PEGASI SDK Integration Description Document (world_ext version 3.4)

Directory

1. Simple Introduction

Overseas version 3.4, include Native、Banner、Interstitial Ad style, also include Facebook、Mopub、Yahoo、Admob third-party Native Ad style SDK integration。

2. Runtime Environment

The minimum support version is android 2.3

3. Integration PEGASI SDK

Copy cmadsdk_world_ext_V3.4.1.arr file to libs of project,add code to Gradle script。

```
repositories {
    flatDir {
            dirs 'libs'
        }
    }

dependencies {
    compile(name: 'cmadsdk_world_ext_V3.4.1', ext: 'aar')
    //notice:integration Admob need to add these aar
    compile(name: 'play-services-ads-7.8.0', ext: 'aar')
    compile(name: 'play-services-analytics-7.8.0', ext: 'aar')
    compile(name: 'play-services-base-7.8.0', ext: 'aar')
}
```

4. Configuration AndroidManifest.xml

4.1.Add Permission

```
<uses-permission android:name="android.permission.READ_EXTERNAL_STORAGE" />
<uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE" />
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE" />
<uses-permission android:name="android.permission.INTERNET" />
<uses-permission android:name="android.permission.ACCESS_WIFI_STATE" />
```

4.2.Other Configuration（mopub and admob）

```xml
<!--for Mopub -->
 <activity android:name="com.mopub.mobileads.MoPubActivity"
          android:configChanges="keyboardHidden|orientation|screenSize"/>
 <activity android:name="com.mopub.mobileads.MraidActivity"
          android:configChanges="keyboardHidden|orientation|screenSize"/>
 <activity android:name="com.mopub.common.MoPubBrowser"
          android:configChanges="keyboardHidden|orientation|screenSize"/>
 <activity android:name="com.mopub.mobileads.MraidVideoPlayerActivity"
          android:configChanges="keyboardHidden|orientation|screenSize"/>
<!--for Mopub-->

<!--for admob-->
<meta-data android:name="com.google.android.gms.version"
              android:value="@integer/google_play_services_version" />
```

5. Initialize SDK

It is strongly recommended that initialization in the onCreate method of

Application. For example:

```java
@Override
public void onCreate() {
     super.onCreate();
     //The first parameter：Context
     //The second parameter: Mid(the identifier of the app，the first four numbers of posid)
     //The third parameter：product channel id（can be null）
     CMAdManager.applicationInit(this, "Your AppId", "You channel ID");
}
```

6. Integration Native Ad Code

6.1、Load And Show Ad

primary code load Ad for example(see demo of NativeAdSampleActivity):

```
// The first parameter：Context
// nativeAdManager.showAd(); The second parameter：Posid
NativeAdManagerEx nativeAdManagerEx = new NativeAdManagerEx(this, "Your posid");
nativeAdManagerEx.setNativeAdListener(new INativeAdLoaderListener() {
        @Override
        public void adLoaded() {
                //get ad
                INativeAd ad = nativeAdManagerEx.getAd();
                if (ad == null) {
                    return;
                 }
                // Initialize the ad layout,the layout should be customed by youself
                View mAdView = View.inflate(MainActivity.this,"Your Ad layout", null);

                //Bind the ad with the mAdView
                //notice: this step is necessary,  if don't , click of the ad will not effective.
                //unregisterView should be used when the ad no need to show.
                ad.registerViewForInteraction(mAdView);

                if (mAdView != null) {
                    // remove old mAdView
                    nativeAdContainer.removeView(mAdView);
                 }
                //add the mAdView into the layout of view container.
                //(the container should be prepared by youself)
                nativeAdContainer.addView(mAdView);
          }
        @Override
        public void adFailedToLoad(int i) {
          // load failed
        }
        @Override
        public void adClicked(INativeAd ad) {
                //ad clicked
        }
    });
```

```
        //start load Ad
        nativeAdManagerEx.loadAd();
```

