

QR Code Reader and Generator

QR /Bar Code reader and generator is a simple and easy plugin for unity developers to read and generate QR/Bar code very easily. You can also create QR/Bar code payloads for WIFI, SMS, Skype, Mail etc.

Supported QR Code formats are CODE_39, CODE_93, CODE_128, EAN_8, EAN_13, ITF, QR_CODE, UPC_A and many more.

Supported platforms are Standalone (MAC & Windows), Android, iOS, Webplayer, WebGL.

Integration

Integrate QR Code Reader and Generator in your project very easily by following there steps:

- 1). Import QR Code Reader and Generator in you project.
- 2). Ensure that these file imported in your project
 - Assets/Plugins/QRCodeReaderAndGenerator.dll
 - Assets/Plugins/QRCodeLib.dll
 - Assets/Plugins/Android/AndroidGalleryUtil.jar
 - Assets/Plugins/iOS/libIOSNative.a
 - Assets/QR Code Reader and Generator/Example/ folder having example scenes.
 - Assets/QR Code Reader and Generator/Script folder having few scripts.
- 3). Now you have all require resources and libraries. You are ready to use it, call the function and read & generate the QR code.
- 4). Add **RefreshGalleryWrapper.cs** script to any game object in scene(say Main Camera).



- 5). Add following line in main activity tag in AndroidManifest.xml
`<meta-data android:name="unityplayer.SkipPermissionsDialog" android:value="true" />`

6). Add following line to enable camera autofocus (after `</application>` tag).

```
<uses-feature android:name="android.hardware.camera.autofocus"
android:required="true" />
```

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android" package="com.astricstore.qrcodereader"
android:versionName="1.0" android:versionCode="1" android:installLocation="preferExternal">
    <supports-screens android:smallScreens="true" android:normalScreens="true" android:largeScreens="true"
    android:xlargeScreens="true" android:anyDensity="true" />
    <application android:theme="@style/UnityThemeSelector" android:icon="@drawable/app_icon" android:label="@string/app_name"
    android:debuggable="false" android:isGame="false" android:banner="@drawable/app_banner">
        <activity android:name="com.unity3d.player.UnityPlayerActivity" android:label="@string/app_name"
        android:screenOrientation="fullSensor" android:launchMode="singleTask" android:configChanges="mcc|mnc|locale|touchscreen|
        keyboard|keyboardHidden|navigation|orientation|screenLayout|uiMode|screenSize|smallestScreenSize|fontScale">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
            <meta-data android:name="unityplayer.UnityActivity" android:value="true" />
            <meta-data android:name="unityplayer.SkipPermissionsDialog" android:value="true" />
        </activity>
    </application>
    <uses-sdk android:minSdkVersion="16" android:targetSdkVersion="27" />
    <uses-feature android:glEsVersion="0x00020000" />
    <uses-permission android:name="android.permission.CAMERA" />
    <uses-feature android:name="android.hardware.camera.autofocus" android:required="true" />
    <uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE" />
</manifest>
```

Notes:

1). Check for camera authorisation before using the QR Reader its require for web player and iOS.

IEnumerator Start()

```
{
    yield return Application.RequestUserAuthorization(UserAuthorization.WebCam);
}
```

2). Invert the color of QR code before generating or scanning, if needed. Default background color is white and foreground color is black, if you want black background and white foreground then set this property.

`QRCodeManager.Instance.Inverted = true;`

3). Set write access to SDCard in player settings for Android.



How to use guide

Use of QR/Bar code reader and generator is very easy, you need to call a function to read and generate QR codes. Here are function details which can be use as per the need.

Functions to Generate QR Code

1). `public Texture2D SetOutputTextureSize(int width, int height)`

Description : Use this function to set output texture size of QR code. Default output texture size is 256x256, if you don't want to change then not need to call this function. Call this function before creating QR code.

Example :

```
QRCodeManager.Instance.SetOutputTextureSize (512, 512);
```

2). `public Texture2D SetOverlayIcon(Texture2D icon)`

Description : Use this function to set overlay icon. This icon will be placed on generated QR code. Default is null, if you don't want overlay image to your QR code then set it back to null. Call this function before creating QR code.

Example :

```
Texture2D icon = YOUR_ICON;  
QRCodeManager.Instance.SetOverlayIcon (icon);
```

Notes : Here icon should be readable texture.

3). `public Texture2D GenerateQRCode(string content, BarcodeFormat format = BarcodeFormat.QR_CODE)`

Description : Use this function to generate QR code of the string in any supported format, this function will create barcode and return the texture.

Example :

```
Texture2D texture = QRCodeManager.Instance.GenerateQRCode ("Text for QR Code")
```

Functions to Generate QR Code Payloads

1).WIFI

