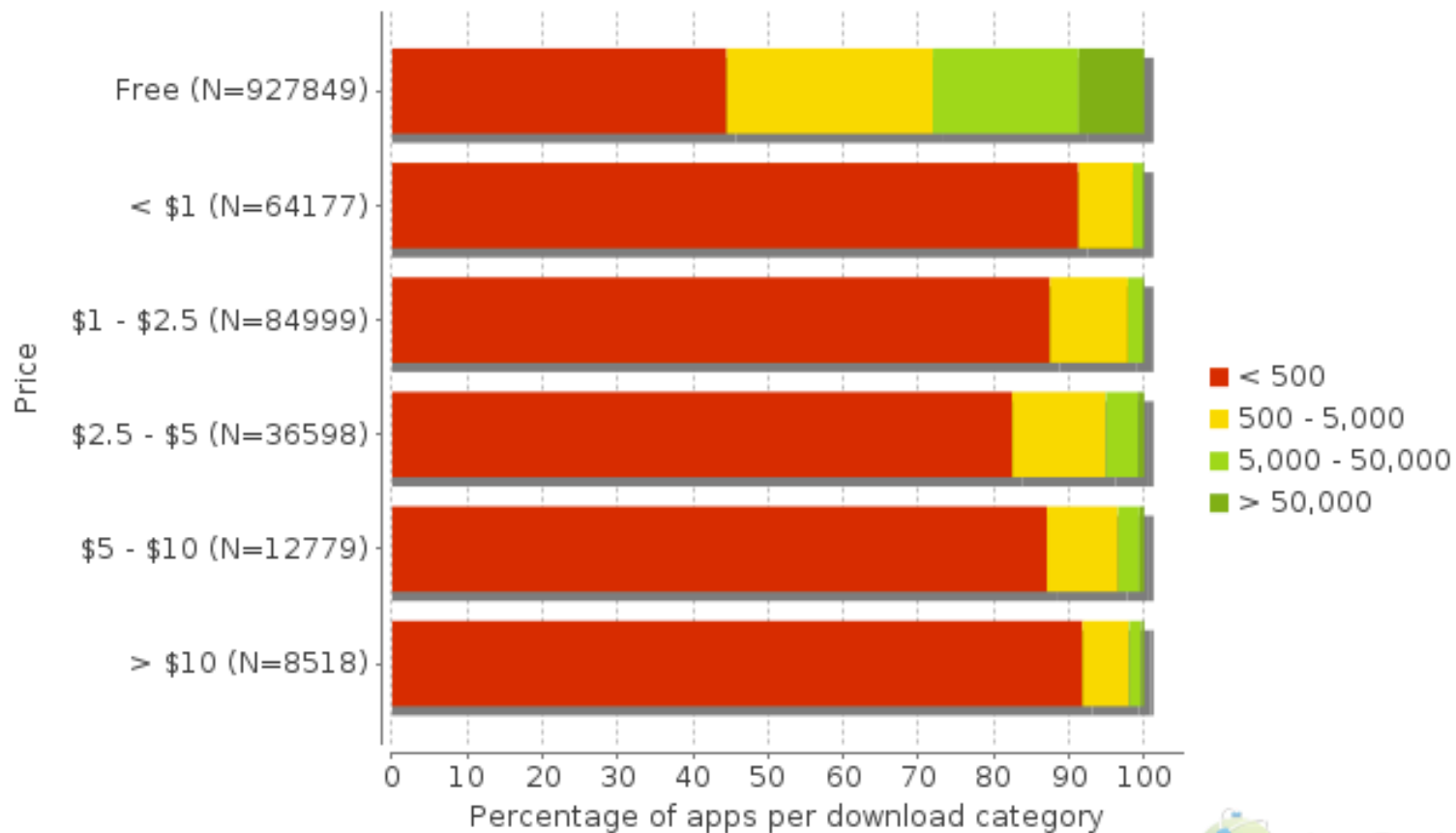
1132053

Percentage of low quality apps: **22 %**

