

21. 52F46AAEE99EAD19428E8E45A38FD587B05E898BBCD88B3B91CAC4E6BFC4F906\_

- a. Modify sequence: add\_edge,:<com.healthwarn.MainAct: com.healthwarn.a.c f(com.healthwarn.MainAct)> ==> <com.waps.OffersWebView: boolean onKeyDown(int,android.view.KeyEvent)>
- b. The modified edge will be triggered when the app is launched. The adversarial app run successfully. The modified sequence is triggered successfully. The log gives information for the triggered and added node. The adversarial app demonstrates the same functionality with raw app.
- c. For adv app:



- d. For raw app:

```
\W $ adb uninstall com.healthwarn
Success
\W $ adb install /Volumes/Data/HRAT/apk/2011/malware/52F46AAE99EAD19428E8E45A
FD587B05E898BBCD88B3B91CAC4E6BFC4F906.apk
```

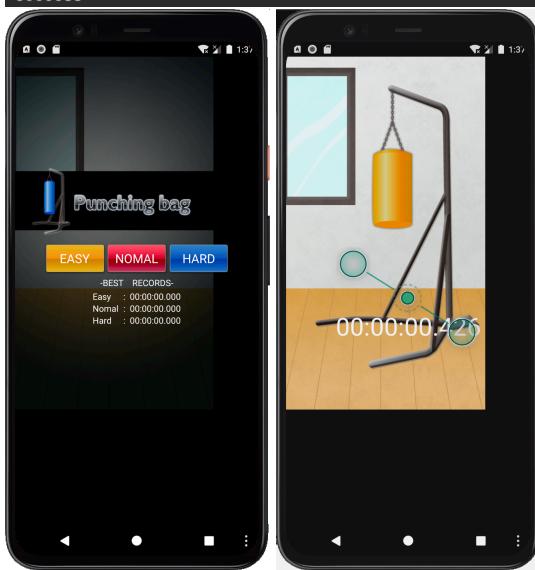
Performing Streamed Install  
Success



22. 0966F23A3CFA94A50764C081BE1EE95F2DE1F90E71CB0DA15641204668B399DD

- Modify sequence: add\_node,:<stealth.android.PunchingBagZ.IdentityActivity:  
 android.widget.RelativeLayout access\$7(stealth.android.PunchingBagZ.IdentityActivity)> ==> 0
- The modified edge will be triggered when the app is launched. The adversarial app run successfully. The modified sequence is triggered successfully. The log gives information for the triggered and added node. The adversarial app demonstrates the same functionality with raw app.
- For adv app:

```
i. adb install /Volumes/Data/RQ5/dynamictest/signed_apk_test/0966F23A3CFA94A50764C081BE1EE95F2DE1F90E71CB0DA15641204668B399DD.apk  
Performing Streamed Install  
Success
```



```
:36:47.632 5409-5409/stealth.android.PunchingBagZ I/zkf Add node ... ...: <stealth.android.PunchingBagZ.zkfclass: int zkf0()>  
:36:47.632 5409-5409/stealth.android.PunchingBagZ I/chatty: uid=10087(u0_a87) stealth.android.PunchingBagZ identical 2 lines  
:36:47.632 5409-5409/stealth.android.PunchingBagZ I/zkf Add node ... ...: <stealth.android.PunchingBagZ.zkfclass: int zkf0()>  
:36:47.650 1781-1781/? I/chatty: uid=10028(u0_a28) com.android.systemui identical 1 line
```

