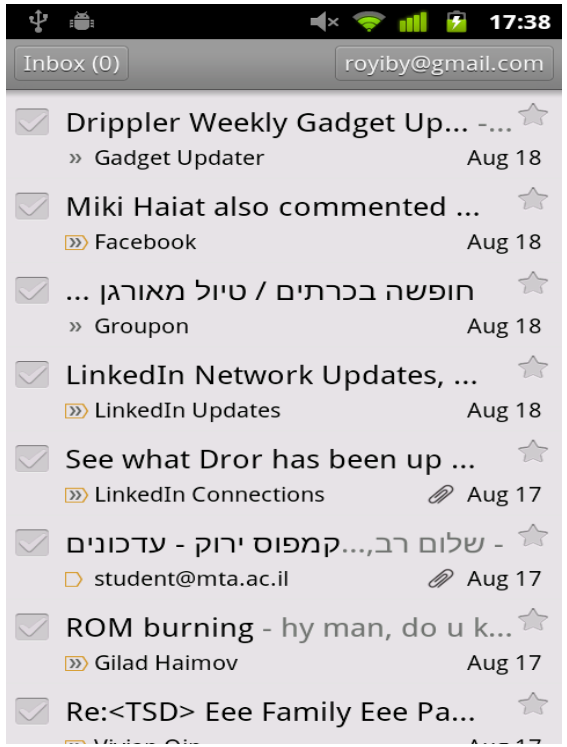
Activity life-cycle.

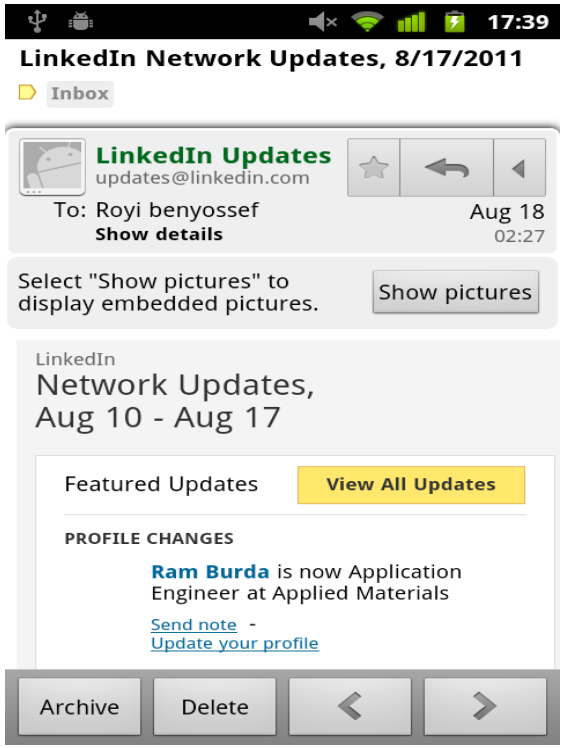
The Activity

- An *activity* represents a single screen with a user interface (Java file + xml layout file).
- An application usually consists of multiple activities that are loosely bound to each other.
- One Activity is flagged as “main” and it is started at the application launch time.
- An Activity can launch other activities to create an app UI workflow.
- The Activity has an Intent attribute that determines how android treats it.

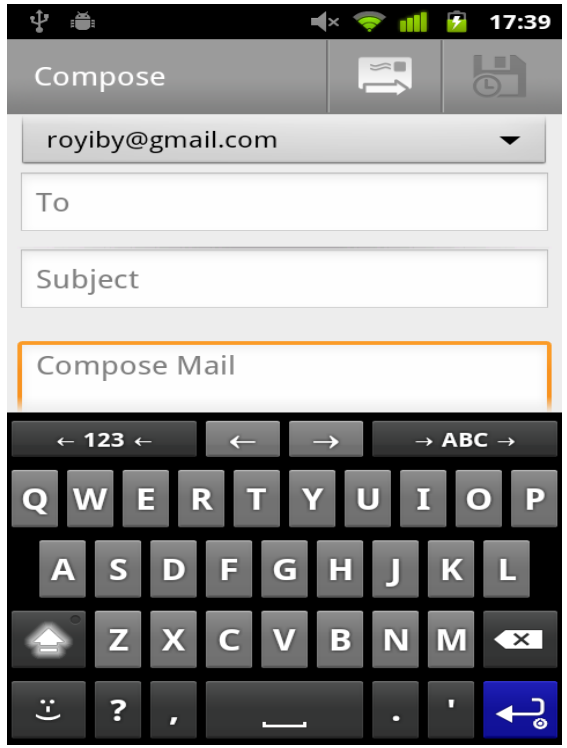
Activity explained with an example.



