
PicPay

Alex Soares

Desenvolvedor Android

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Segurança para android

O que eu preciso saber?

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Você já deu permissão de acesso a seus dados só para usar um app?

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Vamos quebrar o nosso app!

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Ferramentas

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- ApkTool

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  - ➜ **release** apktool d app-release.apk

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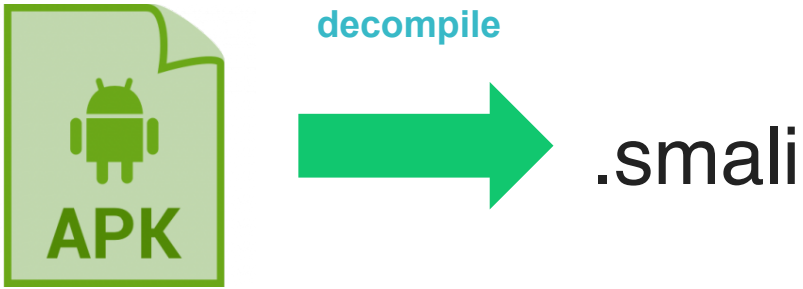

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```
.method protected onCreate(Landroid/os/Bundle;)V
    .locals 1

    .line 14
    invoke-super {p0, p1}, Landroidx/appcompat/app/AppCompatActivity;->onCreate(Landroid/os/Bundle;)V

    const p1, 0x7f09001c

    .line 15
    invoke-virtual {p0, p1}, Lcom/example/sample/MainActivity;->setContentView(I)V

    .line 16
    invoke-virtual {p0}, Lcom/example/sample/MainActivity;->getWindow()Landroid/view/Window;

