

Table 1: The *Permission*, *API*, and *API parameters* for the corresponding *iArb* detection

Perspective	iArb	Permission	API	Parameter
User Diversity	Read SD card	READ_EXTERNAL_STORAGE	*.content.Context.getExternalFilesDir;	/
	Read phone state and device ID	READ_PHONE_STATE	*.telephony.TelephonyManager.getDeviceSoftwareVersion; *.telephony.TelephonyManager.getNetworkType; *.telephony.TelephonyManager.getSimSerialNumber; *.telephony.TelephonyManager.getLine1Number; *.telephony.TelephonyManager.getMeid; *.telephony.TelephonyManager.getMei; *.telephony.TelephonyManager.getDeviceId; *.telephony.TelephonyManager.getSubscriberId; *.telephony.TelephonyManager.getNetworkOperatorName; *.telephony.TelephonyManager.getSimOperatorName;	/
	Read call log	READ_CALL_LOG	*.content.ContentResolver.query;	content://call_log
	Read contacts	READ_CONTACTS	*.content.ContentResolver.query;	content://com.android.contacts
	Read calendar	READ_CALENDAR	*.content.ContentResolver.query;	content://com.android.calendar/calendars
	Read SMS	READ_SMS	*.content.ContentResolver.query;	content://sms
	Read bluetooth pairing	BLUETOOTH_CONNECT, ACCESS_FINE_LOCATION	*.bluetooth.BluetoothAdapter.getBondedDevices; *.bluetooth.BluetoothDevice.getName; *.bluetooth.BluetoothDevice.getAddress; *.bluetooth.BluetoothDevice.getBondState;	/
	Read recordings	RECORD_AUDIO	*.media.MediaRecorder.setAudioSource; *.media.MediaRecorder.setOutputFormat; *.media.MediaRecorder.setAudioEncoder; *.media.MediaRecorder.setOutputFile; *.media.MediaRecorder.prepare; *.media.MediaRecorder.start; *.media.MediaRecorder.stop;	/
	Read location	ACCESS_FINE_LOCATION, ACCESS_COARSE_LOCATION	*.location.LocationManager.getLastKnownLocation; *.location.LocationManager.requestLocationUpdates; *.location.LocationListener.onLocationChanged; *.location.Location.getLatitude; *.location.Location.getLongitude; *.location.Location.getAltitude;	/
	Read Wi-Fi connection records	ACCESS_WIFI_STATE	*.net.wifi.WifiManager.getConfiguredNetworks; *.net.wifi.WifiManager.getConnectionInfo; *.net.wifi.WifiInfo.getSSID; *.net.wifi.WifiInfo.getBSSID; *.net.wifi.WifiInfo.getIpAddress;	/
Status Diversity	Notification pop-up	POST_NOTIFICATIONS	*.app.NotificationManager.notify; app.Notification.Builder.setSmallIcon; app.Notification.Builder.setContentTitle; app.Notification.Builder.setContentText; app.Notification.Builder.setPriority; app.Notification.Builder.setAutoCancel;	/
	Floating windows	SYSTEM_ALERT_WINDOW	*.view.WindowManagerImpl.addView; *.provider.Settings.canDrawOverlays;	/
	Video call	CAMERA, RECORD_AUDIO, INTERNET, ACCESS_NETWORK_STATE, MODIFY_AUDIO_SETTINGS	*.net.sip.SipManager.makeAudioCall; *.net.sip.SipManager.makeVideoCall; *.net.sip.SipManager.setSpeakerMode; *.net.sip.SipAudioCall.start; *.net.sip.SipAudioCall.endCall; *.net.rtp.AudioStream.setMode; *.net.rtp.AudioStream.associate; *.net.rtp.AudioStream.join;	/
	Audio playback	MEDIA_CONTENT_CONTROL	*.media.MediaPlayer.create; *.media.MediaPlayer.setDataSource; *.media.MediaPlayer.prepare; *.media.MediaPlayer.start; *.media.MediaPlayer.pause; *.media.MediaPlayer.stop; *.media.MediaPlayer.release; *.media.AudioManager.setStreamVolume; *.media.AudioManager.getStreamVolume; *.media.AudioAttributes\$Builder.setContentType; *.media.AudioAttributes\$Builder.setUsage;	/
	Video playback	MEDIA_CONTENT_CONTROL	*.media.MediaPlayer.setVideoScalingMode; *.media.MediaPlayer.setSurface; *.view.SurfaceView.setZOrderOnTop; *.view.SurfaceHolder.addCallback; *.widget.VideoView.setVideoURI; *.widget.VideoView.start; *.widget.VideoView.pause; *.widget.VideoView.stopPlayback;	/
	Voice call	CALL_PHONE	*.telephony.TelephonyManager.listen; *.telephony.TelephonyManager.endCall; *.telephony.TelecomManager.placeCall; *.telephony.PhoneStateListener.onCallStateChanged;	/
	Peripheral Diversity	Access camera	CAMERA	*.hardware.Camera.takePicture; *.hardware.Camera.open; *.media.MediaRecorder.start; *.hardware.camera2.CameraManager.openCamera; *.hardware.Camera.startPreview;
Access NIC		ACCESS_NETWORK_STATE, ACCESS_WIFI_STATE, INTERNET	*.net.ConnectivityManager.getActiveNetworkInfo; *.net.ConnectivityManager.getAllNetworks; *.net.ConnectivityManager.getNetworkInfo; *.net.wifi.WifiManager.getConnectionInfo; *.net.wifi.WifiInfo.getIpAddress; *.net.wifi.WifiManager.isWifiEnabled; *.net.wifi.WifiManager.setWifiEnabled; java.net.InetAddress.getHostAddress;	/

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			java.net.NetworkInterface.getNetworkInterfaces; java.net.NetworkInterface.getInetAddresses;	
			[vendor].*.CameraFrontRadarEventMsg.*;	
			[vendor].*.ElectriPercentEventMsg.*;	
			[vendor].*.CameraSteerAngleEventMsg.*;	
	Access radar	/		/
	Access battery	/		/
	Access steering wheel	/		/