Test security and privacy of your mobile application (iOS & Android), detect OWASP Mobile Top 10 and other weaknesses.

Summary of Mobile Application Security Test

cuidar

APP NAME	**APP ID**	**APP VERSION**
Covid19-AR	ar.gob.coronavirus	3.0.7
DEVICE TYPE	**TEST STARTED**	**TEST FINISHED**
Android	May 12th 2020, 02:47	May 12th 2020, 03:41

Malware test: no malicious code or behavioral patterns detected in the mobile app.

OWASP Mobile Top 10

The automated audit revealed the following security flaws and weaknesses that may impact the application:

WARNINGS 6	LOW RISKS 4	MEDIUM RISKS 2	HIGH RISK 0

Zero false-positive SLA and advanced manual testing of application is only available in ImmuniWeb® MobileSuite.

WEAK ENCRYPTION [M5] [CWE-327] [SAST]   MEDIUM

Description:
Weak or badly implemented encryption algorithms can endanger data storage and transmission used by the mobile application.

Example of insecure code:

```
Cipher c = Cipher.getInstance("AES/ECB/NoPadding");
c.init(Cipher.ENCRYPT_MODE, k, iv);
byte[] cipherText = c.doFinal(plainText);
```

Example of secure code:

```
Cipher c = Cipher.getInstance("AES/GCM/NoPadding");
c.init(Cipher.ENCRYPT_MODE, k, iv);
byte[] cipherText = c.doFinal(plainText);
```

Details:

There is **'RSA/ECB/PKCS1Padding'** found in file 'c/c/a/e/d/b.java':

```
line 153:          public static String a(PublicKey publicKey, byte[] bArr) throws
NoSuchAlgorithmException, NoSuchPaddingException, InvalidKeyException,
IllegalBlockSizeException, BadPaddingException, NoSuchProviderException,
InvalidKeySpecException {
line 154:              Cipher instance = Cipher.getInstance("RSA/ECB/PKCS1Padding");
line 155:              instance.init(1, publicKey);
```

```
line 167:              byte[] decode = Base64.decode(str, 0);
line 168:              Cipher instance = Cipher.getInstance("RSA/ECB/PKCS1Padding");
line 169:              instance.init(2, privateKey);
```

CVSSv3 Base Score:
4.4 (AV:L/AC:L/PR:L/UI:N/S:U/C:L/I:L/A:N)

Reference:
- https://developer.android.com/reference/javax/crypto/Cipher.html
- http://find-sec-bugs.github.io/bugs.htm

USAGE OF UNENCRYPTED HTTP PROTOCOL [M3] [CWE-319] [SAST]   MEDIUM

Description:
The mobile application uses HTTP protocol to send or receive data. The design of HTTP protocol does not provide any encryption of the transmitted data, which can be easily intercepted if an attacker is located in the same network or has access to data channel of the victim.

Example of insecure code:

```
HttpURLConnection conn = (HttpURLConnection) url.openConnection();
```

Example of secure code:

```
HttpsURLConnection conn = (HttpsURLConnection) url.openConnection();
```

Details:
There is **'(HttpURLConnection)'** found in file 'c/b/a/n/m/j.java':

```
line 108:              if (((a) this.d) != null) {
line 109:                  this.e = (HttpURLConnection)
URLConnectionInstrumentation.openConnection(url.openConnection());
line 110:                  for (Entry entry : map.entrySet()) {
```

CVSSv3 Base Score:
6.5 (AV:N/AC:L/PR:N/UI:N/S:U/C:L/I:L/A:N)

Reference:
- https://developer.android.com/reference/java/net/HttpURLConnection.html
- https://developer.android.com/reference/javax/net/ssl/HttpsURLConnection.html

HARDCODED DATA [M2] [CWE-200] [SAST]   LOW

Description:

The mobile application contains debugging or other technical information that may be extracted and used by an attacker to facilitate further attacks.

https:// with value https://issuetracker.google.com/issues/116541301 in following files:

- **androidx/databinding/ViewDataBinding.java:**

```
line 202: throw new IllegalArgumentException("The provided bindingComponent
parameter must be an instance of DataBindingComponent. See
https://issuetracker.google.com/issues/116541301 for details of why this
parameter is not defined as DataBindingComponent");
```

https:// with value https://plus.google.com/ in following files:

- **c/d/a/a/c/n/n.java:**

```
line 9:
Uri.parse("https://plus.google.com/").buildUpon().appendPath("circles").appe
ndPath("find").build();
```

https:// with value https://www.argentina.gob.ar/solicitar-certificado-unico-habilitante-para-circulacion-emergencia-covid-19 in following files:

- **com/globant/pasaportesanitario/flujos/pantallaprincipal/PantallaPrincipalViewModel.java:**

```
line 135: intent.setData(Uri.parse("https://www.argentina.gob.ar/solicitar-
certificado-unico-habilitante-para-circulacion-emergencia-covid-19"));
```

https:// with value https://api.app.covid.ar/ in following files:

- **com/globant/pasaportesanitario/data/remoto/CovidRetrofit.java:**

```
line 30: retrofit = new
Retrofit.Builder().baseUrl("https://api.app.covid.ar/").addConverterFactory(
GsonConverterFactory.create()).client(obtenerClienteHttp()).build();
```

https:// with value https://github.com/ReactiveX/RxJava/wiki/Plugins in following files:

- **e/a/h.java:**

```
line 32: b.a(iVar, "The RxJavaPlugins.onSubscribe hook returned a null
SingleObserver. Please check the handler provided to
RxJavaPlugins.setOnSingleSubscribe for invalid null returns. Further
reading: https://github.com/ReactiveX/RxJava/wiki/Plugins");
```

- **e/a/d.java:**

```
line 9: b.a(fVar, "The RxJavaPlugins.onSubscribe hook returned a null
Observer. Please change the handler provided to
RxJavaPlugins.setOnObservableSubscribe for invalid null returns. Further
reading: https://github.com/ReactiveX/RxJava/wiki/Plugins");
```

- **e/a/a.java:**

```
line 15: b.a(bVar, "The RxJavaPlugins.onSubscribe hook returned a null
CompletableObserver. Please check the handler provided to
RxJavaPlugins.setOnCompletableSubscribe for invalid null returns. Further
reading: https://github.com/ReactiveX/RxJava/wiki/Plugins");
```

https:// with value https://github.com/ReactiveX/RxJava/wiki/Error-Handling in following files:

- **e/a/l/b.java:**

```
line 6: stringBuilder.append("The exception was not handled due to missing
onError handler in the subscribe() method call. Further reading:
https://github.com/ReactiveX/RxJava/wiki/Error-Handling | ");
```

https:// with value https://github.com/ReactiveX/RxJava/wiki/What in following files:

- **e/a/l/d.java:**

```
line 6: stringBuilder.append("The exception could not be delivered to the
consumer because it has already canceled/disposed the flow or the exception
has nowhere to go to begin with. Further reading:
https://github.com/ReactiveX/RxJava/wiki/What's-different-in-2.0#error-
handling | ");
```

http:// with value http://localhost/ in following files:

- **retrofit2/Response.java:**

```
line 26: Request.Builder url = new
Request.Builder().url("http://localhost/");
line 33: Request.Builder url = new
Request.Builder().url("http://localhost/");
line 67: Request.Builder url = new
Request.Builder().url("http://localhost/");
line 81: Request.Builder url = new
Request.Builder().url("http://localhost/");
```

CVSSv3 Base Score:
3.3 (AV:L/AC:L/PR:L/UI:N/S:U/C:L/I:N/A:N)

ENABLED APPLICATION BACKUP [M2] [CWE-921] [SAST]　　　　　　　　　LOW

Description:
The mobile application uses external backup functionality (default Android backup mechanism) that may store inside sensitive data from the application. In certain conditions, this may lead to information disclosure (e.g. when a backup server or your Gmail account is compromised).

Example of insecure code:

```
android:allowBackup="true"
```

Example of secure code:

```
android:allowBackup="false"
```

Details:

There is **'android:allowBackup="true"'** found in file 'android/AndroidManifest.xml':

```
line 15:     <application android:allowBackup="true"
android:appComponentFactory="androidx.core.app.CoreComponentFactory"
android:icon="@mipmap/ic_launcher" android:label="@string/app_name"
android:name="com.globant.pasaportesanitario.CovidApplication"
android:networkSecurityConfig="@xml/network_security_config"
android:roundIcon="@mipmap/ic_launcher_round" android:supportsRtl="true"
android:theme="@style/AppTheme">
```

CVSSv3 Base Score:

3.3 (AV:L/AC:L/PR:L/UI:N/S:U/C:L/I:N/A:N)

Reference:

- https://developer.android.com/guide/topics/manifest/application-element.html
- http://resources.infosecinstitute.com/android-hacking-security-part-15-hacking-android-apps-using-backup-techniques/

MISSING TAPJACKING PROTECTION [M1] [CWE-451] [SAST]   LOW

Description:

The mobile application does not have a tapjacking protection required to mitigate tapjacking attacks.
By default, Android OS permits a mobile application to display its user interface over the user interface of another application installed and run on the device. When user touches the screen, application may pass the touch event to another application below its user interface layer that the user does not see, serving like a proxy to pass unintended touch activities. This attack is quite similar to clickjacking but for mobile devices. In order to be successfully exploited, a malicious application shall be already installed on the mobile phone of the victim. An example of exploitation would be a malware app that tricks user to unwittingly tap on a payment button (or any other functionality) of a sensitive application when playing a game or doing other innocent activity in the malicious application screen.

