Formation Android

Horacio Gonzales

Spaniard lost in Brittany, Java developer, dreamer and all-around geek

- Senior Software Engineer at Cityzen Data

Cityzen Data provides a scalable, secure, ethical
and open platform for sensor data

- Leader du FinistJUG, du GDG Finistère et de la communauté BreizhBeans

http://lostinbrittany.org/
+Horacio.Gonzalez
@LostInBrittany

Stéphane Castrec

Ingénieur logiciel
- Développeur au CM Arkéa
- CTO à EQwall

@_stephane_

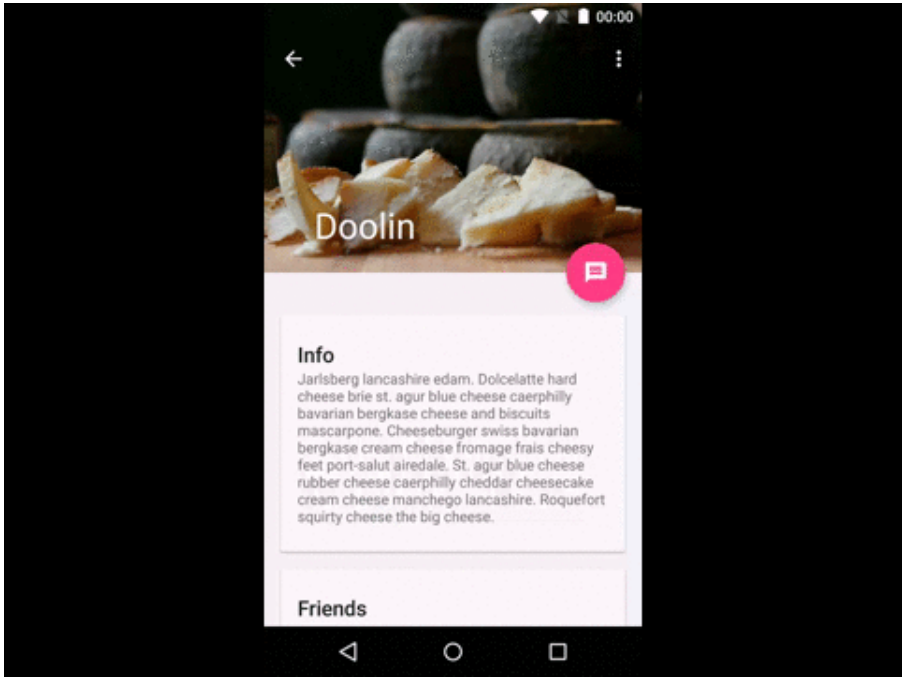
StephaneC

Objectifs de l'atelier

- Découvrir le Material Design
- Composants graphiques avancés

Le Material Design:
c’est quoi?

- Introduit avec Android L preview
- Ensemble de composants, APIs et guidelines
- Plus seulement sur Android



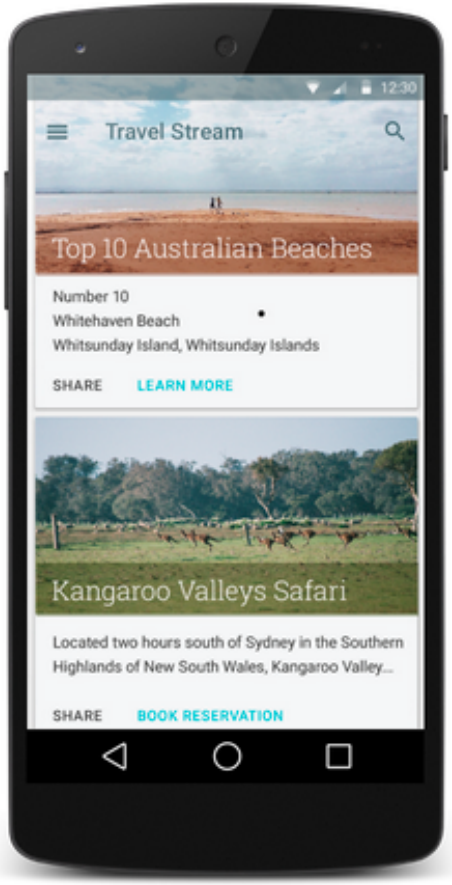
http://developer.android.com/training/material/index.html