```
public Texture2D GenerateQRCode_WiFi(string ssid, string password,
WIFI_Authentication authenticationMode, bool isHiddenSSID = false, BarcodeFormat
format = BarcodeFormat.QR_CODE)
```

Description : Use this function to generate QR code payload for wifi by passing ssid, password and authentication mode.

Example :

```
Texture2D texture = QRCodeManager.Instance.GenerateQRCode_WiFi ("Wifi-
SSID", "myPassword", WIFI_Authentication.WPA);
```

2).Mail without subject and message

```
public Texture2D GenerateQRCode_Mail(string mailReceiver, Mail_Encoding encoding =
Mail_Encoding.MAILTO, BarcodeFormat format = BarcodeFormat.QR_CODE)
```

Description : Use this function to generate QR code payload for mail by passing recipient mail, you can also pass encoding as per your need.

Example :

```
Texture2D texture = QRCodeManager.Instance.GenerateQRCode_Mail
("abc@gmail.com", Mail_Encoding.MAILTO);
```

3).Mail with subject without message

```
public Texture2D GenerateQRCode_Mail(string mailReceiver, string subject,
Mail_Encoding encoding = Mail_Encoding.MAILTO, BarcodeFormat format =
BarcodeFormat.QR_CODE)
```

Description : Use this function to generate QR code payload for mail by passing recipient mail and subject.

Example :

```
Texture2D texture = QRCodeManager.Instance.GenerateQRCode_Mail
("abc@gmail.com", "Test Message", Mail_Encoding.MAILTO);
```

4).Mail with subject and message

```
public Texture2D GenerateQRCode_Mail(string mailReceiver, string subject, string message, Mail_Encoding encoding = Mail_Encoding.MAILTO, BarcodeFormat format = BarcodeFormat.QR_CODE)
```

Description : Use this function to generate QR code payload for mail by passing recipient mail, subject and message.

Example :

```
Texture2D texture = QRCodeManager.Instance.GenerateQRCode_Mail("abc@gmail.com", "Test Message", "Message from QRCode", Mail_Encoding.MAILTO);
```

5).SMS without message

```
public Texture2D GenerateQRCode_SMS(string number, SMS_Encoding encoding = SMS_Encoding.SMS, BarcodeFormat format = BarcodeFormat.QR_CODE)
```

Description : Use this function to generate QR code payload for SMS by passing recipient number.

Example :

```
Texture2D texture = QRCodeManager.Instance.GenerateQRCode_SMS("123123123", SMS_Encoding.SMS);
```

6).SMS with message

```
public Texture2D GenerateQRCode_SMS(string number, string subject, SMS_Encoding encoding = SMS_Encoding.SMS, BarcodeFormat format = BarcodeFormat.QR_CODE)
```

Description : Use this function to generate QR code payload for SMS by passing recipient number and message.

Example :

```
Texture2D texture = QRCodeManager.Instance.GenerateQRCode_SMS("123123123", "Message", SMS_Encoding.SMS);
```

7).MMS without message

```
public Texture2D GenerateQRCode_MMS(string number, MMS_Encoding encoding =  
MMS_Encoding.MMS, BarcodeFormat format = BarcodeFormat.QR_CODE)
```

Description : Use this function to generate QR code payload for MMS by passing recipient number.

Example :

```
Texture2D texture = QRCodeManager.Instance.GenerateQRCode_MMS  
("123123123",MMS_Encoding.MMS);
```

8).MMS with message

```
public Texture2D GenerateQRCode_MMS(string number, string subject, MMS_Encoding  
encoding = MMS_Encoding.MMS, BarcodeFormat format = BarcodeFormat.QR_CODE)
```

Description : Use this function to generate QR code payload for MMS by passing recipient number and message.

Example :

```
Texture2D texture = QRCodeManager.Instance.GenerateQRCode_MMS  
("123123123", "Message",MMS_Encoding.MMS);
```

9).Geolocation

```
public Texture2D GenerateQRCode_Geolocation(string latitude, string longitude,  
Geolocation_Encoding encoding = Geolocation_Encoding.GEO, BarcodeFormat format =  
BarcodeFormat.QR_CODE)
```

Description : Use this function to generate QR code payload for geolocation by passing latitude and longitude.

Example :

```
Texture2D texture = QRCodeManager.Instance.GenerateQRCode_Geolocation (latitude,  
longitude);
```

10).Phone number

```
public Texture2D GenerateQRCode_PhoneNumber(string number, BarcodeFormat format = BarcodeFormat.QR_CODE)
```

Description : Use this function to generate QR code payload for phone number by phone number.

Example :