A screen that displays a list of emails.



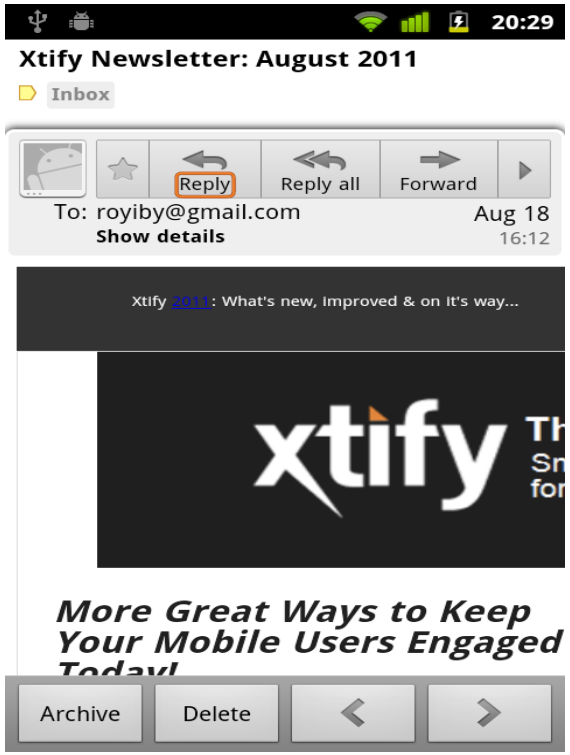
A screen that displays a single email.



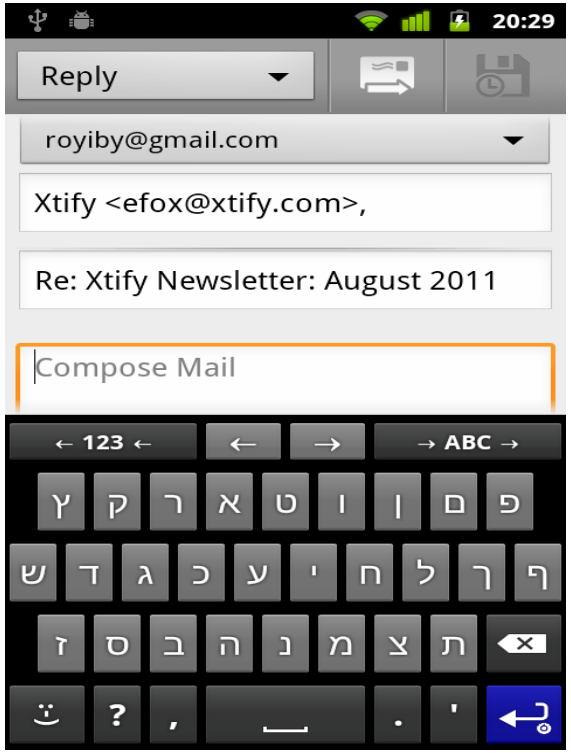
A screen that enables you to compose an email.

Each and every one of these is an Activity!

Starting an Activity.



