

ILT Sesi 3 - Android

Guideline **Instructor/Expert Led Session**



Fokus Penuh



Always-on Camera



Raise hand atau Chat jika ingin bertanya



Mute jika sedang tidak berbicara

Porsi Skor Penilaian (Tech)

Jenis Aktivitas	Porsi Skor
Rata-rata Kuis pada ILT	20%
Aktivitas selama ILT (bertanya, menjawab, membantu diskusi)	10%
Aktivitas Forum Diskusi*	10%
Rata-rata Exam/Submission Project	60%

**Jika ditemukan peserta spamming pada forum diskusi, maka nilai terbaik yang bisa didapat adalah 60 (dari skala 100)*

Pengenalan Android Studio

Tips & Trick

AB

Gunakan Code Completion



Gunakan Fitur Navigate Code



Debugger



Evaluate Expression pada Debugger



Code Inspection & Code Cleanup



Android Profiler



Project Template

Recommended Plugins

- ROBOPojoGenerator
- Key Promoter X
- Material Theme
- ADB Idea

Application lifecycle

Lifecycle Problem

- Misleading **onPause()** lifecycle Event
- Fragment Lifecycle sedikit sulit untuk diatur
- Beberapa method lifecycle event *deprecated*

Intent

Intent Playground

- Mengirimkan data ke package lain (Aplikasi)
- Tidak hanya untuk berpindah halaman Activity

```
// Define image asset URI
val backgroundAssetUri = Uri.parse(uriString: "your-image-asset-uri-goes-here")

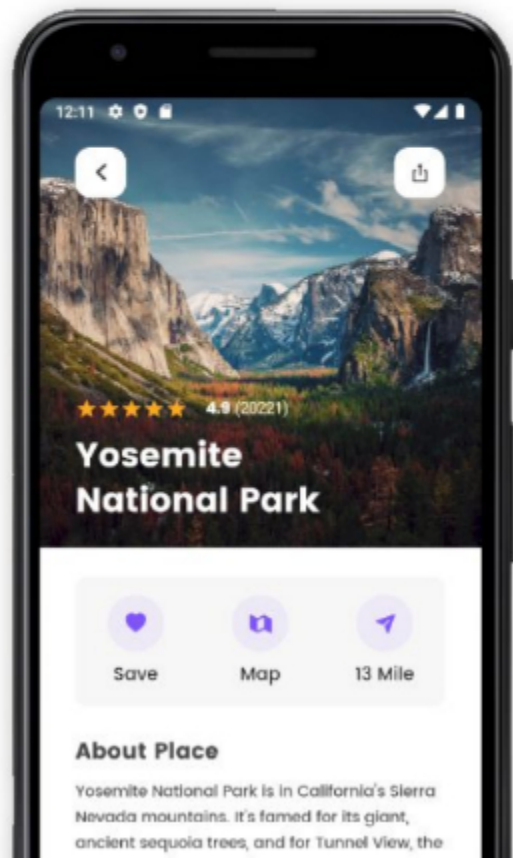
// Instantiate implicit intent with ADD_TO_STORY action and background asset
val intent = Intent(action: "com.instagram.share.ADD_TO_STORY")

intent.setDataAndType(backgroundAssetUri, MEDIA_TYPE_JPEG)
intent.flags = Intent.FLAG_GRANT_READ_URI_PERMISSION

// Instantiate activity and verify it will resolve implicit intent
val activity: Activity = this
if (activity.packageManager.resolveActivity(intent, 0) != null) {
    activity.startActivityForResult(intent, requestCode: 0)
}
```