```
Texture2D texture = QRCodeManager.Instance.GenerateQRCode_PhoneNumber("123123123");
```

11).Skype call

```
public Texture2D GenerateQRCode_SkypeCall(string skypeUsername, BarcodeFormat format = BarcodeFormat.QR_CODE)
```

Description : Use this function to generate QR code payload for Skype call by passing skype name.

Example :

```
Texture2D texture = QRCodeManager.Instance.GenerateQRCode_SkypeCall("skypename");
```

12).URL

```
public Texture2D GenerateQRCode_Url(string url, BarcodeFormat format = BarcodeFormat.QR_CODE)
```

Description : Use this function to generate QR code payload for url call by passing url.

Example :

```
Texture2D texture = QRCodeManager.Instance.GenerateQRCode_Url ("http://abcd.com");
```

13).Bookmark

```
public Texture2D GenerateQRCode_Bookmark(string url, string title, BarcodeFormat  
format = BarcodeFormat.QR_CODE)
```

Description : Use this function to generate QR code payload for bookmark call by passing url.

Example :

```
Texture2D texture = QRCodeManager.Instance.GenerateQRCode_Url ("http://abcd.com");
```

Save generated QR/Bar code to gallery : (IOClass)

```
public string SaveQRCodeToGallery(Texture2D qrCode)
```

Description : Use this function to save QR code into gallery(Android & iOS) and in Pictures folder in PC / Mac. This feature will not work in WebGL or Webplayer version.

Example :

```
IOClass. SaveQRCodeToGallery(qrCode);
```

Decode QR/Bar code

```
public string DecodeQRCode(Texture2D tex2D)
```

Description : Use this function to generate/decode QR code texture into string.

Example :

```
Texture2D texture = QRCodeManager.Instance.DecodeQRCode (texture2D);
```

Notes : Here texture2D should be readable texture.

Functions to Read/Scan QR Codes

1).Start Scanning

`public void ScanQRCode(CameraSettings camSettings, RawImage image, float scanInterval)`

Description : Use this function to start scanning of QR code, it will fire OnQRCodeFound event when QR code found.

- `image` : on which camera will render.
- `scanInterval` : interval to scan until QR code not found.
- `camSettings` : This is a structure having default settings of the scanner camera, you can change according to your need.
 - `deviceName` : default camera to be launch.
 - `requestedWidth` : requested width(WebcamTexture). It should be greater than raw image width.
 - `requestedHeight` : requested height(WebcamTexture). It should be greater than raw image height.
 - `requestedFPS` : requested FPS(WebcamTexture).
 - `filterMode` : filter mode (WebcamTexture).
 - `maintainAspectRatio` : maintain aspect ratio or just render in fill mode on rawTexture.
 - `makeSquare` : make camera feed in perfect square with maintaining aspect ratio, **`maintainAspectRatio`** will be ignored if makeSqaure set to true.
 - `scanType` : ONCE - Stop scanning automatically when found QRCode, CONTINUOUS - scanning will continue after QRCode found until you don't call StopScanning function, so if you are using continuous mode then you have to stop scanning.

Example :

```
QRCodeManager.CameraSettings camSettings = new QRCodeManager.CameraSettings ();
string camName = (WebCamTexture.devices.Length > 0) ?
WebCamTexture.devices[0].name : null;
if (camName != null) {
    camSettings.deviceName = camName;
    camSettings.maintainAspectRatio = true;
    camSettings.scanType = ONCE;

    QRCodeManager.Instance.ScanQRCode(camSettings,rawImage,1f);
}
```

2). Stop scanning

`public void StopScanning()`

Description : Use this function to stop scanning of QR code.

Example : `QRCodeManager.Instance.StopScanning ();`

Events

1). Error Event

```
void OnError(string err);
```

Description : It will fire on error/exception with error message.

2). QR code found

```
void OnQRCodeFound(BarcodeFormat barCodeType, string barCodeValue);
```

Description : It will fire on QR code found with QR code format and value.

Add events like this:

```
void OnEnable () {  
    QRCodeManager.onError += HandleOnError;  
    QRCodeManager.onQrCodeFound += HandleOnQRCodeFound;  
}
```

Remove events like this:

```
void OnDisable () {  
    QRCodeManager.onError -= HandleOnError;  
    QRCodeManager.onQrCodeFound -= HandleOnQRCodeFound;  
}
```

Handle events like this:

```
void HandleOnQRCodeFound (ZXing.BarcodeFormat barCodeType, string  
barCodeValue)  
{  
    Debug.Log (barCodeType + " ____ " + barCodeValue);  
}  
  
void HandleOnError (string err)  
{  
    Debug.LogError (err);  
}
```

For support you can write me at devesh.pandey19@gmail.com