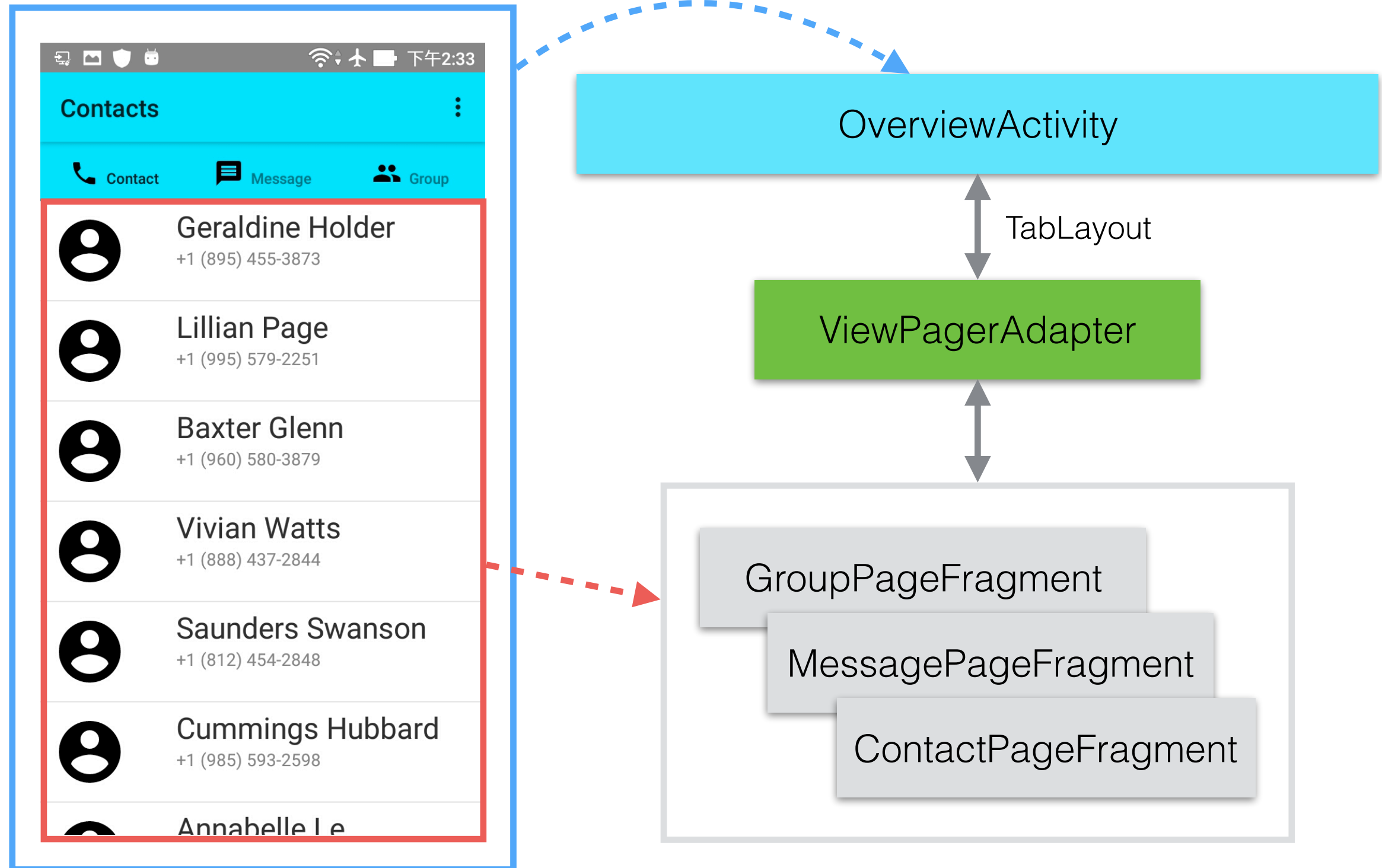


# Launcher Training Courses: Week 3 - Fragments

Presenter: Richo

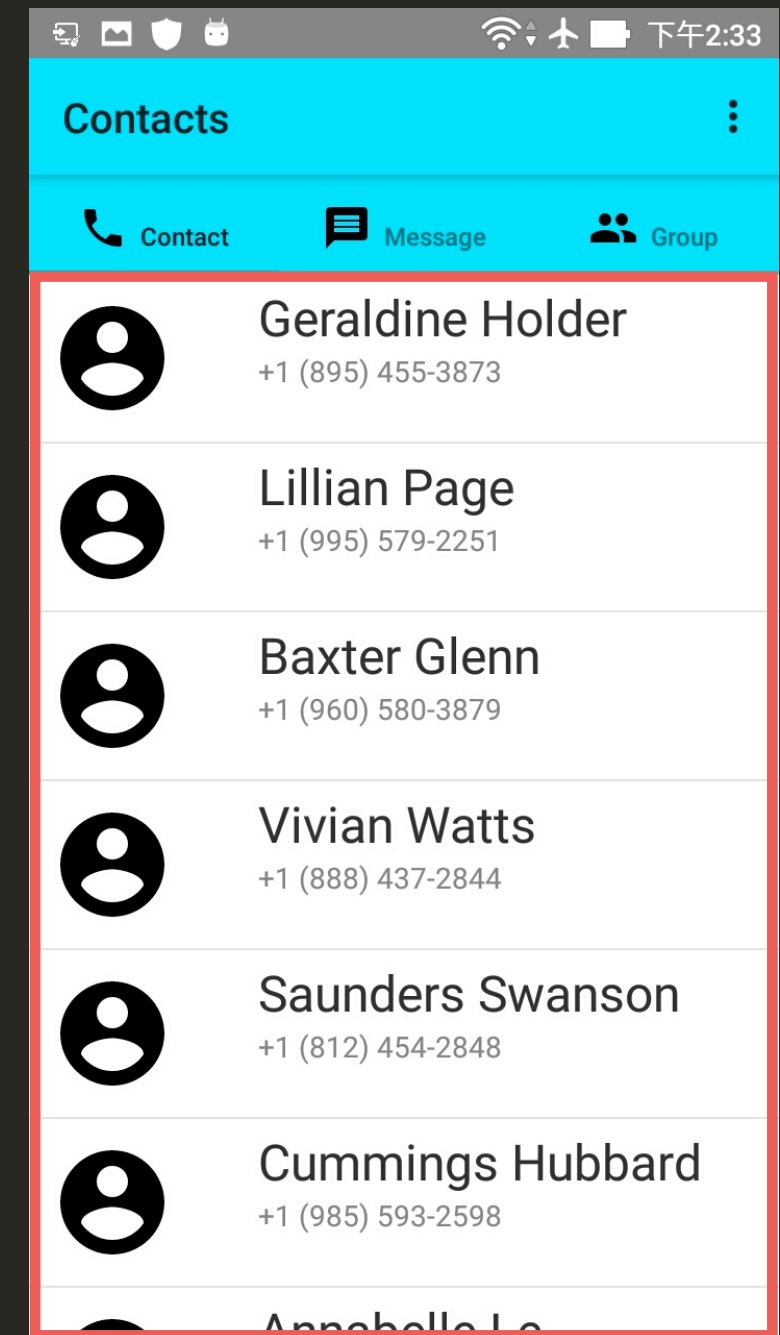
# App Structure



