

# Apps just got sweeter

Making a Lollipop out of an Eclair

Lyubomir Ganev



AppDocs

# AppDetox is an app which

- allows users to define rules which prevent starting apps
- thus allows users to control excessive apps usage
- was hacked together over a couple of weekends in 2012
- is available for Android 2.1+
- tries to look Holo
- has grown to be more than a quick research experiment

# AppDocs team



Lyubomir Ganев



Markus Löchtefeld



Matthias Böhmer

Initially started at



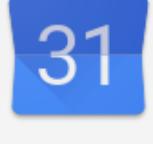
German Research  
Center for  
Artificial Intelligence

Why our app needs a  
Lollipop treat

# Needs better look

AppDetox

**VIOLATIONS** **YOUR APPS** **RULES**

	<b>Instagram</b>	
	Violated at 14:59 on 11/22	
	<b>Instagram</b>	
	Violated at 14:59 on 11/22	
	<b>Calendar</b>	
	Violated at 14:59 on 11/22	
	<b>Facebook</b>	
	Violated at 14:59 on 11/22	
	<b>Facebook</b>	
	Violated at 14:59 on 11/22	
	<b>CHIP Online</b>	
	Violated at 14:59 on 11/22	
	<b>CHIP Online</b>	
	Violated at 14:59 on 11/22	

AppDetox

**VIOLATIONS** **YOUR APPS** **RULES**

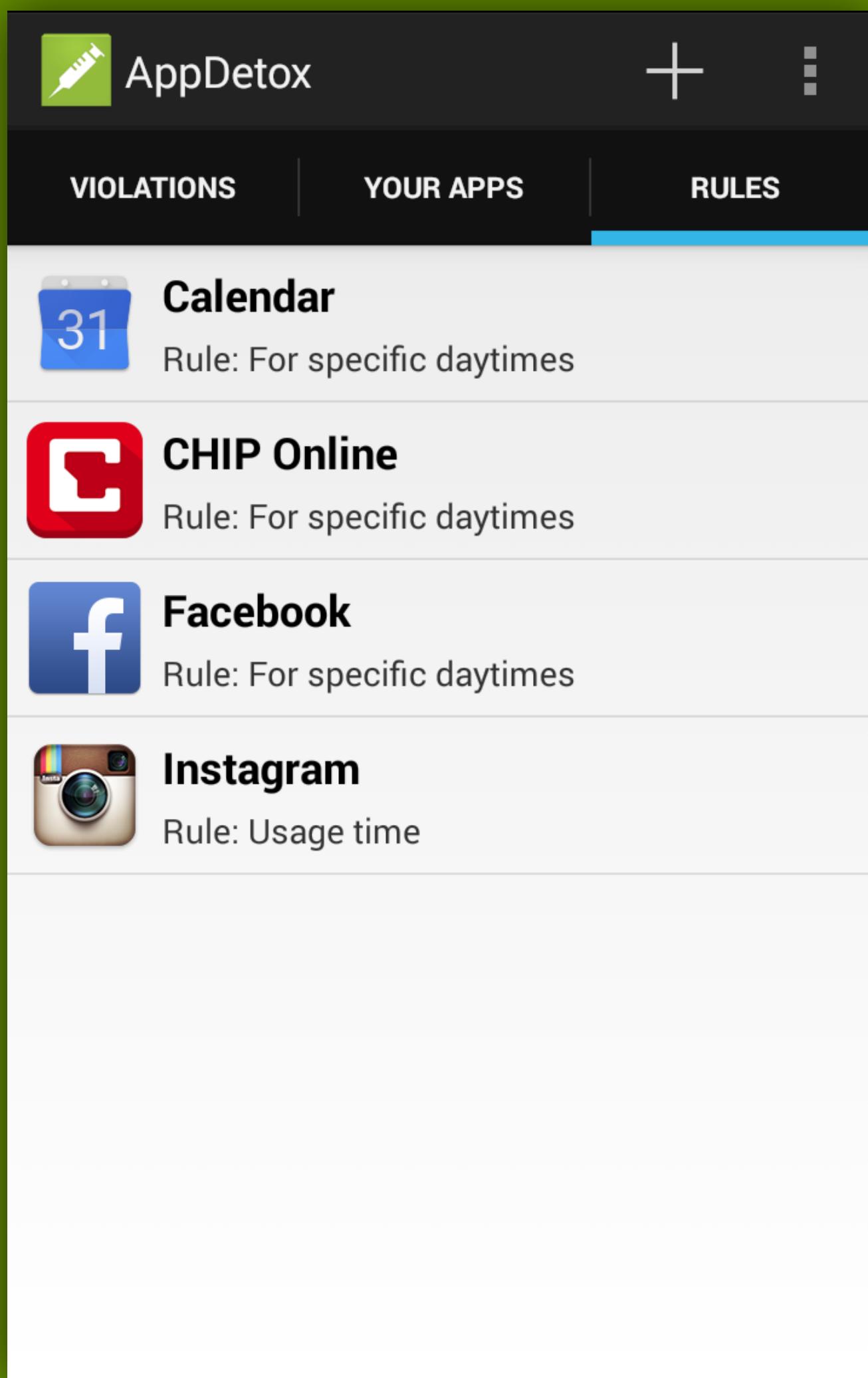
	<b>#SquareDroid</b>	
	Launches: 0	
	<b>Adobe Reader</b>	
	Launches: 0	
	<b>Airbnb</b>	
	Launches: 0	
	<b>Album</b>	
	Launches: 0	
	<b>Analytics</b>	
	Launches: 0	
	<b>Andlytics</b>	
	Launches: 0	
	<b>Androidify</b>	
	Launches: 0	

AppDetox

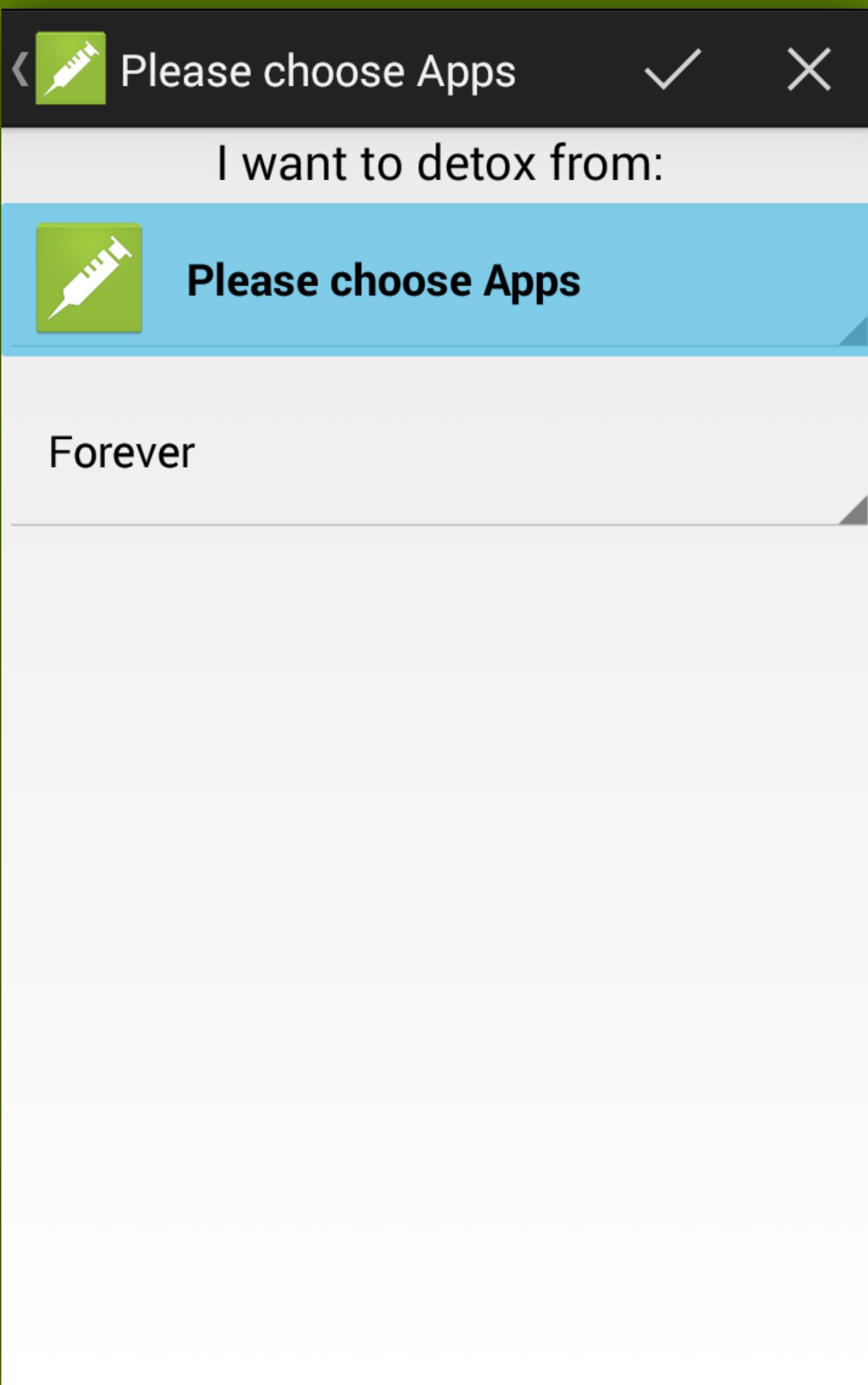
**VIOLATIONS** **YOUR APPS** **RULES**

	<b>Calendar</b>	
	Rule: For specific daytimes	
	<b>CHIP Online</b>	
	Rule: For specific daytimes	
	<b>Facebook</b>	
	Rule: For specific daytimes	
	<b>Instagram</b>	
	Rule: Usage time	

