**Effective Risk Communication for Android Apps**

**ABSTRACT:**

The popularity and advanced functionality of mobile devices has made them attractive targets for malicious and intrusive applications (apps). Although strong security measures are in place for most mobile systems, the area where these systems often fail is the reliance on the user to make decisions that impact the security of a device. As our prime example, Android relies on users to understand the permissions that an app is requesting and to base the installation decision on the list of permissions. Previous research has shown that this reliance on users is ineffective, as most users do not understand or consider the permission information. We propose a solution that leverages a method to assign a risk score to each app and display a summary of that information to users. Results from four experiments are reported in which we examine the effects of introducing summary risk information and how best to convey such information to a user. Our results show that the inclusion of risk-score information has significant positive effects in the selection process and can also lead to more curiosity about security-related information.

**EXISTING SYSTEM:**

With regard to smart phones, users are more concerned with privacy on their phones than on computers, and they especially worry about the threat of malicious apps.

For mobile devices, a person often downloads and uses many apps from multiple unknown vendors, with each app providing some limited functionality. Additionally, all of these unknown vendors typically submit their apps to a single or several app stores where many other apps from other vendors may provide similar functionality. This different paradigm requires a different approach to deal with the risks of mobile devices, and offers distinct opportunities.

**DISADVANTAGES OF EXISTING SYSTEM:**

* People will not use security features properly if they fail to understand the purpose of the features or the information on which their decisions should be based.
* Users make many decisions that affect the overall state of security of any system with which they interact. For security and privacy, most of these decisions relate to the risk to which the individual or system is exposed.

**PROPOSED SYSTEM:**

We propose the addition of a summary risk rating for each app. A summary risk rating enables easy risk comparisons among apps that provide similar functionalities. We believe that one reason why current permission information is often ignored by users is that it is presented in a “standalone” fashion and in a way that requires a lot of technical knowledge and time to distill useful information, making comparison across apps difficult. An important feature of the mobile app ecosystem is that users often have choices and alternatives when choosing a mobile app. If a user knows that one app is significantly riskier than another but provides the same or similar functionality, then this fact may cause the user to choose the less risky one. This will in turn provide incentives for developers to better follow the least-privilege principle and request only necessary permissions.

**ADVANTAGES OF PROPOSED SYSTEM:**

* A summary risk rating also enables proactive risk communication (e.g., when the user searches for apps) so that users can take this information into the decision process. This is in contrast to the current reactive approach, where often times the user sees the permission/risk information of an app as a final warning only after the user has made the decision to choose the app.
* Our hypothesis is that when a summary risk rating is presented in a user-friendly fashion, it will encourage users to choose apps with lower risk.
* The user sees the permission/risk information of an app as a final warning only after the user has made the decision to choose the app.
* An effective risk communication approach for Android could provide.

**SYSTEM REQUIREMENTS:**

**HARDWARE REQUIREMENTS:**

* System : Pentium IV 2.4 GHz.
* Hard Disk : 40 GB.
* Floppy Drive : 1.44 Mb.
* Monitor : 15 VGA Colour.
* Mouse : Logitech.
* Ram : 512 Mb.
* MOBILE : ANDROID

**SOFTWARE REQUIREMENTS:**

* Operating system : Windows XP/7.
* Coding Language : Java 1.7
* Tool Kit : Android 2.3 ABOVE
* IDE : Eclipse

**REFERENCE:**

Christopher S. Gates, Jing Chen, Ninghui Li, Senior Member, IEEE, and Robert W. Proctor “Effective Risk Communication for Android Apps” **IEEE TRANSACTIONS ON DEPENDABLE AND SECURE COMPUTING, VOL. 11, NO. 3, MAY-JUNE 2014**