

# Mobile Application Development – IT2010

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

# Learning outcomes of the lecture

At the end of this Lecture students will be able to

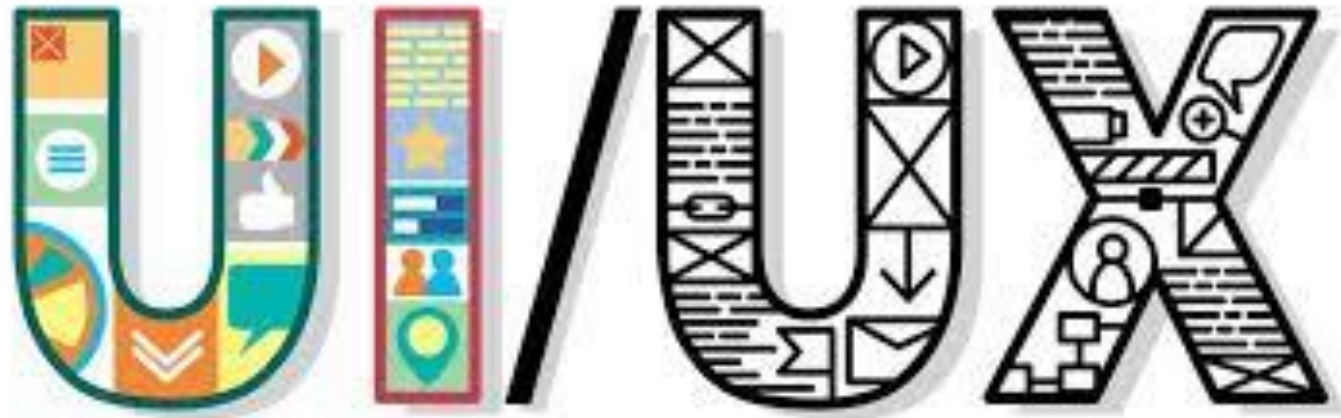
- Define the terms UI and UX
- List the principles of user interface design
- Categorize different UI components in Android
- Identify the UI design frameworks
- Recognize the important of UI Evaluation