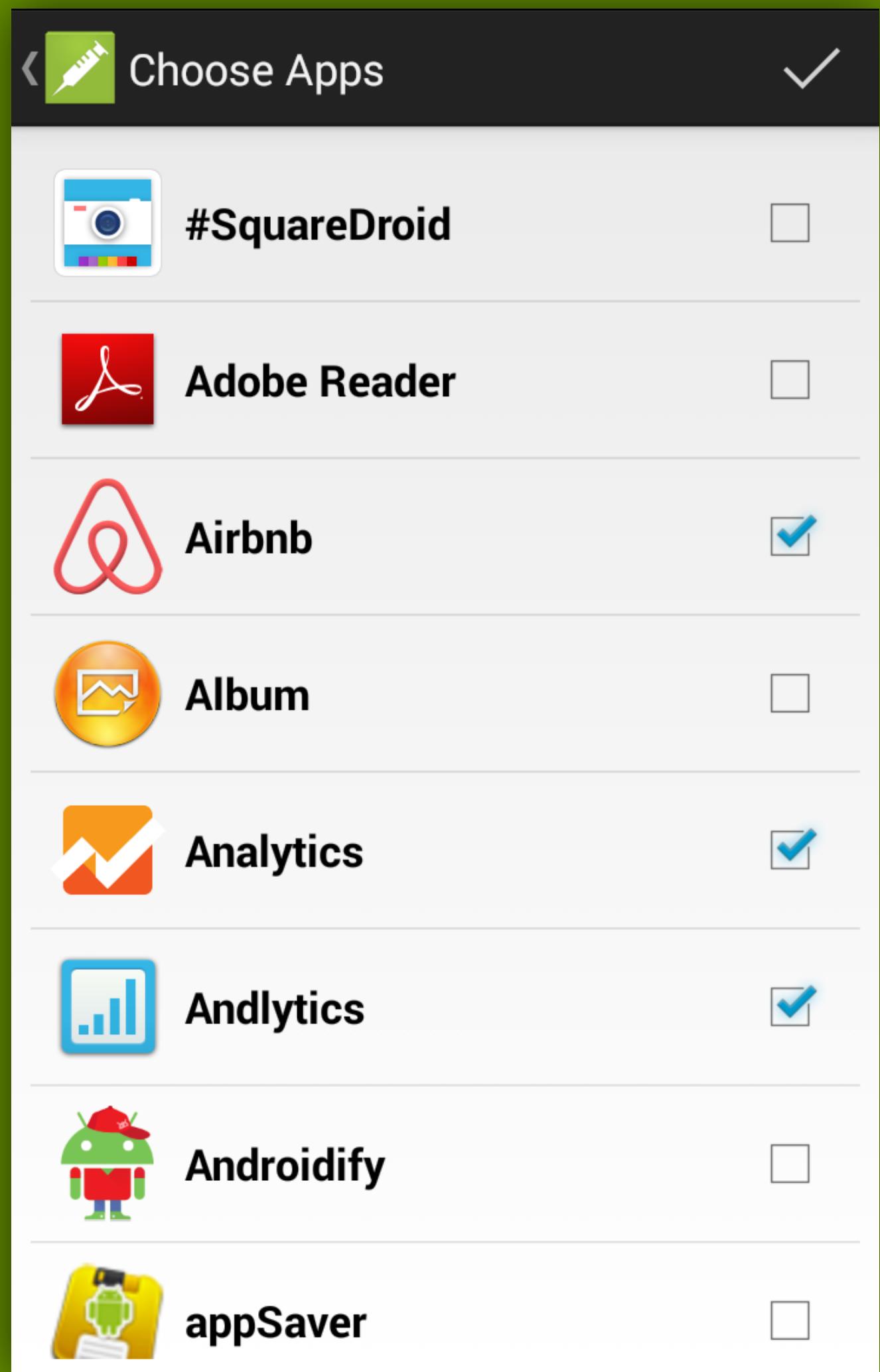
# Needs better usability



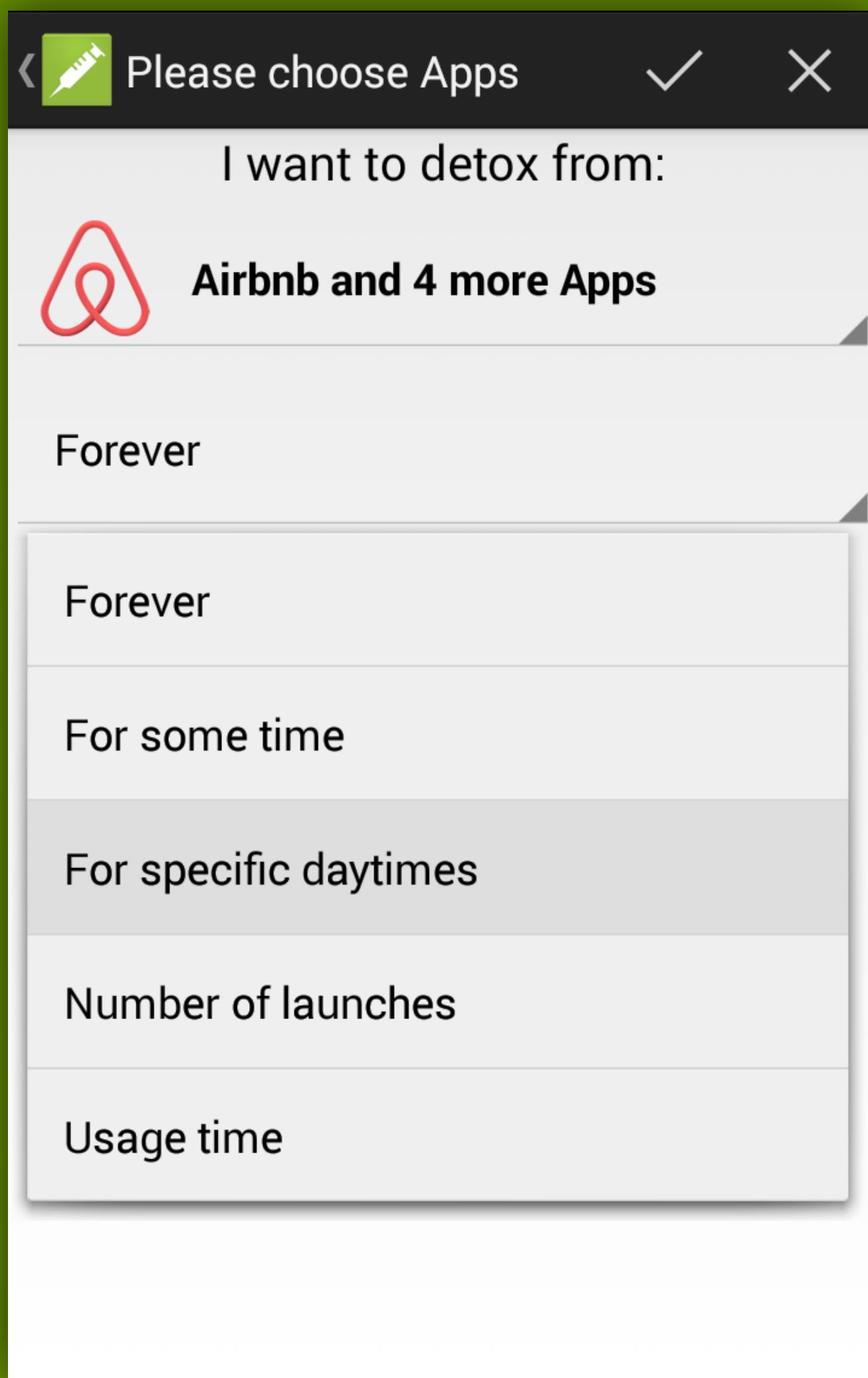
# Needs better usability



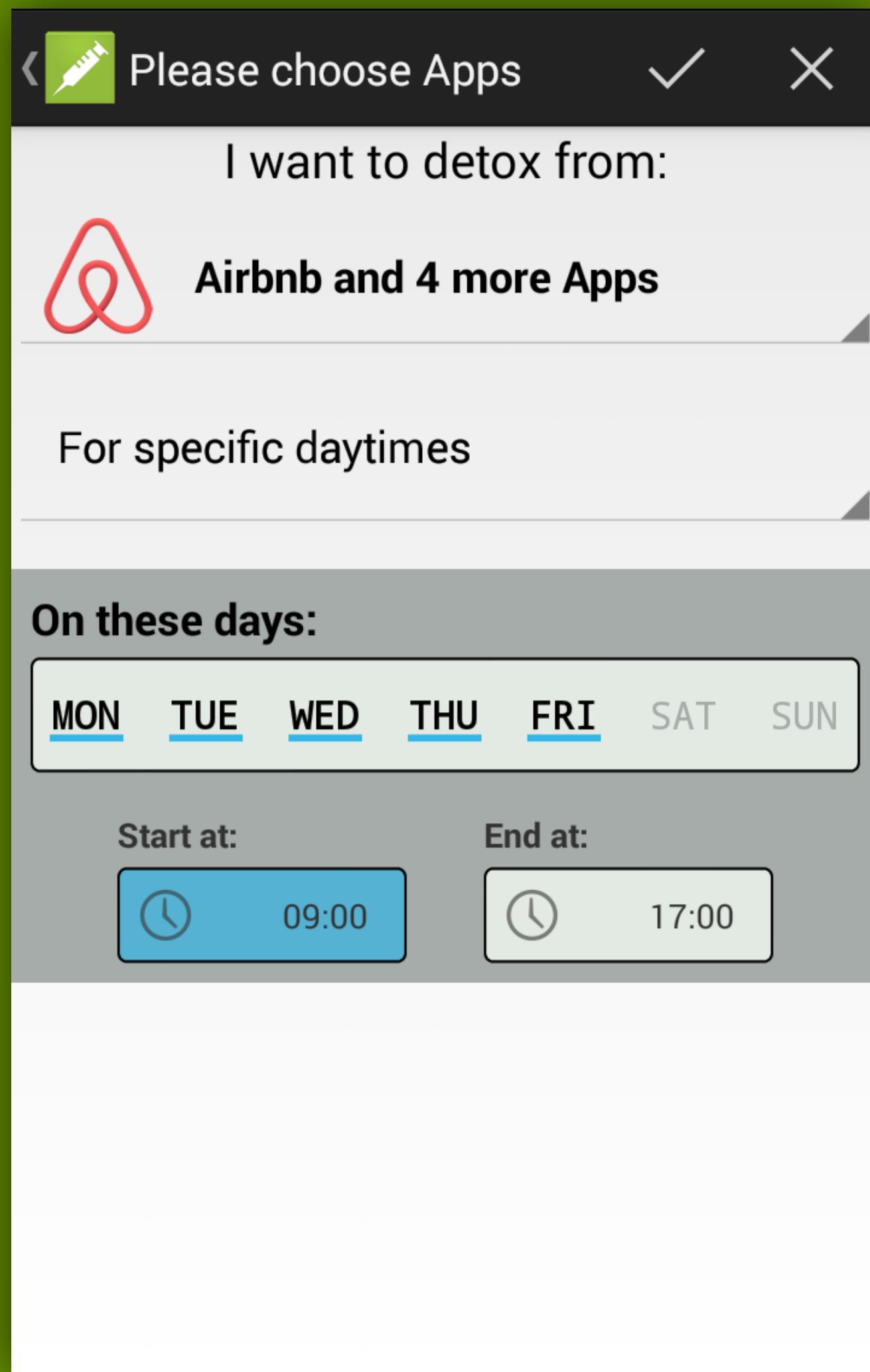
