Android UI - Menus

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“Learn with Passion!”

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Topics

- Types of menus
- Options menu
- Context menu
- Submenu
- Creating menu using Menu resource

Types of Menus

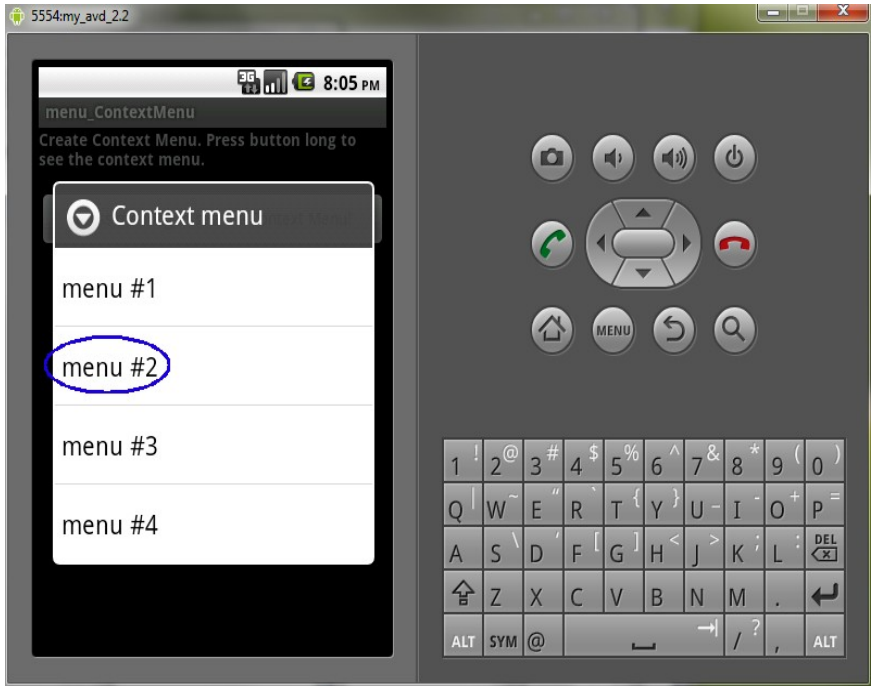
Types of Menus

- Context menu
  - Floating list of menu items that may appear when you perform a long-press on a View
- Options menu
  - Revealed when the device MENU key is pressed
- Submenu
  - Used to organize menu items into groups
  - A Submenu item does not support nested Submenus

Context Menu

Context Menu

- Context menus do not support item shortcuts and item icons.



How to Create Context Menu?

- When Context menu is opened for the first time, the Android system will call the Activity's *onCreateContextMenu(Menu menu)* callback method.
  - You, as a context menu developer, override this method in your Activity class and populate the Menu object given to you with *MenuItem's*.
- You can populate the menu in two ways
  - Scheme #1: by calling add() for each item you'd like in the menu.
  - Scheme #2: by inflating a menu resource that was defined in XML (preferred)

Populating Menu with Menu Items: #1

```
// Override this method of Activity class in order to create menu items.
 @Override
 public void onCreateContextMenu(
        ContextMenu menu, // Context menu that is being built
         View view, // The view for which the context menu is being built
         ContextMenuInfo menuInfo) {

    super.onCreateContextMenu(menu, view, menuInfo);
    menu.setHeaderTitle("Context menu");
    menu.add(0, Menu.FIRST      , Menu.NONE, "menu #1");
    menu.add(0, Menu.FIRST + 1, Menu.NONE, "menu #2");
    menu.add(0, Menu.FIRST + 2, Menu.NONE, "menu #3");
    menu.add(0, Menu.FIRST + 3, Menu.NONE, "menu #4");
 }
```

How to handle User's Menu Selection?

- When a menu item is selected by a user from the Context Menu, *onContextItemSelected()* callback method of your Activity gets called
  - This callback passes you the *MenuItem* that has been selected.
  - You can identify the item by requesting the itemId, with *getItemId()*, which returns the integer that was assigned with the add(int groupId, int itemId, int order, CharSequence title) method.
  - Once you identify the menu item, you can take an appropriate action.

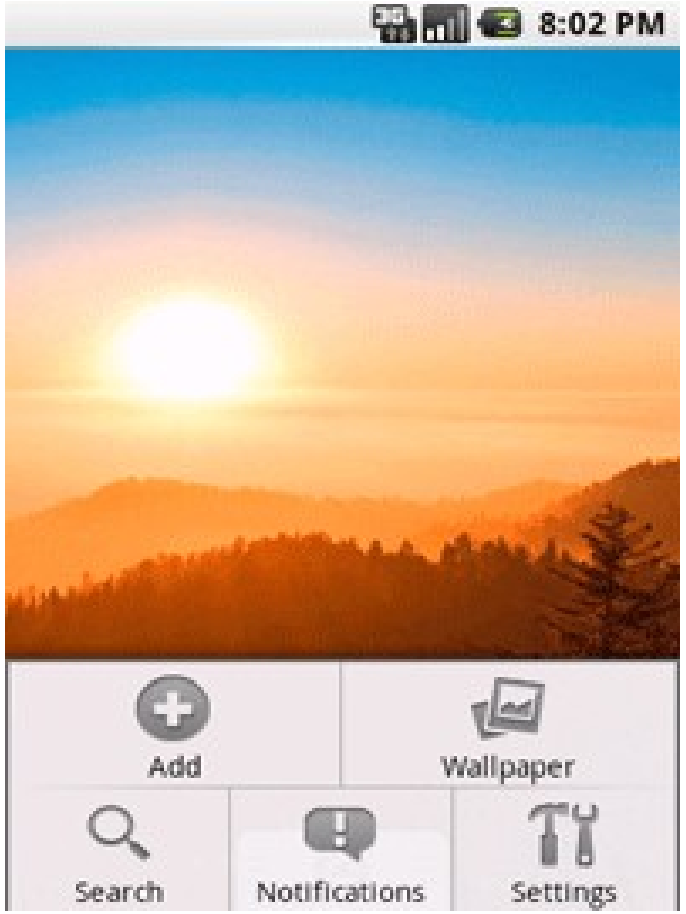
Example: Handling Menu Selection

```
/* Handles item selections */
public boolean onContextItemSelected(MenuItem item) {
    switch (item.getItemId()) {
    case MENU_NEW_GAME:
        newGame();
        return true;
    case MENU_QUIT:
        quit();
        return true;
    }
    return false;
}
```

