



# Navigasi GUI

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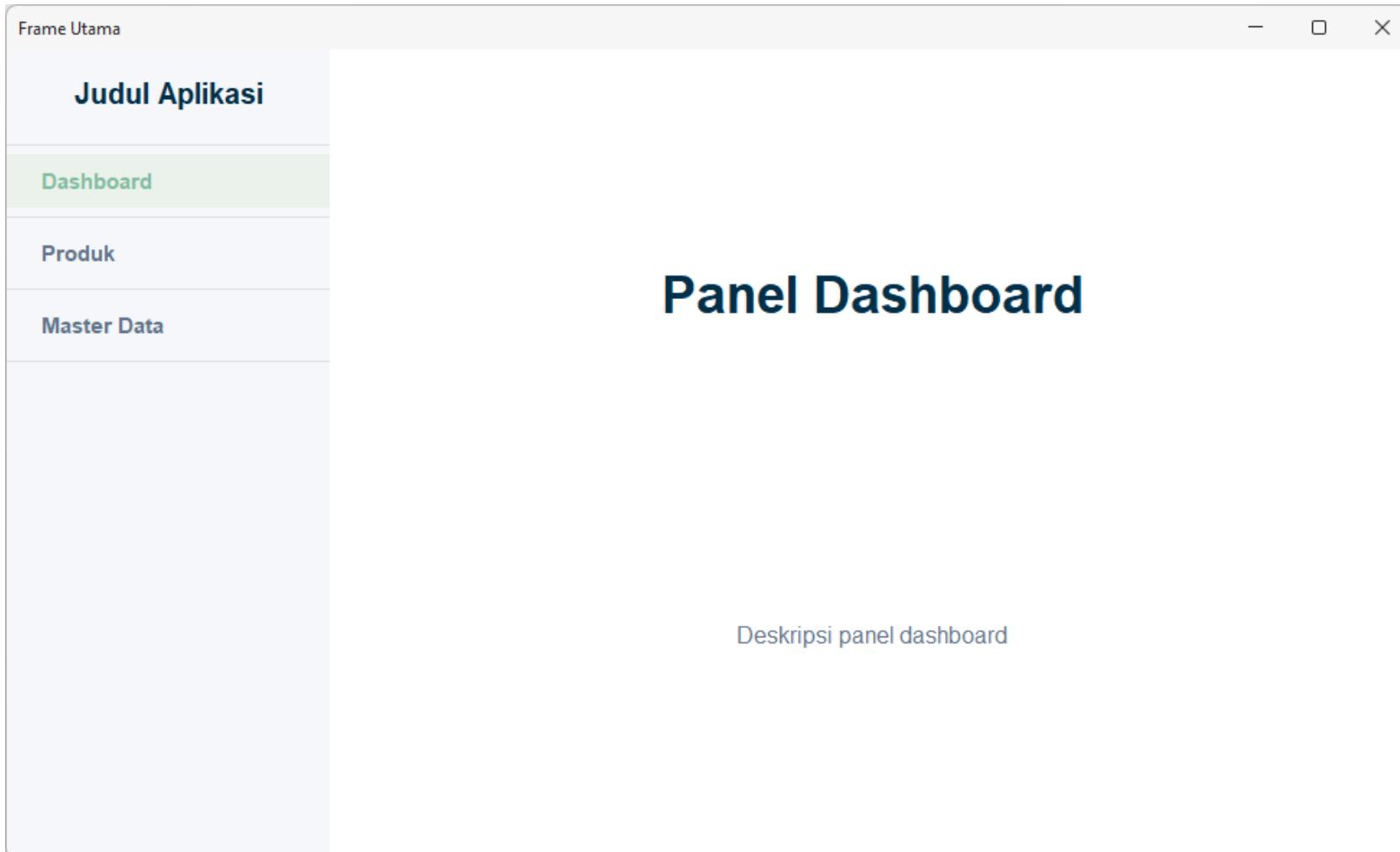
**2025**

# Tujuan

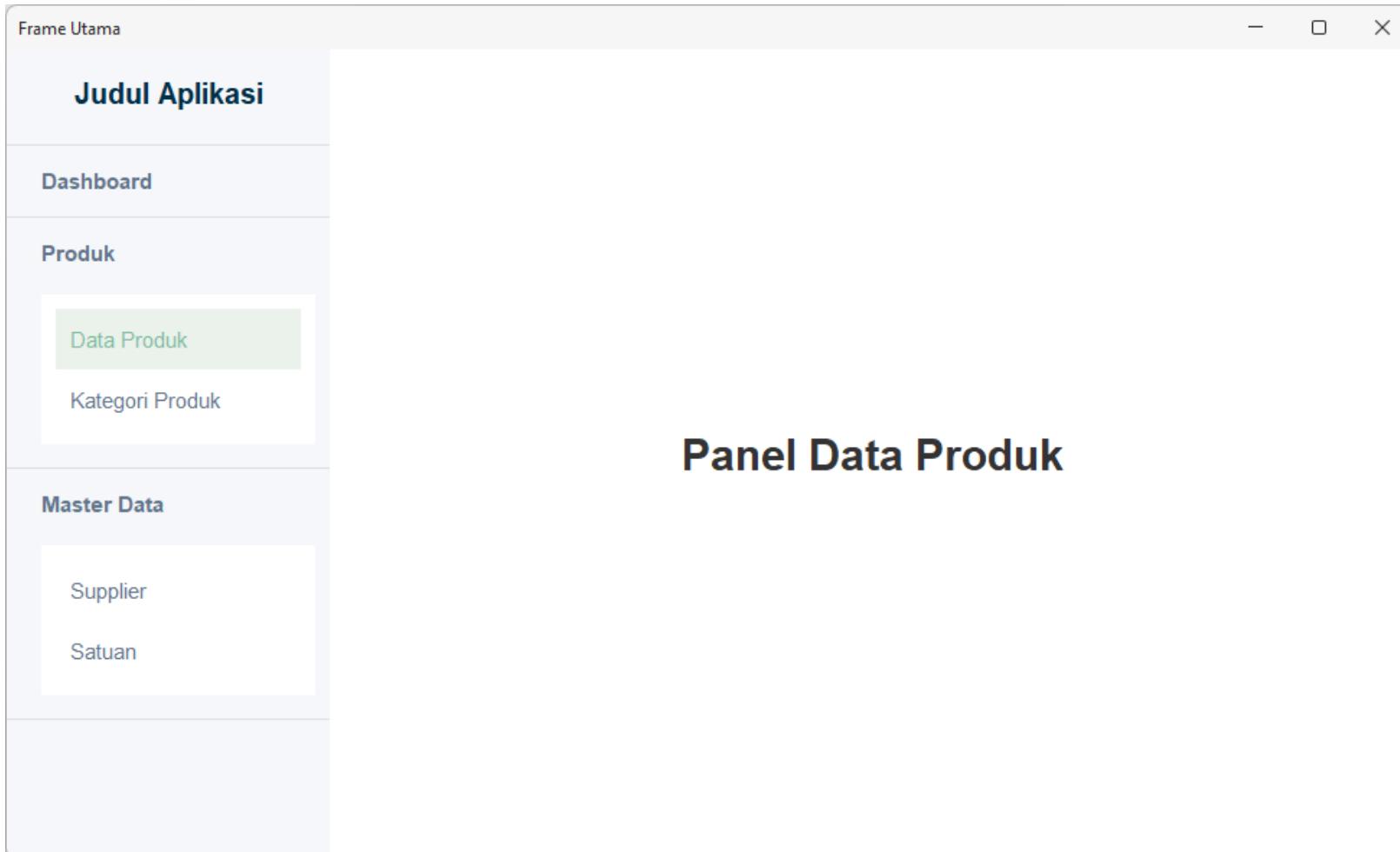
Setelah materi ini disampaikan, mahasiswa diharapkan mampu:

