

# Using Advanced Android Features

---



**Gill Cleeren**

ARCHITECT

@gillcleeren   [www.snowball.be](http://www.snowball.be)



# Agenda



**Taking pictures with the camera**

**Integrating maps in our app**

**Talking to a REST service**



# Taking pictures with the camera

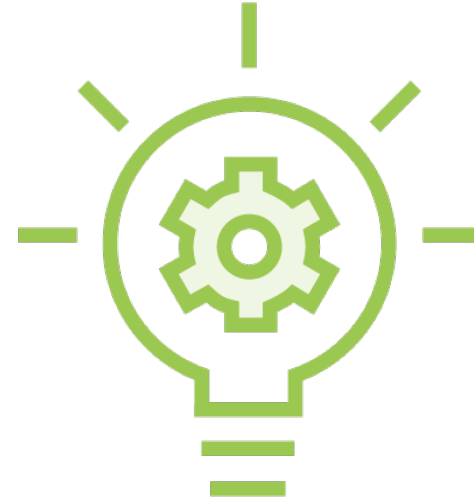
---



# Different Options



**Camera Intent**



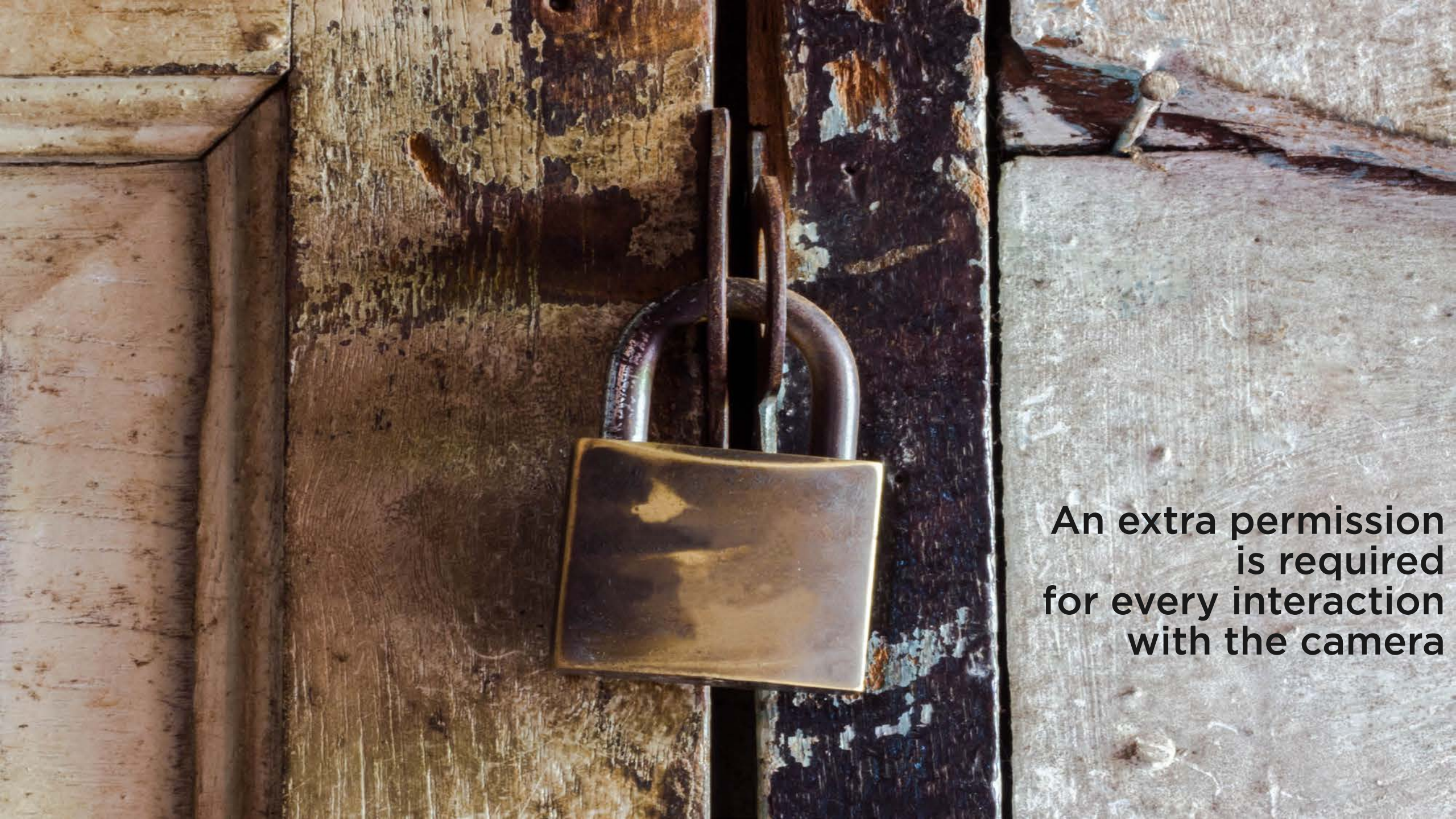
**Xamarin.Mobile framework**

```
Intent intent = new Intent(MediaStore.ActionImageCapture);  
  
imageFile =  
    new File(imageDirectory, String.Format("PhotoWithRay_{0}.jpg", Guid.NewGuid()));  
  
intent.PutExtra(MediaStore.ExtraOutput, Android.Net.Uri.FromFile(imageFile));  
  
StartActivityForResult(intent, 0);
```

