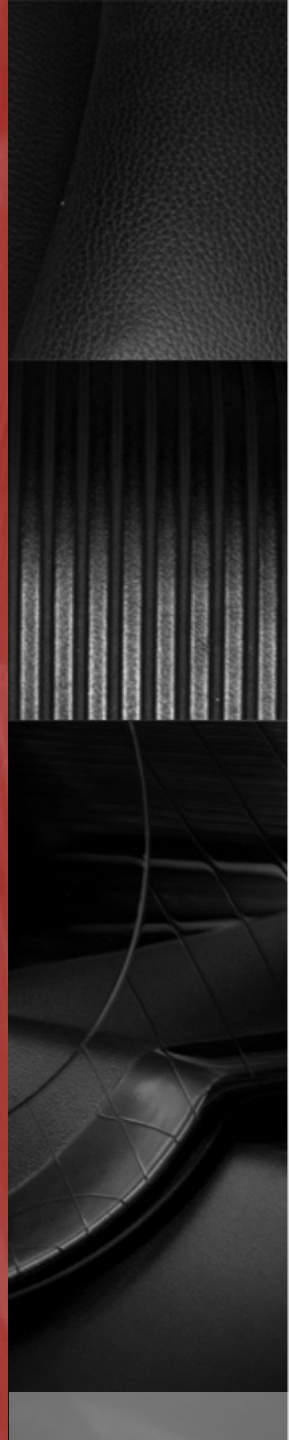


# Advanced GUIs

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# Processing Text Input

- The JTextField object can handle user input and process it with Actionlisteners
- Create a JTextField object including the desired width
  - This will be the box of user input of the desired width
- Create a JLabel object including desired text
  - This will tell the user what to input
- Add an ActionListener
  - This is used to respond to user interactions and handle the text inputted
- Methods:
  - `getText()` – will return a String object of what the user has inputted in the JTextField



# Text Areas

- Creates a text area that can hold text with optional editing capabilities for the user to use.
- Create a JTextArea including rows, then columns
  - This will hold either user input or can hold program returns
- Create a JLabel object including desired text
  - This will tell the user what purpose the JTextArea serves.
- Create a JScrollPane including the JTextArea
  - This will make the JTextArea scrollable
- Methods:
  - `append(String obj)` – will add obj to the end of the text area
  - `setEditable(boolean ch)` – can control how the user interacts with the text field



# Layout Management

- Components have a layout manager, which determines how the components are laid out
- Layout types
  - Flow – is JPanel's default layout arranges components from left to right and starts a new row when the current one is full
  - Border – can group components into five sections: NORTH, SOUTH, EAST, WEST, CENTER
  - Grid – can group components in a certain position of grid of given rows and columns
- Panel border – can create a border around a panel to keep the user interface visually appealing and organized
  - Example:
    - `TitledBorder(Border obj, String a)` – Makes a titles border with the supplied basic border
    - `EtchedBorder()` – will create a border around the panel



# (So many) Choices

- Radio Buttons – is a set of mutually exclusive choices
  - Must add JRadioButtons to a ButtonGroup so that it can handle user button choices
- Check Boxes - a set of choices that include all selected (checked) or exclude all deselected (unchecked)
- Combo Boxes – similar to radio buttons, but can contain more choices much more easily
  - Can also be edited by the user
- Method:
  - `isSelected()` will return



# Menus

- A menu bar is comprised of menus, submenus, and menu items
  - It is important to add the menus, submenus, and menu items to their group in order to keep them organized
  - Make sure to give each menu, submenu, and menu item a listener so it responds to user input
- Menu bars can give the user an easy and organized way of performing methods already implemented in the programming code.

# Swing Extras

- Check out the Java API for many other GUI interface options such as
  - JPopupMenu
  - JProgressBar
  - JScrollBar
  - Jspinner
  - And so many more
- For more on these extras lookup most of the items starting with 'J' at <http://download.oracle.com/javase/6/docs/api/e>
- Also be sure to check out the Java tutorials for more help <http://download.oracle.com/javase/tutorial/uiswing/index.html>