- **Menghubungkan** antar layar / komponen aplikasi

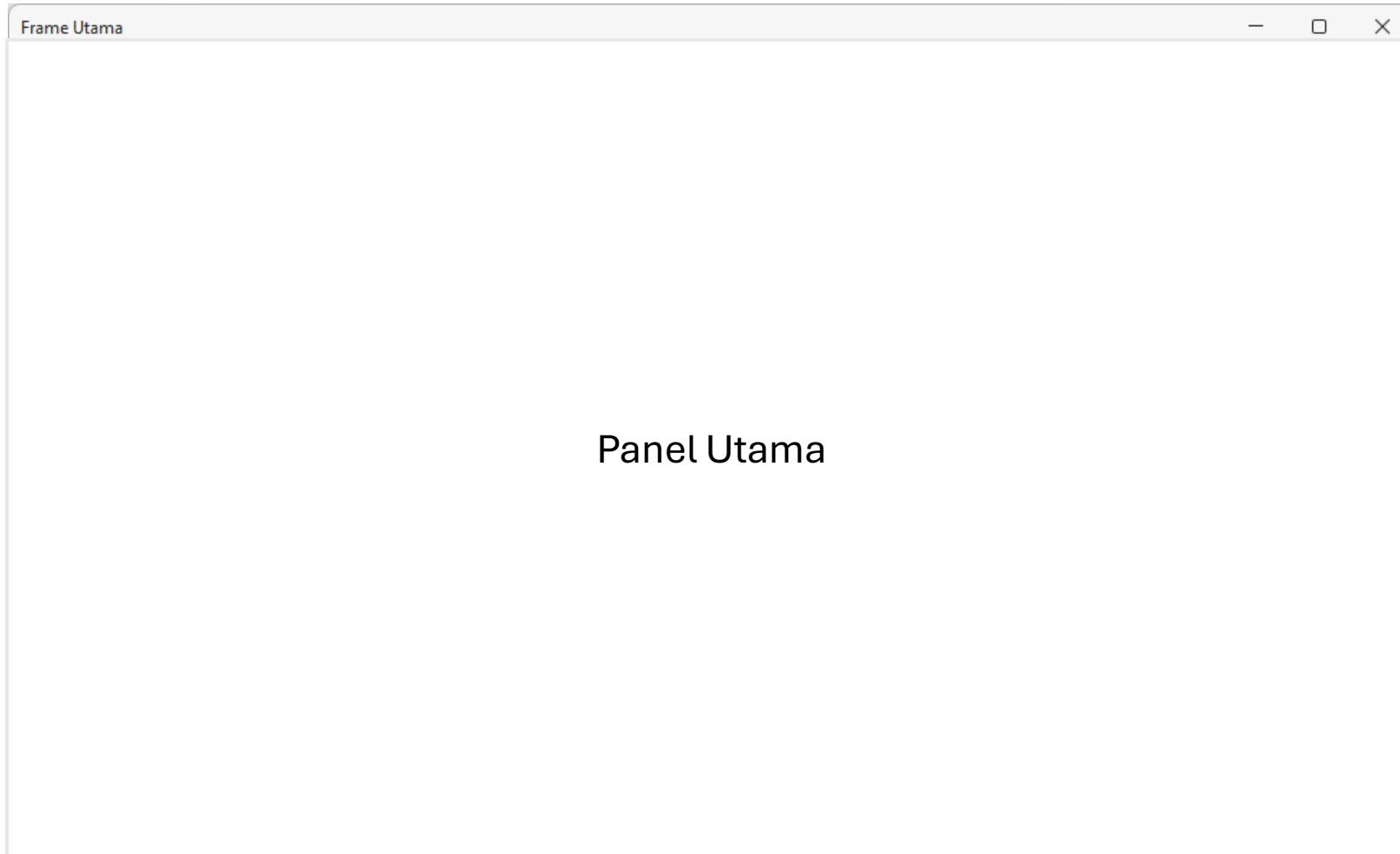
# Tampilan UI



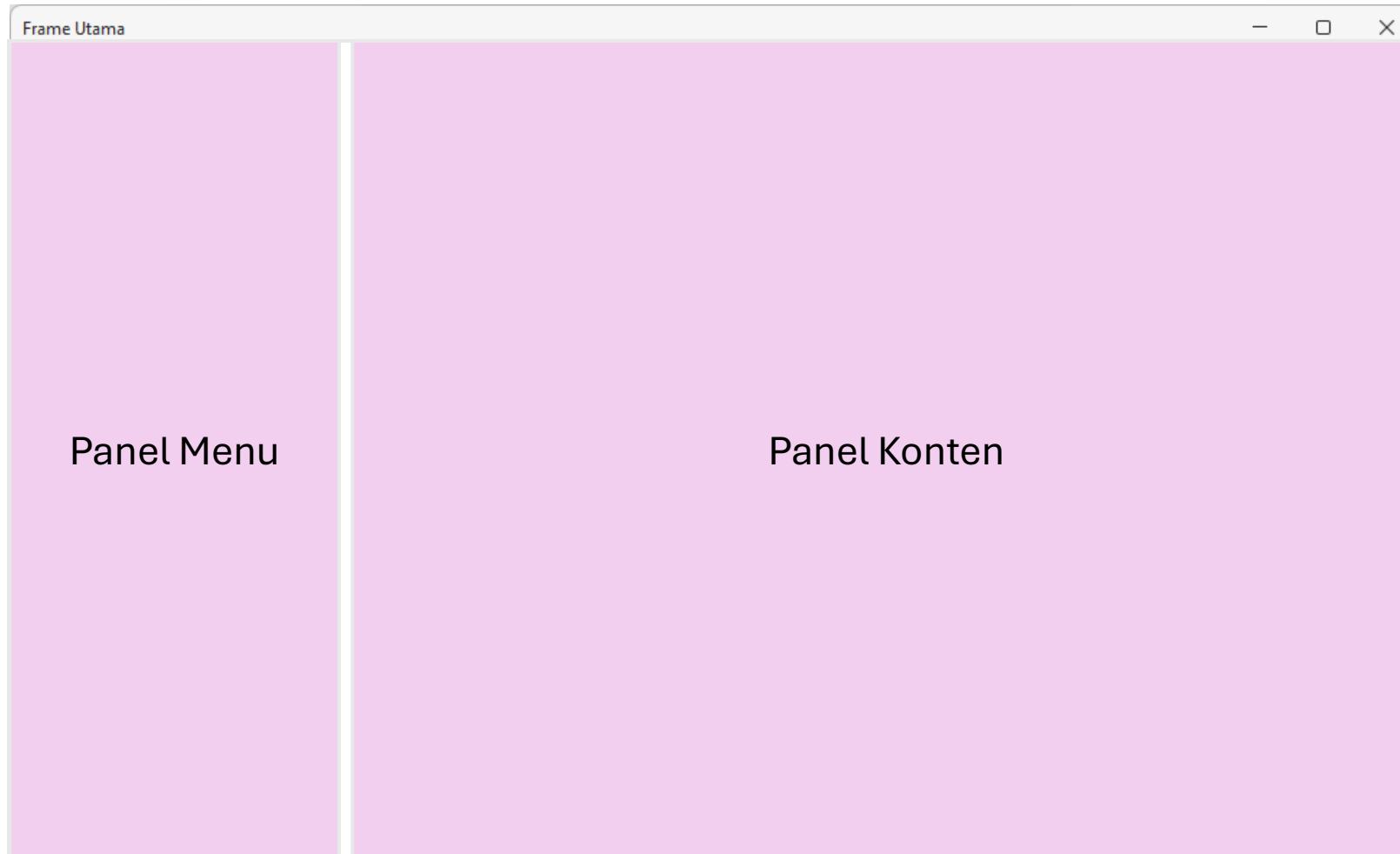
# Tampilan UI



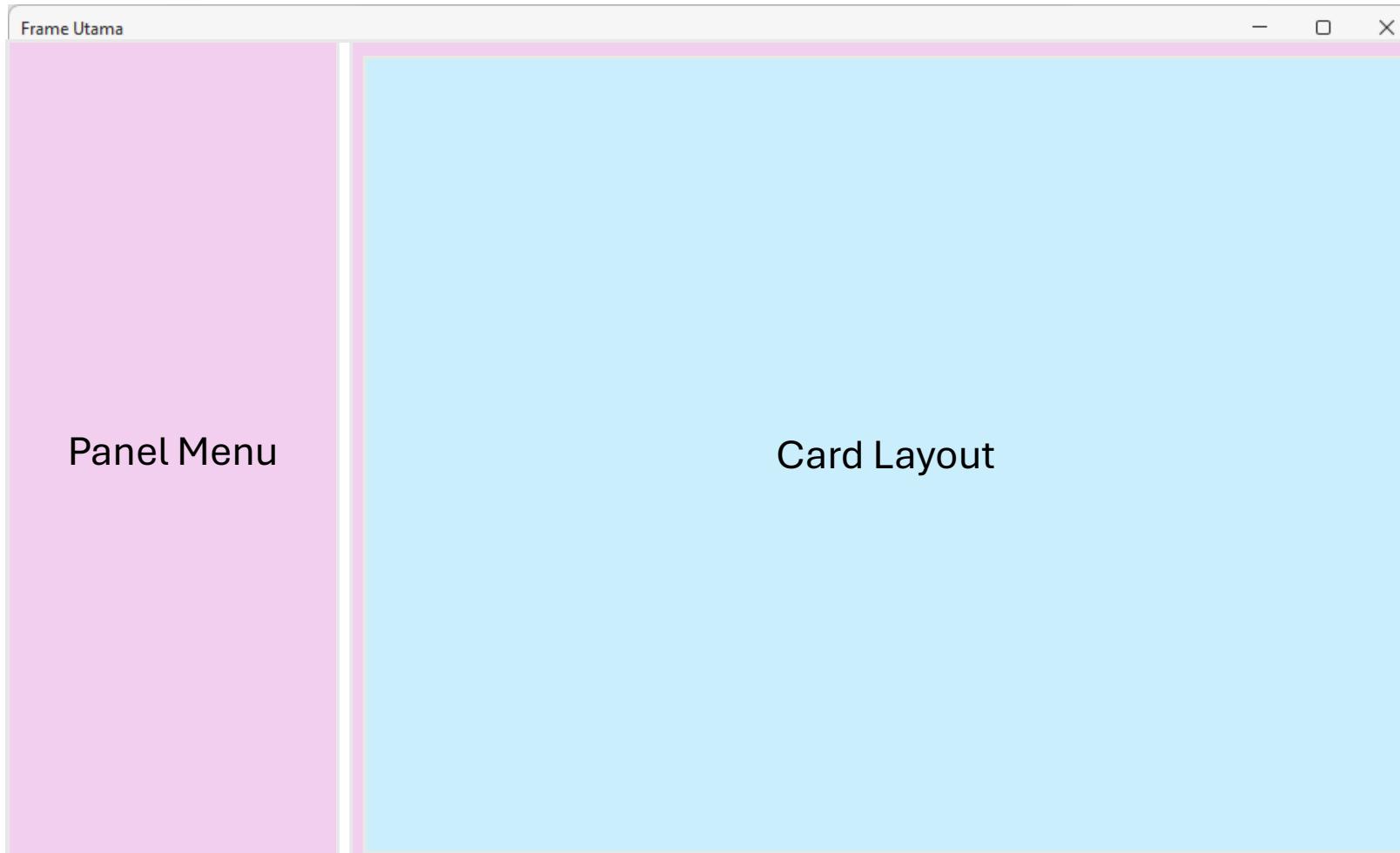
# Analisis Tampilan UI



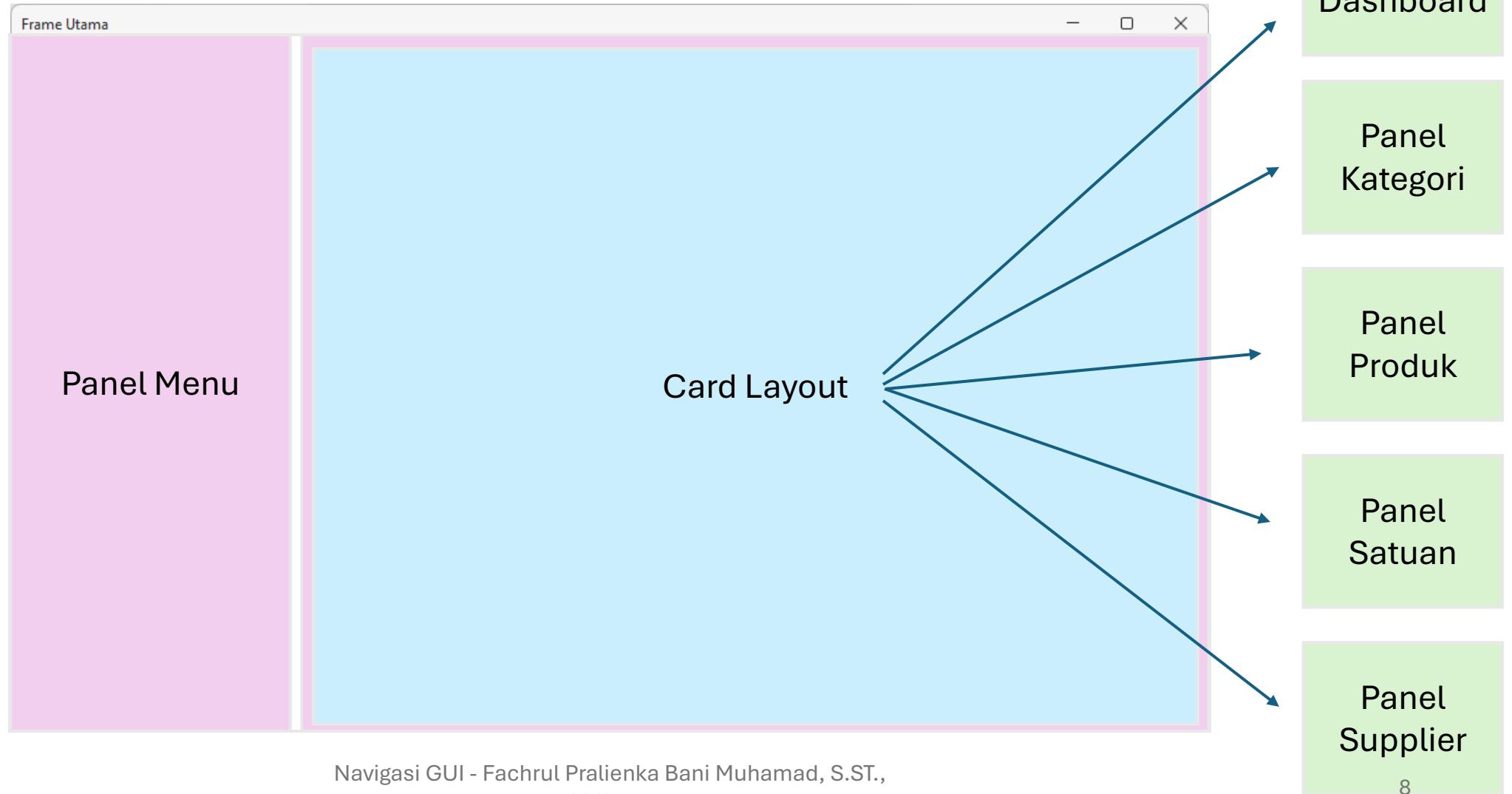
# Analisis Tampilan UI



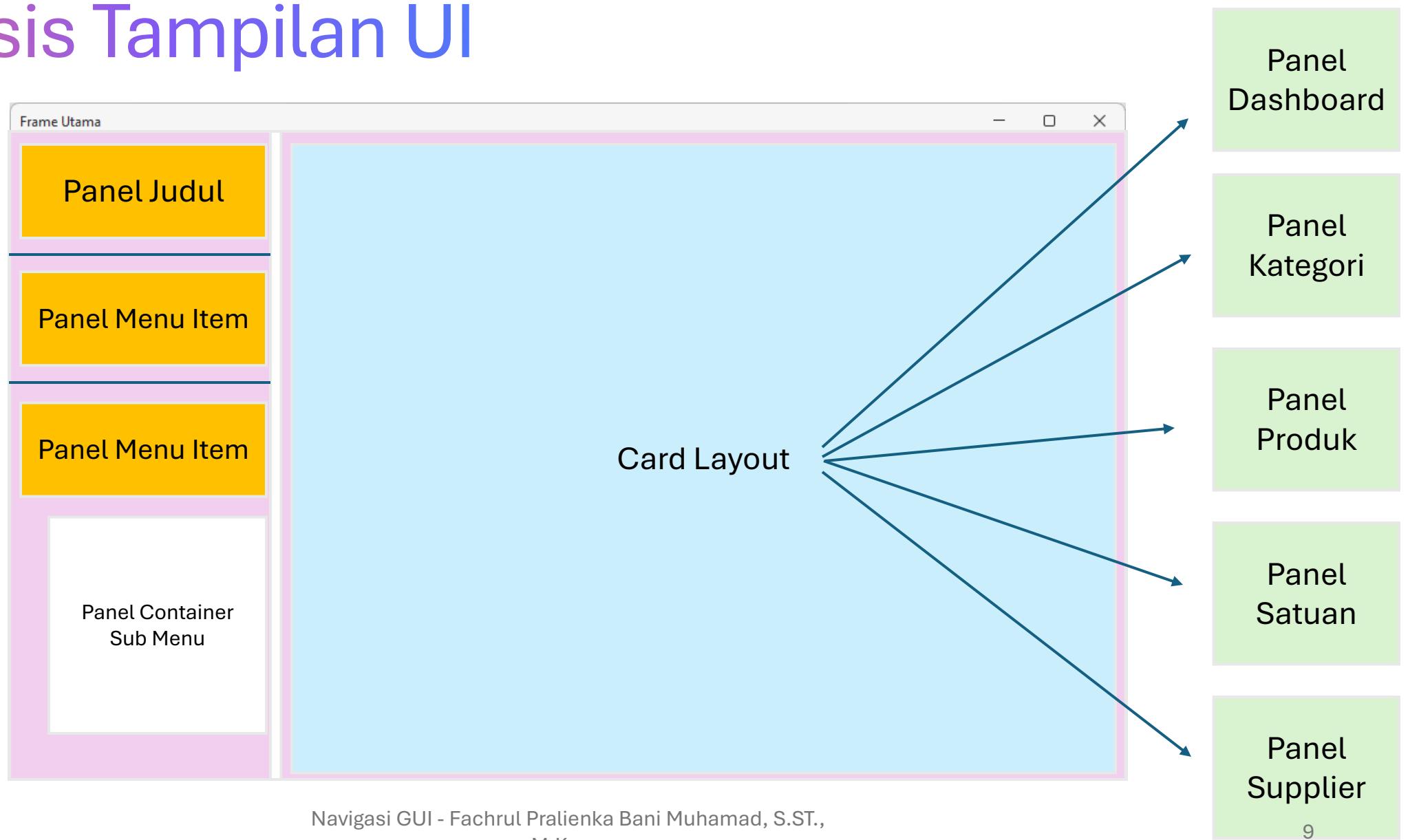
# Analisis Tampilan UI



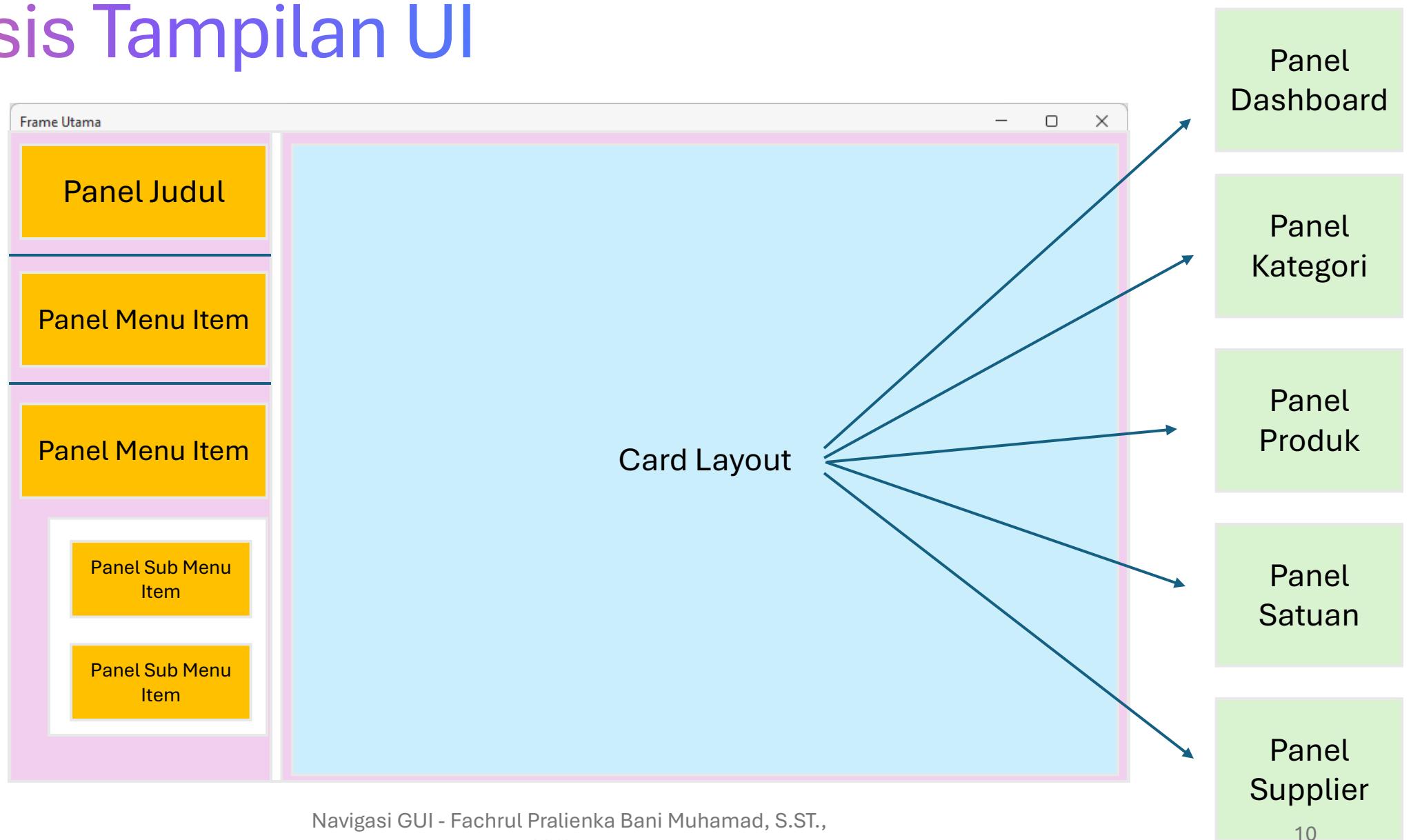
# Analisis Tampilan UI



# Analisis Tampilan UI



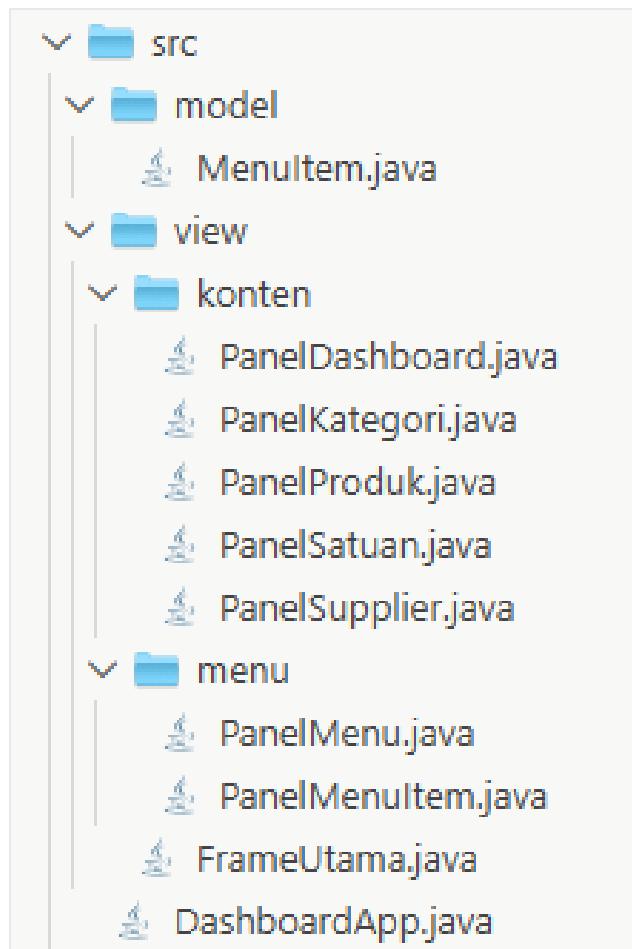
# Analisis Tampilan UI



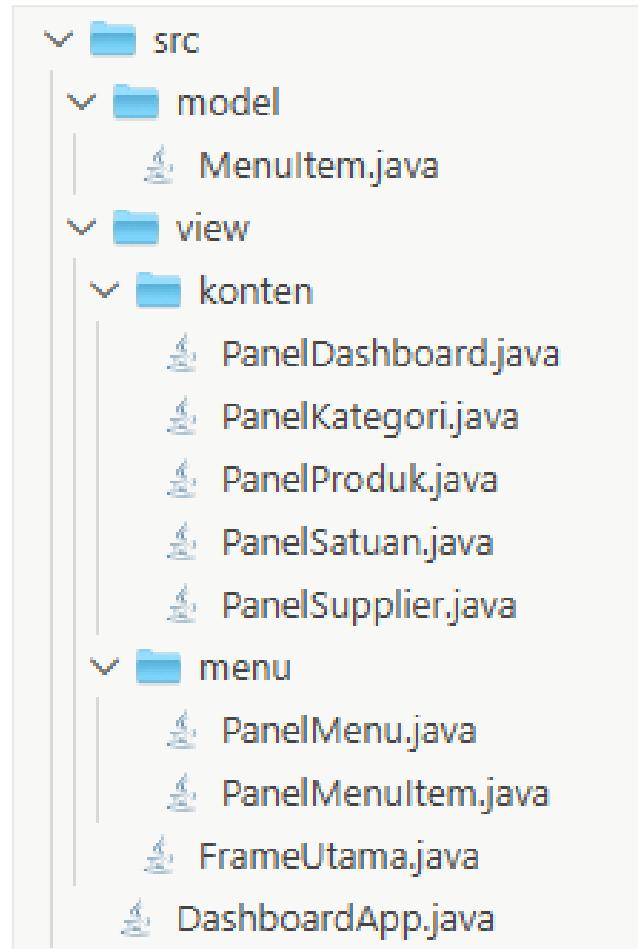
# Struktur Project

Nama Project

- **dashboard-app**



# Analisis Struktur Project



Urutan pembuatan file kode program (\*.java):

1. MenuItem
2. PanelMenuItem
3. PanelMenu
