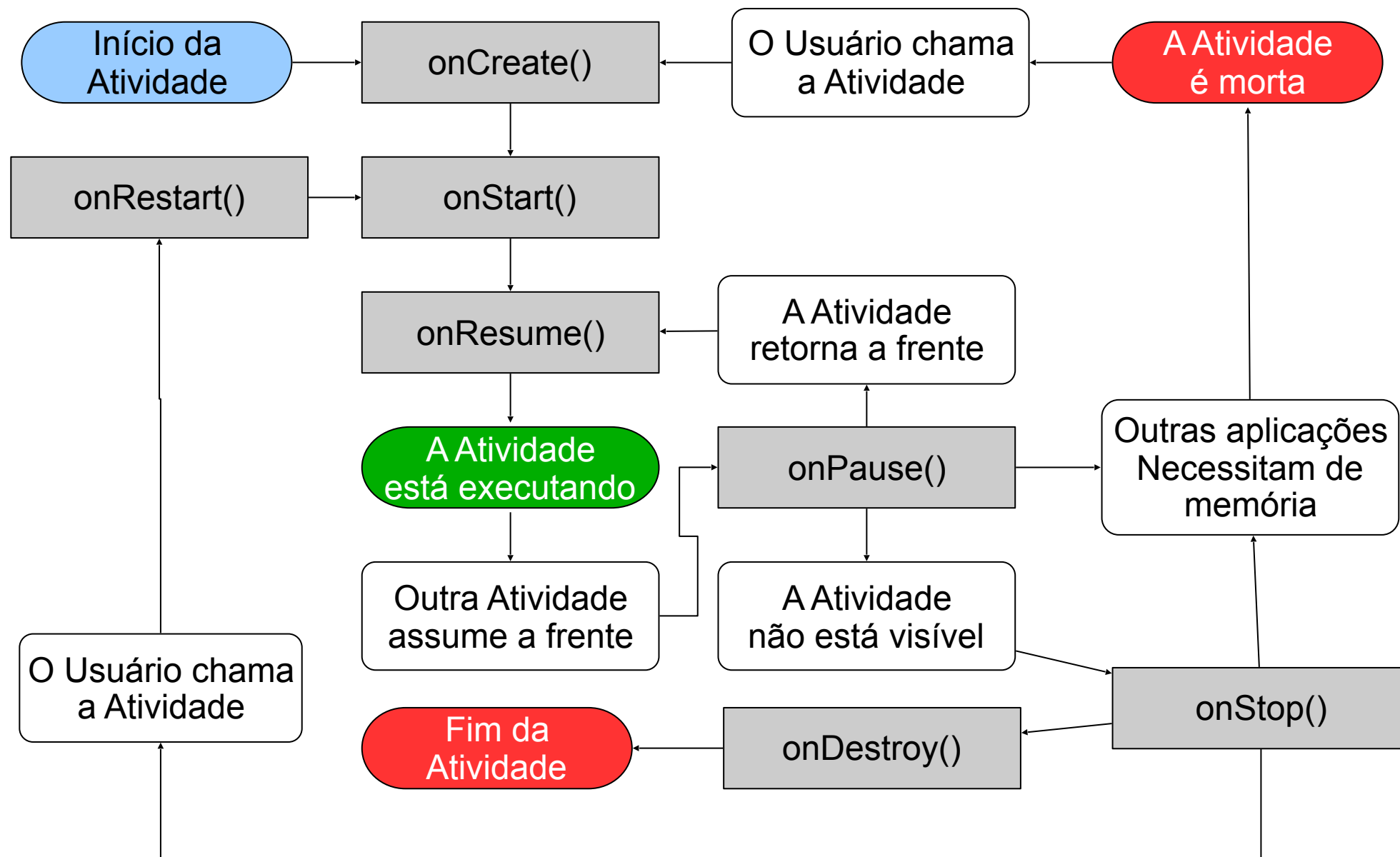


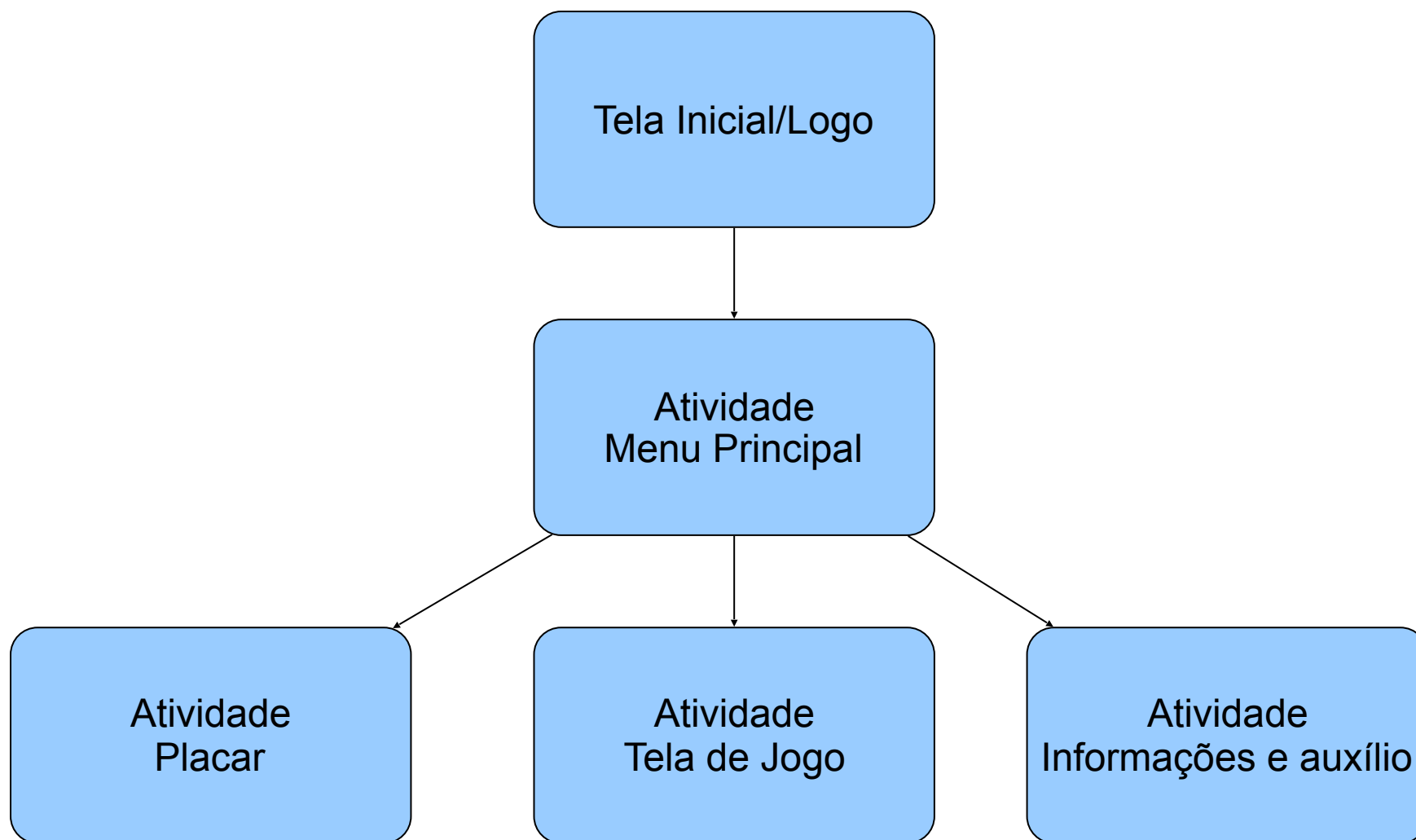


Activity, View e UI

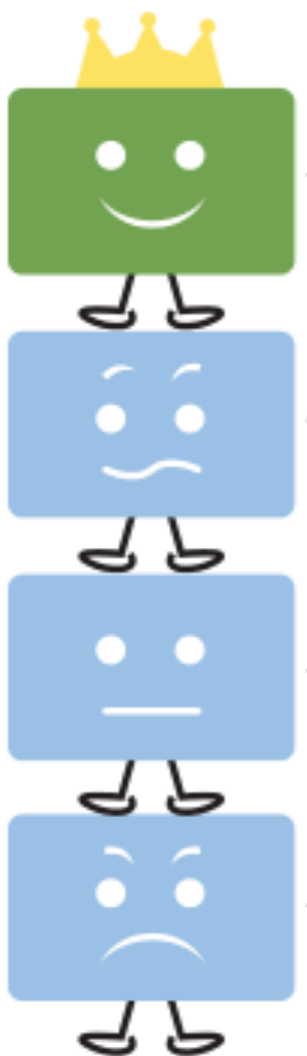
O Ciclo de vida da Activity



O Ciclo de vida da Activity



O Ciclo de vida da Activity



Atividade interagindo com o usuário. No topo da pilha.

