



CS196

Android

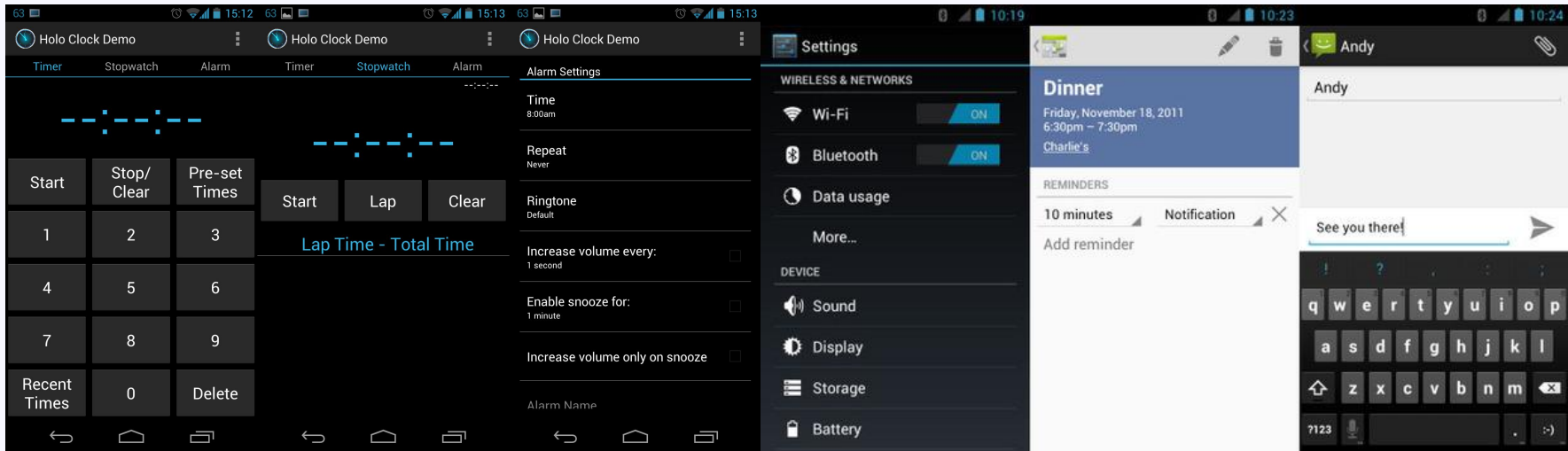
Material Design

What is Material Design?

- Design language developed by Google back in 2014
 - Unveiled at Google I/O 2014
 - Came with the release of Android 5.0 Lollipop
- Prevalent in every Google product and most Android applications
- Described by Google as the synthesis of “the classic principles of good design with the innovation and possibility of technology and science”

