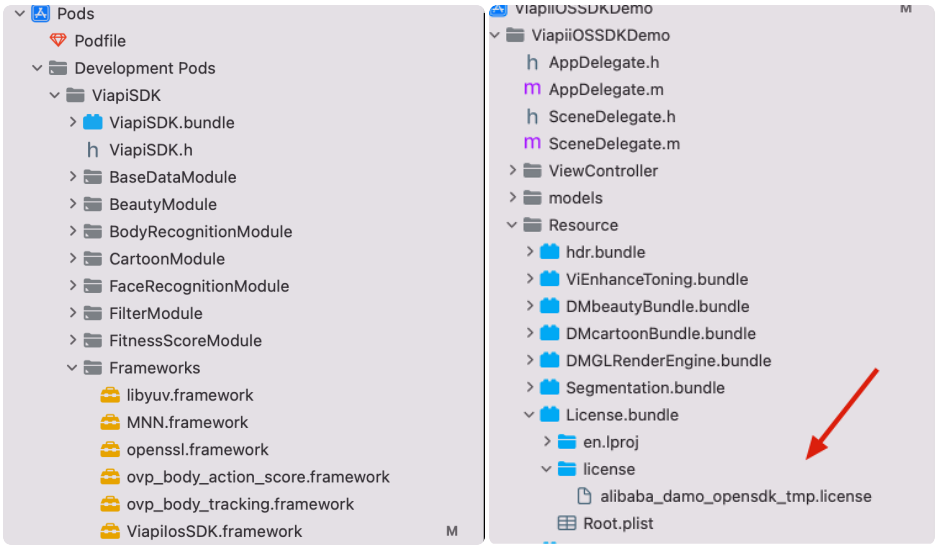
IOS端体育动作打分集成说明文档

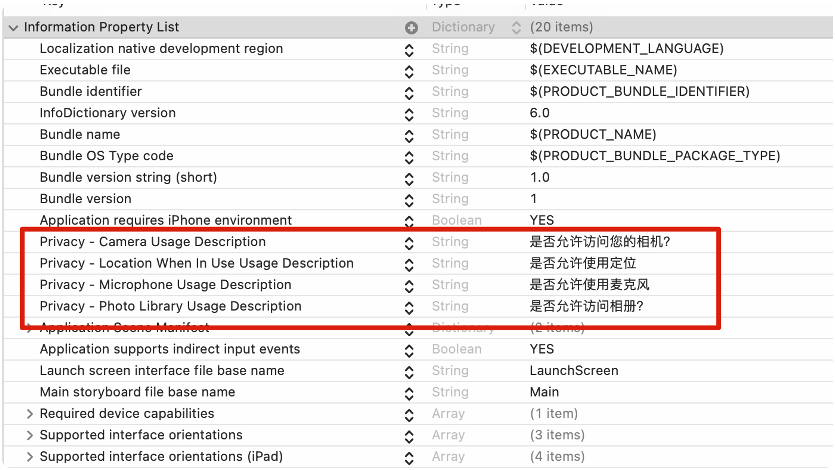
一、Xcode配置工程

1、获取相关资源压缩包（由阿里云相关人员提供下载链接）后，解压压缩包，可看到如下资源文件framework包及支持相关能力的license文件。如下图：



注意：临时tmp license，不能改名字，正式license可以改名字，但是不能与tmp license重名。

2、需要配置相机的权限,项目下的Info.plist文件,如下图：



Information Property List	Dictionary	(20 items)
Localization native development region	String	$(DEVELOPMENT_LANGUAGE)
Executable file	String	$(EXECUTABLE_NAME)
Bundle identifier	String	$(PRODUCT_BUNDLE_IDENTIFIER)
InfoDictionary version	String	6.0
Bundle name	String	$(PRODUCT_NAME)
Bundle OS Type code	String	$(PRODUCT_BUNDLE_PACKAGE_TYPE)
Bundle version string (short)	String	1.0
Bundle version	String	1
Application requires iPhone environment	Boolean	YES
Privacy - Camera Usage Description	String	是否允许访问您的相机?
Privacy - Location When In Use Usage Description	String	是否允许使用定位
Privacy - Microphone Usage Description	String	是否允许使用麦克风
Privacy - Photo Library Usage Description	String	是否允许访问相册?
Application Scene Manifest	Dictionary	(2 items)
Application supports indirect input events	Boolean	YES
Launch screen interface file base name	String	LaunchScreen
Main storyboard file base name	String	Main
Required device capabilities	Array	(1 item)
Supported interface orientations	Array	(3 items)
Supported interface orientations (iPad)	Array	(4 items)