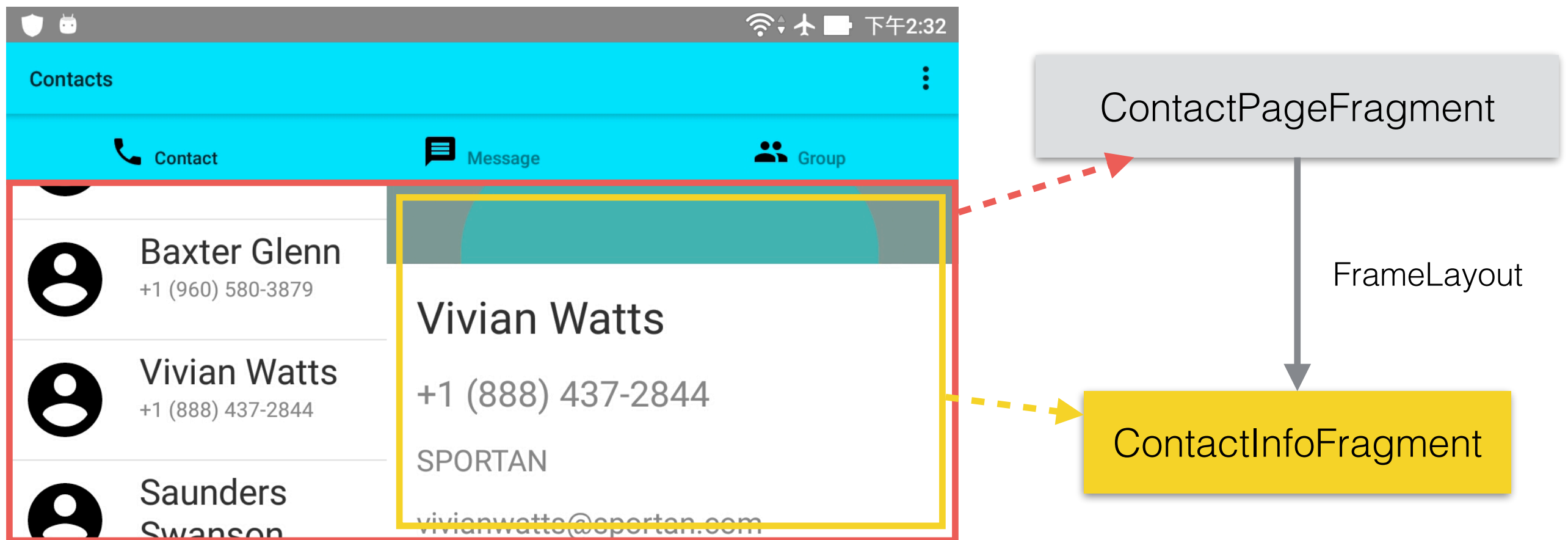
fragment\_contact\_page.xml

```
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical">

    <ListView
        android:id="@+id/lv_contact"