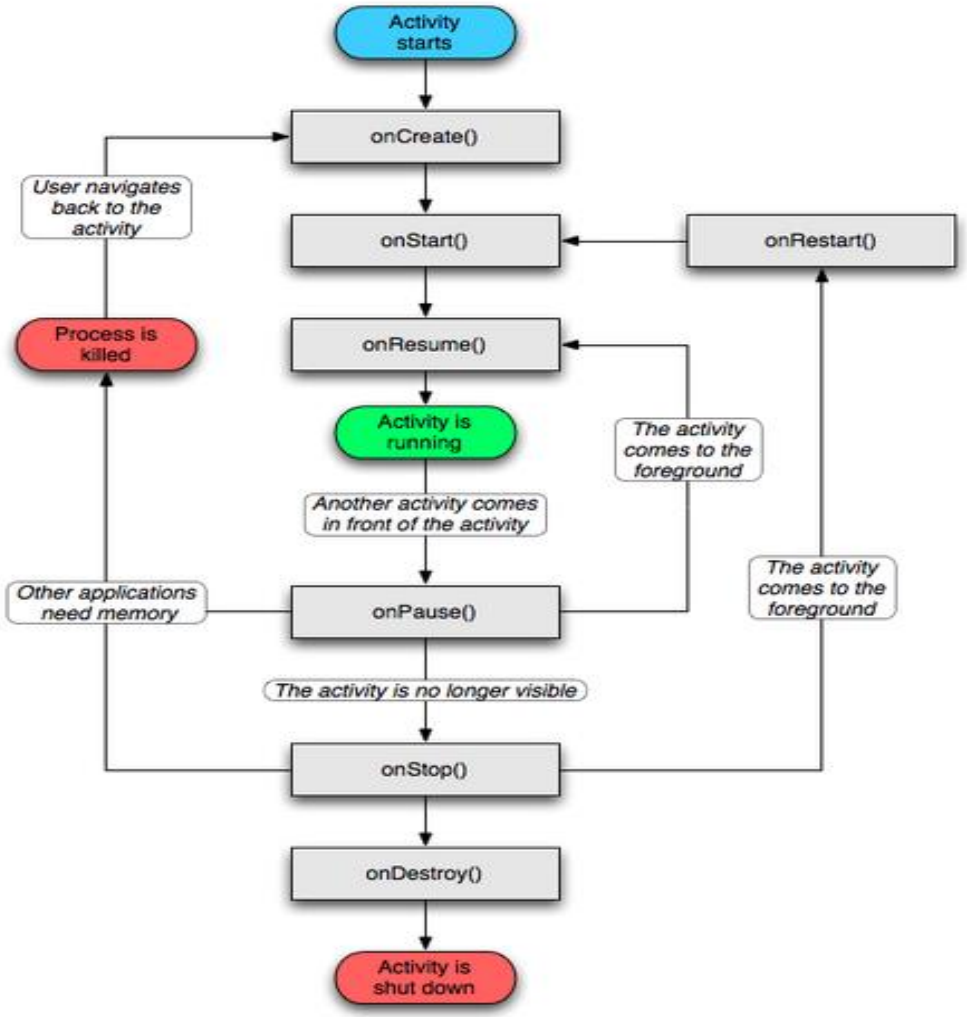
When you press reply:



- The compose Activity gets called
- The recipients are sent via the "Extras" attribute of the intent.