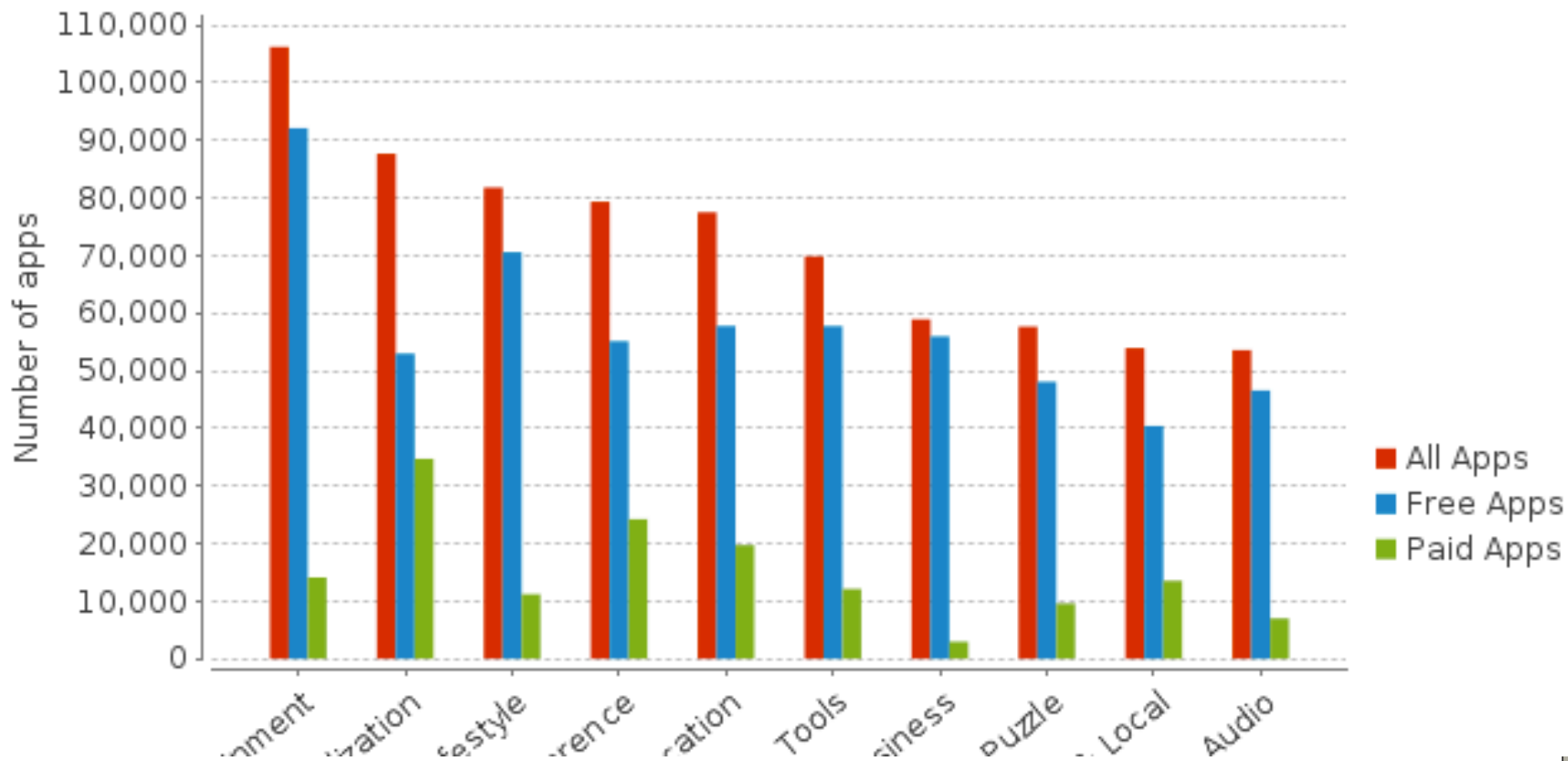
Current number of free apps in the market: **927849**

