
Mobile Application Development – IT2010

Lecture 3 - Mobile Interface Design Concepts and UI/UX Design Fundamentals

"Practice safe design: Use a concept."

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Learning outcomes of the lecture

At the end of this Lecture students will be able to

- Define the terms UI and UX
- List the principles of user interface design
- Categorize different UI components in Android
- Identify the UI design frameworks
- Recognize the importance of UI Evaluation

Mobile Interface Design

- Interface design add meaning and value to the application
- Design will become attractive if universality design principles are applied.
- Designers face thread when many requirements are unclear and uncertain.



Are the above mentioned two words express the same idea???

Mobile UX – User Experience

- Enhancing user satisfaction of an app, while involving the user's opinions and feelings *before*, *during*, and *after* their interaction with an app.
- Includes all aspects of the end-user's interaction with the company, and its products/services.

Cont'd... - Why UX in mobile?

UX of a mobile application influences how users observe it

Ex:

- Does app provides them value?
- Is the app easy to use?
- Does it help them to fulfill their goal?

Mobile UI – User Interface

- User interface is everything that the user can see and interact with
- In simply terms, “the design of the user interface is not the appearance of a product, but how it works”
- Interface design is the first thing that users will see, therefore, it directly effects the user's view

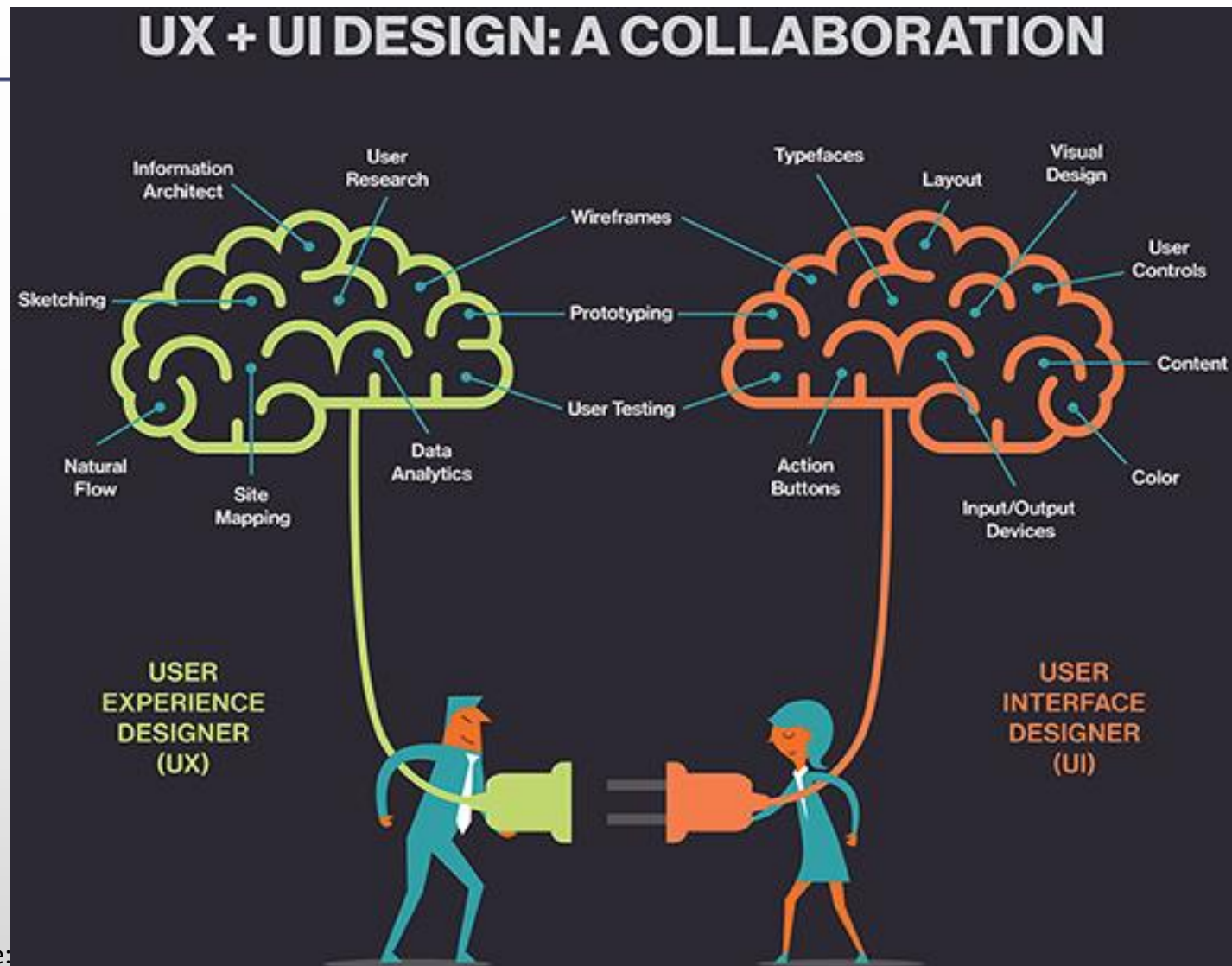
Cont'd... - Why UI in mobile?