Le Material Design:

objectifs

- Synthétiser les principes d'un bon design

- Fournir une expérience unifiée



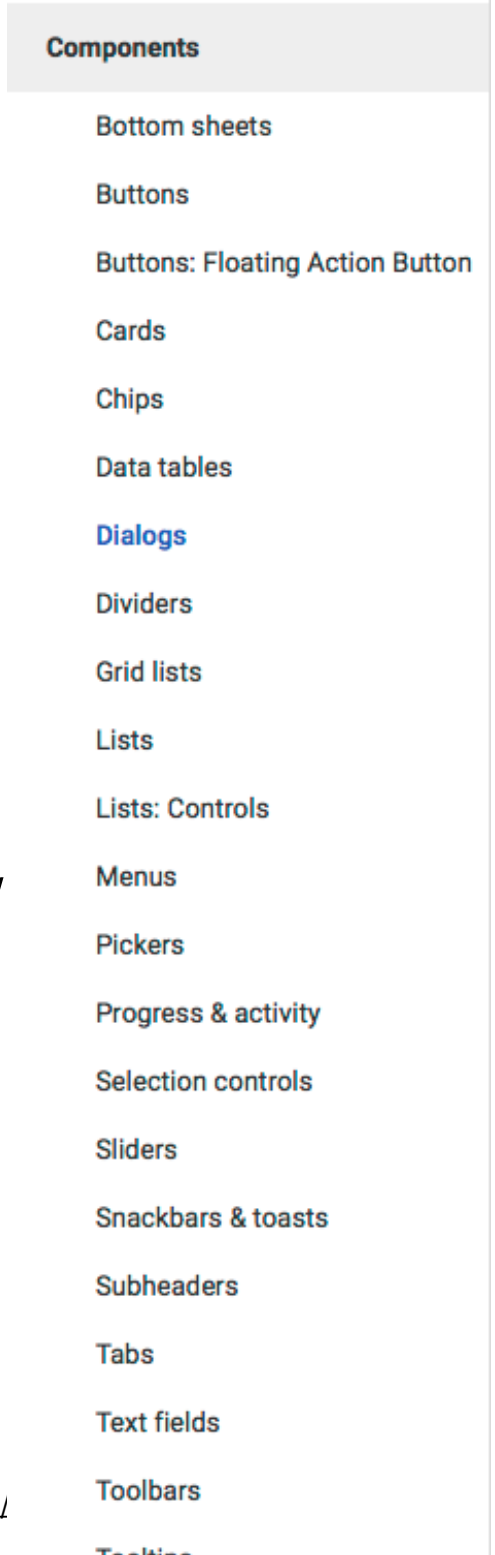
The new `CardView` widget lets you display important pieces of information inside cards that have a consistent look and feel.

http://developer.android.com/training/material/index.html

Le Material Design:
les composants

http://www.google.com/design/spec/components/

http://developer.android.com/training/material/



Le Material Design

Oui, mais c’est pour Android Lollipop

http://developer.android.com/training/material/index.html

Le Material Design

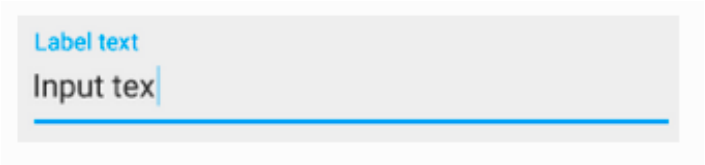
Android Design support Library

Merci Google

http://android-developers.blogspot.fr/2015/05/android-design-support-library.html

