IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
SHERMAN DIVISION

WAPP TECH LIMITED PARTNERSHIP and WAPP TECH CORP.,	§	
Plaintiffs,	§	
v.	§	**Civil Action No. 4:23-cv-1137**
JPMORGAN CHASE BANK, N.A.	§	**JURY TRIAL DEMANDED**
Defendant.	§	

PLAINTIFFS' ORIGINAL COMPLAINT

Plaintiffs WAPP TECH LIMITED PARTNERSHIP and WAPP TECH CORP. ("WAPP" or "Plaintiffs") hereby submit this Complaint for patent infringement against Defendant JP Morgan Chase Bank, N.A. ("Defendant" or "Chase").

THE PARTIES

1. Plaintiff WAPP TECH LIMITED PARTNERSHIP is a Delaware limited partnership organized and existing under the laws of the State of Delaware, and its registered agent for service of process in Delaware is Corporations & Companies, Inc. (CorpCo), 910 Foulk Road, Suite 201 Wilmington, Delaware 19803.

2. Plaintiff WAPP TECH CORP. is a body corporate organized and existing under the laws of the Province of Alberta, Canada, and its registered agent for service of process in Delaware is Corporations & Companies, Inc. (CorpCo), 910 Foulk Road, Suite 201 Wilmington, Delaware 19803.

3. On information and belief, Defendant JP Morgan Chase Bank, N.A. is a federally chartered national banking association organized and existing under the laws of the United States having a principal place of business at 1111 Polaris Parkway, Columbus, OH, 43240.[1]

JURISDICTION AND VENUE

4. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the patent laws of the United States, 35 U.S.C. §§ 101 *et seq*. Venue is proper in this federal district pursuant to 28 U.S.C. §1400(b).

5. The Court has personal jurisdiction over Defendant, in part, because Defendant has minimum contacts within the State of Texas; Defendant has purposefully availed itself of the privileges of conducting business in the State of Texas; Defendant regularly conducts business within the State of Texas; and Plaintiffs' causes of action arise directly from Defendant's business contacts and other activities in the State of Texas, including on information and belief, by virtue of Defendant's infringement in the State of Texas.[2] Further, this Court has general jurisdiction over Defendant, in part, due to its continuous and systematic contacts with the State of Texas. Further, on information and belief, Defendant is subject to the Court's jurisdiction, in part, because Defendant has committed patent infringement in the State of Texas. Defendant has regular and established places of business in this district. Defendant is subject to this Court's specific and general personal jurisdiction pursuant to due process and/or the Texas Long Arm Statute, due at least to its substantial and pervasive business in this State and judicial district, including: (i) at least part of its infringing activities alleged herein; and (ii) regularly doing or

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[1] *See* https://www.occ.treas.gov/topics/charters-and-licensing/financial-institution-lists/national-by-name.pdf (accessed December 8, 2023).

[2] For example, Defendant advertises job openings for mobile application software engineers in Plano, TX. *See, e.g.,* https://jpmc.fa.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1002/requisitions/preview/210398636/ (accessed December 8, 2023); https://jpmc.fa.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1002/requisitions/preview/210464557/ (accessed December 8, 2023); https://jpmc.fa.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1002/requisitions/preview/210260943_300015306973757_ORA_DELETED/ (accessed December 8, 2023).

soliciting business, engaging in other persistent conduct, and/or deriving substantial revenue from goods sold and services provided to Texas residents.

6. On information and belief, Defendant conducts business operations throughout the State of Texas, including within the Eastern District of Texas, and commits acts of infringement within this District. For example, Defendant maintains a place of business at 8181 Communications Pkwy., Plano, TX 75024, and advertises job openings for mobile application software engineers at that location.[3] Defendant also has multiple other locations throughout the State of Texas, and within the Eastern District of Texas, including banking facilities located at:

- 161 W. Spring Creek Pkwy., Plano, TX, 75023
- 5020 W. Park Blvd., Plano, TX 75093
- 4001 W. Park Blvd., Plano, TX 75093
- 3041 W. Parker Rd., Plano, TX 75023
- 5900 Preston Rd., Plano, TX 75093

FACTUAL ALLEGATIONS

Development of the Patented Inventions

7. The inspiration for the patented innovations described herein originates from application development work by the named inventor for live sporting events, including the 2006 FIFA World Cup. Through his development work associated with these international sporting events, the named inventor of the patents-in-suit developed and created a first-of-its-kind application performance engineering platform. He realized that developing applications to support widely viewed global events, such as the World Cup, presented unique challenges for application

[3] *See, e.g.,* https://jpmc.fa.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1002/requisitions/preview/210398636/ (accessed December 8, 2023); https://jpmc.fa.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1002/requisitions/preview/210464557/ (accessed December 8, 2023); https://jpmc.fa.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1002/requisitions/preview/210260943_300015306973757_ORA_DELETED/ (accessed December 8, 2023).

developers—these applications would be used by millions of users on a wide variety of devices having different attributes, and connecting to a wide variety of different networks with significantly different performance characteristics. To address these challenges, the named inventor invented an application authoring environment especially suited for creating applications for mobile devices. The invention enables developers to create the applications and ensure they will function correctly on a variety of mobile devices with varying device and network performance characteristics by emulating and monitoring specific characteristics of the devices and the networks to which they could connect. The named inventor realized that such flexibility would be necessary to create mobile applications that would work satisfactorily in the plethora of scenarios to which real users would subject them.

8. The named inventor filed his initial provisional application (No. 60/689,101) on June 10, 2005. He subsequently filed non-provisional patent applications claiming multiple different aspects of his application authoring platform, including applications which issued as U.S. Patent Nos. 8,924,192 (filed on November 9, 2012), 9,298,864 (filed on November 19, 2013), 9,971,678 (filed on December 23, 2014), 10,353,811 (filed on May 14, 2018), and 10,691,579 (filed on March 28, 2016).

9. These patented innovations have become core to modern mobile application development and have been cited as prior art against later patent applications from industry leaders including Apple, Google, Intel, HPE, and Microsoft. For example, on February 1, 2013, the USPTO rejected the claims submitted in an Apple patent application based on Plaintiffs' invention. On October 31, 2012, WIPO rejected the claims submitted in an HPE patent application (Patent Application Serial No. PCT/US2012/024087) based on Plaintiffs' invention and awarded the inventor patents with the highest prior art designation.

Authoring Mobile Applications

10. Mobile applications are now typically created in an authoring environment (also called an integrated development environment or "IDE") tailored to meet challenges specific to mobile application development. The two most popular modern authoring environments are Apple's Xcode (used to author mobile applications for iOS devices such as iPhones and iPads) and Google's Android Studio (used to author mobile applications for smart phones and tablets running Google's Android operating system).

11. Authoring environments include the tools needed to create a mobile application and then verify that it will function correctly on a variety of mobile devices and under a variety of network conditions. For example, Xcode and Android Studio include (1) an editor window where the developer will write the code, (2) a compiler that will transform the code into an application that will run on a mobile device, (3) tools to execute the compiled application on a variety of mobile devices or emulators so the application's performance can be verified on the selected devices and under a variety of network conditions, and (4) tools to monitor performance of the application while it is running.

Xcode

12. Apple's Xcode includes the features noted above, including the editor window reproduced below:

https://developer.apple.com/documentation/xcode/creating-organizing-and-editing-source-files (accessed December 8, 2023).

13. Xcode also includes a compiler that will transform the code into an application that will run on a mobile device:

Overview

Reducing build times by even a few seconds can have a significant impact over the course of development. Xcode does everything possible to build your code as fast as possible. It parallelizes build tasks and takes advantage of all available resources to output a finished product. However, you can help Xcode by making sure you're not creating unnecessary work for the compiler.

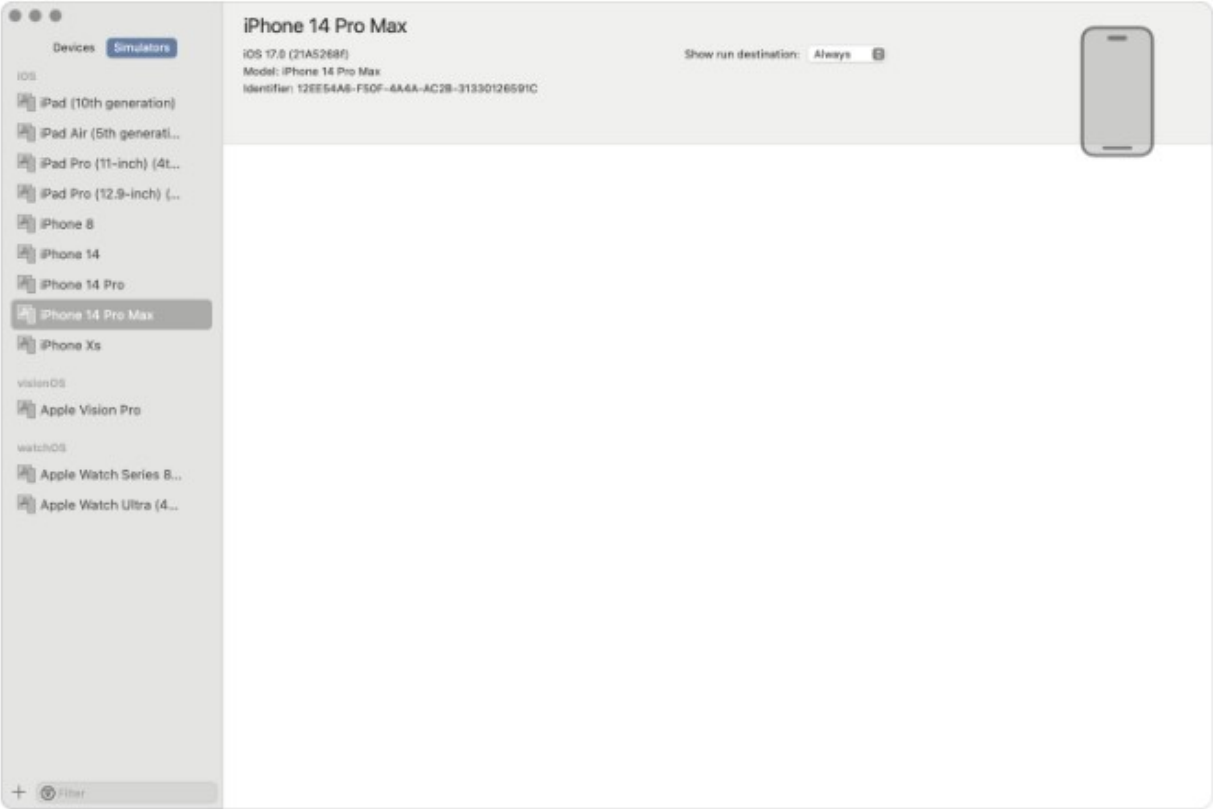
Over the years, Xcode's compiler has introduced optimizations to speed up compile times. Most of these optimizations are automatic, but some require you to make small changes to your code. In addition, projects that support both Objective-C code to Swift may require additional optimizations to ensure fast compile times.

