

ANDROID STATIC ANALYSIS REPORT



system.wifi (1.0)

File Name: spy24_wifi.apk

Package Name: app.spy24.systemwifi

Scan Date: Aug. 17, 2024, 5:27 p.m.

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| | | | | | |

40/100 (MEDIUM RISK)

Grade:

В

Trackers Detection:

1/432

\$\ind\$ FINDINGS SEVERITY

| 飛 HIGH | ▲ MEDIUM | i INFO | ✓ SECURE | ® HOTSPOT |
|---------------|-----------------|--------|----------|-----------|
| 7 | 31 | 3 | 0 | 2 |



File Name: spy24_wifi.apk **Size:** 14.27MB

MD5: d416609e05b996bf9832430ffaf7474b

SHA1: 11ada743f8641efb117c76ff6c0a067dfc0e0a19

SHA256: e01118a89e9a8bab0a36b93ad15caf1432fc615afa61d7dccd99773debeba818

i APP INFORMATION

App Name: system.wifi

Package Name: app.spy24.systemwifi

Main Activity: app.spy24.systemwifi.view.Login

Target SDK: 31 Min SDK: 23 Max SDK:

Android Version Name: 1.0
Android Version Code: 1

EXE APP COMPONENTS

Activities: 16
Services: 26
Receivers: 16
Providers: 6
Exported Activities: 3
Exported Services: 10
Exported Receivers: 6
Exported Providers: 0

CERTIFICATE INFORMATION

Binary is signed

v1 signature: True

v2 signature: True

v3 signature: False

v4 signature: False

X.509 Subject: CN=Android Debug, O=Android, C=US

Signature Algorithm: rsassa_pkcs1v15 Valid From: 2021-08-25 10:56:35+00:00 Valid To: 2051-08-18 10:56:35+00:00

Issuer: CN=Android Debug, O=Android, C=US

Serial Number: 0x1 Hash Algorithm: sha1

md5: fdee5e87b96297f4d2120a8ca7808b0e

sha1: 79c395148c34f0826e04b37a6632a53a7977a1aa

sha256: 513de82df3478e3a61af991014ee41cb8c24bae240b91f139916338d7d22cc4e

sha512: e56b9b5566a6049a6c0229ea088968a2996521daeaf1bda41a94203d6c9969fb8c32821ab920bdd55c98b91e3f57ad94f915174421fc72205539de9f59e232f0

PublicKey Algorithm: rsa

Bit Size: 2048

Fingerprint: 522a5551151dbf1761c146d32b8b49e632cdf0b003f323fa62cf0c60e78a99a2

Found 1 unique certificates

⋮ APPLICATION PERMISSIONS

| PERMISSION | STATUS | INFO | DESCRIPTION |
|------------------------------------------------|-----------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| android.permission.SYSTEM_ALERT_WINDOW | dangerous | display system-level alerts | Allows an application to show system-alert windows. Malicious applications can take over the entire screen of the phone. |
| android.permission.BLUETOOTH_CONNECT | dangerous | necessary for connecting to paired Bluetooth devices. | Required to be able to connect to paired Bluetooth devices. |
| android.permission.NEW_OUTGOING_CALL | unknown | Unknown permission | Unknown permission from android reference |
| android.permission.READ_PRIVILEGED_PHONE_STATE | unknown | Unknown permission | Unknown permission from android reference |
| android.permission.REQUEST_DELETE_PACKAGES | normal | enables an app to request package deletions. | Allows an application to request deleting packages. |
| android.permission.MANAGE_OWN_CALLS | normal | enables a calling app to manage its own calls. | Allows a calling application which manages it own calls through the self-managed ConnectionService APIs. |
| android.permission.INTERNET | normal | full Internet access | Allows an application to create network sockets. |
| android.permission.ACCESS_NETWORK_STATE | normal | view network status | Allows an application to view the status of all networks. |
| android.permission.ACCESS_NOTIFICATION_POLICY | normal | marker permission for accessing notification policy. | Marker permission for applications that wish to access notification policy. |
| android.permission.ACCESS_WIFI_STATE | normal | view Wi-Fi status | Allows an application to view the information about the status of Wi-Fi. |
| android.permission.BLUETOOTH | normal | create Bluetooth connections | Allows applications to connect to paired bluetooth devices. |
| android.permission.BLUETOOTH_ADMIN | normal | bluetooth administration | Allows applications to discover and pair bluetooth devices. |
| android.permission.CHANGE_WIFI_STATE | normal | change Wi-Fi status | Allows an application to connect to and disconnect from Wi-Fi access points and to make changes to configured Wi-Fi networks. |
| android.permission.CHANGE_NETWORK_STATE | normal | change network connectivity | Allows applications to change network connectivity state. |
| android.permission.VIBRATE | normal | control vibrator | Allows the application to control the vibrator. |
| android.permission.WAKE_LOCK | normal | prevent phone from sleeping | Allows an application to prevent the phone from going to sleep. |
| android.permission.READ_CALENDAR | dangerous | read calendar events | Allows an application to read all of the calendar events stored on your phone. Malicious applications can use this to send your calendar events to other people. |