Example of secure code:

```
public class MyActivity extends Activity {
    protected void onCreate(Bundle bundle) {
        super.onCreate(bundle);

        final Button myButton = (Button)findViewById(R.id.button_id);
        myButton.setFilterTouchesWhenObscured(true);

        myButton.setOnClickListener(new View.OnClickListener() {
            // Perform action on click
        }
    }
}

<Button
    android:layout_height="wrap_content"
    android:layout_width="wrap_content"
    android:text="@string/self_destruct"
    android:onClick="selfDestruct"
    android:filterTouchesWhenObscured="true" />
```

Details:

There is **android:filterTouchesWhenObscured="true"** missing in files:
- android/res/layout-v22/mtrl_alert_dialog_actions.xml

- android/res/layout-v22/abc_alert_dialog_button_bar_material.xml
- android/res/layout-watch/abc_alert_dialog_button_bar_material.xml
- android/res/layout-watch/abc_alert_dialog_title_material.xml
- android/res/layout-land/mtrl_picker_header_dialog.xml
- android/res/layout/text_view_with_theme_line_height.xml
- android/res/layout/mtrl_picker_text_input_date.xml
- android/res/layout/tramite_dialog_layout.xml
- android/res/layout/identificacion_pregunta_direccion_fragment.xml
- android/res/layout/fragment_autodiagnostico_sintomas.xml
- android/res/layout/mtrl_alert_dialog_actions.xml
- android/res/layout/abc_list_menu_item_checkbox.xml
- android/res/layout/design_layout_snackbar_include.xml
- android/res/layout/design_text_input_start_icon.xml
- android/res/layout/abc_alert_dialog_button_bar_material.xml
- android/res/layout/mtrl_picker_header_fullscreen.xml
- android/res/layout/abc_activity_chooser_view_list_item.xml
- android/res/layout/dialogo_pedir_ubicacion.xml
- android/res/layout/notification_template_big_media.xml
- android/res/layout/text_view_with_line_height_from_layout.xml
- android/res/layout/design_layout_tab_icon.xml
- android/res/layout/dialog_medir_temperatura_informacion.xml
- android/res/layout/dialog_loading.xml
- android/res/layout/abc_screen_content_include.xml
- android/res/layout/mtrl_picker_dialog.xml
- android/res/layout/abc_activity_chooser_view.xml
- android/res/layout/abc_select_dialog_material.xml
- android/res/layout/test_toolbar_elevation.xml
- android/res/layout/abc_action_bar_title_item.xml
- android/res/layout/mtrl_calendar_year.xml
- android/res/layout/mtrl_alert_dialog_title.xml
- android/res/layout/test_toolbar.xml
- android/res/layout/pantalla_principal_infectado_fragment.xml
- android/res/layout/abc_screen_toolbar.xml
- android/res/layout/text_view_with_line_height_from_appearance.xml
- android/res/layout/abc_dialog_title_material.xml
- android/res/layout/mtrl_picker_header_dialog.xml
- android/res/layout/abc_search_view.xml
- android/res/layout/abc_search_dropdown_item_icons_2line.xml
- android/res/layout/abc_action_menu_item_layout.xml
- android/res/layout/design_bottom_sheet_dialog.xml
- android/res/layout/mtrl_calendar_months.xml
- android/res/layout/design_bottom_navigation_item.xml
- android/res/layout/abc_action_bar_up_container.xml
- android/res/layout/notification_template_icon_group.xml
- android/res/layout/abc_list_menu_item_layout.xml
- android/res/layout/design_text_input_end_icon.xml
- android/res/layout/design_navigation_item_separator.xml
- android/res/layout/mtrl_calendar_day_of_week.xml
- android/res/layout/mtrl_picker_header_toggle.xml
- android/res/layout/mtrl_calendar_month_navigation.xml
- android/res/layout/inicio_splash_fragment.xml
- android/res/layout/test_reflow_chipgroup.xml
- android/res/layout/notification_media_cancel_action.xml
- android/res/layout/identificacion_pregunta_telefono_fragment.xml
- android/res/layout/mtrl_calendar_month.xml
- android/res/layout/notification_action_tombstone.xml
- android/res/layout/abc_action_menu_layout.xml
- android/res/layout/fragment_no_infectado.xml

- android/res/layout/inicio_landing_fragment.xml
- android/res/layout/fragment_no_puede_circular.xml
- android/res/layout/notification_template_part_time.xml
- android/res/layout/fragment_autodiagnostico_temperatura.xml
- android/res/layout/identificacion_pregunta_confirmacion_datos_fragment.xml
- android/res/layout/notification_action.xml
- android/res/layout/abc_list_menu_item_radio.xml
- android/res/layout/mtrl_layout_snackbar_include.xml
- android/res/layout/custom_dialog.xml
- android/res/layout/mtrl_calendar_horizontal.xml
- android/res/layout/mtrl_alert_select_dialog_multichoice.xml
- android/res/layout/identificacion_pregunta_dni_manual_fragment.xml
- android/res/layout/activity_autodiagnostico.xml
- android/res/layout/resultado_activity.xml
- android/res/layout/test_toolbar_custom_background.xml
- android/res/layout/identificacion_pregunta_direccion_completa_fragment.xml
- android/res/layout/abc_screen_simple_overlay_action_mode.xml
- android/res/layout/mtrl_calendar_vertical.xml
- android/res/layout/abc_popup_menu_item_layout.xml
- android/res/layout/mtrl_picker_header_title_text.xml
- android/res/layout/mtrl_picker_fullscreen.xml
- android/res/layout/design_menu_item_action_area.xml
- android/res/layout/select_dialog_singlechoice_material.xml
- android/res/layout/activity_error_generico.xml
- android/res/layout/dialogo_pantalla_completa.xml
- android/res/layout/select_dialog_item_material.xml
- android/res/layout/design_navigation_menu.xml
- android/res/layout/mtrl_picker_header_selection_text.xml
- android/res/layout/test_action_chip.xml
- android/res/layout/support_simple_spinner_dropdown_item.xml
- android/res/layout/notification_media_action.xml
- android/res/layout/notification_template_media.xml
- android/res/layout/abc_alert_dialog_material.xml
- android/res/layout/mtrl_alert_select_dialog_item.xml
- android/res/layout/item_consejo_medir_temperatura.xml
- android/res/layout/activity_autodiagnostico_resultado.xml
- android/res/layout/design_navigation_item.xml
- android/res/layout/abc_tooltip.xml
- android/res/layout/abc_action_mode_bar.xml
- android/res/layout/lista_item_dropdown.xml
- android/res/layout/inicio_terminos_fragment.xml
- android/res/layout/design_navigation_item_header.xml
- android/res/layout/test_design_checkbox.xml
- android/res/layout/fragment_autodiagnostico_antecedentes.xml
- android/res/layout/mtrl_picker_text_input_date_range.xml
- android/res/layout/notification_template_lines_media.xml
- android/res/layout/design_layout_snackbar.xml
- android/res/layout/notification_template_big_media_narrow_custom.xml
- android/res/layout/mtrl_calendar_month_labeled.xml
- android/res/layout/activity_inicio.xml
- android/res/layout/abc_action_mode_close_item_material.xml
- android/res/layout/test_toolbar_surface.xml
- android/res/layout/design_navigation_item_subheader.xml
- android/res/layout/abc_list_menu_item_icon.xml
- android/res/layout/zxing_capture.xml
- android/res/layout/abc_expanded_menu_layout.xml
- android/res/layout/notification_template_media_custom.xml
- android/res/layout/abc_cascading_menu_item_layout.xml