- d. For raw app:

```

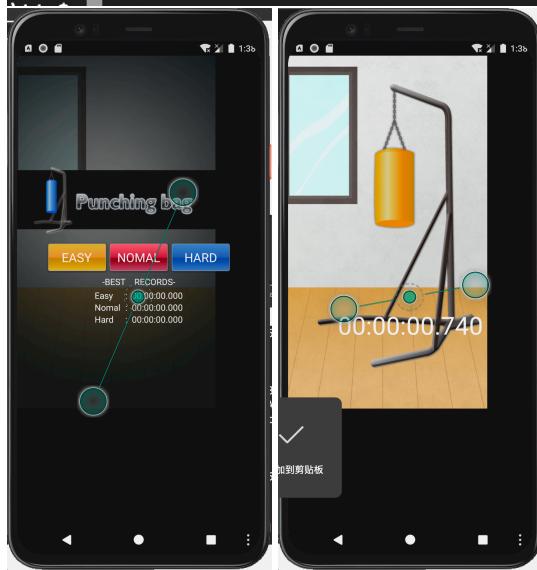
\W $ adb install /Volumes/Data/HRAT/apk/2011/malware/0966F23A3CFA94A50764C081BE1
EE95F2DE1F90E71CB0DA15641204668B399DD.apk

Performing Streamed Install
adb: failed to install /Volumes/Data/HRAT/apk/2011/malware/0966F23A3CFA94A50764
C081BE1EE95F2DE1F90E71CB0DA15641204668B399DD.apk: Failure [INSTALL_FAILED_UPDATE
_INCOMPATIBLE: Package stealth.android.PunchingBagZ signatures do not match the
previously installed version; ignoring!]
\W $ adb uninstall stealth.android.PunchingBagZ
Success
\W $ adb install /Volumes/Data/HRAT/apk/2011/malware/0966F23A3CFA94A50764C081BE1
EE95F2DE1F90E71CB0DA15641204668B399DD.apk

Performing Streamed Install
Success

```

i.



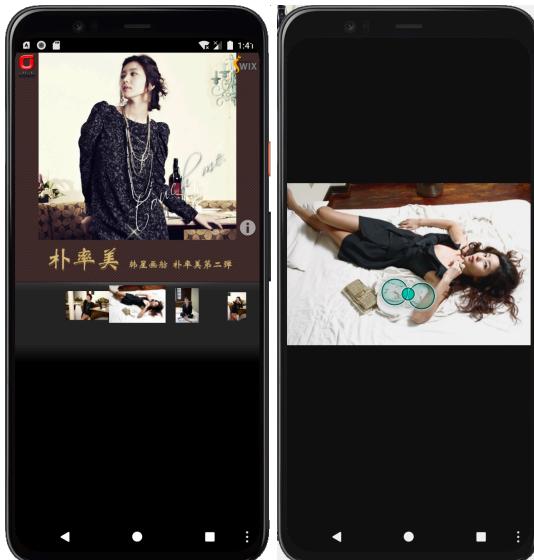
23. 37A15CDEBECB2AA90EA778FC770AB63B6730CE773CED638AC86E80FAFD7CF629

- Modify sequence: add\_edge,:<com.deckorea.DPAShared.DPAAActivity: int  
getIDWithString(java.lang.String)> ==> <com.deckorea.DPAShared.logoActivity: void  
onBackPressed()>
- The modified edge will be triggered when select one picture in the app. The adversarial app run successfully. The modified sequence is triggered successfully. The log gives information for the triggered and added node. The adversarial app demonstrates the same functionality with raw app.
- For adv app:

```

adb install /Volumes/Data/RQ5/dynamictest/signed_apk_test/37A15CDEBECB2AA90EA778FC770AB63B6730CE773CED638AC86E80FAFD7CF629.apk
Performing Streamed Install
Success

```



```
13:40:51.919 6210-6210/com.deckorea.DPA1402.appchina I/zkf Add edge is calling ... ...: <com.deckorea.DPAShared.logoActivity: void onBackPressed(int)>
13:40:51.919 6210-6210/com.deckorea.DPA1402.appchina I/zkf Check add edge ... ...: <com.deckorea.DPAShared.DPAAActivity: int getIDWithString(java.lang.String)> ==> <com.deckorea.D
```

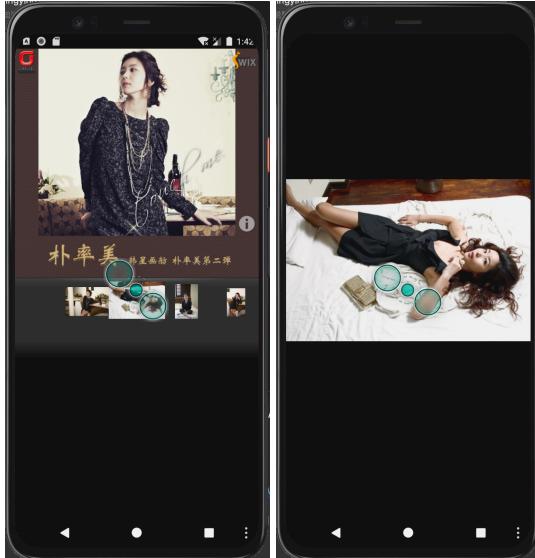
- d. For raw app:

```
\W $ adb uninstall com.deckorea.DPA1402.appchina
Success
\W $ adb install /Volumes/Data/HRAT/apk/2011/malware/37A15CDEBECB2AA90EA778FC77
AB63B6730CE773CED638AC86E80FAFD7CF629.apk
```