二、功能实现：

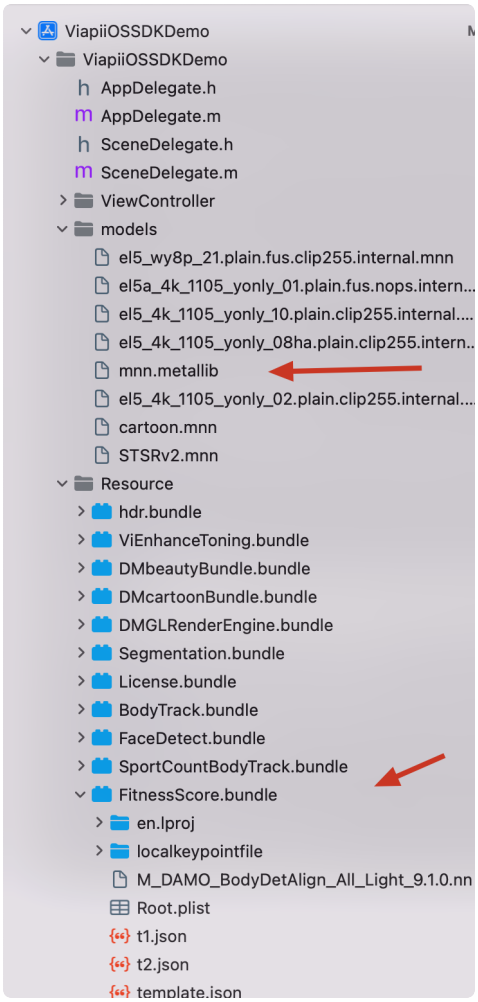
通过人体姿态估计以及动作打分算法，对人物动作标准度进行打分。支持复杂自遮挡类动作，鲁棒性高。

集成过程如下：

1.引入对应的bundle资源，mnn.metallib模型.初始化能力需要的M_DAMO_BodyDetAlign_All_Light_9.1.0.*nn模型，license，t1.json,t2.json，template.json，（nn模型最好别改名字）。*

2.相应的framework：mnn,ViapilosSDK ,libyuv,openssl, ovp_body_action_score,ovp_body_tracking。

如下图



3.在调用实时视频运动打分功能的类中引入下面的头文件：

Plain Text | 复制代码

```
#import <ViapiIosSDK/FitnessScoreTracker.h>
//调用代码如下：
//初始化
NSString *licensePath= getLicensePath();
NSString*modelBundlePath = [[[NSBundle mainBundle]bundlePath]stringByAppendingPathComponent:@"FitnessScore.bundle"];

NSString*nnModelPath = [modelBundlePath stringByAppendingPathComponent:@"M_DAMO_BodyDetAlign_All_Light_9.1.0.nn"];
NSString*jsonString = [modelBundlePath stringByAppendingPathComponent:@"template.json"];
self.fitnessTracker = [[FitnessScoreTracker alloc]init];
int re1 = [self.fitnessTracker fitnessScoreTrackerCheckLicensePath:licensePath];
self.fitnessTracker.delegate = self;
int re2 = [self.fitnessTracker fitnessScoreTrackerCreateHandleWithModelPath:nnModelPath templateJsonPath:jsonString];
viLog(@"re1:%d-re2:%d",re1,re2);
if (re1 != 0) {
[ViProgressHub showMessage:[NSString stringWithFormat:@"运动打分检测证书失败,错误码%d",re1] inView:self.view];
}

//处理buffer
[self.fitnessTracker fitnessScoreStartProgressWithBuffer:sampleBuffer videoFps:_preVideoFps?:30 orientation:UIDeviceOrientationPortrait];
[self.fitnessTracker startScoring];

#pragma mark-画point和point line
-(void)fitnessDrawBodyPointWithKeyPointsArray:(NSArray<FitnessScoreKeyPoint *>*)array{
    具体见demo
}

#pragma mark-画point line
-(void)drawFitnessPointLineWithArray:(NSArray<FitnessScoreKeyPoint *>*)array{
    具体见demo
}


#pragma mark-FitnessScoreTrackerDelegate
-(void)fitnessScoreBodyDidTrackObjects:(NSArray<FitnessScoreBodyModel *>*)fitnessScoreBodys{
    具体见demo
```

```
}

-(void)fitnessScoreDidTrackWithArray:(NSArray<FitnessScoreModel *> *)fitnessScoreArray{
    具体见demo
}


//离开当前页面记得销毁。
[self.fitnessTracker stopScoring];
self.fitnessTracker.delegate = nil;
[self.fitnessTracker fitnessTrackerDestroy];
```

