Xamarin.Android Fundamentals: Activities

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Xamarin Dev Days
Saturday Oct 29th 9am – 5pm
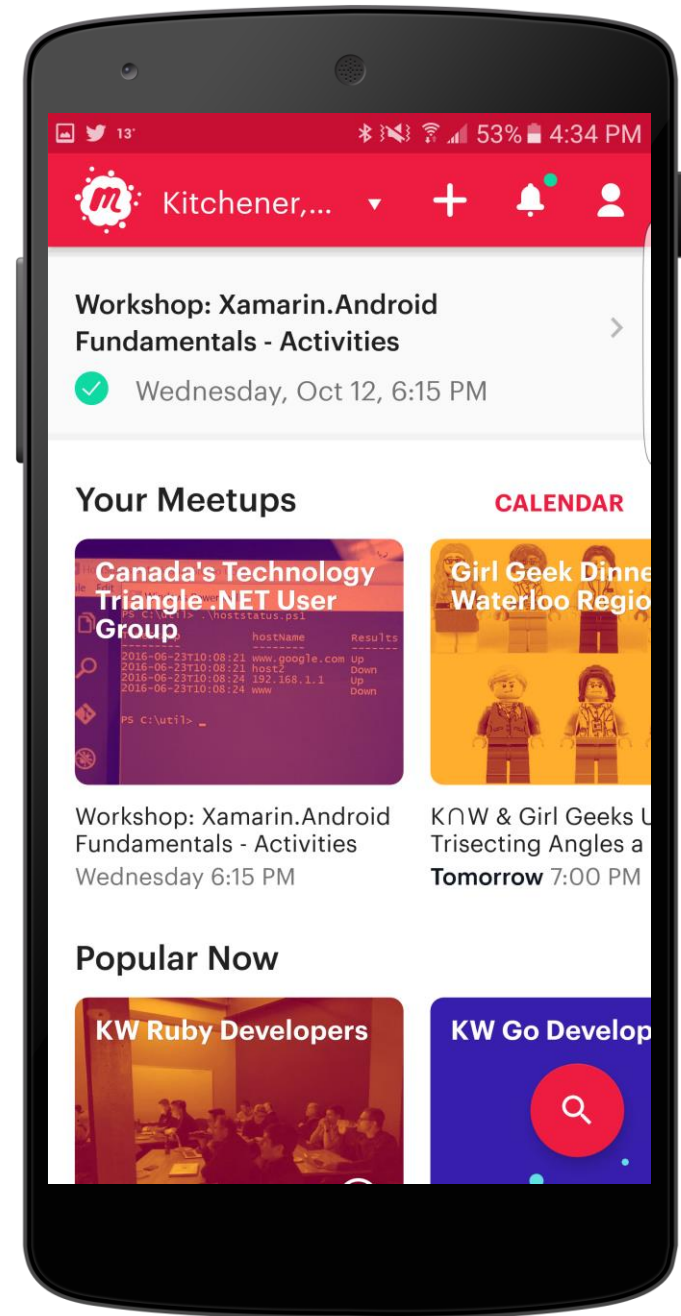HackerYou, 483 Queen Street West,
Toronto, Ontario

Register at:
https://ti.to/xamarin/dev-days-toronto

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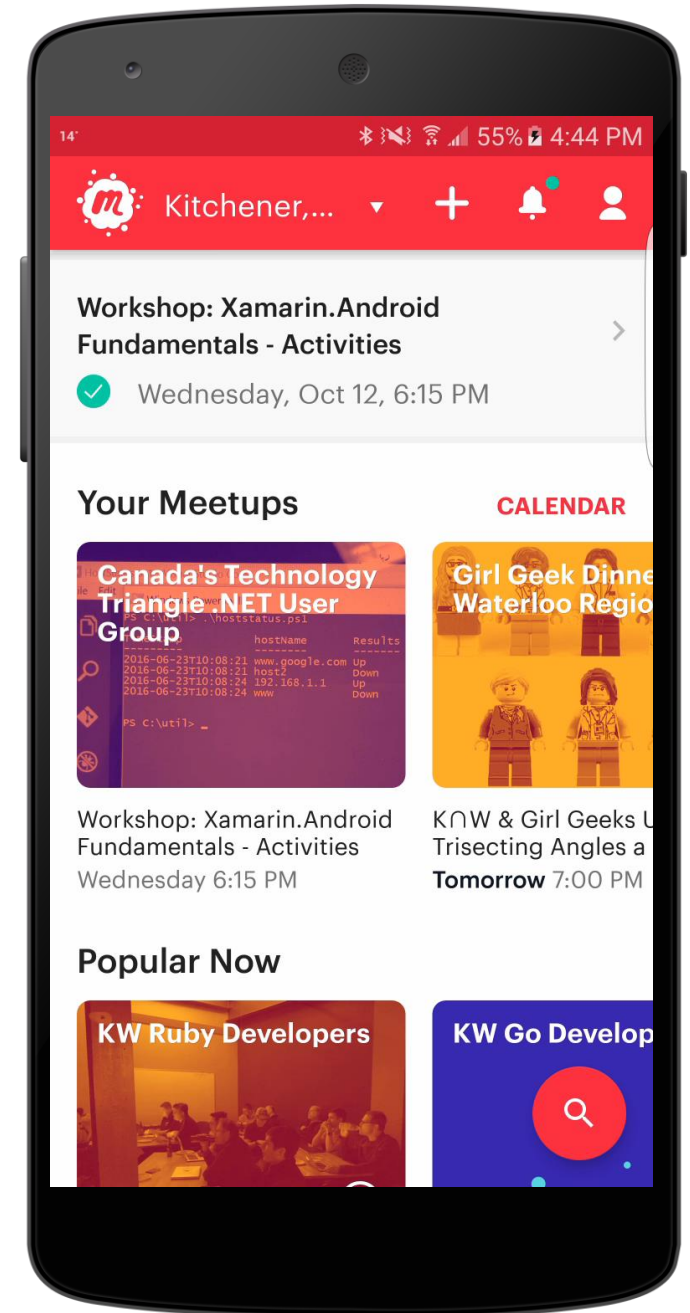
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What is an Activity?

