ACT

Testimony

of Morgan Reed
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The Association for Competitive Technology

before the
Committee on the Judiciary
Subcommittee on Intellectual Property, Competition and the
Internet
on
New Technologies and Innovations in the Mobile and Online
Space, and the Implications for Public Policy

June 19, 2012

Chairman Goodlatte, Ranking Member Watt, and distinguished members of the Committee: My name is Morgan Reed, and I thank you for holding this important hearing examining innovations in the online space and the implications for public policy.

I am the executive director of the Association for Competitive Technology (ACT). ACT is an international advocacy and education organization for people who write software programs--referred to as application developers. We represent over 5,000 small and mid-size IT firms throughout the world and advocate for public policies that help our members leverage their intellectual assets to raise capital, create jobs, and innovate.

While I am here today on behalf of our members, I am also here representing myself – I am a developer as well. Having worked on projects ranging from Linux networking tools to client/server protocols, I still keep my iOS license up to date, even if I no longer have the cutting edge skills of my younger days.

My goal today is to explain the evolving nature of the mobile application industry, the business challenges we face, and the public policy issues that we encounter. Specifically, app developers have three key messages for the members of the Committee:

1. **The app marketplace is still in its earliest growth stage, rapidly continuing to evolve.**

2. **Our industry is working to expand into new fields including mobile health and to new parts of the world.**

3. **Our public policy challenges include adequate intellectual property (IP) protection abroad, regulatory clarity for new markets, and proper consumer data privacy protection.**

Evolution of the App Marketplace

I spend a significant portion of my time speaking to non-developer audiences who want to know about the state of the mobile apps economy. Unlike other industries, I find that I have to update my numbers for every speech, not just once or twice a year. Just two years ago, total industry revenues were $3.8 billion and expected to rise to $8.3 billion.[1] At the close of last year we had grown to $20 billion and are projected to reach $100 billion by 2015.[2] This is a meteoric rise for an app economy that didn't even exist four years ago.

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[1] http://www.eweek.com/c/a/Mobile-and-Wireless/Apple-Google-Lead-38B-Mobile-App-Charge-IHS-512817/
[2] http://www.slideshare.net/joelrubinson/an3-us-appeconomy20112015

The rise of the app marketplace has coincided with the explosive growth of smartphones. Sales of these devices continue to outpace all predictions and are providing a huge boost to our economy. Total smartphone sales in 2011 reached 472 million units and accounted for 31 percent of all mobile device sales, up 58 percent from 2010. In the United States and Europe, smartphones sales have begun to overtake feature phones and that trend is expected to continue.

Smartphones derive considerable value from the apps that run on them. Consumers are attracted to phones based on the functionality these programs provide. Telephone companies and handset makers have devised entire ad campaigns built around highlighting the apps that run on their platforms. "There's an app for that" is probably one of the most recognizable ads in the technology space.
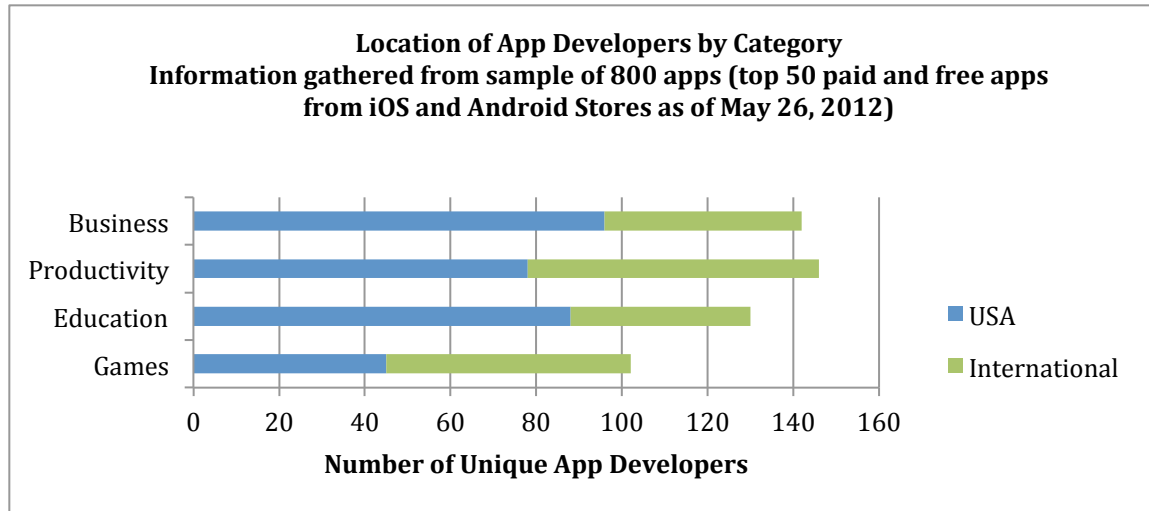
The App Marketplace: An Incredible Success Story
It should come as no surprise that the growth of the app industry has been a dramatic success story, even in the face of our enduring economic slowdown. The mobile app market got started in 2008 when Apple launched its App Store and allowed independent developers to sell applications for the iPhone. Since then, over 30 billion apps have been downloaded in the App Store, earning developers over $5 billion. Over a million apps are now available across all platforms.