    move-result-object p1

    const/16 v0, 0x2000
    invoke-virtual {p1, v0, v0}, Landroid/view/Window;->setFlags(II)V
```

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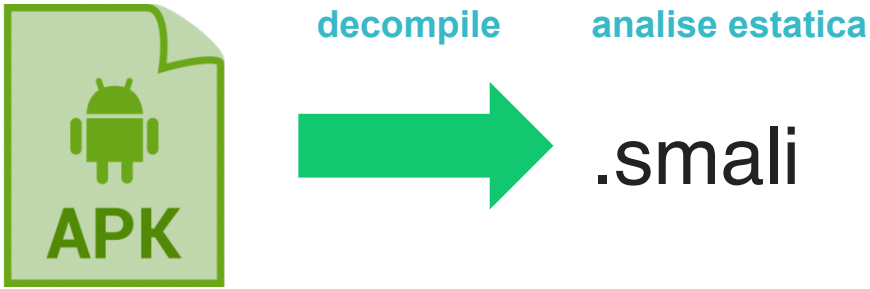

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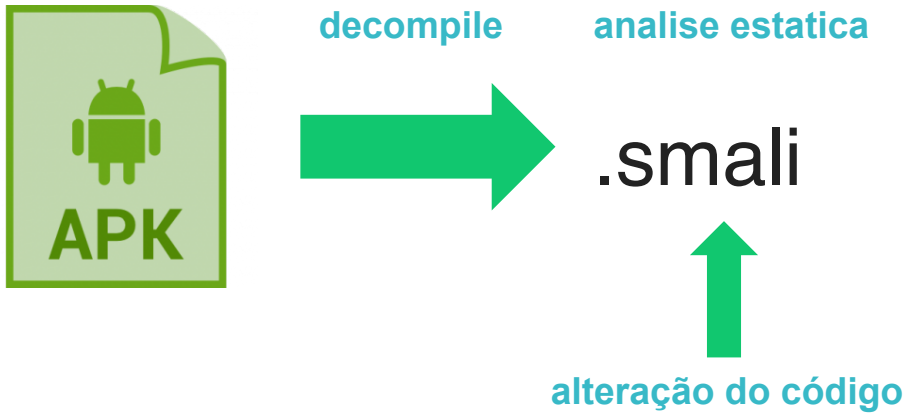

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  - **release** apktool b app-release -o new_app_release.apk

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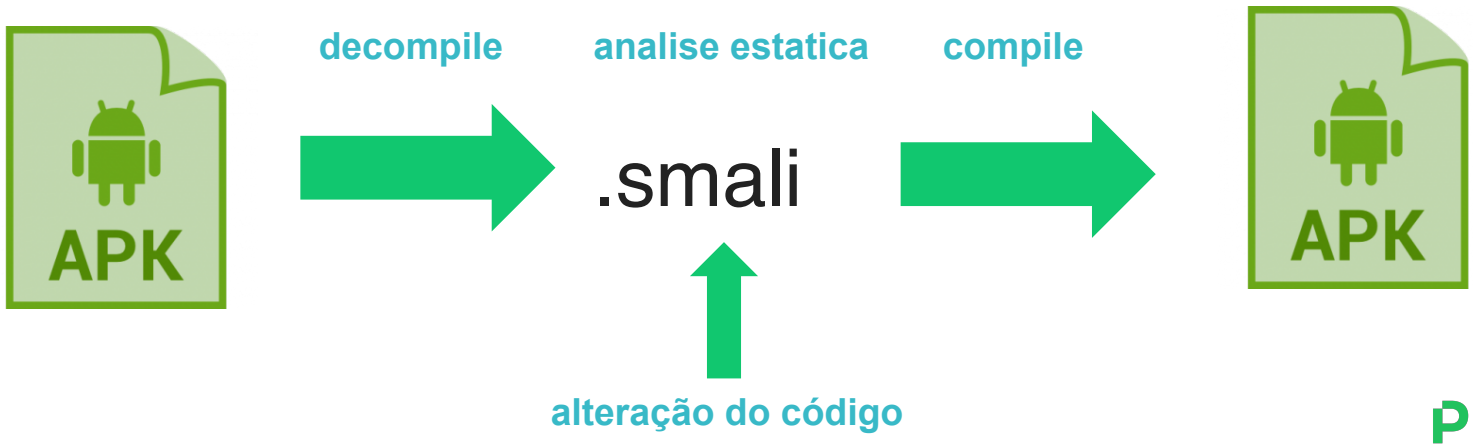

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Ferramentas

- Jadx

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Ferramentas

- Jadx
  - `release` jadx -d jadx-release-pro app-release.apk

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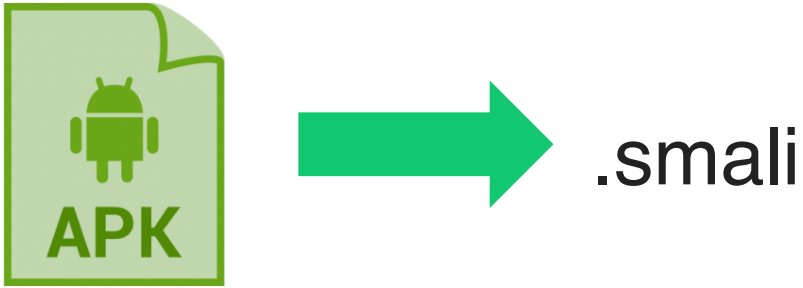

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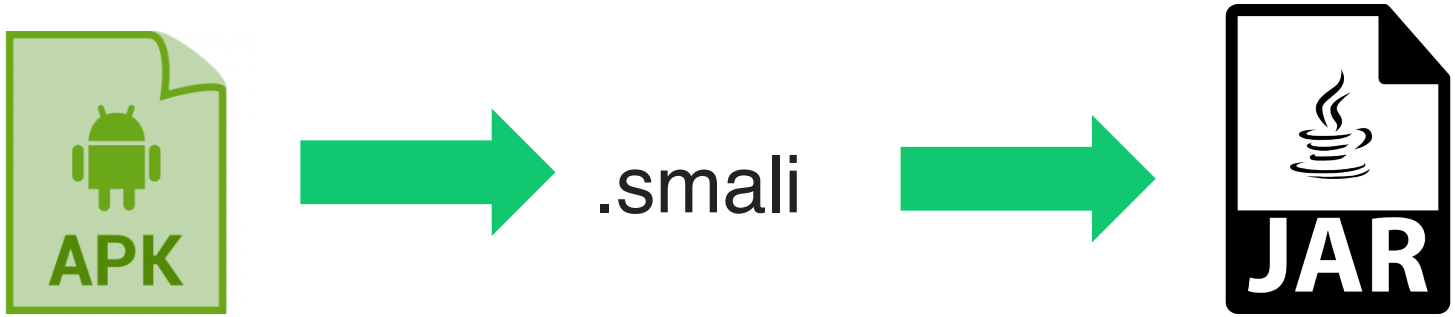

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```java
/* access modifiers changed from: protected */
public void onCreate(Bundle bundle) {
    super.onCreate(bundle);
    setContentView((int) R.layout.activity_main);
    getWindow().setFlags(8192, 8192);
    EditText editText = (EditText) _$_findCachedViewById(R.id.etTest);
    Intrinsics.checkExpressionValueIsNotNull(editText, "etTest");
    editText.setCustomSelectionActionModeCallback(new MainActivity$onCreate$1());
}
```