Performing Streamed Install

Success

\W \$



24. 4F05CC6E5846A97F366C40428DDAD7C86EB00B6104FDFE8A7C62CC486A969CB2

- Modify sequence: add\_edge,:<com.dis.tools.ExitApp: com.dis.tools.ExitApp getInstance()> ==> <com.dis.counter.main: boolean onKeyDown(int,android.view.KeyEvent)>
- The modified edge will be triggered when the app is launched. The adversarial app run successfully. The modified sequence is triggered successfully. The log gives information for the

triggered and added node. The adversarial app demonstrates the same functionality with raw app.

c. For adv app:



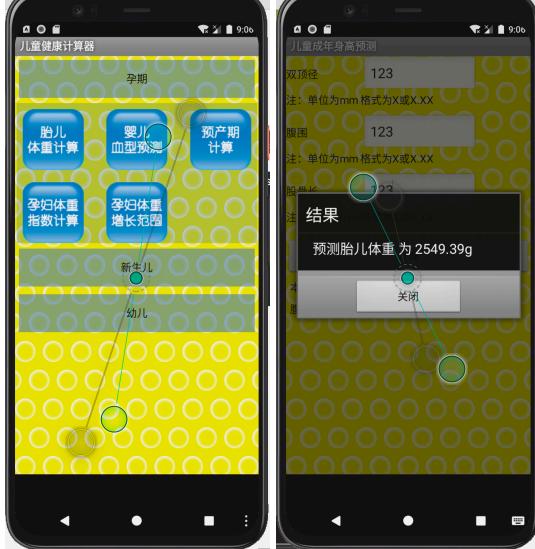
d. For raw app:

```
INCOMPATIBLE: Package com.dis.counter signatures do not match the previously installed version; ignoring!
\W $ adb uninstall com.dis.counter
Success
\W $ adb install /Volumes/Data/HRAT/apk/2011/malware/4F05CC6E5846A97F366C40428DDAD7C86EB00B6104FDDE8A7C62CC486A969CB2.apk
```

Performing Streamed Install

Success

i.



25. 4F6702E127C712BFAA438D877E2F567775800D1689F61CFFAC4B1EB20224F639

- Modify sequence: add\_edge,:<com.kandian.common.Log: void v(java.lang.String,java.lang.String)> ==> <com.imocha.ShareActivity: void onClick(android.view.View)>
- The modified edge will be triggered when the app is launched. The adversarial app runs successfully. The modified sequence is triggered successfully. The log gives information for the triggered and added node. The adversarial app demonstrates the same functionality with raw app.
- For adv app:

```

adb install /Volumes/Data/RQ5/dynamictest/signed_apk_test/4F6702E127C712BFAA438D877E2F567775800D1689F61CFFAC4B1EB20224F639.apk
Performing Streamed Install
Success

```

i.

17:06:258 9657-9657/? I/zkf Add edge is calling ... ...: <com.imocha.ShareActivity: void onClick(android.view.View,int)>  
17:06:258 9657-9657/? I/zkf Check add edge ... ...: <com.kandian.common.Log: void v(java.lang.String,java.lang.String)> ==> <com.imocha.ShareActivity: void onClick(android.view.View,int)>  
17:06:259 9657-9736/? I/Ads: To get test ads on this device, call adRequest.addTestDevice("6711BE510417E9A4DB596387C6180E59");