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />
</LinearLayout>
```



# Responsive UI



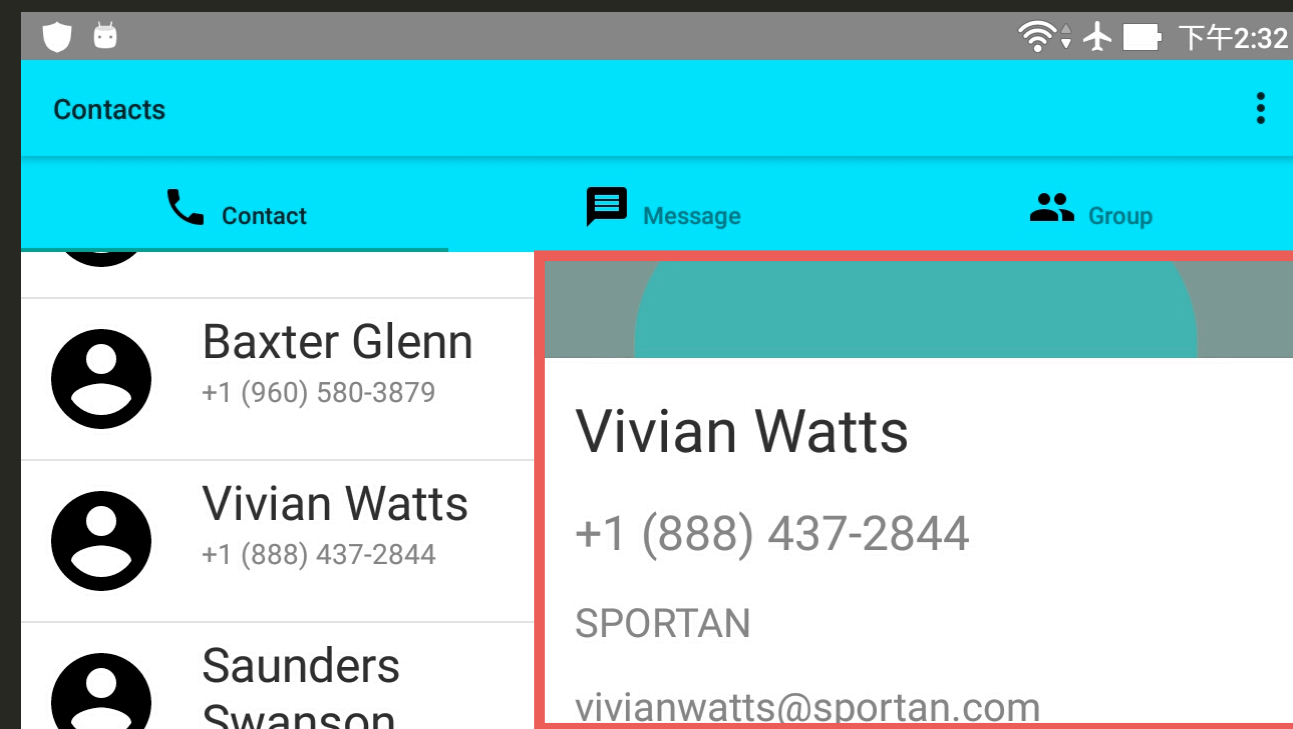
## fragment\_contact\_page.xml (land)

