Open Swiss Maps SDK

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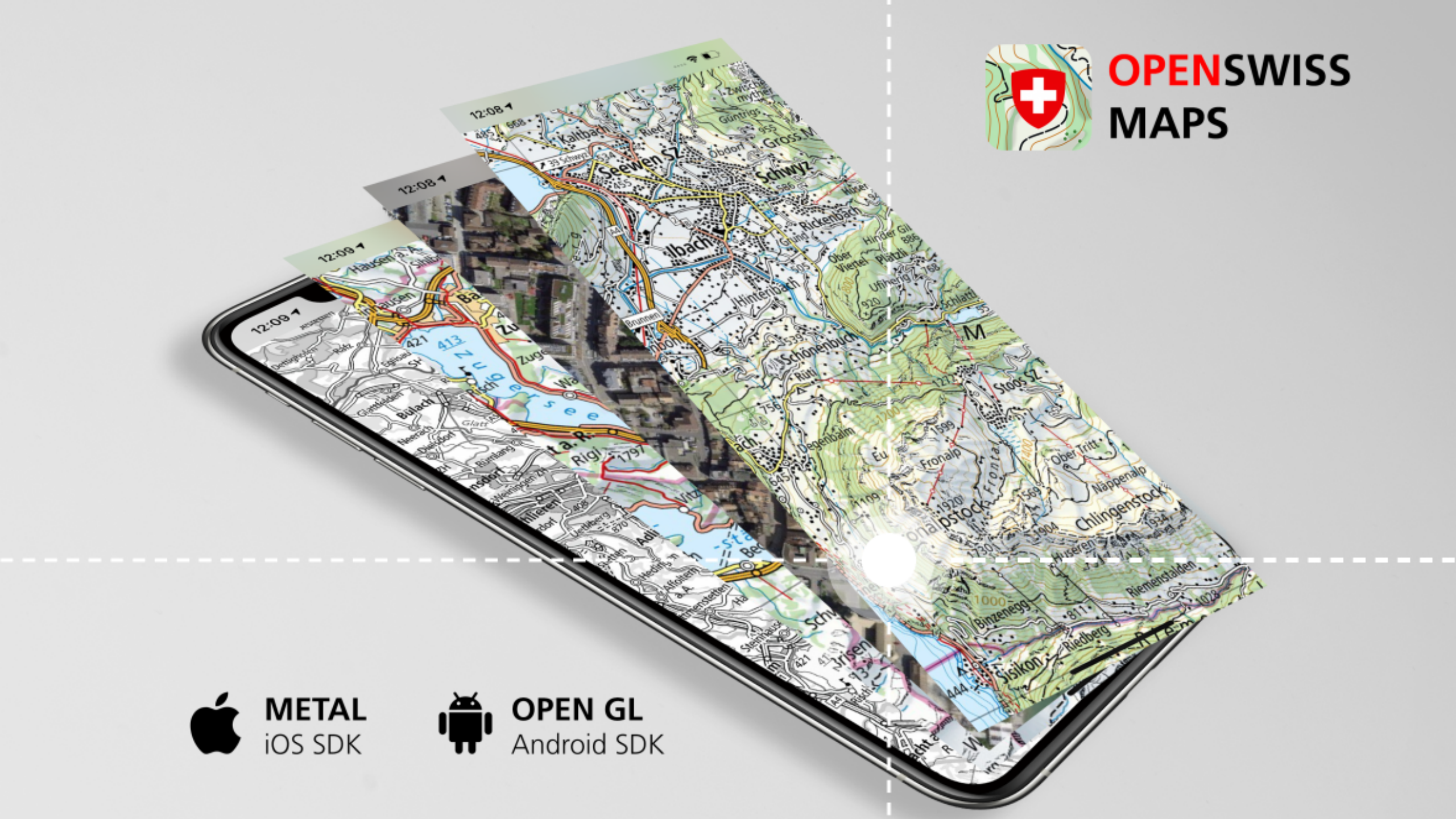
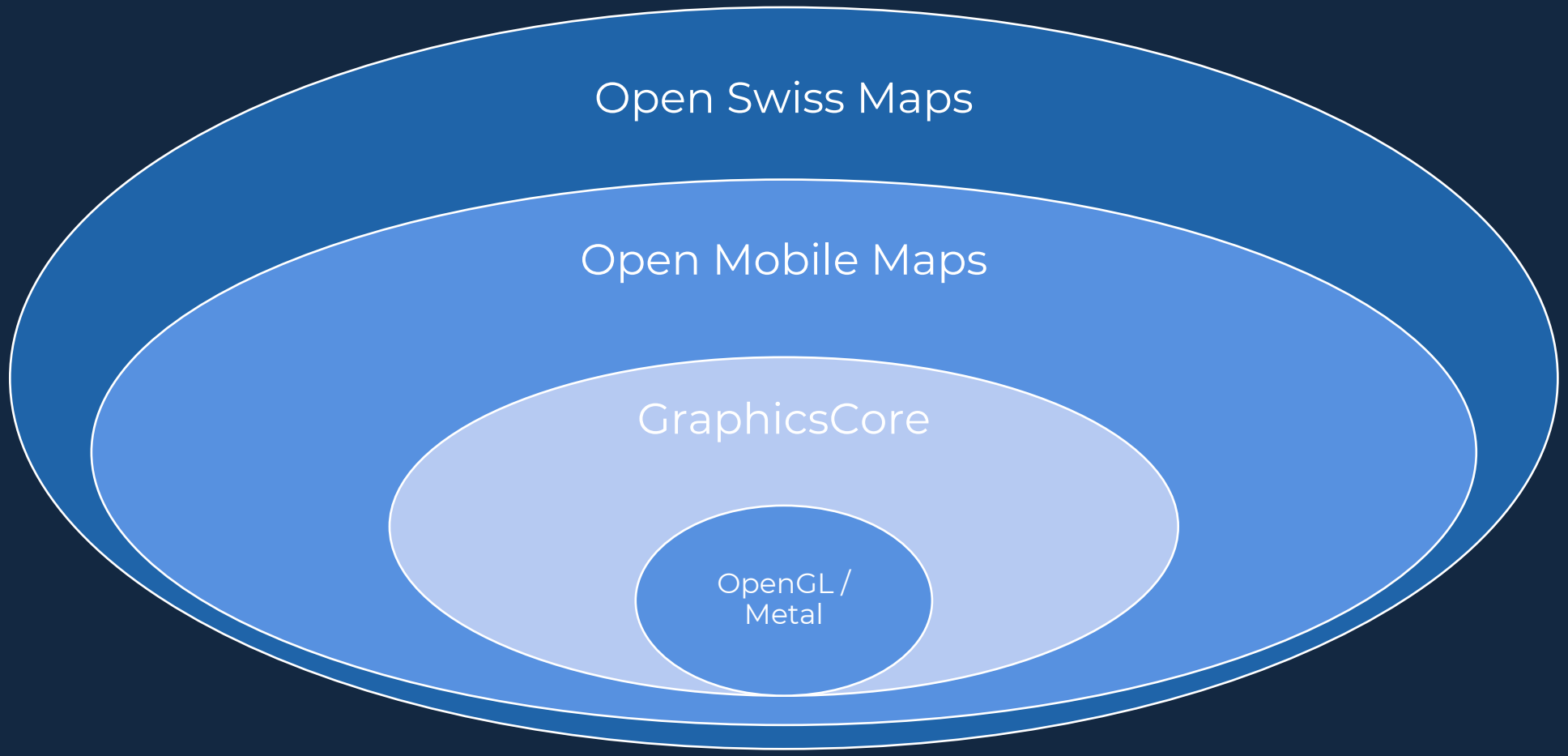
ubique