4. DashboardPanel
5. ProdukPanel
6. KategoriPanel
7. SupplierPanel
8. SatuanPanel
9. FrameUtama
10. DashboardApp

# Struktur Logika Penyusunan Kode Program

1. Package Declaration
  - a. nama package
2. Import Statements
  - a. import java
  - b. import javax
  - c. import third party library
  - d. import class dari package lain
3. Class declaration
  - a. **class**
  - b. **property static**
  - c. **property non-ui**
  - d. **property ui components**
  - e. **method constructor**
    - 1) pemanggilan method initializeUI
    - 2) pemanggilan method setupEventHandler
    - 3) pemanggilan method loadInitializeData
  - f. **method initializeUI**
  - g. **method setupEventHandler**
  - h. **method loadInitializeData**
  - i. **method bisnis (fungsionalitas)**
  - j. **method getter / setter**
  - k. **method helper (tampilan)**
  - l. **method main**

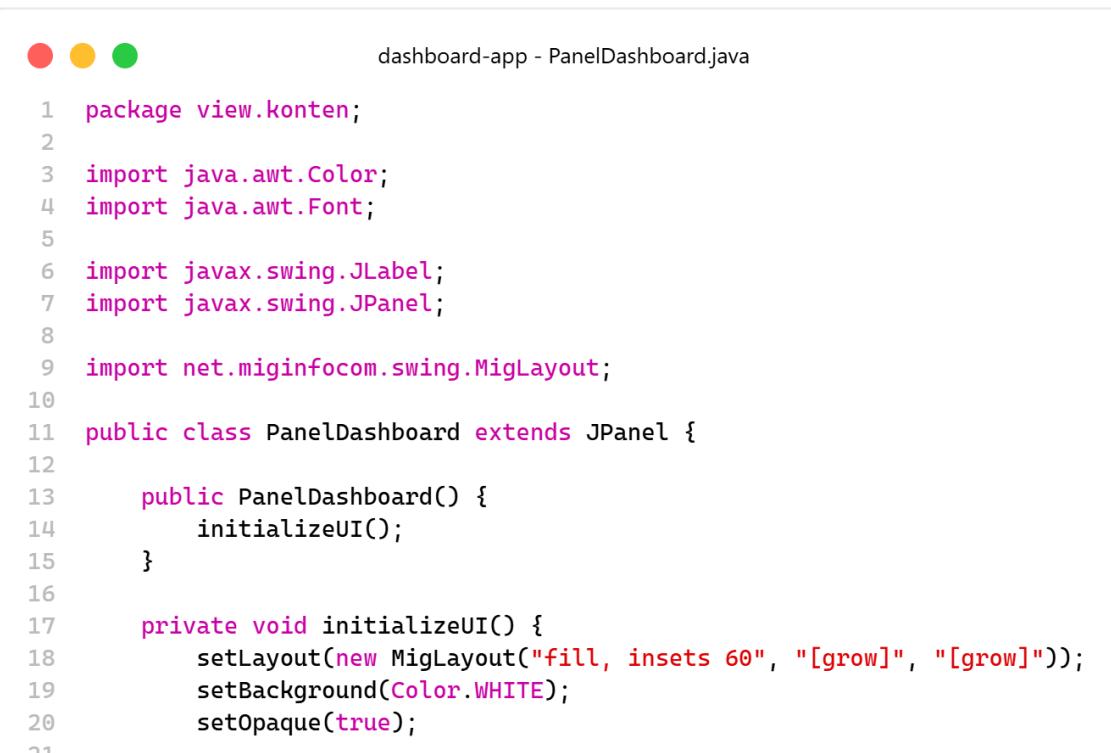
# Kode Program (MenuItem.java)



dashboard-app - MenuItem.java

```
1 package model;
2
3 import java.util.ArrayList;
4 import java.util.List;
5
6 public class MenuItem {
7     private final String judul;
8     private final String keyCardLayout;
9     private final List<MenuItem> listSubMenuitem;
10
11    public MenuItem(String judul, String keyCardLayout) {
12        this.judul = judul;
13        this.keyCardLayout = keyCardLayout;
14        this.listSubMenuitem = new ArrayList<>();
15    }
16
17    public MenuItem(String judul) {
18        this(judul, null);
19    }
20
