

e·饿了么



饿了么  
物流  
技术交流群

扫描二维码加入>>>





# 蜂鸟团队移动端异常监控体系建设

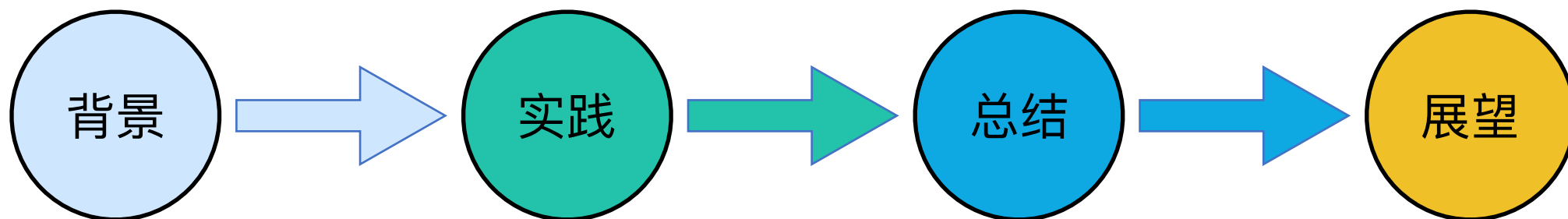
主讲人：潘万坤



# 个人简介

潘万坤

2013年毕业于武汉大学，之后在格瓦拉、饿了么等公司从事安卓开发工作。目前是饿了么物流移动团队安卓负责人，主要关注移动端代码架构、性能优化等领域，负责保障App在线上的高稳定运行。



