Working with RecyclerView and CardView

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What to Expect from This Module

ListView Limitations

RecyclerView Overview

Developing RecyclerView Components

RecyclerView LayoutManagers

Displaying Lists of Data

Displaying lists of data very common

- Historically relied on ListView

ListView has limitations

- Always displays as vertical list
- Can be challenging to customize
- Performance challenges in some cases

ListView and modern app expectations

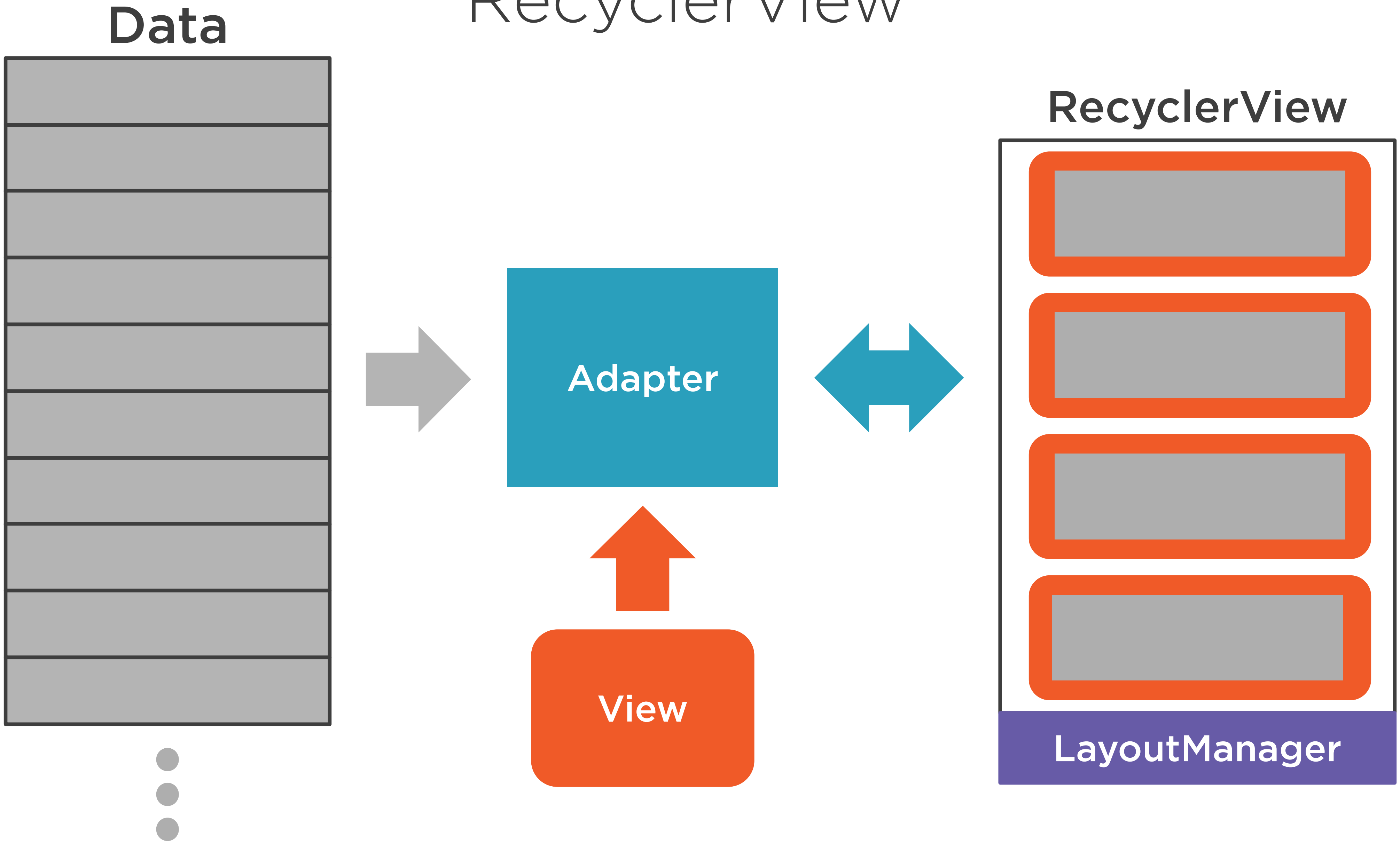
- Need a solution with more flexibility

RecyclerView

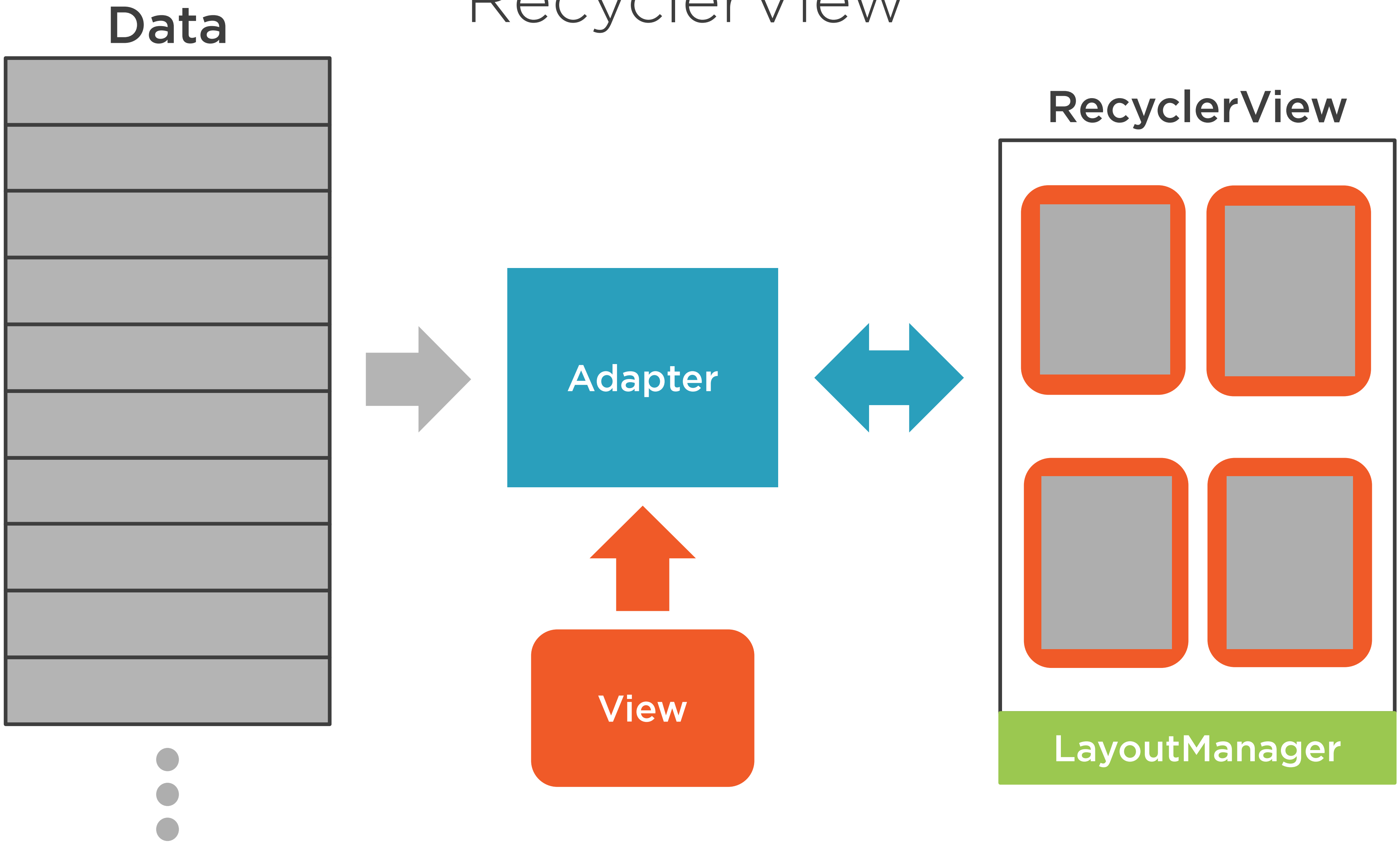
RecyclerView is designed for modern apps

- Extremely flexible
- List display divided into distinct phases
- Each phase offers chance to customize
- Provides efficient display management

RecyclerView



RecyclerView



Developing the RecyclerView Components

Design the RecyclerView

- Handled much like any other view
- Usually part of a layout resource

Create and associate layout manager

- Controls arrangement of items

Developing the RecyclerView Components

Design item view

- Controls appearance of individual item
- Usually a layout resource
- Separate resource from RecyclerView

Create and associate adapter

- Constructs item view instances
- Manages data interaction
- Associates data items with item views