https://developer.apple.com/documentation/xcode/improving-build-efficiency-with-good-coding-practices (accessed December 8, 2023).

14. Xcode further includes tools to execute the compiled application on a variety of mobile devices or emulators so the application's performance can be verified on the selected devices and under a variety of network conditions. Xcode provides the ability to transfer the compiled application to a physical device for verification. However, developers are unlikely to have access to a physical version of every device on which they wish to verify the mobile application. Therefore, Xcode also provides the ability to transfer the compiled application to an emulated/simulated device, running on a computer, which emulates characteristics of a physical device:

Configure the list of simulated devices

Manage real and simulated devices in the Devices and Simulators window in Xcode. To view this window, choose Window > Devices and Simulators. View and configure simulated devices from the Simulators tab.

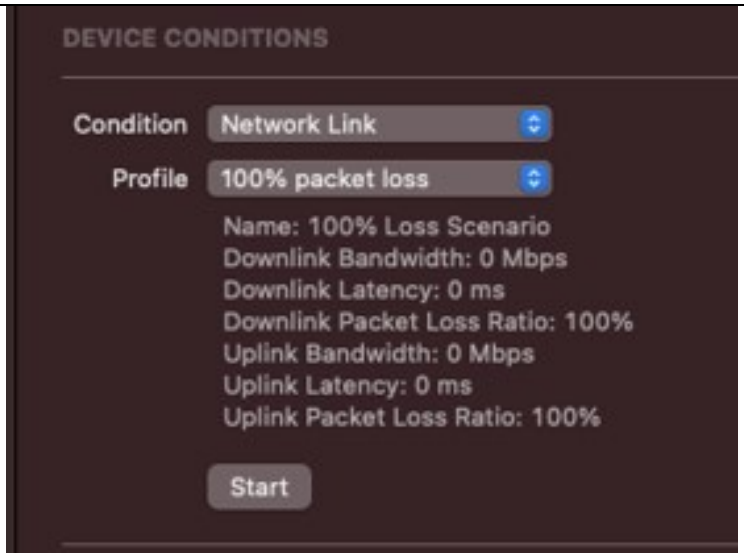


To add a new simulated device, click the plus (+) button at the bottom of the list of simulators and specify the configuration you want. You can add new simulators to specify a different device type or operating system version than the default set. To remove a simulator from the list, select it and press Delete.

https://developer.apple.com/documentation/xcode/running-your-app-in-simulator-or-on-a-device (accessed December 8, 2023).

15. Developers can verify the compiled applications under a variety of network conditions. Network properties such as bandwidth, packet loss, and latency can be simulated in order to verify the applications operate properly under a variety of network conditions to which

they may be subjected:

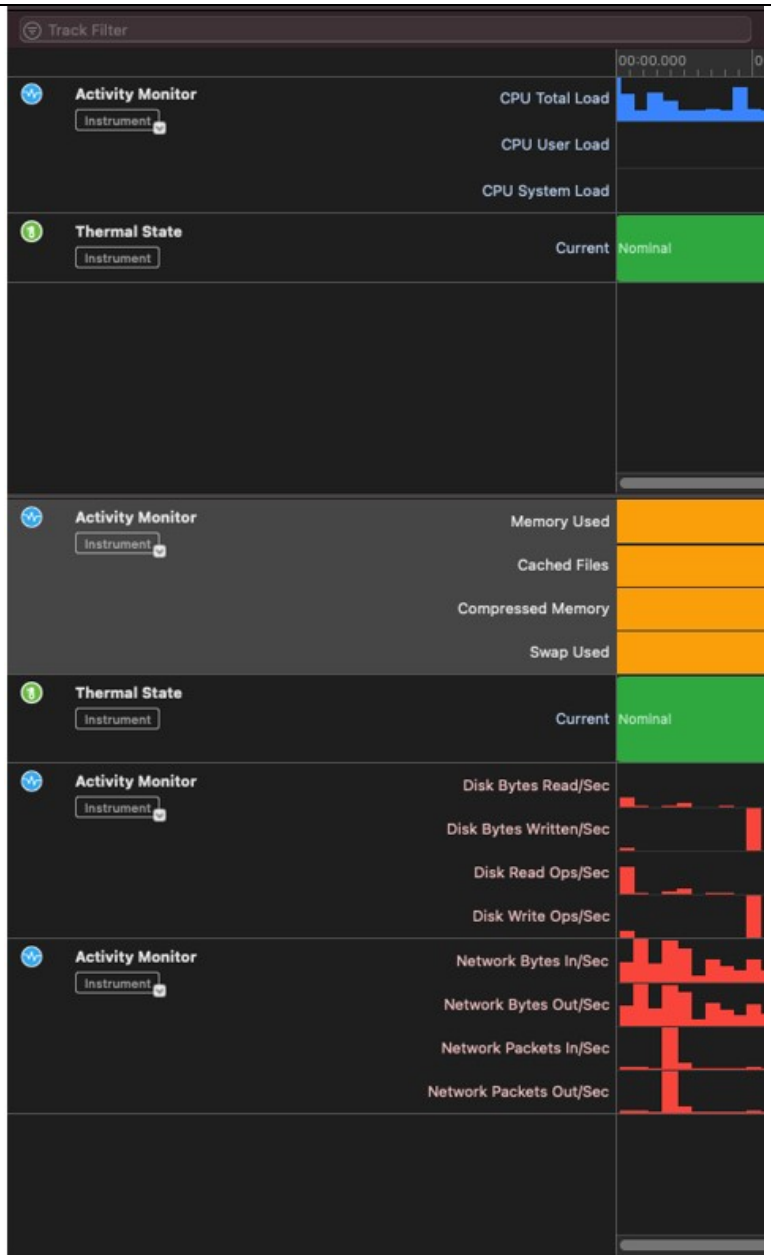


Xcode: Device Conditions

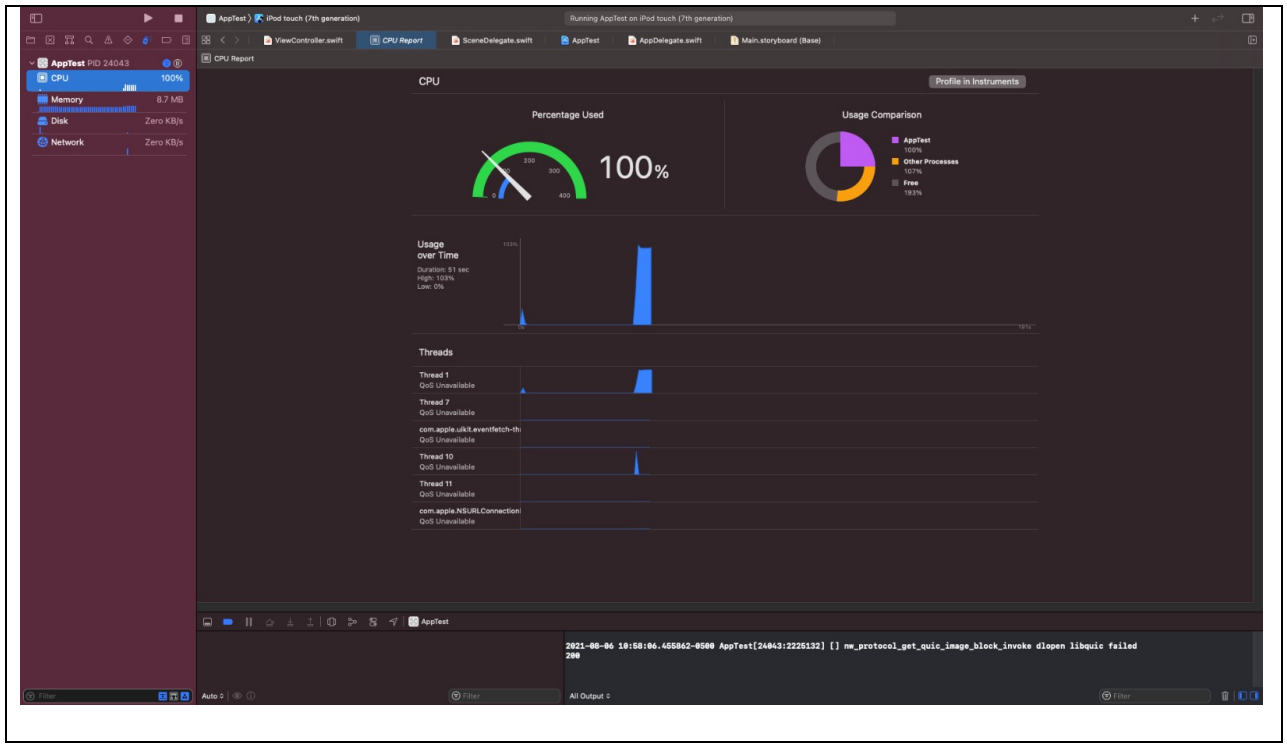
Xcode: Network Link Conditioner Utility

16. Xcode also includes tools to monitor the performance of an application while it is running. Xcode provides tools to monitor the mobile application, regardless of whether it is executing on a physical device or an emulated device. Properties such as network characteristics, processor usage, memory usage, and disk usage can be monitored and displayed to enable the

developer to optimize the performance of the mobile application:

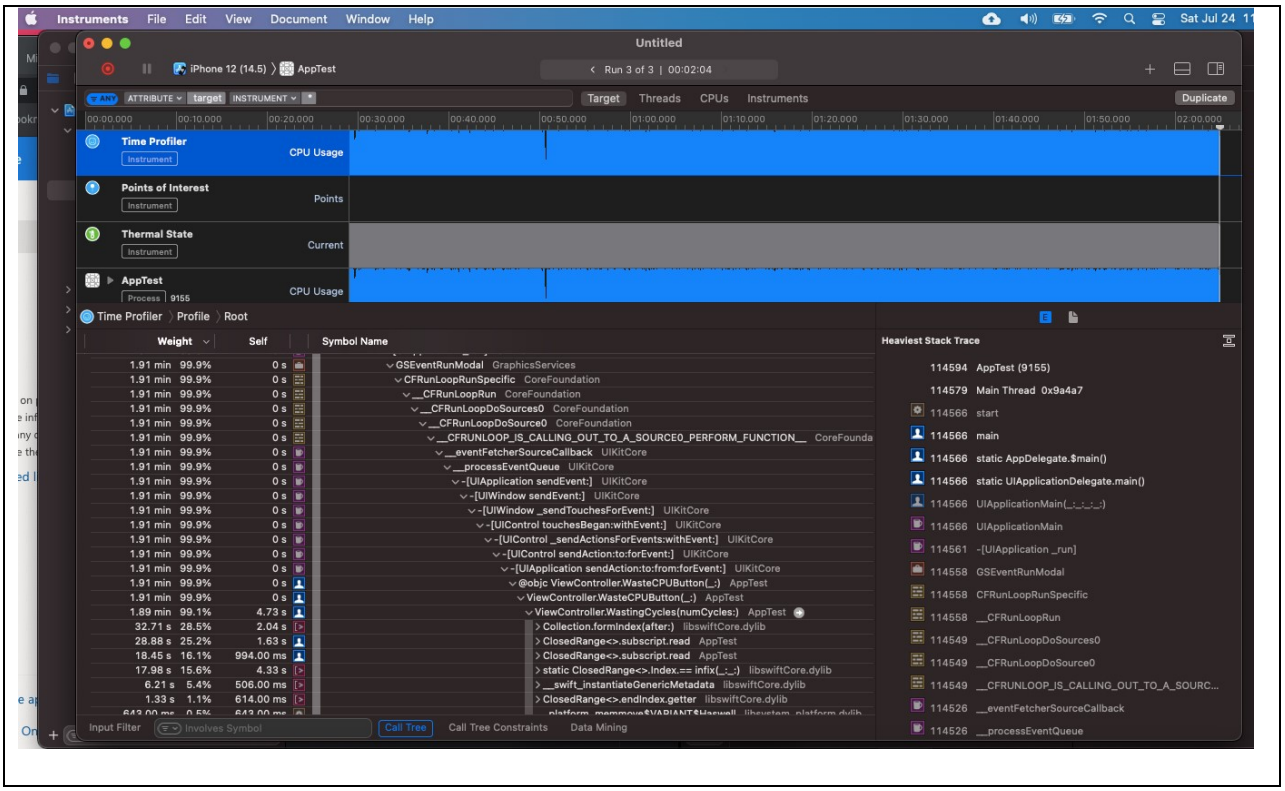


XCode: Instruments



Xcode: CPU Report

17. Xcode can also be used to correspond the utilization of the displayed resources with the functions of the application responsible for that utilization, for example by using the Time Profiler:

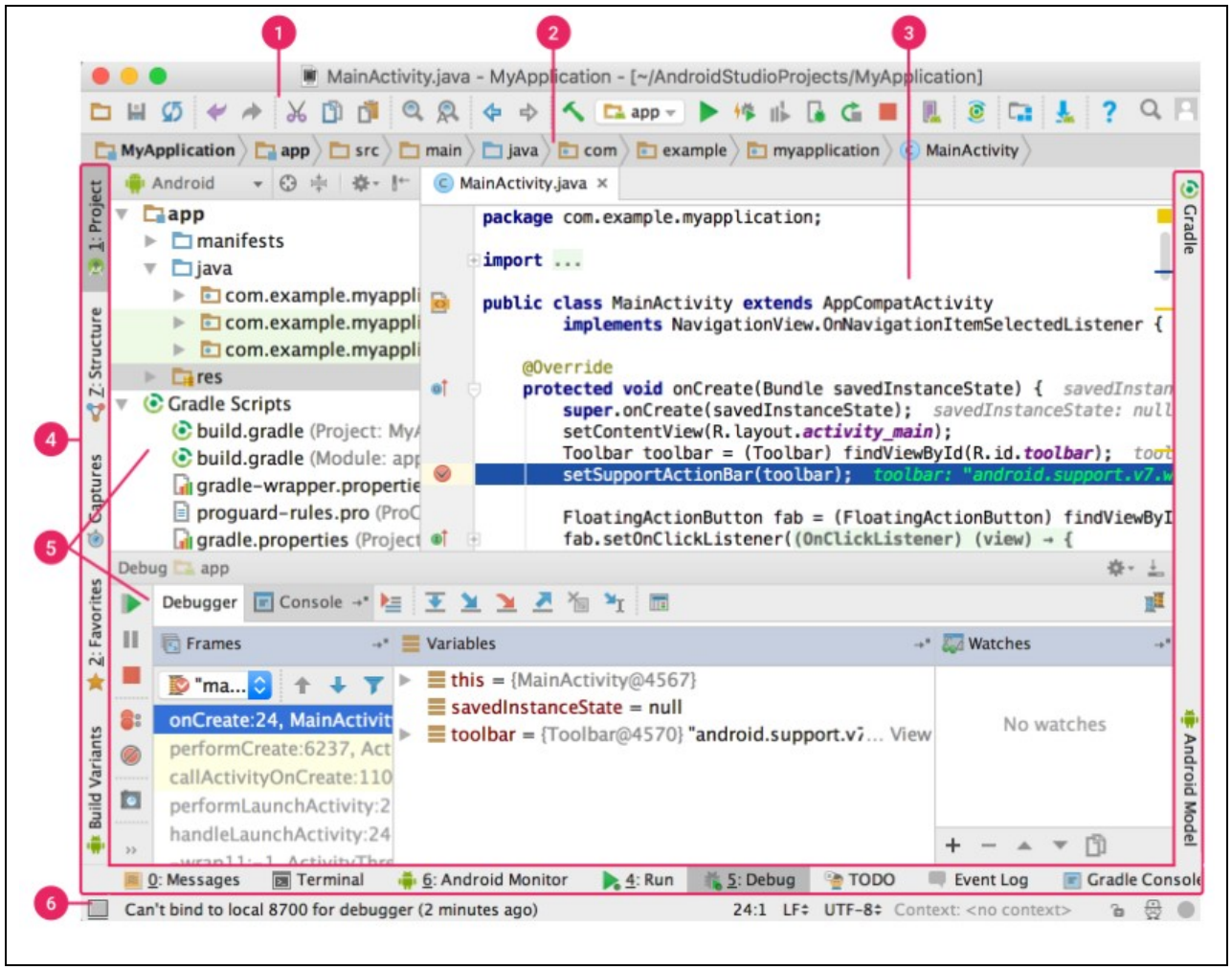


Xcode: Time Profiler

18. The above features allow a developer to write mobile application code targeting a variety of device models and verify its performance in an efficient manner.

Android Studio

19. Google's Android Studio includes the features noted above, including the editor window illustrated below:



https://developer.android.com/studio/intro/user-interface (accessed December 8, 2023).

20. Android Studio also includes a compiler that will transform the code into an application that will run on a mobile device:

Task	Description
Run External tool	Run an application that's external to Android Studio. In the External Tools dialog, select one or more applications that you want to run and then click **OK**. If the application isn't defined in Android Studio yet, add its definition in the Create Tools dialog. For more information, see Configuring Third-Party Tools and External Tools.
Run Another Configuration	Execute one of the existing run/debug configurations. In the **Choose Configuration to Execute** dialog, select a configuration to execute and then click **OK**.
Make	Compile the project or the module. Android Studio executes the Make Module command if the run/debug configuration specifies a particular module, or it executes the Make Project command if no modules are specified.
Make Project	Compile the project. Android Studio executes the Make Project command.

https://developer.android.com/studio/run/rundebugconfig (accessed December 8, 2023) (highlighting added).