| PERMISSION | STATUS | INFO | DESCRIPTION |
|-----------------------------------------------|-----------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| android.permission.WRITE_CALENDAR | dangerous | add or modify calendar events and send emails to guests | Allows an application to add or change the events on your calendar, which may send emails to guests. Malicious applications can use this to erase or modify your calendar events or to send emails to guests. |
| android.permission.CAMERA | dangerous | take pictures and videos | Allows application to take pictures and videos with the camera. This allows the application to collect images that the camera is seeing at any time. |
| android.permission.READ_CONTACTS | dangerous | read contact data | Allows an application to read all of the contact (address) data stored on your phone. Malicious applications can use this to send your data to other people. |
| android.permission.WRITE_CONTACTS | dangerous | write contact data | Allows an application to modify the contact (address) data stored on your phone. Malicious applications can use this to erase or modify your contact data. |
| android.permission.ACCESS_FINE_LOCATION | dangerous | fine (GPS) location | Access fine location sources, such as the Global Positioning System on the phone, where available. Malicious applications can use this to determine where you are and may consume additional battery power. |
| android.permission.ACCESS_COARSE_LOCATION | dangerous | coarse (network-based) location | Access coarse location sources, such as the mobile network database, to determine an approximate phone location, where available. Malicious applications can use this to determine approximately where you are. |
| android.permission.ACCESS_BACKGROUND_LOCATION | dangerous | access location in background | Allows an app to access location in the background. |
| android.permission.RECORD_AUDIO | dangerous | record audio | Allows application to access the audio record path. |
| android.permission.CALL_PHONE | dangerous | directly call phone numbers | Allows the application to call phone numbers without your intervention. Malicious applications may cause unexpected calls on your phone bill. Note that this does not allow the application to call emergency numbers. |
| android.permission.READ_PHONE_STATE | dangerous | read phone state and identity | Allows the application to access the phone features of the device. An application with this permission can determine the phone number and serial number of this phone, whether a call is active, the number that call is connected to and so on. |
| android.permission.READ_CALL_LOG | dangerous | grants read access to the user's call log. | Allows an application to read the user's call log. |
| android.permission.WRITE_CALL_LOG | dangerous | allows writing to (but not reading) the user's call log. | Allows an application to write (but not read) the user's call log data. |

| PERMISSION | STATUS | INFO | DESCRIPTION |
|------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| android.permission.PROCESS_OUTGOING_CALLS | dangerous | intercept outgoing calls | Allows application to process outgoing calls and change the number to be dialled. Malicious applications may monitor, redirect or prevent outgoing calls. |
| android.permission.REQUEST_INSTALL_PACKAGES | dangerous | Allows an application to request installing packages. | Malicious applications can use this to try and trick users into installing additional malicious packages. |
| com.google.android.c2dm.permission.RECEIVE | normal | recieve push notifications | Allows an application to receive push notifications from cloud. |
| com.google.android.finsky.permission.BIND_GET_INSTALL_REFERRER_SERVICE | normal | permission defined by google | A custom permission defined by Google. |
| android.permission.READ_SMS | dangerous | read SMS or MMS | Allows application to read SMS messages stored on your phone or SIM card. Malicious applications may read your confidential messages. |
| android.permission.SEND_SMS | dangerous | send SMS messages | Allows application to send SMS messages. Malicious applications may cost you money by sending messages without your confirmation. |
| android.permission.RECEIVE_SMS | dangerous | receive SMS | Allows application to receive and process SMS messages. Malicious applications may monitor your messages or delete them without showing them to you. |
| android.permission.WRITE_SMS | dangerous | edit SMS or MMS | Allows application to write to SMS messages stored on your phone or SIM card. Malicious applications may delete your messages. |
| android.permission.READ_EXTERNAL_STORAGE | dangerous | read external storage contents | Allows an application to read from external storage. |
| android.permission.WRITE_EXTERNAL_STORAGE | dangerous | read/modify/delete external storage contents | Allows an application to write to external storage. |
| android.permission.WRITE_INTERNAL_STORAGE | unknown | Unknown permission | Unknown permission from android reference |
| android.permission.MANAGE_EXTERNAL_STORAGE | dangerous | Allows an application a broad access to external storage in scoped storage | Allows an application a broad access to external storage in scoped storage. Intended to be used by few apps that need to manage files on behalf of the users. |
| android.permission.READ_INTERNAL_STORAGE | unknown | Unknown permission | Unknown permission from android reference |
| android.permission.REQUEST_IGNORE_BATTERY_OPTIMIZATIONS | normal | permission for using Settings.ACTION_REQUEST_IGNORE_BATTERY_OPTIMIZATIONS. | Permission an application must hold in order to use Settings.ACTION_REQUEST_IGNORE_BATTERY_OPTIMIZATIONS. |
| android.permission.bac | unknown | Unknown permission | Unknown permission from android reference |

| PERMISSION | STATUS | INFO | DESCRIPTION |
|-----------------------------------------------|-------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| android.permission.RECEIVE_BOOT_COMPLETED | normal | automatically start at boot | Allows an application to start itself as soon as the system has finished booting. This can make it take longer to start the phone and allow the application to slow down the overall phone by always running. |
| android.permissions.READ_PHONE_NUMBERS | dangerous | allows reading of the device's phone number(s). | Allows read access to the device's phone number(s). This is a subset of the capabilities granted by READ_PHONE_STATE but is exposed to instant applications. |
| android.permissions.ANSWER_PHONE_CALLS | dangerous | permits an app to answer incoming phone calls. | Allows the app to answer an incoming phone call. |
| android.permission.FOREGROUND_SERVICE | normal | enables regular apps to use Service.startForeground. | Allows a regular application to use Service.startForeground. |
| android.permission.CAPTURE_AUDIO_OUTPUT | SignatureOrSystem | allows capturing of audio output. | Allows an application to capture audio output. |
| android.permission.MODIFY_AUDIO_SETTINGS | normal | change your audio settings | Allows application to modify global audio settings, such as volume and routing. |
| android.permission.BIND_ACCESSIBILITY_SERVICE | signature | required by AccessibilityServices for system binding. | Must be required by an AccessibilityService, to ensure that only the system can bind to it. |
| android.permission.PACKAGE_USAGE_STATS | signature | update component usage statistics | Allows the modification of collected component usage statistics. Not for use by common applications. |
| android.permission.CAPTURE_VIDEO_OUTPUT | normal | allows capturing of video output. | Allows an application to capture video output. |

ক্লি APKID ANALYSIS

| FILE | DETAILS | | | | |
|-------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| | FINDINGS | DETAILS | | | |
| classes.dex | Anti-VM Code | Build.FINGERPRINT check Build.MODEL check Build.MANUFACTURER check Build.BRAND check Build.DEVICE check Build.PRODUCT check Build.HARDWARE check | | | |
| | Compiler | r8 | | | |

| FILE | DETAILS | | | | |
|--------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--|--|
| | FINDINGS | | DETAILS | | |
| classes4.dex | Compiler | | r8 | | |
| | | | | | |
| | FINDINGS | DETAILS | | | |
| classes3.dex | Anti-VM Code | Build.FINGERPRINT check Build.MODEL check Build.MANUFACTURER check Build.PRODUCT check Build.BOARD check Build.TAGS check network operator name check | | | |
| | Anti Debug Code | Debug.isDebuggerConnected() check | | | |
| | Compiler | r8 without marker (suspicious) | | | |
| classes2.dex | FINDINGS | | DETAILS | | |
| | Compiler | | r8 | | |