Minimizando os riscos de segurança

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- Proteja contra Printscreens e clipboard

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CVE Details

The ultimate security vulnerability datasource

(e.g.: CVE-2009-1234 or 2010-1234 or 20101234)

Log In Register

Vulnerability Feeds & WidgetsNew www.itsecdb.c

Enter a CVE id, product, vendor, vulnerability type...

Search

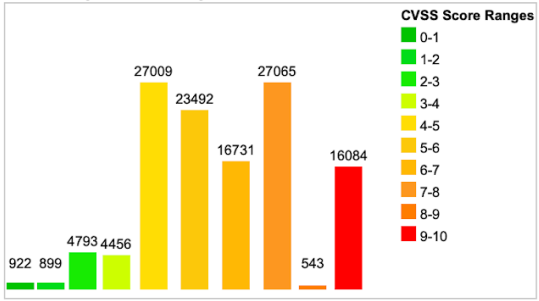
Current CVSS Score Distribution For All Vulnerabilities

Distribution of all vulnerabilities by CVSS Scores

CVSS Score	Number Of Vulnerabilities	Percentage
0-1	922	0.80
1-2	899	0.70
2-3	4793	3.90
3-4	4456	3.70
4-5	27009	22.10
5-6	23492	19.30
6-7	16731	13.70
7-8	27065	22.20
8-9	543	0.40
9-10	16084	13.20
Total	121994	

Weighted Average CVSS Score: **6.6**

Vulnerability Distribution By CVSS Scores



Looking for OVAL (Open Vulnerability and Assessment Language) definitions? **http://www.itsecdb.com** allows you to view exact details of OVAL(Open Vulnerability and Assessment Language) definitions and see exactly what you should do to verify a vulnerability. It is fully integrated with cvedetails so you will be able to see OVAL definitions related to a product or a CVE entry.
Sample CVE entry with OVAL definitions : CVE-2007-0994

www.cvedetails.com provides an easy to use web interface to CVE vulnerability data. You can browse for vendors, products and versions and view cve entries, vulnerabilities, related to them. You can view statist about vendors, products and versions of products. CVE details are displayed in a single, easy to use page, see a sample here.

CVE vulnerability data are taken from National Vulnerability Database (NVD) xml feeds provided by National Institue of Standards and Technology. Additional data from several sources like exploits from www.exploit db.com, vendor statements and additional vendor supplied data, Metasploit modules are also published in addition to NVD CVE data.

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- Cuidado com as libs de terceiros
- Cuide da sua rede

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- Certificate Pinning

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- Network Security Configuration

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- usesClearTextTraffic

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- StrictMode.VmPolicy.Builder().detectCleartextNetwork()

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- Token Rolante
- Não utilize protocolos inseguros
- Network Security Configuration
- usesClearTextTraffic
- StrictMode.VmPolicy.Builder().detectCleartextNetwork()
- Criptografia

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- Cuidado com as libs de terceiros
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- SafetyNet

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SafetyNet

- Conjunto de APIs

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- Conjunto de APIs
- Attestation

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- Conjunto de APIs
- Attestation
- Safe Browsing

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- Conjunto de APIs
- Attestation
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- reCAPTCHA

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- Attestation
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- reCAPTCHA
- Verify Apps

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- Force update

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- Force update
- Ofusque o seu código

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Ofuscação de código

- ProGuard

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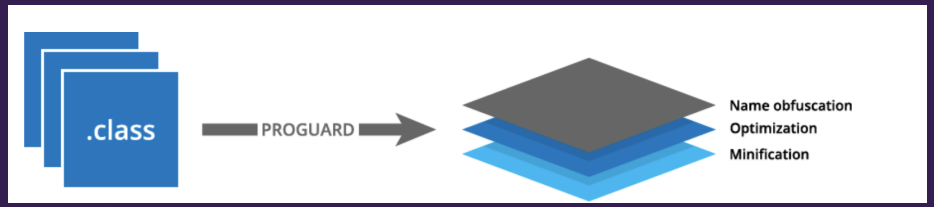