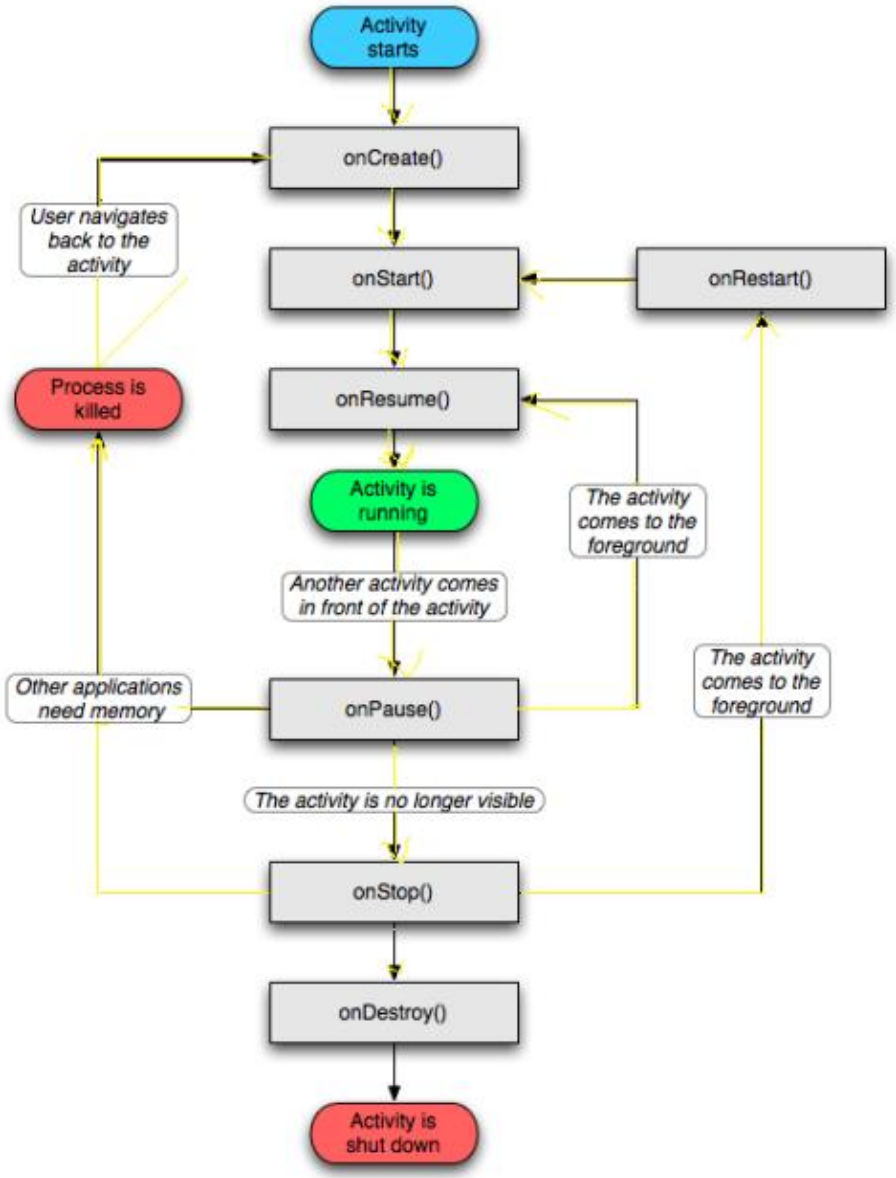
```
Intent intent = new Intent(Intent.ACTION_SEND);
intent.putExtra(Intent.EXTRA_EMAIL, recipientArray);
startActivity(intent);
```

The Activity life-cycle.

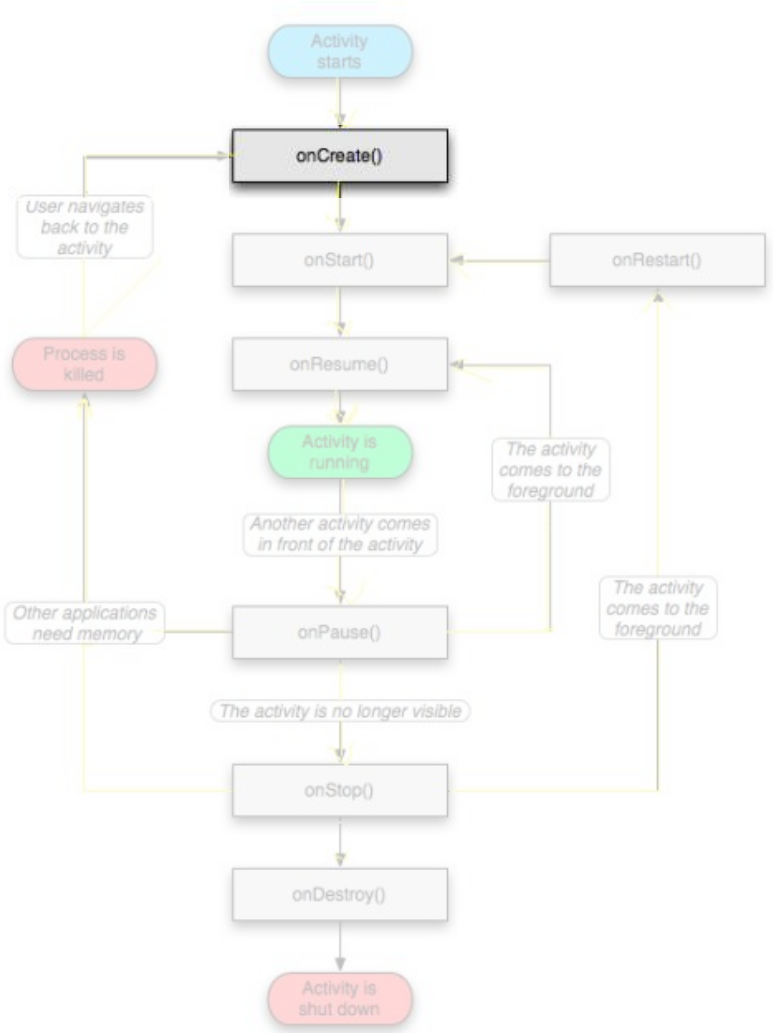


- There are 6 stages in the Android Activity life cycle.
- These stages allow you to perform tasks in their correct time of the workflow.