Uma segunda Atividade na pilha. Se utilizado o BACK ou a atividade superior for destruída, esta irá ao topo

Atividade no ponto intermediário da pilha. Só será utilizada se as atividade superiores forem destruídas.

Atividade na parte inferior da pilha. Se as Atividades acima necessitarem de recursos, esta será destruída.

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="br.senai.sp.cfp132.appinicial">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="AppInicial"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```

```
public class MainActivity extends AppCompatActivity {

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

The screenshot displays the Android Studio environment for editing the `main.xml` layout file. The interface is divided into several key sections:


















- Top Bar:** Shows the current project path: `AppInicial > app > src > main > res > layout > main.xml`. It also includes tabs for `main.xml` and `MainActivity.java`.
- Palette:** A list of Android widgets available for drag-and-drop, categorized into 'Widgets' (e.g., TextView, Button, EditText) and 'Text Fields' (e.g., Plain Text, Password, E-mail).
- Component Tree:** A hierarchical view of the layout structure. It shows a `main (ConstraintLayout)` containing:
 - `edNome (EditText)`
 - `textView - "@string/r"`
 - `textView2 - "Idade"`
 - `edIdade (EditText)`
 - `button - "Ok"`
- Design View:** A visual representation of the layout on a Nexus 4 device. It features a blue header with the text 'AppInicial', two text input fields labeled 'Nome' and 'Idade', and a blue 'OK' button at the bottom.
- Properties Panel:** A detailed configuration area for the selected 'button' widget. It includes:
 - ID:** `button`
 - Dimensions:** `layout_width` is 91dp and `layout_height` is 51dp.
 - Button Style:** `buttonStyle`
 - Background:** `drawable/btn_default_material`
 - State List Animator:** `_state_list_anim_material`
 - Elevation:** A slider set to 50.
 - Visibility:** `none`
 - onClick:** `onClicked`
 - TextView Properties:**
 - text:** `Ok`
 - textAppearance:** `AppCompat.Widget.Button`
 - fontFamily:** `sans-serif-medium`
 - typeface:** `none`
- Bottom Bar:** Includes tabs for 'Design' and 'Text', and a status bar at the very bottom showing 'Gradle build finished in 20s 404ms (7 minutes ago)'.

The image shows the Android Studio interface with the `main.xml` file open in the Text editor. The XML code defines a `ConstraintLayout` with the following elements:

- `<android.support.constraint.ConstraintLayout>`: The root layout with `android:id="@+id/main"`, `android:layout_width="match_parent"`, `android:layout_height="match_parent"`, and `tools:context="br.senai.sp.cfp132.appinicial.MainActivity">`.
- `<EditText>`: A text input field with `android:layout_width="0dp"`, `android:layout_height="43dp"`, `android:inputType="textPersonName"`, `android:ems="10"`, `android:id="@+id/edNome"`, and constraints `app:layout_constraintLeft_toLeftOf="@+id/main"`, `android:layout_marginStart="16dp"`, `app:layout_constraintTop_toBottomOf="@+id/textView"`, `android:layout_marginTop="8dp"`, `app:layout_constraintRight_toRightOf="@+id/main"`, and `android:layout_marginEnd="16dp" />`.
- `<TextView>`: A text view with `android:text="@string/nome"`, `android:layout_width="61dp"`, `android:layout_height="19dp"`, `android:id="@+id/textView"`, and constraints `app:layout_constraintLeft_toLeftOf="@+id/main"`, `android:layout_marginStart="16dp"`, `app:layout_constraintTop_toTopOf="@+id/main"`, and `android:layout_marginTop="16dp" />`.
- `<TextView>`: A text view with `android:text="Idade"`, `android:layout_width="61dp"`, `android:layout_height="19dp"`, `android:id="@+id/textView2"`, and constraints `app:layout_constraintLeft_toLeftOf="@+id/main"`, `android:layout_marginStart="16dp"`, `app:layout_constraintTop_toBottomOf="@+id/edNome"`, and `android:layout_marginTop="16dp" />`.
- `<EditText>`: A numeric input field with `android:layout_width="0dp"`, `android:layout_height="45dp"`, `android:inputType="number"`, and constraints `app:layout_constraintLeft_toLeftOf="@+id/main"`, `android:layout_marginStart="16dp"`, `app:layout_constraintTop_toBottomOf="@+id/textView2"`, and `android:layout_marginTop="16dp" />`.

The Preview window shows the visual representation of the layout on a Nexus 4 device. It features a blue header bar labeled "AppInicial", two text input fields labeled "Nome" and "Idade", two text views, and an "OK" button at the bottom. The layout is centered and uses constraints to maintain proportions.