d. For raw app:

```

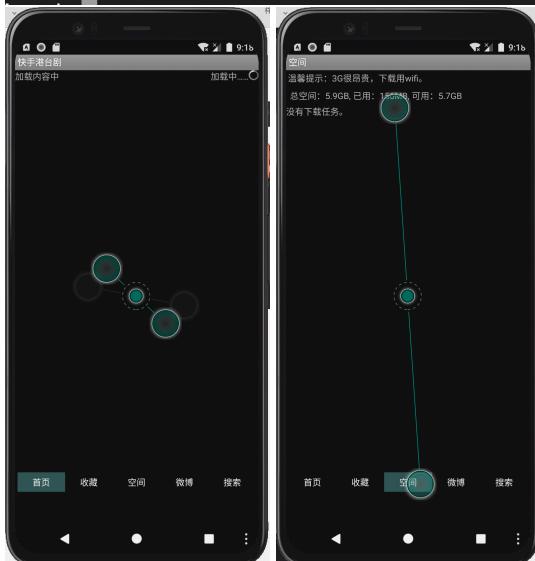
adb: failed to install /Volumes/Data/HRAT/apk/2011/malware/4F6702E127C712BFAA438D877E2F567775800D1689F61CFFAC4B1EB20224F639.apk: Failure [INSTALL_FAILED_UPDATE_INCOMPATIBLE: Package com.kandian.httvapp signatures do not match the previously installed version; ignoring!]
\W $ adb uninstall com.kandian.httvapp
Success
\W $ adb install /Volumes/Data/HRAT/apk/2011/malware/4F6702E127C712BFAA438D877E2F567775800D1689F61CFFAC4B1EB20224F639.apk

```

Performing Streamed Install

Success

i.



26. 4E6762C7A1B6254DF69C4E85FF8956306DE0904F479070405C572E084A3B613F

- a. Modify sequence: add\_edge,:<com.airpush.android.c: void a() ==>  
<com.wimolife.android.rollingwood.view.TopRankActivity: void onClick(android.view.View)>
- b. The modified edge will be triggered when the app is launched. The adversarial app run successfully. The modified sequence is triggered successfully. The log gives information for the triggered and added node. The adversarial app demonstrates the same functionality with raw app.
- c. For adv app:

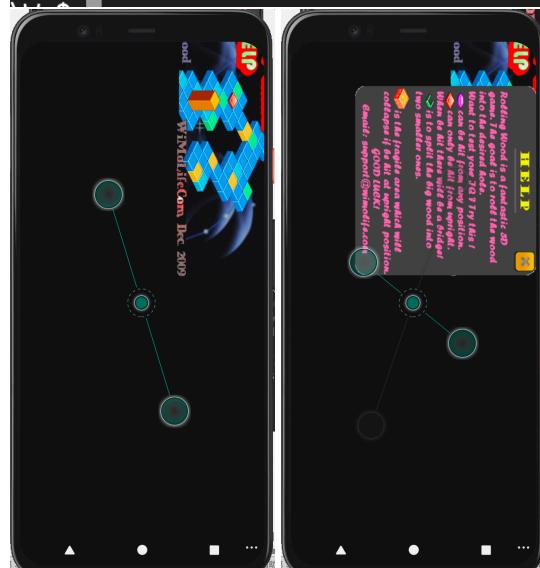


- d. For raw app:

```
adb: failed to install /Volumes/Data/HRAT/apk/2011/malware/4E6762C7A1B6254DF69C4E85FF8956306DE0904F479070405C572E084A3B613F.apk: Failure [INSTALL_FAILED_UPDATE_INCOMPATIBLE: Package com.wimolife.android.rollingwood signatures do not match the previously installed version; ignoring!]
\W $ adb uninstall com.wimolife.android.rollingwood
Success
\W $ adb install /Volumes/Data/HRAT/apk/2011/malware/4E6762C7A1B6254DF69C4E85FF8956306DE0904F479070405C572E084A3B613F.apk
```

## Performing Streamed Install

Success



27. 7E378594CFE88E7879E78E72851D418001C01052B91478D8C3CE7352CECD9A67

  - a. Modify sequence: add\_edge,:<net.youmi.android.g: void a(java.lang.Throwable)> ==> <com.lemon.MusicService: void onStart(android.content.Intent,int)>
  - b. The modified edge will be triggered when the app is launched. The adversarial app run successfully. The modified sequence is triggered successfully. The log gives information for the triggered and added node. The adversarial app demonstrates the same functionality with raw app.
  - c. For adv app:

```
adb install /Volumes/Data/RQ5/dynamictest/signed_apk_test/7E378594CFE88E7879E78E72851D418001C01052B91478D8C3CE7352CECD9A67.apk
Performing Streamed Install
Success
```