4.读取本地关键点文件运动打分引入头文件

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```
#import <ViapiIosSDK/FitnessScoreTrackerReadPts.h>
NSString *licensePath= getLicensePath();
NSString*modelBundlePath = [[[NSBundle mainBundle]bundlePath]stringByAppendingPathComponent:@"FitnessScore.bundle"];
NSString*t1jsonString = [modelBundlePath stringByAppendingPathComponent:@"t1.json"];
//  NSString*t2jsonString = [modelBundlePath stringByAppendingPathComponent:@"t2.json"];

NSString*ptsPath = [modelBundlePath stringByAppendingPathComponent:@"localkeypointfile/jackjumping.txt"];
self.readPtsTracker = [[FitnessScoreTrackerReadPts alloc]init];
int re1 = [self.readPtsTracker fitnessScoreTrackerReadPtsCheckLicensePath:licensePath];
self.readPtsTracker.delegate = self;
int re2 = [self.readPtsTracker fitnessScoreTrackerReadPtsCreateHandleWithTemplatePath:t1jsonString];
//可以随时更新TemplatePath文件。
//int re4 = [self.readPtsTracker fitnessScoreTrackerReadPtsUpdateTemplatePath:t2jsonString];

//传入txt多次渲染
int re3 = [self.readPtsTracker fitnessScoreTrackerReadPtsReadLocalKeypointPath:ptsPath];
//开始计算
[self.readPtsTracker fitnessScoreTrackerReadPtsStartProcess];
NSLog(@"81Line:re1:%d-re2:%d---re3:%d",re1,re2,re3);
if (re1 != 0) {
[ViProgressHub showMessage:[NSString stringWithFormat:@"读取本地关键点检测证书失败，错误码%d",re1] inView:self.view];
}

// 识别到的人体关键点
-(void)fitnessReadPtsDidTrackBodyObjectsModel:(FitnessScoreBodyModel *)model{
[self fitnessDrawBodyPointWithKeyPointsArray:model.keyPoints];
[self.glView displayRenderingResults];
//清除上一次渲染内容
[self.glView clearRenders];
}

-(void)fitnessDrawBodyPointWithKeyPointsArray:(NSArray<FitnessScoreKeyPoint *>*)array{
详见demo FitnessReadLocalPtsViewController.m 文件
}
```

```
35
36
37  #pragma mark-画point line
    -(void)drawFitnessPointLineWithArray:(NSArray<FitnessScoreKeyPoint *>*)arr
    ay{
38  详见demo FitnessReadLocalPtsViewController.m 文件
39  }
40
41
42
43  // 识别到打分
    -(void)fitnessReadPtsDidTrackScoreWithArray:(NSArray<FitnessScoreModel*>*)
    fitnessScoreArray{
44  详见demo FitnessReadLocalPtsViewController.m 文件
45  }
```

三、其他注意

license鉴权报错

-2001 未定义

-2011 license未初始化

-2012 bundleID 与license不一致。

-2014 license过期

-2015 不支持当前能力

-2016 获取bundle ID错误

-2017 debug过期时间错误

运动计数，肢体关键点，打分依赖framework报错

-1 未定义

-2 无效的文件路径

-3 无效的文件格式 invalid_file_path

-4 无效的参数 invalid_file_format

-5 无效的句柄 invalid_handle

-6 无效的网络模型

-7 无效的内存资源

-20 不支持的图片格式

-21 不支持的图片尺寸

-40 内存不足

–41 超时

常见问题

报错一堆std开头的错误时，请导入libc++.tdb

如果用到ovp_*face_tracking.framework 请将其调整为Embed&Sign*

报错一堆cv开头的错误时，请导入opencv2.framework

Bitcode设为NO