The Activity life-cycle.

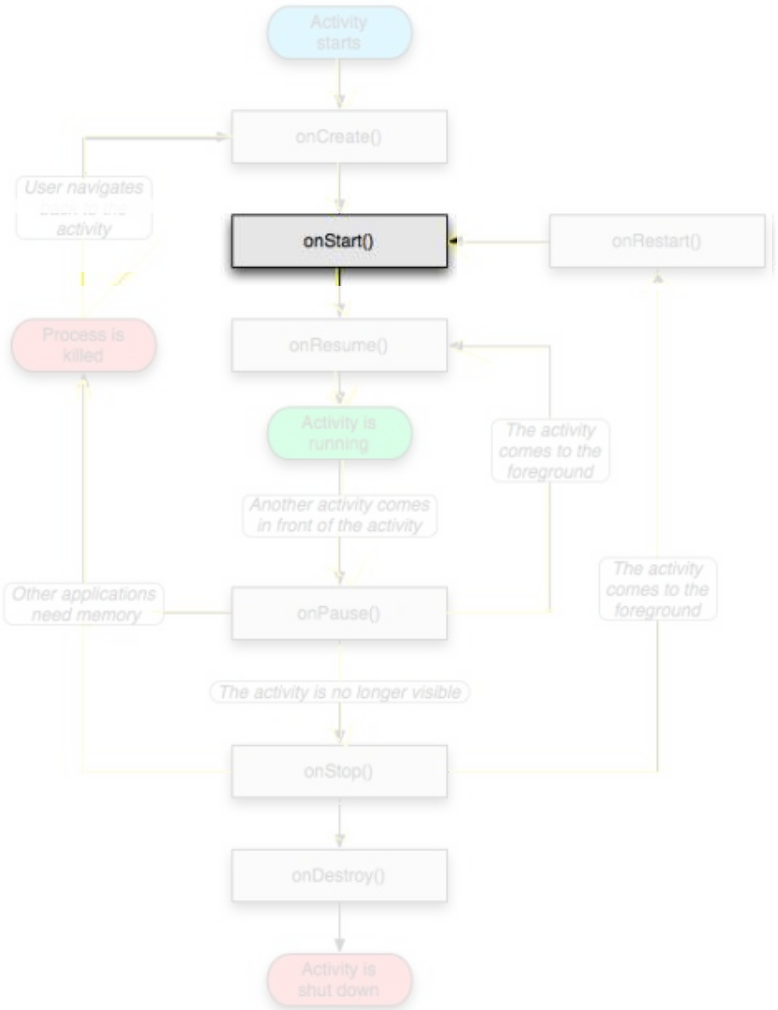


The Activity life-cycle.