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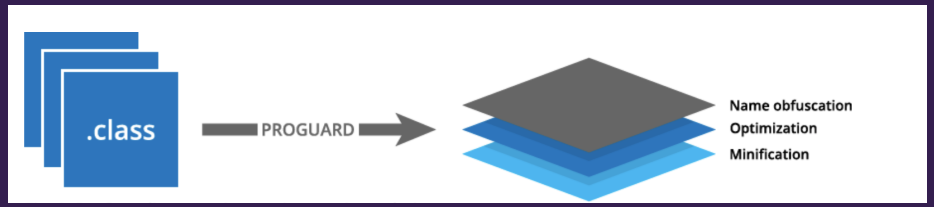

- DexGuard

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Ofuscação de código

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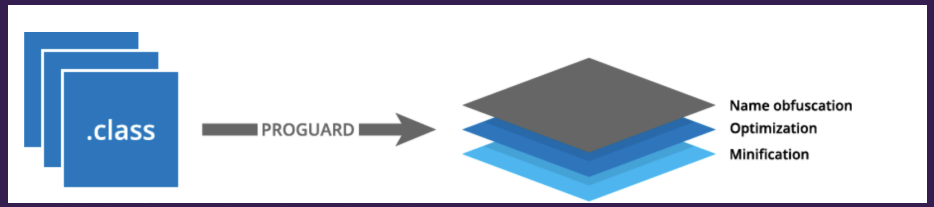
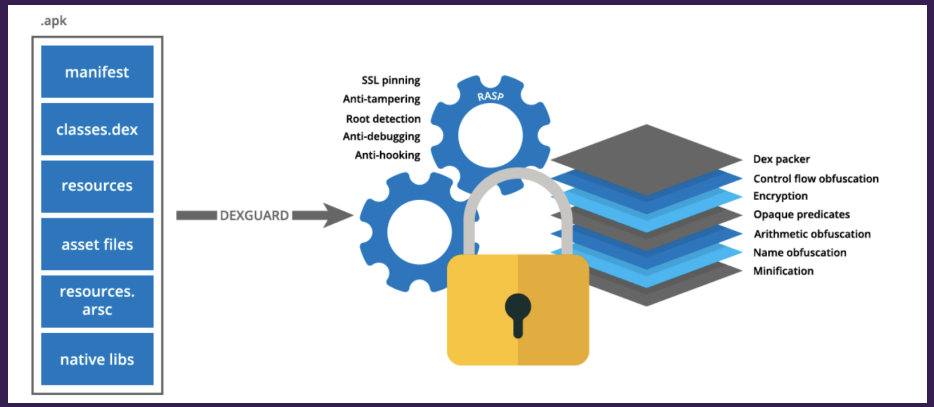