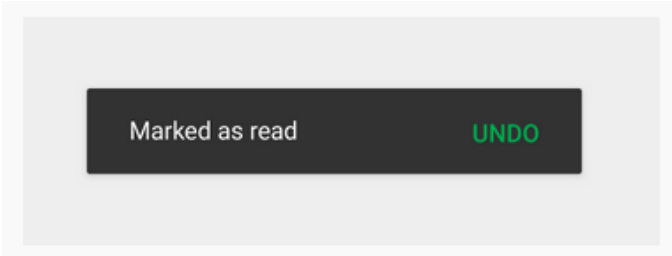
Le Material Design:

les composants

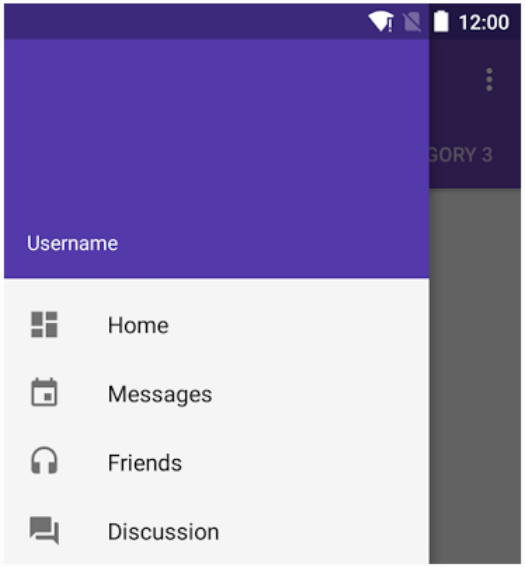


Floating label

Floating Action button



Snackbar



Navigation Drawer

tabs

http://developer.android.com/training/material/index.html

Le Material Design

Et aussi Android Support v7

Cards & RecyclerView

https://developer.android.com/training/material/lists-cards.html

Le Material Design

Comment l’utiliser?

Le Material Design

Les dépendances

```
dependencies {
    compile fileTree(dir: 'libs', include: ['*.jar'])
    compile 'com.android.support:design:22.2.0'
    compile 'com.android.support:appcompat-v7:22.0.0'
    compile 'com.android.support:support-v4:22.+'
    compile 'com.android.support:cardview-v7:+'
    compile 'com.android.support:recyclerview-v7:+'
}
```

Le Material Design

Le style

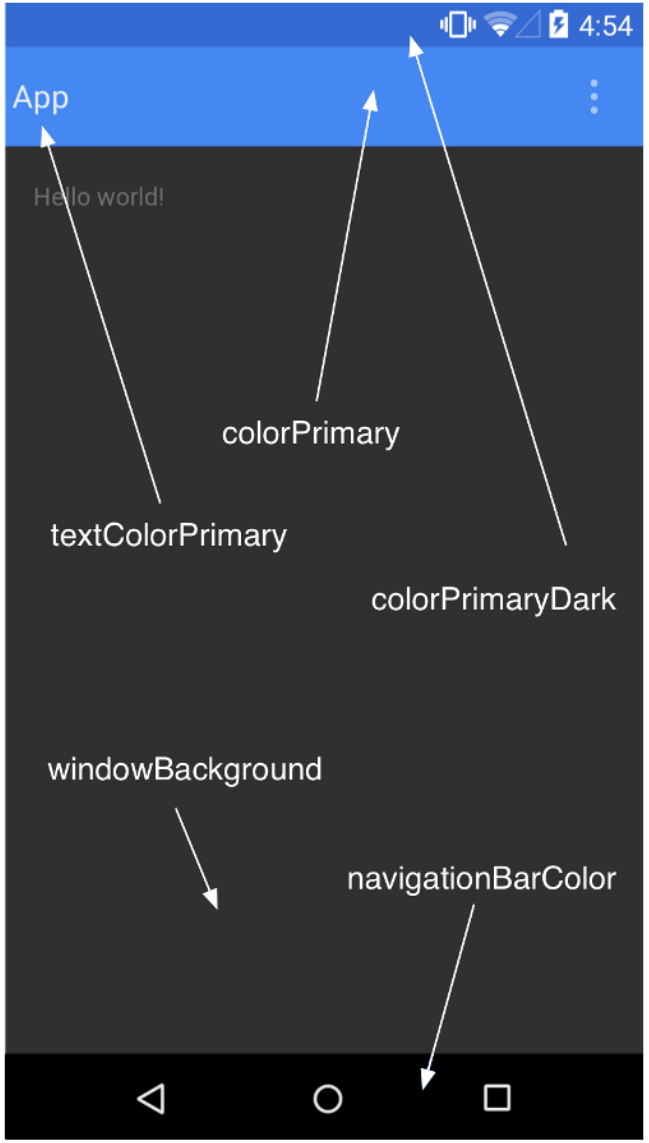
```
<style name="Base.Theme.TchatApp" parent="Theme.AppCompat.Light.NoActionBar">
    <item name="colorPrimary">@color/colorPrimary</item>
    <item name="colorPrimaryDark">@color/colorPrimaryDark</item>
    <item name="colorAccent">@color/colorAccent</item>
    <item name="android:windowBackground">@color/background</item>
</style>
```