OPENSWISS
MAPS
METAL
iOS SDK
OPEN GL
Android SDK

Open Swiss Maps SDK

Architecture Overview



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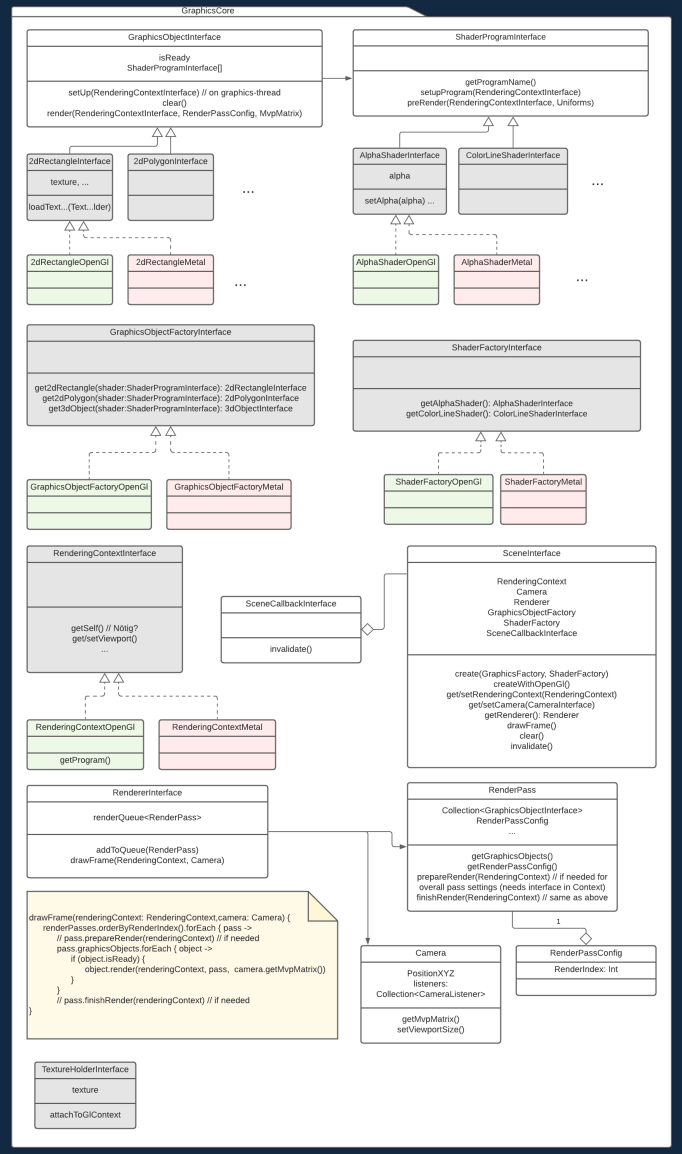
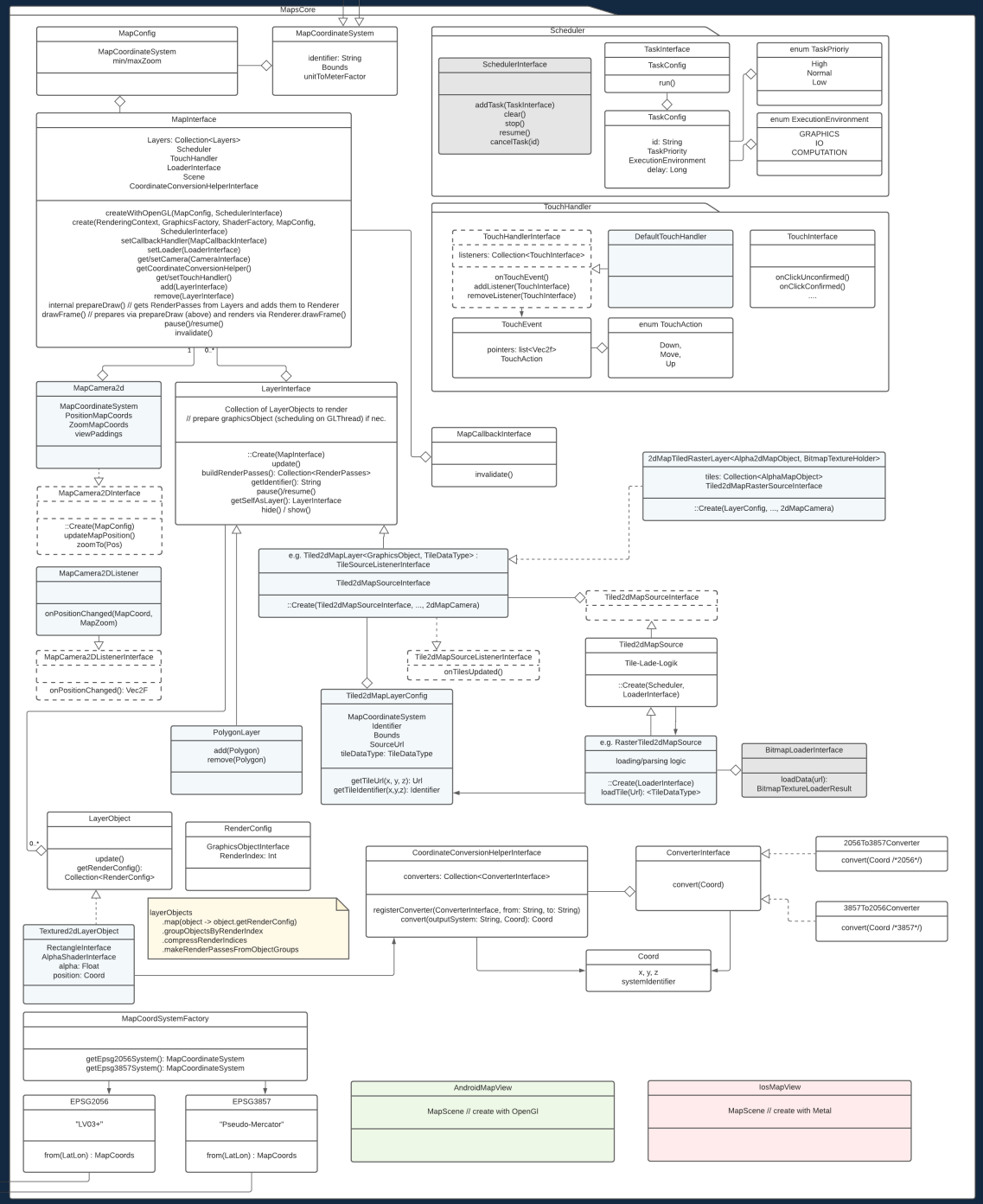
Architecture In Detail





Open Swiss Maps SDK

Why build Open Mobile Maps?

