Week 8 Lecture

ViewBinding, ViewModel and MVVM

01

Project Demo

What are we building this week?

02

ViewBinding

Replacing findViewById() using ViewBinding

03

Android ViewModel

Implementing MVVM using Android ViewModel

04

ViewModel Scoping

Saving data across configuration changes

Project Demo

What are we building this week?

Week 8 Project Updates

- Refactoring ForecastDetailsFragment
- Using ViewBinding to replace calls to findViewById()
- Using ViewModel to implement MVVM
- Saving data across configuration changes using ViewModel scoping

ViewBinding

Replacing calls to findViewById()

Generate statically typed view references

Removes any need for findViewById()

Access Generated View Properties

```
// inflate layout and get ViewBinding reference
val binding = FragmentForecastDetailsBinding.inflate(inflater, parent, false)

// access null-safe properties to reference you views
binding.descriptionText.text = viewState.description
binding.dateText.text = viewState.date
binding.forecastIcon.load(viewState.iconUrl)
```

Enable ViewBinding

```
// app/build.gradle

android {
  …
  viewBinding {
        enabled = true
  }

}
```

ViewModel

Separating business logic from UI presentation

“The ViewModel class is designed to store and manage UI-related data in a lifecycle conscious way. The ViewModel class allows data to survive configuration changes such as screen rotations”

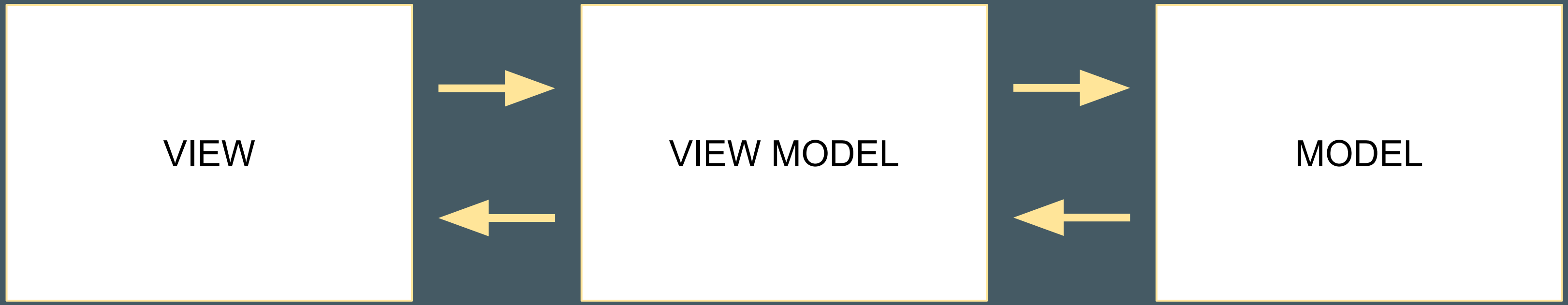
Using ViewModel

- Manage data sources
- Format data
- Save data across configuration change
- Expose data to be displayed in the UI

MVVM

Separation of business logic and UI presentation

MVVM

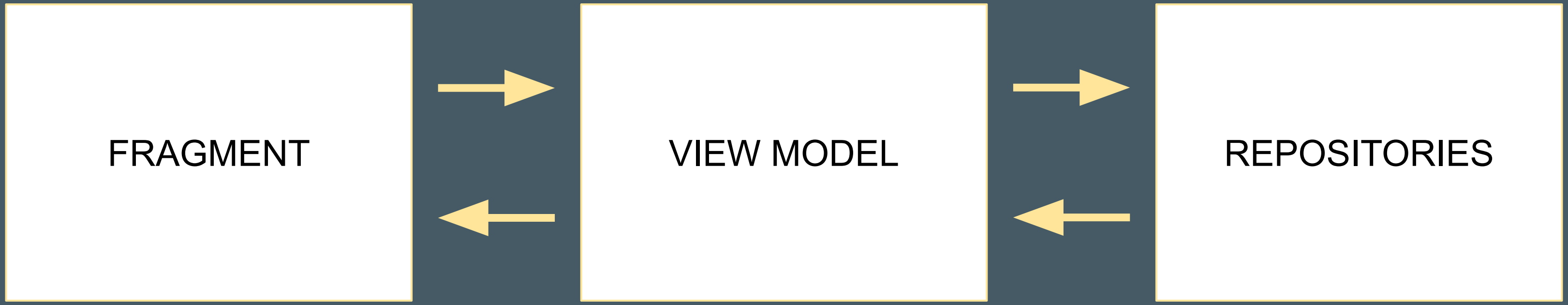


VIEW

VIEW MODEL

MODEL

MVVM



FRAGMENT

VIEW MODEL

REPOSITORIES

ViewModel Scoping

Save data across configuration changes

ViewModel Scoping

- Avoid creating a new ViewModel in response to configuration changes
- Reuse existing ViewModels (and data) within different scopes
    - Fragment
    - Activity
    - Navigation Graph

ViewModel Scoping

- More responsive apps
- Fewer network and database requests
- Better user experience

Demo