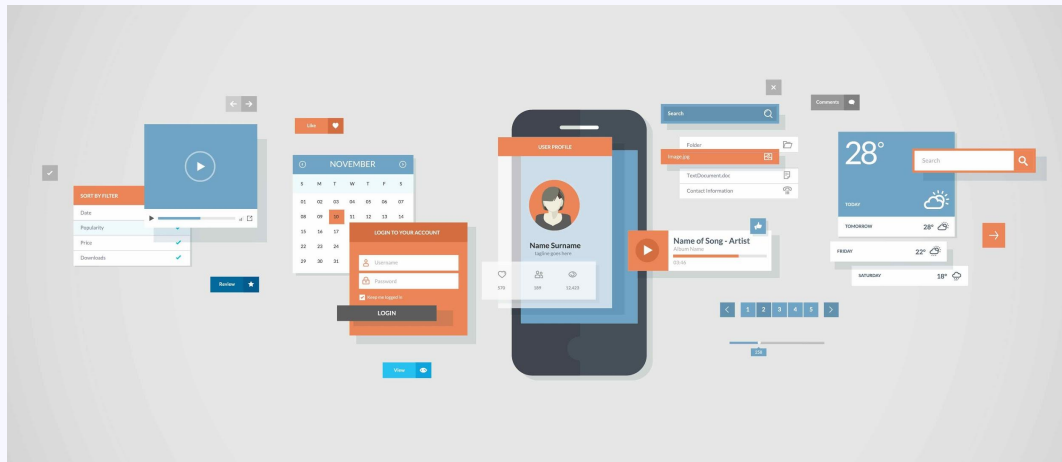


Old Holo Design Language



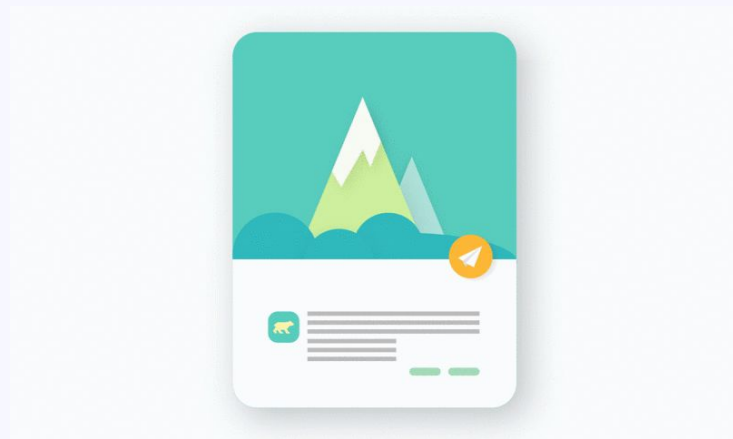
Basics Behind Material Design

- Based upon “tactile reality”
 - Inspired by paper and ink
 - Follows the physics of light, surface, and movement
- Print-based design
 - Typography
 - Grids
 - Space
 - Scale
 - Color
 - Imagery



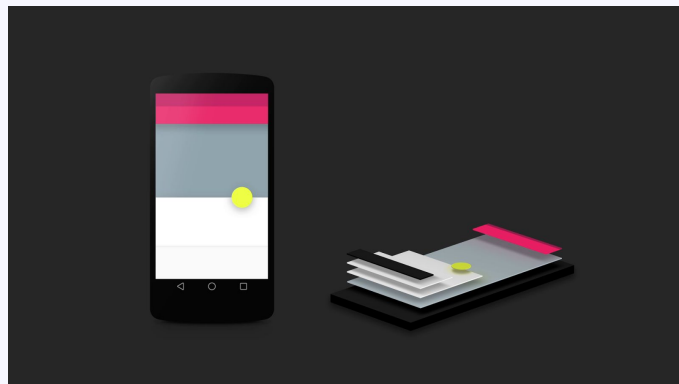
Properties

- Materials cast shadows
- Content is displayed on material and does not add thickness
- Content is limited within the bounds of material
- Multiple material elements cannot occupy the same point in space at the same time



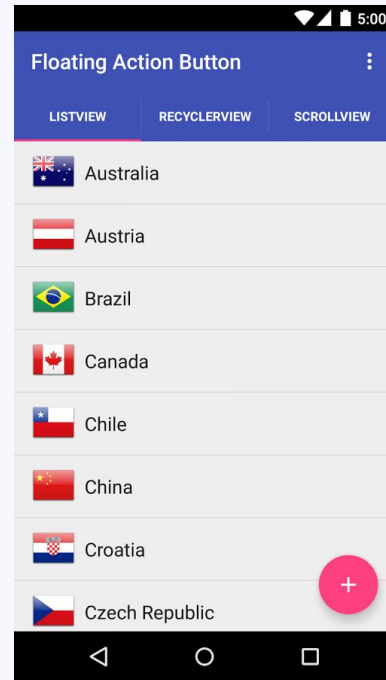
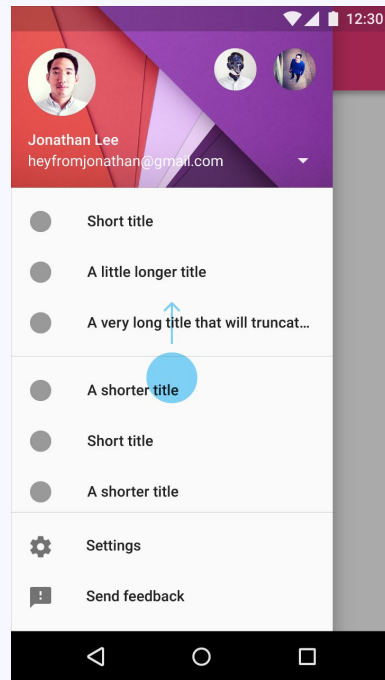
Violations

- Never make materials transparent
 - Everything is always solid
 - Input events cannot pass through material
 - Material cannot pass through material
- Material never bends or folds
- Never make the width of material anything other than 1dp