Options Menu

When to use Options Menu?

- The Options Menu is where you should include basic application functions and any necessary navigation items (e.g., to a home screen or application settings).



How Options Menu Work?

- The Options Menu is opened by pressing the device MENU key.
- When opened, the Icon Menu is displayed, which holds the first six menu items.
- If more than six items are added to the Options Menu, then those that can't fit in the Icon Menu are revealed in the Expanded Menu, via the "More" menu item.

Populating Menu with Menu Items: #1

```
/* Creates the menu items without Icons */
public boolean onCreateOptionsMenu(Menu menu) {
    // The add() method used in this sample takes four arguments:
    // groupId, itemId, order, and title.
    menu.add(0, MENU_NEW_GAME, 0, "New Game");
    menu.add(0, MENU_QUIT, 0, "Quit");
    return true;
}

/* Creates the menu items with Icons.  Note that add() method returns
    newly created MenuItem object to set additional properties like an icon,
    a keyboard shortcut, an intent, and other settings for the item. */
public boolean onCreateOptionsMenu(Menu menu) {
    // The add() method used in this sample takes four arguments:
    // groupId, itemId, order, and title.
    menu.add(0, MENU_NEW_GAME, 0,
                    "New Game").setIcon(R.drawable.menu_new_game_icon);
    menu.add(0, MENU_QUIT, 0, "Quit").setIcon(R.drawable.menu_quit_icon);
    return true;
}
```

How to handle Menu Selection?

- When a menu item is selected from the Options Menu, *onOptionsItemSelected()* callback method of your Activity gets called
  - This callback passes you the *MenuItem* that has been selected.
  - You can identify the item by requesting the itemId, with *getItemId()*, which returns the integer that was assigned with the add() method.
  - Once you identify the menu item, you can take an appropriate action.

Example: Handling Menu Selection

```
/* Handles item selections */
public boolean onOptionsItemSelected(MenuItem item) {
    switch (item.getItemId()) {
    case MENU_NEW_GAME:
        newGame();
        return true;
    case MENU_QUIT:
        quit();
        return true;
    }
    return false;
}
```

Submenu

When to use SubMenu?

- If you have several menu items that can be grouped together with a title, consider organizing them into a Submenu.

Example: Creating Submenu

```
public boolean onCreateOptionsMenu(Menu menu) {
        boolean result = super.onCreateOptionsMenu(menu);

        // Create submenu "File"
        SubMenu fileMenu = menu.addSubMenu("File");
        fileMenu.add("New");
        fileMenu.add("Open File");
        fileMenu.add("Close");
        fileMenu.add("Close All");

        // Create submenu "Edit"
        SubMenu editMenu = menu.addSubMenu("Edit");
        editMenu.add("Undo Typing");
        editMenu.add("Redo");
        editMenu.add("Cut");

        return result;
    }
```

Creating Menu using Menu Resource

What is & Why using Menu Resource?

- Instead of instantiating Menu objects in your application code, you should define a menu and all its items in an XML menu resource, then inflate the menu resource (load it as a programmable object) in your application code.
- Defining your menus in XML is a better practice (than creating them in code) because it separates your interface design from your application code (the same as when you define your Activity layout in XML).

When to Use Menu Resource File?

- Create <menu_resource>.xml under *res/menu/* directory
- Inflate the Menu Resource file using *inflate(<menu-resource-id>)* method of the *MenuInflator* class
  - Menu objects are created from the Menu resource file

Example: Inflating Menu Resource

```
public boolean onCreateOptionsMenu(Menu menu) {

    // Inflate the menu XML resource.
    MenuInflater inflater = getMenuInflater();
    inflater.inflate(R.menu.title_only, menu);

    return true;
}

@Override
public boolean onOptionsItemSelected(MenuItem item) {

    switch (item.getItemId()) {
    case R.id.jump:
        Toast.makeText(this, "Jump up in the air!", Toast.LENGTH_LONG)
                .show();
        return true;

    case R.id.dive:
        Toast.makeText(this, "Dive into the water!", Toast.LENGTH_LONG)
                .show();
        return true;


    }
```

Example: Menu Resource File

```
<menu xmlns:android="http://schemas.android.com/apk/res/android">

    <item android:id="@+id/jump"
        android:title="Jump!"
        android:icon="@drawable/draw_jump" />

    <item android:id="@+id/dive"
        android:title="Dive!"
        android:icon="@drawable/draw_dive" />

</menu>
```

Thank you!

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