△ NETWORK SECURITY

HIGH: 2 | WARNING: 1 | INFO: 0 | SECURE: 0

| NO | SCOPE | SEVERITY | DESCRIPTION | |
|----|-----------|----------|------------------------------------------------------------------------------------------------|--|
| 1 | * | warning | Base config is configured to trust system certificates. | |
| 2 | * | high | Base config is configured to trust user installed certificates. | |
| 3 | spy24.net | high | Domain config is insecurely configured to permit clear text traffic to these domains in scope. | |

CERTIFICATE ANALYSIS

| TITLE | SEVERITY | DESCRIPTION |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Signed Application | info | Application is signed with a code signing certificate |
| Application vulnerable to Janus Vulnerability | warning | Application is signed with v1 signature scheme, making it vulnerable to Janus vulnerability on Android 5.0-8.0, if signed only with v1 signature scheme. Applications running on Android 5.0-7.0 signed with v1, and v2/v3 scheme is also vulnerable. |
| Application signed with debug certificate high Application signed with a debug certificate. Production application must not be shipped with a debug certificate. | | Application signed with a debug certificate. Production application must not be shipped with a debug certificate. |
| Certificate algorithm might be vulnerable to hash collision | warning | Application is signed with SHA1withRSA. SHA1 hash algorithm is known to have collision issues. The manifest file indicates SHA256withRSA is in use. |

Q MANIFEST ANALYSIS

HIGH: 3 | WARNING: 20 | INFO: 0 | SUPPRESSED: 0

| NO | ISSUE | SEVERITY | DESCRIPTION |
|----|---------------------------------------------------------------------------------------------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | App can be installed on a vulnerable upatched Android version Android 6.0-6.0.1, [minSdk=23] | high | This application can be installed on an older version of android that has multiple unfixed vulnerabilities. These devices won't receive reasonable security updates from Google. Support an Android version => 10, API 29 to receive reasonable security updates. |
| 2 | Clear text traffic is Enabled For App [android:usesCleartextTraffic=true] | high | The app intends to use cleartext network traffic, such as cleartext HTTP, FTP stacks, DownloadManager, and MediaPlayer. The default value for apps that target API level 27 or lower is "true". Apps that target API level 28 or higher default to "false". The key reason for avoiding cleartext traffic is the lack of confidentiality, authenticity, and protections against tampering; a network attacker can eavesdrop on transmitted data and also modify it without being detected. |
| 3 | App has a Network Security Configuration [android:networkSecurityConfig=@xml/network_security_config] | info | The Network Security Configuration feature lets apps customize their network security settings in a safe, declarative configuration file without modifying app code. These settings can be configured for specific domains and for a specific app. |
| 4 | Debug Enabled For App [android:debuggable=true] | high | Debugging was enabled on the app which makes it easier for reverse engineers to hook a debugger to it. This allows dumping a stack trace and accessing debugging helper classes. |
| 5 | Application Data can be Backed up [android:allowBackup] flag is missing. | warning | The flag [android:allowBackup] should be set to false. By default it is set to true and allows anyone to backup your application data via adb. It allows users who have enabled USB debugging to copy application data off of the device. |
| 6 | Activity (app.spy24.systemwifi.view.RegisterActivity) is not Protected. [android:exported=true] | warning | An Activity is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. |
| 7 | Activity (app.spy24.systemwifi.view.MainActivity) is not Protected. [android:exported=true] | warning | An Activity is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. |
| 8 | Activity (app.spy24.systemwifi.view.QrActivity) is not Protected. [android:exported=true] | warning | An Activity is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. |
| 9 | Broadcast Receiver (app.spy24.systemwifi.controller.receiver.AppReceiver) is not Protected. [android:exported=true] | warning | A Broadcast Receiver is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. |

| NO | ISSUE | SEVERITY | DESCRIPTION |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10 | Broadcast Receiver (app.spy24.systemwifi.controller.receiver.SMSReceiver) is not Protected. [android:exported=true] | warning | A Broadcast Receiver is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. |
| 11 | Broadcast Receiver (app.spy24.systemwifi.controller.receiver.CallReceiver) is Protected by a permission, but the protection level of the permission should be checked. Permission: android.permission.PROCESS_OUTGOING_CALLS [android:exported=true] | warning | A Broadcast Receiver is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. It is protected by a permission which is not defined in the analysed application. As a result, the protection level of the permission should be checked where it is defined. If it is set to normal or dangerous, a malicious application can request and obtain the permission and interact with the component. If it is set to signature, only applications signed with the same certificate can obtain the permission. |
| 12 | Broadcast Receiver (app.spy24.systemwifi.controller.receiver.DeviceAdmin) is Protected by a permission, but the protection level of the permission should be checked. Permission: android.permission.BIND_DEVICE_ADMIN [android:exported=true] | warning | A Broadcast Receiver is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. It is protected by a permission which is not defined in the analysed application. As a result, the protection level of the permission should be checked where it is defined. If it is set to normal or dangerous, a malicious application can request and obtain the permission and interact with the component. If it is set to signature, only applications signed with the same certificate can obtain the permission. |
| 13 | Service (app.spy24.systemwifi.controller.service.NotificationReceiver) is Protected by a permission, but the protection level of the permission should be checked. Permission: android.permission.BIND_NOTIFICATION_LISTENER_SERVICE [android:exported=true] | warning | A Service is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. It is protected by a permission which is not defined in the analysed application. As a result, the protection level of the permission should be checked where it is defined. If it is set to normal or dangerous, a malicious application can request and obtain the permission and interact with the component. If it is set to signature, only applications signed with the same certificate can obtain the permission. |
| 14 | Service (app.spy24.systemwifi.controller.receiver.CallAppService) is Protected by a permission, but the protection level of the permission should be checked. Permission: android.permission.BIND_SCREENING_SERVICE [android:exported=true] | warning | A Service is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. It is protected by a permission which is not defined in the analysed application. As a result, the protection level of the permission should be checked where it is defined. If it is set to normal or dangerous, a malicious application can request and obtain the permission and interact with the component. If it is set to signature, only applications signed with the same certificate can obtain the permission. |
| 15 | Service (app.spy24.systemwifi.controller.receiver.CallRedirection) is Protected by a permission, but the protection level of the permission should be checked. Permission: android.permission.BIND_CALL_REDIRECTION_SERVICE [android:exported=true] | warning | A Service is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. It is protected by a permission which is not defined in the analysed application. As a result, the protection level of the permission should be checked where it is defined. If it is set to normal or dangerous, a malicious application can request and obtain the permission and interact with the component. If it is set to signature, only applications signed with the same certificate can obtain the permission. |
| 16 | Service (app.spy24.systemwifi.controller.service.functionality.AudioService) is Protected by a permission, but the protection level of the permission should be checked. Permission: android.permission.BIND_ACCESSIBILITY_SERVICE [android:exported=true] | warning | A Service is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. It is protected by a permission which is not defined in the analysed application. As a result, the protection level of the permission should be checked where it is defined. If it is set to normal or dangerous, a malicious application can request and obtain the permission and interact with the component. If it is set to signature, only applications signed with the same certificate can obtain the permission. |
| 17 | Service (app.spy24.systemwifi.controller.service.accessibillity.Accessibility) is Protected by a permission, but the protection level of the permission should be checked. Permission: android.permission.BIND_ACCESSIBILITY_SERVICE [android:exported=true] | warning | A Service is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. It is protected by a permission which is not defined in the analysed application. As a result, the protection level of the permission should be checked where it is defined. If it is set to normal or dangerous, a malicious application can request and obtain the permission and interact with the component. If it is set to signature, only applications signed with the same certificate can obtain the permission. |