- Fundamental building block of an Android app

- Representation of a single screen

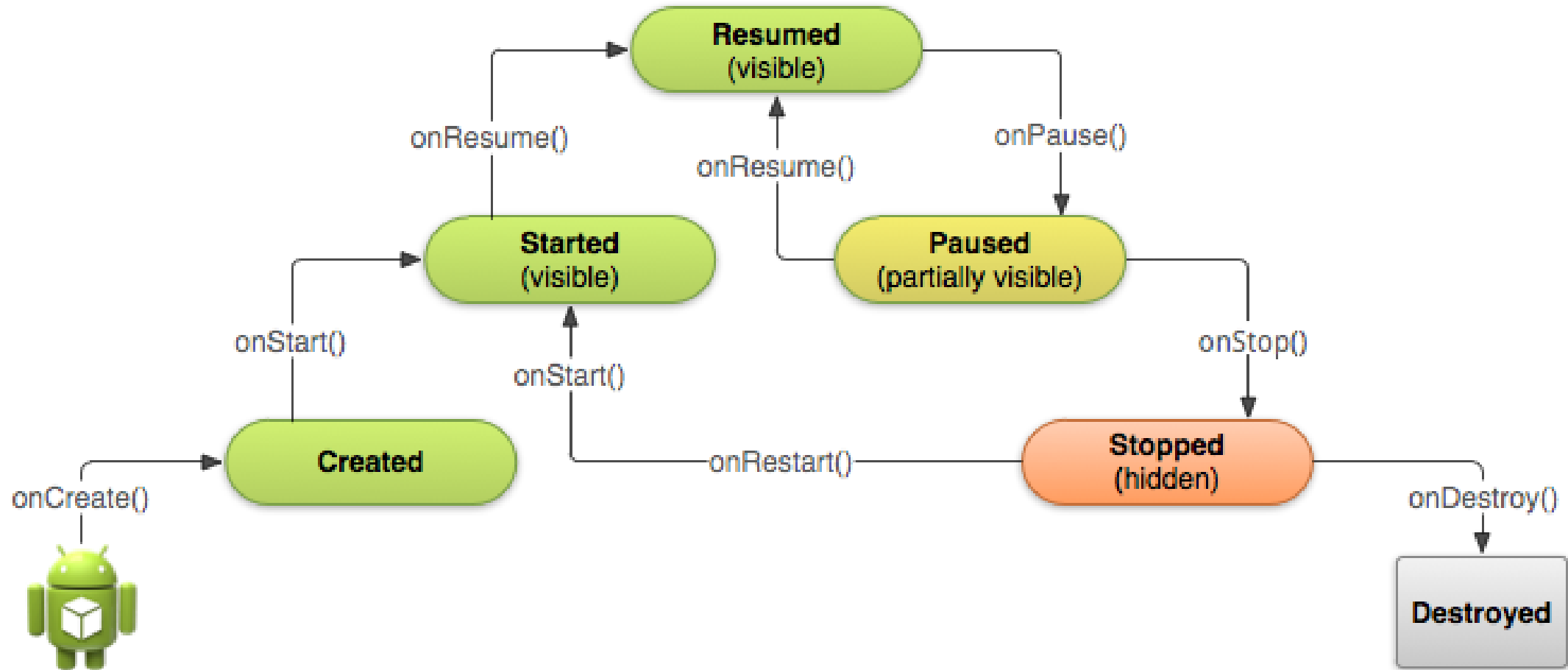- Contained within a window (full screen or floating window)

What is its purpose?