21. Android Studio further includes tools to execute the compiled application on a variety of mobile devices or device models (Android Virtual Devices) so that the application's performance can be verified on the selected devices under a variety of network conditions. Android Studio provides the ability to transfer the compiled application to a physical device for verification. However, developers are unlikely to have access to a physical version of every device on which they wish to verify the mobile application. Therefore, Android Studio provides the ability to transfer the compiled application to an emulated device running on a computer, which emulates the characteristics of a physical device:

Run apps on the Android Emulator

On this page

Get started with the emulator
Emulator system requirements
Create an Android Virtual Device
Run your app on the emulator
Navigate the emulator
Update the emulator

The Android Emulator simulates Android devices on your computer so that you can test your application on a variety of devices and Android API levels without needing to have each physical device. The emulator offers these advantages:

- **Flexibility**: In addition to being able to simulate a variety of devices and Android API levels, the emulator comes with predefined configurations for various Android phone, tablet, Wear OS, and Android TV devices.
- **High fidelity**: The emulator provides almost all the capabilities of a real Android device. You can simulate incoming phone calls and text messages, specify the location of the device, simulate different network speeds, simulate rotation and other hardware sensors, access the Google Play Store, and much more.
- **Speed**: Testing your app on the emulator is in some ways faster and easier than doing so on a physical device. For example, you can transfer data faster to the emulator than to a device connected over USB.

In most cases, the emulator is the best option for your testing needs. This page covers the core emulator functionalities and how to get started with it.

Alternatively, you can deploy your app to a physical device. For more information, see Run apps on a hardware device.

https://developer.android.com/studio/run/emulator (accessed December 8, 2023).

Run apps on a hardware device

On this page

Set up a device for development
Connect to your device using USB
Connect to your device using Wi-Fi
Device mirroring
Known issues
Privacy notice
Troubleshoot device connection
Troubleshoot with the Connection Assistant
...

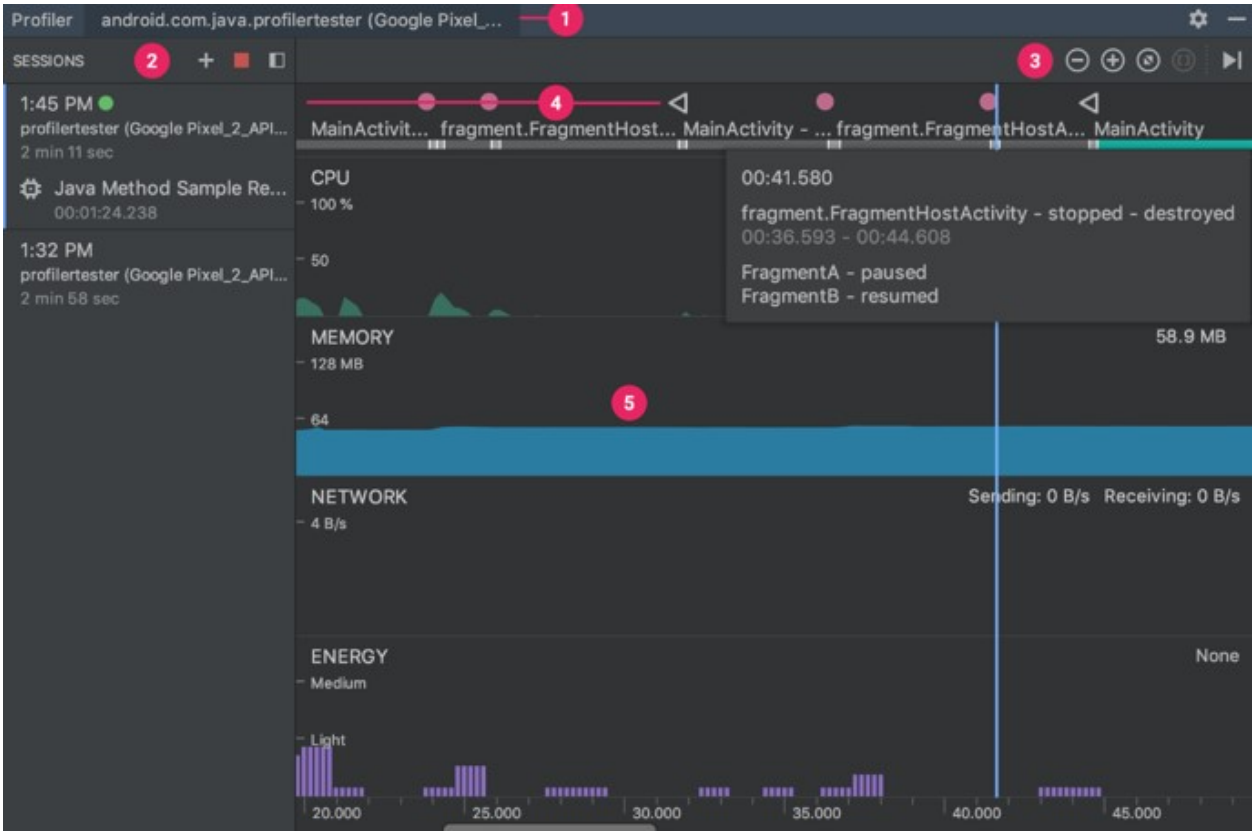
Always test your Android app on a real device before releasing it to users. This page describes how to set up your development environment and Android device for testing and debugging over an Android Debug Bridge (ADB) connection.

https://developer.android.com/studio/run/device (accessed December 8, 2023).

22. Developers can verify the compiled applications under a variety of network conditions. Network properties such as speed and latency can be simulated in order to better verify that the application performs appropriately under a variety of network conditions to which it may be subjected:

Android Studio: Android Virtual Device Manager (showing Network Speed options).

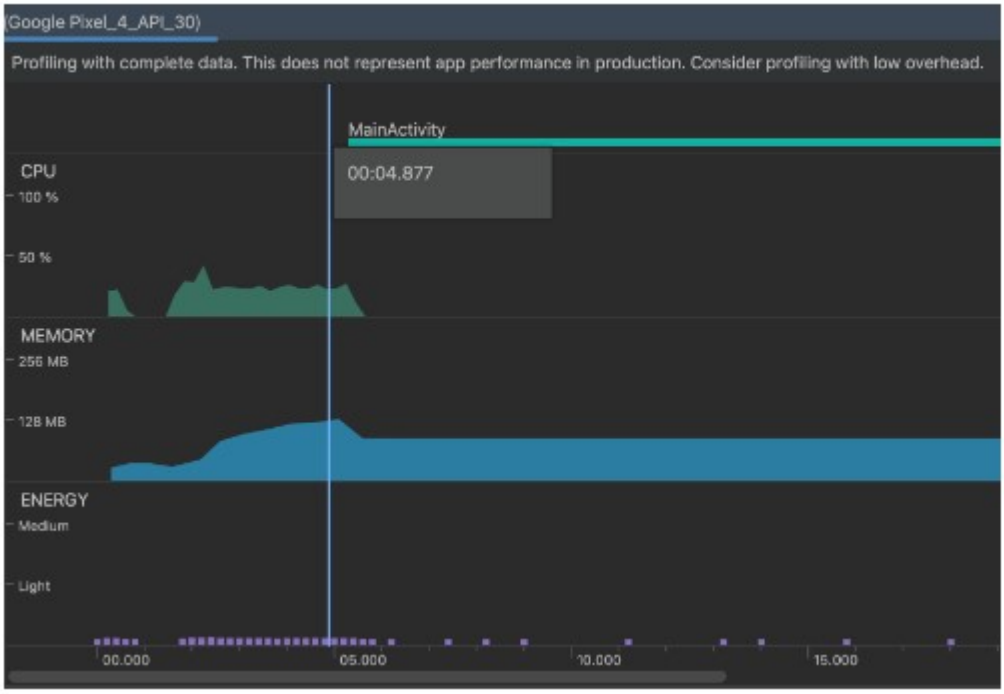
23. Android Studio includes tools (profilers) to monitor performance of the application while it is running. The pre-Bumblebee release of Android Studio provides tools to monitor the mobile application, regardless of whether it is executing on a physical device or an emulated device. Android Studio includes profilers providing such monitoring capabilities: CPU, Memory, Network, and Energy:



https://developer.android.com/studio/profile/android-profiler (accessed May 18, 2023).

24. In the Bumblebee release (and later releases), the Network Profiler functionality was moved to the Network Inspector window.

- **Profile 'app' with complete data** starts the CPU, Memory, and Energy profilers.



https://developer.android.com/studio/profile/android-profiler (accessed December 8, 2023).

Network Inspector overview

At the top of the Network Inspector window, you can see the event timeline. Click and drag to select a portion of the timeline and inspect the traffic.

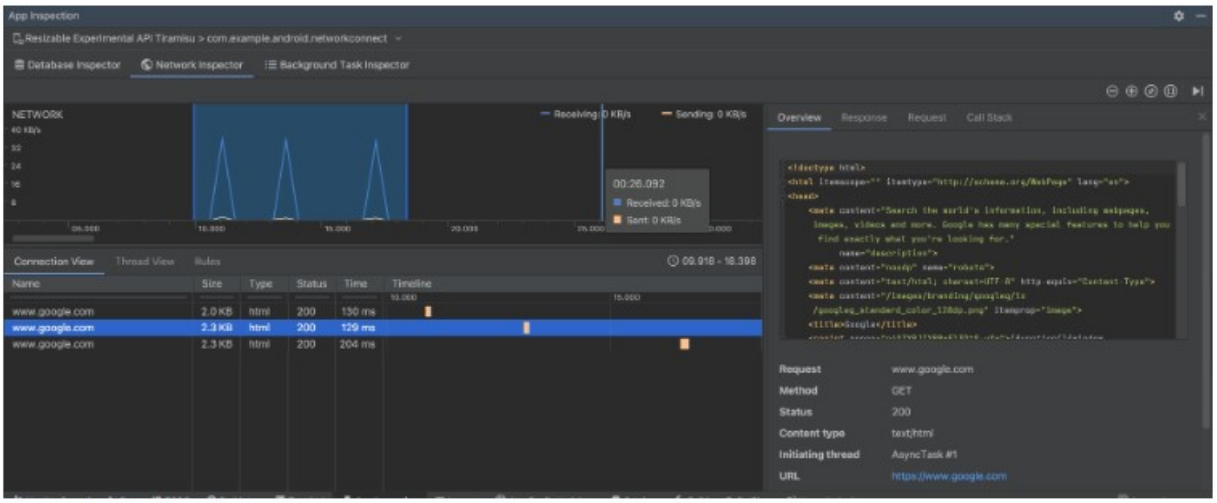


Figure 1. The Network Inspector window.

https://developer.android.com/studio/debug/network-profiler (accessed December 8, 2023).