This success has had a dramatic impact on job creation. ACT's study in 2011 estimated that the current mobile apps economy has created, saved, or supplemented more than 600,000 jobs nationwide across iOS, Android, Windows Phone 7, and Blackberry platforms. Another study by TechNet showed nearly 500,000 jobs created by the app economy on the major platforms alone.

America's Lead in Mobile Apps Exists, But is Not Guaranteed
ACT has recently completed a new analysis of the current mobile app ecosystem, this time examining apps not only by revenue, but also by type. We looked at the top 800 apps across the Productivity, Education, Business, and Entertainment categories. And in dramatic comparison to our 2010 research, international firms are surging to represent a significant portion of apps for sale. International developers have become strongest in games, an area dominated by products using in-application purchasing, a payment method that didn't even exist in 2010.

Location of App Developers by Category
Information gathered from sample of 800 apps (top 50 paid and free apps
from iOS and Android Stores as of May 26, 2012)

As a brand new industry, we are experiencing rapid changes in the marketplace with new business models emerging every year. Freemium apps and in-app purchasing have become the favored means to monetize new releases.[3] Not long ago, paid downloads ruled the day. Through it all, developers are still exploring whether the advertising model can generate enough income on its own. [4]

While business models continue to evolve, developers are also experimenting with different platforms. Currently Apple's iOS provides the most dependable platform, but RIM has been aggressively wooing developers to Blackberry as its user base in Asia and the Middle East remains strong.[5] Android continues to maintain marketshare, although fragmentation is becoming a serious issue for developers[6]; and just yesterday Microsoft announced the creation of a Microsoft-built mobile tablet with a new Metro style user interface.
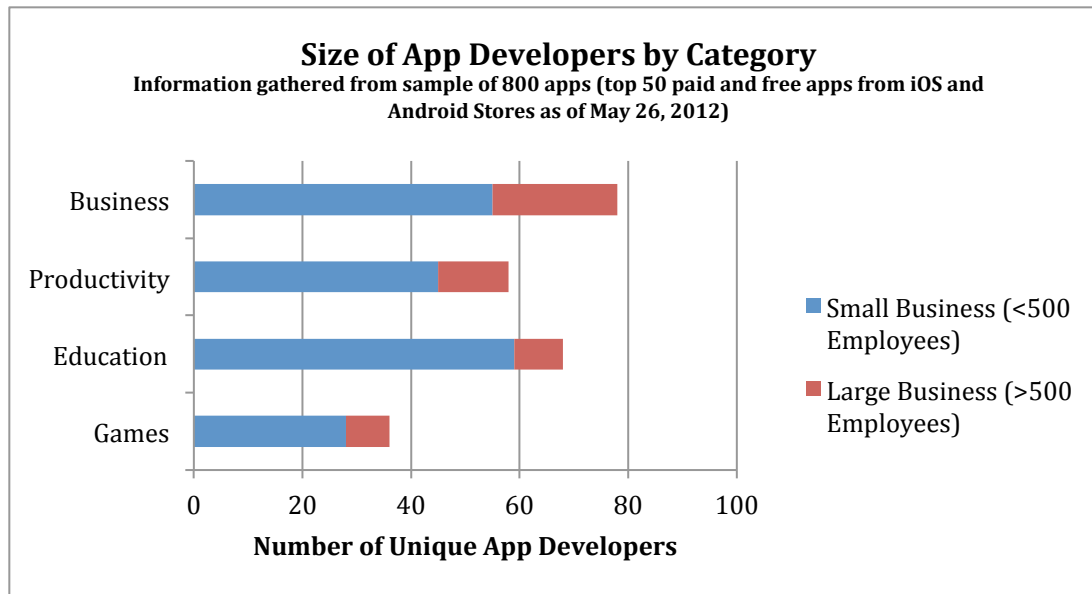
<u>Still Small Business Strong</u>
ACT research continues to find that the majority of the top-selling mobile app developers (78%) are small businesses. Nowhere is the dominance of small business seen more than in education apps, where over 70% of the app developers surveyed were small businesses. Of those small businesses, 87% have 50 or fewer employees. The other categories were also predominantly small businesses, though to a lesser degree.