- android/res/layout/activity_main.xml
- android/res/layout/fragment_puede_circular.xml
- android/res/layout/mtrl_calendar_days_of_week.xml
- android/res/layout/text_view_without_line_height.xml
- android/res/layout/mtrl_calendar_day.xml
- android/res/layout/identificacion_activity.xml
- android/res/layout/zxing_barcode_scanner.xml
- android/res/layout/mtrl_layout_snackbar.xml
- android/res/layout/design_navigation_menu_item.xml
- android/res/layout/notification_template_custom_big.xml
- android/res/layout/text_view_with_line_height_from_style.xml
- android/res/layout/mtrl_alert_select_dialog_singlechoice.xml
- android/res/layout/abc_popup_menu_header_item_layout.xml
- android/res/layout/abc_alert_dialog_title_material.xml
- android/res/layout/dialog_covid.xml
- android/res/layout/notification_template_big_media_custom.xml
- android/res/layout/notification_template_big_media_narrow.xml
- android/res/layout/dialogo_pedir_habilitar_manualmente_ubicacion.xml
- android/res/layout/fragment_circular.xml
- android/res/layout/notification_template_part_chronometer.xml
- android/res/layout/mtrl_alert_dialog.xml
- android/res/layout/identificacion_preguntas_finalizado_fragment.xml
- android/res/layout/mtrl_picker_actions.xml
- android/res/layout/pantalla_principal_activity.xml
- android/res/layout/abc_screen_simple.xml
- android/res/layout/select_dialog_multichoice_material.xml
- android/res/layout/design_layout_tab_text.xml
- android/res/layout-sw600dp/design_layout_snackbar.xml
- android/res/layout-sw600dp/mtrl_layout_snackbar.xml
- android/res/layout-v26/abc_screen_toolbar.xml
- android/res/layout-v26/mtrl_calendar_month.xml

There is **'extends FrameLayout'** found in file 'androidx/core/widget/NestedScrollView.java':

```
line 43:
line 44: public class NestedScrollView extends FrameLayout implements j, f {
line 45:     public static final a B = new a();
```

There is **'extends FrameLayout'** found in file 'androidx/fragment/app/FragmentContainerView.java':

```
line 18:
line 19: public final class FragmentContainerView extends FrameLayout {
line 20:     public ArrayList<View> b;
```

There is **'extends FrameLayout'** found in file 'androidx/appcompat/widget/ContentFrameLayout.java':

```
line 13:
line 14: public class ContentFrameLayout extends FrameLayout {
line 15:     public TypedValue b;
```

There is **'extends FrameLayout'** found in file 'androidx/appcompat/widget/ActionBarContainer.java':

```
line 22:
line 23: public class ActionBarContainer extends FrameLayout {
line 24:     public boolean b;
```

There is **'extends FrameLayout'** found in file 'androidx/appcompat/widget/FitWindowsFrameLayout.java':

```
line 9:
line 10: public class FitWindowsFrameLayout extends FrameLayout {
line 11:     public g0 b;
```

There is **'extends FrameLayout'** found in file 'androidx/cardview/widget/CardView.java':

```
line 14:
line 15: public class CardView extends FrameLayout {
line 16:     public static final int[] i = new int[]{16842801};
```

There is **'extends FrameLayout'** found in file 'c/d/a/b/t/b.java':

```
line 9: /* compiled from: CircularRevealFrameLayout */
line 10: public class b extends FrameLayout implements c {
line 11:     public void a() {
```

There is **'extends FrameLayout'** found in file 'com/journeyapps/barcodescanner/CompoundBarcodeView.java':

```
line 14:
line 15: public class CompoundBarcodeView extends FrameLayout {
line 16:     public BarcodeView b;
```

There is **'extends FrameLayout'** found in file 'b/b/o/i/j.java':

```
line 65:     /* compiled from: MenuItemWrapperICS */
line 66:     public static class c extends FrameLayout implements b.b.o.b {
line 67:         public final CollapsibleActionView b;
```

There is **'extends ViewGroup'** found in file 'androidx/recyclerview/widget/RecyclerView.java':

```
line 55:
line 56: public class RecyclerView extends ViewGroup implements b.h.m.e, b.h.m.f {
line 57:     public static final boolean ALLOW_SIZE_IN_UNSPECIFIED_SPEC =
(VERSION.SDK_INT >= 23);
```

There is **'extends ViewGroup'** found in file 'androidx/appcompat/widget/ActionBarOverlayLayout.java':

```
line 32:
line 33: public class ActionBarOverlayLayout extends ViewGroup implements c0, i, j {
line 34:     public static final int[] C = new int[]{b.b.a.actionBarSize, 16842841};
```

There is **'extends ViewGroup'** found in file 'androidx/appcompat/widget/Toolbar.java':

```
line 43:
line 44: public class Toolbar extends ViewGroup {
line 45:     public ColorStateList A;
```

There is **'extends ViewGroup'** found in file 'androidx/coordinatorlayout/widget/CoordinatorLayout.java':

```
line 46:
line 47: public class CoordinatorLayout extends ViewGroup implements b.h.m.i, j {
line 48:     public static final String u;
```

There is **'extends ViewGroup'** found in file 'androidx/constraintlayout/widget/ConstraintLayout.java':

```
line 23:
line 24: public class ConstraintLayout extends ViewGroup {
line 25:     public SparseArray<View> b = new SparseArray();
```

There is **'extends ViewGroup'** found in file 'c/d/a/b/z/d.java':

```
line 17: /* compiled from: FlowLayout */
line 18: public class d extends ViewGroup {
line 19:     public int b;
```

There is **'extends ViewGroup'** found in file 'c/e/a/d.java':

```
line 33: /* compiled from: CameraPreview */
line 34: public class d extends ViewGroup {
line 35:     public static final String B = d.class.getSimpleName();
```

There is **'extends ViewGroup'** found in file 'b/f/b/c.java':

```
line 11: /* compiled from: Constraints */
line 12: public class c extends ViewGroup {
line 13:     public b b;
```

There is **'extends ViewGroup'** found in file 'b/b/p/i0.java':

```
line 17: /* compiled from: LinearLayoutCompat */
line 18: public class i0 extends ViewGroup {
line 19:     public boolean b;
```

There is **'extends ViewGroup'** found in file 'b/b/p/a.java':

```
line 23: /* compiled from: AbsActionBarView */
line 24: public abstract class a extends ViewGroup {
line 25:     public final a b;
```

There is **'extends ListView'** found in file 'androidx/appcompat/app/AlertController.java':

```
line 78:
line 79:     public static class RecycleListView extends ListView {
line 80:         public final int b;
```

There is **'extends ListView'** found in file 'androidx/appcompat/view/menu/ExpandedMenuView.java':

```
line 17:
line 18: public final class ExpandedMenuView extends ListView implements b, n,
OnItemClickListener {
line 19:     public static final int[] c = new int[]{16842964, 16843049};
```

There is **'extends ListView'** found in file 'b/b/p/f0.java':

```
line 19: /* compiled from: DropDownListView */
line 20: public class f0 extends ListView {
line 21:     public final Rect b = new Rect();
```

There is **'extends LinearLayout'** found in file 'androidx/appcompat/widget/ButtonBarLayout.java':

```
line 16:
line 17: public class ButtonBarLayout extends LinearLayout {
line 18:     public boolean b;
```

There is **'extends LinearLayout'** found in file 'androidx/appcompat/widget/ActivityChooserView$InnerLayout.java':

```
line 9:
line 10: public class ActivityChooserView$InnerLayout extends LinearLayout {
line 11:     public static final int[] b = new int[]{16842964};
```

There is **'extends LinearLayout'** found in file 'androidx/appcompat/widget/FitWindowsLinearLayout.java':

```
line 9:
line 10: public class FitWindowsLinearLayout extends LinearLayout {
line 11:     public g0 b;
```

There is **'extends LinearLayout'** found in file 'androidx/appcompat/view/menu/ListMenuItemView.java':

```
line 30:
line 31: public class ListMenuItemView extends LinearLayout implements a,
SelectionBoundsAdjuster {
line 32:     public i b;
```

There is **'extends View'** found in file 'androidx/appcompat/widget/ViewStubCompat.java':

```
line 15:
line 16: public final class ViewStubCompat extends View {
line 17:     public int b;
```

There is **'extends View'** found in file 'androidx/constraintlayout/widget/Guideline.java':

```
line 8:
line 9: public class Guideline extends View {
line 10:     public Guideline(Context context) {
```

There is **'extends View'** found in file 'com/journeyapps/barcodescanner/ViewfinderView.java':

```
line 19:
line 20: public class ViewfinderView extends View {
line 21:     public static final int[] m = new int[]{0, 64, 128, 192, 255, 192, 128,
64};
```

There is **'extends View'** found in file 'b/f/b/d.java':

```
line 11: /* compiled from: Placeholder */
line 12: public class d extends View {
line 13:     public int b;
```

There is **'extends View'** found in file 'b/f/b/a.java':

```
line 16: /* compiled from: ConstraintHelper */
line 17: public abstract class a extends View {
line 18:     public int[] b;
```