Layout Manager

RecyclerView.LayoutManager

- Base class for layout managers
- Extend to create custom layout manager

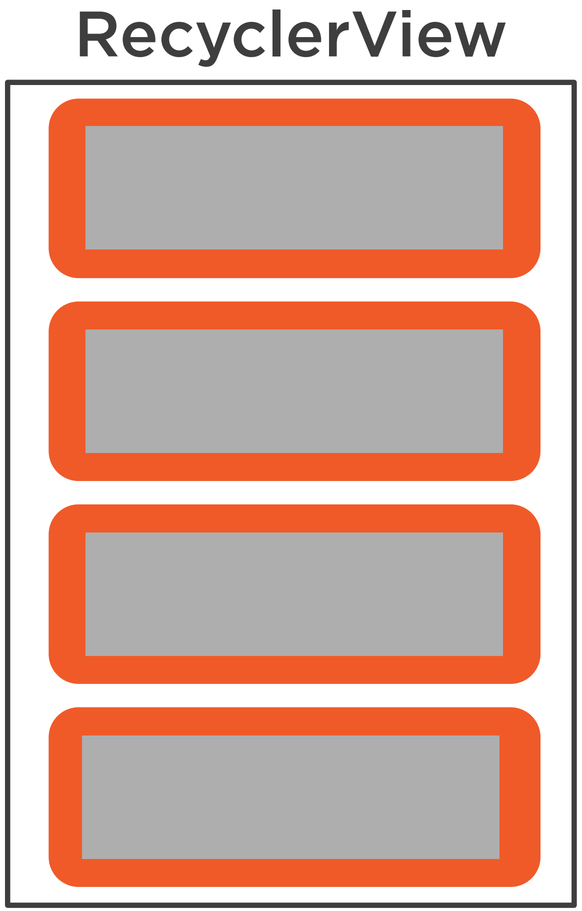
Android provides several implementations

- Handle most common scenarios
- Support vertical & horizontal orientation

Linear Layout Manager

Items organized as linear list

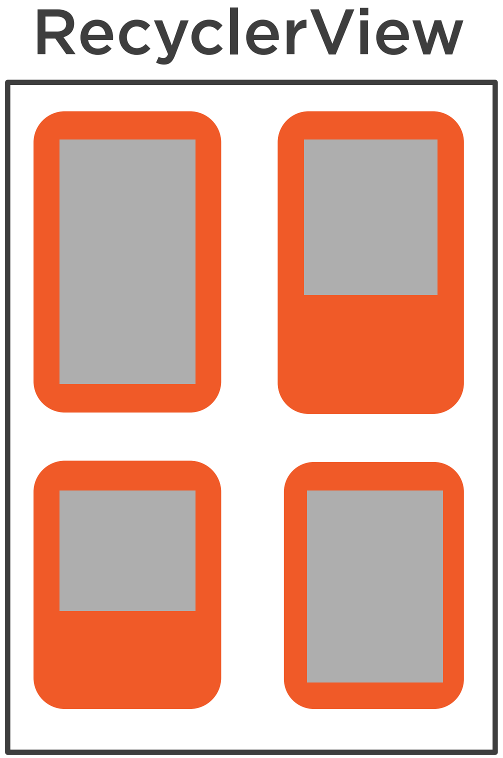
- Similar to ListView



Grid Layout Manager

Items organized as a grid

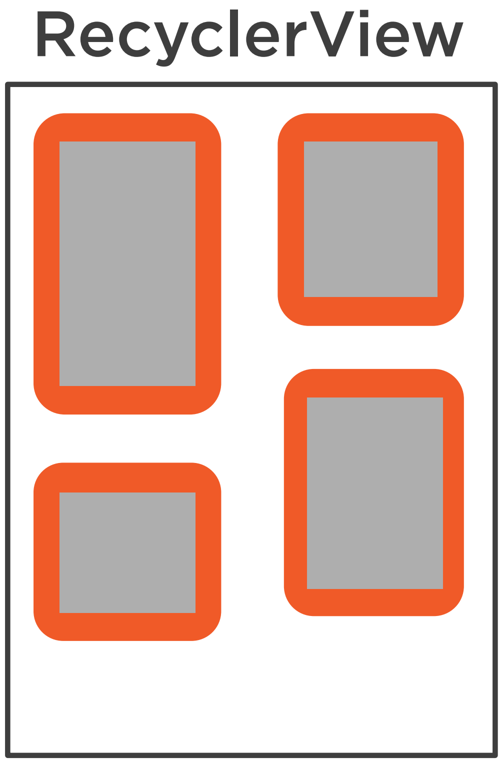
- Can specify span
  - i.e. columns for vertical orientation
- Adjacent items consistently sized



Staggered Grid Layout Manager

Items organized as a grid

- Can specify span
- Each item individually sized



Summary

RecyclerView

- Supports rich app experience
- Provides efficient display management
- Divides list display into phases
- Each phase customizable

Working with RecyclerView

- Design RecyclerView
- Create and associate LayoutManager
- Design item view
- Create and associate adapter

Summary

LayoutManager

- Provides item display organization
- Can be customized
- Multiple provided implementations

LayoutManager implementations

- LinearLayoutManager
- GridLayoutManager
- StaggeredGridLayoutManager