Le theme Theme.Material est disponible mais non compatible avant API21

Le Material Design

Les couleurs

```
<resources>
  <!-- inherit from the material theme -->
  <style name="AppTheme" parent="android:Theme.Material">
    <!-- Main theme colors -->
    <!--   your app branding color for the app bar -->
    <item name="android:colorPrimary">@color/primary</item>
    <!--   darker variant for the status bar and contextual app bars -->
    <item name="android:colorPrimaryDark">@color/primary_dark</item>
    <!--   theme UI controls like checkboxes and text fields -->
    <item name="android:colorAccent">@color/accent</item>
  </style>
</resources>
```



Le Material Design

Et sur notre appli TwitterLike.

Ca ressemblerait à quoi?

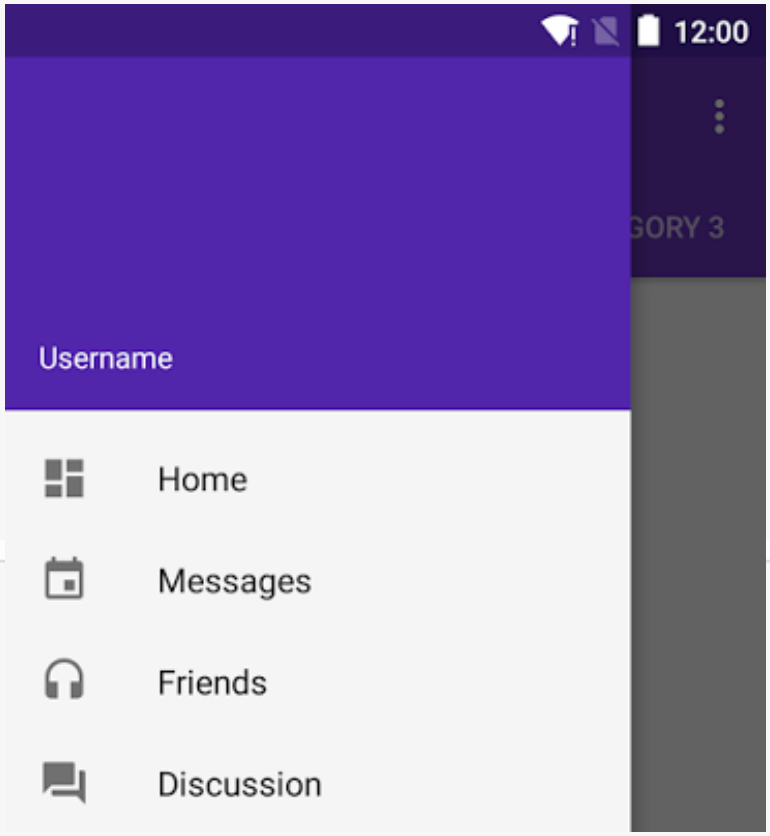
http://1.bp.blogspot.com/-DdkM-1VAnyk/UVshaaiAYAI/AAAAAAAAFWQ/_XfgaoTW16Q/s1600/REIMAGINE.PNG