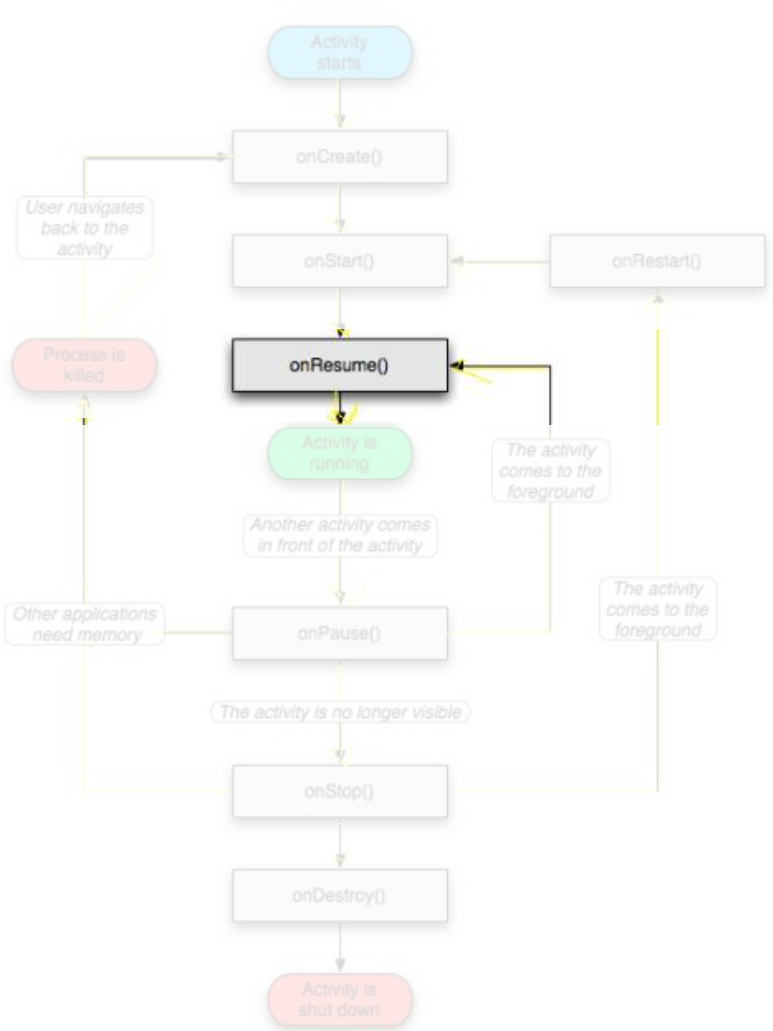
- OnCreate()
  - Called when the activity is created
  - Should contain the initialization operations
  - Has a Bundle parameter
  - If onCreate() succesfull terminates, it calls onStart()

The Activity life-cycle.



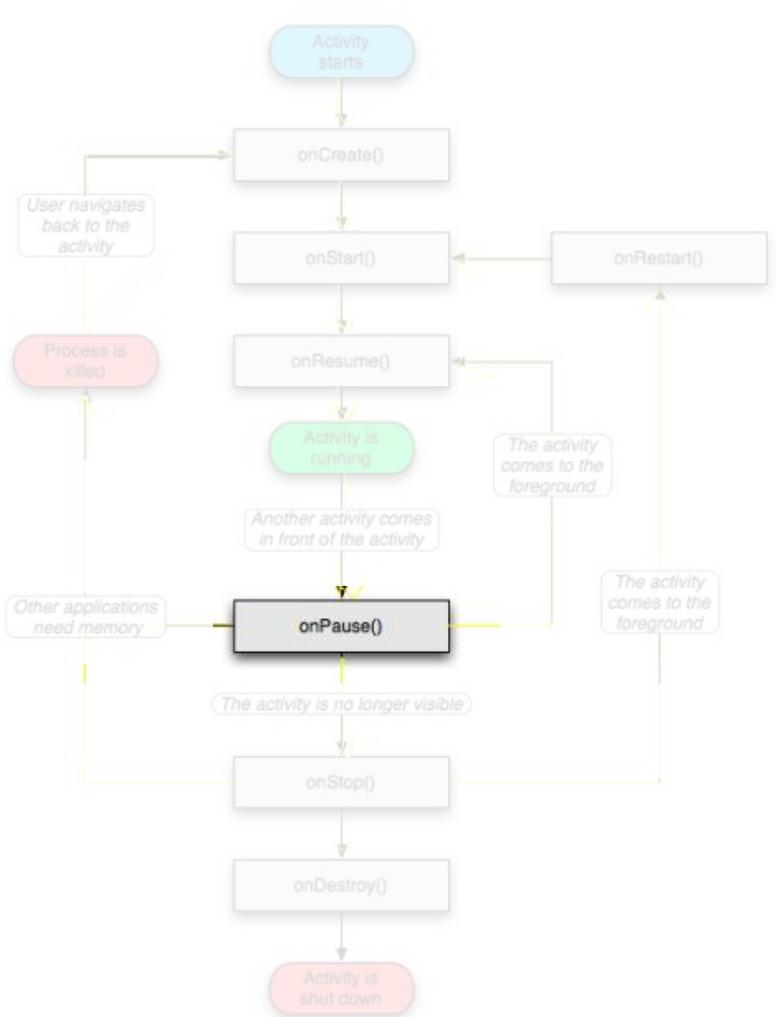
- OnStart()
  - Called when onCreate() terminates
  - Called right before it is visible to user
  - If it has the focus, then onResume() is called
  - If not, onStop() is called

The Activity life-cycle.



