

AndroidAnnotations

Simple and powerful Android code!

<me>



Pierre-Yves Ricau



Siine Ltd.



eBusiness Information



py.ricau@gmail.com



@Piwai (*pee why*)

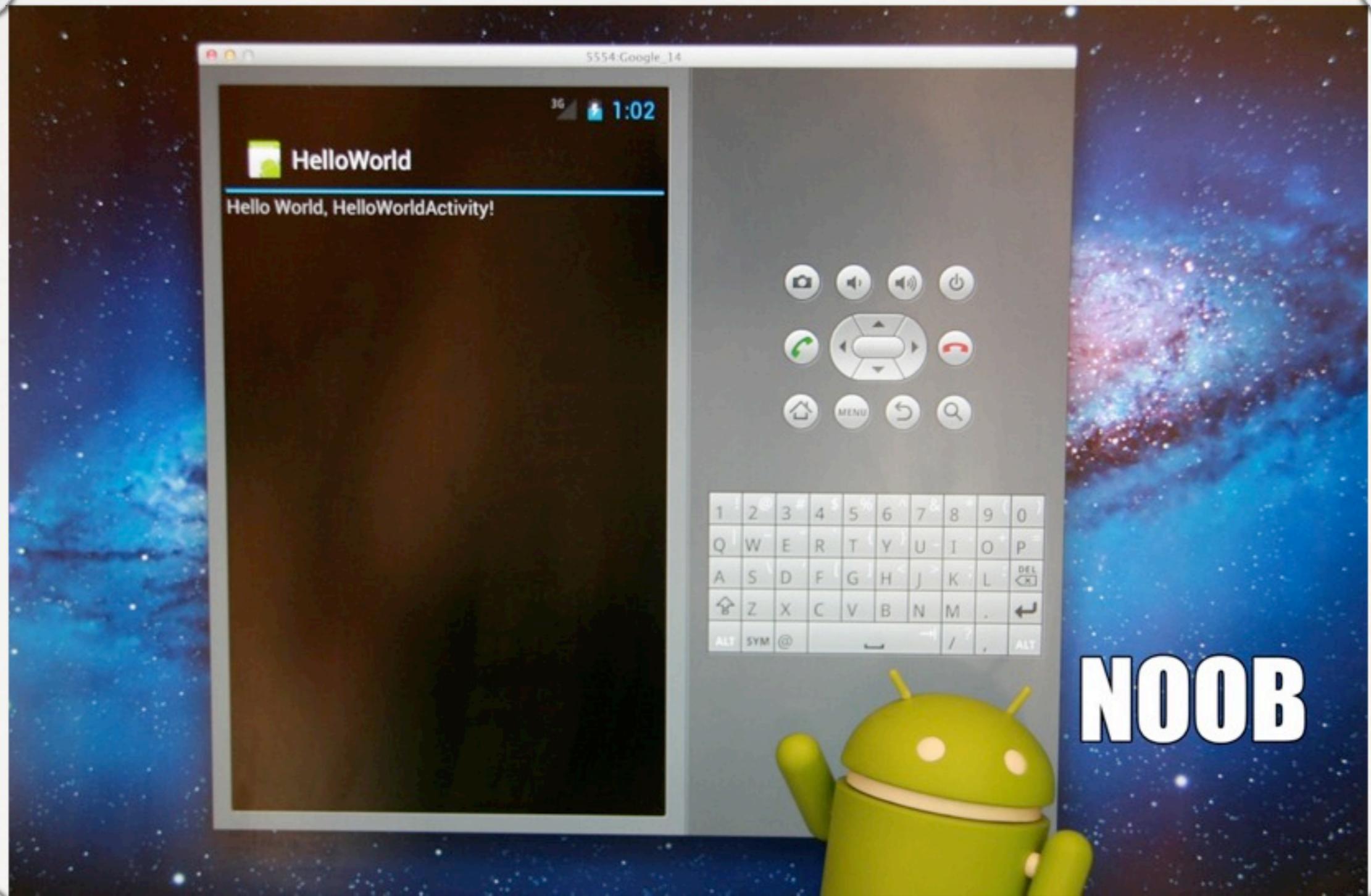
</me>

Today

- What's wrong with Android?
- AndroidAnnotations to the rescue
- ~~Live~~ coding

Android





Serious Apps



Fart Sound Board

KAUFCOM GAMES APPS WIDGETS / ENTERTAINMENT

★★★★★ (22,105)

INSTALL

Get the #1 free fun fart app. "Fart Sound Board" with 10 apps in 1!!! This is the #1 free fun fart app! +++ 11 Apps in 1! +++ A lot of fart sounds on different boards...



FartDroid Fart Machine

NEATOFUN / ENTERTAINMENT

★★★★★ (11,125)

INSTALL

The Original FartDroid! Funny farts for everyone. It will make you smile! New Feature - Noise Activated Fart Mode! ***Now optimized for Small Screens and Tablets!*** ...



Whoopee Cushion! (fart)

FONCANNON INC / ENTERTAINMENT

★★★★★ (22,685)

INSTALL

Turns your phone into a whoopee cushion! Turn your phone into a farting Whoopee Cushion! The Whoopee releases a horde of realistic fart sounds at the touch of a butt...



Big Fart Button

DEREK J ENTRINGER / CASUAL

★★★★★ (4,400)

INSTALL

It's just that - a Big Fart Button! Simple yet hilarious. Press the Big Fart Button and play over 30 different random farting sounds. Make sure you turn up your Media...



Who Farted ???

ARCDROID / CASUAL

★★★★★ (2,878)

INSTALL

Very silly farting app hoping to make you smile. :-) Silly little app that plays has a variety of farts. Very silly but hoping to make you smile. :-) v1.3 - Added Me...