Views dan ViewGroup

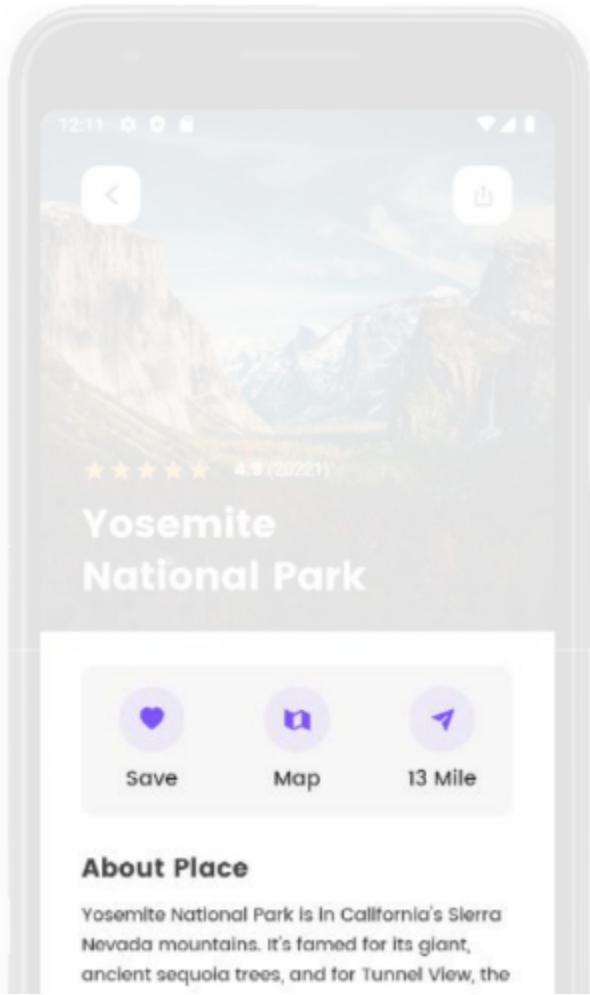
Build Complex UI



Caranya?

Hirarki ViewGroup yang bersarang?

Build Complex UI



```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

```
<LinearLayout
```

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:background="@drawable/bg_detail_content"
    android:orientation="horizontal">
```

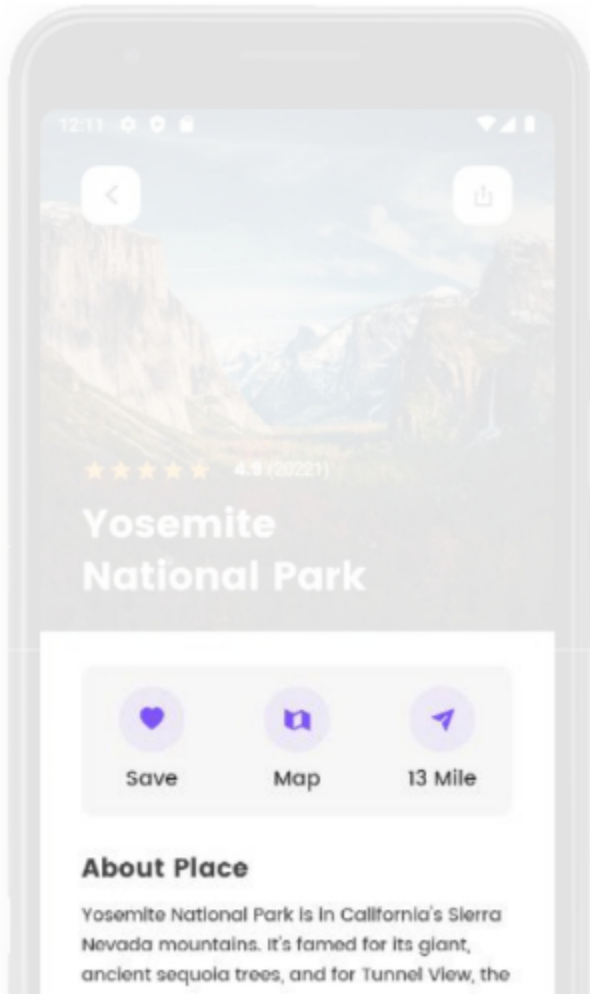
```
<LinearLayout
```

```
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_weight="1"
    android:orientation="vertical">
```

```
<ImageView
```

```
    android:layout_width="50dp"
    android:layout_height="50dp"
    android:layout_gravity="center"
    android:contentDescription="@string/app_name"
    android:src="@drawable/ic_content_save" />
```

