



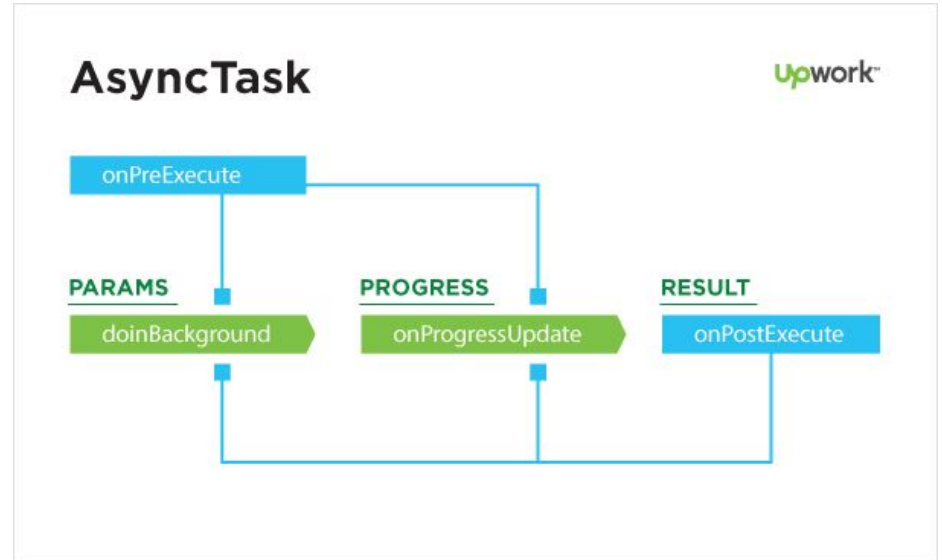
Android Week Seven

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Last Week

- NetworkOnMainThreadException
- Threads
- AsyncTask



Problem with AsyncTask

- What happens if the activity is destroyed while the Networking calls are being made?
- Background thread (AsyncTask) continues to run.
- When it finishes, the activity that it returns to is no longer active but because the thread is running, the activity is kept around becomes a “zombie” activity.
- Causes memory leaks.
 - When a program fails to discard references to memory that are no longer used.
 - Leads to more pressure on memory.

When does an Activity get destroyed?

- Android OS kills low-priority apps that has not been active recently when it runs out of memory.
- When the device rotates.
 - Activity gets destroyed and recreated whenever the device configuration changes.
 - Screen width and height, screen orientation, etc
- How do we handle this case?

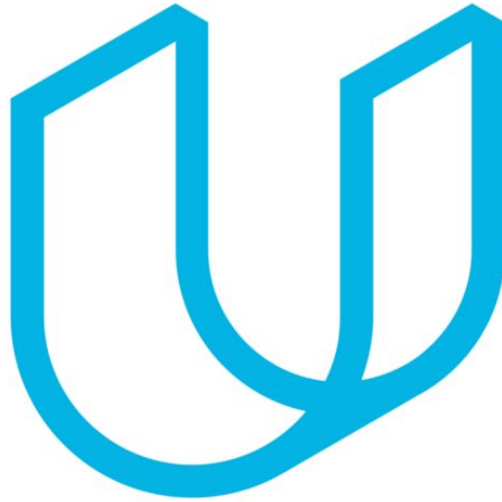
What if there is an event listener?

- Imagine an event listener that listens for an alarm only when the app is visible to the user.
- We would need to attach and detach this listener when the app becomes visible or invisible.
- How do we handle this case?

Activity Lifecycle

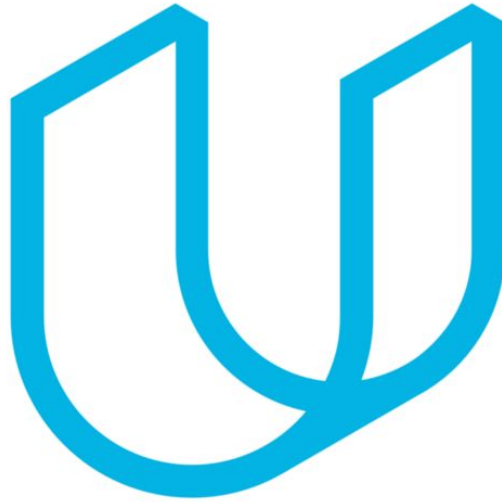
- As the user navigates in and out of the app, the activity goes through multiple states.
- Android provides callbacks in each state within an activity so that programmer can handle each case.