# Needs better usability



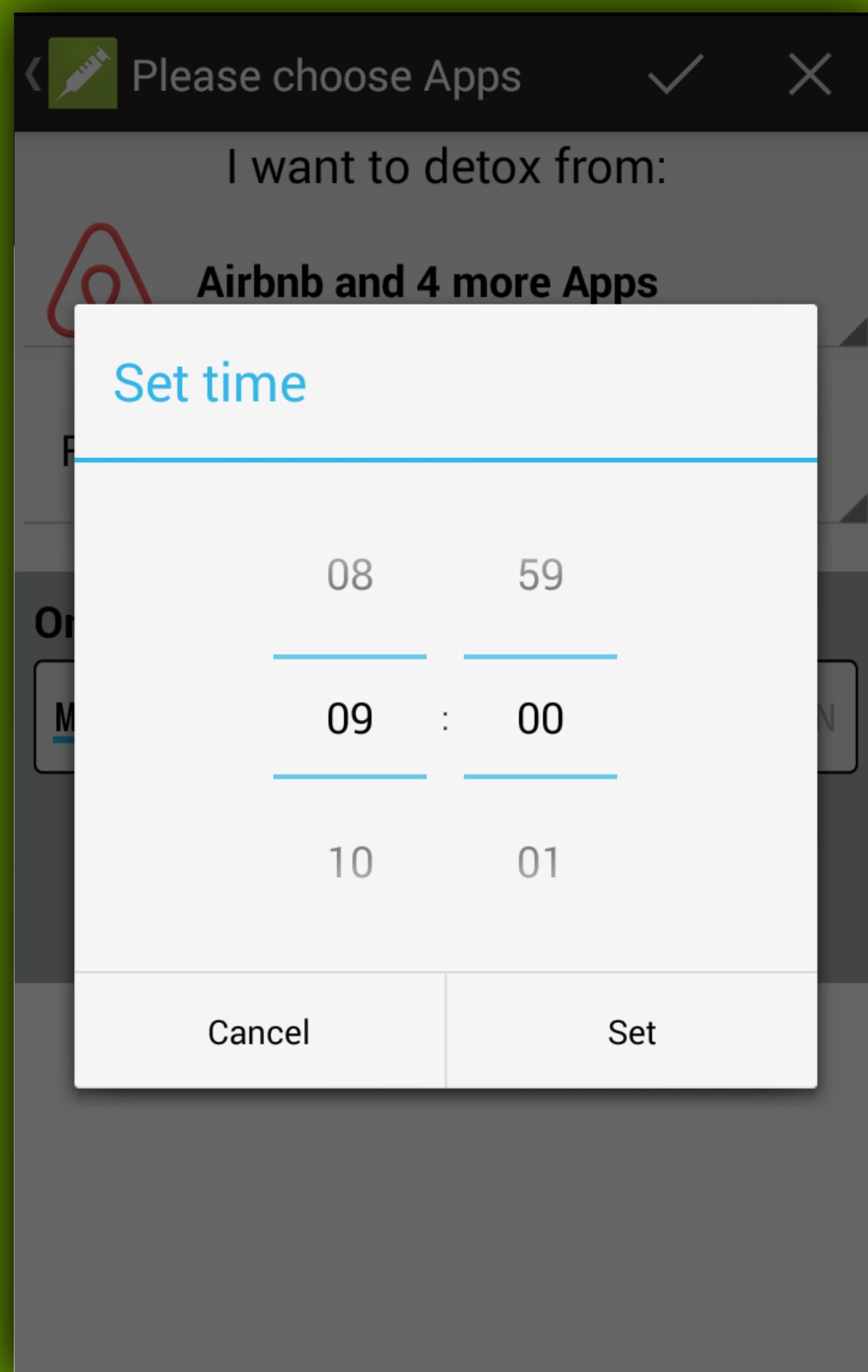
# Needs better usability



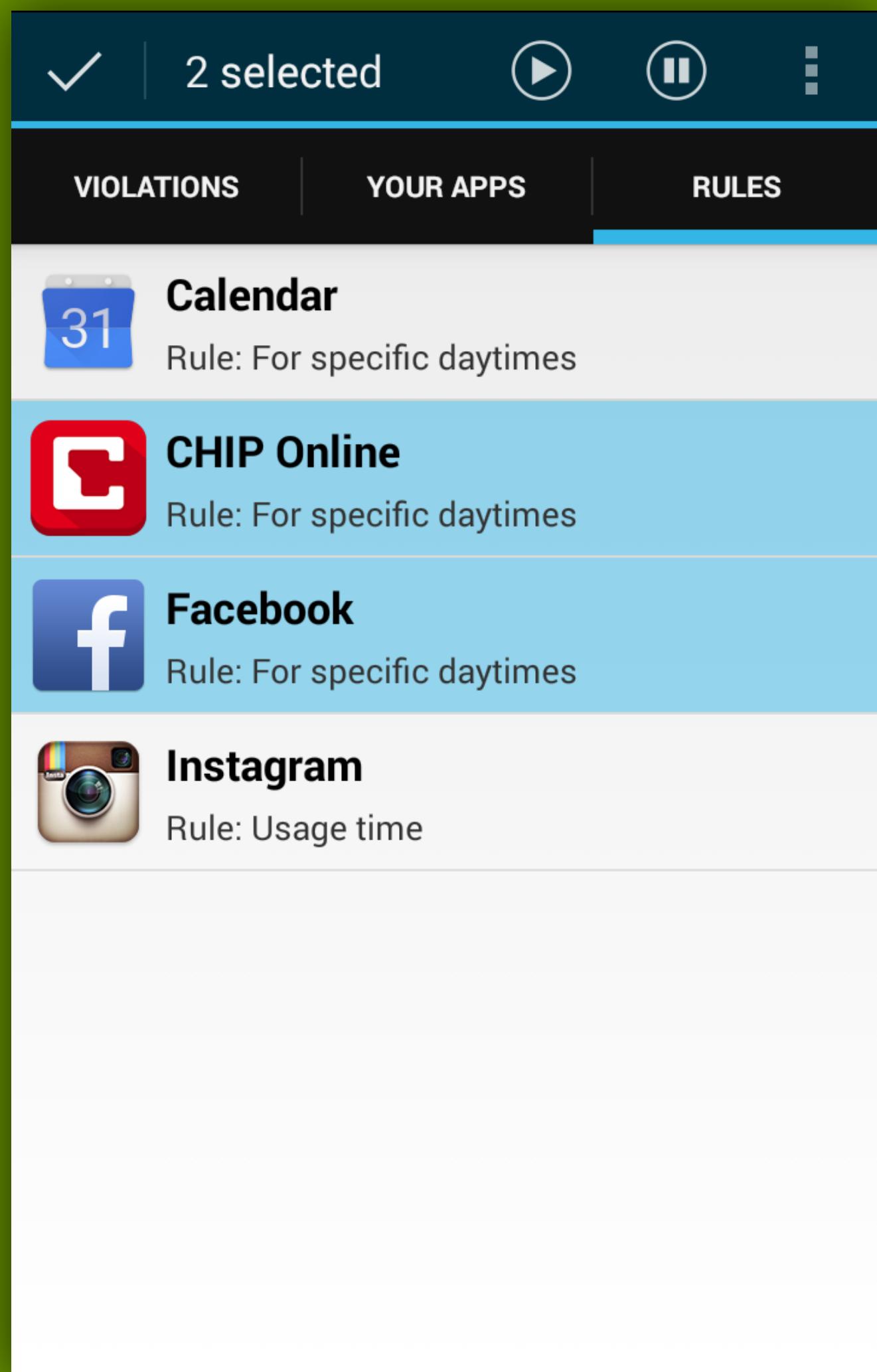
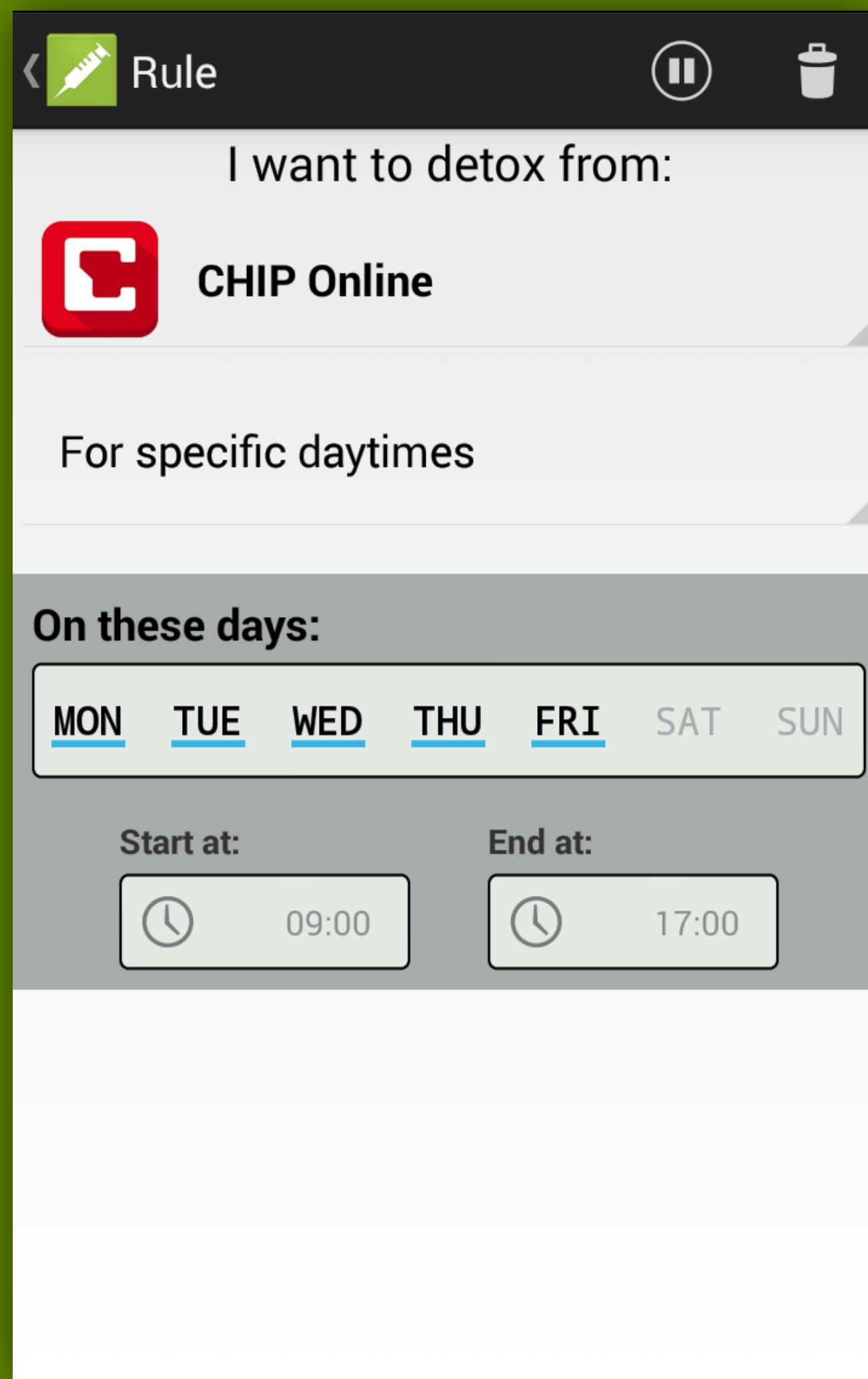
# Needs better usability