Open Swiss Maps SDK

Why build Open Mobile Maps?

Open Swiss Maps SDK

Open Mobile Maps

- Optimized for mobile performance
- Extentable architecture
- Fully customizable & configurable

Open Mobile Maps: Technologies

- C++ for shared code (iOS/Android)
- OpenGL / Metal
- Djinni with Ubique extensions
- Kotlin / Swift for API

Open Mobile Maps: Features

- Touch Gesture Handling
- Coordinate conversions
- Tiled raster layers
- Polygon layers
- Icon layers
- WMTS capability parser

Open Swiss Maps SDK

How to use Open Swiss Maps

Open Swiss Maps SDK

It is easy to use!

Add Gradle dependency

```
dependencies {
  implementation 'ch.admin.geo.openswissmaps:openswissmaps-android:1.0.0'
}
```

Add SPM dependency

```
dependencies: [
    .package(url: "https://github.com/geoadmin/lib-open-swiss-maps-sdk.git", .upToNextMajor(from: "1.0.0"))
]
```

Initialize SwisstopoMapView

```
val mapView = findViewById<SwisstopoMapView>(R.id.map_view)
mapView.registerLifecycle(lifecycle)
```

Initialize SwisstopoMapView

```
class MapViewController: UIViewController {
  lazy var mapView = SwisstopoMapView()
  override func loadView() {
    view = mapView
```

Change Base Layer

```
mapView.setBaseLayerType(SwisstopoLayerType.SWISSIMAGE)
```

Change Base Layer

```
mapView.setBaseLayerType(type: .PIXELKARTE_GRAUSTUFEN)
```

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Adding more layers

Android

```
val layer = SwisstopoLayerFactory.createSwisstopoTiledRasterLayer(SwisstopoLayerType.DROHNEN, mapView.textureLoader)
layer.setAlpha(0.5)
mapView.addLayer(layer.asLayerInterface())
```

iOS

```
let drohnenLayer = mapView.addSwisstopoLayer(type: .DROHNEN)
drohnenLayer.setAlpha(0.25)
```

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Adjusting the Camera

Animate to position with zoom

```
mapView.getCamera()
        .moveToCenterPositionZoom(Coord(CoordinateSystemIdentifiers.EPSG4326(), 8.543912536386152, 47.37623511643675, 0.0),
        3000.0,
        true)
```

Restrict map bounds

```
mapView.getCamera().setBounds(RectCoord(Coord(CoordinateSystemIdentifiers.EPSG2056(), 2485071.58, 1299941.79, 0.0), Coord(
mapView.getCamera().setMinZoom(5000000.0)
mapView.getCamera().setMaxZoom(250.0)
```

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Adding your own data on top

```
val polygonLayer = PolygonLayerInterface.create()
polygonLayer.add(
    PolygonInfo(
        "Polygon",
        /* Coordinates */,
        /* holes */,
        false,
        Color(1.0f, 0.0f, 0.0f, 1.0f),
        Color(1.0f, 0.4f, 0.4f, 1.0f),
    )
)
polygonLayer.setCallbackHandler(object : PolygonLayerCallbackInterface(){
    override fun onClickConfirmed(polygon: PolygonInfo) {
        // React
    }
})
mapView.addLayer(polygonLayer.asLayerInterface())
```

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Adding your own data on top

```
val iconLayer = IconLayerInterface.create()
val texture = BitmapTextureHolder(/* drawable or bitmap */)
val iconSize = TypedValue.applyDimension(TypedValue.COMPLEX_UNIT_DIP, 48f, resources.displayMetrics)
val icon = IconFactory.createIcon(
                                "Icon",
                                coordinate,
                                texture,
                                Vec2F(iconSize, iconSize),
                                IconType.INVARIANT)
iconLayer.add(icon)
iconLayer.setCallbackHandler(object : IconLayerCallbackInterface(){
        override fun onClickConfirmed(icons: ArrayList<IconInfoInterface>): Boolean {
                // React and return true if handled
                return true
        }
})
mapView.addLayer(iconLayer.asLayerInterface())
```

What’s next?

- Several optimizations
- Vector Maps
- Offline Maps
- 3D Maps
- Combination with AR / VR

Open Swiss Maps SDK

More information

swisstopo.ch/sdk

Open Swiss Maps SDK

Questions?

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Thank you for your attention!

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