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[3] http://www.nytimes.com/2012/03/19/technology/game-makers-give-away-freemium-products.html?_r=1&pagewanted=all
[4] http://tech.fortune.cnn.com/2011/11/21/piper-jaffray-android-app-revenue-is-7-of-iphones/
[5] http://www.engadget.com/2012/02/03/RIM-free-BlackBerry-Playbook-Android/
[6] http://www.reuters.com/article/2012/03/20/mobile-developers-idUSL1E8EJAGT20120320

Size of App Developers by Category

Information gathered from sample of 800 apps (top 50 paid and free apps from iOS and Android Stores as of May 26, 2012)

Category	Small Business (<500 Employees)	Large Business (>500 Employees)

Chart showing Number of Unique App Developers for Business, Productivity, Education, and Games categories, split between Small Business (<500 Employees) and Large Business (>500 Employees), with x-axis from 0 to 100.

Number of Unique App Developers

The category with the biggest number of large companies is Business, due primarily to the number of apps developed by existing large corporations to connect mobile users with their existing services, such as PayPal, UPS, and FedEx. But there's good news even in those numbers. The vast majority of the "large business" apps were not built internally, but were built by small contract developers, like Big sushi in Charlotte, North Carolina, or Found Design+interactive in Harrisonburg, Virginia.

With such a dynamic mobile ecosystem it is difficult to predict where the market is headed next and what industry standards will be adopted. This makes it difficult to implement a regulatory regime for the app marketplace. The industry is far from mature and activities or practices that regulators seek to address may no longer exist in their current form by the time new rules can be implemented.
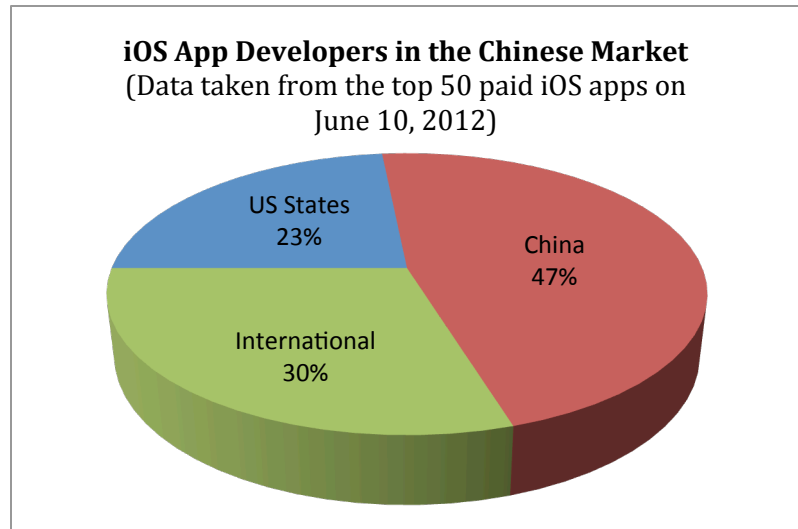
New Opportunities to Grow Both Domestically and Abroad

While we all know of the explosion of mobile apps and smartphones for consumers, there's another wave of innovation on the horizon. We expect that mobile apps will have a significant impact at the enterprise level over the next 12 to 24 months, with nearly every major corporation and government agency adopting tablet computers directly, or instituting bring your own device (BYOD) policies. This sea change will improve efficiencies and create new workflows inside of corporations, but it also provides real opportunities for developers to expand beyond the 99¢ price point or ad-supported models.