# Needs better usability



# Needs better visibility

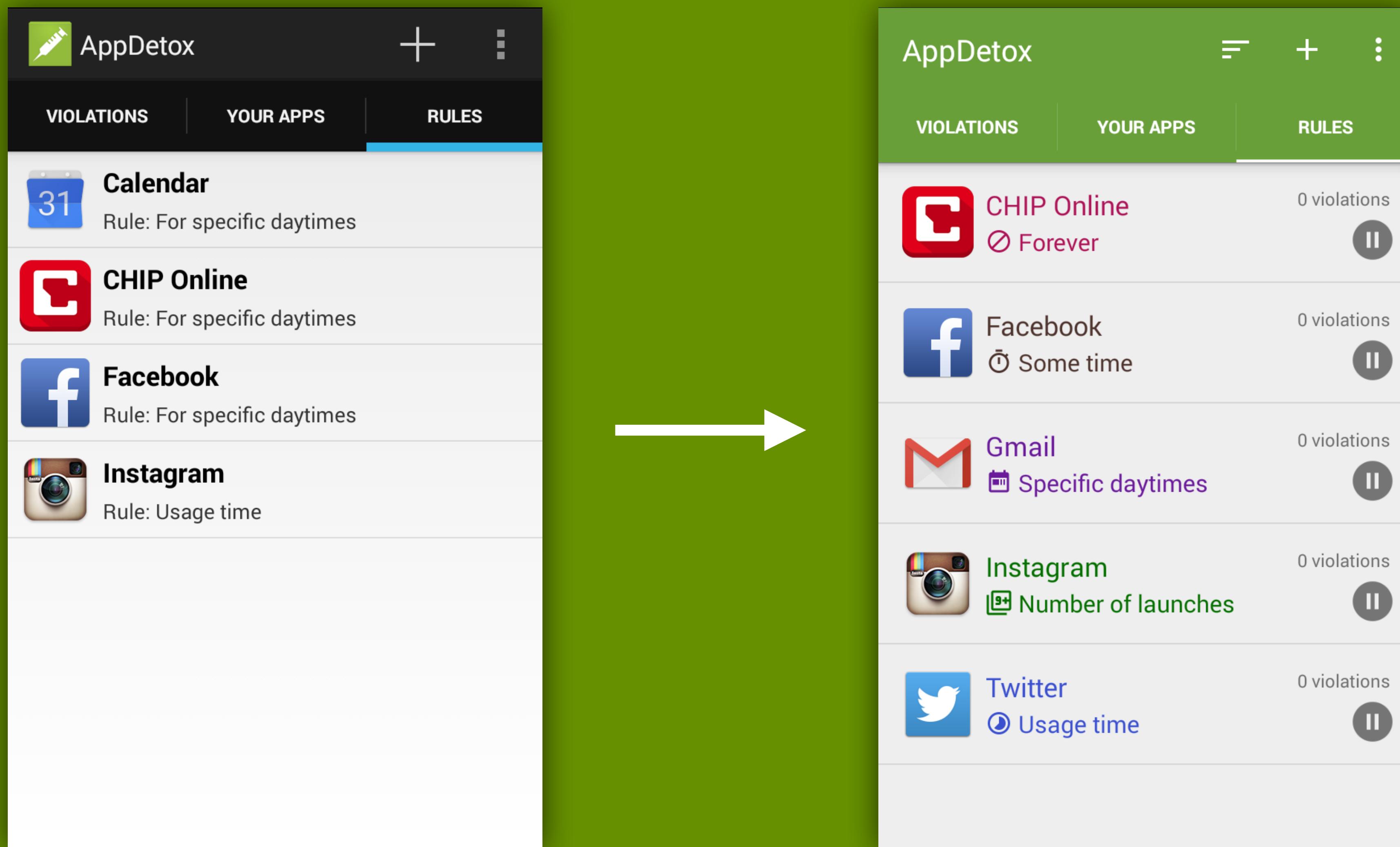


Does not work on Lollipop yet

But more on this later

After material treat our app  
could look like this

# Lollipop sweetness!



# More sweetness!

I want to detox from

 Email	<input checked="" type="checkbox"/>
 Facebook	<input checked="" type="checkbox"/>
 FM radio	<input type="checkbox"/>
 Fora Dictionary	<input type="checkbox"/>
 Gmail	<input checked="" type="checkbox"/>
 Good intentions	<input type="checkbox"/>

NEXT

Select rule

-  Forever  
Forever description
-  Some time  
Some time description
-  Specific daytimes  
Specific daytimes description
-  Number of launches  
Number of launches description
-  Usage time  
Usage time description

PREVIOUS

NEXT

On these days

Monday	<input checked="" type="checkbox"/>
Tuesday	<input checked="" type="checkbox"/>
Wednesday	<input checked="" type="checkbox"/>
Thursday	<input checked="" type="checkbox"/>
Friday	<input checked="" type="checkbox"/>
Saturday	<input type="checkbox"/>
Sunday	<input type="checkbox"/>

PREVIOUS

NEXT

Review

APPS	Email, Facebook, Gmail
RULE	Specific daytimes
DAYS	MO, TU, WE, TH, FR
FROM - TILL	09:00 - 17:00

PREVIOUS

CREATE

Let's do it then!

# Learn the concepts

- read the official Material Design documentation  
Link: [goo.gl/ZdrJPN](http://goo.gl/ZdrJPN)
- try to identify the changes you will need to do in your app
  - launcher icon, icons, colors, fonts, sizes, layouts, margins, paddings etc.
  - images and animations
  - specific patterns, components, behavior
- read the documentation again

# Learn from examples

- there are already enough apps with Material design to use as examples
- just look at all the Google apps



Step by step

# Launcher icon

- Android Police's launcher icons design article  
Link: <http://goo.gl/DSXsFW>
- And the official Material product icons documentation  
Link: <http://goo.gl/vqW09Q>