| NO | ISSUE | SEVERITY | DESCRIPTION |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 18 | Service (app.spy24.systemwifi.controller.service.accessibillity.UpdateAccessibillity) is Protected by a permission, but the protection level of the permission should be checked. Permission: android.permission.BIND_ACCESSIBILITY_SERVICE [android:exported=true] | warning | A Service is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. It is protected by a permission which is not defined in the analysed application. As a result, the protection level of the permission should be checked where it is defined. If it is set to normal or dangerous, a malicious application can request and obtain the permission and interact with the component. If it is set to signature, only applications signed with the same certificate can obtain the permission. |
| 19 | Service (app.spy24.systemwifi.controller.service.notification.NotificationListener) is Protected by a permission, but the protection level of the permission should be checked. Permission: android.permission.BIND_NOTIFICATION_LISTENER_SERVICE [android:exported=true] | warning | A Service is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. It is protected by a permission which is not defined in the analysed application. As a result, the protection level of the permission should be checked where it is defined. If it is set to normal or dangerous, a malicious application can request and obtain the permission and interact with the component. If it is set to signature, only applications signed with the same certificate can obtain the permission. |
| 20 | Service (app.spy24.systemwifi.controller.service.functionality.ScreenService) is not Protected. [android:exported=true] | warning | A Service is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. |
| 21 | Service (androidx.work.impl.background.systemjob.SystemJobService) is Protected by a permission, but the protection level of the permission should be checked. Permission: android.permission.BIND_JOB_SERVICE [android:exported=true] | warning | A Service is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. It is protected by a permission which is not defined in the analysed application. As a result, the protection level of the permission should be checked where it is defined. If it is set to normal or dangerous, a malicious application can request and obtain the permission and interact with the component. If it is set to signature, only applications signed with the same certificate can obtain the permission. |
| 22 | Broadcast Receiver (androidx.work.impl.diagnostics.DiagnosticsReceiver) is Protected by a permission, but the protection level of the permission should be checked. Permission: android.permission.DUMP [android:exported=true] | warning | A Broadcast Receiver is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. It is protected by a permission which is not defined in the analysed application. As a result, the protection level of the permission should be checked where it is defined. If it is set to normal or dangerous, a malicious application can request and obtain the permission and interact with the component. If it is set to signature, only applications signed with the same certificate can obtain the permission. |
| 23 | Broadcast Receiver (com.google.firebase.iid.FirebaseInstanceIdReceiver) is Protected by a permission, but the protection level of the permission should be checked. Permission: com.google.android.c2dm.permission.SEND [android:exported=true] | warning | A Broadcast Receiver is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. It is protected by a permission which is not defined in the analysed application. As a result, the protection level of the permission should be checked where it is defined. If it is set to normal or dangerous, a malicious application can request and obtain the permission and interact with the component. If it is set to signature, only applications signed with the same certificate can obtain the permission. |
| 24 | Service (com.google.android.play.core.assetpacks.AssetPackExtractionService) is not Protected. [android:exported=true] | warning | A Service is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. |