i.



```
:46.792 14291-14321/com.lemon.zyzy2 I/zkf Add edge is calling ... ...: <com.lemon.MusicService: void onStart(android.content.Intent,int,int)>
:46.792 14291-14321/com.lemon.zyzy2 I/zkf Check add edge ... ...: <net.youmi.android.g: void a(java.lang.Throwable)> ==> <com.lemon.MusicService: void onStart(android.content.Intent,int,int)>
:46.828 14291-1981/? I/chatty: uid=10028(u0_a28) RenderThread identical 2 lines
:46.827 14291-14320/com.lemon.zyzy2 I/zkf Add edge is calling ... ...: <com.lemon.MusicService: void onStart(android.content.Intent,int,int)>
:46.827 14291-14320/com.lemon.zyzy2 I/zkf Check add edge ... ...: <net.youmi.android.g: void a(java.lang.Throwable)> ==> <com.lemon.MusicService: void onStart(android.content.Intent,int,int)>
// 247_1701_1001/? I/chatty: uid=10028(u0_a28) RenderThread identical 1 lines
```

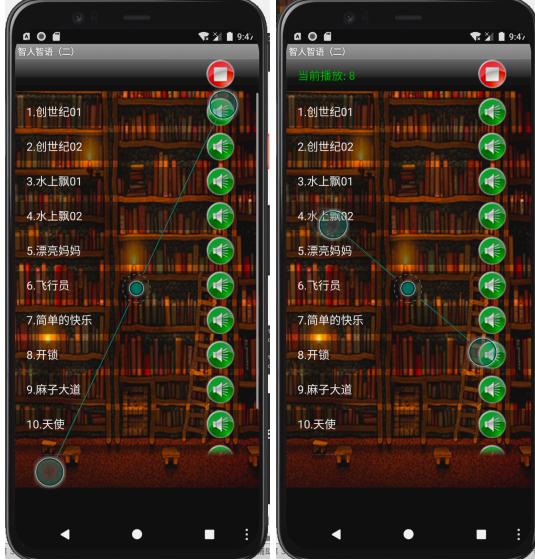
d. For raw app:

```
\W $ adb uninstall com.lemon.zyzy2
Success
```

```
\W $ adb install /Volumes/Data/HRAT/apk/2011/malware/7E378594CFE88E7879E78E72851D418001C01052B91478D8C3CE7352CECD9A67.apk
```

```
Performing Streamed Install
Success
```

i.



28. 7DC0E10A3B979D040BAA77B3B3DEE999C1893196DAF2AD87258F5BC3B8266D97

- a. Modify sequence: add\_edge,:<lijun.util.SettingBean: java.lang.String getSetdetail()> ==> <lijun.wangq.ViewImage: void onClick(android.view.View)>
- b. The modified edge will be triggered when set the password. The adversarial app run successfully. The modified sequence is triggered successfully. The log gives information for the triggered and added node. The adversarial app demonstrates the same functionality with raw app.
- c. For adv app:



- d. For raw app:

```
\W $ adb uninstall lijun.wangq
Success
\W $ adb install /Volumes/Data/HRAT/apk/2011/malware/7DC0E10A3B979D040BAA77B3B
EE999C1893196DAF2AD87258F5BC3B8266D97.apk
```

Performing Streamed Install

Success

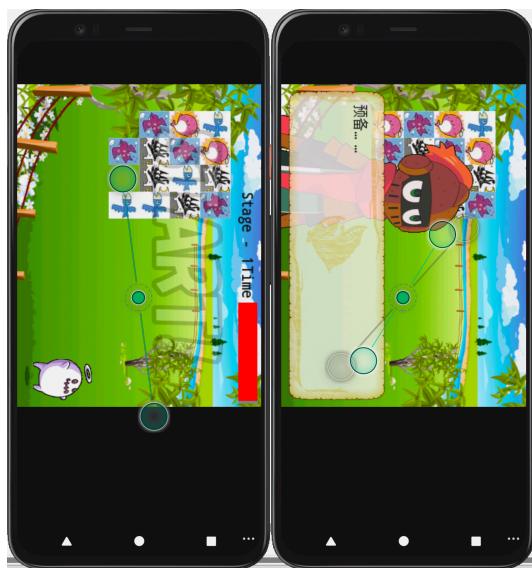


29. EA5BC047C90AF5AE3C60817A250DEA0CA49B0D6C3B54921BA604C0763914BC13

- a. Modify sequence:

```
add_node,:<org.loon.framework.android.game.core.graphics.window.UIFactory: void
put(java.lang.String,java.lang.Object)> ==> 0
```