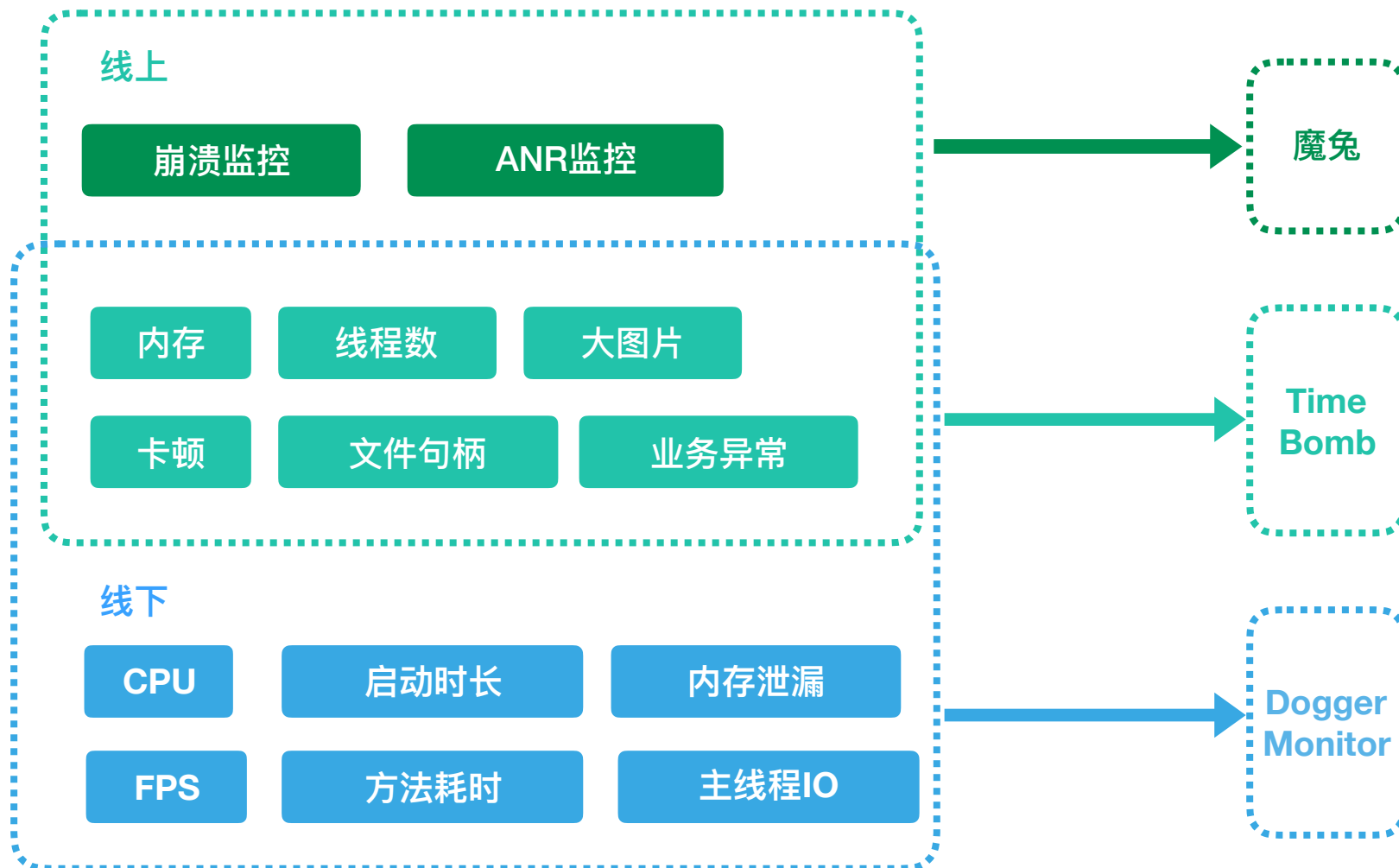
## 背景

01 崩溃、ANR等异常情况太单一

02 线上环境复杂，复现难度高

03 提高发版质量的要求

# 实践



## 实践 – TimeBomb (自定义异常监控系统)



## 实践 – TimeBomb (自定义异常监控系统)

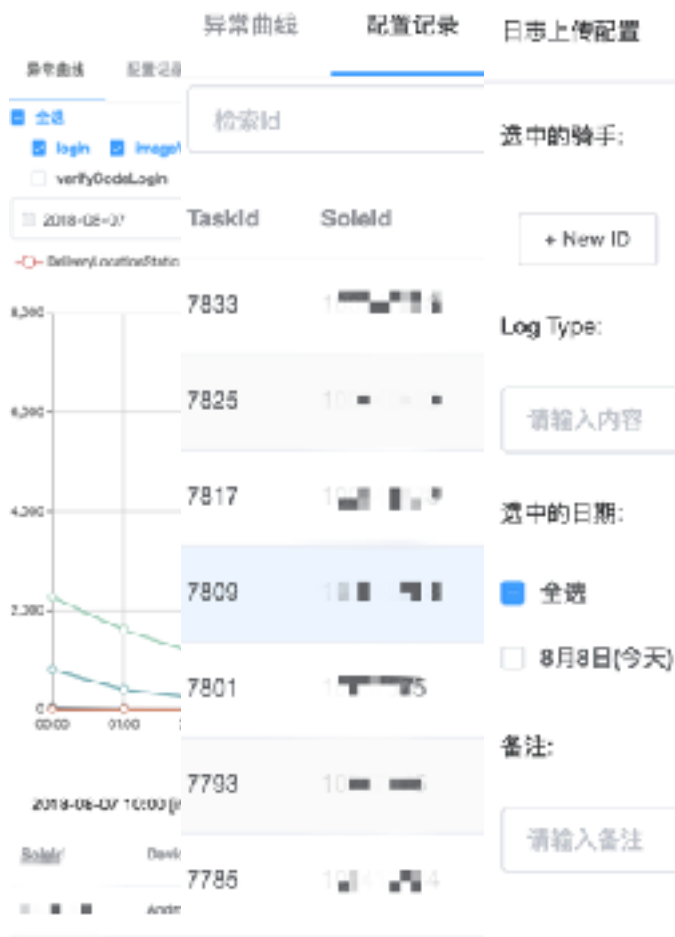
含义： 一段时间内连续出现N次的异常

示例：

- 登录异常
- 送单异常
- 定位异常
- 大图片申请
- 卡顿



# 实践 – TimeBomb



Dogger HummingBird

Android

TagQuickFilter >

All

Click - 1529

SlideButton - 154

Dialog - 1737

LocationCheck - 277

KLog - 58321

Full - 27909

Net - 1794

Threads - 1784

DispatchHook - 172

HttpReq - 17058

Punch - 12778

Bar - 414

Loc - 2569

PunchLoc - 2168

RefreshOrder - 562

PunchUpload - 3674

FoldOrder - 142

SynLocation - 14

WiFi - 24

Net - 113

ImageWet

Construction - 17

MF2pi - 4

TimeQuickFilter >

1:00:00:00

a22:56:11

LocationSearch >

location search

Search

Total: 154433

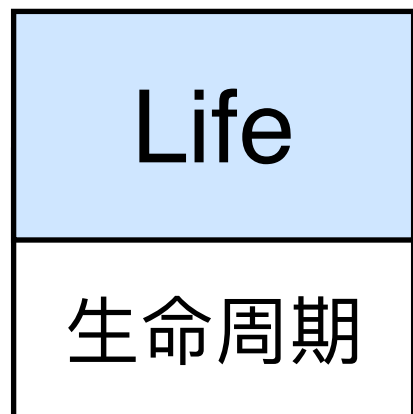
100.000%

1 2 3 4 5 6 -- 1543

Close

Tag	Time	Id	Value
Click	2018-08-04 00:00:00:028	0	android.widget.LinearLayout\$Free-ale.khxbeam.id/action_button\$Free-ale.order.cj.m8*-
SlideButton	2018-08-04 00:00:00:203	1	滑动操作订单按钮,当前显示文本:确认到店