25. Android Studio can also be used to correspond the utilization of the displayed resources with the functions of the application responsible for the utilization:

Inspect CPU activity with CPU Profiler

On this page

CPU Profiler overview

Optimizing your app's CPU usage has many advantages, such as providing a faster and smoother user experience and preserving device battery life.

You can use the CPU Profiler to inspect your app's CPU usage and thread activity in real time while interacting with your app, or you can inspect the details in recorded method traces, function traces, and system traces.

The detailed information that the CPU Profiler records and shows is determined by which recording configuration you choose:

- **System Trace:** Captures fine-grained details that allow you to inspect how your app interacts with system resources.
- **Method and function traces:** For each thread in your app process, you can find out which methods (Java) or functions (C/C++) are executed over a period of time, and the CPU resources each method or function consumes during its execution. You can also use method and function traces to identify *callers* and *callees*. A caller is a method or function that invokes another method or function, and a callee is one that is invoked by another method or function. You can use this information to determine which methods or functions are responsible for invoking particular resource-heavy tasks too often and optimize your app's code to avoid unnecessary work.

  When recording method traces, you can choose *sampled* or *instrumented* recording. When recording function traces, you can only use sampled recording.

https://developer.android.com/studio/profile/cpu-profiler (accessed December 8, 2023).

26. The above features allow a developer to write the application code and verify its performance in an efficient manner.

The Prevalence of Mobile Banking Applications

27. Smartphones and tablets have become ubiquitous and have created demand for mobile applications tailored to run on those devices. There are more than 1 billion active iPhone

users and more than 3 billion active Android users.[4] Apple and Google each provide their own app store, which enables users to easily find and download mobile applications developed by third parties.[5] Mobile applications developed on either Xcode (for Apple) or Android Studio (for Google) can be submitted to the respective app store *if* the applications meet certain performance criteria.[6] In order to develop mobile applications that meet the criteria set out by Apple and Google, developers must utilize the authoring tools in Xcode or Android Studio that were first pioneered by the named inventor. If the mobile applications do not satisfy certain performance and debugging standards, then both Apple and Google will reject the mobile application for distribution in their respective app stores.

28. The availability of mobile applications has had a drastic impact on the banking industry. Retail bank branch usage declined by 35% overall from 2015 to 2020, while retail banking usage among 18 to 24 year-olds declined by nearly 50%.[7] At the same time, the number of digital banking interactions increased by 15%.[8] The COVID-19 pandemic also increased the importance of mobile banking—"[a]ccording to a 2020 Deloitte survey of 2,000 Americans, the most important factor influencing a client's likelihood of switching banks during COVID-19 is a poorly designed mobile platform."[9] Overall, more than 90% of banking customers under the age of 40 utilize mobile banking.[10] Mobile banking app features are regarded as one of the "key

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[4] https://www.businessofapps.com/data/apple-statistics/ (accessed December 8, 2023); https://www.businessofapps.com/data/android-statistics/ (accessed December 8, 2023).
[5] https://www.apple.com/app-store/ (accessed December 8, 2023); https://play.google.com/store/apps/ (accessed December 8, 2023).
[6] https://developer.apple.com/app-store/review/guidelines/ (accessed December 8, 2023); https://play.google.com/console/about/guides/releasewithconfidence/ (accessed December 8, 2023).
[7] https://deloitte.wsj.com/articles/how-banks-can-redefine-the-digital-experience-01628093439 (accessed December 8, 2023).
[8] *Id.*
[9] *Id.*
[10] https://www.forbes.com/sites/ronshevlin/2021/07/29/mobile-banking-adoption-has-skyrocketed-but-so-have-fraud-concerns-what-can-banks-do/ (accessed December 8, 2023).

attractions" for younger customers selecting a new bank.[11] Studies indicate that 33% of Millennials would consider completely abandoning traditional brick and mortar banking in favor of an app.[12] With Millennials graduating from college, becoming professionals and already making up more than a third of the American labor force,[13] the convergence of the above two factors will change the core model of banking for generations to come.

29. Given that mobile applications are now the primary method through which many customers interact with their bank, a bank's mobile application that is known to have "glitches" or "bugs" is likely to steer potential customers to other banks with better mobile application support.[14] Millennials, who make up an ever increasing percentage of all mobile users, are much less forgiving concerning their application experience and will unapologetically delete an app just because the logo is not appealing.[15] Similarly, a mobile banking application that performs slowly when trying to complete transactions is likely to steer potential customers away.[16] Even mobile application characteristics as simple as poor screen readability on a user's device can drive away potential customers.[17]

30. All of this underscores the need for banks to not only provide mobile applications, but to verify that those mobile applications will provide fast, bug-free performance on the wide variety of mobile devices used by customers and within a wide variety of environmental (*e.g.*,

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[11] https://thefinancialbrand.com/119897/bank-of-america-grabbing-1-in-3-gen-zs-and-millennials-with-mobile/ (accessed December 8, 2023).
[12] https://www.temenos.com/news/2015/09/29/will-millennials-need-banks-in-the-future/ (accessed December 8, 2023).
[13] https://www.pewresearch.org/short-reads/2018/04/11/millennials-largest-generation-us-labor-force/ (accessed December 8, 2023).
[14] https://www.forbes.com/advisor/banking/how-to-choose-mobile-banking-personal-finance-app/ (accessed December 8, 2023).
[15] https://www.comscore.com/Insights/Blog/5-Interesting-Facts-About-Millennials-Mobile-App-Usage-from-The-2017-US-Mobile-App-Report (accessed December 8, 2023).
[16] https://www.forbes.com/sites/ronshevlin/2021/03/29/new-research-identifies-the-most-critical-mobile-banking-features/ (accessed December 8, 2023); https://thefinancialbrand.com/108788/mobile-banking-app-customer-experience-user-security-click/ (accessed December 8, 2023).
[17] https://thefinancialbrand.com/108788/mobile-banking-app-customer-experience-user-security-click/ (accessed December 8, 2023).

network) conditions presented by mobile customers. To accomplish that goal, mobile application developers must use specialized authoring tools that accommodate the unique demands presented by a wide variety of mobile devices across a vast array of global carriers and networks.

Patents-in-Suit

31. Defendant is infringing at least the following patents: (1) U.S. Patent No. 8,924,192; (2) U.S. Patent No. 9,298,864; (3) U.S. Patent No. 9,971,678; (4) U.S. Patent No. 10,353,811; and (5) U.S. Patent No. 10,691,579 (collectively the "Patents-in-Suit").

U.S. Patent No. 8,924,192

32. On Dec. 30, 2014, the United States Patent and Trademark Office ("USPTO") duly and legally issued United States Patent No. 8,924,192 ("the '192 Patent") entitled "Systems Including Network Simulation for Mobile Application Development and Online Marketplaces for Mobile Application Distribution, Revenue Sharing, Content Distribution, or Combinations thereof" on an application filed Nov. 9, 2012, United States Patent Application Ser. No. 13/673,692. The '192 Patent is a continuation of United States Patent Application Ser. No. 12/759,543, filed Apr. 13, 2010, which is a continuation of United States Patent Application Ser. No. 11/449,958, filed Jun. 9, 2006, and issued as United States Pat. No. 7,813,910, on Oct. 12, 2012, which application claims priority to United States Patent Application Ser. No. 60/689,101 filed Jun. 10, 2005.

33. The '192 Patent is presumed valid and enforceable.

34. Plaintiffs are the owners of the '192 Patent.

35. The '192 Patent describes systems that address technical problems related to authoring mobile applications and verifying their performance on a variety of devices and networks. *See, e.g.*, '192 Patent at Fig. 7, 9:46-10:29, 14:19-23.

36. Technological improvements described and claimed in the '192 Patent were not

conventional, well-known, or routine at the time of their respective inventions but involved novel and non-obvious approaches to problems and shortcomings prevalent in the art at the time. *See, e.g.*, '192 Patent at 1:23-2:8.

37. The written description of the '192 Patent supports each of the elements of the claims, allowing a person of ordinary skill in the art ("POSITA") to understand what the elements cover and how the non-conventional and non-routine combination of claim elements differed markedly from and improved upon what may have been considered conventional, generic, or routine. *See, e.g.*, '192 Patent at Fig. 7, 9:46-10:29, 14:19-23.