21    public String getJudul() {
22        return judul;
23    }
24
25    public String getKeyCardLayout() {
26        return keyCardLayout;
27    }
28
29    public List<MenuItem> getListSubMenuitem() {
30        return listSubMenuitem;
31    }
32
33    public boolean hasSubMenuitem() {
34        return !listSubMenuitem.isEmpty();
35    }
36
37    public void addSubMenuitem(MenuItem subMenu) {
38        listSubMenuitem.add(subMenu);
39    }
40
41 }
```

# Kode Program (PanelDashboard.java)



```
● ○ ● dashboard-app - PanelDashboard.java
1 package view.konten;
2
3 import java.awt.Color;
4 import java.awt.Font;
5
6 import javax.swing.JLabel;
7 import javax.swing.JPanel;
8
9 import net.miginfocom.swing.MigLayout;
10
11 public class PanelDashboard extends JPanel {
12
13     public PanelDashboard() {
14         initializeUI();
15     }
16
17     private void initializeUI() {
18         setLayout(new MigLayout("fill, insets 60", "[grow]", "[grow]"));
19         setBackground(Color.WHITE);
20         setOpaque(true);
21     }
}
```

```
21
22     JLabel title = new JLabel("Panel Dashboard");
23     title.setFont(new Font("Inter", Font.BOLD, 36));
24     title.setForeground(new Color(0, 48, 73)); // #003049
25
26     JLabel info = new JLabel("Deskripsi panel dashboard");
27     info.setFont(new Font("Inter", Font.PLAIN, 16));
28     info.setForeground(new Color(98, 117, 138)); // #62758A
29
30     add(title, "alignx center, wrap 30");
31     add(info, "alignx center");
32 }
33
34 }
```