There is **'extends CardView'** found in file 'c/d/a/b/r/a.java':

```
line 15: /* compiled from: MaterialCardView */
line 16: public class a extends CardView implements Checkable, n {
line 17:     public static final int[] n = new int[]{16842911};
```

There is **'extends ImageButton'** found in file 'c/d/a/b/z/j.java':

```
line 7: /* compiled from: VisibilityAwareImageButton */
line 8: public class j extends ImageButton {
line 9:     public int b;
```

There is **'extends ImageButton'** found in file 'b/b/p/l.java':

```
line 14: /* compiled from: AppCompatImageButton */
line 15: public class l extends ImageButton {
line 16:     public final e b;
```

There is **'extends Spinner'** found in file 'b/b/p/w.java':

```
line 38: /* compiled from: AppCompatSpinner */
line 39: public class w extends Spinner {
line 40:     public static final int[] j = new int[]{16843505};
```

There is **'extends ImageView'** found in file 'b/b/p/n.java':

```
line 13: /* compiled from: AppCompatImageView */
line 14: public class n extends ImageView {
line 15:     public final e b;
```

There is **'extends TextView'** found in file 'b/b/p/z.java':

```
line 26: /* compiled from: AppCompatTextView */
line 27: public class z extends TextView implements e, b {
line 28:     public final e b;
```

There is **'extends MultiAutoCompleteTextView'** found in file 'b/b/p/o.java':

```
line 14: /* compiled from: AppCompatMultiAutoCompleteTextView */
line 15: public class o extends MultiAutoCompleteTextView {
line 16:     public static final int[] d = new int[]{16843126};
```

There is **'extends CheckedTextView'** found in file 'b/b/p/h.java':

```
line 13: /* compiled from: AppCompatCheckedTextView */
line 14: public class h extends CheckedTextView {
line 15:     public static final int[] c = new int[]{16843016};
```

There is **'extends ToggleButton'** found in file 'b/b/p/b0.java':

```
line 7: /* compiled from: AppCompatToggleButton */
line 8: public class b0 extends ToggleButton {
line 9:     public final y b;
```

There is **'extends AutoCompleteTextView'** found in file 'b/b/p/d.java':

```
line 16: /* compiled from: AppCompatAutoCompleteTextView */
line 17: public class d extends AutoCompleteTextView {
line 18:     public static final int[] d = new int[]{16843126};
```

There is **'extends HorizontalScrollView'** found in file 'b/b/p/q0.java':

```
line 21: /* compiled from: ScrollingTabContainerView */
line 22: public class q0 extends HorizontalScrollView implements OnItemSelectedListener
{
line 23:     public Runnable b;
```

There is **'extends RatingBar'** found in file 'b/b/p/s.java':

```
line 10: /* compiled from: AppCompatRatingBar */
line 11: public class s extends RatingBar {
line 12:     public final q b;
```

There is **'extends Button'** found in file 'b/b/p/f.java':

```
line 17: /* compiled from: AppCompatButton */
line 18: public class f extends Button implements b {
line 19:     public final e b;
```

There is **'extends CheckBox'** found in file 'b/b/p/g.java':

```
line 11: /* compiled from: AppCompatCheckBox */
line 12: public class g extends CheckBox {
line 13:     public final i b;
```

There is **'extends RadioButton'** found in file 'b/b/p/r.java':

```
line 11: /* compiled from: AppCompatRadioButton */
line 12: public class r extends RadioButton {
line 13:     public final i b;
```

There is **'extends EditText'** found in file 'b/b/p/k.java':

```
line 19: /* compiled from: AppCompatEditText */
line 20: public class k extends EditText {
line 21:     public final e b;
```

There is **'extends SeekBar'** found in file 'b/b/p/t.java':

```
line 10: /* compiled from: AppCompatSeekBar */
line 11: public class t extends SeekBar {
line 12:     public final u b;
```

CVSSv3 Base Score:
3.9 (AV:L/AC:L/PR:L/UI:R/S:U/C:L/I:L/A:N)

Reference:
- https://developer.android.com/guide/topics/ui/declaring-layout.html
- https://developer.android.com/guide/topics/resources/layout-resource.html
- https://blog.lookout.com/blog/2010/12/09/android-touch-event-hijacking/

EXPORTED BROADCAST RECEIVERS [M1] [CWE-925] [SAST]   LOW

Description:
The mobile application contains an exported receiver enabling other applications, including malicious ones, to send intents without restrictions.
By default, Broadcast Receivers is exported in Android, as the result any application will be able to send an intent to the Broadcast Receiver of the application. To define which applications can send intents to mobile application's Broadcast Receiver set relevant permissions in the Android Manifest file.

Example of insecure code:

```
<receiver
    android:name=".receivers.BatteryMonitoringReceiver"
    ...
</receiver>
```

Example of secure code:

```
<permission
    android:name="com.yourpage.permission.YOUR_PERMISSION"
    android:protectionLevel="signature" />

<uses-permission
    android:name="com.yourpage.permission.YOUR_PERMISSION" />

<receiver
    android:name=".receivers.BatteryMonitoringReceiver"
    android:permission="com.yourpage.permission.YOUR_PERMISSION"
    ...
</receiver>
```

Details:

There is **'ReceiverArranqueDeDispositivo'** found in file 'android/AndroidManifest.xml':

```
line 29:        <receiver
android:name="com.globant.pasaportesanitario.locationtracker.ReceiverArranqueDeDispositivo">
```

CVSSv3 Base Score:

3.3 (AV:L/AC:L/PR:L/UI:N/S:U/C:N/I:L/A:N)

Reference:

- https://developer.android.com/guide/topics/manifest/receiver-element.html
- https://developer.android.com/reference/android/content/BroadcastReceiver.html

TEMPORARY FILE CREATION [SAST]   `WARNING`

Description:

The mobile application creates temporary files. Despite that cache files are usually private by default, it is recommended to make sure that temporary files are securely deleted when they are not required by the application anymore.

Details:

There is **'createTempFile()'** found in file 'c/e/a/f.java':

```
line 134:               r6 = r6.getCacheDir();        Catch:{ IOException -> 0x0093
}
line 135:               r2 = java.io.File.createTempFile(r2, r5, r6);  Catch:{
IOException -> 0x0093 }
line 136:               r5 = new java.io.FileOutputStream;    Catch:{ IOException ->
0x0093 }
```

There is **'createTempFile()'** found in file 'b/t/j.java':

```
line 117:             }
line 118:             File createTempFile = File.createTempFile("room-copy-helper", ".tmp",
this.a.getCacheDir());
line 119:             createTempFile.deleteOnExit();
```

Reference:
- https://developer.android.com/training/basics/data-storage/files.html

USAGE OF IMPLICIT INTENT [M1] [CWE-927] [SAST]   WARNING

Description:
The mobile application uses implicit intent that may be insecure under certain conditions.
Intents enable mobile applications to communicate with each other by requesting to perform different actions for which they are better suited. An implicit intent, however, does not specify to which particular application it sends a request to perform an action. If a malicious application is installed on victim's device, it may also receive the implicit intent, respond to it and perform some action instead, or in addition to, a legitimate application.

Example of insecure code:

```
Intent sendIntent = new Intent();
```

Example of secure code:

```
Intent downloadIntent = new Intent(this, DownloadService.class);
```

Details:
There is **'new Intent()'** found in file 'a/a/a/b/a.java':

```
line 665:                   } else {
line 666:                       makeMainActivity = new
Intent().setComponent(componentName);
line 667:                   }
```

```
line 4109:          } else {
line 4110:              makeMainActivity = new Intent().setComponent(componentName2);
line 4111:          }
```

There is **'new Intent()'** found in file 'c/d/a/a/c/n/m.java':

```
line 27:          public final Intent a() {
line 28:              return this.a != null ? new Intent(this.a).setPackage(this.b) :
new Intent().setComponent(this.c);
line 29:          }
```

There is **'new Intent()'** found in file 'b/r/a.java':

```
line 38:              if (this.j == null) {
line 39:                  this.j = new Intent();
line 40:              }
```

```
line 51:              if (this.j == null) {
line 52:                  this.j = new Intent();
line 53:              }
```

```
line 57:              if (this.j == null) {
line 58:                  this.j = new Intent();
line 59:              }
```

```
line 64:              if (this.j == null) {
line 65:                  this.j = new Intent();
line 66:              }
```

There is **'new Intent()'** found in file 'b/r/w/c.java':

```
line 62:                        if (intent == null) {
line 63:                            intent = new Intent();
line 64:                        }
```

There is **'new Intent()'** found in file 'b/h/e/j.java':

```
line 183:                  this.e = a;
line 184:                  List queryIntentServices =
this.a.getPackageManager().queryIntentServices(new
Intent().setAction("android.support.BIND_NOTIFICATION_SIDE_CHANNEL"), 0);
line 185:                  HashSet hashSet = new HashSet();
```

Reference:
- https://developer.android.com/guide/components/intents-filters.html
- https://developer.android.com/training/articles/security-tips.html

USAGE OF INTENT FILTER [M1] [CWE-927] [SAST]   WARNING

Description:
The mobile application uses an intent filter that may be a serious security risk if not properly implemented and filtered. Developers should not solely rely on intent filters for security purposes because they place no restrictions on explicit intents. Intent filters are defined in the Android Manifest file, they let developers choose which type of intents their application components are supposed to receive and handle.