38. The '192 Patent represents a substantial technical improvement in the area of authoring mobile applications, as demonstrated by its frequent citation. Plaintiffs' mobile authoring innovations have been cited against a number of industry-leading companies as prior art by the United States Patent and Trademark Office and the World Intellectual Property Organization, including citations against Google.[18]

U.S. Patent No. 9,298,864

39. On March 29, 2016, the USPTO duly and legally issued United States Patent No. 9,298,864 (the "'864 Patent") entitled "System Including Network Simulation for Mobile Application Development" on an application filed Nov. 19, 2013, United States Patent Application Ser. No. 14/084,321. The '864 Patent is a divisional of United States Application Ser. No. 12/705,913, filed Feb. 15, 2010 (now United States Pat. No. 8,589,140), which claims priority to United States Application Ser. No. 61/152,934, filed Feb. 16, 2009, and is a continuation-in-part of United States Application Ser. No. 11/449,958, filed Jun. 9, 2006 (now U.S. Pat. No. 7,813,910), which claims priority to United States Application Ser. No. 60/689,101, filed Jun. 10, 2005.

[18] *See* https://patents.google.com/patent/US8924192B1/en (accessed December 8, 2023).

40. The ’864 Patent is presumed valid and enforceable.

41. Plaintiffs are the owners of the ’864 Patent.

42. The ’864 Patent describes systems that address technical problems related to authoring mobile applications and verifying their performance on a variety of devices and networks. *See, e.g.*, ’864 Patent at Fig. 7, 9:23-10:7, 13:66-14:3.

43. Technological improvements described and claimed in the ’864 Patent were not conventional, well-known, or routine at the time of their respective inventions but involved novel and non-obvious approaches to problems and shortcomings prevalent in the art at the time. *See, e.g.*, ’864 Patent at 1:18-2:7.

44. The written description of the ’864 Patent supports each of the elements of the claims, allowing a POSITA to understand what the elements cover and how the non-conventional and non-routine combination of claim elements differed markedly from and improved upon what may have been considered conventional, generic, or routine. *See, e.g.*, ’864 Patent at Fig. 7, 9:23-10:7, 13:66-14:3.

45. The ’864 Patent represents a substantial technical improvement in the area of authoring mobile applications, as demonstrated by its frequent citation. Plaintiffs’ mobile authoring innovations have been cited against a number of industry-leading companies as prior art by the United States Patent and Trademark Office and the World Intellectual Property Organization.[19]

U.S. Patent No. 9,971,678

46. On May 15, 2018, the USPTO duly and legally issued United States Patent No. 9,971,678 (the “’678 Patent”) entitled “Systems Including Device and Network Simulation for Mobile Application Development” on an application filed Dec. 23, 2014, United States Patent

[19] *See* https://patents.google.com/patent/US9298864B2/en (accessed December 8, 2023).

Application Ser. No. 14/581,475. The '678 Patent is a continuation of United States Patent Application Ser. No. 13/673,692, filed Nov. 9, 2012 and issued as United States Pat. No. 8,924,192, on Dec. 30, 2014, which is a continuation of United States Patent Application Ser. No. 12/759,543, filed April 13, 2010 and issued as United States Pat. No. 8,332,203, on Dec. 11, 2012, which is a continuation of United States Patent Application Ser. No. 11/449,958, filed Jun. 9, 2006 and issued as United States Pat. No. 7,813,910, on Oct. 12, 2010, which application claims priority to United States Patent Application Ser. No. 60/689,101 filed Jun. 10, 2005.

47. The '678 Patent is presumed valid and enforceable.

48. Plaintiffs are the owners of the '678 Patent.

49. The '678 Patent describes systems that address technical problems related to authoring mobile applications and verifying their performance on a variety of devices and networks. *See, e.g.*, '678 Patent at Fig. 7, 9:64-10:48, 14:4-9, 14:48-52.

50. Technological improvements described and claimed in the '678 Patent were not conventional, well-known, or routine at the time of their respective inventions but involved novel and non-obvious approaches to problems and shortcomings prevalent in the art at the time. *See, e.g.*, '678 Patent at 1:22-2:9.

51. The written description of the '678 Patent supports each of the elements of the claims, allowing a POSITA to understand what the elements cover and how the non-conventional and non-routine combination of claim elements differed markedly from and improved upon what may have been considered conventional, generic, or routine. *See, e.g.*, '678 Patent at Fig. 7, 9:64-10:48, 14:4-9, 14:48-52.

52. The '678 Patent represents a substantial technical improvement in the area of authoring mobile applications, as demonstrated by its frequent citation. Plaintiffs' mobile

authoring innovations have been cited against a number of industry-leading companies as prior art by the United States Patent and Trademark Office and the World Intellectual Property Organization, including citations against Amazon.[20]

U.S. Patent No. 10,353,811

53. On July 16, 2019, the USPTO duly and legally issued United States Patent No. 10,353,811 ("the '811 Patent") entitled "SYSTEM FOR DEVELOPING AND TESTING A MOBILE APPLICATION" on an application filed May 14, 2018, United States Patent Application Ser. No. 15/979,330. The '811 Patent is a continuation of U.S. patent application Ser. No. 14/581,475, filed Dec. 23, 2014, which is a continuation of U.S. patent application Ser. No. 13/673,692, filed Nov. 9, 2012, and issued as U.S. Pat. No. 8,924,192, on Dec. 30, 2014, which is a continuation of U.S. patent application Ser. No. 12/759,543, filed Apr. 13, 2010, and issued as U.S. Pat. No. 8,332,203, on Dec. 11, 2012, which is a continuation of U.S. patent application Ser. No. 11/449,958, filed Jun. 9, 2006, and issued as U.S. Pat. No. 7,813,910, on Oct. 12, 2010, which application claims priority to U.S. Patent Application No. 60/689,101 filed Jun. 10, 2005.

54. The '811 Patent is presumed valid and enforceable.

55. Plaintiffs are the owners of the '811 Patent.

56. The '811 Patent describes systems that address technical problems related to authoring mobile applications and verifying their performance on a variety of devices and networks. *See, e.g.*, '811 Patent at Fig. 7, 9:63-10:48, 14:4-9, 14:48-52.

57. Technological improvements described and claimed in the '811 Patent were not conventional, well-known, or routine at the time of their respective inventions but involved novel and non-obvious approaches to problems and shortcomings prevalent in the art at the time. *See, e.g.*, '811 Patent at 1:23-2:11.

[20] *See* https://patents.google.com/patent/US9971678/en (accessed December 8, 2023).

58. The written description of the ’811 Patent supports each of the elements of the claims, allowing a POSITA to understand what the elements cover and how the non-conventional and non-routine combination of claim elements differed markedly from and improved upon what may have been considered conventional, generic, or routine. *See, e.g.*, ’811 Patent at Fig. 7, 9:63-10:48, 14:4-9, 14:48-52.

U.S. Patent No. 10,691,579

59. On June 23, 2020, the USPTO duly and legally issued United States Patent No. 10,691,579 (“the ’579 Patent”) entitled “SYSTEMS INCLUDING DEVICE AND NETWORK SIMULATION FOR MOBILE APPLICATION DEVELOPMENT” on an application filed March 28, 2016, United States Patent Application Ser. No. 15/083,186. The ’579 Patent is a division of U.S. application Ser. No. 14/084,321, filed Nov. 19, 2013 (now U.S. Pat. No. 9,298,864), which claims priority to U.S. application Ser. No. 12/705,913, filed Feb. 15, 2010 (now U.S. Pat. No. 8,589,140), which claims priority to U.S. Application No. 61/152,934, filed Feb. 16, 2009, and is a continuation-in-part of U.S. application Ser. No. 11/449,958, filed Jun. 9, 2006 (now U.S. Pat. No. 7,813,910), which claims priority to U.S. Application No. 60/689,101, filed Jun. 10, 2005.

60. The ’579 Patent is presumed valid and enforceable.

61. Plaintiffs are the owners of the ’579 Patent.

62. The ’579 Patent describes systems that address technical problems related to authoring mobile applications and verifying their performance on a variety of devices and networks. *See, e.g.*, ’579 Patent at Fig. 7, 9:42-10:26, 13:48-53, 14:25-29.

63. Technological improvements described and claimed in the ’579 Patent were not conventional, well-known, or routine at the time of their respective inventions but involved novel

and non-obvious approaches to problems and shortcomings prevalent in the art at the time. *See, e.g.*, '579 Patent at 1:20-2:11.

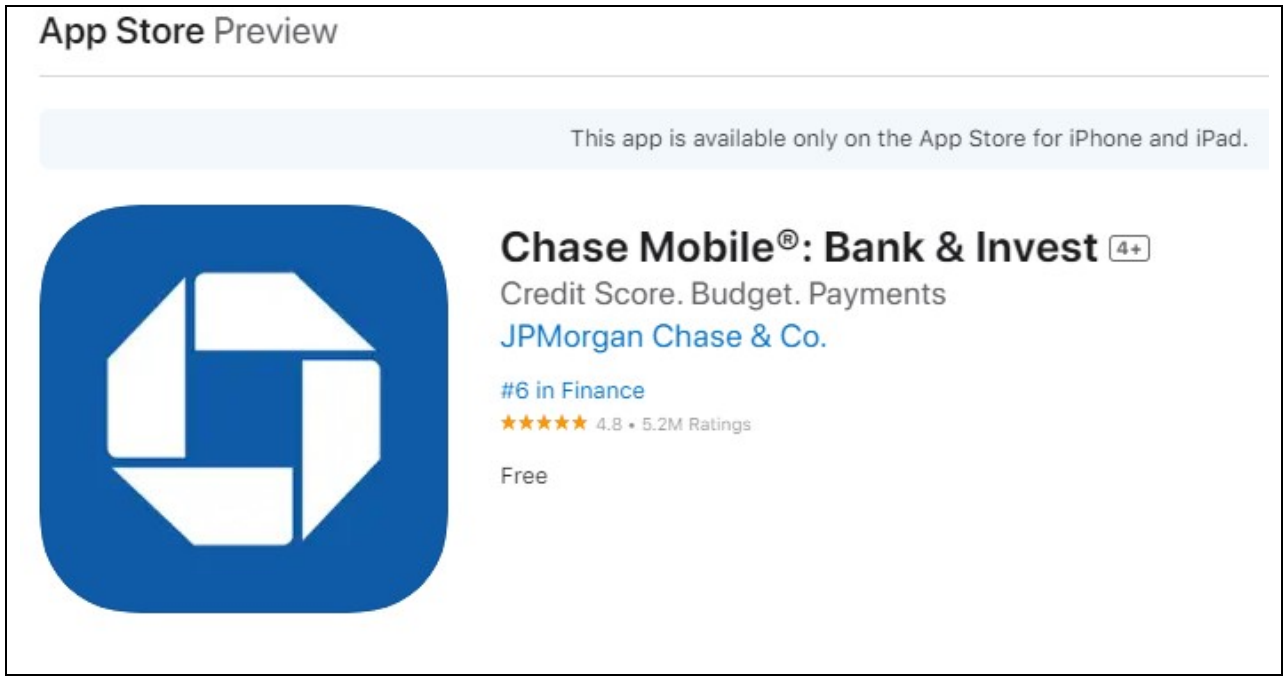
64. The written description of the '579 Patent supports each of the elements of the claims, allowing a POSITA to understand what the elements cover and how the non-conventional and non-routine combination of claim elements differed markedly from and improved upon what may have been considered conventional, generic, or routine. *See, e.g.*, '579 Patent at Fig. 7, 9:42-10:26, 13:48-53, 14:25-29.