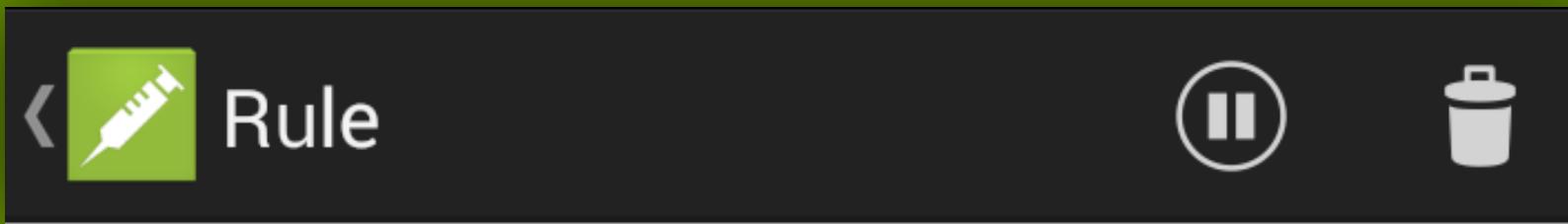
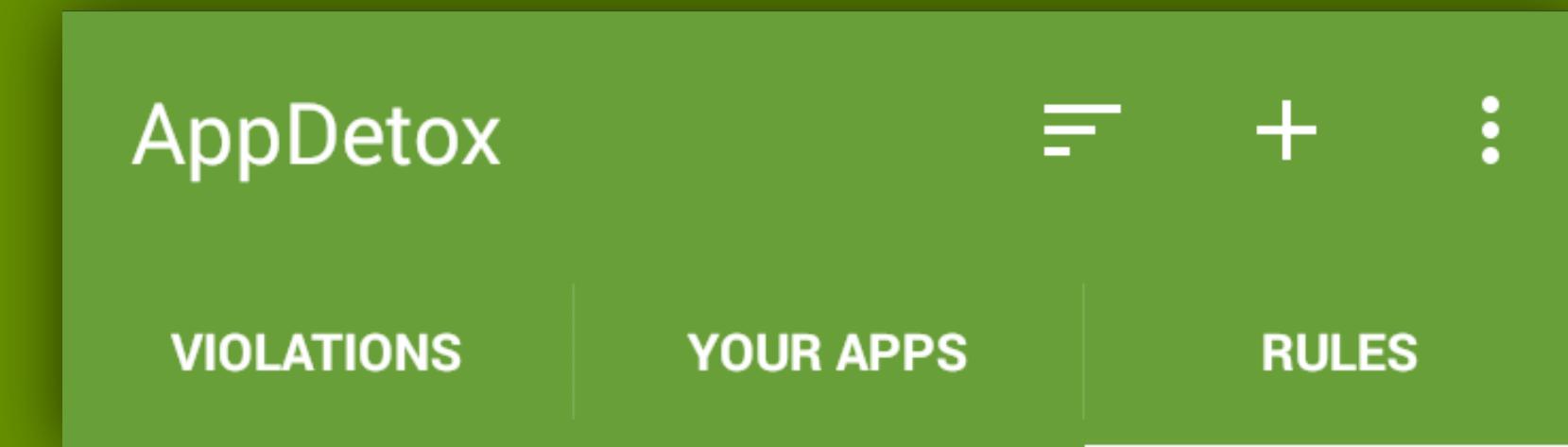
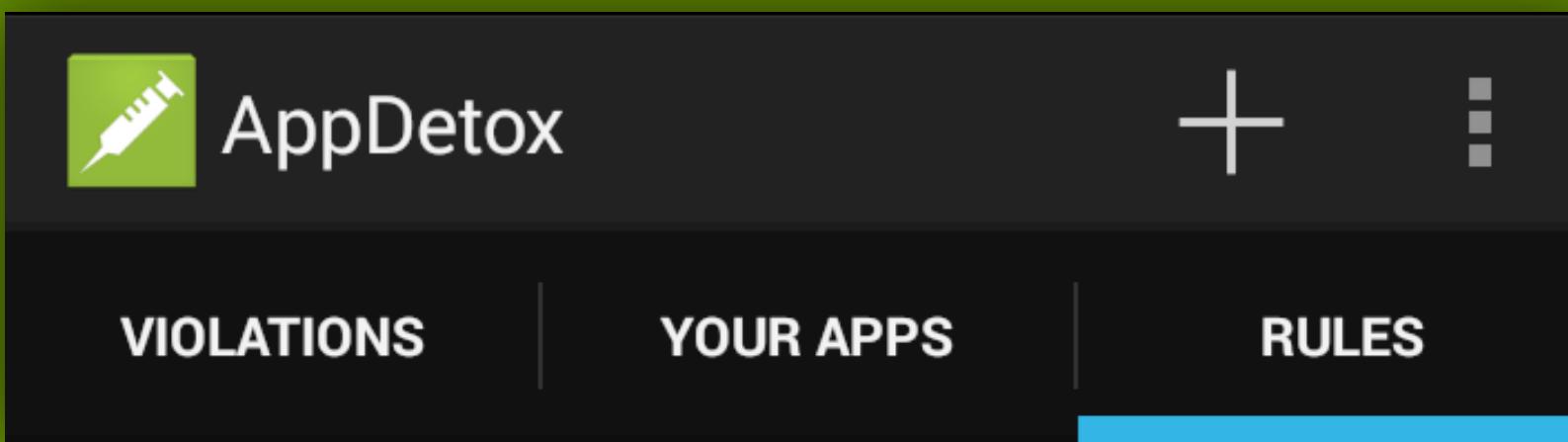


# Switching to the new support libs

- AppDetox used ActionBarSherlock to provide Holo feel in Android 2.1+
- switching to AppCompat v21 was easy thanks to Jake Wharton's awesome work
- and thanks to the awesome blog post by Chris Banes  
Link: <http://goo.gl/SbPLOE>

# Putting some color on it

- Material design colors documentation  
Link: <http://goo.gl/H0iACn>
- colorPrimary, colorAccent and colorDark are your friends



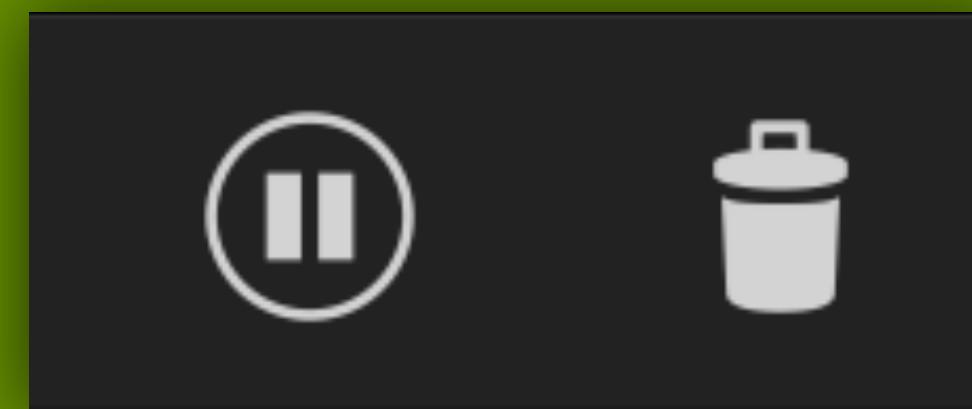
# Updating the action icons

- Material design system icons documentation

Link: <http://goo.gl/oKePF2>

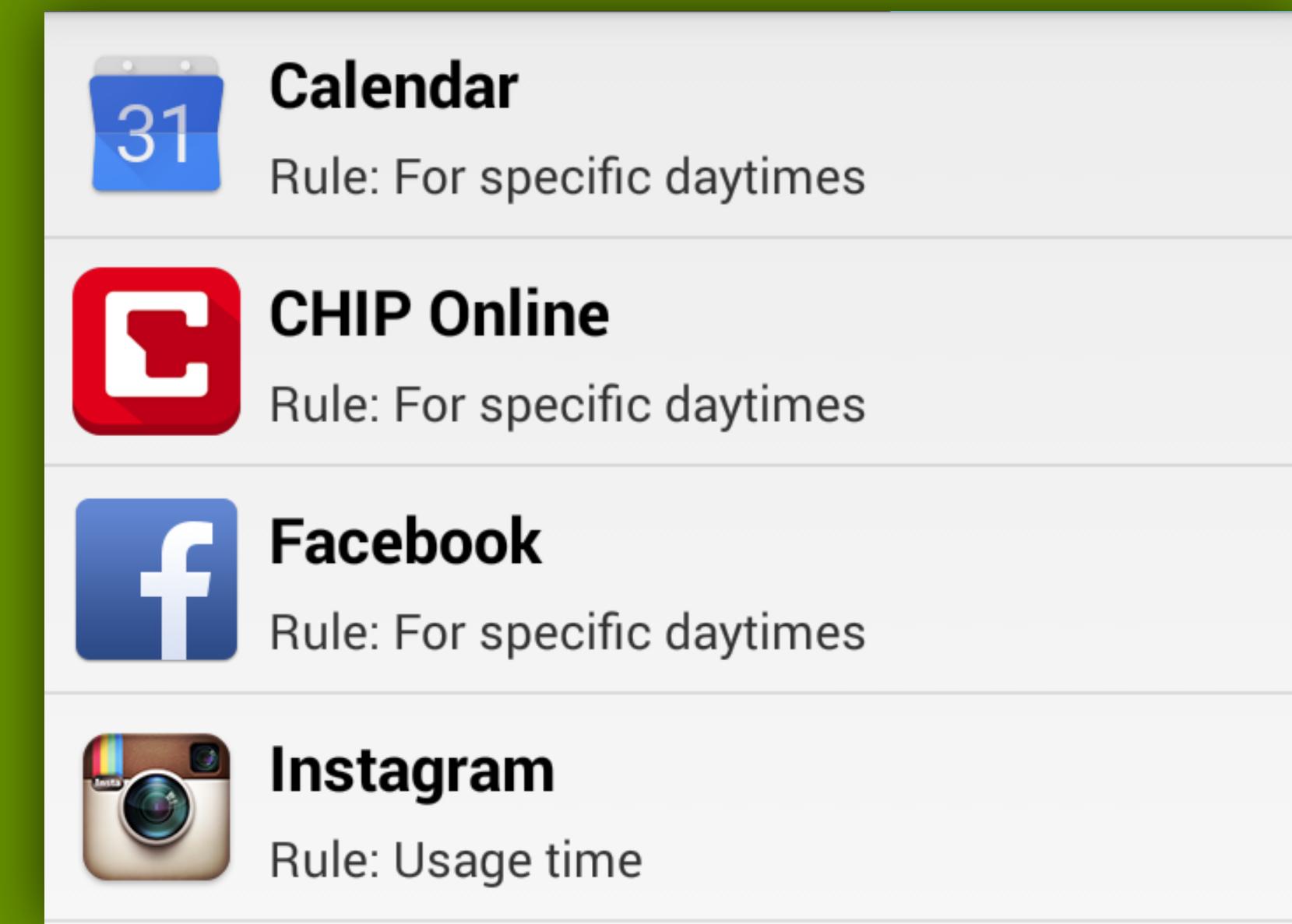
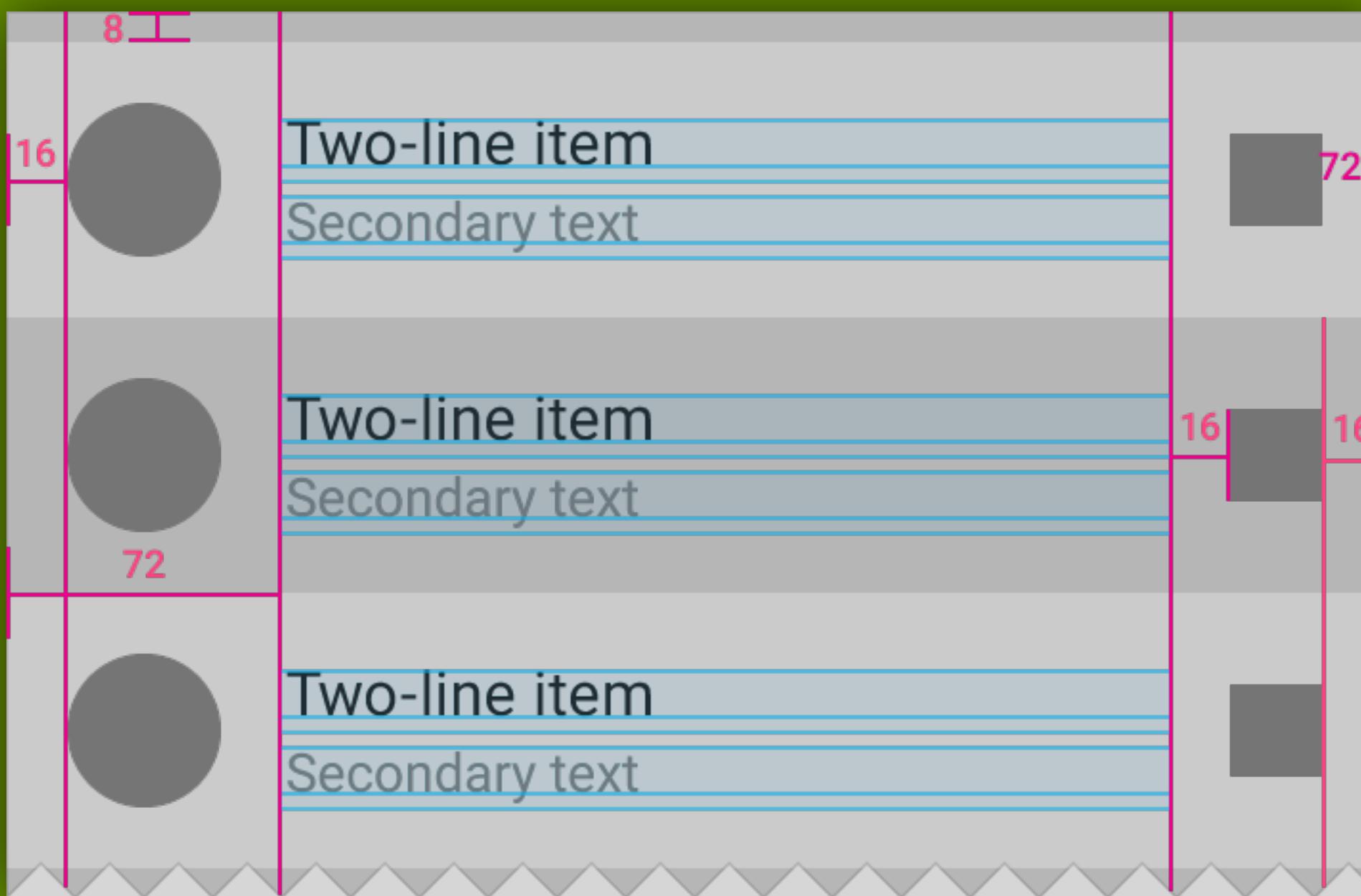
- Download all system icons from GitHub