*"Practice safe design: Use a concept."*

*-Petrula Vrontikis-  
Graphic Designer and Lynda Author*

# 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 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?

# 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.



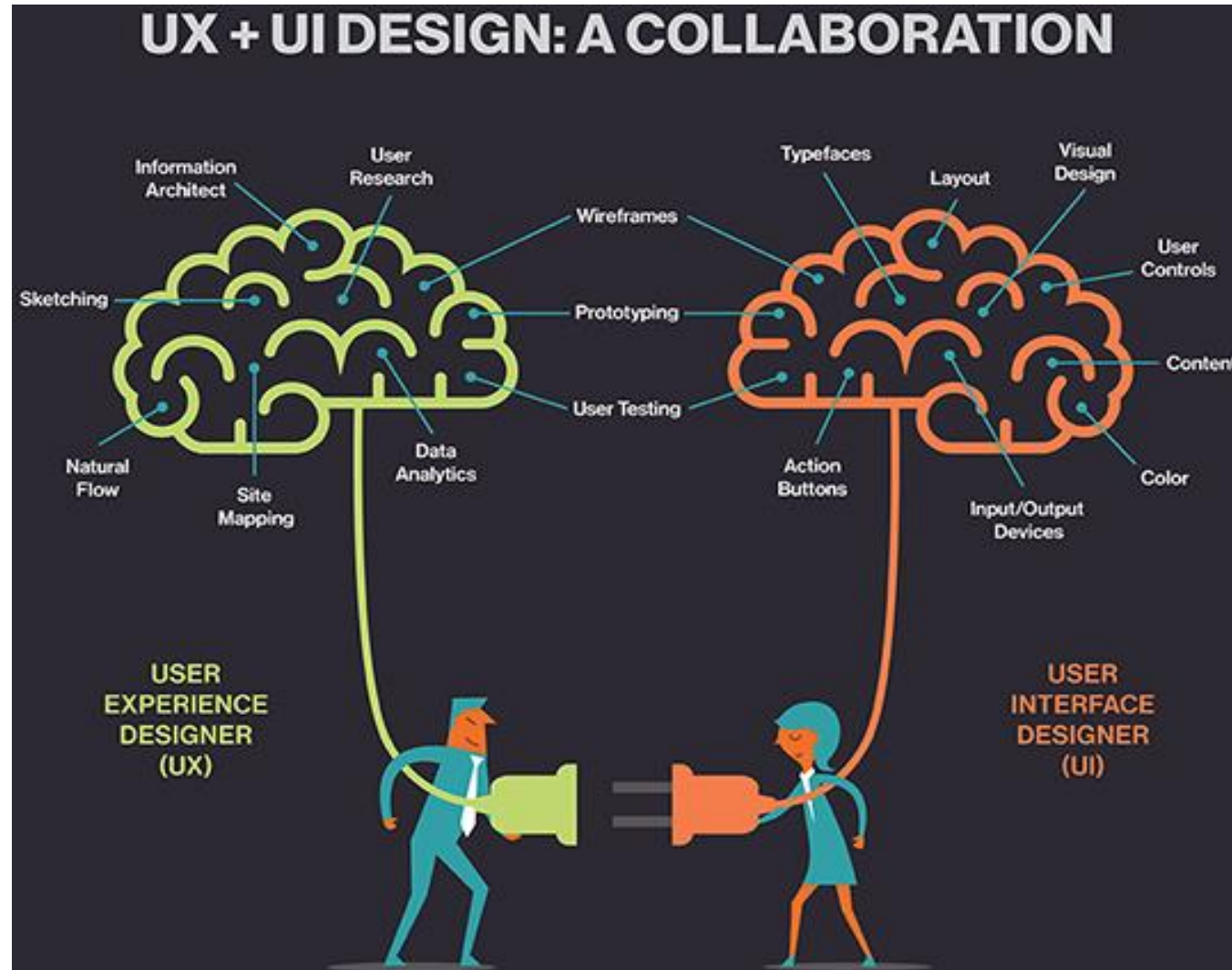
## Cont'd... - Why UX in mobile?

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?

# Difference between UX & UI



Reference:

[https://www.kamarupa.co.id/UserFiles/Image/blogs/UI-UX/software\\_quality-ux\\_ui\\_collaboration\\_desktop.jpg](https://www.kamarupa.co.id/UserFiles/Image/blogs/UI-UX/software_quality-ux_ui_collaboration_desktop.jpg)

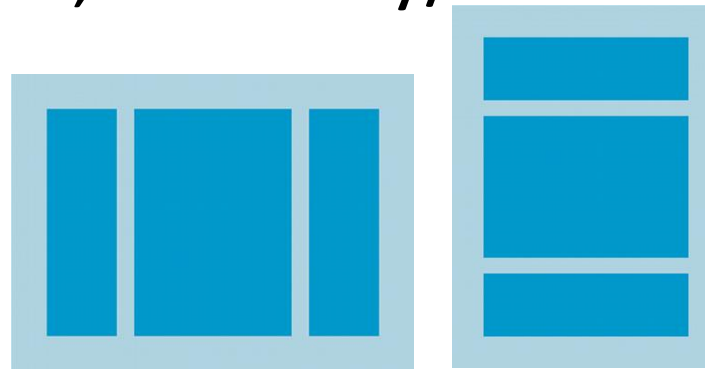
# Mobile UI Components

# 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**

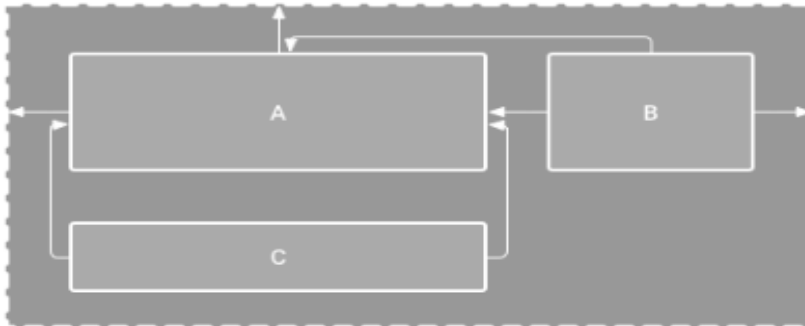
displays child views in relative positions to,

