

Locale X Uses DexGuard and ThreatCast to Secure Android Mobile App



Obfuscation, runtime application self-protection (RASP), and threat monitoring offer defense in depth

The Company

Featured in *Wired*, *Popular Mechanics* and other publications, [Locale](#) is an Android app that allows users to manage device settings automatically based on a customizable set of conditions. The app launched in 2008 as the winner of Google's Android Developer Challenge. It has continued to grow in popularity over the years and is one of the longest maintained apps on Google Play.

Carter Jernigan—founder of two forty four a.m. LLC and developer of Locale—was inspired to create the app after a [judge jailed 46 people](#) when a cell phone rang while court was in session and no one would admit to the sound coming from their phone. With Locale, users can easily customize their Android device's behavior. For example, users can ensure their phone's ringer will never sound in a movie theater; prevent texts from arriving while the user is driving a car; immediately open Spotify when connecting headphones; and much more.

In 2020, two forty four a.m. launched the public beta for Locale X, a major new version of the original app.



Industry

Consumer

Privately / Publicly Owned

Private

Challenges

- IP protection
- Preventing piracy and app modification

Solutions

- ProGuard
- DexGuard
- ThreatCast

“ I built Locale from day one with privacy and security in mind, so I've always been very careful about what kinds of tools I use. I want to do things in an unintrusive way that protects users. Locale asks for the minimum necessary permissions, users have the option of staying anonymous, and user data is never sold or monetized. DexGuard and ThreatCast have made Locale X more secure, faster, and better for users. ”

- Carter Jernigan, founder of two forty four a.m. LLC and developer of Locale

The Challenge

In the early days, Locale's growing popularity presented some challenges. With more and more legitimate paid downloads, pirates also took notice.

"I would receive support questions, but the questions made no sense," said Jernigan. "It turns out they had downloaded a pirated and modified version of the app."

These pirates were creating a lot of work for Jernigan, including server load and customer satisfaction issues. He was concerned about the quality of the customer experience, which is his top priority for Locale—users downloading a modified app were coming away with a negative experience. In addition, user privacy—also a priority for Jernigan—would be at risk, too. Many mobile apps are designed with sharing and interoperability in mind. Locale was built with a plug-in API, which inherently increases the security surface area of the app.

"Locale has a well-designed interface and was created with security in mind, but any time you open an API there is risk," Jernigan said. "As the expression goes, 'the most secure room is a room with no door,' but this isn't possible for mobile apps designed for interoperability."

He was also concerned about intellectual property, as there are four patented innovations embedded within the Locale mobile app. **It was time to find a security solution.**

The Solution

"I built Locale from day one with privacy and security in mind, so I've always been very careful about what kinds of tools I use," said Jernigan. "I want to do things in an unintrusive way that protects users. Locale asks for the minimum necessary permissions, users have the option of staying anonymous, and user data is never sold or monetized."

In 2009, Locale began using ProGuard—Guardsquare's free, open source code optimizer—to speed up the app and offer some basic security protections. Over time, Locale expanded to use DexGuard in 2012, which Guardsquare created specifically to secure Android mobile apps.

DexGuard's advanced obfuscation and runtime application self-protection (RASP) features were important to Jernigan for Locale. While both ProGuard and DexGuard are helpful in reducing app size and increasing app speed, DexGuard, in particular, appealed to Jernigan for its ability to obfuscate code, thus protecting his IP.

In 2020, Locale X became one of the first apps to use Guardsquare's new ThreatCast solution for mobile threat monitoring. With ThreatCast, companies can see threats as they occur in real-time and update configurations to protect apps against suspicious behavior.

"DexGuard and ThreatCast have made Locale X more secure, faster, and better for users," added Jernigan.

The Result

Over the years, two forty four a.m. has seen many benefits to using Guardsquare's products. When the company launched the public beta of Locale X in 2020—the latest version of the app with the most requested new features—it came with an emphasis on security, with **DexGuard** and **ThreatCast** baked in.

DexGuard

Providing obfuscation and RASP, DexGuard protects two forty four a.m.'s IP and improves the overall security of the app.

In addition, by stripping out unnecessary code, DexGuard has improved Locale's runtime performance.

"I let DexGuard do the optimizing for me," added Jernigan. "It makes the engineering process a lot easier, and the app is more secure and faster, too."

ThreatCast

With ThreatCast, two forty four a.m. is able to monitor threats more effectively, including attempts to pirate or modify the mobile app.

"While Locale uses a security hardened design, I appreciate the extra layer of security protection that ThreatCast provides by monitoring both the app and the device environment," said Jernigan.

The increased monitoring is also helping Jernigan with user support and the customer experience.

"We have a clearer sense of how to help users during support requests, like if they're running in an environment that might be causing problems," said Jernigan. "For example, some users are operating rooted devices—when we can see this, we can ask the right questions, explain what's not working, and move them forward."

Beyond DexGuard and ThreatCast, Jernigan has appreciated the support from Guardsquare's team of experts.

"The support from the Guardsquare team has been incredible. I've emailed a few questions, and the team—and often Eric, the company's co-founder—writes back with a positive and helpful attitude. Any issues get fixed fast, sometimes within an hour."

When Locale X fully launches later in 2020, users can rest assured that the app will load quickly and securely.

Request a DexGuard or ThreatCast demo today

Request a demo >

Guardsquare is the global leader in mobile application protection. More than 650 customers worldwide across all major industries rely on Guardsquare to secure their mobile applications against reverse engineering and hacking. Built on the open source ProGuard technology, Guardsquare software integrates transparently in the development process and adds multiple layers of protection to Android (DexGuard) and iOS (iXGuard) applications hardening them against both on-device and off-device attacks. With the addition of ThreatCast, its mobile application security console, Guardsquare offers the most complete mobile application security solution on the market today.