```
<resources>
    <string name="app_name">AppInicial</string>
    <string name="nome">Nome</string>
    <string name="idade">Idade</string>
    <string name="ok">Ok</string>
    <string name="msg">Bem Vindo, %1$s\nsua idade é: %2$d</string>
</resources>
```

- ▼  app
 - ▼  manifests
 -  AndroidManifest.xml
 - ▼  java
 - ▼  br.senai.sp.cfp132.appinicial
 -  MainActivity
 - ▼  res
 -  drawable
 - ▼  layout
 -  main.xml
 - ▼  mipmap
 - ▶  ic_launcher.png (5)
 - ▼  values
 -  colors.xml
 - ▶  dimens.xml (2)
 -  strings.xml
 -  styles.xml

Os Componentes da UI

<EditText

```
android:layout_width="0dp"
android:layout_height="43dp"
android:inputType="textPersonName"
android:ems="10"
android:id="@+id/edNome"
tools:ignore="LabelFor"
app:layout_constraintLeft_toLeftOf="@+id/main"
android:layout_marginStart="16dp"
app:layout_constraintTop_toBottomOf="@+id/textView"
android:layout_marginTop="8dp"
app:layout_constraintRight_toRightOf="@+id/main"
android:layout_marginEnd="16dp" />
```

<TextView

```
android:text="@string/nome"
android:layout_width="61dp"
android:layout_height="19dp"
android:id="@+id/textView"
app:layout_constraintLeft_toLeftOf="@+id/main"
android:layout_marginStart="16dp"
app:layout_constraintTop_toTopOf="@+id/main"
android:layout_marginTop="16dp" />
```

Nome

```
public class MainActivity extends AppCompatActivity {
    private EditText edNome;
    private EditText edIdade;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.main);
        edNome = (EditText) findViewById(R.id.edNome);
        edIdade = (EditText) findViewById(R.id.edIdade);
    }

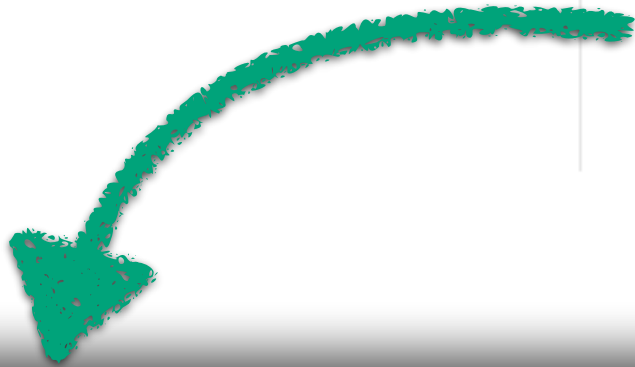
    public void okClicked(View view) {
        String nome = edNome.getText().toString();

        //..

        edNome.setText("");
        edIdade.setText("");
        edNome.requestFocus();
    }
}
```

Os Componentes da UI

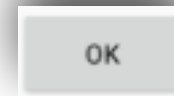
```
<Button
    android:text="@string/ok"
    android:layout_width="91dp"
    android:layout_height="51dp"
    tools:layout_editor_absoluteY="204dp"
    android:id="@+id/button"
    android:onClick="okClicked"
    tools:ignore="MissingConstraints"
    app:layout_constraintLeft_toLeftOf="@+id/edIdade"
    app:layout_constraintRight_toRightOf="@+id/edIdade" />
```



```
public void okClicked(View view) {
    String nome = edNome.getText().toString();
    int idade = Integer.parseInt(edIdade.getText().toString());

    String msg = getResources().getString(R.string.msg, nome, idade);
    Toast.makeText(getBaseContext(), msg, Toast.LENGTH_LONG).show();

    edNome.setText("");
    edIdade.setText("");
    edNome.requestFocus();
}
```



Mensagem

Resource.xml

```
<string name="msg">Bem Vindo, %1$s\nsua idade é%2$d</string>
```

MainActivity.java

```
String msg = getResources().getString(R.string.msg, nome, idade);  
Toast.makeText(getBaseContext(),msg, Toast.LENGTH_LONG).show();
```

Toast apresentado

Bem Vindo, Fulano de Tal
sua idade é: 22