Visual elements greatly impacts an emotional connection with the user

Ex:

- Does the color attract the user?
- Are the elements are placed properly?

Difference between UX & UI



Reference:

https://www.kamarupa.co.id/UserFiles/Image/blogs/UI-UX/software_quality-ux_ui_collaboration_desktop.jpg

Principles of Mobile User Interface Design

Principles of Mobile Interface Design

Mobile Mindset

- Be Focused
- Be Unique
- Be Charming
- Be Considerate

Mobile Contexts

- Bored
- Busy
- Lost

Global Guidelines

- Responsiveness
- Polish
- Thumbs
- Targets
- Contents
- Controls
- Scrolling

Principles of Mobile Interface Design

Navigation Models

- None
- Tab bar
- Drill down

User Inputs

- Keyboard variations
- Auto correction
- Device Orientation

Gestures

- Invisible
- Two hands
- Nice to have
- No replacement

Principles of Mobile Interface Design

Orientation

Communication

- Provide feedback
- Model alerts
- Confirmations

Launching

First Impressions

- Icon
- First Launch

Cont'd...

Principles of Mobile Interface Design:

Reference: <https://www.youtube.com/watch?v=XS0Qd7hLPhw>

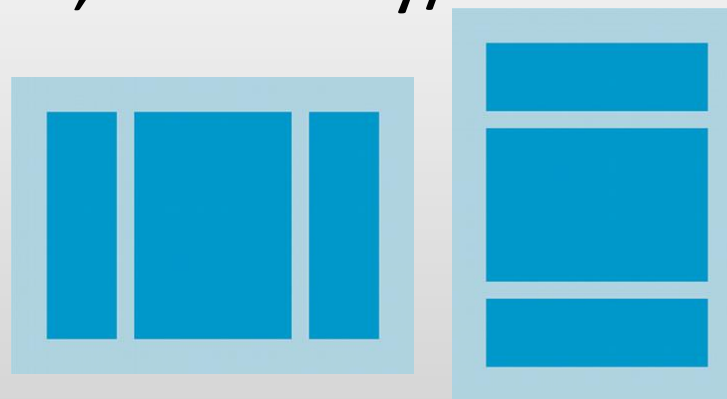
Mobile UI Components

Mobile UI components Based on Android

- Android provides a variety of pre-built UI components such as,
 - **Layouts**
 - **Notification**
 - **Menus**
 - **Dialogs**
 - **Toast**
and etc.
 - **Other common elements** (Buttons, Text fields and etc,)

Cont'd...

- A layout defines the structure for a user interface in your app
- **Linear Layout**
This layout aligns all children in a single direction, vertically/horizontal



Cont'd...

- **Relative Layout**
displays child views in relative positions to,
 - Sibling elements
 - Parent



Reference: <https://developer.android.com/images/ui/relativelayout.png>

Cont'd...

- **Constraint Layout**
 - This layout provide feature to position and size widgets in a flexible way
 - Works similar to relative layout but more flexible than that.