Dialog	2018-08-04 00:00:00:203	2	me.ele.lpd.foundation.b.jl\$ekew
LocationCheck	2018-08-04 00:00:00:203	3	开始进行距离检查
KLog	2018-08-04 00:00:00:203	4	sinSpecifyDistance->commonLocation:24.610826,116.592948
KLog	2018-08-04 00:00:00:203	5	sinSpecifyDistance->punchLocation:24.61154513888889,118.57791099292362
KLog	2018-08-04 00:00:00:203	6	sinSpecifyDistance->punchLocation:24.61154513888889,118.57791099292362
KLog	2018-08-04 00:00:00:203	7	sinSpecifyDistance->punchLocation:24.61154541815625,118.57791125519097
LocationCheck	2018-08-04 00:00:00:203	8	距离检查通过
Full	2018-08-04 00:00:00:205	9	me.ele.lpd.foundation.b.jl\$onCreate:3andle=null
Full	2018-08-04 00:00:00:210	10	me.ele.lpd.foundation.b.jl\$onStart
Full	2018-08-04 00:00:00:211	11	me.ele.lpd.foundation.b.jl\$onResume
Dialog	2018-08-04 00:00:00:211	12	me.ele.lpd.foundation.b.jl\$dismiss
Dialog	2018-08-04 00:00:00:211	13	me.ele.lpd.foundation.b.jl\$dismissAllowingStateLoss

## 实践 – Dogger日志系统



## 实践 – Dogger日志系统

### 特点

01 mmap写文件，高效

02 远端配置，及时上传

03 压缩比高，省流量

04 敏感信息加密，安全

05 可生成自动化脚本，功能强大

实践 – Dogger日志系统

开源!!!