if you want to display Ad:

```
nativeAdManagerEx.showAd();
```

6.2、The Main APIs for Native Ad

com.cmcm.adsdk.nativead.NativeAdManagerEx

Methodology	Method Introduction
NativeAdManagerEx(Context context, String posid)	NativaAdManagerEx construct function
setNativeAdListener(INativeAdLoaderListener listener)	set callback interface
loadAd( )	concurrent load ads
preloadAd( )	sequence load ads
getAd( )	get ads

com.cmcm.baseapi.ads.INativeAd

Methodology	Method Introduction
getAdtitle()	ad title
getAdBody()	ad description
getAdIconUrl()	ad icon url
getAdCoverImageUrl()	ad background picture Url
getAdCallToAction()	ad button text
getAdStarRating()	ad star score（can be null）
getAdSocialContext()	ad download amount or website（can be null）
hasExpired()	check ad expired（true mean expired）
isDownLoadApp()	check download type app (true: yes false: no null: no information)
setImpressionListener(ImpressionListener listener)	set callback after SDK ad impression report
registerViewForInteraction(View view)	bundle ad view with ad itself(requested)
unregisterView()	unbundling ad view with ad itself(requested)

7. Integration Banner Ad Code

7.1、Load And Show Banner Ad(see demo of BannerSampleActivity)

primary code for example:

```
//Parameter：Context
CMNativeBannerView bannerView = new CMNativeBannerView(this);
//Set banner Size（requested）
bannerView.setAdSize(CMBannerAdSize);
//Set posid（requested）
bannerView.setPosid(mAdPosid);
//set callback listener
bannerView.setAdListener(new CMBannerAdListener() {
     @Override
      public void onAdLoaded(CMAdView ad) {
            //after load success and need to display ad must invoke this method
            cmNativeBannerView.prepare();
            mLinearLayout.removeAllViews();
            //load success ,get bannerView and add to your View container.
            mLinearLayout.addView(ad);
      }
     @Override
     public void adFailedToLoad(CMAdView ad, int errorCode) {
              //load failed
     }
     @Override
     public void onAdClicked(CMAdView ad) {
              //Ad Clicked
     }
});
//load ad
bannerView.loadAd();
```

when Activity destory，suggest destory bannerView

```
@Override
protected void onDestroy() {
     super.onDestroy();
     if(cmNativeBannerView != null){
          cmNativeBannerView.onDestroy();
     }
}
```

7.2、The Main APIs for Native Banner

com.cmcm.adsdk.banner.CMNativeBannerView

Methodology	Method Introduction
setPosid(String posid)	Set ad position id
setAdSize(CMBannerSize size)	Set banner size
setAdListener(CMBannerAdListener listener)	Set banner callback interface
loadAd()	downloading ad
prepare()	after the success of the load needs to display ads invoke this method

com.cmcm.adsdk.banner.CMBannerAdSize

Parameter Name	Parameters Description
CMBannerAdSize.BANNER_320_50	320 * 50 size
CMBannerAdSize.BANNER_300_250	320 * 250 size

com.cmcm.adsdk.banner.CMBannerAdListener

Methodology	Method Introduction
onAdLoaded(CMAdView view)	ad request success
adFailedToLoad(CMAdView view, int error)	ad request failure
onAdClicked(CMAdView view)	ad click

8. Integration interstitial Ad Code

8.1、Load And Show Interstitial Ad

primary code for example(see demo of InterstitialAdSampleActivity):

```
//init InterstitialAdManager
//parameter：Context , posid
InterstitialAdManager interstitialAdManager = new InterstitialAdManager(Context, posid)

//set this callback interface if you need callback。
interstitialAdManager.setInterstitialCallBack(new InterstitialAdCallBack() {


                @Override
                public void onAdLoadFailed(int errorCode) {
                    //request failed
                }

                @Override
                public void onAdLoaded() {
                    / / request success
                }
                @Override
                public void onAdClicked() {
                    //ad clicked
                }
                @Override
                public void onAdDisplayed() {
                        //ad display
                }
                @Override
                public void onAdDismissed() {
                    //click close button that ad destory
                }
            });
```