Build Complex UI



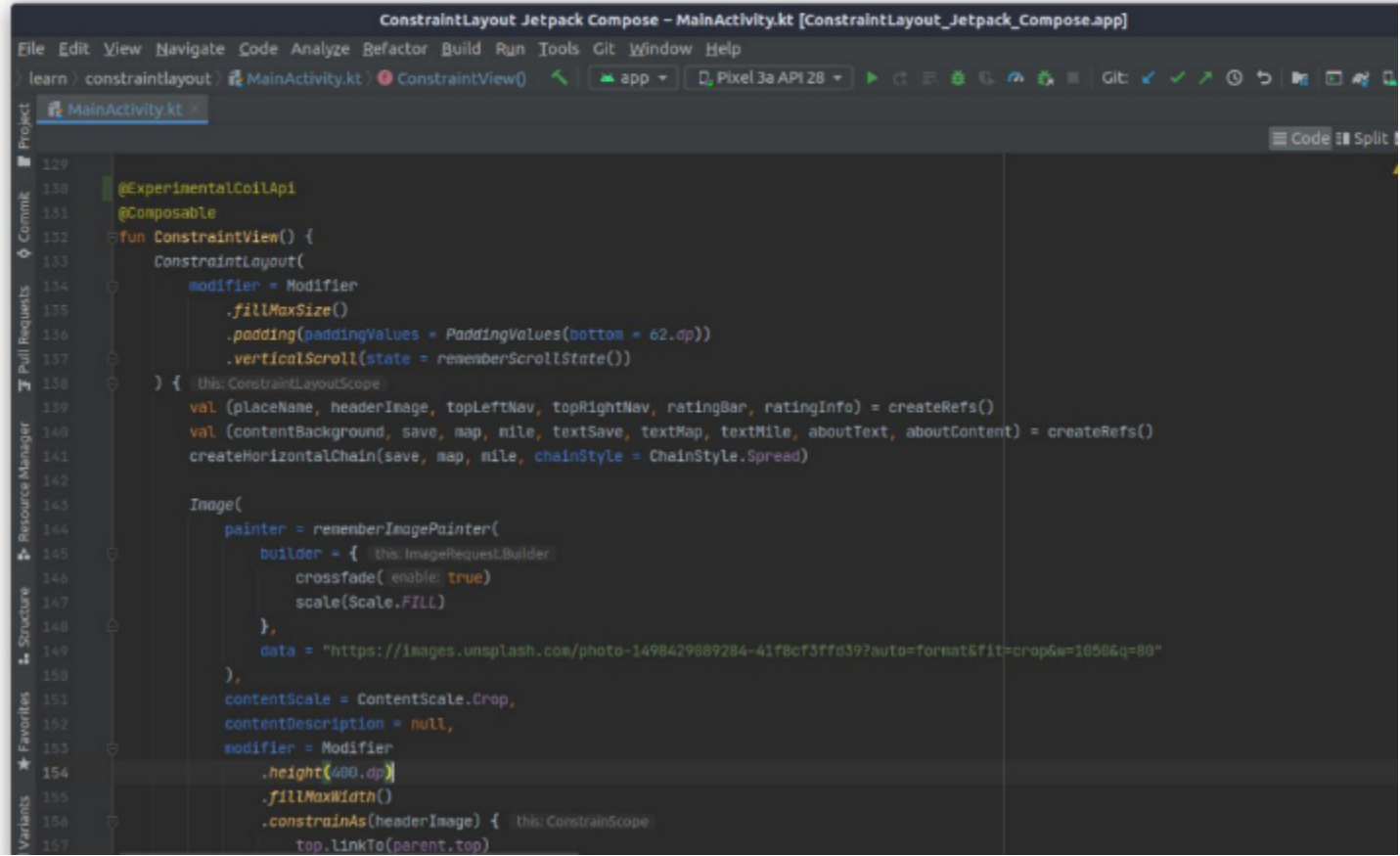
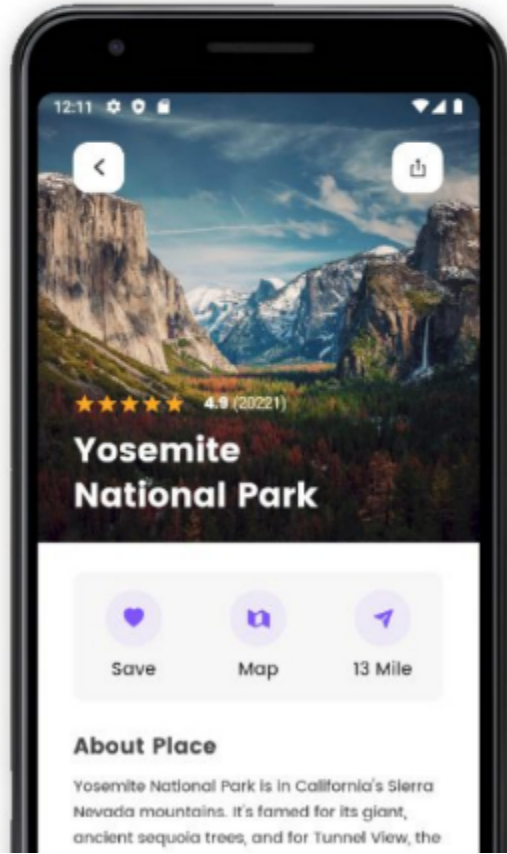
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <View
        android:id="@+id/containerTop"
        android:layout_width="0dp"
        android:layout_height="0dp"
        android:layout_marginStart="28dp"
        android:layout_marginTop="-20dp"
        android:layout_marginEnd="28dp"
        android:layout_marginBottom="-20dp"
        android:background="@drawable/bg_search_form"
        app:layout_constraintBottom_toBottomOf="@id/detailTripMap"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="@id/imageMap" />