Example of insecure code:

```
<intent-filter>
    <action android:name="android.intent.action.VIEW" />
    <action android:name="android.intent.action.EDIT" />
    <action android:name="android.intent.action.PICK" />
    <category android:name="android.intent.category.DEFAULT" />
    <data mimeType:name="vnd.android.cursor.dir/vnd.google.note" />
</intent-filter>
```

Example of secure code:

```
// When you use intent-filter, you have to perform input validation in your code.
```

Details:

There is **'<intent-filter>'** found in file 'android/AndroidManifest.xml':

```
line 20:         <activity
android:name="com.globant.pasaportesanitario.flujos.inicio.InicioActivity"
android:screenOrientation="portrait" android:theme="@style/AppTheme.NoActionBar">
line 21:             <intent-filter>
line 22:                 <action android:name="android.intent.action.MAIN"/>
```

```
line 29:         <receiver
android:name="com.globant.pasaportesanitario.locationtracker.ReceiverArranqueDeDisposit
ivo">
line 30:             <intent-filter>
line 31:                 <action android:name="android.intent.action.BOOT_COMPLETED"/>
```

Reference:

- https://developer.android.com/guide/components/intents-filters.html
- https://developer.android.com/training/articles/security-tips.html

DYNAMIC LOAD OF CODE [M7] [CWE-94] [SAST]   `WARNING`

Description:

The mobile application uses dynamic load of executable code. Under certain circumstances, dynamic load of code can be dangerous. For example, if the code is located on an external storage (e.g. SD card), this can lead to code injection vulnerability if the external storage is world readable and/or writable and an attacker can access it.

Example of insecure code:

```
Object test = loader.loadClass("Test", true).newInstance();
```

Example of secure code:

```
// If you are using code from unsafe place (like external storage),
// you should sign and cryptographically verify your code.
```

Details:

There is **'ClassLoader'** found in file 'androidx/core/app/CoreComponentFactory.java':

```
line 26:
line 27:     public Activity instantiateActivity(ClassLoader classLoader, String str,
Intent intent) throws InstantiationException, IllegalAccessException,
ClassNotFoundException {
line 28:         return (Activity) a(super.instantiateActivity(classLoader, str,
intent));
line 29:     }
line 30:
line 31:     public Application instantiateApplication(ClassLoader classLoader, String
str) throws InstantiationException, IllegalAccessException, ClassNotFoundException {
line 32:         return (Application) a(super.instantiateApplication(classLoader,
str));
line 33:     }
line 34:
line 35:     public ContentProvider instantiateProvider(ClassLoader classLoader, String
str) throws InstantiationException, IllegalAccessException, ClassNotFoundException {
line 36:         return (ContentProvider) a(super.instantiateProvider(classLoader,
str));
line 37:     }
line 38:
line 39:     public BroadcastReceiver instantiateReceiver(ClassLoader classLoader,
String str, Intent intent) throws InstantiationException, IllegalAccessException,
ClassNotFoundException {
line 40:         return (BroadcastReceiver) a(super.instantiateReceiver(classLoader,
str, intent));
line 41:     }
line 42:
line 43:     public Service instantiateService(ClassLoader classLoader, String str,
Intent intent) throws InstantiationException, IllegalAccessException,
ClassNotFoundException {
line 44:         return (Service) a(super.instantiateService(classLoader, str,
intent));
line 45:     }
```

There is **'ClassLoader'** found in file 'androidx/navigation/NavController.java':

```
line 442:         r8 = r0.a;
line 443:         r8 = r8.getClassLoader();
line 444:         r12.setClassLoader(r8);
line 445:     L_0x0076:
```

There is **'ClassLoader'** found in file 'androidx/navigation/fragment/DialogFragmentNavigator.java':

```
line 73:             }
line 74:             Fragment a = this.b.g().a(this.a.getClassLoader(), str);
line 75:             if (DialogFragment.class.isAssignableFrom(a.getClass())) {
```

There is **'ClassLoader'** found in file 'androidx/navigation/fragment/NavHostFragment.java':

```
line 154:                              if (mVar3 != null) {
line 155:                                  bundle3.setClassLoader(mVar3.a.getClassLoader());
line 156:                                  mVar3.e = bundle3.getBundle("android-support-
nav:controller:navigatorState");
```

There is **'ClassLoader'** found in file 'androidx/fragment/app/FragmentContainerView.java':

```
line 189:                }
line 190:                Fragment a = oVar.g().a(context.getClassLoader(),
classAttribute);
line 191:                a.onInflate(context, attributeSet, null);
```

There is **'ClassLoader'** found in file 'androidx/fragment/app/Fragment.java':

```
line 17: import android.os.Parcelable;
line 18: import android.os.Parcelable.ClassLoaderCreator;
line 19: import android.os.Parcelable.Creator;
```

```
line 168:
line 169:         public static class a implements ClassLoaderCreator<g> {
line 170:             public Object createFromParcel(Parcel parcel) {
```

```
line 177:
line 178:         public Object createFromParcel(Parcel parcel, ClassLoader
classLoader) {
line 179:                 return new g(parcel, classLoader);
line 180:             }
```

```
line 182:
line 183:         public g(Parcel parcel, ClassLoader classLoader) {
line 184:             Bundle readBundle = parcel.readBundle();
line 185:             this.b = readBundle;
line 186:             if (classLoader != null && readBundle != null) {
line 187:                 readBundle.setClassLoader(classLoader);
line 188:             }
```

```
line 1603:          try {
line 1604:              Fragment fragment = (Fragment) k.d(context.getClassLoader(),
str).getConstructor(new Class[0]).newInstance(new Object[0]);
line 1605:              if (bundle != null) {
line 1606:                  bundle.setClassLoader(fragment.getClass().getClassLoader());
line 1607:                  fragment.setArguments(bundle);
```

There is **'ClassLoader'** found in file 'androidx/recyclerview/widget/StaggeredGridLayoutManager.java':

```
line 445:              this.k = z;
line 446:              this.h = parcel.readArrayList(a.class.getClassLoader());
line 447:          }
```

There is **'ClassLoader'** found in file 'androidx/recyclerview/widget/RecyclerView.java':

```
line 18: import android.os.Parcelable;
line 19: import android.os.Parcelable.ClassLoaderCreator;
line 20: import android.os.Parcelable.Creator;
```

```
line 3243:
line 3244:          public static class a implements ClassLoaderCreator<y> {
line 3245:              public Object createFromParcel(Parcel parcel, ClassLoader
classLoader) {
line 3246:                  return new y(parcel, classLoader);
line 3247:              }
```

```
line 3257:
line 3258:          public y(Parcel parcel, ClassLoader classLoader) {
line 3259:              super(parcel, classLoader);
line 3260:              if (classLoader == null) {
line 3261:                  classLoader = o.class.getClassLoader();
line 3262:              }
line 3263:              this.d = parcel.readParcelable(classLoader);
line 3264:          }
```

```
line 3359:                  try {
line 3360:                      ClassLoader classLoader;
line 3361:                      Constructor constructor;
line 3362:                      if (isInEditMode()) {
line 3363:                          classLoader = getClass().getClassLoader();
line 3364:                      } else {
line 3365:                          classLoader = context.getClassLoader();
line 3366:                      }
line 3367:                      Class asSubclass = Class.forName(str, false,
classLoader).asSubclass(o.class);
line 3368:                      Object[] objArr = null;
```

There is **'ClassLoader'** found in file 'androidx/appcompat/app/AppCompatViewInflater.java':

```
line 122:              str2 = str;
line 123:              constructor = Class.forName(str2, false,
context.getClassLoader()).asSubclass(View.class).getConstructor(b);
line 124:              e.put(str, constructor);
```

There is **'ClassLoader'** found in file 'androidx/appcompat/widget/Toolbar.java':

```
line 7: import android.os.Parcelable;
line 8: import android.os.Parcelable.ClassLoaderCreator;
line 9: import android.os.Parcelable.Creator;
```

```
line 280:
line 281:          public static class a implements ClassLoaderCreator<g> {
line 282:              public Object createFromParcel(Parcel parcel, ClassLoader
classLoader) {
line 283:                  return new g(parcel, classLoader);
line 284:              }
```

```
line 294:
line 295:          public g(Parcel parcel, ClassLoader classLoader) {
line 296:              super(parcel, classLoader);
line 297:              this.d = parcel.readInt();
```

