Selection Widgets

ListView

- List of vertically scrolling items with selection
- Populating list
  - resource (array)
  - Adapter
- Controlling the list
  - Activity
  - ListActivity
- Attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>android:list</td>
<td>Used to reference a resource for displaying options in the list.</td>
</tr>
</tbody>
</table>
| android:choiceMode | Used to define the number of items that are selectable from the list. XAML values are 
|                | - none—Doesn’t allow selection of any item from the list.                  |
|               | - singleChoice—Move selection of a single option from the list.             |
|               | - multipleChoice—Move selection of more than one item from the list.       |
| android:dividerTopPadding | When set to true, the divider (on a horizontal list) is drawn over the selected item. Otherwise, the divider is drawn behind the selected item. The default value is false. List items set the conversion factor for the list. No conversion can occur in deciding whether the list is automatically scrolled. This value can change the size of the divider. This value is used to calculate the width of the divider. The divider is drawn automatically in the bottom when a new item is added to the adapter and a notification is generated.                                    |
| android:dividerHeight | The divider width automatically resizes to the bottom.                     |
Activity Base Class

- As for other views, extend Activity
- Populating via resource
  - define a string resource for list items
  - reference resource as entries attribute
- Handling selection
  - onItemClickListener
  - position
- E.g. ListViewProject

Adapters

- Adapt collections to provide items for selector
  - arrays, database tables, etc.
  - different adaptors for different collections (ArrayAdapter, CursorAdapter, ...)
  - handle changing content
  - provide View for presentation in selector
  - provide access to underlying content
- Populating selector
  - create adapter on an array
  - view for display
  - set adapter for selector
- E.g. ListViewDemo1Project

ListAdapter

- Predefined Activity subclass with a ListView centered on the screen
  - can override layout via setContentView and a layout xml file
  - must have a ListView called list
  - use ListActivity methods to access underlying ListView
  - e.g. getListView, setListAdapter
- Set selection mode
  - setChoiceMode
- Override onListItemClick to handle selection
  - don’t need to register as handler, already done
- E.g. ListDemo2Project
  - simple_list_item_single_choice
  - multiple choice
  - both ListView and ArrayAdapter must be set
  - selected items (getCheckedItemPositions)
Spinner

- Drop-down list with selection
- Populate
  - resource
  - adapter
- Handling selection
  - onItemSelectedListener
  - onItemSelected, onNothingSelected
- E.g. SpinnerProject
  - spinner from resource
- E.g. Spinner2Project
  - spinner with adapter
  - prompt (only for dialog mode)

AutoCompleteTextView

- EditText with auto-complete functionality
  - provides suggestions based on what has been typed
- Provide a list of suggestions
  - adapter
- Set threshold
  - setThreshold
- E.g. AutoCompleteProject
  - set adapter resource (simple_dropdown_item_1line)

GridView

- Display content in a scrollable grid
  - otherwise similar to ListView
- Attributes
  - numColumns - auto, fit - # based on fit
  - verticalSpacing, horizontalSpacing
  - columnWidth
  - stretchMode - none, columnWidth, spacingWidth
  - gravity
- Populate via Adapter
- Selection
  - onItemClickListener
- E.g. GridViewProject
  - changing column width
Custom Adapters

- Extend BaseAdapter
  - implement
    - getCount - number of items
    - getItem - object at position
    - getItemId - unique id for item at position
    - getView - view to display item at position
- E.g. GridImageProject
  - ImageAdapter
    - array of image references
    - getView
      - use an ImageView widget
      - load image
      - set layout parameters (GridLayout - width & height)

ViewPager

- Display content as pages that can be swiped
- Part of Android support library (v4)
  - provides backward compatibility
  - must be included via SDK Manager
- Adapter
  - custom adapter
  - base class PagerAdapter
  - override
    - instantiateItem - create page and add to container
    - getCount - number of pages
    - destroyItem - remove page for item at position
    - isViewFromObject - page (view) is derived from object
- E.g. ViewPagerProject
  - ImageAdapter
  - SimpleOnPageChangeListener