

ACTIVITY LIFE CYCLE

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Activity States

- Active  Visible and running
- Paused  Visible but some other activity is running
- Stopped  No longer visible
- Inactive  Not yet launched or just killed

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Application Priority



Active Process

Visible Process

Started Service Process

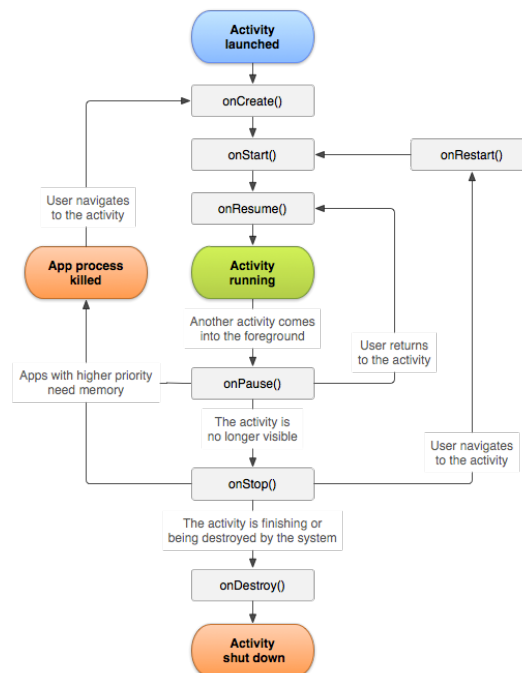
Background Process

Empty Process

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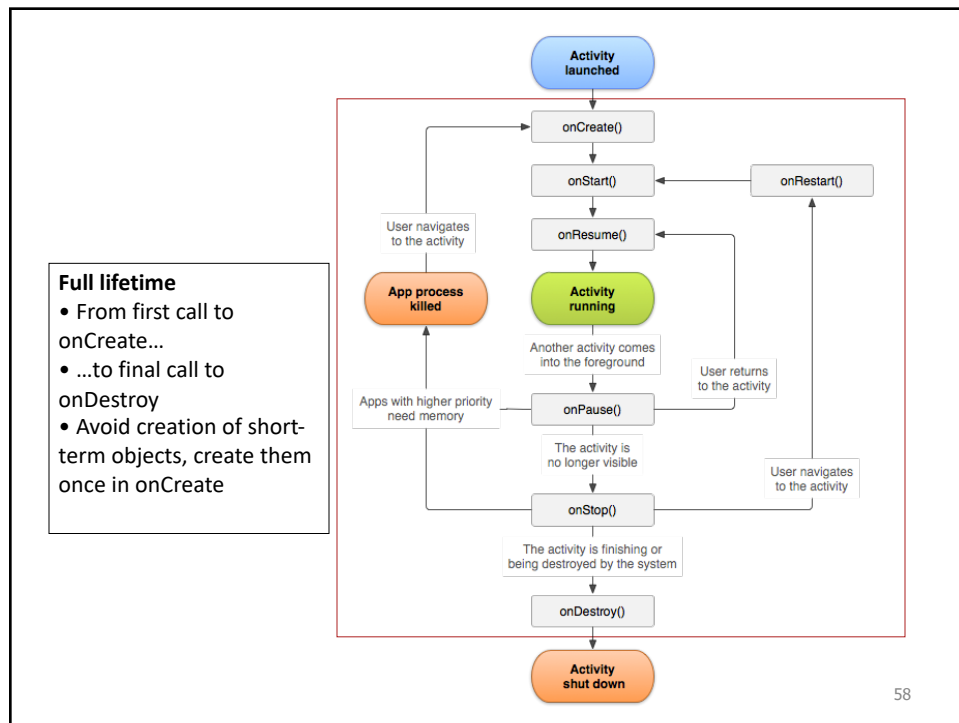
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Activity Life Cycle