- DexGuard



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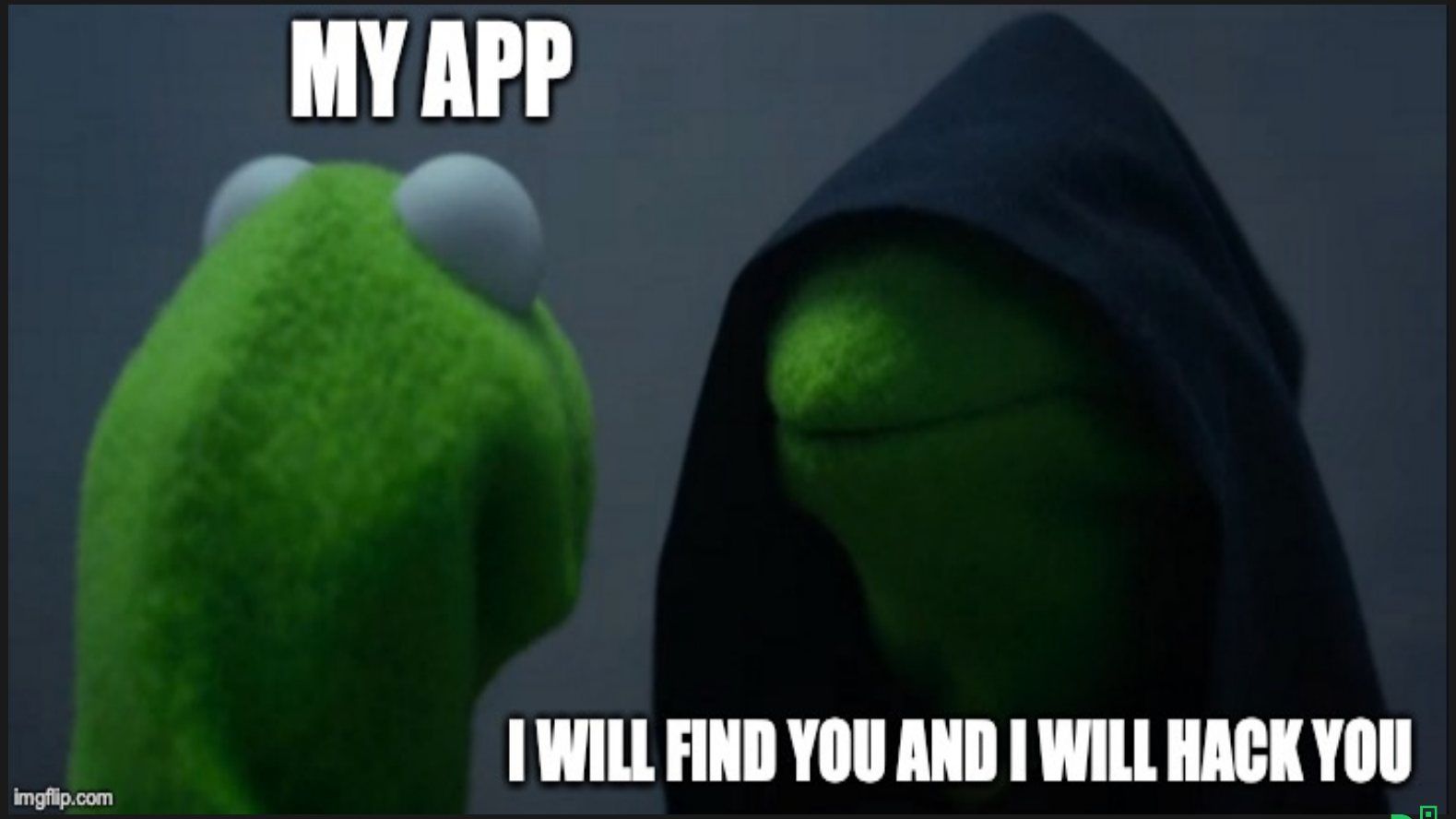
MY APP
I WILL FIND YOU AND I WILL HACK YOU
imgflip.com

Podemos diminuir os riscos do nosso app ficar vulnerável

Insight

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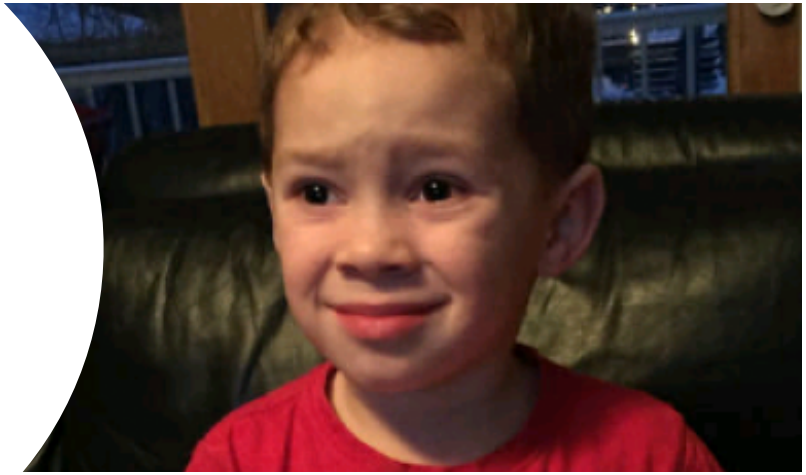
Dúvidas?



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Muito obrigado!

 /alex-soares-siqueira  /AlexSoaresDeSiqueira

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Referências

Politica de software indesejado da google
https://www.google.com/about/unwanted-software-policy.html

OWASP Mobile
https://www.owasp.org/index.php/OWASP_Mobile_Security_Project

Documentação sobre segurança no android
https://developer.android.com/topic/security/best-practices

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https://techbeacon.com/app-dev-testing/16-tools-bulletproof-android-app-security