地址: <https://github.com/eleme/Trojan>

## 实践 – DoggerService

### 小目标

01

优雅地展示日志内容

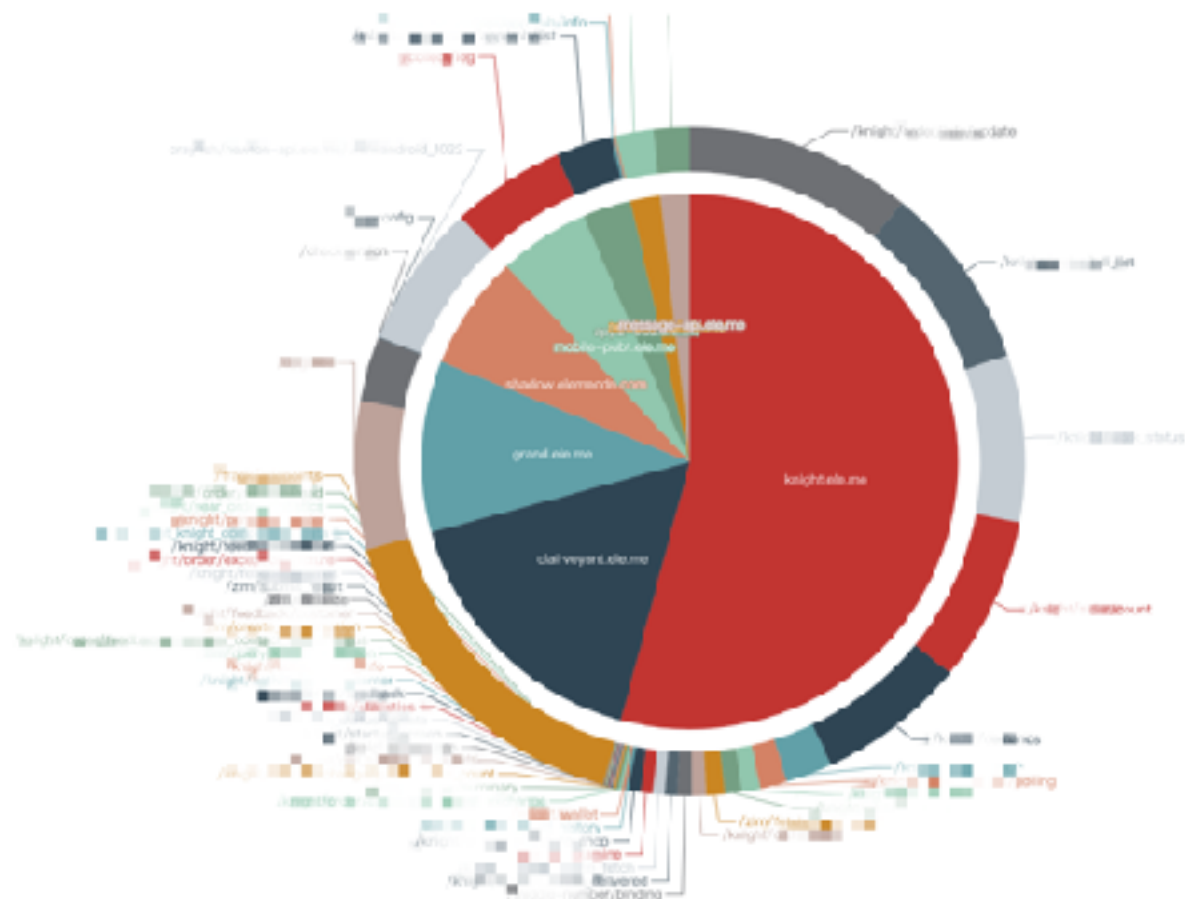
02

对埋点的事件频率做直观的展示

03

对特定的业务模块有一定的数据分析能力

# 实践 – DoggerService



## 实践 – DoggerMonitor

### 背景

01

线上性能优化成本高

02

线下监控可以牺牲部分性能

03

谁引入谁治理的方式保证质量

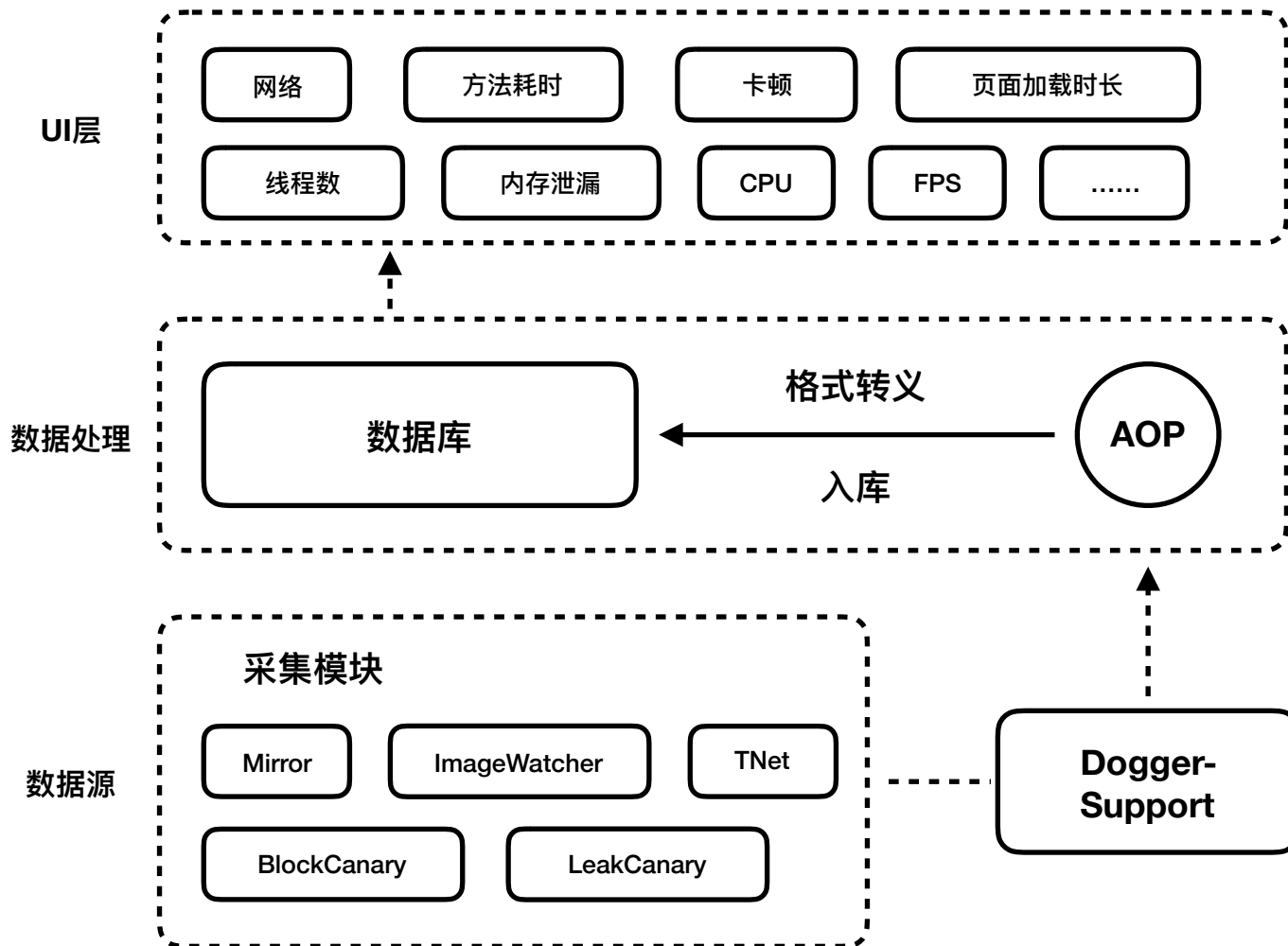
## 实践 – DoggerMonitor开发体验





# 实践 – DoggerMonitor

## 架构图



## 实践 – DoggerMonitor实现细节

### 方法耗时 - Mirror

```
void method(){  
    long startTime = System.currentTimeMillis();  
    ...  
    ...  
    long endTime = System.currentTimeMillis();  
    MirrorUtils.mirror(endTime - startTime, className + methodName + params);  
}
```

## 实践 – DoggerMonitor实现细节

### 卡顿 - BlockCanary

```
Choreographer.getInstance()
    .postFrameCallback(new Choreographer.FrameCallback() {
        @RequiresApi(api = Build.VERSION_CODES.JELLY_BEAN)
        @Override
        public void doFrame(long l) {
            BlockCanaryManager.getInstance().stop(runnable);
            BlockCanaryManager.getInstance().start(runnable, TIME_BLOCK);
        }
    });
```

## 实践 – DoggerMonitor实现细节

### 流量统计 - TNet

```
public class TNetInterceptor implements Interceptor {  
    @Override  
    public Response intercept(Chain chain) throws IOException {  
        Request request = chain.request();  
        Response response = chain.proceed(request);  
  
        recordHttp(request);  
        recordHttp(response);  
  
        return response;  
    }  
}
```

## 实践 – DoggerMonitor实现细节

### 流量统计 - TNet

```
@TargetClass("okhttp3.OkHttpClient")
@NameRegex("okhttp3/RealCall")
@Proxy("networkInterceptors")
public List<Interceptor> networkInterceptors() {
    List<Interceptor> interceptors = (List<Interceptor>) Origin.call();
    List<Interceptor> newList = new ArrayList<>(interceptors.size() + 1);
    newList.addAll(interceptors);

    newList.add(new TNetInterceptor());

    return newList;
}
```

## 实践 – DoggerMonitor实现细节

### 流量统计 - TNet

BUILD\_VERSION >= 23

```
NetworkStatsManager.querySummary(ConnectivityManager.TYPE_MOBILE,  
    uid,  
    startTime,  
    endTime);
```

BUILD\_VERSION < 23

```
TrafficStats.getUidRxBytes(uid) + TrafficStats.getUidTxBytes(uid);
```