Current number of paid apps in the market: **207071**

Download distribution of Android apps by price category, February 13, 2014



Top 10 Android market categories, February 13, 2014



Apple Mobile App Statistics:

- Number of apps in the App Store: **1 million** (Tweet this stat) Last updated 10/22/13
- Number of apps downloaded: **60 billion** (Tweet this stat) Last updated 10/22/13
- Number of apps downloaded per second: **800** (Tweet this stat) Last updated 5/16/13
- Number of apps downloaded per month: **2 billion** (Tweet this stat) Last updated 5/16/13
- Number of apps downloaded in December 2013: **3 billion** Last updated 1/27/14
- Apple App Store sales in 2013: **\$10 billion** (Tweet this stat) Last updated 1/27/14
- Amount paid to app developers so far: **\$15 billion** (Tweet this stat) Last updated 1/27/14
- Number of apps in the Apple App Store that are from Chinese developers: **130,000** Last updated 1/27/14
- Number of educational apps available for iOS devices: **75,000** (Tweet this stat) Last updated 2/28/13
- Number of native iPad apps: **475,000** (Tweet this stat) Last updated 10/22/13
- Average number of iOS app downloads per device: **80** Last updated 9/29/13



Native Apps versus Web apps

What they are

Native Apps

- an app developed essentially for one particular mobile device and is installed directly onto the device itself.
- Users of native apps usually download them via app stores online or the app marketplace, such as the Apple App Store, the Google Play store and so on.
- An example of a native app is the Camera+ app for Apple's iOS devices.

Web Apps

- basically Internet-enabled apps that are accessible via the mobile device's Web browser. They need not be downloaded onto the user's mobile device in order to be accessed. The Safari browser is a good example of a mobile Web app.

User Interface

- From the point of the mobile device user, some native and Web apps look and work much the same way, with very little difference between them.

Accessibility

Native Apps

- A native app is totally compatible with the device's hardware and native features, such as accelerometer, camera and so on. Web apps, on the other hand, can access only a limited amount of a device's native features.
- While a native app works as a standalone entity, the problem is that the user has to keep downloading updates.

Web Apps

- A Web app, on the other hand updates itself without the need for user intervention. However, it necessarily needs to be accessed via a mobile device's browser.

Efficiency

Native Apps

- Native apps are more expensive to develop.
- However, they are faster and more efficient, as they work in tandem with the mobile device they are developed for.
- Also, they are assured of quality, as users can access them only via app stores online.

Web Apps

- Web apps may result in higher costs of maintenance across multiple mobile platforms.
- There is no specific regulatory authority to control quality standards of these apps.
- The Apple App Store, though, features a listing of Apple's Web apps.

App Monetization

Native Apps

- App monetization with native apps can be tricky, since certain mobile device manufacturers may lay restrictions on integrating services with certain mobile ad platforms and networks.

Web Apps

- Web apps enable you to monetize apps by way of advertisements, charging membership fees and so on
- However, while the app store takes care of your revenue and commissions in the case of native app, you need to setup your own payment system in case of a Web app.

Development

Native Apps

- Each mobile platform that the native app is developed for, stipulates its own unique development process. In the case of Web apps running on a mobile device's Web browser, the problem that arises is that each of these mobile devices have unique features and come with their unique problems as well.
- Every mobile platform uses a different native programming language. While iOS uses Objective-C, Android uses Java, Windows Mobile uses C++ and so on. Web apps, on the other hand, use languages such as JavaScript, HTML 5, CSS3 or other Web application frameworks as per the developer's preferences.
- Each mobile platform offers the developer its own standardized SDK, development tools and other user interface elements, which they can use to develop their native app with relative ease.

Web Apps

- In the case of Web apps, though, there is no such standardization and the developer has no access to SDKs or tools of any sort.