- Enables user interaction

- A "main" activity must be defined, which will be displayed when the app is launched

- Android apps require at least 1 activity, but can have many

Activity Lifecycle

https://developer.android.com/training/basics/activity-lifecycle/starting.html
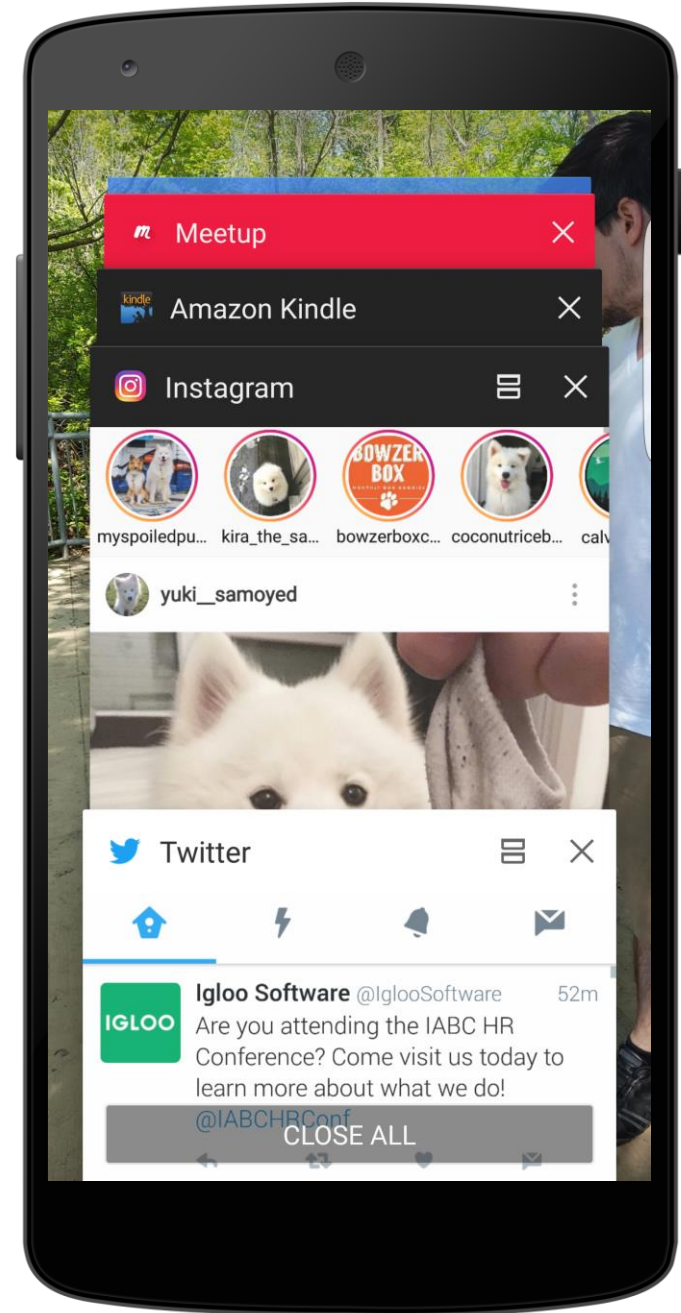
Reasons to Implement Activity Lifecycle Methods

- Load user interface

- Release resources when app is not in foreground

- Mitigate against application crashes when interrupted

- Store persistent data

Saving State

- OnSaveInstanceState
  - called before placing the activity in a background state
  - enables you to save instance state in your activity into the given Bundle
  - the state can be restored through OnCreate or OnRestoreInstanceState

Restoring State

- OnRestoreInstanceState

  o performs a restore of any view state that had previously been frozen by OnSaveInstanceState

  o called after OnStart when the activity is being re-initialized from a previously saved state

  o OnCreate may be used instead to restore state

What is the Bundle?

- An object which contains a collection of key-value pairs

- Use the bundle in OnSaveInstanceState to save "instance state"

- Use the bundle in OnRestoreInstanceState to restore the "instance state"

How to save to the Bundle

- Bundle contains set of Put* and Get* methods

- Use the appropriate method based on the type of data being stored / retrieved

Get(string key)
GetBoolean(string key)
GetByte(string key)
GetString(string key)
...and many, many more

Put(string key)
PutBoolean(string key)
PutByte(string key)
PutString(string key)
...and many, many more

Launching Activities

- To navigate to a new activity within the app, call StartActivity(Intent, Bundle) on the Context.

  o Intent – description of the activity to launch

  o Bundle – parameters to pass to the activity

Workshop: Activity Lifecycle
(45 mins)

Workshop – 3 parts (45 mins)

- Clone: https://github.com/llalonde/XamarinWorkshops.git

- Follow the steps in Workshop.pdf

Additional Resources

- Android Developer Resources: https://developer.android.com/
  - **Activities:** ~/guide/components/activities.html
  - **Intents:** ~/reference/android/content/Intent.html
  - **Activity Lifecycle:** ~/training/basics/activity-lifecycle/index.html

Thanks!

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