Link: <http://goo.gl/6OPxJp>



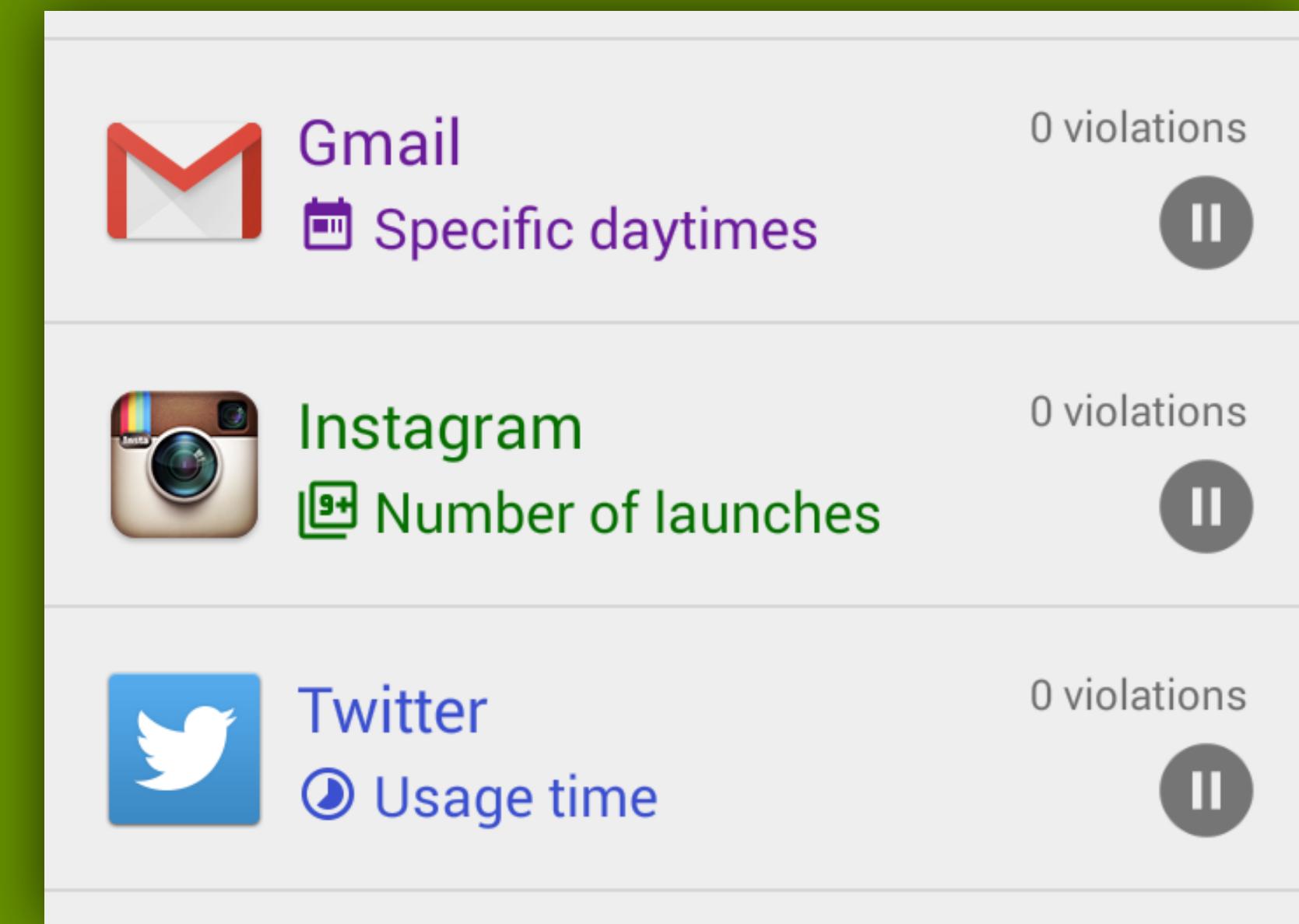
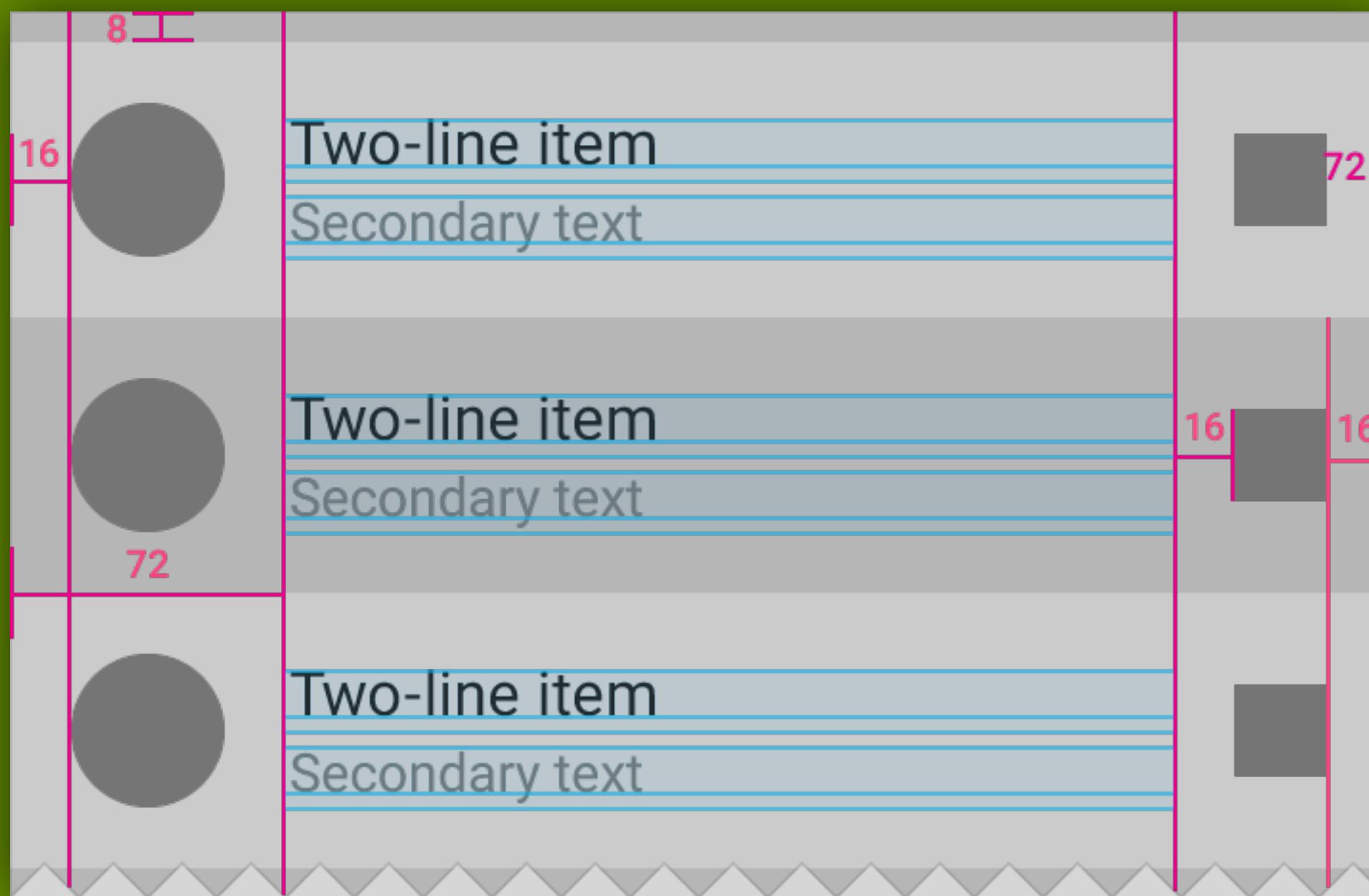
# Updating the lists' layout