## Launching a Camera App with an Intent







An extra permission  
is required  
for every interaction  
with the camera



## Demo Taking pictures with the camera



# Integrating maps in our app

---

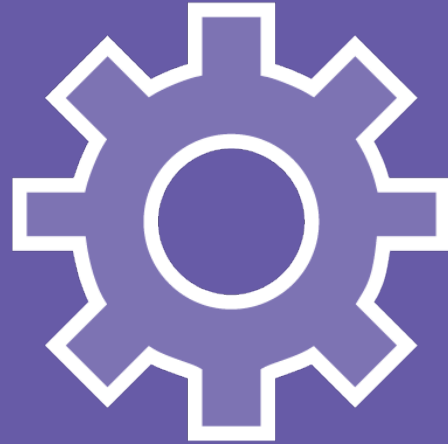




# Options for Working with Maps



Maps app



Map API and Views



Overlays on the maps

```
Android.Net.Uri rayLocationUri =  
    Android.Net.Uri.Parse("geo:50.846704,-4.352446");  
  
Intent mapIntent = new Intent  
    (Intent.ActionView, rayLocationUri);  
  
StartActivity(mapIntent);
```

Forwarding to the Map App



# Demo Forwarding to the Maps App



# Google Maps API

Maps inside the app

Interact with the map

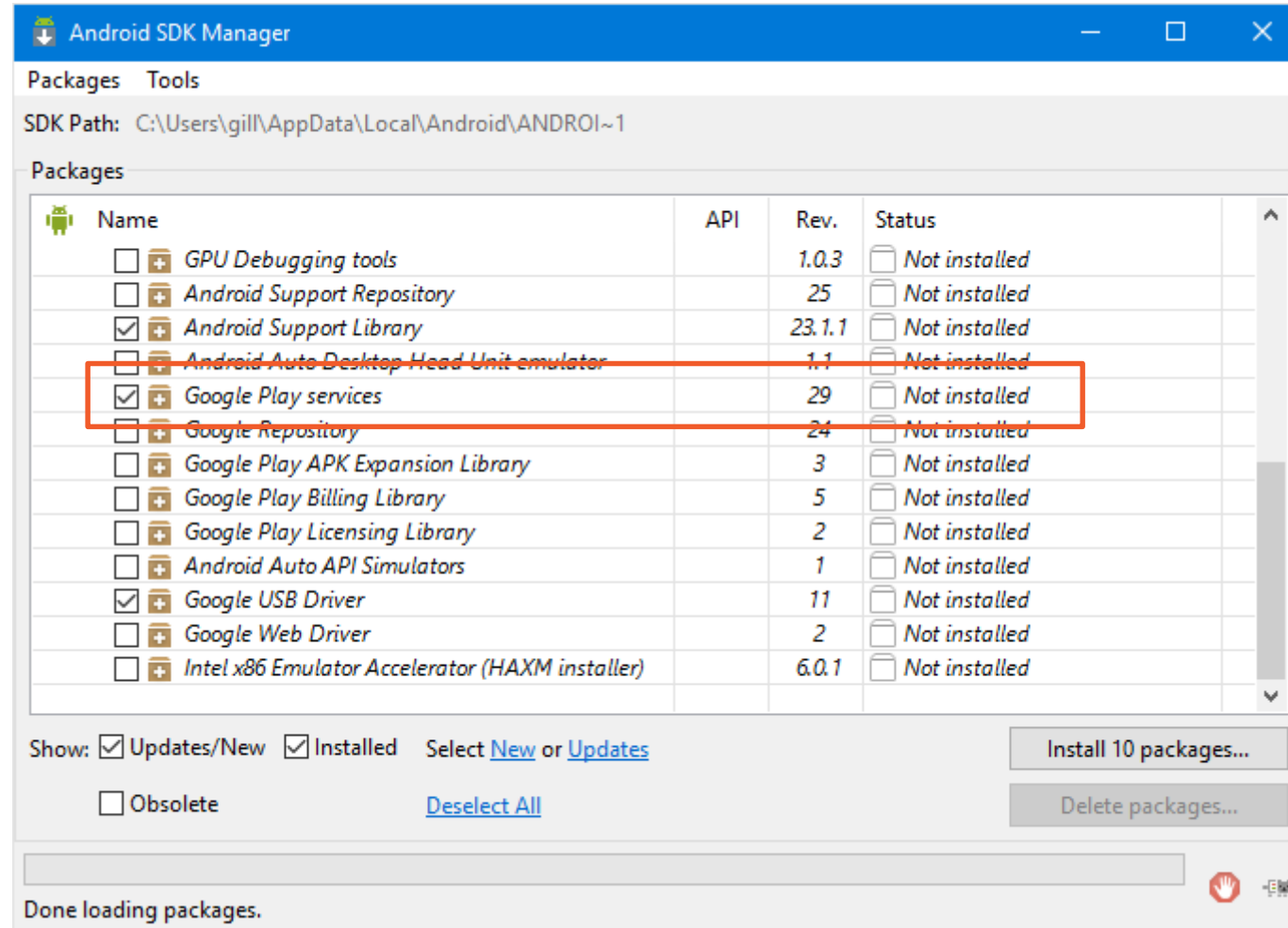
Overlays & markers

Requires Google  
Play Services SDK

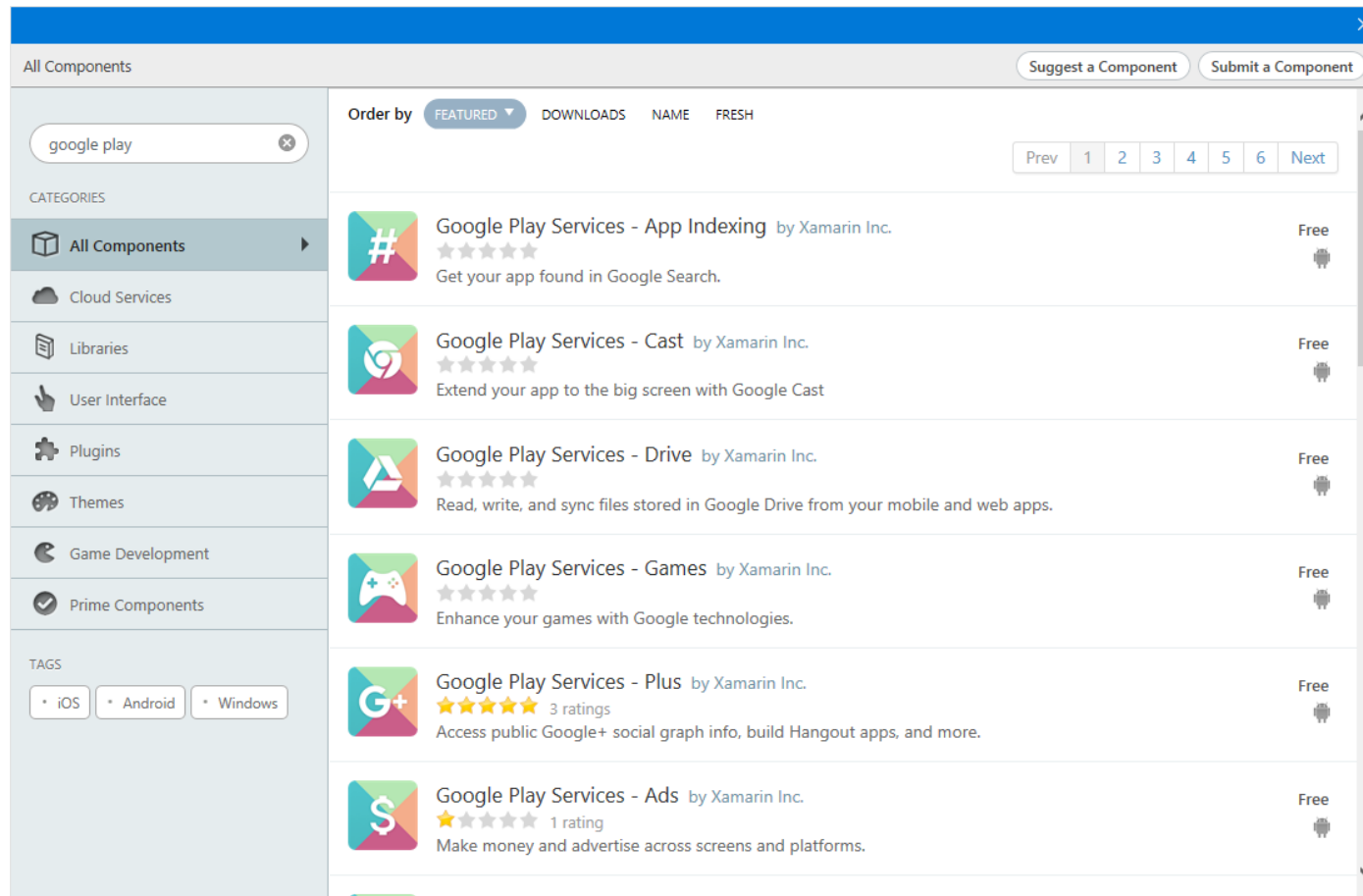




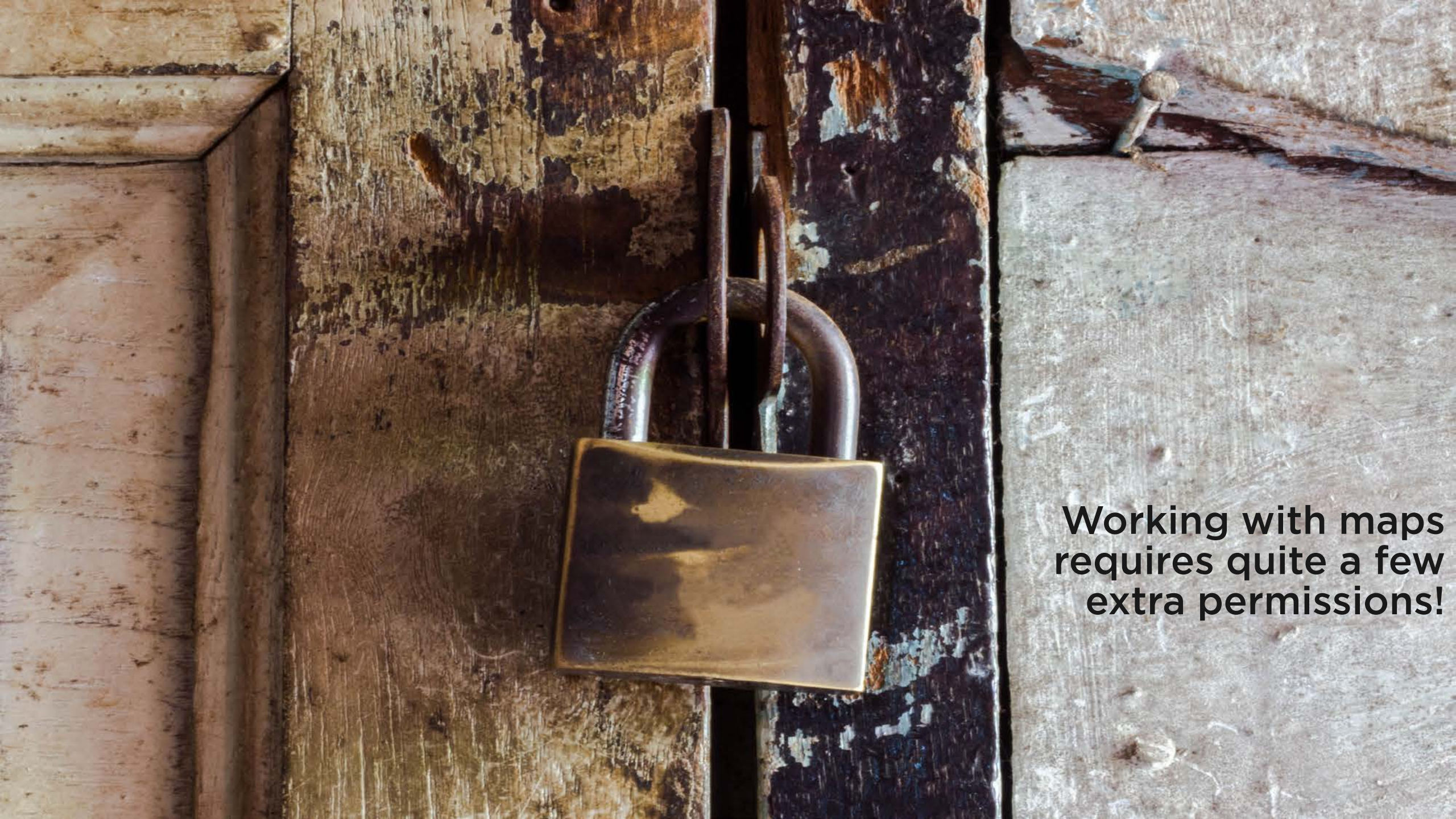
# Installing Google Play Services



# Referencing Google Play Services







Working with maps  
requires quite a few  
extra permissions!





Integrating with the  
Google Maps API also requires  
a Maps API key



# Displaying a Map

GoogleMap

MapFragment

MapView



# Demo Integrating maps in our app



# Talking to a REST service

---



# Talking with Services

REST

WCF

ASMX





# REST Services



HTTP standards



Cross-platform



Plain text



XML or JSON



# Communicating Over a REST Service



**Create URI**

**Send  
request**

**Parse  
response**



HTTP/1.1 200 OK

Content-Type: text/xml; charset=utf-8

Content-Length: 100

<?xml version="1.0" ?>

<s:Quote xmlns:s="http://example.org/stock">

    <s:StockPrice>45.25</s:StockPrice>

</s:Quote>

## Sample REST Response (XML)



```
HTTP/1.1 200 OK
```

```
Content-Type: text/json; charset=utf-8
```

```
Content-Length: 30
```

```
{  
  "StockPrice" : 45.25  
}
```

## Sample REST Response (JSON)





# Send a Request Using WebClient

**Abstraction over  
WebRequest**

**Less fine-grained  
control**

**Covers most  
needs**



# Send a Request Using HttpWebRequest

Low-level API

Fine-grained  
control

More options



# Send a Request Using HttpClient

**NuGet Package**

**Available from PCL**



# Demo Communicating with a REST service



# Summary



**Taking pictures and interacting with maps is possible in several ways**

**Rich service support**