Setup and Costs

Android

Item	Description	Cost
Computer	Any Windows, Mac or Linux based	
SDK	Eclipse	Free
Developer Account	Lifetime	Free
Testing on Device	Any Android device	Free
Distribution	Via Google Play Store	Free

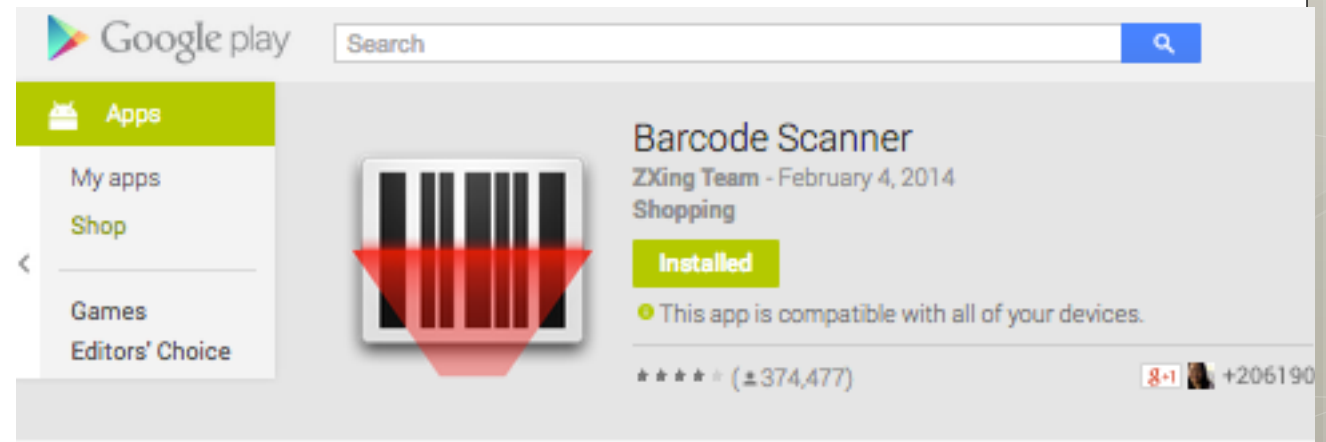
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Apple

Item	Description	Cost
Computer	Macbook or Mac Desktop	From 56K Pesos and up
SDK	Xcode	Free
Developer Account	Renewed yearly;	\$99
Testing	Any iOS Device (iPhone, iPad)	Comes with the \$99 developer account
Distribution	Via apple App Store	Comes with the \$99 developer account

Before we start...

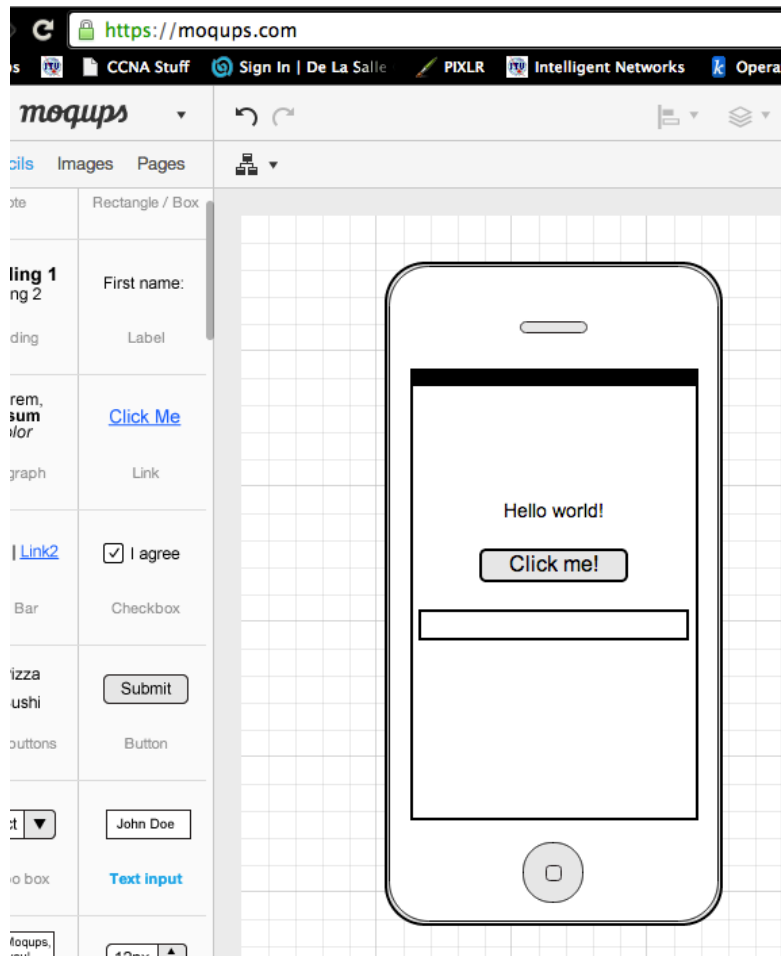
- Download and install a barcode reader app for your Android Device:





Mock-Ups

I have an idea but I can't put it into words



- Wireframing is a technique that enables non-technical people to express



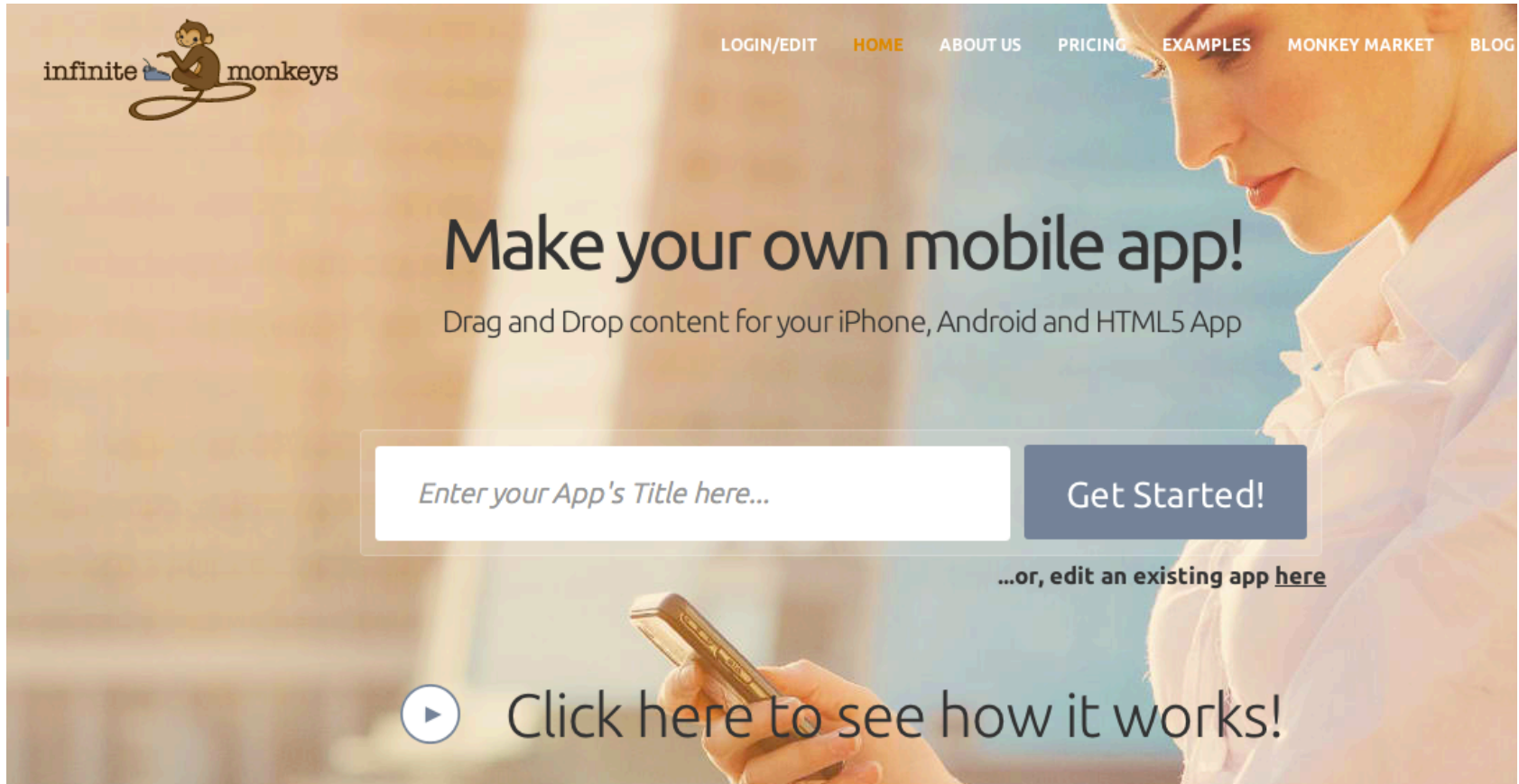
Mobile App Generators

Want to build an app?

- Do-it-yourself (DIY) app builders let businesses craft their own apps with no technical skills required.
- Technologies:
 - HTML5
 - CSS3
 - Javascript

Some app generators

- <http://www.infinitemonkeys.mobi/>
- <http://appypie.com>
- <http://appery.io/>
- <https://mainstreet-apps.com/>



The screenshot shows the homepage of 'infinite monkeys'. The top left features the logo with a monkey sitting on a globe. The top right has a navigation menu with links: LOGIN/EDIT, HOME, ABOUT US, PRICING, EXAMPLES, MONKEY MARKET, and BLOG. The main content area has a large heading 'Make your own mobile app!' followed by the subtext 'Drag and Drop content for your iPhone, Android and HTML5 App'. Below this is a form with a text input field containing the placeholder 'Enter your App's Title here...' and a 'Get Started!' button. Underneath the button is the text '...or, edit an existing app [here](#)'. At the bottom of the main area is a play button icon and the text 'Click here to see how it works!'. The background of the website is a woman in a white shirt looking at her smartphone.

<http://www.infinitemonkeys.mobi/>



Something More Complicated

MIT's App Inventor

The screenshot shows the homepage of appinventor.org. The browser address bar displays 'www.appinventor.org'. The navigation menu includes 'Home' and 'Login'. The main content area features a video player with the title 'What can beginners create with App Inventor? On...' and a play button. To the right of the video, the text reads 'Watch. Build. Practice. Learn to build Android apps in hours. Learn App Inventor. Learn to program.' Below this, it states 'App Inventor provides the fastest way to build apps for Android phones and