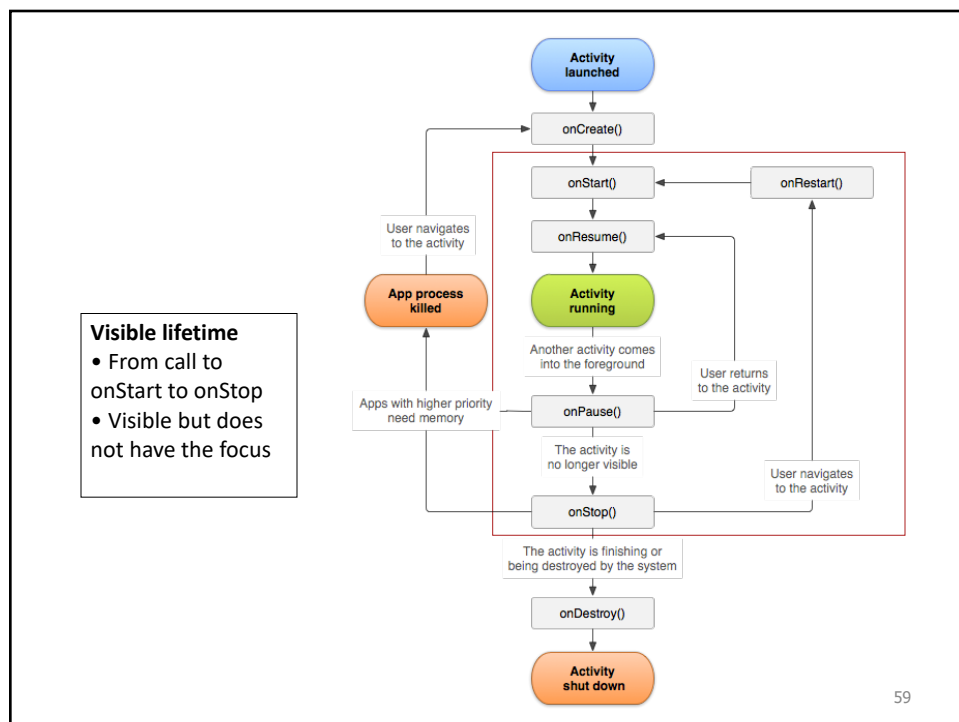


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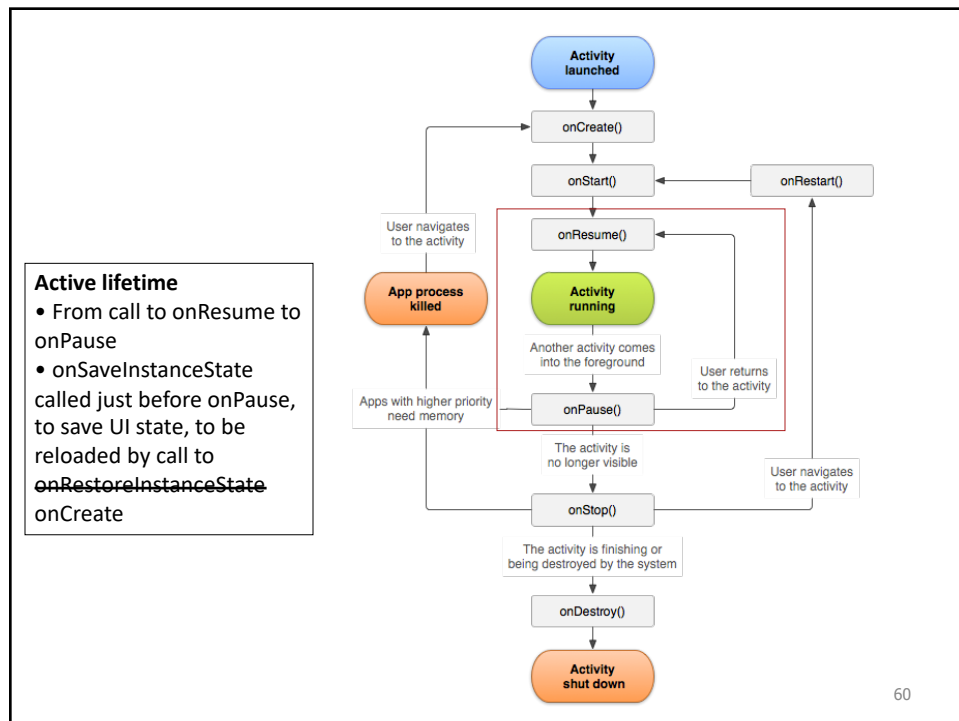
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Activity Life Cycle Methods