- b. The modified edge will be triggered when the app is launched. The adversarial app run successfully. The modified sequence is triggered successfully. The log gives information for the triggered and added node. The adversarial app demonstrates the same functionality with raw app.
- c. For adv app:



i.

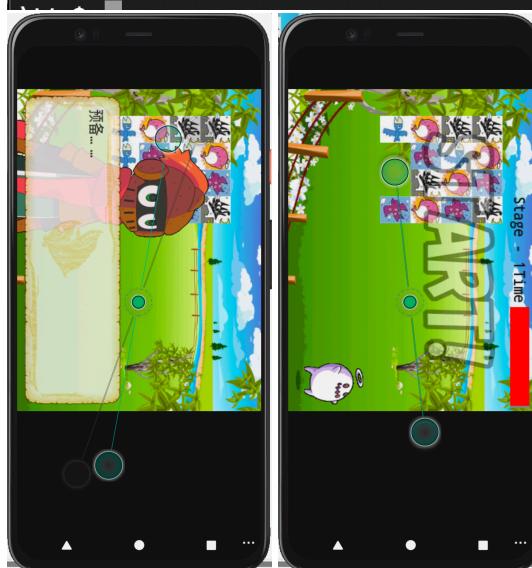
```
adb install /Volumes/Data/RQ5/dynamictest/signed_apk_test/EA5BC047C90AF5AE3C60817A250DEA0CA49B0D6C3B54921BA604C0763914BC13.apk
Performing Streamed Install
Success
78-17778/? I/zkf Add node ... ...: <com.mogo.chongwullk.zkfclass: int zkf0()>
78-17778/? I/chatty: uid=10144(u0_a144) com.mogo.chongwullk identical 11 lines
78-17778/? I/zkf Add node ... ...: <com.mogo.chongwullk.zkfclass: int zkf0()>
2_1720/? W/LocalDisplayAdapter: Unable to find color mode @ ignoring request
```

d. For raw app:

i.

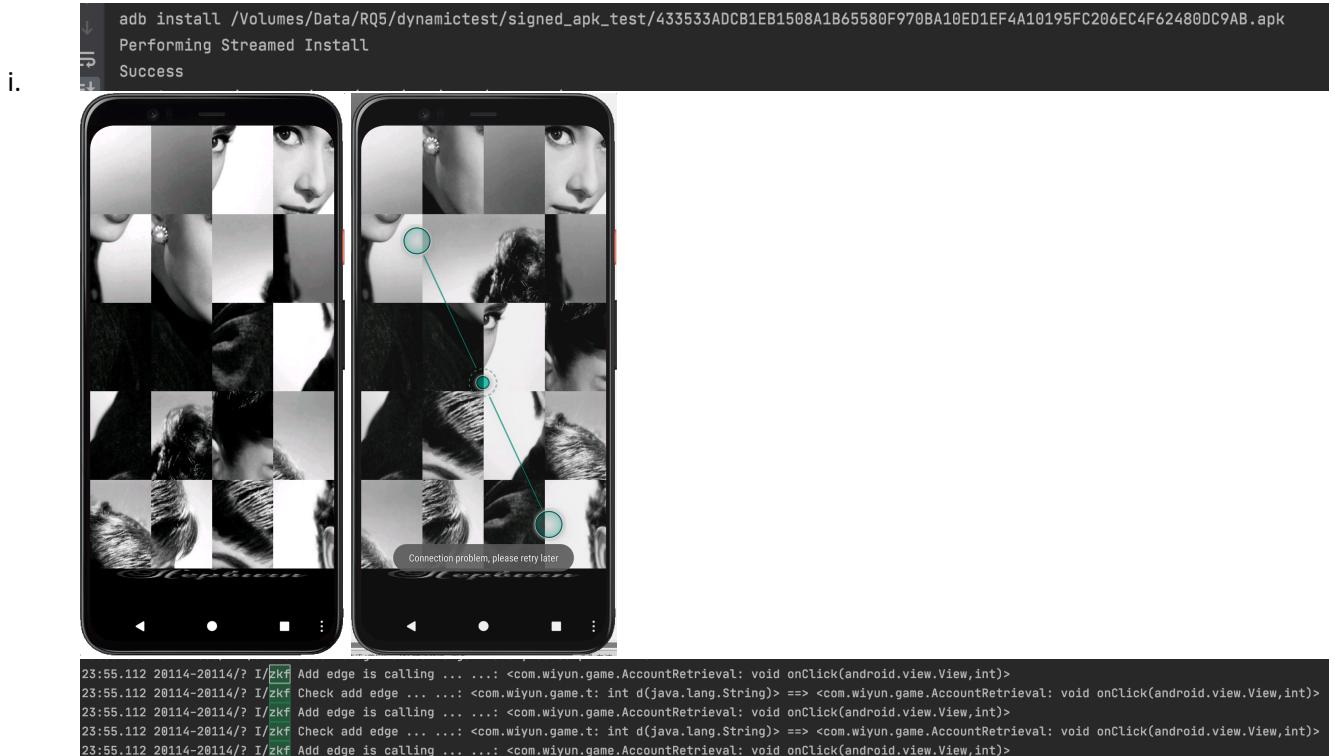
```
\W $ adb uninstall com.mogo.chongwullk
Success
\W $ adb install /Volumes/Data/HRAT/apk/2011/malware/EA5BC047C90AF5AE3C6
DEA0CA49B0D6C3B54921BA604C0763914BC13.apk

Performing Streamed Install
Success
```



