

# CS 112 - Fall 2012, Lab 09

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# GUI - Graphical User Interface

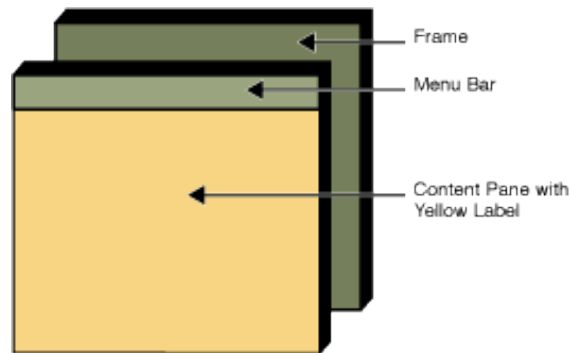
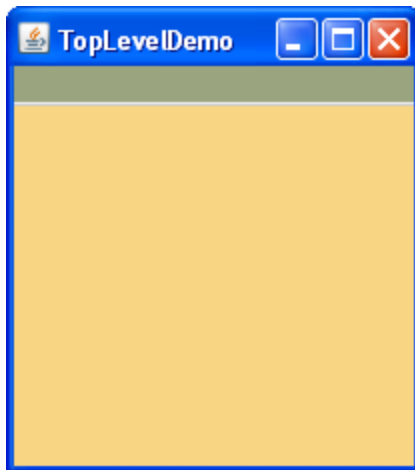
- JFC - Java Foundation Classes
  - An API for providing a graphical user interface (GUI) for Java programs.
  - Include AWT, Swing and Java 2D.

# GUI widget toolkit

- Swing
  - Primary Java GUI widget toolkit
- AWT
  - Original platform-independent windowing, graphics, and user-interface widget toolkit.
- SWT

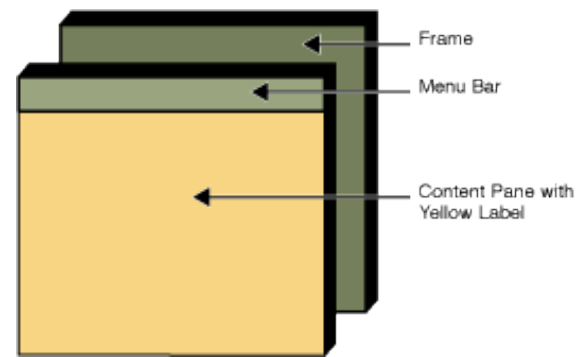
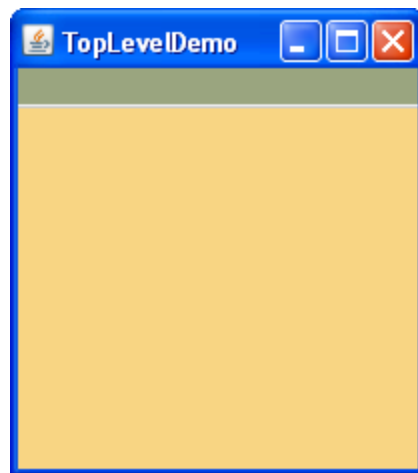
# Swing

- Top-Level Containers
  - JFrame, JDialog, and JApplet



# Swing

- General-Purpose Containers
  - JPanel, JScrollPane, JSplitPane, and so on
- Special-Purpose Containers
  - JFrame, JLayeredPane and Root pane



# JPanel

- `JPanel()`
  - Creates a new `JPanel` with a double buffer and a flow layout.
- `JPanel(LayoutManager layout)`
  - Create a new buffered `JPanel` with the specified layout manager
- `setLayout(LayoutManager layout)`

# LayoutManage

- Interface
- FlowLayout
- BorderLayout
- GridLayout
- ...

# Jcomponent

- All Swing components whose names begin with "J" descend from the JComponent class
  - JButton
  - JCheckBox
  - JComboBox
  - JRadioButton
  - JTextField
  - Jtable
  - ...











# Jbutton

- ActionListener
  - Interface
  - <http://docs.oracle.com/javase/7/docs/api/java/awt/event/ActionListener.html>
  - `actionPerformed(ActionEvent e)`
- ActionEvent
  - Class
  - Click a button, create an event

# JOptionPane

- `JOptionPane.showMessageDialog();`

## Icons used by JOptionPane

Icon description	Java look and feel	Windows look and feel
question		
information		
warning		
error		

# Practice

- Finish the code
- Learn how to write a GUI