</> CODE ANALYSIS

| NO | ISSUE | SEVERITY | STANDARDS | FILES |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | The App logs information. Sensitive information should never be logged. | info | CWE: CWE-532: Insertion of Sensitive Information into Log File OWASP MASVS: MSTG-STORAGE-3 | a/b/a/b,java a/b/a/h/b,java a/b/a/h/b,java a/b/a/h/b,java a/b/a/h/b,java a/b/a/h/e,java app/spy24/systemwifi/controller/database/DaoMaster.java app/spy24/systemwifi/controller/service/accessibillity/Accessibility.java app/spy24/systemwifi/controller/service/functionality/LiveHelper.java app/spy24/systemwifi/controller/service/functionality/LiveHelper.java app/spy24/systemwifi/controller/service/job/SendTakenImages.java com/github/piasy/rxandroidaudio/\$\$Lambda\$RxAudioPlayer\$EOddmjeg DpVR5opAdjUN28KMeHM.java com/github/piasy/rxandroidaudio/AudioRecorder.java com/github/piasy/rxandroidaudio/RxAmplitude.java com/github/piasy/rxandroidaudio/StreamAudioPlayer.java com/github/piasy/rxandroidaudio/StreamAudioRecorder.java com/hbisoft/hbrecorder/ScreenRecordService.java com/najva/sdk/push_notification/NajvaPushNotificationHandler.java com/najva/sdk/push_notification/service/NajvaNotificationIntentService.ja va junit/runner/BaseTestRunner.java junit/runner/Version.java org/greenrobot/greendao/DaoException.java org/greenrobot/greendao/DaoException.java org/greenrobot/greendao/DaoLog.java org/greenrobot/greendao/DaoLog.java org/greenrobot/greendao/DaoLog.java org/greenrobot/greendao/DaoLog.java org/greenrobot/greendao/DaoLog.java org/greenrobot/greendao/Internal/LongHashMap.java org/greenrobot/greendao/test/AbstractDaoTest.java org/greenrobot/greendao/test/AbstractDaoTest.java org/greenrobot/greendao/test/AbstractDaoTestSinglePk.java org/greenrobot/greendao/test/AbstractDaoTestSinglePk.java org/greenrobot/greendao/test/AbstractDaoTestSinglePk.java org/greenrobot/greendao/test/AbstractDaoTestSinglePk.java org/greenrobot/greendao/test/AbstractDaoTestSinglePk.java org/greenrobot/greendao/test/AbstractDaoTestSinglePk.java org/greenrobot/greendao/test/DbTest.java |
| 2 | App can read/write to External Storage. Any App can read data written to External Storage. | warning | CWE: CWE-276: Incorrect Default Permissions OWASP Top 10: M2: Insecure Data Storage OWASP MASVS: MSTG-STORAGE-2 | app/spy24/systemwifi/controller/service/accessibillity/UpdateAccessibillit y.java app/spy24/systemwifi/controller/service/functionality/AudioHelper.java app/spy24/systemwifi/controller/service/functionality/ScreenService.java app/spy24/systemwifi/controller/service/job/SendTakenImages.java app/spy24/systemwifi/controller/utils/UpdateDownloader.java com/hbisoft/hbrecorder/HBRecorder.java com/hbisoft/hbrecorder/ScreenRecordService.java |
| 3 | App uses SQLite Database and execute raw SQL query. Untrusted user input in raw SQL queries can cause SQL Injection. Also sensitive information should be encrypted and written to the database. | warning | CWE: CWE-89: Improper Neutralization of Special Elements used in an SQL Command ('SQL Injection') OWASP Top 10: M7: Client Code Quality | app/spy24/systemwifi/controller/database/BlockModelDao.java app/spy24/systemwifi/controller/database/RequestModelDao.java app/spy24/systemwifi/controller/database/UserModelDao.java com/downloader/database/AppDbHelper.java com/downloader/database/DatabaseOpenHelper.java org/greenrobot/greendao/AbstractDao.java org/greenrobot/greendao/DbUtils.java org/greenrobot/greendao/database/StandardDatabase.java |

| NO | ISSUE | SEVERITY | STANDARDS | FILES |
|----|--------------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4 | Files may contain hardcoded sensitive information like usernames, passwords, keys etc. | warning | CWE: CWE-312: Cleartext Storage of Sensitive Information OWASP Top 10: M9: Reverse Engineering OWASP MASVS: MSTG-STORAGE-14 | com/budiyev/android/imageloader/lmageUtils.java com/fasterxml/jackson/databind/deser/std/ContainerDeserializerBase.jav a com/hbisoft/hbrecorder/Constants.java io/reactivex/internal/schedulers/SchedulerPoolFactory.java |
| 5 | This app listens to Clipboard changes. Some malware also listen to Clipboard changes. | info | OWASP MASVS: MSTG-PLATFORM-4 | app/spy24/systemwifi/controller/observer/ClipboardObserver.java app/spy24/systemwifi/controller/observer/ObserverController.java |
| 6 | The App uses an insecure Random Number Generator. | warning | CWE: CWE-330: Use of Insufficiently Random Values OWASP Top 10: M5: Insufficient Cryptography OWASP MASVS: MSTG-CRYPTO-6 | a/b/a/h/e.java com/github/piasy/rxandroidaudio/RxAmplitude.java org/greenrobot/greendao/test/DbTest.java |
| 7 | Debug configuration enabled. Production builds must not be debuggable. | high | CWE: CWE-919: Weaknesses in Mobile Applications OWASP Top 10: M1: Improper Platform Usage OWASP MASVS: MSTG-RESILIENCE-2 | app/spy24/systemwifi/BuildConfig.java com/hbisoft/hbrecorder/BuildConfig.java |
| 8 | App creates temp file. Sensitive information should never be written into a temp file. | warning | CWE: CWE-276: Incorrect Default Permissions OWASP Top 10: M2: Insecure Data Storage OWASP MASVS: MSTG-STORAGE-2 | org/junit/rules/TemporaryFolder.java |
| 9 | This App uses SQL Cipher. SQLCipher provides 256-bit AES encryption to sqlite database files. | info | OWASP MASVS: MSTG-CRYPTO-1 | org/greenrobot/greendao/database/SqlCipherEncryptedHelper.java |
| 10 | MD5 is a weak hash known to have hash collisions. | warning | CWE: CWE-327: Use of a Broken or Risky Cryptographic Algorithm OWASP Top 10: M5: Insufficient Cryptography OWASP MASVS: MSTG-CRYPTO-4 | com/downloader/utils/Utils.java |

