Activity Life Cycle

Introduction

❖ Both activities and services have a life cycle through which various methods are been called.

The Activity Life Cycle Methods

❖ The android platform provides callbacks methods you can
implement in your code to handle state changes. The android
system environment is responsible for calling those callback
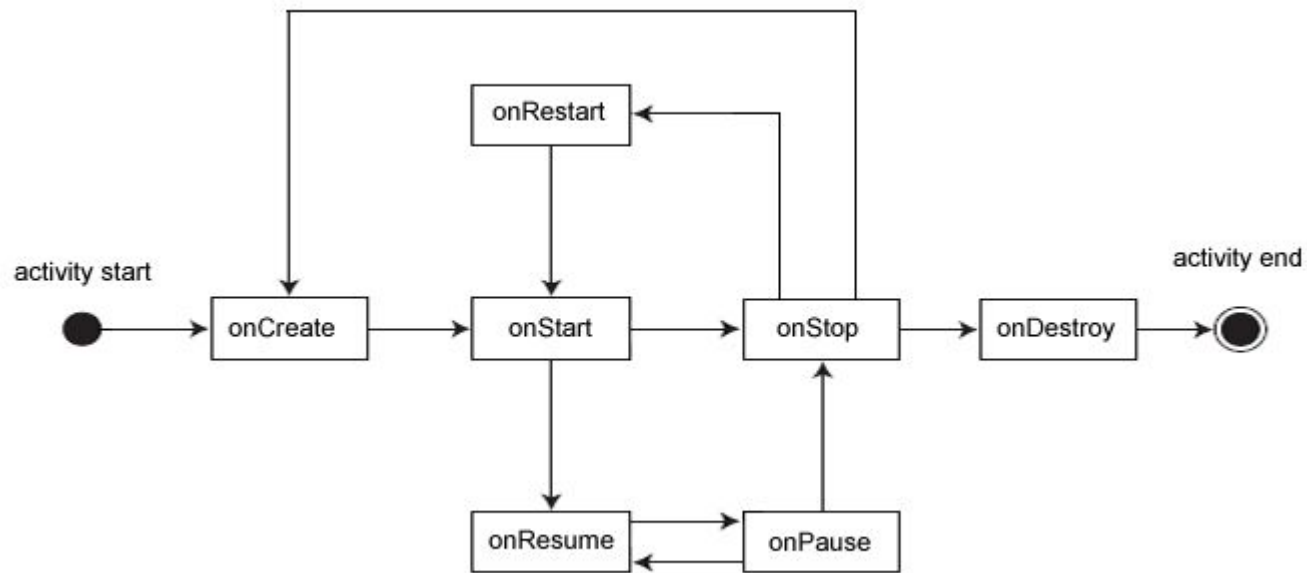methods during the activity life cycle.

```
protected void onCreate(Bundle savedInstanceState);
protected void onStart();
protected void onRestart();
protected void onResume();
protected void onPause();
protected void onStop();
protected void onDestroy();
```

The Activity Life Cycle Methods

❖ When overriding any of the call back methods it is usually recommended to call the overridden version (using `super`).

```
public void onCreate(Bundle savedInstanceState)
{
    super.onCreate(savedInstanceState);
    TextView tv = new TextView(this);
    tv.setText("Hello World!");
    setContentView(tv);
}
```

The Activity Life Cycle Methods

The `onStart()` and `onResume()` Methods

❖ When '`onStart()`' is called the activity is still not visible to the user. After '`onStart()`' the '`onResume()`' is called when the activity is in the foreground and accessible to the user.

The `onPause()` and `onStop()` Methods

❖ When the user chooses to move to another activity the system calls the '`onPause()`' method. If the activity becomes invisible to the user then the system calls the '`onStop()`' method.

Return Back To Previous Activity

❖ When the user asks to return back to the activity if the `'onStop()'` wasn't called... and just the `'onPause()'` was called then the `'onResume()'` is called.

❖ When the user asks to return back to the activity and the `'onStop()'` was called the system will call `'onRestart()'`, `'onStart()'` and `'onResume()'`.

Return Back To Previous Activity

❖ When the user asks to return back to the activity, the '`onStop()`' was called and the system chose to kill the process of that activity then the `onCreate()` will be called. The `onCreate()` method has one parameter of the `Bundle` type, containing the activity's previously frozen state, if there was one.

❖ The `onSaveInstanceState(Bundle)` callback method is been called before the android platform kills an activity.

The `onStop()` and `onDestroy()` Methods

❖ If the activity isn't visible to the user (meaning that the `onStop()` was called) and the system decides to kill it then `onDestroy()` will be called.

❖ The `onStop()` and `onDestroy()` are not always called. Therefore, it isn't recommended count on them for critical logic code.

The `onCreate()` Method

❖ The '`onCreate()`' method is the natural selection for placing the required code for creating the user interface.

The `onPause()` Method

❖ The '`onPause()`' method is the natural selection for placing code that persists important data to the application's data store.