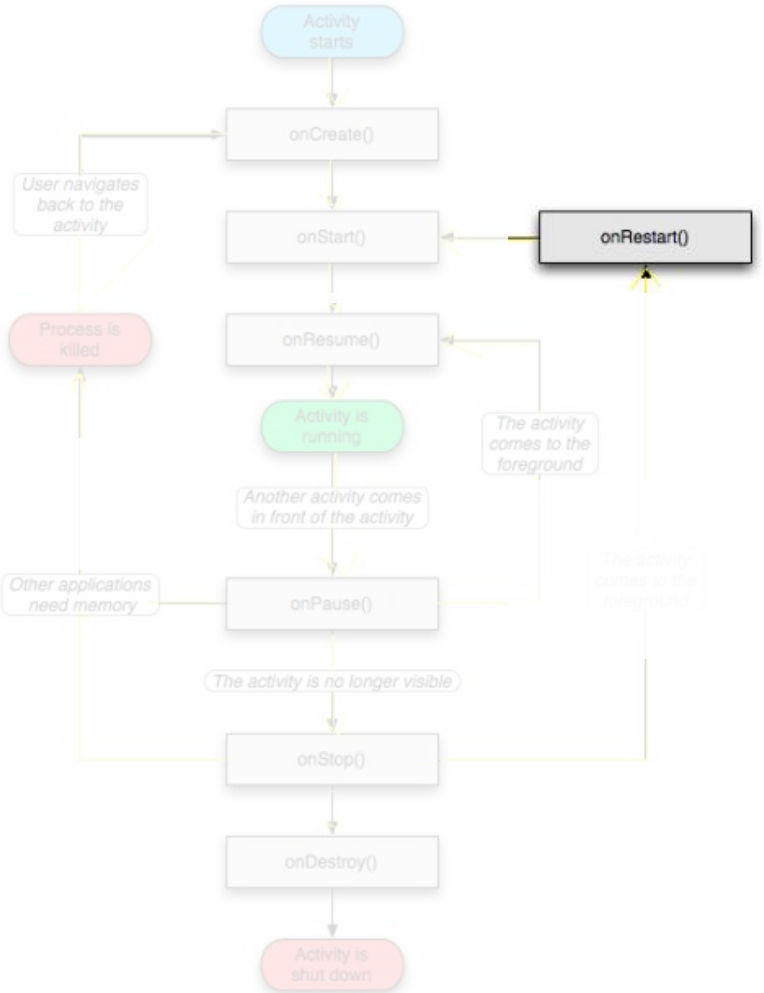
- OnResume()
  - Called when the activity is ready to get input from users
  - Called when the activity is resumed too
  - If it succesfully terminates, then the Activity is RUNNING

The Activity life-cycle.



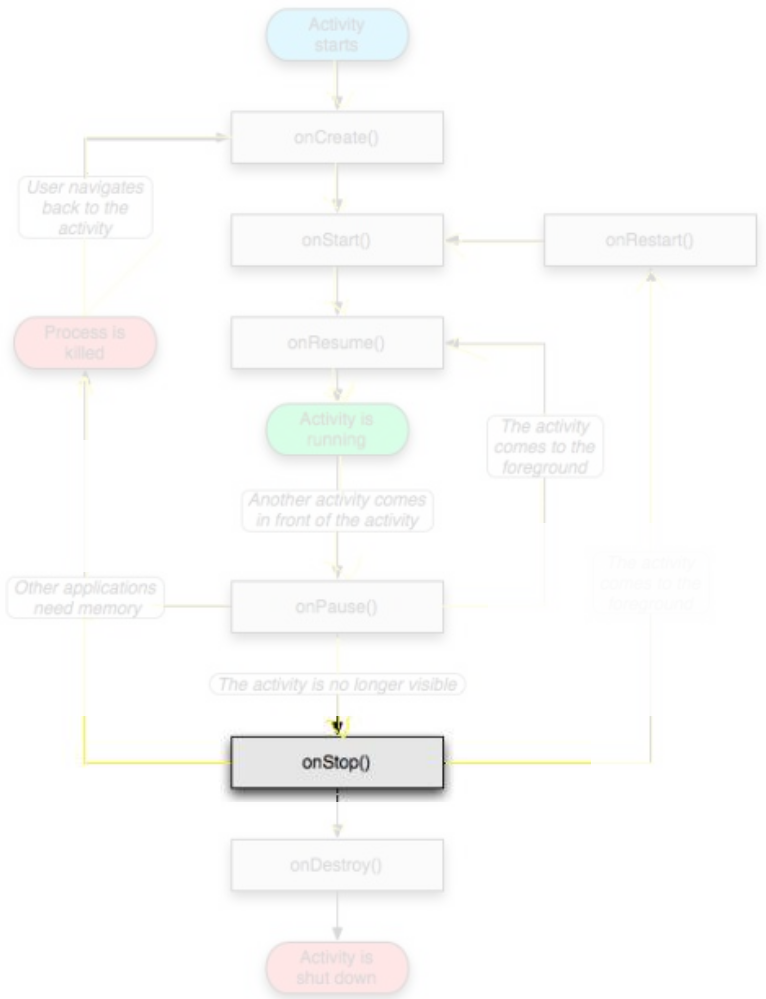
- OnPause()
  - Called when another activity comes to the foreground, or when someone presses back
  - Commit unsaved changes to persistent data
  - Stop cpu-consuming processes
  - Make it fast