- Extensive description in Material design documentation  
Link: <http://goo.gl/ABrjrl>



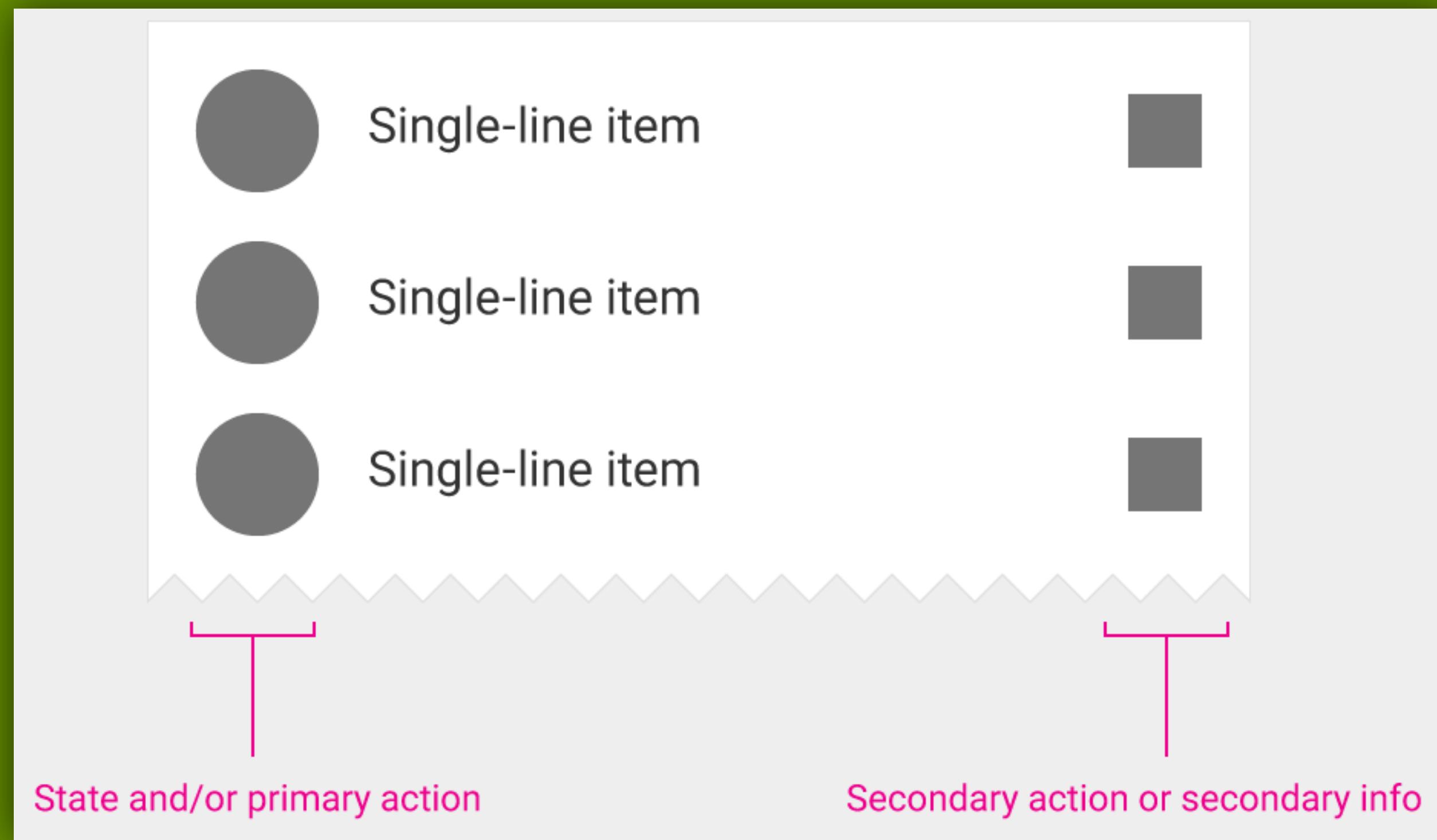
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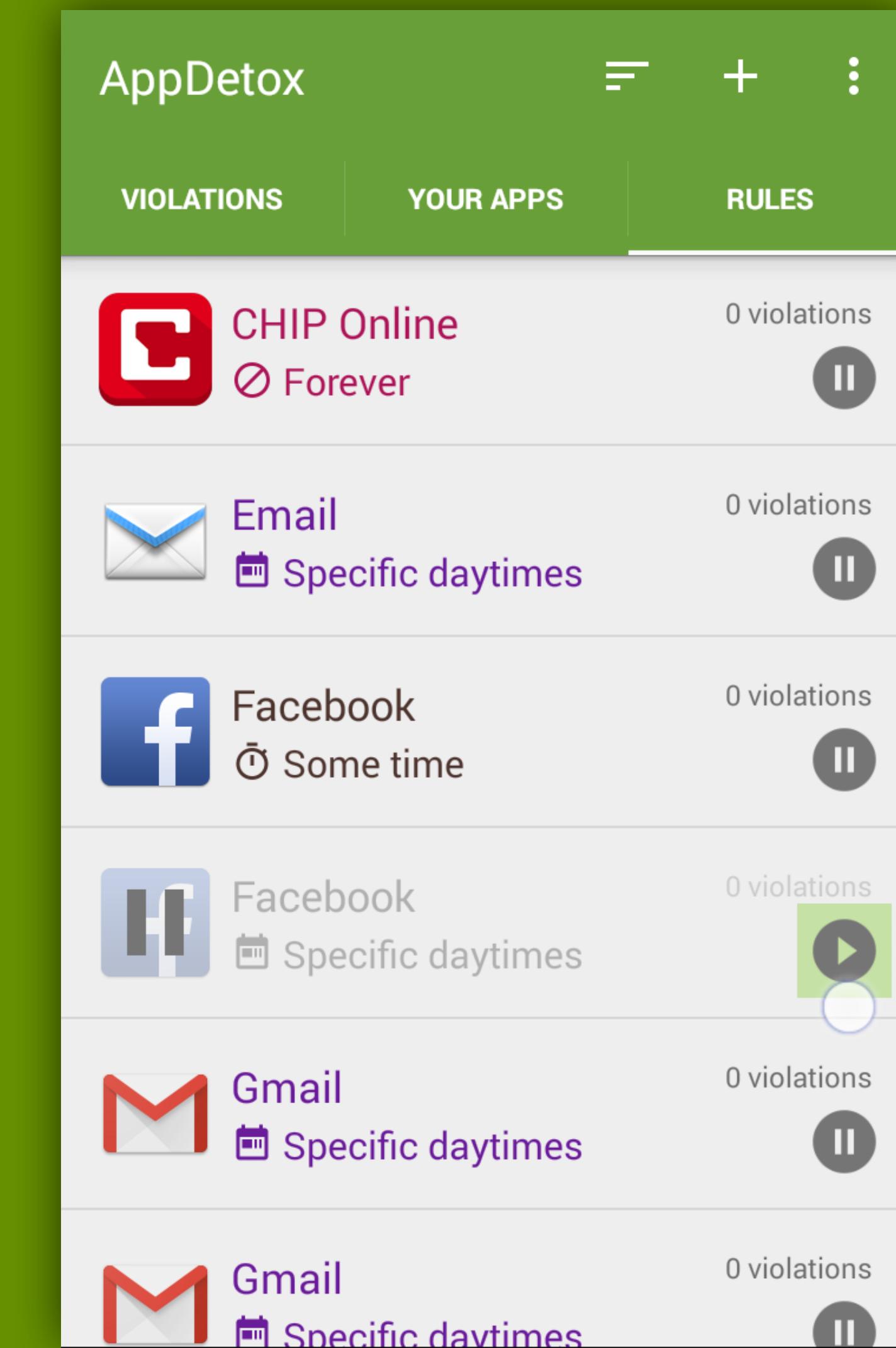
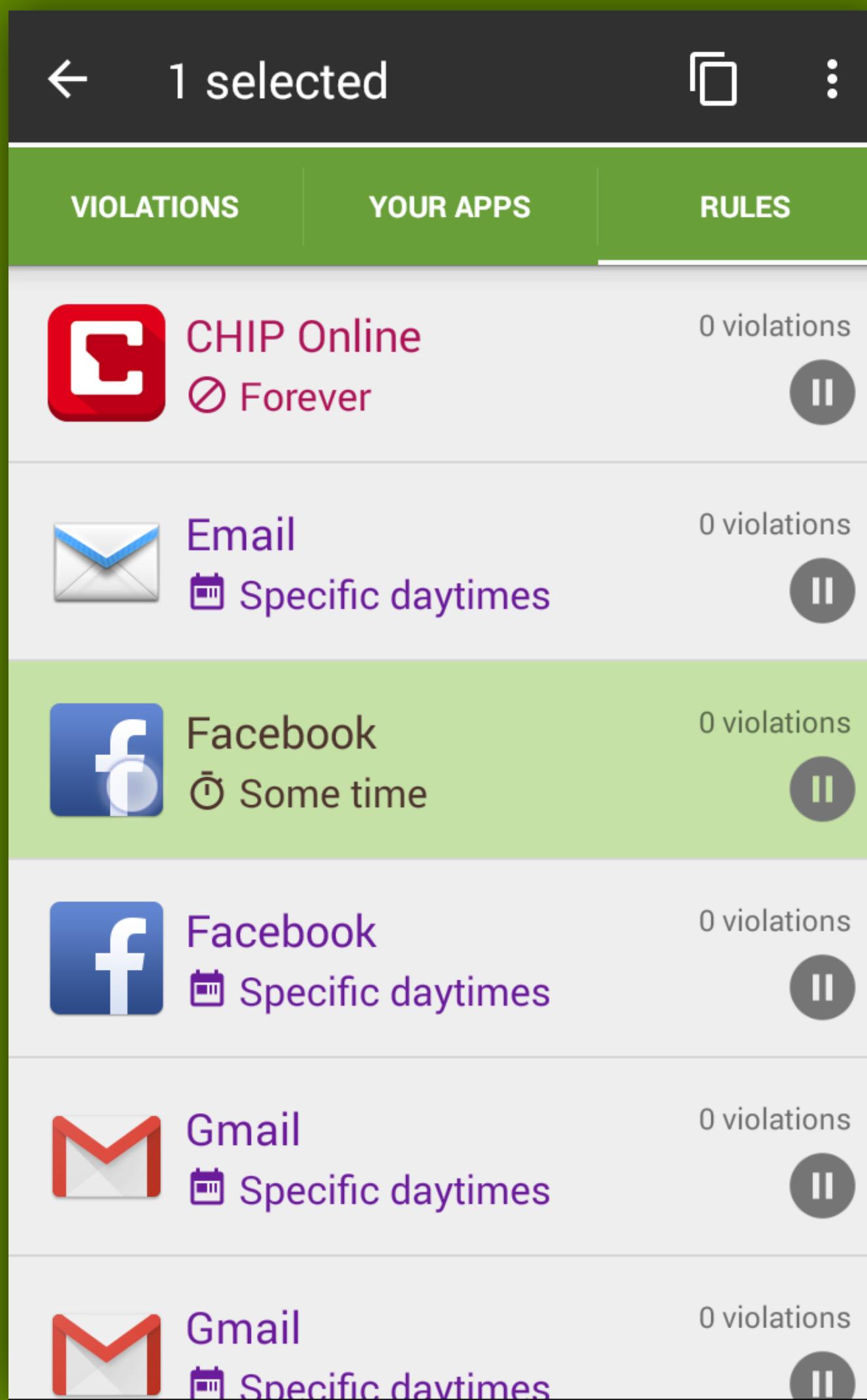