There is **'ClassLoader'** found in file 'androidx/appcompat/widget/SearchView.java':

```
line 19: import android.os.Parcelable;
line 20: import android.os.Parcelable.ClassLoaderCreator;
line 21: import android.os.Parcelable.Creator;
```

```
line 615:
line 616:          public static class a implements ClassLoaderCreator<o> {
line 617:              public Object createFromParcel(Parcel parcel, ClassLoader
classLoader) {
line 618:                  return new o(parcel, classLoader);
line 619:              }
```

```
line 647:
line 648:          public o(Parcel parcel, ClassLoader classLoader) {
line 649:              super(parcel, classLoader);
line 650:              this.d = ((Boolean) parcel.readValue(null)).booleanValue();
```

There is **'ClassLoader'** found in file 'androidx/coordinatorlayout/widget/CoordinatorLayout.java':

```
line 12: import android.os.Parcelable;
line 13: import android.os.Parcelable.ClassLoaderCreator;
line 14: import android.os.Parcelable.Creator;
```

```
line 310:
line 311:          public static class a implements ClassLoaderCreator<h> {
line 312:              public Object createFromParcel(Parcel parcel, ClassLoader
classLoader) {
line 313:                  return new h(parcel, classLoader);
line 314:              }
```

```
line 324:
line 325:          public h(Parcel parcel, ClassLoader classLoader) {
line 326:              super(parcel, classLoader);
line 327:              int readInt = parcel.readInt();
```

```
line 329:              parcel.readIntArray(iArr);
line 330:              Parcelable[] readParcelableArray =
parcel.readParcelableArray(classLoader);
line 331:              this.d = new SparseArray(readInt);
```

```
line 1382:              if (constructor == null) {
line 1383:                  constructor = Class.forName(str2, false,
context.getClassLoader()).getConstructor(v);
line 1384:                  constructor.setAccessible(true);
```

There is **'ClassLoader'** found in file 'androidx/savedstate/Recreator.java':

```
line 49:                        try {
line 50:                            Class asSubclass = Class.forName(str, false,
Recreator.class.getClassLoader()).asSubclass(b.u.a.a.class);
line 51:                        try {
```

There is **'ClassLoader'** found in file 'retrofit2/Retrofit.java':

```
line 200:          }
line 201:          return Proxy.newProxyInstance(cls.getClassLoader(), new Class[]{cls},
new InvocationHandler() {
line 202:              public final Object[] emptyArgs = new Object[0];
```

There is **'ClassLoader'** found in file 'f/k/b.java':

```
line 46:          r3 = "ClassCastException(\"Inst…baseTypeCL\").initCause(e)";
line 47:          r4 = ", base type classloader: ";
line 48:          r5 = "Instance classloader: ";
line 49:          r6 = "Class.forName(\"kotlin.in…entations\").newInstance()";
```

```
line 60:         r1 = r1.getClass();     Catch:{ ClassNotFoundException -> 0x0096 }
line 61:         r1 = r1.getClassLoader();        Catch:{ ClassNotFoundException ->
0x0096 }
line 62:         r8 = r0.getClassLoader();        Catch:{ ClassNotFoundException ->
0x0096 }
line 63:         r9 = new java.lang.ClassCastException;  Catch:{ ClassNotFoundException
-> 0x0096 }
```

```
line 84:         r1 = r1.getClass();     Catch:{ ClassNotFoundException -> 0x00d6 }
line 85:         r1 = r1.getClassLoader();        Catch:{ ClassNotFoundException ->
0x00d6 }
line 86:         r8 = r0.getClassLoader();        Catch:{ ClassNotFoundException ->
0x00d6 }
line 87:         r9 = new java.lang.ClassCastException;  Catch:{ ClassNotFoundException
-> 0x00d6 }
```

```
line 111:         r1 = r1.getClass();     Catch:{ ClassNotFoundException -> 0x011b }
line 112:         r1 = r1.getClassLoader();        Catch:{ ClassNotFoundException ->
0x011b }
line 113:         r7 = r0.getClassLoader();        Catch:{ ClassNotFoundException ->
0x011b }
line 114:         r8 = new java.lang.ClassCastException;         Catch:{
ClassNotFoundException -> 0x011b }
```

```
line 135:         r1 = r1.getClass();     Catch:{ ClassNotFoundException -> 0x015a }
line 136:         r1 = r1.getClassLoader();        Catch:{ ClassNotFoundException ->
0x015a }
line 137:         r0 = r0.getClassLoader();        Catch:{ ClassNotFoundException ->
0x015a }
line 138:         r6 = new java.lang.ClassCastException;         Catch:{
ClassNotFoundException -> 0x015a }
```

There is **'ClassLoader'** found in file 'c/d/a/a/e/a/u.java':

```
line 8:     static {
line 9:         u.class.getClassLoader();
line 10:    }
```

There is **'ClassLoader'** found in file 'c/d/a/a/e/b/c.java':

```
line 9:     static {
line 10:         c.class.getClassLoader();
line 11:    }
```

There is **'ClassLoader'** found in file 'c/d/a/b/u/a.java':

```
line 21:          public Object createFromParcel(Parcel parcel) {
line 22:              return new a((o) parcel.readParcelable(o.class.getClassLoader()),
(o) parcel.readParcelable(o.class.getClassLoader()), (o)
parcel.readParcelable(o.class.getClassLoader()), (c)
parcel.readParcelable(c.class.getClassLoader()), null);
line 23:          }
```

There is **'ClassLoader'** found in file 'c/d/a/b/f0/a.java':

```
line 5: import android.os.Parcelable;
line 6: import android.os.Parcelable.ClassLoaderCreator;
line 7: import android.os.Parcelable.Creator;
```

```
line 15:     /* compiled from: ExtendableSavedState */
line 16:     public static class a implements ClassLoaderCreator<a> {
line 17:         public Object createFromParcel(Parcel parcel, ClassLoader classLoader)
{
line 18:             return new a(parcel, classLoader, null);
line 19:         }
```

```
line 57:
line 58:     public /* synthetic */ a(Parcel parcel, ClassLoader classLoader, a aVar) {
line 59:         super(parcel, classLoader);
line 60:         int readInt = parcel.readInt();
```

There is **'ClassLoader'** found in file
'com/globant/pasaportesanitario/flujos/autodiagnostico/AutodiagnosticoTemperaturaFragmentArgs.java':

```
line 38:         AutodiagnosticoTemperaturaFragmentArgs
autodiagnosticoTemperaturaFragmentArgs = new AutodiagnosticoTemperaturaFragmentArgs();
line 39:
bundle.setClassLoader(AutodiagnosticoTemperaturaFragmentArgs.class.getClassLoader());
line 40:         String str = "pasoActual";
```

There is **'ClassLoader'** found in file
'com/globant/pasaportesanitario/flujos/autodiagnostico/AutodiagnosticoAntecedentesFragmentArgs.java':

```
line 38:         AutodiagnosticoAntecedentesFragmentArgs
autodiagnosticoAntecedentesFragmentArgs = new
AutodiagnosticoAntecedentesFragmentArgs();
line 39:
bundle.setClassLoader(AutodiagnosticoAntecedentesFragmentArgs.class.getClassLoader());
line 40:         String str = "pasoActual";
```

There is **'ClassLoader'** found in file
'com/globant/pasaportesanitario/flujos/autodiagnostico/AutodiagnosticoSintomasFragmentArgs.java':

```
line 38:          AutodiagnosticoSintomasFragmentArgs
autodiagnosticoSintomasFragmentArgs = new AutodiagnosticoSintomasFragmentArgs();
line 39:
bundle.setClassLoader(AutodiagnosticoSintomasFragmentArgs.class.getClassLoader());
line 40:          String str = "pasoActual";
```

There is **'ClassLoader'** found in file 'b/r/f.java':

```
line 52:          this.c = parcel.readInt();
line 53:          this.d = parcel.readBundle(f.class.getClassLoader());
line 54:          this.e = parcel.readBundle(f.class.getClassLoader());
line 55:      }
```

There is **'ClassLoader'** found in file 'b/r/v/a.java':

```
line 100:          r4 = r4.g();
line 101:          r3 = r3.getClassLoader();
line 102:          r0 = r4.a(r3, r0);
```

There is **'ClassLoader'** found in file 'b/m/d/w.java':

```
line 47:
line 48:      public w(k kVar, ClassLoader classLoader) {
line 49:      }
```