# Kode Program

Kelas berikut mengikuti pola kode program PanelDashboard:

- PanelProduk
- PanelKategori
- PanelSupplier
- PanelSatuan

# Kode Program (PanelMenuItem.java)



dashboard-app - PanelMenuItem.java

```
1 package view.menu;
2
3 import java.awt.Color;
4 import java.awt.Font;
5 import java.awt.event.MouseAdapter;
6 import java.awt.event.MouseEvent;
7
8 import javax.swing.JLabel;
9 import javax.swing.JPanel;
10
11 import model.MenuItem;
12
13 import net.miginfocom.swing.MigLayout;
14
15 public class PanelMenuItem extends JPanel {
16
17     private static final Color BG_SIDEBAR = new Color(245, 247, 250); // #F5F7FA
18     private static final Color BG_HOVER = new Color(224, 230, 235); // #E0E6EB
19     private static final Color BG_SELECTED = new Color(234, 242, 235); // #EAF2EB (sage pudar)
20
21     private static final Color TEXT_NORMAL = new Color(98, 117, 138); // #62758A
22     private static final Color TEXT_HOVER = new Color(0, 48, 73); // #003049
23     private static final Color TEXT_SELECTED = new Color(131, 188, 160); // #83BCA0 (sage)
24
25     private final String contentKey;
26     private boolean isSubMenu;
27     private boolean selected = false;
```

# Kode Program (PanelMenuItem.java)

```
29     private JPanel panelContainerSubMenu;
30     private JLabel labelMenu;
31     private PanelMenuItem panelSubMenuItem;
32     private PanelMenu panelMenu;
33
34     public PanelMenuItem(MenuItem item, PanelMenu panelMenu) {
35         this(item, panelMenu, false);
36     }
37
38     private PanelMenuItem(MenuItem item, PanelMenu panelMenu, boolean isSubMenu) {
39         this.contentKey = item.getKeyCardLayout();
40         this.panelMenu = panelMenu;
41         this.isSubMenu = isSubMenu;
42
43         initializeUI(item);
44         setupEventHandlers();
45     }
46
47     private void initializeUI(MenuItem item) {
48         panelContainerSubMenu = new JPanel(
49             new MigLayout(
50                 "fillx, insets 10, gap 0, hidemode 3",
51                 "[grow]",
52                 ""
53             )
54         );
55
56         panelContainerSubMenu.setBackground(Color.WHITE);
57         panelContainerSubMenu.setOpaque(true);
58     }
```

# Kode Program (PanelMenuItem.java)

```
58     setLayout(new MigLayout("fill, insets 0, gap 0", "[grow]", "[]"));
59     setBackground(isSubMenu ? Color.WHITE : BG_SIDEBAR);
60
61     labelMenu = new JLabel();
62     labelMenu.setText(item.getJudul());
63     labelMenu.setFont(new Font("Inter", isSubMenu ? Font.PLAIN : Font.BOLD, 15));
64     labelMenu.setForeground(TEXT_NORMAL);
65
66     if (isSubMenu) {
67         add(labelMenu, "gapleft 10, grow, pushy, wrap");
68     } else {
69         add(labelMenu, "gapleft 24, grow, pushy, wrap");
70     }
71
72     for (MenuItem sub : item.getListSubMenuItem()) {
73         panelSubMenuItem = new PanelMenuItem(sub, panelMenu, true);
74         panelContainerSubMenu.add(panelSubMenuItem, "growx, h 42!, wrap");
75     }
76 }
77
78
79     private void setupEventHandlers() {
80         addMouseListener(new MouseAdapter() {
81             @Override
82             public void mouseEntered(MouseEvent e) {
83                 if (!selected){
84                     setBackground(BG_HOVER);
85                     labelMenu.setForeground(TEXT_HOVER);
86                 }
87             }
88         });
89     }
90 }
```

# Kode Program (PanelMenuItem.java)

```
--  
89     @Override  
90     public void mouseExited(MouseEvent e) {  
91         if (!selected){  
92             setBackground(isSubMenu ? Color.WHITE : BG_SIDEBAR);  
93             labelMenu.setForeground(TEXT_NORMAL);  
94         }  
95     }  
96  
97     @Override  
98     public void mousePressed(MouseEvent e) {  
99         panelMenu.selectMenuItem(PanelMenuItem.this);  
100        if (panelContainerSubMenu.getComponentCount() > 0) {  
101            boolean visible = panelContainerSubMenu.isVisible();  
102            panelContainerSubMenu.setVisible(!visible);  
103            revalidate();  
104            repaint();  
105        }  
106    }  
107 };  
108 }  
109 }
```

# Kode Program (PanelMenuItem.java)

```
109
110     public void setSelectedByParent(boolean selected) {
111         this.selected = selected;
112         setBackground(selected ? BG_SELECTED : (isSubMenu ? Color.WHITE : BG_SIDEBAR));
113         labelMenu.setForeground(selected ? TEXT_SELECTED : TEXT_NORMAL);
114     }
115
116     public String getContentKey() {
117         return contentKey;
118     }
119
120     public JPanel getPanelContainerSubMenu() {
121         return panelContainerSubMenu;
122     }
123
124 }
```

# Kode Program (PanelMenu.java)



dashboard-app - PanelMenu.java

```
1 package view.menu;
2
3 import java.awt.CardLayout;
4 import java.awt.Color;
5 import java.awt.Dimension;
6 import java.awt.Font;
7 import java.util.List;
8
9 import javax.swing.JLabel;
10 import javax.swing.JPanel;
11 import javax.swing.JSeparator;
12
13 import model.MenuItem;
14
15 import net.miginfocom.swing.MigLayout;
16
17 public class PanelMenu extends JPanel {
18
19     private final CardLayout cardLayout;
20     private final JPanel panelKonten;
21     private JPanel panelSubMenu;
22     private JPanel panelJudul;
23     private JLabel labelJudul;
24     private JLabel labelMenuItem;
25     private PanelMenuItem panelMenuItem;
26     private PanelMenuItem panelDashboard = null;
27
28     public PanelMenu(List<MenuItem> listDaftarMenuItem, CardLayout cardLayout, JPanel panelKonten) {
29         this.cardLayout = cardLayout;
30         this.panelKonten = panelKonten;
```