30. 433533ADCB1EB1508A1B65580F970BA10ED1EF4A10195FC206EC4F62480DC9AB

- a. Modify seq: add\_edge,:<com.wiyun.game.t: int d(java.lang.String)> ==> <com.wiyun.game.AccountRetrieval: void onClick(android.view.View)>
- b. The modified edge will be triggered when check the best record. The adversarial app run successfully. The modified sequence is triggered successfully. The log gives information for the triggered and added node. The adversarial app demonstrates the same functionality with raw app.
- c. For adv app:



- d. For raw app:

```

INCOMPATIBLE: Package com.saubcy.games.puzzle.AudreyHepburn signatures do not ma
tch the previously installed version; ignoring!
[W $ adb uninstall com.saubcy.games.puzzle.AudreyHepburn
Success
\W $ adb install /Volumes/Data/HRAT/apk/2011/malware/433533ADCB1EB1508A1B65580F9
70BA10ED1EF4A10195FC206EC4F62480DC9AB.apk

Performing Streamed Install
Success

```

i.



31. 5B250737215FE2ED07329EEAB75F0B935F27A8EA7CD1DB5BD5E3CFE236F5A555

- a. Modify seq: add\_edge,:<com.airpush.android.c: void a() ==> <com.airpush.android.PushService: void onStart(android.content.Intent,int)>
- b. The modified edge will be triggered when the app is launched. The adversarial app run successfully. The modified sequence is triggered successfully. The log gives information for the triggered and added node. The adversarial app demonstrates the same functionality with raw app.
- c. For adv app

```
i.  
adb install /Volumes/Data/RQ5/dynamictest/signed_apk_test/5B250737215FE2ED07329EEAB75F0B935F27A8EA7CD1DB5BD5E3CFE236F5A555.apk  
Performing Streamed Install  
Success
```



```
0:50.706 21611-21611/? I/AirpushSDK: Initialising....  
0:50.706 21611-21611/? I/zkf Add edge is calling ... ...: <com.airpush.android.PushService: void onStart(android.content.Intent,in  
0:50.707 21611-21611/? I/zkf Check add edge ... ...: <com.airpush.android.c: void a() ==> <com.airpush.android.PushService: void  
0:50.756 1781-1981/? T/chatty: uid=10028(u0_a28) RenderThread identical 5 lines
```

d. For raw app:

```
[Previously installed version; ignoring!]  
[W $ adb uninstall com.shirley.philpersonality  
Success  
W $ adb install /Volumes/Data/HRAT/apk/2011/malware/5B250737215FE2ED07329EEAB75F0B935F27A8EA7CD1DB5BD5E3CFE236F5A555.apk
```

```
i.  
Performing Streamed Install  
Success
```



32. 345EAE6D893EF5325D33108188BA1103F4FFACF6B11AA079DD1DE53BAB1AFD80

a. Modify sequence: add\_edge,:<kk.link.LinkActivity: android.graphics.Rect a(int,int,int,int)> ==>  
<kk.link.LinkActivity: void onDestroy()>

- b. The modified edge will be triggered when the app is launched. The adversarial app run successfully. The modified sequence is triggered successfully. The log gives information for the triggered and added node. The adversarial app demonstrates the same functionality with raw app.