    <ImageView
        android:id="@+id/imageSave"
        android:layout_width="50dp"
        android:layout_height="50dp"
```

Kenapa menggunakan ConstraintLayout?

Build Complex UI with Jetpack Compose?



Style dan Theme

Avoid boilerplate with Style

- Menghindari boilerplate dengan cara yang elegan
- Mudah digunakan saat *Rapid development*
- Mudah saat ingin membuat Design System

Style Declaration

```
<style name="PrimaryButton">
    <item name="android:layout_width">wrap_content</item>
    <item name="android:layout_height">wrap_content</item>
    <item name="android:textColor">@color/black</item>
    <item name="android:textSize">24sp</item>
    <item name="android:textStyle">bold</item>
    <item name="backgroundTint">@color/light_blue</item>
</style>
```

Use just like this

```
<Button
    android:id="@+id/btn_sign_in"
    android:text="@string/txt_sign_in"
    style="@style/PrimaryButton"/>
```

RecyclerView

Avoid using notifyDataSetChanged()

- Isu performa
- Proses sync yang berat di background
- “Mudah” dalam menerapkan refactoring

Avoid this

```
fun submitList(newData: List<User>){  
    listUser = newData  
  
    this.notifyDataSetChanged()  
}
```

This is the best practice!

```
fun updateItems(newItems: List<User>) {  
    val diffResult = DiffUtil.calculateDiff(RepoDiffCallback(listUser, newItems))  
    listUser = newItems  
  
    diffResult.dispatchUpdatesTo(adapter: this)  
}
```

Tips & Trik Android Studio Atau Bermain dengan Jetpack Compose?

Atau mau dua-duanya?



<https://bit.ly/ILT-3-P4>

Jangan lupa untuk mengisi Feedback



dicodin 

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