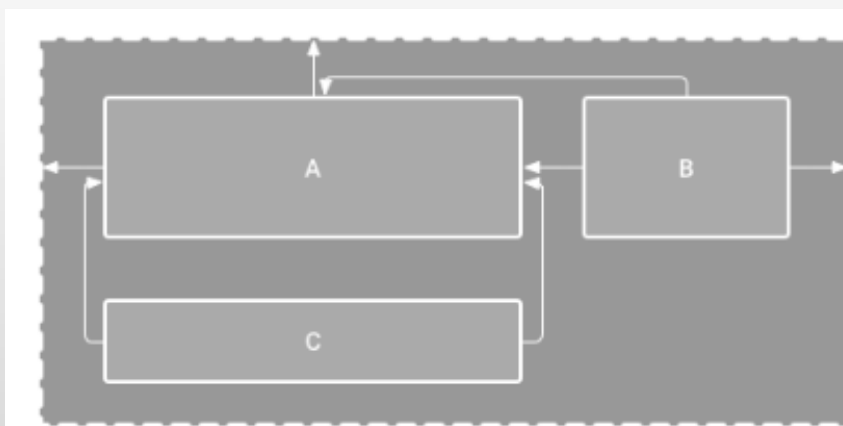


Figure 1. The editor shows view C below A, but it has no vertical constraint

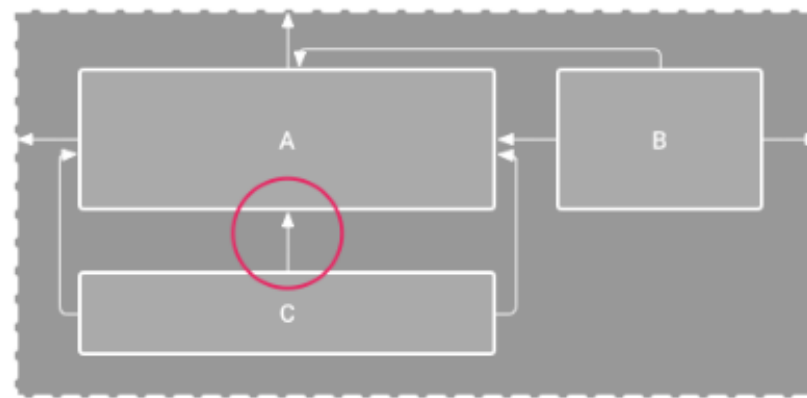


Figure 2. View C is now vertically constrained below view A

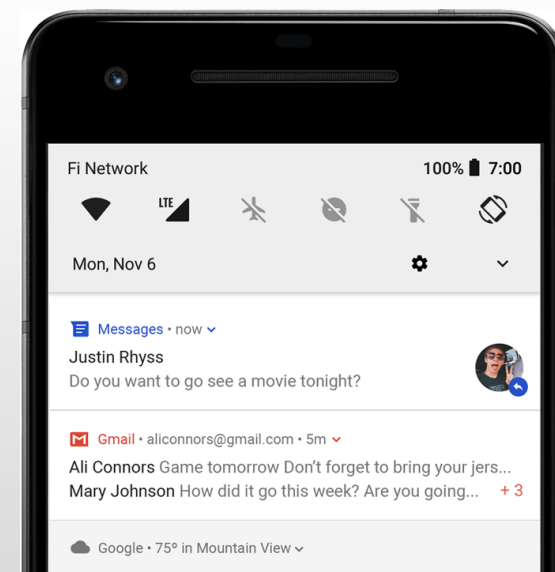
Cont'd...

Other available layouts,

- **Adapter View**
- **Grid View**
- **Table Layout**
- **Absolute Layout**
- **Frame Layout**

Cont'd... Notification

- A message displays outside the app's UI to provide the user with,
 - Reminders
 - Communication from other people
 - Timely information from the app
- Users can tap the notification to open an app/take an action directly from the notification

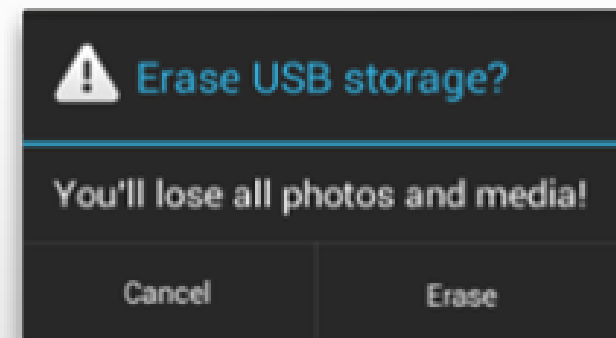


Reference:

https://developer.android.com/images/ui/notifications/notification-drawer_2x.png

Cont'd... Dialogs

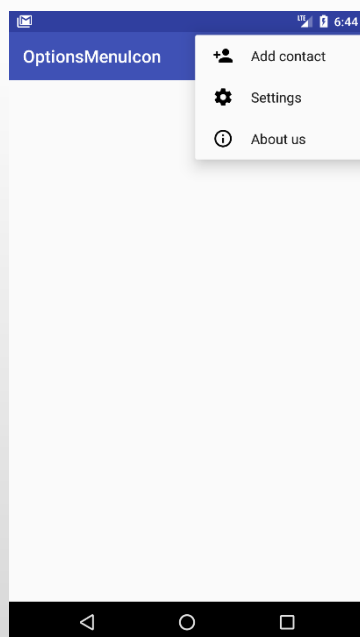
- Small window that prompts the user to make a decision before they can proceed.
- Dialog box does not fill the screen
- Consists of subclasses
 - AlertDialog
 - DatePickerDialog/TimePickerDialog



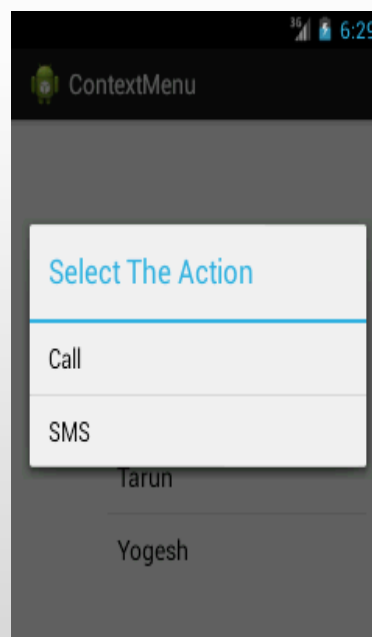
Cont'd... Menus

- This is a common component in many application, there are three standard menus,

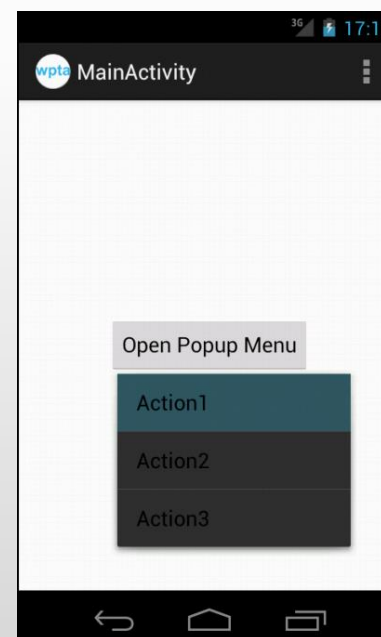
Options menu



Context menu



Popup menu



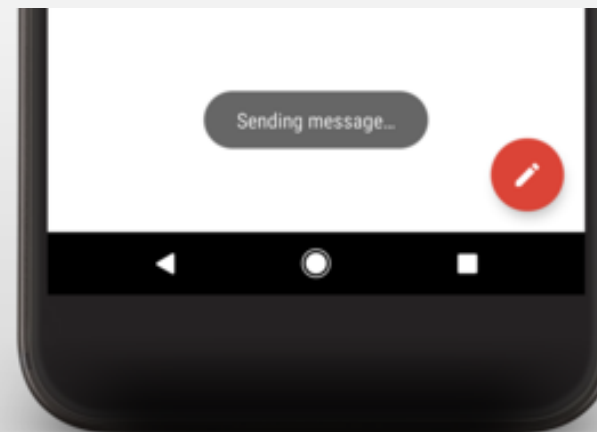
Reference:

http://wptrafficanalyzer.in/blog/wp-content/uploads/2012/07/popup_menu_demo.png

<https://www.codingdemos.com/wp-content/uploads/2017/10/Android-Options-Menu-Icon.png>

Cont'd... Toasts

- Provides simple feedback about an operation.
- Only uses the space required for the message while the current activity remains visible and interactive.
- Toasts automatically disappear after a timeout.



Reference: <https://developer.android.com/images/toast.png>

References

1. <https://clearbridgemobile.com/mobile-app-design-fundamentals-user-experience-user-interface/>
2. <https://developer.android.com>
3. <https://www.tutorialspoint.com>

Thank You