Educators are also exploring the benefits that app-powered tablet devices can have in the classroom. Just a few months ago, the state of Alabama passed legislation that would give every student a tablet to use for books and classwork. The enormous implications of individualized teaching and assistance to special needs kids aside, this will certainly reduce the weight of our children's backpacks!

We also see great potential for mobile apps to lower costs and improve health and healthcare. I'm honored to be on the advisory council for mHIMSS, the mobile initiative of the largest health IT membership association. Through the efforts of ACT and organizations like mHIMSS, we are improving health and healthcare delivery through the use of mobile and wireless technologies. For example, use of mobile devices can help to maximize the value of the $38.7 billion the U.S. government committed to help doctors convert from paper to electronic health records.

Finally, ACT sees opportunity for international growth. The 99¢ price point of apps makes them accessible in developed and developing countries alike. Foreign markets— particularly those in Brazil, Russia, India, and China— offer considerable opportunities for our members. The BRIC nations produce more

iOS App Developers in the Chinese Market
(Data taken from the top 50 paid iOS apps on June 10, 2012)

US States 23%

China 47%

International 30%

than 50% of the revenues for the technology industry and offer far more in growth opportunities. In looking at the top 50 paid iOS apps in China we found reason to cheer. While the market is predictably dominated by apps made in China, 23% of the apps in the top 50 were made by U.S. app developers. For example, tap tap tap, a U.S. app developer based in San Francisco, California, created the app Camera+ which was the 35th most popular paid app on the Chinese iOS app store. A small business with only 16 employees, tap tap tap has sold over 8 million Camera+ apps world-wide since it was released on June 7, 2010.

Rapid Growth and Rapid Response to Public Policy Questions

For app makers, our public policy concerns fall into three basic categories: making sure our property rights are respected, lowering barriers to entry, and finding ways to educate our customers about the acquisition, use, and storage of data they may consider private or could affect their daily lives.

International Opportunities Have New Risks
While piracy has historically posed a challenge for developers across the world, the emergence of mobile app stores has offered a partial reprieve. Apple, Microsoft, and Blackberry sell apps in curated stores. Phone users can only install apps through a store that reviews each piece of software before approving its admission. Although some developers chafe at the control these stores exert and the conditions required

in the approval process, they largely appreciate that stores greatly cut down on the piracy rate.

Each app installation from a curated store—even free apps—involves a transaction record. This has cut down on pirated sales, relegating them to open platforms such as Android where they proliferate as free downloads. It is still possible to hack phones to provide access to alternative app stores where pirated apps can be found, but this involves technical expertise and voids the terms of service. Since this action denies the user access to technical support, upgrades, and virus protection, most Americans opt not to pursue this illicit route.

In China, however, this has not been the case for multiple reasons. The incidence of hacked or "jailbroken" phones is high with estimates as great as 60%. Combined with China's traditionally lax enforcement of intellectual property rights, U.S. developers' export opportunities are limited at a time they should be rising.

<u>Healthcare Needs Disruptive Change, but Not at the Cost of Safety</u>
App developers have seen enormous growth in the healthcare space, but confront significant barriers to entry created by regulatory rules that have not kept pace. HIPPA is a critical regulation for protecting the privacy of patients, but its implementation can create challenging barriers for the display and storage of a patient's information, barriers which neither enhance care, nor privacy protection.

FDA regulations governing what app is, and isn't, a medical device have been slow to materialize.   We are cautiously optimistic that the FDA will publish its final guidance soon, and we expect it will take the "light touch" approach specified by Dr. Jeff Shuren, the FDA's director of the Center for Devices and Radiological Health.

Finally, the byzantine schedule of payment codes presents challenges, as developers find ways to demonstrate how their products replace an existing product listed in the code, even when the feature-set of the new mobile product is far more capable and can be priced much more inexpensively. Worse still is the battle to describe an innovative new product in a way that matches old, pre-mobile concepts. It can be akin to describing a modern car in terms originally created for horse and buggy.