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal">

    <ListView
        android:id="@+id/lv_contact"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_gravity="left"
        android:layout_weight="1" />

    <FrameLayout
        android:id="@+id/info_container"
        android:layout_width="0dp"
        android:layout_height="match_parent"
        android:layout_gravity="right"
        android:layout_weight="1.5" />

</LinearLayout>
```



```
public class ContactPageFragment extends Fragment {
    public ContactAdapter contactAdapter;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        View view = inflater.inflate(R.layout.fragment_contact_page, container, false);

        ListView listView = (ListView) view.findViewById(R.id.lv_contact);
        listView.setAdapter(contactAdapter);

        // Check the current orientation mode, hold true when in landscape mode.
        if(view.findViewById(R.id.info_container) != null) {
            // if(getActivity().getResources().getConfiguration().orientation == ORIENTATION_LANDSCAPE) {
            //     In landscape mode.
            //     ...
            // } else {
            //     In portrait mode.
            //     ...
            // }

            return view;
        }

        private void showContactInfo(...) {}

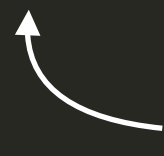
        private void popContactInfo(...) {}
    }
}
```

```
if(view.findViewById(R.id.info_container) != null) {  
    // In landscape mode.  
  
    FragmentActivity fragmentActivity = this.getActivity();  
    FragmentManager fragmentManager = fragmentActivity.getSupportFragmentManager();  
  
    // Will have duplicate fragment if not wrapped in an if statement  
    if(fragmentManager.findFragmentById(R.id.info_container) == null) {  
        showContactInfo(fragmentActivity, fragmentManager, contactAdapter.getItem(0));  
    }  
  
    listView.setOnItemClickListener(new AdapterView.OnItemClickListener() {  
        @Override  
        public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {  
            showContactInfo(fragmentActivity,  
                            fragmentManager,  
                            (Contact) adapterView.getItemAtPosition(i));  
        }  
    });  
} else {  
    // In portrait mode.  
  
}
```

```
private void showContactInfo(FragmentActivity activity, FragmentManager manager,
                             Contact contact){
    ContactInfoFragment contactInfoFragment = new ContactInfoFragment();

    // Passing object instance through Parcelable
    activity.getIntent().putExtra(EXTRA_CONTACT, contact);
    contactInfoFragment.setArguments(activity.getIntent().getExtras());

