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Nota di contenuto	Cover; Copyright; Credits; About the Author; About the Reviewers; www.PacktPub.com; Table of Contents; Preface; Chapter 1: Building Responsive Android Applications; Introducing the Dalvik Virtual Machine; Memory sharing and the Zygote; Understanding the Android thread model; The main thread; Unresponsive apps and the ANR dialog; Maintaining responsiveness; Concurrency in Android; Correctness issues in concurrent programs; Liveness issues in concurrent programs; Android-specific concurrency issues; Android-specific concurrency constructs; Summary; Chapter 2: Staying Responsive with AsyncTask Introducing AsyncTaskDeclaring AsyncTask types; Executing AsyncTasks; Providing feedback to the user; Providing progress updates; Canceling AsyncTask; Handling exceptions; Controlling the level of concurrency; Common AsyncTask issues; Fragmentation issues; Activity lifecycle issues; Handling lifecycle issues with early cancellation; Handling lifecycle issues with retained headless fragments; Applications of AsyncTask; Summary; Chapter 3: Distributing Work with Handler and HandlerThread; Understanding Looper; Building responsive apps with Handler; Scheduling work with post Canceling a pending RunnableScheduling work with send; Canceling pending Messages; Composition versus Inheritance; Multithreaded example; Sending Messages versus posting Runnables; Building responsive apps with HandlerThread; Handler programming issues; Leaking implicit references; Leaking explicit references; Applications of

Handler and HandlerThread; Summary; Chapter 4: Asynchronous IO with Loader; Introducing Loaders; Building responsive apps with AsyncTaskLoader; Building responsive apps with CursorLoader; Combining Loaders; Applications of Loaders; Summary  
Chapter 5: Queuing Work with IntentServiceIntroducing Service and IntentService; Building responsive apps with IntentService; Handling results; Returning results with PendingIntent; Posting results as system notifications; Applications of IntentService; HTTP uploads with IntentService; Reporting progress; Summary; Chapter 6: Long-running Tasks with Service; Building responsive apps with Service; Controlling concurrency with Executors; Returning results with Messenger; Communicating with Services; Direct communication with local Services; Broadcasting results with Intents  
Detecting unhandled broadcastsApplications of Services; Summary; Chapter 7: Scheduling Work with AlarmManager; Scheduling alarms with AlarmManager; Canceling alarms; Scheduling repeating alarms; Handling alarms; Handling alarms with Activities; Handling alarms with BroadcastReceiver; Doing work with BroadcastReceiver; Doing background work with goAsync; Handling alarms with Services; Staying awake with WakeLocks; Applications of AlarmManager; Summary; Index

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## Sommario/riassunto

Concurrent Programming on Android is a step-by-step guide that builds a complete picture of the concurrency constructs available on the Android platform. This book is for Android developers who want to learn about the advanced concepts of Android programming. No prior knowledge of concurrency and asynchronous programming is required. This book is also targeted towards Java experts who are new to Android.

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