All of this must be accomplished in a way that continues to place efficacy and patient safety first and new technologies second. We look forward to embracing the challenges; it will take time, research, the collaboration of industry and academia, and possibly help from Congress.

Privacy: It's All About the Data

As the app marketplace is experiencing dramatic expansion and innovation, concerns for consumer privacy online have grown. While most of the headlines have been earned by big companies operating in traditional Internet commerce (the Google wi-spy case is still raising public ire), the app industry has not been immune

from privacy missteps. Most famously, Path failed to inform and educate its customers before changing the way it collected and stored user contacts. Path was excoriated in the press, and deleted all data collected after making very public amends.

However a great deal of the overall tension surrounding privacy comes from the practical requirements that companies collect, and occasionally share, data.

For example, a huge reason for the success of the mobile app ecosystem has been the ability of developers to focus only on the truly innovative parts of their product; by using third parties to provide features like analytics, networking, and payment processing, developers have been able to build amazing products with low overhead and instant responsiveness.

And this offloading of overhead can even have positive privacy implications. It's well known that Apple collects credit card information and does not share it with developers, but for those not on the Apple platform, companies like PayPal provide a way for consumers to pay without sharing.   The fact that customers trust PayPal actually increases the user's comfort with paying for a mobile app without having to wonder where his financial data will end up. PayPal reduces risk for both developers and consumers.

For advertising, Apple's iAd is a "black box" that provides no private user data to developers, and several Interactive Advertising Bureau (IAB) member companies have "share aggregate data only" policies that prevent sensitive data from being sent back to the developer.

The fact that third party sharing of data is both a business necessity and can enhance consumer data safety does not preclude industry from taking privacy seriously. In fact the only way we can maintain and build on consumer trust is to continue to take it seriously, and urge enforcement actions against companies that violate the public trust.

The good news is that a huge number of industry groups and individual companies have been creating tools and guidelines for helping educate consumers, developers, and regulators alike, knowing full well that if we don't, we face the loss of consumer trust, and possible legal action.

These industry- and advocate-created guidelines generally take a multi-layered, multi-level approach, because there quite simply cannot be a single answer. Consumer data is collected through a number of different methods and technology platforms. It can occur on a website, a mobile device, or most commonly a point of purchase sales transaction at a bricks and mortar store. Your grocery rewards card knows what kind of milk you like, a website might be aware of your interest categories, and a mobile app may be location aware to give you better mapping

information. And in each of these examples the information may, or may not, be shared with other participants in the ecosystem.

Because data arrives from so many different kinds of technology, privacy efforts must be focused around data, rather than the technology used to collect.

Industry Efforts on Privacy Span All Boundaries
In order to deal with privacy from a data perspective, rather than a technology one, industry groups have been developing guidelines and best practices for dealing with information, from private, sensitive data to anonymous, aggregate numbers that specify no single person.

Within the Internet ecosystem, numerous trade associations, including ACT, and advocacy groups have pulled together guidelines and best practices.   Generally these guidelines strive to be technology agnostic, based around overall industry sectors or business models.

A quick review of some of these include:

- *From the telecommunications industry, GSMA and CTIA/ESRB both have guidelines for providers and developers, and CTIA/ESRB has content ratings that include separate privacy notifications.*
- *For advertisers, NAI, DAA, IAB, DMA, WOMMA, MMA, and others have guidelines for advertising companies, notifications for consumers (the forward "i"), and even best practices for app developers.*
- *For retail companies, the Electronic Retailers Association, the National Association of Retailers, and the Better Business Bureau have information on how retailers should and should not collect and share data.*
- *Advocacy groups like EFF, Public Knowledge, CATO, Mercatus, and others have extensive blog posts, write-ups, and in some cases developer guidance for dealing with consumer information.*
- *Not to be left off the list, the American Bar Association has weighed in, especially through the Federal Communications Bar Association, which has held workshops, created papers, and hosted multi-stakeholder summits at their annual meeting.*

Still other groups, like the Family Online Safety Institute (FOSI) and the Center for Democracy and Technology (CDT) have worked as conveners for multi-stakeholder efforts.