There is **'ClassLoader'** found in file 'b/m/d/o.java':

```
line 120:      public class c extends k {
line 121:          public Fragment a(ClassLoader classLoader, String str) {
line 122:              l lVar = o.this.n;
```

```
line 432:              u uVar = new u(this.l, fragment);
line 433:              uVar.a(this.n.c.getClassLoader());
line 434:              this.c.b.put(uVar.b.mWho, uVar);
```

```
line 2970:                         } else {
line 2971:                             uVar = new u(this.l, this.n.c.getClassLoader(),
g(), tVar);
line 2972:                         }
```

```
line 2981:                         }
line 2982:                         uVar.a(this.n.c.getClassLoader());
line 2983:                         this.c.b.put(uVar.b.mWho, uVar);
```

There is **'ClassLoader'** found in file 'b/m/d/k.java':

```
line 11:
line 12:     public static boolean b(ClassLoader classLoader, String str) {
line 13:         try {
line 14:             return Fragment.class.isAssignableFrom(c(classLoader, str));
line 15:         } catch (ClassNotFoundException unused) {
```

```
line 19:
line 20:     public static Class<?> c(ClassLoader classLoader, String str) throws
ClassNotFoundException {
line 21:         Class<?> cls = (Class) a.getOrDefault(str, null);
```

```
line 24:         }
line 25:         Class cls2 = Class.forName(str, false, classLoader);
line 26:         a.put(str, cls2);
```

```
line 29:
line 30:     public static Class<? extends Fragment> d(ClassLoader classLoader, String
str) {
line 31:         String str2 = "Unable to instantiate fragment ";
line 32:         try {
line 33:             return c(classLoader, str);
line 34:         } catch (ClassNotFoundException e) {
```

```
line 40:
line 41:     public Fragment a(ClassLoader classLoader, String str) {
line 42:         throw null;
```

There is **'ClassLoader'** found in file 'b/m/d/u.java':

```
line 20:
line 21:       public void a(ClassLoader classLoader) {
line 22:           Bundle bundle = this.b.mSavedFragmentState;
line 23:           if (bundle != null) {
line 24:               bundle.setClassLoader(classLoader);
line 25:               Fragment fragment = this.b;
```

```
line 47:
line 48:       public u(n nVar, ClassLoader classLoader, k kVar, t tVar) {
line 49:           this.a = nVar;
line 50:           this.b = kVar.a(classLoader, tVar.b);
line 51:           Bundle bundle = tVar.k;
line 52:           if (bundle != null) {
line 53:               bundle.setClassLoader(classLoader);
line 54:           }
```

There is **'ClassLoader'** found in file 'b/m/d/m.java':

```
line 41:           obtainStyledAttributes.recycle();
line 42:           if (str == null || !k.b(context.getClassLoader(), str)) {
line 43:               return null;
```

```
line 73:           if (fragment == null) {
line 74:               fragment = this.b.g().a(context.getClassLoader(), str);
line 75:               fragment.mFromLayout = true;
```

There is **'ClassLoader'** found in file 'b/m/d/a.java':

```
line 18:           l lVar = oVar.n;
line 19:           super(g, lVar != null ? lVar.c.getClassLoader() : null);
line 20:           this.t = -1;
```

There is **'ClassLoader'** found in file 'b/j/a/a.java':

```
line 5: import android.os.Parcelable;
line 6: import android.os.Parcelable.ClassLoaderCreator;
line 7: import android.os.Parcelable.Creator;
```

```
line 16:     /* compiled from: AbsSavedState */
line 17:     public static class b implements ClassLoaderCreator<a> {
line 18:         public Object createFromParcel(Parcel parcel) {
```

```
line 28:
line 29:        public Object createFromParcel(Parcel parcel, ClassLoader classLoader)
{
line 30:            if (parcel.readParcelable(classLoader) == null) {
line 31:                return a.c;
```

```
line 62:
line 63:     public a(Parcel parcel, ClassLoader classLoader) {
line 64:         Parcelable readParcelable = parcel.readParcelable(classLoader);
line 65:         if (readParcelable == null) {
```

There is **'ClassLoader'** found in file 'b/b/o/f.java':

```
line 232:            try {
line 233:                Constructor constructor = Class.forName(str, false,
f.this.c.getClassLoader()).getConstructor(clsArr);
line 234:                constructor.setAccessible(true);
```

There is **'ClassLoader'** found in file 'b/y/a.java':

```
line 75:        if (a(i)) {
line 76:            return ((b) this).e.readParcelable(b.class.getClassLoader());
line 77:        }
```

```
line 137:        System.currentTimeMillis();
line 138:        method = Class.forName(str, true,
cls.getClassLoader()).getDeclaredMethod("read", new Class[]{cls});
line 139:        this.a.put(str, method);
```

```
line 147:        }
line 148:        cls2 = Class.forName(String.format("%s.%sParcelizer", new Object[]
{cls.getPackage().getName(), cls.getSimpleName()}), false, cls.getClassLoader());
line 149:        this.c.put(cls.getName(), cls2);
```

Reference:
- https://developer.android.com/reference/java/lang/ClassLoader.html
- https://developer.android.com/reference/dalvik/system/DexClassLoader.html
- https://developer.android.com/reference/java/security/SecureClassLoader.html
- https://developer.android.com/reference/java/net/URLClassLoader.html

OBJECT DESERIALIZATION FOUND [M7] [CWE-502] [SAST]   `WARNING`

Description:
Object deserialization performed on an untrusted resource (e.g. user-supplied input or external storage), can be dangerous if the data for deserialization is tampered by an attacker.

Example of insecure code:

```
bundle.putSerializable("exampleClass", exampleOfSerializabledClass);
exampleOfSerializabledClass = bundle.getSerializable("exampleClass");
```

Example of secure code:

```
// Use only serialization when you have the control over data
```

Details:

There is **'implements Serializable'** found in file 'g/h.java':

```
line 12: /* compiled from: ByteString.kt */
line 13: public class h implements Serializable, Comparable<h> {
line 14:     public static final h e = new h(new byte[0]);
```

There is **'implements Serializable'** found in file 'f/c.java':

```
line 5: /* compiled from: Tuples.kt */
line 6: public final class c<A, B> implements Serializable {
line 7:     public final A b;
```

There is **'implements Serializable'** found in file 'f/l/c/b.java':

```
line 17:     /* compiled from: CallableReference */
line 18:     public static class a implements Serializable {
line 19:         public static final a b = new a();
```

There is **'implements Serializable'** found in file 'f/l/c/n.java':

```
line 5: /* compiled from: Ref */
line 6: public final class n<T> implements Serializable {
line 7:     public T b;
```

There is **'implements Serializable'** found in file 'f/l/c/l.java':

```
line 5: /* compiled from: Ref */
line 6: public final class l implements Serializable {
line 7:     public int b;
```

There is **'implements Serializable'** found in file 'f/l/c/m.java':

```
line 5: /* compiled from: Ref */
line 6: public final class m implements Serializable {
line 7:     public long b;
```

There is **'implements Serializable'** found in file 'f/p/c.java':

```
line 7: /* compiled from: Regex.kt */
line 8: public final class c implements Serializable {
line 9:     public final Pattern b;
```

There is **'implements Serializable'** found in file 'c/d/b/e0/q.java':

```
line 13: /* compiled from: LinkedTreeMap */
line 14: public final class q<K, V> extends AbstractMap<K, V> implements Serializable {
line 15:     public static final Comparator<Comparable> i = new a();
```

There is **'implements Serializable'** found in file 'e/a/n/h/e.java':

```
line 9:     /* compiled from: NotificationLite */
line 10:    public static final class a implements Serializable {
line 11:        public final e.a.k.b b;
```

```
line 18:    /* compiled from: NotificationLite */
line 19:    public static final class b implements Serializable {
line 20:        public final Throwable b;
```

There is **'getSerializableExtra()'** found in file 'com/globant/pasaportesanitario/flujos/autodiagnostico/resultado/ResultadoActivity.java':

```
line 133:        super.onStart();
line 134:        agregarFragment(obtenerFragment((OpcionesNavegacion)
getIntent().getSerializableExtra(LLAVE_OPCION_NAVEGACION)));
line 135:        this.viewModel.cargarNombreUsuario();
```

Reference:
- https://developer.android.com/reference/android/os/Bundle.html

MISSING ANTI-EMULATION [SAST]   `WARNING`

Description:
The mobile application does not use any anti-emulation or anti-debugger techniques (e.g. detecting rooted devices or checking if contacts are authentic).
This can significantly facilitate application debugging and reverse-engineering processes.

Reference:
- https://github.com/strazzere/anti-emulator

Mobile Application Behaviour

Mobile Application Functionality

The mobile application uses the following functionality that can endanger user's privacy under certain circumstances:

Camera

The mobile application can use the camera for taking pictures or videos.