    // replace() == .remove().add()
    manager.beginTransaction()
        .replace(R.id.info_container, contactInfoFragment)
        .commit();
}
```

 FrameLayout



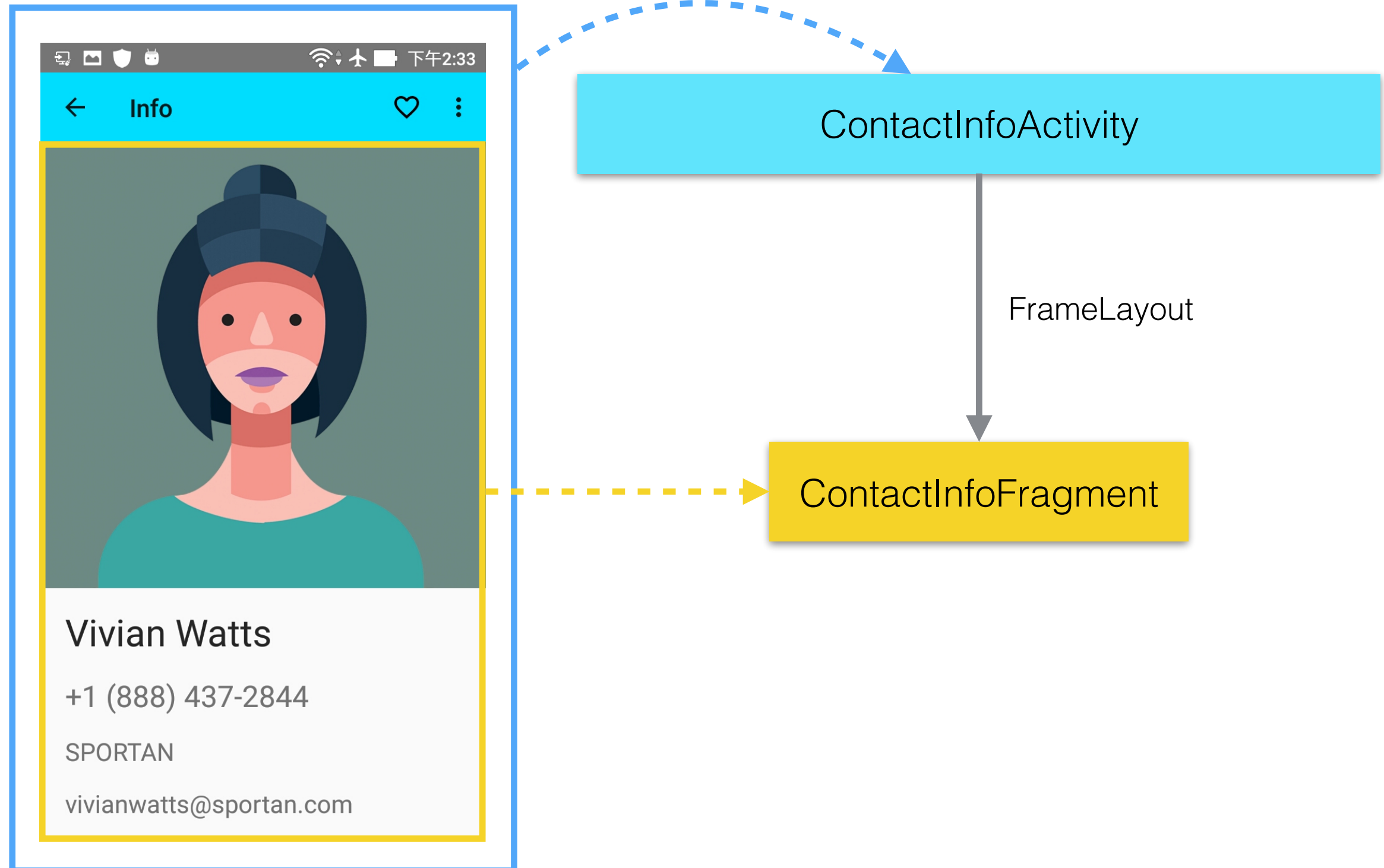
# Parcelable

- An interface for passing objects between activities (Serialization)
- Faster, avoid GC, and use fewer resource than *Serializable*
- More complex in implementation

```
if(view.findViewById(R.id.info_container) != null) {  
    // In landscape mode.  
  