- onCreate: create objects and prepare to display
- onRestart: prepare to display
- onStart: app is (partially?) visible
- onResume: begin interaction with user
- onPause: pause interaction (e.g. dialog-themed activity)
- onStop: obscured (e.g. free up cache space)
- onDestroy

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Example: Playing Music

```
class MyActivity extends Activity {  
  
    MediaPlayer mp;  
  
    public void onCreate(Bundle state) {  
        super.onCreate(state);  
        mp = new MediaPlayer();  
        mp.setAudioStreamType(AudioManager.STREAM_MUSIC);  
        mp.setDataSource(...); // e.g. URI for content provider  
    }  
  
    public void onStart() {  
        super.onStart();  
        mp.prepare(); // Should really use prepareAsync()  
    }  
  
    public void onResume() {  
        super.onResume();  
        mp.start();  
    }  
}
```

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Example: Playing Music

```
class MyActivity extends Activity {  
  
    public void onPause() {  
        super.onPause();  
        mp.pause();  
    }  
  
    public void onStop() {  
        super.onStop();  
        mp.stop();  
    }  
  
    public void onDestroy() {  
        super.onDestroy();  
        mp.release();  
        mp = null;  
    }  
}
```

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class MyActivity extends Activity {  
  
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        mp.setAudioStreamType(AudioManager.STREAM_MUSIC);  
        mp.setDataSource(...); // e.g. URI for content provider  
        mp.prepare(); // Should really use prepareAsync()  
    }  
  
    public void onResume() {  
        super.onResume();  
        mp.start();  
    }  
}
```

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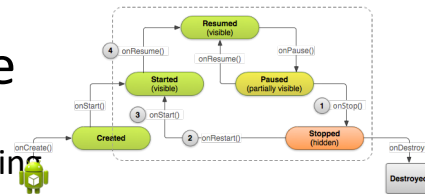
Example: Playing Music

```
class MyActivity extends Activity {  
  
    public void onPause() {  
        super.onPause();  
        mp.pause();  
    }  
  
    public void onDestroy() {  
        super.onDestroy();  
        mp.stop();  
        mp.release();  
        mp = null;  
    }  
}
```

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Application UI State

- Save UI state before destroying



```

private static final String
    PLAYER_STATE_KEY = "PLAYER_STATE_KEY";

private int playerScore;

@Override
public void onSaveInstanceState(Bundle state) {
    state.putInt(PLAYER_STATE_KEY, playerScore);
    super.onSaveInstanceState(state);
}

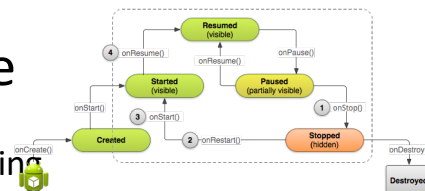
```

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Application UI State

- Save UI state before destroying



```

private static final String
    PLAYER_STATE_KEY = "PLAYER_STATE_KEY";

private int playerScore;

@Override
public void onRestoreInstanceState(Bundle state) {
    super.onRestoreInstanceState(state);
    playerScore = state.getInt(PLAYER_STATE_KEY, 0);
}

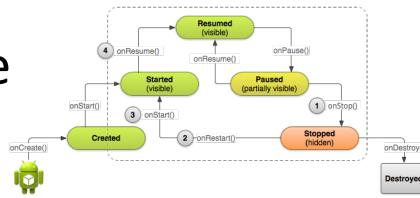
```

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Application UI State

- Save UI state before destroying



```
private static final String
    PLAYER_STATE_KEY = "PLAYER_STATE_KEY";

private int playerScore;

@Override
public void onCreate(Bundle state) {
    super.onCreate(state);
    if (state != null) {
        playerScore = state.getInt(PLAYER_STATE_KEY, 0);
    }
}
```

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