Location

The mobile application has an access to geographical location of the mobile phone.

Mobile Application Outgoing Traffic

The following HTTP/S requests were sent by mobile application without interaction with user:

🔒 POST https://www.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/affiliation/v1/affiliation:lookup?alt=proto&key=AIzaSyAP-gfH3qvi6vgHZbSYwQ_XHqV_mXHhzIk

🔒 POST https://cloudconfig.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://cloudconfig.googleapis.com/config

🔒 POST https://mobilenetworkscoring-pa.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://mobilenetworkscoring-pa.googleapis.com/v1/GetWifiQuality?key=AIzaSyBrlVtd67QvwS_Wz0Do4ZIdOeA6ThtVczU

🔒 POST https://www.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/usercontext/v1/controllerhub/getconfig?key=AIzaSyAP-gfH3qvi6vgHZbSYwQ_XHqV_mXHhzIk

🔒 POST https://www.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/experimentsandconfigs/v1/getExperimentsAndConfigs

🔒 POST https://www.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/affiliation/v1/affiliation:lookup?alt=proto&key=AIzaSyAP-gfH3qvi6vgHZbSYwQ_XHqV_mXHhzIk

🔒 POST https://www.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/androidantiabuse/v1/x/create?alt=PROTO&key=AIzaSyBofcZsgLSS7BOnBjZPEkk4rYwzOIz-lTI

🔒 POST `https://www.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/androidantiabuse/v1/x/create?alt=PROTO&key=AIzaSyBofcZsgLSS7B OnBjZPEkk4rYwzOIz-lTI

🔒 POST `https://www.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/androidantiabuse/v1/x/create?alt=PROTO&key=AIzaSyBofcZsgLSS7B OnBjZPEkk4rYwzOIz-lTI

🔒 POST `https://www.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/androidantiabuse/v1/x/create?alt=PROTO&key=AIzaSyBofcZsgLSS7B OnBjZPEkk4rYwzOIz-lTI

🔒 POST `https://www.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/placesandroid/v1/getPlaceInferenceModelWeights?key=AIzaSyAP-gfH3 qvi6vgHZbSYwQ_XHqV_mXHhzIk

🔒 POST `https://www.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/androidantiabuse/v1/x/create?alt=PROTO&key=AIzaSyBofcZsgLSS7B OnBjZPEkk4rYwzOIz-lTI

🔒 POST `https://www.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/androidcheck/v1/attestations/adAttest?key=AIzaSyDaepk5bynjTA7ZhzF _0fzIHIXAkZlz3dA

🔒 GET `https://www.googleadservices.com HTTP/1.1`

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleadservices.com/pagead/conversion/1001680686/?bundleid=com.google.android. youtube&appversion=12.17.41&osversion=8.1.0&sdkversion=ct-sdk-a-v2.2.4&gms=1&lat=0&rdid=4b086381-48de-403 4-bc31-873a83e5c04d×tamp=1589244710.488&remarketing_only=1&usage_tracking_enabled=0&data.screen_name =%3CAndroid_YT_Open_App%3E

🔒 GET `https://storage.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://storage.googleapis.com/gboard-emoji/dulcitone/emoji_search_en_us.json

🔒 POST `https://www.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/androidantiabuse/v1/x/create?alt=PROTO&key=AIzaSyBofcZsgLSS7B OnBjZPEkk4rYwzOIz-lTI

🔒 POST `https://mobile-collector.newrelic.com HTTP/1.1`

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://mobile-collector.newrelic.com/mobile/v4/connect

🔒 POST https://www.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/androidantiabuse/v1/x/create?alt=PROTO&key=AIzaSyBofcZsgLSS7B
OnBjZPEkk4rYwzOIz-lTI

🔒 POST https://www.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/androidantiabuse/v1/x/create?alt=PROTO&key=AIzaSyBofcZsgLSS7B
OnBjZPEkk4rYwzOIz-lTI

🔒 POST https://www.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/androidcheck/v1/attestations/adAttest?key=AIzaSyDaepk5bynjTA7ZhzF
_0fzIHIXAkZlz3dA

🔒 GET https://storage.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://storage.googleapis.com/gboard-emoji/20171211/en_us.zip

🔒 POST https://youtubei.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://youtubei.googleapis.com/deviceregistration/v1/devices?key=AIzaSyA8eiZmM1FaDVjRy-df2K
TyQ_vz_yYM39w&rawDeviceId=ea5f096a0b9b10c5

🔒 GET https://www.youtube.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.youtube.com/csi_204?v=3&s=youtube_android&action=process&yt_lt=frozen&mod_li=0
&conn=3&it=ndps.1102,app_l.1542,proc_k.-290,f_proc.1722&cplatform=mobile&cbr=com.google.android.youtube&c=a
ndroid&cmodel=Android%20SDK%20built%20for%20x86&cos=Android&csdk=27&cbrver=12.17.41&cver=12.17.41&c
osver=8.1.0&cbrand=Google&proc=2

🔒 POST https://www.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:52 CEST
Requested URL: https://www.googleapis.com/youtubei/v1/browse?key=AIzaSyA8eiZmM1FaDVjRy-df2KTyQ_vz_yYM
39w

🔒 POST https://www.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/experimentsandconfigs/v1/getExperimentsAndConfigs

🔒 POST https://android.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://android.googleapis.com/checkin

🔒 GET https://www.googleapis.com HTTP/1.1

Date/Time: 12.05.2020 02:51 CEST
Requested URL: https://www.googleapis.com/android_video/v1/config?make=Google&model=Android%20SDK%20bu
ilt%20for%20x86&product=sdk_gphone_x86&device=generic_x86&devid=3992956992407323035&apptype=1&devtyp
e=1&fs=f

POST `https://www.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:52 CEST
Requested URL: https://www.googleapis.com/experimentsandconfigs/v1/getExperimentsAndConfigs

POST `https://android.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:52 CEST
Requested URL: https://android.googleapis.com/checkin

POST `https://cloudconfig.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:52 CEST
Requested URL: https://cloudconfig.googleapis.com/config

POST `https://cloudconfig.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:52 CEST
Requested URL: https://cloudconfig.googleapis.com/config

POST `https://android.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:52 CEST
Requested URL: https://android.googleapis.com/auth/devicekey

POST `https://www.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:52 CEST
Requested URL: https://www.googleapis.com/experimentsandconfigs/v1/getExperimentsAndConfigs?r=13

GET `https://www.youtube.com HTTP/1.1`

Date/Time: 12.05.2020 02:52 CEST
Requested URL: https://www.youtube.com/gen_204?cplatform=mobile&cbr=com.google.android.youtube&c=android&cmodel=Android%20SDK%20built%20for%20x86&cos=Android&csdk=27&cbrver=12.17.41&cver=12.17.41&cosver=8.1.0&cbrand=Google&a=delayed_request&batch_size=100&max_queue_size=1000&max_age_hours=720&age_of_oldest_request_hours=0¤t_queue_size=0&peak_queue_size=0&total_enqueued_requests=0&total_successful_requests=0&total_server_http_errors=0&total_client_http_errors=0&report_cap_hours=24&total_dropped_requests=0

POST `https://mobile-collector.newrelic.com HTTP/1.1`

Date/Time: 12.05.2020 02:52 CEST
Requested URL: https://mobile-collector.newrelic.com/mobile/v3/data

POST `https://android.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:53 CEST
Requested URL: https://android.googleapis.com/auth/devicekey

POST `https://mobilenetworkscoring-pa.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:53 CEST
Requested URL: https://mobilenetworkscoring-pa.googleapis.com/v1/GetWifiQuality?key=AIzaSyBrlVtd67QvwS_Wz0Do4ZIdOeA6ThtVczU

POST `https://mobilenetworkscoring-pa.googleapis.com HTTP/1.1`

Date/Time: 12.05.2020 02:53 CEST
Requested URL: https://mobilenetworkscoring-pa.googleapis.com/v1/GetWifiQuality?key=AIzaSyBrlVtd67QvwS_Wz0Do4ZIdOeA6ThtVczU

Software Composition Analysis

The mobile application seems not to use any external or native libraries.

External
None

Native
None

Mobile App External Communications

Static mobile application security test revealed the following remote hosts where the mobile application may send or receive data:

Hostname	IP:Port	SSL Encryption	Websec Server Security	Domain Domain Security
mobile-collector.newrelic.com:443	151.101.66.110:443	F	B	No risks found
www.youtube.com:443	172.217.13.174:443	A-	A	1543 malicious websites found
www.argentina.gob.ar:443	104.27.182.13:443	A+	A	375 malicious websites found
api.app.covid.ar:443	75.2.14.245:443	A-	C	No risks found