# Kode Program (PanelMenu.java)

```
32     initializeUI();
33     buildMenu(listDaftarMenuItem);
34     selectDefaultMenu();
35 }
36
37 private void initializeUI() {
38     setLayout(new MigLayout("fillx, wrap 1, insets 0, gap 0, hidemode 3", "[grow]", ""));
39     setPreferredSize(new Dimension(280, 0));
40     setBackground(new Color(245, 247, 250)); // #F5F7FA
41
42     panelJudul = new JPanel(new MigLayout("fillx, h 60!, gap 0, insets 10"));
43     labelJudul = new JLabel("Judul Aplikasi");
44     labelJudul.setFont(new Font("Inter", Font.BOLD, 20));
45     labelJudul.setForeground(new Color(0, 48, 73)); // #003049
46     panelJudul.add(labelJudul, "center, pushy");
47     panelJudul.setBackground(getBackground());
48     add(panelJudul, "grow");
49
50     add(new JSeparator(), "growx, gaptop 5, gapbottom 5");
51 }
52
53 private void buildMenu(List<MenuItem> listDaftarMenuItem) {
54     for (MenuItem menu : listDaftarMenuItem) {
55         labelMenuItem = new JLabel(menu.getJudul());
56         labelMenuItem.setFont(new Font("Arial", Font.BOLD, 14));
57
58         /** Panel Menu Item */
59         panelMenuItem = new PanelMenuItem(menu, this);
60         add(panelMenuItem, "growx, wrap, h 37!");
61     }
62 }
```

# Kode Program (PanelMenu.java)

```
51
62     /** Panel (Sub) Menu Item */
63     if (menu.hasSubMenu()) {
64         panelSubMenu = panelMenuItem.getPanelContainerSubMenu();
65         add(panelSubMenu, "growx, wrap, gapleft 24, gapright 10, gaptop 10, gapbottom 10");
66         panelSubMenu.setVisible(false);
67     }
68
69     add(new JSeparator(), "growx, gaptop 5, gapbottom 5");
70
71     if ("Dashboard".equals(menu.getJudul())) {
72         panelDashboard = panelMenuItem;
73     }
74 }
75
76
77 private void selectDefaultMenu() {
78     if (panelDashboard != null) {
79         selectMenuItem(panelDashboard);
80     }
81 }
82 }
```

# Kode Program (PanelMenu.java)

```
82
83     public void selectMenuItem(PanelMenuItem clickedPanel) {
84         if (panelMenuItem != null && panelMenuItem != clickedPanel) {
85             panelMenuItem.setSelectedByParent(false);
86         }
87
88         clickedPanel.setSelectedByParent(true);
89         panelMenuItem = clickedPanel;
90
91         String key = clickedPanel.getContentKey();
92         if (key != null) {
93             cardLayout.show(panelKonten, key);
94         }
95     }
96
97 }
```

# Kode Program (FrameUtama.java)



dashboard-app - FrameUtama.java

```
1 package view;
2
3 import java.awt.CardLayout;
4 import java.awt.Color;
5 import java.awt.Dimension;
6 import java.util.ArrayList;
7 import java.util.List;
8
9 import javax.swing.JFrame;
10 import javax.swing.JPanel;
11
12 import net.miginfocom.swing.MigLayout;
13
14 import model.MenuItem;
15 import view.konten.PanelDashboard;
16 import view.konten.PanelKategori;
17 import view.konten.PanelProduk;
18 import view.konten.PanelSatuan;
19 import view.konten.PanelSupplier;
20 import view.menu.PanelMenu;
21
```

# Kode Program (FrameUtama.java)

```
21
22 public class FrameUtama extends JFrame {
23
24     MenuItem menuDashboard;
25     MenuItem menuProduk;
26     MenuItem menuMasterData;
27     List<MenuItem> listDaftarMenuItem;
28
29     CardLayout cardLayout;
30     JPanel panelKonten;
31     PanelMenu panelMenu;
32
33     public FrameUtama() {
34         initializeUI();
35         setupPanelKonten();
36         setupPanelMenu();
37         addPanel();
38     }
39 }
```

# Kode Program (FrameUtama.java)

```
40     private void initializeUI() {
41         setTitle("Frame Utama");
42         setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
43         setPreferredSize(new Dimension(1280, 720));
44         setMinimumSize(new Dimension(992, 600));
45         setLocationRelativeTo(null);
46         setLayout(new MigLayout(
47             "fill, insets 0, gap 0",
48             "[224!][grow]",
49             "[grow]"
50         ));
51     }
52
53     private void setupPanelMenu() {
54         listDaftarMenuItem = new ArrayList<>();
55
56         menuDashboard = new MenuItem("Dashboard", "dashboard");
57         menuProduk = new MenuItem("Produk");
58         menuMasterData = new MenuItem("Master Data");
59     }
```

# Kode Program (FrameUtama.java)

```
59
60     menuProduk.addSubMenuitem(new MenuItem("Data Produk", "produk"));
61     menuProduk.addSubMenuitem(new MenuItem("Kategori Produk", "kategori"));
62     menuMasterData.addSubMenuitem(new MenuItem("Supplier", "supplier"));
63     menuMasterData.addSubMenuitem(new MenuItem("Satuan", "satuan"));
64
65     listDaftarMenuItem.add(menuDashboard);
66     listDaftarMenuItem.add(menuProduk);
67     listDaftarMenuItem.add(menuMasterData);
68
69     panelMenu = new PanelMenu(listDaftarMenuItem, cardLayout, panelKonten);
70     panelMenu.setBackground(new Color(245, 247, 250)); // #F5F7FA
71 }
72
73 private void setupPanelKonten() {
74     cardLayout = new CardLayout();
75     panelKonten = new JPanel(cardLayout);
76 }
```

# Kode Program (FrameUtama.java)

```
'76
77     panelKonten.add(new PanelDashboard(), "dashboard");
78     panelKonten.add(new PanelProduk(), "produk");
79     panelKonten.add(new PanelKategori(), "kategori");
80     panelKonten.add(new PanelSupplier(), "supplier");
81     panelKonten.add(new PanelSatuan(), "satuan");
82 }
83
84 private void addPanel() {
85     add(panelMenu, "growy");
86     add(panelKonten, "grow");
87 }
88 }
89 }
```

# Kode Program (DashboardApp.java)



dashboard-app - DashboardApp.java

```
1 import javax.swing.SwingUtilities;
2 import javax.swing.UIManager;
3
4 import com.formdev.flatlaf.themes.FlatMacLightLaf;
5
6 import view.FrameUtama;
7
8 public class DashboardApp {
9     public static void main(String[] args) {
10
11         try{
12             UIManager.setLookAndFeel(new FlatMacLightLaf());
13         } catch(Exception e){
14             System.err.println(e.getMessage());
15         }
16
17         SwingUtilities.invokeLater(() -> {
18             new FrameUtama().setVisible(true);
19         });
20
21     }
22 }
```



# Selesai

Terima kasih 