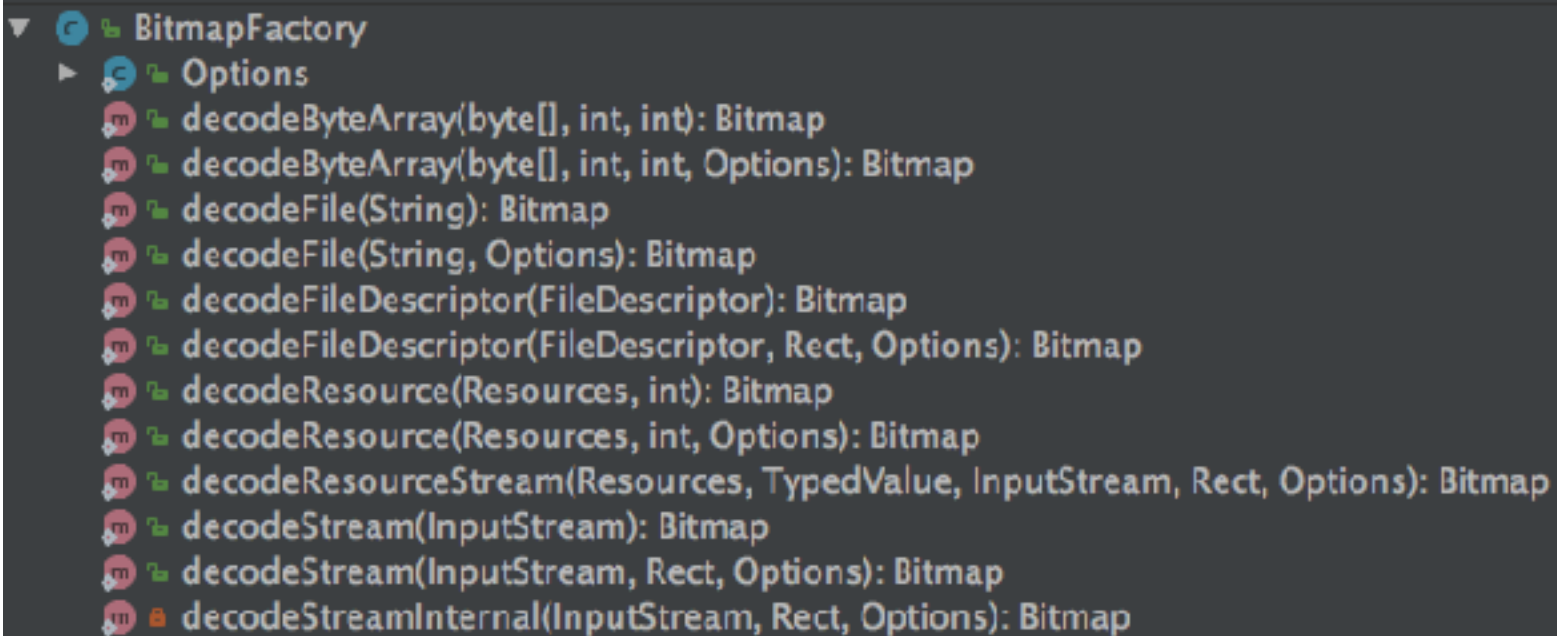
## 实践 – DoggerMonitor实现细节

### 大图片检测 - ImageWatcher

```
public int computeSize(int targetDensity) {  
    if (density == Image.DEFAULT) {  
        return width * height * 4;  
    } else {  
        return (int) ((width * targetDensity / density + 0.5f)  
            * (height * targetDensity / density + 0.5f)  
            * 4);  
    }  
}
```

## 实践 – DoggerMonitor实现细节

### 大图片检测 - ImageWatcher



```
▼ BitmapFactory
  ▶ Options
    decodeByteArray(byte[], int, int): Bitmap
    decodeByteArray(byte[], int, int, Options): Bitmap
    decodeFile(String): Bitmap
    decodeFile(String, Options): Bitmap
    decodeFileDescriptor(FileDescriptor): Bitmap
    decodeFileDescriptor(FileDescriptor, Rect, Options): Bitmap
    decodeResource(Resources, int): Bitmap
    decodeResource(Resources, int, Options): Bitmap
    decodeResourceStream(Resources, TypedValue, InputStream, Rect, Options): Bitmap
    decodeStream(InputStream): Bitmap
    decodeStream(InputStream, Rect, Options): Bitmap
    decodeStreamInternal(InputStream, Rect, Options): Bitmap
```



# 总结

01

线上异常的及时上报

02

提高问题追查的效率

03

保障开发版本的质量

## 展望

01

DoggerMonitor自动化测试流程化

02

DoggerMonitor后台管理系统

Q&A



e·饿了么



饿了么  
物流  
技术交流群

扫描二维码加入>>>



Thanks !