- Sibling elements
- Parent

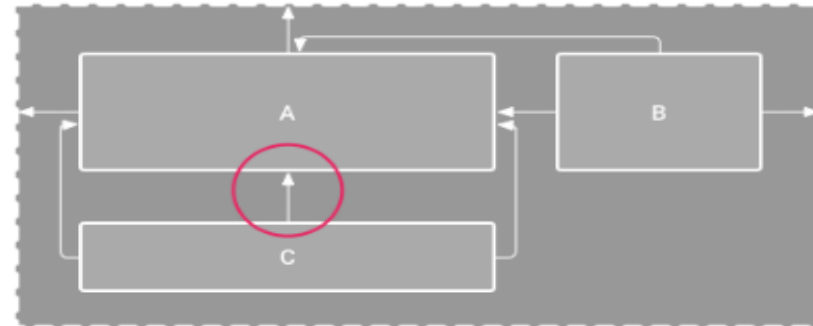


# Cont'd...

- **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

Reference: <https://developer.android.com/training/constraint-layout/>

# Cont'd...

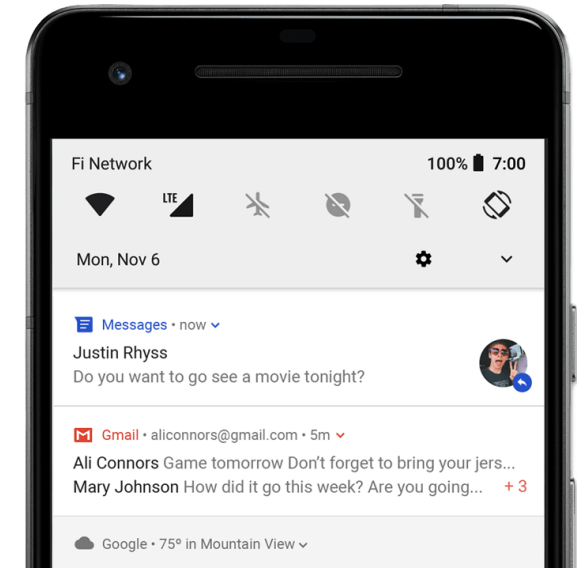
Other available layouts,

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



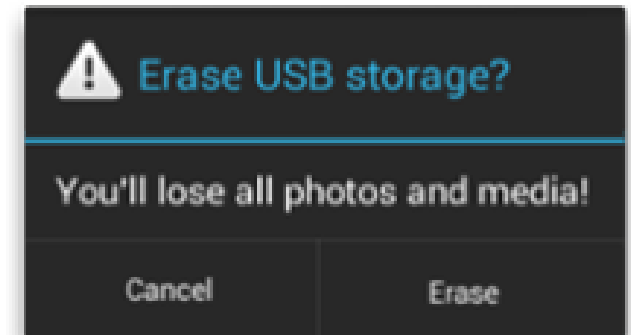
# Notification

- 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



# Dialogs

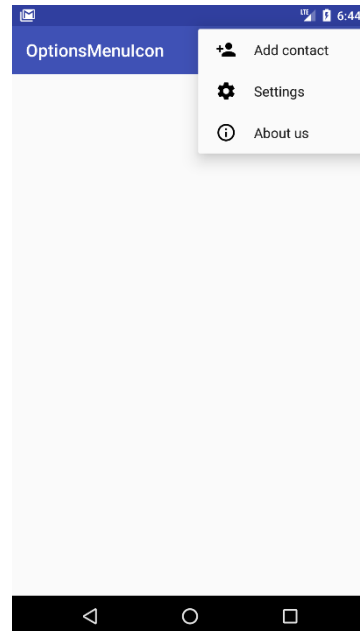
- Small window that prompts the user to make a decision before they can proceed.
- Dialog box does not fill the screen
- Consists of subclasses
  - AlertDialog
  - DatePickerDialog/TimePickerDialog