The Activity life-cycle.



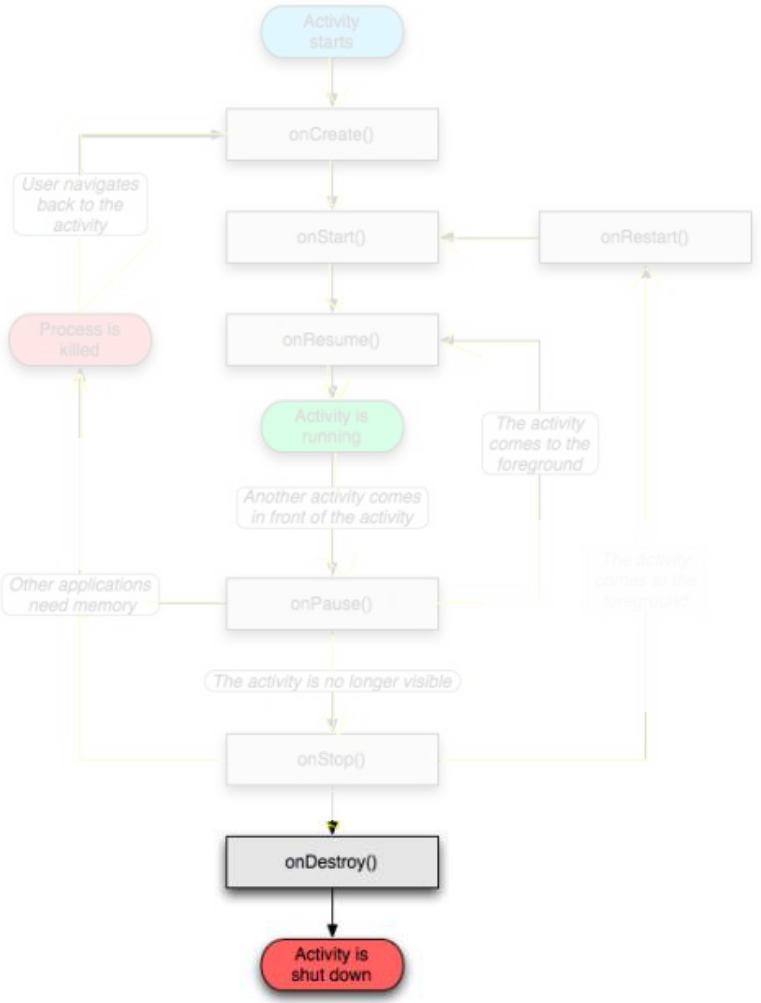
- OnRestart()
  - Similar to onCreate()
  - We have an activity that was previously stopped

The Activity life-cycle.



- OnStop()
  - Activity is no longer visible to the user
  - Could be called because:
    - the activity is about to be destroyed
    - another activity comes to the foreground

The Activity life-cycle.



- OnDestroy()
  - The activity is about to be destroyed
  - Could happen because:
  - The systems need some stack space
    - Someone called finish() method on this activity
    - Could check with isFinishing()