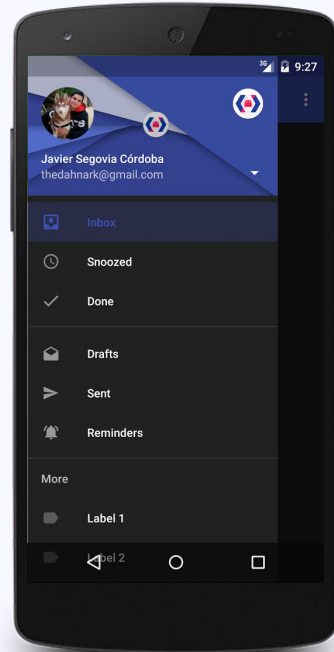
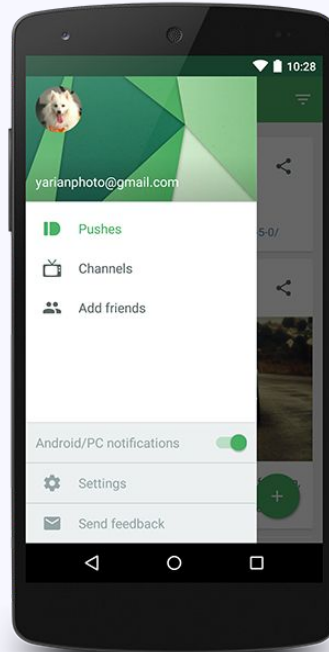
Material Elements in Android

- Navigation drawer
- Floating Action Button
- Cards
- Snackbars
- Bottom Navigation



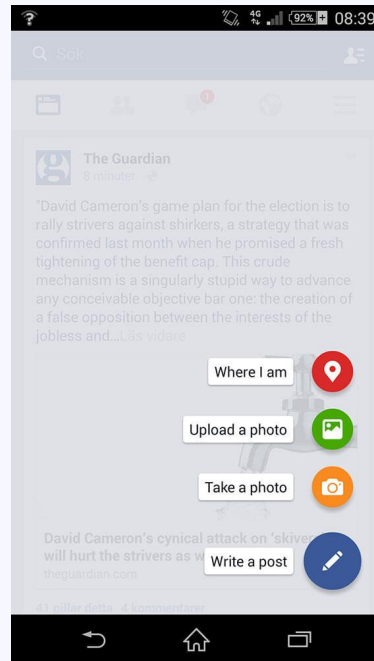
Navigation Drawer

- Used to navigate within application
- Always opens up from the left
- Spans the height of the screen



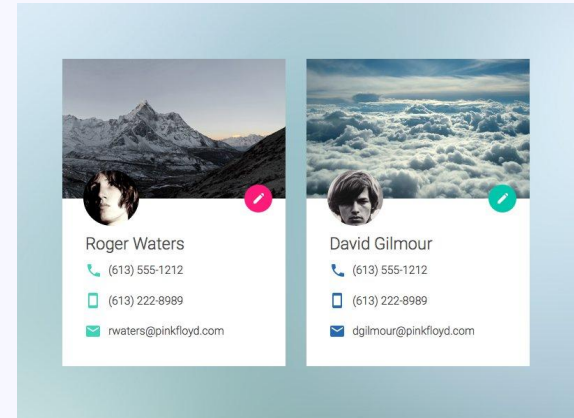
Floating Action Button

- Floating button used for a promoted action
 - Create new message
 - Add new contact
- Normally reside in the bottom right corner
- May expand upon to reveal more actions



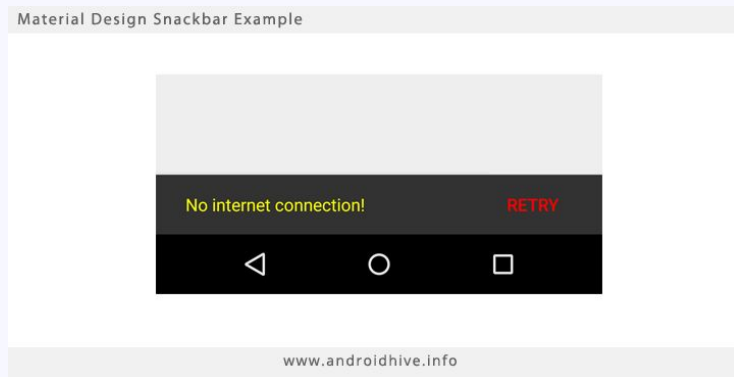
Cards

- A sheet of material that serves as an entry point to more detailed information
- Always display a shadow
- Cards are a convenient means of displaying content composed of different elements.



Snackbars

- Provide brief feedback about an operation through a message at the bottom of the screen
- Single line of text related to the action just performed
- Animate upwards



Bottom Navigation

- Makes it easy to switch between top-level views
- Expands the width of the screen
- Use this rather than nav drawer when your app has few views or has one view that dominates