Motion Fart ®

MADRABBIT / ENTERTAINMENT

★★★★★ (1,141)

INSTALL

Fart on command just by lifting your leg! Fart on command just by lifting your leg! Really! You can with Motion Fart! Motion Fart allows you to fart on command! Jus...



The Fart!

PEDRO SANTANGELO / ENTERTAINMENT

★★★★★ (643)

INSTALL

With this app you will be able to make jokes by generating fart sounds. Bored in that impossible to stand class? Do you want to become quite eschatological in the mid...

Activity = God Object



Why?

```
@Override  
protected void onCreate(Bundle savedInstanceState) {  
    super.onCreate(savedInstanceState);  
    mActivityHelper.onCreate(savedInstanceState);  
}  
  
@Override  
public boolean onKeyLongPress(int keyCode, KeyEvent event) {  
    return mActivityHelper.onKeyLongPress(keyCode, event) ||  
        super.onKeyLongPress(keyCode, event);  
}  
  
@Override  
public boolean onKeyDown(int keyCode, KeyEvent event) {  
    return mActivityHelper.onKeyDown(keyCode, event) ||  
        super.onKeyDown(keyCode, event);  
}
```

```
root.findViewById(R.id.home_btn_announcements).setOnClickListener(  
    new View.OnClickListener() {  
        public void onClick(View view) {  
            // splicing in tag streamer  
            fireTrackerEvent("Bulletin");  
            Intent intent = new Intent(getActivity(), BulletinActivity.class);  
            startActivity(intent);  
        }  
    });
```

AsyncTask

```
void doSomeCrazyStuff(Param param) {  
    new AsyncTask<Param, Progress, Void>() {  
  
        @Override  
        protected Void doInBackground(Param... params) {  
            Param myParam = params[0];  
            publishProgress(new Progress());  
            mySuperDownloader.downloadStuff(myParam);  
            return null;  
        }  
  
        protected void onProgressUpdate(Progress... values) {  
            Progress myProgress = values[0];  
            updateProgress(myProgress);  
        };  
  
        protected void onPostExecute(Void result) {  
            // ...  
        };  
    }.execute(param);  
}
```

```
TextView myTextView = (TextView) findViewById(R.id.someId);
```

```
NotificationManager notificationManager =
(NotificationManager) getSystemService(Context.NOTIFICATION_SERVICE);
```

```
findViewById(R.id.textView).setOnClickListener(new OnClickListener() {

    @Override
    public void onClick(View v) {
        handler.postDelayed(new Runnable() {

            @Override
            public void run() {
                // ...
            }
        }, 500);
    }
});
```

AndroidAnnotations

Open Source

7 contributors to excilys/androidannotations

-  **pyricau** (Pierre-Yves Ricau)
-  **matboniface**
-  **shuya-inc** (Joan Zapata)
-  **a-thomas** (THOMAS Alexandre)
-  **ealden** (Ealden Escañan)
-  **BluePyth** (Romain Sertelon)
-  **sonytricoire** (Sony Tricoire)

Simpler view handling

```
@EActivity(R.layout.main)
public class EditActivity extends Activity {

    @ViewById
    EditText editText;

    @ViewById(R.id.titleTextView)
    TextView title;

    @AfterViews
    void initTitle() {
        title.setText("42");
    }

}
```

Simpler event handling

```
@EActivity(R.layout.main)
public class EditActivity extends Activity {

    @Click
    void myButtonClicked() {

    }

    @Click(R.id.downloadButton)
    void startDownloading() {

    }

}
```

Simpler Threading

```
@EActivity(R.layout.main)
public class EditActivity extends Activity {

    @Background
    void doSomeBackgroundWork() {

    }

    @UiThread
    void updateUI() {

    }
}
```

Simpler Rest

```
@Rest("http://www.stuff.com")
public interface StuffClient {

    @Get("/stuff/{userId}?search={search}")
    Stuff getStuff(String search, String userId);

    @Post("/stuff/{userId}")
    void updateStuff(Stuff stuff, String userId);

}
```

Dependency Injection

```
@EBean  
public class SomeBean {  
  
    @Bean  
    SomeOtherBean dependency1;  
  
}
```

All together!

```
@EActivity(R.layout.main)
public class EditActivity extends Activity {
    @ViewById EditText searchInput;
    @RestService RestClient restClient;
    @Bean Datastore datastore;
    @Click
    void downloadButtonClicked() {
        doSomeBackgroundWork(searchInput.getText().toString());
    }
    @Background
    void doSomeBackgroundWork(String search) {
        Stuff stuff = restClient.getStuff(search);
        datastore.saveStuff(stuff);
        updateUI(stuff);
    }
    @UiThread
    void updateUI(Stuff stuff) {
        // Show stuff
    }
}
```

Take that, Android God!



How ?

- Java 6 Annotation Processor
- Generates code at **compile time**
- **Automatically** executed by **javac**

Generates subclasses

```
public final class EditActivity_ extends EditActivity
{
    // Ugly Android code goes here
}
```

Common Pitfalls

```
<activity android:name=".EditActivity_" />
```

```
startActivity(new Intent(this, EditActivity_.class));
```

```
EditActivity_.intent(this).start();
```

Benefits

- Compile time = **no runtime overhead**
- Code **debuggable** & readable
- No vendor lock-in!

Live coding

```
switch (situation) {  
    case TRAINING:  
        everythingWorksPerfectly();  
        break;  
    case LIVE_CODING:  
        epicDemoFail();  
        break;  
}
```

Questions?

- <http://androidannotations.org>
- <https://github.com/pyricau/fosdem-sms>
- @AndAnnotations / @Piwai