Infringement by Defendant

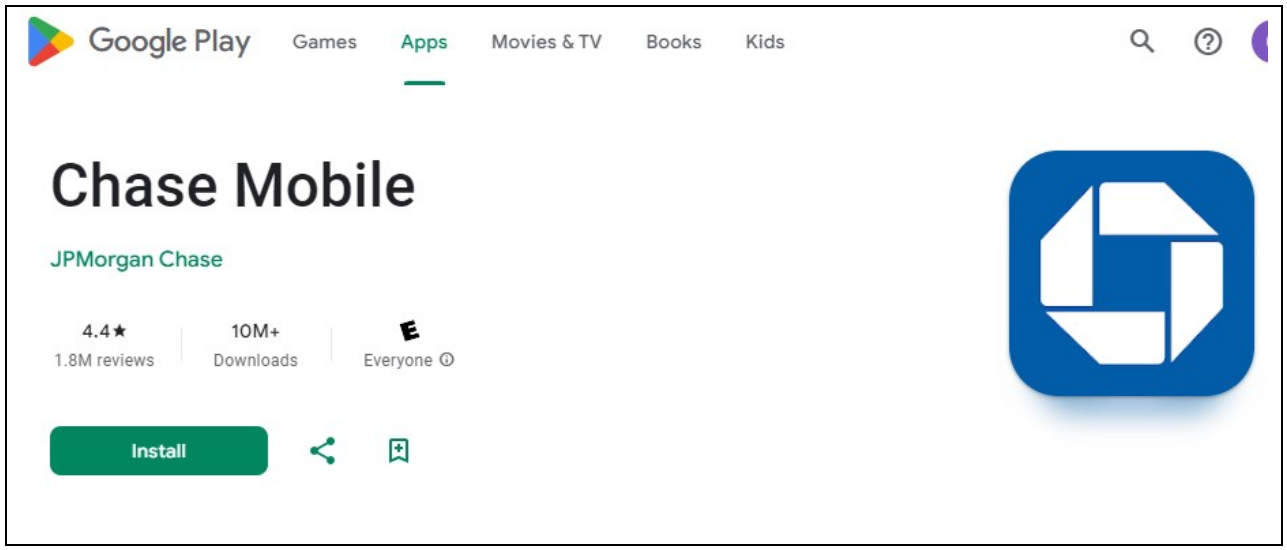
65. Defendant's most recent quarterly earnings filing noted that it had more than 53 million active mobile users.[21] Defendant gained more than 4 million mobile users year over year, an increase of 9% which Defendant showcased in its "Business segment highlights."[22] With the massive existing base of mobile users and the continuing shift to mobile banking noted by Defendant, it is vital that Defendant's mobile banking applications be available for the most popular mobile devices (such as those running Apple's iOS or Google's Android operating system).

66. Accordingly, Defendant has created its own mobile banking applications and made them available in both Apple's and Google's App stores:

[21] JP Morgan Chase & Co. Quarterly Report for the Period Ended September 30, 2023, available at https://www.jpmorganchase.com/content/dam/jpmc/jpmorgan-chase-and-co/investor-relations/documents/quarterly-earnings/2023/3rd-quarter/CORP-Q3-2023.pdf at 28 (accessed December 8, 2023).
[22] *Id.* at 7.



https://apps.apple.com/us/app/chase-mobile-bank-invest/id298867247 (accessed December 8, 2023).



https://play.google.com/store/apps/details?id=com.chase.sig.android&hl=en_US&gl=US (accessed December 8, 2023).

67. On information and belief, Defendant uses Apple's Xcode on an ongoing basis to author its mobile application for Apple's App Store. On information and belief, Defendant uses Google's Android Studio on an ongoing basis to author its mobile application for Google's App

Store. Defendant uses both Xcode and Android Studio in a manner that infringes the Patents-in-Suit when it uses them to author mobile applications to support its banking services. In addition, on information and belief, Defendant uses other software tools to develop its mobile applications, and on information and belief, Defendant potentially uses those other tools in an infringing manner.

68. Defendant's use of Xcode and Android Studio in an infringing manner is necessary to meet the performance and functionality guidelines identified by Apple and Google for admission to their respective app stores.[23] Defendant's infringing use of Xcode and Android Studio is necessary to provide Defendant's large mobile banking demographic with a satisfactory mobile application.

69. Defendant employs engineers and computer scientists who author and verify performance of mobile applications for it on an ongoing basis.[24]

70. These positions seek mobile developers who are "focused on developing and delivering cutting edged mobile applications, digital experiences and next generation banking technology solutions to better serve our clients and customers."[25]

71. Some of Defendant's job postings also identify the ability to use Xcode and Android Studio as a qualification:

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[23] https://developer.apple.com/app-store/review/guidelines/ (accessed December 8, 2023); https://play.google.com/console/about/guides/releasewithconfidence/ (accessed December 8, 2023).

[24] *See, e.g.,* https://jpmc.fa.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1002/requisitions/preview/210398636/ (accessed December 8, 2023); https://jpmc.fa.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1002/requisitions/preview/210464557/ (accessed December 8, 2023); https://jpmc.fa.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1002/requisitions/preview/210260943_300015306973757_ORA_DELETED/ (accessed December 8, 2023).

[25] https://jpmc.fa.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1002/requisitions/preview/210398636/ (accessed December 8, 2023).

Required qualifications, capabilities, and skills:

- Formal training or certification on system design, application development, testing, and operational stability concepts and 5+ years applied experience
- Hands-on practical experience delivering system design, application development, testing, and operational stability
- Advanced in one or more of the following mobile platform programming language(s): Objective-C, Swift, Kotlin or Java (on Android)
- Proficient in the use of mobile application IDEs - XCode or Android Studio

https://jpmc.fa.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1002/requisitions/preview/210464557 (accessed December 8, 2023) (highlighting added).

72. Defendant has continuously used Xcode and Android Studio in an infringing manner to create its mobile applications.

COUNT I

Infringement of U.S. Patent No. 8,924,192

73. Plaintiffs incorporate the paragraphs above herein by reference.

74. Defendant without authorization has been and is directly infringing at least Claim 1 of the ’192 Patent. Defendant infringes at least Claim 1 of the ’192 Patent when its employees or agents use Apple’s Xcode or Google’s Android Studio (and potentially other software development tools) to author mobile applications.

75. In addition to direct infringement, Defendant also indirectly infringes the ’192 Patent. On information and belief, Defendant has induced third parties to author mobile applications on its behalf using Apple’s Xcode or Google’s Android Studio. Defendant knowingly encourages and intends to induce infringement of the ’192 Patent by instructing third parties to author applications compatible with Apple’s iOS or Google’s Android operating systems on Defendant’s behalf, knowing and specifically intending that Apple’s Xcode or Google’s Android Studio will be used in an infringing manner to author the mobile applications.

76. Defendant will continue to infringe unless this Court enjoins Defendant and its

agents, servants, employees, representatives, and all others acting in active concert with Defendant from infringing the '192 Patent.

77. At least by the filing date of this Complaint, Defendant was aware of the infringement allegations regarding the '192 Patent contained herein.

78. At least by the filing date of this Complaint, Defendant has knowingly engaged in the willful destruction of WAPP's business as a whole, caused the loss of goodwill related to WAPP's business, diminished the viability of WAPP's business as a whole, and Defendant's actions have had an injurious effect on the property of WAPP, including its intellectual property and the '192 Patent.

79. Defendant's infringement of the '192 Patent, at least since the filing of this Complaint, is deliberate and willful. Defendant has had knowledge of the Patents-in-Suit and their infringement at least since the filing of this Complaint. Defendant's continued infringement is deliberate, wanton and egregious, with reckless disregard for Plaintiffs' patent rights. This is therefore an exceptional case warranting an award of enhanced damages and attorneys' fees pursuant to 35 U.S.C. §§ 284-285.

80. As a result of Defendant's infringement of the '192 Patent, Plaintiffs have suffered monetary damages, and seek recovery in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty with interest and costs.