- c. For adv app:



- d. For raw app:

```

[VOLUME] /Volumes/Data/HRAT/apk/2011/malware/345EAE6D893EF5325D3A1103F4FFACF6B11AA079DD1DE53BAB1AFD80.apk. Failure [INSTALL_FAILED_INCOMPATIBLE: Package kk.link signatures do not match the previously installed version; ignoring!]
\W $ adb uninstall kk.link
Success
\W $ adb install /Volumes/Data/HRAT/apk/2011/malware/345EAE6D893EF5325D3A1103F4FFACF6B11AA079DD1DE53BAB1AFD80.apk

```

Performing Streamed Install  
Success



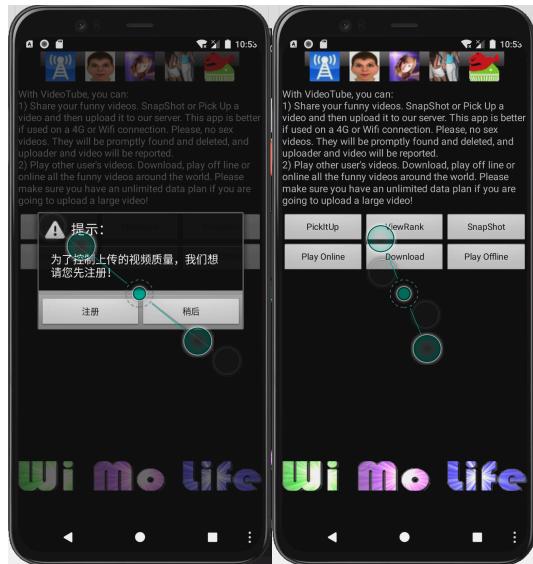
33. 4FBA3B8996A5D6DAD85350EB506CBBDBE28A3CF0AA162F1DC2218BABE4535382

- Modify sequence : add\_edge,:<com.airpush.android.c: void a()> ==> <com.waps.OffersWebView: boolean onKeyDown(int,android.view.KeyEvent)>
- The modified edge will be triggered when the app is launched. The adversarial app run successfully. The modified sequence is triggered successfully. The log gives information for the triggered and added node. The adversarial app demonstrates the same functionality with raw app.
- For adv app:

```

adb install /Volumes/Data/RQ5/dynamictest/signed_apk_test/4FBA3B8996A5D6DAD85350EB506CBBDBE28A3CF0AA162F1DC2218BABE4535382.apk
Performing Streamed Install
Success
i. adb install /Volumes/Data/HRAT/apk/2011/malware/4FBA3B8996A5D6DAD85350EB506CBBDBE28A3CF0AA162F1DC2218BABE4535382.apk

```



ii.

```
2:52:40.882 25398-25398/? I/zkf Add edge is calling ... ...: <com.waps.OffersWebView: boolean onKeyDown(int,android.view.KeyEvent,int)>
2:52:40.882 25398-25398/? I/zkf Check add edge ... ...: <> <com.airpush.android.c: void a()> ==> <com.waps.OffersWebView: boolean onKeyDown(int,android.view.KeyEvent,int)>
2:52:40.882 25398-25398/? W/ContextImpl: Implicit intents with startService are not safe: Intent { act=com.airpush.android.PushServiceStart12138 (has ext)
```

d. For raw app:

```
y installed version; ignoring!]
\W $ adb uninstall com.andhat.VideoTube
Success
\W $ adb install /Volumes/Data/HRAT/apk/2011/malware/4FBA3B8996A5D6DAD8CBBDBE28A3CF0AA162F1DC2218BABE4535382.apk
```

### Performing Streamed Install

Success

i.