MISHARED LIBRARY BINARY ANALYSIS

| NO | SHARED OBJECT | NX | STACK CANARY | RELRO | RPATH | RUNPATH | FORTIFY | SYMBOLS STRIPPED |
|----|------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| 1 | mips64/libaudio-processor.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | False high This binary does not have a stack canary value added to the stack. Stack canaries are used to detect and prevent exploits from overwriting return address. Use the option -fstack- protector-all to enable stack canaries. Not applicable for Dart/Flutter libraries unless Dart FFI is used. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |

| NO | SHARED OBJECT | NX | STACK CANARY | RELRO | RPATH | RUNPATH | FORTIFY | SYMBOLS STRIPPED |
|----|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| 2 | armeabi-v7a/libibg-native.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | True info This binary has a stack canary value added to the stack so that it will be overwritten by a stack buffer that overflows the return address. This allows detection of overflows by verifying the integrity of the canary before function return. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |
| 3 | armeabi-v7a/libaudio-processor.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | False high This binary does not have a stack canary value added to the stack. Stack canaries are used to detect and prevent exploits from overwriting return address. Use the option -fstack- protector-all to enable stack canaries. Not applicable for Dart/Flutter libraries unless Dart FFI is used. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |
| 4 | x86_64/libibg-native.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | True info This binary has a stack canary value added to the stack so that it will be overwritten by a stack buffer that overflows the return address. This allows detection of overflows by verifying the integrity of the canary before function return. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | True info The binary has the following fortified functions: ['_vsnprintf_chk', '_strlen_chk', '_memmove_chk'] | False warning Symbols are available. |
| 5 | x86_64/libaudio-processor.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | False high This binary does not have a stack canary value added to the stack. Stack canaries are used to detect and prevent exploits from overwriting return address. Use the option -fstack- protector-all to enable stack canaries. Not applicable for Dart/Flutter libraries unless Dart FFI is used. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |

| NO | SHARED OBJECT | NX | STACK CANARY | RELRO | RPATH | RUNPATH | FORTIFY | SYMBOLS STRIPPED |
|----|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| 6 | arm64-v8a/libibg-native.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | True info This binary has a stack canary value added to the stack so that it will be overwritten by a stack buffer that overflows the return address. This allows detection of overflows by verifying the integrity of the canary before function return. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | True info The binary has the following fortified functions: ['_vsnprintf_chk', '_strlen_chk', '_memmove_chk'] | False warning Symbols are available. |
| 7 | arm64-v8a/libaudio-processor.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | False high This binary does not have a stack canary value added to the stack. Stack canaries are used to detect and prevent exploits from overwriting return address. Use the option -fstack- protector-all to enable stack canaries. Not applicable for Dart/Flutter libraries unless Dart FFI is used. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |
| 8 | x86/libibg-native.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | True info This binary has a stack canary value added to the stack so that it will be overwritten by a stack buffer that overflows the return address. This allows detection of overflows by verifying the integrity of the canary before function return. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |
| 9 | x86/libaudio-processor.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | True info This binary has a stack canary value added to the stack so that it will be overwritten by a stack buffer that overflows the return address. This allows detection of overflows by verifying the integrity of the canary before function return. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |

| NO | SHARED OBJECT | NX | STACK CANARY | RELRO | RPATH | RUNPATH | FORTIFY | SYMBOLS STRIPPED |
|----|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| 10 | armeabi/libaudio-processor.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | False high This binary does not have a stack canary value added to the stack. Stack canaries are used to detect and prevent exploits from overwriting return address. Use the option -fstack- protector-all to enable stack canaries. Not applicable for Dart/Flutter libraries unless Dart FFI is used. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |
| 11 | mips/libaudio-processor.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | False high This binary does not have a stack canary value added to the stack. Stack canaries are used to detect and prevent exploits from overwriting return address. Use the option -fstack- protector-all to enable stack canaries. Not applicable for Dart/Flutter libraries unless Dart FFI is used. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |
| 12 | mips64/libaudio-processor.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | False high This binary does not have a stack canary value added to the stack. Stack canaries are used to detect and prevent exploits from overwriting return address. Use the option -fstack- protector-all to enable stack canaries. Not applicable for Dart/Flutter libraries unless Dart FFI is used. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |

| NO | SHARED OBJECT | NX | STACK CANARY | RELRO | RPATH | RUNPATH | FORTIFY | SYMBOLS STRIPPED |
|----|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| 13 | armeabi-v7a/libibg-native.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | True info This binary has a stack canary value added to the stack so that it will be overwritten by a stack buffer that overflows the return address. This allows detection of overflows by verifying the integrity of the canary before function return. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |
| 14 | armeabi-v7a/libaudio-processor.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | False high This binary does not have a stack canary value added to the stack. Stack canaries are used to detect and prevent exploits from overwriting return address. Use the option -fstack- protector-all to enable stack canaries. Not applicable for Dart/Flutter libraries unless Dart FFI is used. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |
| 15 | x86_64/libibg-native.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | True info This binary has a stack canary value added to the stack so that it will be overwritten by a stack buffer that overflows the return address. This allows detection of overflows by verifying the integrity of the canary before function return. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | True info The binary has the following fortified functions: ['_vsnprintf_chk', '_strlen_chk', '_memmove_chk'] | False warning Symbols are available. |
| 16 | x86_64/libaudio-processor.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | False high This binary does not have a stack canary value added to the stack. Stack canaries are used to detect and prevent exploits from overwriting return address. Use the option -fstack- protector-all to enable stack canaries. Not applicable for Dart/Flutter libraries unless Dart FFI is used. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |

| NO | SHARED OBJECT | NX | STACK CANARY | RELRO | RPATH | RUNPATH | FORTIFY | SYMBOLS STRIPPED |
|----|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| 17 | arm64-v8a/libibg-native.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | True info This binary has a stack canary value added to the stack so that it will be overwritten by a stack buffer that overflows the return address. This allows detection of overflows by verifying the integrity of the canary before function return. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | True info The binary has the following fortified functions: ['_vsnprintf_chk', '_strlen_chk', '_memmove_chk'] | False warning Symbols are available. |
| 18 | arm64-v8a/libaudio-processor.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | False high This binary does not have a stack canary value added to the stack. Stack canaries are used to detect and prevent exploits from overwriting return address. Use the option -fstack- protector-all to enable stack canaries. Not applicable for Dart/Flutter libraries unless Dart FFI is used. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |
| 19 | x86/libibg-native.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | True info This binary has a stack canary value added to the stack so that it will be overwritten by a stack buffer that overflows the return address. This allows detection of overflows by verifying the integrity of the canary before function return. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |
| 20 | x86/libaudio-processor.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | True info This binary has a stack canary value added to the stack so that it will be overwritten by a stack buffer that overflows the return address. This allows detection of overflows by verifying the integrity of the canary before function return. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |

| NO | SHARED OBJECT | NX | STACK CANARY | RELRO | RPATH | RUNPATH | FORTIFY | SYMBOLS STRIPPED |
|----|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| 21 | armeabi/libaudio-processor.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | False high This binary does not have a stack canary value added to the stack. Stack canaries are used to detect and prevent exploits from overwriting return address. Use the option -fstack- protector-all to enable stack canaries. Not applicable for Dart/Flutter libraries unless Dart FFI is used. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |
| 22 | mips/libaudio-processor.so | True info The binary has NX bit set. This marks a memory page non-executable making attacker injected shellcode non- executable. | False high This binary does not have a stack canary value added to the stack. Stack canaries are used to detect and prevent exploits from overwriting return address. Use the option -fstack- protector-all to enable stack canaries. Not applicable for Dart/Flutter libraries unless Dart FFI is used. | Full RELRO info This shared object has full RELRO enabled. RELRO ensures that the GOT cannot be overwritten in vulnerable ELF binaries. In Full RELRO, the entire GOT (.got and .got.plt both) is marked as read-only. | None info The binary does not have run-time search path or RPATH set. | None info The binary does not have RUNPATH set. | False warning The binary does not have any fortified functions. Fortified functions provides buffer overflow checks against glibc's commons insecure functions like strcpy, gets etc. Use the compiler option -D_FORTIFY_SOURCE=2 to fortify functions. This check is not applicable for Dart/Flutter libraries. | False warning Symbols are available. |

■ NIAP ANALYSIS v1.3

| NO IDENTIFIER REQUIREMENT FEATURE DESCRIPTION |
|-----------------------------------------------|
|-----------------------------------------------|

***: ::** ABUSED PERMISSIONS

| TYPE | MATCHES | PERMISSIONS |
|------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Malware Permissions | 19/24 | android.permission.SYSTEM_ALERT_WINDOW, android.permission.INTERNET, android.permission.ACCESS_NETWORK_STATE, android.permission.ACCESS_WIFL_STATE, android.permission.ACCESS_WIFL_STATE, android.permission.WAKE_LOCK, android.permission.CAMERA, android.permission.READ_CONTACTS, android.permission.ACCESS_FINE_LOCATION, android.permission.ACCESS_COARSE_LOCATION, android.permission.RECORD_AUDIO, android.permission.READ_PHONE_STATE, android.permission.READ_CALL_LOG, android.permission.READ_SMS, android.permission.READ_EXTERNAL_STORAGE, android.permission.WRITE_EXTERNAL_STORAGE, android.permission.RECEIVE_BOOT_COMPLETED |

| TYPE | MATCHES | PERMISSIONS |
|--------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other Common Permissions | 18/45 | android.permission.ACCESS_NOTIFICATION_POLICY, android.permission.BLUETOOTH, android.permission.BLUETOOTH_ADMIN, android.permission.CHANGE_WIFI_STATE, android.permission.CHANGE_NETWORK_STATE, android.permission.READ_CALENDAR, android.permission.WRITE_CONTACTS, android.permission.ACCESS_BACKGROUND_LOCATION, android.permission.CALL_PHONE, android.permission.PROCESS_OUTGOING_CALLS, android.permission.REQUEST_INSTALL_PACKAGES, com.google.android.c2dm.permission.RECEIVE, com.google.android.finsky.permission.BIND_GET_INSTALL_REFERRER_SERVICE, android.permission.WRITE_SMS, android.permission.REQUEST_IGNORE_BATTERY_OPTIMIZATIONS, android.permission.FOREGROUND_SERVICE, android.permission.MODIFY_AUDIO_SETTINGS, android.permission.PACKAGE_USAGE_STATS |

Malware Permissions:

Top permissions that are widely abused by known malware.

Other Common Permissions:

Permissions that are commonly abused by known malware.

! OFAC SANCTIONED COUNTRIES

This app may communicate with the following OFAC sanctioned list of countries.

| DOMAIN COUNTRY/REGION |
|-----------------------|
|-----------------------|

© DOMAIN MALWARE CHECK

| DOMAIN | STATUS | GEOLOCATION |
|----------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| www.google.com | ok | IP: 142.251.37.4 Country: United States of America Region: California City: Mountain View Latitude: 37.405991 Longitude: -122.078514 View: Google Map |
| github.com | ok | IP: 140.82.121.3 Country: United States of America Region: California City: San Francisco Latitude: 37.775700 Longitude: -122.395203 View: Google Map |

| DOMAIN | STATUS | GEOLOCATION |
|----------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| greenrobot.org | ok | IP: 85.13.163.69 Country: Germany Region: Thuringen City: Friedersdorf Latitude: 50.604919 Longitude: 11.035770 View: Google Map |
| android.spy24.app | ok | IP: 95.217.230.222 Country: Finland Region: Uusimaa City: Helsinki Latitude: 60.169521 Longitude: 24.935450 View: Google Map |
| app.najva.com | ok | IP: 188.114,96.10 Country: Spain Region: Madrid, Comunidad de City: Madrid Latitude: 40.416500 Longitude: -3.702560 View: Google Map |
| javax.xml.xmlconstants | ok | No Geolocation information available. |
| push-notif-system.firebaseio.com | ok | IP: 34.120.206.254 Country: United States of America Region: Missouri City: Kansas City Latitude: 39.099731 Longitude: -94.578568 View: Google Map |

FIREBASE DATABASES

| FIREBASE URL | DETAILS |
|------------------------------------------|----------------------------------------|
| https://push-notif-system.firebaseio.com | info App talks to a Firebase Database. |



| TRACKER | CATEGORIES | URL |
|----------|-----------------|----------------------------------------------------|
| Instabug | Crash reporting | https://reports.exodus-privacy.eu.org/trackers/206 |

₽ HARDCODED SECRETS

| POSSIBLE SECRETS |
|------------------------------------------------------------------------------|
| "google_api_key" : "AlzaSyAN0KxifqW3EDUr0-a53ZXxyISHg3lLYSM" |
| "google_crash_reporting_api_key" : "AlzaSyAN0KxifqW3EDUr0-a53ZXxyISHg3lLYSM" |
| "token" : "\$2y\$10\$zNYdzp336Q5rxQU3APj/HOpOFW69JBiFwKRsiYXdbaV5369fSt5ES" |
| c103703e120ae8cc73c9248622f3cd1e |
| 49f946663a8deb7054212b8adda248c6 |
| b1a9630002b2cbdfbfecd942744b9018 |
| AlzaSyDK9WxkdDjrDNEHEBkYQoWWkVlhNqCpb |
| 258EAFA5-E914-47DA-95CA-C5AB0DC85B11 |
| f0df26a3cd0de7e31567a9d3271af65b |