Activity Lifecycle



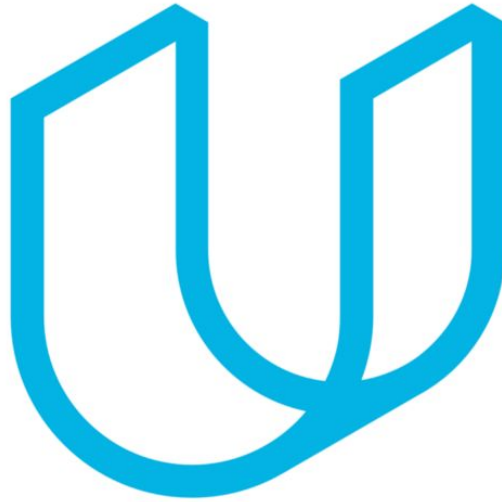
<https://www.youtube.com/watch?v=8NGSfSvOkNI>

Activity Lifecycle



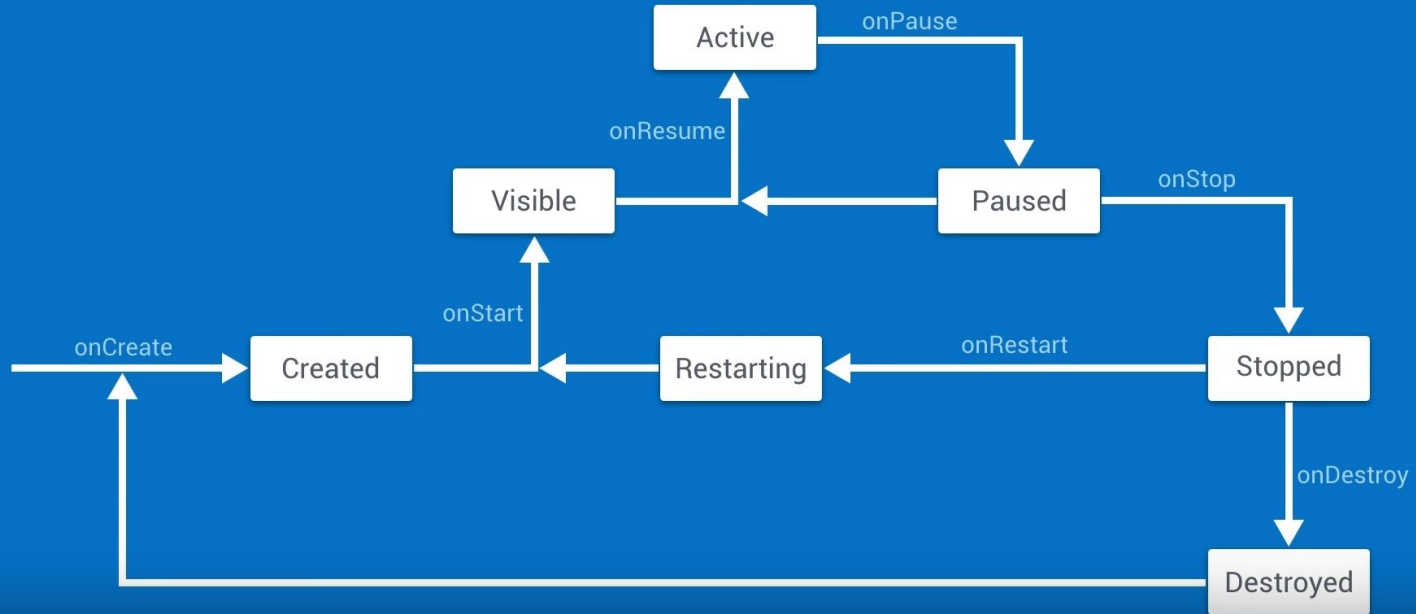
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Activity Lifecycle

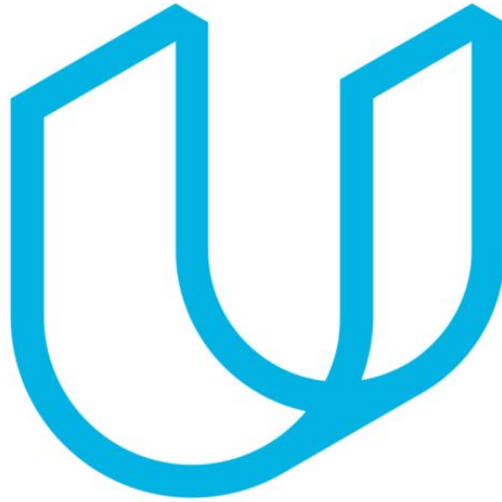


<https://www.youtube.com/watch?v=0JpxCe4G5cc>

Android Activity Life Cycle



Loader



<https://www.youtube.com/watch?v=CuAcqePU9ps>

Loader

- Loaders are managed by LoaderManager
- LoaderManager are outside an Activity and unaffected by the Activity Lifecycle
- Using unique ids, there will only be one loader running a task
- Loaders will return to recreated activity even if activity is destroyed midway

Let's Start Coding!

Next Week

- Polish Design
- Add methods for conversion. (WeatherUtils)