# Updating the lists' behavior

- Extensive description in Material design documentation  
Link: <http://goo.gl/YJpL1w>

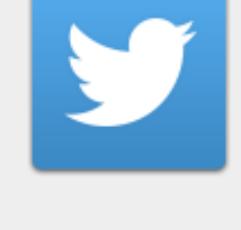


# Updating the lists' behaviour



# Using bold colors

- this does not mean going totally crazy with colors
- AppDetox uses different colors to subtly highlight the different rule types

	<b>CHIP Online</b> ∅ Forever	0 violations	
	<b>Facebook</b> ∅ Some time	0 violations	
	<b>Gmail</b> 📅 Specific daytimes	0 violations	
	<b>Instagram</b> ⌚ Number of launches	0 violations	
	<b>Twitter</b> ⌚ Usage time	0 violations	

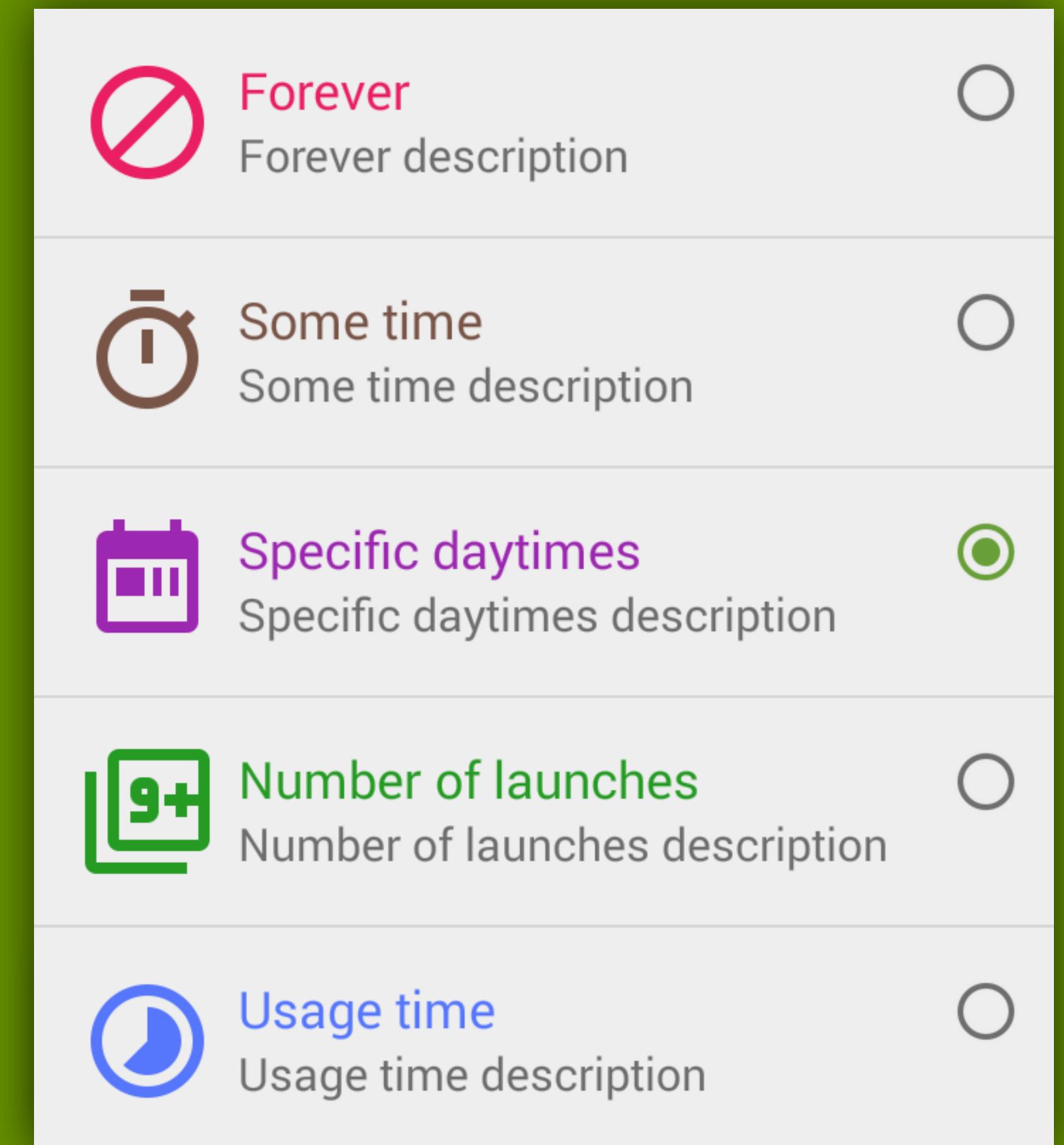
# Backwards compatible color tinting

- you don't have to have  $10^n$  different drawables in your project
- just use the awesome TintingBitmapDrawable class by Chris Banes  
Link: <http://goo.gl/MutBtT>



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But we got a bitter Lollipop

ONE DOES NOT SIMPLY

USE DEBUG OR SYSTEM APIS

# You may be familiar with this

```
public String getRunningAppPackageName(Context context) {  
    ActivityManager am = (ActivityManager) context.getSystemService(  
        Context.ACTIVITY_SERVICE);  
  
    List<RunningTaskInfo> apps = am.getRunningTasks(1);  
    RunningTaskInfo app = apps.get(0);  
    return app.baseActivity.getPackageName();  
}
```

# As of API 21 Docs look like this

```
public List<RunningTaskInfo> getRunningTasks( int maxNum );
```

This method was **deprecated** in API level 21.

As of LOLLIPOP, this method is **no longer available to third party applications**: the introduction of document-centric recents means it can leak personal information to the caller. For backwards compatibility, it **will still return** a small subset of its data: at least **the caller's own tasks** (though see `getAppTasks()` for the correct supported way to retrieve that information), and possibly **some other tasks such as home** that are known to not be **sensitive**

# However, it was to be expected

because the documentation clearly stated it right from the start, i.e. API 1

Return a list of the tasks that the user has recently launched, with the most recent being first and older ones after in order.

Note: this method is only intended for debugging and presenting task management user interfaces. This should never be used for core logic in an application, such as deciding between different behaviors based on the information found here. Such uses are not supported, and will likely break in the future.

# Nevertheless, it got a lot of people pissed

- including us and some other people too  
Link: <http://goo.gl/p3xjeU>
- Tasker, Ultimate Rotation Control, Mental, Smart App Lock (App Protector)
- **Screen Time Parental Control:** “Our parental control app supporting many thousands of schools and families”, **AppLock:** “This policy will shutdown our company”, **MDM(Mobile Device Management):** “The method is a core technique”
- “First, if you built up a company based entirely around an API that was clearly documented as not going to be supported in the future then you are dumb and I'm glad your company will close.”

# Takeaway

- be mindful what APIs you use and always have a plan B
- so we are currently working on it

And we will be happy to hear your ideas!

# Questions?

[twitter.com/ Igancho](https://twitter.com/Igancho)

[google.com/+ LyubomirGanev](https://google.com/+ LyubomirGanev)

website & blog [luboganev.github.io](https://luboganev.github.io)



Relax from your apps!

# AppDetox

Get a daily dose!



<http://goo.gl/cRJBpa>