tablets. Even with no prior experience, you can learn to build apps within hours. Here, you'll learn from USF Professor David Wolber, who has been teaching beginners programming with App Inventor since its inception in 2009. With step-by-step video screencasts, Wolber starts with the basics then leads you through the development of successively more complex apps, teaching you programming concepts as you go.' At the bottom of the main content area, there are three buttons: 'I Have a Dream! →', 'Book (AI2) →', and 'What is AI2? →'.

• <http://ai2.appinventor.mit.edu/>

Can you tell what's supposed to happen?

```

when Texting1 .MessageReceived
  number  messageText
do
  set Texting1 . Message to " I'm driving right now, I'll text you later. "
  set Texting1 . PhoneNumber to get number
  call Texting1 .SendMessage
  call TextToSpeech1 .Speak
    message join " message from "
              get number
              get messageText
  
```

No Texting While Driving



- Student Daniel Finnegan created the app in cs 107
- He was an English Major

WIRED

The New York Times

"Software, after all, affects almost everything we do. Pick any major problem—global warming, health care, or, in Finnegan's case, highway safety—and clever software is part of the solution. Yet only a tiny chunk of people ever consider learning to write code, which means we're not tapping the creativity of a big chunk of society."

Clive Thompson, Wired



Games

Android, Where's my car?



Text Processing Apps

Quizzes



Location Aware Apps

Web Enabled Apps

Broadcast Hubs



Native Apps Development

Platforms

- Android
 - Android SDK
 - Java
 - Android Development Tools
- iOS
 - iOS SDK
 - Objective-C
 - xCode Development Tool
- Windows Phone
 - Windows Phone SDK
 - C++/C#



Summary



Do you have any questions?

- This is the end of the presentation.
- Thank you for attending!

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