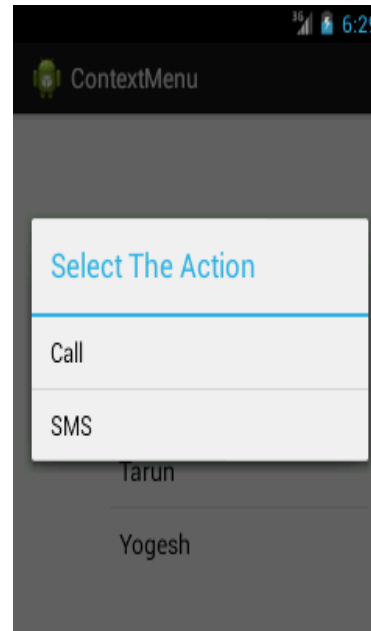
# Menus

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

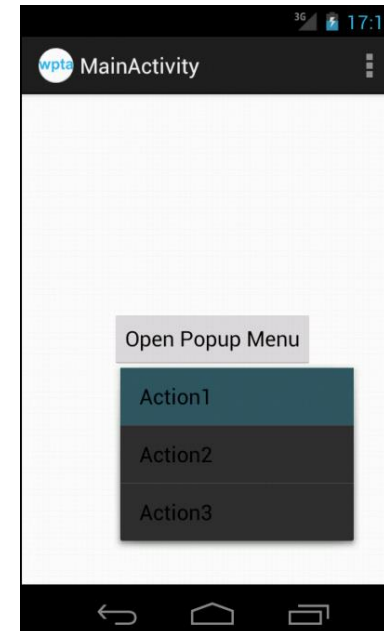
Options menu



Context menu

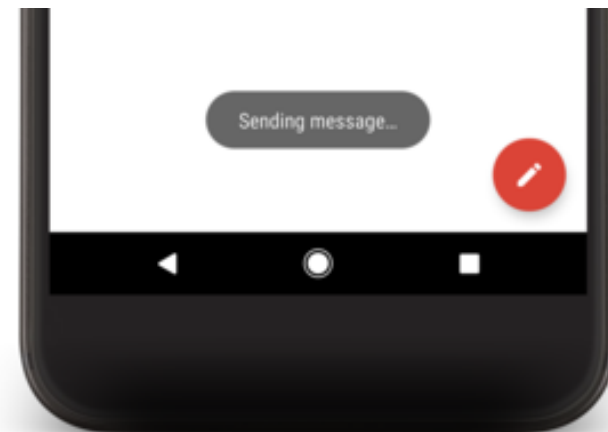


Popup menu



# 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.



# Mobile UI Design Frameworks

# Mobile UI Design Frameworks

- The hybrid development of apps makes life easier for developers
- Developers can write once and create mobile applications that run on the main platforms without any additional effort.
- Next slide list some frameworks help to build mobile hybrid apps

## Cont'd...

- Famo.us
- Ionic
- jQuery Mobile
- Onsen UI
- Kendo UI
- Sencha Touch
- Mobile Angular UI



# 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:  
[video.mp4](#)

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

# Mobile UI Evaluation

- Overall color scheme/theme of the device
- Style and color of icons
- Progress indications when pages are loading
- Menus and how they are invoked and the typical items they contain
- Overall responsiveness of application on the device

# Mobile UI/UX Evaluation Tools

Browser Stack

UserItics

Applause

Appsee

Swrve

Loop 11

Sigos

UserZoom

Apperian

Mr. Tappy

Lookback

Watchsend

Apptimize

Leanplum



# 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*