How Do We Get the Message to Developers?
For ACT, we have taken an aggressive two-stage approach. Of course we've developed guidelines and best practices, but we've decided that the most important

role we can play is that of educating our developers about their roles and responsibilities in the overall ecosystem.

We believe the biggest hurdle to implementing industry-wide privacy standards is developer education. There are over 200,000 app developers in the United States. App makers want to do the right thing on privacy, but often don't know whether their app creates privacy concerns or what they need to do to be rules compliant. As most small business app developers are making customer-facing software for the first time, they are also addressing privacy issues for the first time. Matters typically handled by a legal department or chief privacy officer in a larger company are now most often handled by a small business owner.

In order to meet this demand, ACT has undertaken an ambitious developer campaign, one that has put us in front of thousands of developers all across the country. Here are just a few highlights:

- *Privacy Talk at Disruptathon, with more than 150 developers[7]*
- *"Check Yourself" Keynote at MoDevEast, with more than 350 developers[8]*
- *"Can Washington Make your App Illegal?" at South by South West (SxSW)*
- *"Best Practices for Privacy Icons" at MoDevUX conference.*
- *"App47 Privacy Webinar" with App47 CEO Chris Schroder*
- *"Talking Privacy with dotnet rocks" : dotnet rocks is a podcast listened to by more than 500,000 developers weekly*
- *"Privacy Bootcamp" at Silicon Valley Apps for Kids Meetup*
- *"Moms with Apps Privacy Icon Working Group"[9]*
- *pii2012 Seattle Bootcamp and Workshop[10]*

In addition, we've frequently brought developers to meetings with lawmakers and regulators here in Washington, including extensive meetings with the White House, FTC, and Members of this Committee as well as dozens of other Members of Congress.

ACT's Approach to Mobile Developers
First and foremost, we advise app developers to be open with consumers about the information they collect and how it is used. We strongly advocate the use of privacy policies – even if an app maker believes no information is being collected. It is also important that this information is presented to users in a meaningful way so that they may easily comprehend it. On mobile devices this means that the information provided must be simple and clear enough to fit on a small screen.

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[7] http://www.meetup.com/modevdc/events/28701631/

[8] http://vimeo.com/34560160

[9] http://momswithapps.com/privacy-icon/

[10] http://www.privacyidentityinnovation.com/pii2012-seattle/pii2012-seattle-schedule

ACT also advises app developers to be mindful of the relationships they have with third parties such as ad networks. App makers must be aware that the SDKs (software development kits) supplied by platform providers or ad networks may contain code that uses consumer information in ways they hadn't considered. Even if the developer never sees the data which passes straight through to an advertiser, the responsibility still lies with the app maker to inform the user what information is shared and how it is being used. Additionally, developers should ensure that they collect only as much information as is needed. When this information is no longer required, it should be de-identified.

In addition to our own initiatives, other efforts have also been undertaken by industry to provide improved consumer access to privacy information. To address the accessibility of privacy policies, groups like TRUSTe[11] and PrivacyChoice.org[12] provide free privacy policy generators. Developers can simply fill out a survey explaining the functions of their app and a privacy policy is automatically generated. This is a useful option for startups that can't afford legal staff. The resulting privacy policy is generated in both the long form that we are accustomed to seeing (and seldom reading) as well as a more easily digestible version composed of simplified language. The other benefit of these services is that they customize the end product to appear on a small screen.

Moving Forward

Privacy issues must be addressed in a comprehensive manner, not in a way that creates "siloed" solutions for each technology…especially since those silos are disappearing every day.

Everyone in the technology industry must take part and be responsible for improving the state of privacy, security, and transparency across our various industry segments. Our app developer members are no different, and we're committed to working this out with government, industry, civil society, and most importantly, our customers.

That is why we are concerned that approaching these issues based on categories of technology is bound to create incompatibilities, confusion, and customer distrust. We recognize that consumers' confidence in the safety of their privacy is necessary for app makers to effectively market their products. We will continue to work through all the various multi-stakeholder efforts and business-based guideline processes, as well as with the members of this Committee, to improve these efforts.

Thank you for the opportunity to appear before the Committee today and I look forward to addressing any questions you may have.

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[11] http://www.truste.com/products-and-services/small_medium_business_privacy/privacy_policy_generator.php

[12] http://www.privacychoice.org/resources/policymaker