COUNT II

Infringement of U.S. Patent No. 9,298,864

81. Plaintiffs incorporate the paragraphs above herein by reference.

82. Defendant without authorization has been and is directly infringing at least Claim 1 of the '864 Patent. Defendant infringes at least Claim 1 of the '864 Patent when its employees or agents use Apple's Xcode or Google's Android Studio (and potentially other software

development tools) to author mobile applications.

83. In addition to direct infringement, Defendant also indirectly infringes the ’864 Patent. On information and belief, Defendant has induced third parties to author mobile applications on its behalf using Apple’s Xcode or Google’s Android Studio. Defendant knowingly encourages and intends to induce infringement of the ’864 Patent by instructing third parties to author applications compatible with Apple’s iOS or Google’s Android operating systems on Defendant’s behalf, knowing and specifically intending that Apple’s Xcode or Google’s Android Studio will be used in an infringing manner to author the mobile applications.

84. Defendant will continue to infringe unless this Court enjoins Defendant and its agents, servants, employees, representatives, and all others acting in active concert with Defendant from infringing the ’864 Patent.

85. At least by the filing date of this Complaint, Defendant was aware of the infringement allegations regarding the ’864 Patent contained herein.

86. At least by the filing date of this Complaint, Defendant has knowingly engaged in the willful destruction of WAPP’s business as a whole, caused the loss of goodwill related to WAPP’s business, diminished the viability of WAPP’s business as a whole, and Defendant’s actions have had an injurious effect on the property of WAPP, including its intellectual property and the ‘864 Patent.

87. Defendant’s infringement of the ’864 Patent, at least since the filing date of this Complaint, is deliberate and willful. Defendant has had knowledge of the Patents-in-Suit and their infringement at least since the filing of this Complaint. Defendant’s continued infringement is deliberate, wanton and egregious, with reckless disregard for Plaintiffs’ patent rights. This is therefore an exceptional case warranting an award of enhanced damages and attorneys’ fees

pursuant to 35 U.S.C. §§ 284-285.

88. As a result of Defendant's infringement of the '864 Patent, Plaintiffs have suffered monetary damages, and seek recovery in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty with interest and costs.

COUNT III

Infringement of U.S. Patent No. 9,971,678

89. Plaintiffs incorporate the paragraphs above herein by reference.

90. Defendant without authorization has been and is directly infringing at least Claim 45 of the '678 Patent. Defendant infringes at least Claim 45 of the '678 Patent when its employees or agents use Apple's Xcode or Google's Android Studio (and potentially other software development tools) to author mobile applications.

91. In addition to direct infringement, Defendant also indirectly infringes the '678 Patent. On information and belief, Defendant has induced third parties to author mobile applications on its behalf using Apple's Xcode or Google's Android Studio. Defendant knowingly encourages and intends to induce infringement of the '678 Patent by instructing third parties to author applications compatible with Apple's iOS or Google's Android operating systems on Defendant's behalf, knowing and specifically intending that Apple's Xcode or Google's Android Studio will be used in an infringing manner to author the mobile applications.

92. Defendant will continue to infringe unless this Court enjoins Defendant and its agents, servants, employees, representatives, and all others acting in active concert with Defendant from infringing the '678 Patent.

93. At least by the filing date of this Complaint, Defendant was aware of the infringement allegations regarding the '678 Patent contained herein.

94. At least by the filing date of this Complaint, Defendant has knowingly engaged in

the willful destruction of WAPP's business as a whole, caused the loss of goodwill related to WAPP's business, diminished the viability of WAPP's business as a whole, and Defendant's actions have had an injurious effect on the property of WAPP, including its intellectual property and the '678 Patent.

95. Defendant's infringement of the '678 Patent, at least since the filing date of this Complaint, is deliberate and willful. Defendant has had knowledge of the Patents-in-Suit and their infringement at least since the filing of this Complaint. Defendant's continued infringement is deliberate, wanton and egregious, with reckless disregard for Plaintiffs' patent rights. This is therefore an exceptional case warranting an award of enhanced damages and attorneys' fees pursuant to 35 U.S.C. §§ 284-285.

96. As a result of Defendant's infringement of the '678 Patent, Plaintiffs have suffered monetary damages, and seek recovery in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty with interest and costs.

COUNT IV

Infringement of U.S. Patent No. 10,353,811

97. Plaintiffs incorporate the paragraphs above herein by reference.

98. Defendant without authorization has been and is directly infringing at least Claim 1 of the '811 Patent. Defendant infringes at least Claim 1 of the '811 Patent when its employees or agents use Apple's Xcode or Google's Android Studio (and potentially other software development tools) to author mobile applications.

99. In addition to direct infringement, Defendant also indirectly infringes the '811 Patent. On information and belief, Defendant has induced third parties to author mobile applications on its behalf using Apple's Xcode or Google's Android Studio. Defendant knowingly encourages and intends to induce infringement of the '811 Patent by instructing third parties to

author applications compatible with Apple's iOS or Google's Android operating systems on Defendant's behalf, knowing and specifically intending that Apple's Xcode or Google's Android Studio will be used in an infringing manner to author the mobile applications.

100. Defendant will continue to infringe unless this Court enjoins Defendant and its agents, servants, employees, representatives, and all others acting in active concert with Defendant from infringing the '811 Patent.

101. At least by the filing date of this Complaint, Defendant was aware of the infringement allegations regarding the '811 Patent contained herein.

102. At least by the filing date of this Complaint, Defendant has knowingly engaged in the willful destruction of WAPP's business as a whole, caused the loss of goodwill related to WAPP's business, diminished the viability of WAPP's business as a whole, and Defendant's actions have had an injurious effect on the property of WAPP, including its intellectual property and the '811 Patent.

103. Defendant's infringement of the '811 Patent, at least since the filing date of this Complaint, is deliberate and willful. Defendant has had knowledge of the Patents-in-Suit and their infringement at least since the filing of this Complaint. Defendant's continued infringement is deliberate, wanton and egregious, with reckless disregard for Plaintiffs' patent rights. This is therefore an exceptional case warranting an award of enhanced damages and attorneys' fees pursuant to 35 U.S.C. §§ 284-285.

104. As a result of Defendant's infringement of the '811 Patent, Plaintiffs have suffered monetary damages, and seek recovery in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty with interest and costs.

COUNT V

Infringement of U.S. Patent No. 10,691,579

105. Plaintiffs incorporate the paragraphs above herein by reference.

106. Defendant without authorization has been and is directly infringing at least Claim 15 of the ’579 Patent. Defendant infringes at least Claim 15 of the ’579 Patent when its employees or agents use Apple’s Xcode or Google’s Android Studio (and potentially other software development tools) to author mobile applications.

107. In addition to direct infringement, Defendant also indirectly infringes the ’579 Patent. On information and belief, Defendant has induced third parties to author mobile applications on its behalf using Apple’s Xcode or Google’s Android Studio. Defendant knowingly encourages and intends to induce infringement of the ’579 Patent by instructing third parties to author applications compatible with Apple’s iOS or Google’s Android operating systems on Defendant’s behalf, knowing and specifically intending that Apple’s Xcode or Google’s Android Studio will be used in an infringing manner to author the mobile applications.

108. Defendant will continue to infringe unless this Court enjoins Defendant and its agents, servants, employees, representatives, and all others acting in active concert with Defendant from infringing the ’579 Patent.

109. At least by the filing date of this Complaint, Defendant was aware of the infringement allegations regarding the ’579 Patent contained herein.

110. At least by the filing date of this Complaint, Defendant has knowingly engaged in the willful destruction of WAPP’s business as a whole, caused the loss of goodwill related to WAPP’s business, diminished the viability of WAPP’s business as a whole, and Defendant’s actions have had an injurious effect on the property of WAPP, including its intellectual property and the ‘579 Patent.

111. Defendant's infringement of the '579 Patent, at least since the filing date of this Complaint, is deliberate and willful. Defendant has had knowledge of the Patents-in-Suit and their infringement at least since the filing of this Complaint. Defendant's continued infringement is deliberate, wanton and egregious, with reckless disregard for Plaintiffs' patent rights. This is therefore an exceptional case warranting an award of enhanced damages and attorneys' fees pursuant to 35 U.S.C. §§ 284-285.

112. As a result of Defendant's infringement of the '579 Patent, Plaintiffs have suffered monetary damages, and seek recovery in an amount adequate to compensate for Defendant's infringement, but in no event less than a reasonable royalty with interest and costs.

PRAYER FOR RELIEF

WHEREFORE, WAPP prays for judgment against Defendant as follows:

113. A judgment in favor of WAPP that Defendant has infringed and is infringing, either literally and/or under the doctrine of equivalents, the Patents-in-Suit;

114. A judgment in favor of WAPP that Defendant's infringement has been and continues to be willful;

115. An Order permanently enjoining Defendant, its respective officers, agents, employees, and those acting in privity with them, from further infringement of the Patents-in-Suit;

116. An award of damages to WAPP arising out of Defendant's infringement of the Patents-in-Suit, including supplemental damages for any continuing post-verdict infringement up until entry of the final judgment, with an accounting, as needed, and enhanced damages pursuant to 35 U.S.C. § 284, together with prejudgment and post-judgment interest, in an amount according to proof;

117. An award of an ongoing royalty for Defendant's post-judgment infringement in an amount according to proof in the event that a permanent injunction preventing future acts of

infringement is not granted;

118. An award of attorneys' fees pursuant to 35 U.S.C. § 285 or as otherwise permitted by law; and

119. Granting WAPP its costs and further relief as the Court may deem just and proper.

DEMAND FOR JURY TRIAL

120. Pursuant to Federal Rule of Civil Procedure 38(b), WAPP hereby demands a trial by jury on all issues triable by jury.

Dated: December 22, 2023

Respectfully submitted,

/s/ Leslie V. Payne

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