DrawerLayout et NavigationView

```
<android.support.v4.widget.DrawerLayout
        xmlns:android="http://schemas.android.com/apk/res/android"
        xmlns:app="http://schemas.android.com/apk/res-auto"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:fitsSystemWindows="true">

    <!-- your content layout -->

    <android.support.design.widget.NavigationView
            android:layout_width="wrap_content"
            android:layout_height="match_parent"
            android:layout_gravity="start"
            app:headerLayout="@layout/drawer_header"
            app:menu="@menu/drawer"/>
</android.support.v4.widget.DrawerLayout>
```




```
<group android:checkableBehavior="single">
    <item
        android:id="@+id/navigation_item_1"
        android:checked="true"
        android:icon="@drawable/ic_android"
        android:title="@string/navigation_item_1"/>
    <item
        android:id="@+id/navigation_item_2"
        android:icon="@drawable/ic_android"
        android:title="@string/navigation_item_2"/>
</group>
```

Le Java

```java
/**
 * setup drawer.
 * @param navigationView
 */
private void setupNavigationView(NavigationView navigationView) {
    navigationView.setNavigationItemSelectedListener(
            new NavigationView.OnNavigationItemSelectedListener() {
                @Override
                public boolean onNavigationItemSelected(MenuItem menuItem) {
                    if(menuItem.getItemId() == R.id.tchat_disconnect){
                        token = null;
                        TchatActivity.this.finish();
                    } if(menuItem.getItemId() == R.id.tchat_users){
                        Intent i = new Intent(TchatActivity.this, UsersActivity.class);
                                i.putExtra(Constants.INTENT_TOKEN, token);
                        startActivity(i);
                    } else {
                        menuItem.setChecked(true);
                        mDrawerLayout.closeDrawers();
                    }
                    return true;
                }
            });
}
```

SwipeRefreshLayout

Le layout

```xml
<?xml version="1.0" encoding="utf-8"?>
<android.support.v4.widget.SwipeRefreshLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/users_swiperefresh"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <ListView
        android:id="@+id/list"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:fitsSystemWindows="true" />
</android.support.v4.widget.SwipeRefreshLayout>
```

Le Java

```
private void setupRefreshLayout() {
    swipeLayout.setOnRefreshListener(new SwipeRefreshLayout.OnRefreshListener() {
        @Override
        public void onRefresh() {
            loading();
        }
    });
    swipeLayout.setColorSchemeResources(R.color.colorAccent, R.color.colorPrimaryDark, R.color.colorPrimary);
    /**
     * this is to avoid error on double scroll on listview/swipeRefreshLayout
     */
    list.setOnScrollListener(new AbsListView.OnScrollListener() {

        @Override
        public void onScrollStateChanged(AbsListView view, int scrollState) {
        }

        @Override
        public void onScroll(AbsListView view, int firstVisibleItem, int visibleItemCount, int totalItemCount) {
            boolean enable = false;
            if (list != null && list.getChildCount() > 0) {
                // check if the first item of the list is visible
                boolean firstItemVisible = list.getFirstVisiblePosition() == 0;
                // check if the top of the first item is visible
                boolean topOfFirstItemVisible = list.getChildAt(0).getTop() == 0;
                // enabling or disabling the refresh layout
                enable = firstItemVisible && topOfFirstItemVisible;
            }
            swipeLayout.setEnabled(enable);
        }
    });
}
```