start load InterstitialAd:

```
interstitialAdManager.loadAd();
```

display InterstitialAd:

```
interstitialAdManager.showAd();
```

8.2、The Main APIs for Native Interstitail

com.cmcm.adsdk.interstitial.InterstitialAdManager

Methodology	Method Description
loadAd()	ad downloading
showAd()	ad display
setInterstitialCallBack(InterstitialAdCallBack listener)	set callback interface
setInterstialOverClickEnable(boolean enable)	set whether the shaded are response or not when cliked (no response in default)

com.cmcm.adsdk.interstitial.InterstitialAdCallBack

Methodology	Method Description
onAdLoaded( )	ad request implement
onAdLoadFailed( )	ad request failure
ad click	onAdClicked( )
onAdDisplayed( )	ad display
onAdDismissed(int errorcode)	click 'close' button to close ad unit

Note: There is no picture loading function of the SDK, need to add the picture loading function from outside. Please set the load function before sending request of interstitial Ads. Please add the following code at the init:

```
CMAdManagerFactory.setImageDownloadListener(new MyImageLoadListener());
```

9. Proguard Script

Add the following script in your proguard script:

9.1、NativeAd Proguard script

```
-dontwarn com.cmcm.adsdk.**
-dontwarn com.cleanmaster.**
-dontwarn com.facebook.ads.**
-keep class com.facebook.ads.**{*;}
-keep class   com.cmcm.adsdk.** { *;}
-keep class   com.cleanmaster.** { *;}
```

9.2、add Mopub Proguard script(if you integrated Mopub)

```
-keep class   com.mopub.nativeads.*{*;}
-keep class   com.mopub.common.**{*;}
-keep class   com.mopub.network.**{*;}
-dontwarn com.mopub.**
-keep class com.cmcm.adsdk.nativead.MopubNativeAdLoader{
        <fields>;
        <methods>;
}
-keep class com.mopub.mobileads.MoPubActivity{
        <fields>;
        <methods>;
}
-keep class com.mopub.mobileads.MraidActivity{
        <fields>;
        <methods>;
}
-keep class com.mopub.common.MoPubBrowser{
        <fields>;
        <methods>;
}
-keep class com.mopub.mobileads.MraidVideoPlayerActivity{
        <fields>;
        <methods>;
}
```

9.3、 Admob Proguard script(if you integrated Admob)

```
-keep class com.cmcm.adsdk.nativead.AdmobNativeLoader{
        <fields>;
        <methods>;
}
-keep public class com.google.android.gms.ads.**{
    public *;
}
# For old ads classes
-keep public class com.google.ads.**{
    public *;
}


# For mediation
-keepattributes *Annotation*
# Other required classes for Google Play Services
# Read more at http://developer.android.com/google/play-services/setup.html
-keep class * extends java.util.ListResourceBundle {
    protected Object[][] getContents();
}
-keep public class com.google.android.gms.common.internal.safeparcel.SafeParcelable {
    public static final *** NULL;
}
-keepnames @com.google.android.gms.common.annotation.KeepName class *
-keepclassmembernames class * {
    @com.google.android.gms.common.annotation.KeepName *;
}
-keepnames class * implements android.os.Parcelable {
    public static final ** CREATOR;
}
```

9.4、Yahoo Proguard script(if you integrated Yahoo)

```
-keep class com.cmcm.adsdk.nativead.FlurryNativeLoader{
    <fields>;
    <methods>;
 }
keep class com.flurry.** { *; }
dontwarn com.flurry.**
keepattributes *Annotation*,EnclosingMethod
```

```
keepclasseswithmembers class * {
    public <init>(android.content.Context, android.util.AttributeSet, int);
}

#If you are using the Google Mobile Ads SDK, add the following:
# Preserve GMS ads classes
keep class com.google.android.gms.ads.** { *; }
dontwarn com.google.android.gms.ads.**
#If you are using the Google Play Services
# Preserve GMS classes to enable fetching the Advertising ID
keep class com.google.android.gms.**
```

10. Error Code

ErrorCode	Instruction
10001	lack the settings of the ad position, (perhaps lacks sdk initialization, or the cloud end closes the ad position)
10002	lacks ad data
10003	internal error
10004	request timeout
10005	There is no this type of advertising