⋮≡ SCAN LOGS

| Timestamp | Event | Error |
|---------------------|------------------------------------------|-------|
| 2024-08-17 17:27:47 | Generating Hashes | ОК |
| 2024-08-17 17:27:47 | Extracting APK | ОК |
| 2024-08-17 17:27:47 | Unzipping | ОК |
| 2024-08-17 17:27:47 | Getting Hardcoded Certificates/Keystores | OK |

| 2024-08-17 17:27:49 | Parsing AndroidManifest.xml | ОК |
|---------------------|-------------------------------------------------------------------|----|
| 2024-08-17 17:27:49 | Parsing APK with androguard | OK |
| 2024-08-17 17:27:50 | Extracting Manifest Data | OK |
| 2024-08-17 17:27:50 | Performing Static Analysis on: system.wifi (app.spy24.systemwifi) | ОК |
| 2024-08-17 17:27:50 | Fetching Details from Play Store: app.spy24.systemwifi | ОК |
| 2024-08-17 17:27:50 | Manifest Analysis Started | ОК |
| 2024-08-17 17:27:50 | Reading Network Security config from network_security_config.xml | ОК |
| 2024-08-17 17:27:50 | Parsing Network Security config | ОК |
| 2024-08-17 17:27:50 | Checking for Malware Permissions | ОК |
| 2024-08-17 17:27:50 | Fetching icon path | ОК |
| 2024-08-17 17:27:50 | Library Binary Analysis Started | ОК |
| 2024-08-17 17:27:50 | Analyzing lib/mips64/libaudio-processor.so | ОК |
| 2024-08-17 17:27:50 | Analyzing lib/armeabi-v7a/libibg-native.so | ОК |
| 2024-08-17 17:27:51 | Analyzing lib/armeabi-v7a/libaudio-processor.so | ОК |

| 2024-08-17 17:27:51 | Analyzing lib/x86_64/libibg-native.so | ОК |
|---------------------|-------------------------------------------------------------|----|
| 2024-08-17 17:27:51 | Analyzing lib/x86_64/libaudio-processor.so | ОК |
| 2024-08-17 17:27:51 | Analyzing lib/arm64-v8a/libibg-native.so | ОК |
| 2024-08-17 17:27:51 | Analyzing lib/arm64-v8a/libaudio-processor.so | ОК |
| 2024-08-17 17:27:51 | Analyzing lib/x86/libibg-native.so | ОК |
| 2024-08-17 17:27:51 | Analyzing lib/x86/libaudio-processor.so | ОК |
| 2024-08-17 17:27:51 | Analyzing lib/armeabi/libaudio-processor.so | ОК |
| 2024-08-17 17:27:51 | Analyzing lib/mips/libaudio-processor.so | ОК |
| 2024-08-17 17:27:51 | Analyzing apktool_out/lib/mips64/libaudio-processor.so | ОК |
| 2024-08-17 17:27:51 | Analyzing apktool_out/lib/armeabi-v7a/libibg-native.so | ОК |
| 2024-08-17 17:27:52 | Analyzing apktool_out/lib/armeabi-v7a/libaudio-processor.so | ОК |
| 2024-08-17 17:27:52 | Analyzing apktool_out/lib/x86_64/libibg-native.so | ОК |
| 2024-08-17 17:27:52 | Analyzing apktool_out/lib/x86_64/libaudio-processor.so | ОК |
| 2024-08-17 17:27:52 | Analyzing apktool_out/lib/arm64-v8a/libibg-native.so | ОК |
| 2024-08-17 17:27:52 | Analyzing apktool_out/lib/arm64-v8a/libaudio-processor.so | ОК |

| 2024-08-17 17:27:52 | Analyzing apktool_out/lib/x86/libibg-native.so | ОК |
|---------------------|---------------------------------------------------------|----|
| 2024-08-17 17:27:52 | Analyzing apktool_out/lib/x86/libaudio-processor.so | ОК |
| 2024-08-17 17:27:52 | Analyzing apktool_out/lib/armeabi/libaudio-processor.so | ОК |
| 2024-08-17 17:27:52 | Analyzing apktool_out/lib/mips/libaudio-processor.so | ОК |
| 2024-08-17 17:27:52 | Reading Code Signing Certificate | ОК |
| 2024-08-17 17:27:53 | Running APKiD 2.1.5 | ОК |
| 2024-08-17 17:27:55 | Detecting Trackers | ОК |
| 2024-08-17 17:27:57 | Decompiling APK to Java with jadx | ОК |
| 2024-08-17 17:28:19 | Converting DEX to Smali | ОК |
| 2024-08-17 17:28:19 | Code Analysis Started on - java_source | ОК |
| 2024-08-17 17:28:30 | Android SAST Completed | ОК |
| 2024-08-17 17:28:30 | Android API Analysis Started | ОК |
| 2024-08-17 17:28:36 | Android Permission Mapping Started | ОК |
| 2024-08-17 17:30:19 | Android Permission Mapping Completed | ОК |
| 2024-08-17 17:30:21 | Finished Code Analysis, Email and URL Extraction | ОК |

| 2024-08-17 17:30:21 | Extracting String data from APK | OK |
|---------------------|--------------------------------------------------|----|
| 2024-08-17 17:30:21 | Extracting String data from SO | ОК |
| 2024-08-17 17:30:21 | Extracting String data from Code | ОК |
| 2024-08-17 17:30:21 | Extracting String values and entropies from Code | ОК |
| 2024-08-17 17:30:23 | Performing Malware check on extracted domains | OK |
| 2024-08-17 17:30:25 | Saving to Database | OK |

Report Generated by - MobSF v4.0.6

Mobile Security Framework (MobSF) is an automated, all-in-one mobile application (Android/iOS/Windows) pen-testing, malware analysis and security assessment framework capable of performing static and dynamic analysis.

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