} else {  
    // In portrait mode.  
  
    listView.setOnItemClickListener(new AdapterView.OnItemClickListener() {  
        @Override  
        public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {  
            Contact contact = (Contact) adapterView.getItemAtPosition(i);  
            popupContactInfo(contact);  
        }  
    });  
}
```

```
private void popupContactInfo(Contact contact) {  
    Context context = getContext();  
    Intent intent = new Intent(context, ContactInfoActivity.class);  
  
    // Again, passing object instance through Parcelable  
    intent.putExtra(EXTRA_CONTACT, contact);  
    context.startActivity(intent);  
}
```

# App Structure



## activity\_contact\_info.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:id="@+id/activity_contact_info"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">

    <android.support.v7.widget.Toolbar
        android:id="@+id/contact_info_toolbar"
        android:layout_width="match_parent"
        android:layout_height="?attr/actionBarSize"
        android:background="@android:color/holo_blue_bright"
        android:elevation="4dp"
        android:theme="@style/ThemeOverlay.AppCompat.ActionBar"
        app:popupTheme="@style/ThemeOverlay.AppCompat.Light" />

    <FrameLayout
        android:id="@+id/info_container"
        android:layout_width="match_parent"
        android:layout_height="match_parent" />
</LinearLayout>
```

```
public class ContactInfoActivity extends AppCompatActivity {
    public final static String TAG = ContactInfoActivity.class.getSimpleName();
    public Contact contact;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_contact_info);

        ...

        Intent intent = getIntent();

        ContactInfoFragment contactInfoFragment = new ContactInfoFragment();
        contactInfoFragment.setArguments(intent.getExtras());

        FragmentManager manager = this.supportFragmentManager();
        manager.beginTransaction()
            .replace(R.id.info_container, contactInfoFragment)
            .commit();
    }

    @Override
    public void onConfigurationChanged(Configuration newConfig) {...}
}
```

## fragment\_contact\_info.xml

```
<?xml version="1.0" encoding="utf-8"?>
<ScrollView
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
    <LinearLayout
        android:id="@+id/activity_contact_info"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical">

        <ImageView
            android:id="@+id/contact_info_photo"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:adjustViewBounds="true"
            android:scaleType="fitStart" />

        <TextView
            android:id="@+id/contact_info_name"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:paddingLeft="20dp"
            android:paddingTop="15dp"
            android:textColor="@color/contactName"
            android:textSize="30dp" />

        ...
    </LinearLayout>
</ScrollView>
```

```
public class ContactInfoFragment extends Fragment {
    public Contact contact;

    @Override
    public View onCreateView(LayoutInflater inflater, ViewGroup container,
                             Bundle savedInstanceState) {
        View view = inflater.inflate(R.layout.fragment_contact_info, container, false);

        Intent intent = getActivity().getIntent();
        contact = intent.getParcelableExtra(ContactPageFragment.EXTRA_CONTACT);

        ImageView ivPhoto = (ImageView) view.findViewById(R.id.contact_info_photo);
        TextView tvName = (TextView) view.findViewById(R.id.contact_info_name);
        TextView tvPhone = (TextView) view.findViewById(R.id.contact_info_phone);
        TextView tvCompany = (TextView) view.findViewById(R.id.contact_info_company);
        TextView tvEmail = (TextView) view.findViewById(R.id.contact_info_email);

        if("male".equals(contact.gender)) {
            ivPhoto.setImageResource(R.drawable.steve);
        } else {
            ivPhoto.setImageResource(R.drawable.kristy);
        }

        tvName.setText(contact.name);
        tvPhone.setText(contact.phone);
        tvCompany.setText(contact.company);
        tvEmail.setText(contact.email);

        return view;
    }
}
```



Specifically dealt with Parcelable



```
@Override
public void onConfigurationChanged(Configuration newConfig) {
    super.onConfigurationChanged(newConfig);

    // Auto-press back button when device rotate to landscape mode
    if (newConfig.orientation == Configuration.ORIENTATION_LANDSCAPE) {
        onBackPressed();
    }
}
```