18ITO02 – ADVANCED JAVA PROGRAMMING

TEAM MEMBERS

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CLASS   :   CSE – A

PROJECT :   HOSPITAL MANAGEMENT SYSTEM

DATE   :   06-08-2021

SUBJECT :   ADVANCED JAVA PROGRAMMING

Hospital Management System

Ex No: 2

Date   : 12/08/2021

Advanced Swing Components

Aim:

To create a table, structures (look) and features available pages with tabbedPane concept by using swing components.

Algorithm:

- Create a jTree containing the structure of the hospital and add it to the tabbed pane
- Create a jTable containing details of the employees of the hospital with add and delete button and add it to the tabbed pane
- Create a jList with details of medicines available and add action listener to display the selected medicine and add it to the tabbed pane

Code & Output:

```java
                    //Exercise 2 code

package swingDemo;
import javax.swing.*;
import javax.swing.table.DefaultTableModel;
import javax.swing.tree.DefaultMutableTreeNode;
import java.awt.CheckboxGroup;
import java.awt.Color;
import java.awt.Font;
```

```java
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import javax.swing.JButton;
import javax.swing.JFrame;
import javax.swing.JLabel;
import javax.swing.JOptionPane;
import javax.swing.JScrollPane;
import javax.swing.JTable;
import javax.swing.JTextField;
import javax.swing.event.TreeSelectionEvent;
import javax.swing.event.TreeSelectionListener;

class Hospital {

    String name,medicine,issues;
    int quantity;

    private JFrame frame;
    private JTextField usernameT;
    private JPasswordField passwordT;
    private final ButtonGroup timeGroup = new ButtonGroup();
    CheckboxGroup tabletgroup = new CheckboxGroup();
    private JTextField TabletT;
    public static void main(String[] args) {
        SwingUtilities.invokeLater(new Runnable() {
            public void run() {
                try {
                    Hospital window = new Hospital();
                    window.frame.setVisible(true);
                } catch (Exception e) {
                    e.printStackTrace();
                }
            }
        });
    }
    public Hospital() {
        initialize();
    }
    private void initialize() {
        frame = new JFrame();
        JLabel l1 = new JLabel("Hospital Maganement System");
        frame.add(l1);
        l1.setFont(new Font("Tahoma", Font.PLAIN, 19));
        l1.setForeground (Color.BLUE);
        l1.setBounds(210,50,900,15);
        frame.setBounds(200, 200, 650, 400);
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        frame.getContentPane().setLayout(null);
```

```java
            frame.getContentPane().setBackground(Color.cyan);

            JTabbedPane tabbedPane = new JTabbedPane(JTabbedPane.LEFT);
            tabbedPane.setBounds(100, 100, 730, 550);
            frame.getContentPane().add(tabbedPane);

            JPanel treePanel = new JPanel();
            JPanel tablePanel = new JPanel();
            JPanel scrollPanel = new JPanel();

                //JTree :

                tabbedPane.addTab("Look", null, treePanel, null);
                treePanel.setLayout(null);

                DefaultMutableTreeNode hospi=new
DefaultMutableTreeNode("Hospital");
                DefaultMutableTreeNode block1=new
DefaultMutableTreeNode("block1");
                DefaultMutableTreeNode block2=new
DefaultMutableTreeNode("block2");
                DefaultMutableTreeNode block3=new
DefaultMutableTreeNode("block3");
                DefaultMutableTreeNode block4=new
DefaultMutableTreeNode("block4");
                DefaultMutableTreeNode floor1=new
DefaultMutableTreeNode("floor1");
                DefaultMutableTreeNode floor2=new
DefaultMutableTreeNode("floor2");
                DefaultMutableTreeNode floor3=new
DefaultMutableTreeNode("floor3");
                DefaultMutableTreeNode b2floor1=new
DefaultMutableTreeNode("floor1");
                DefaultMutableTreeNode b2floor2=new
DefaultMutableTreeNode("floor2");
                DefaultMutableTreeNode b2floor3=new
DefaultMutableTreeNode("floor3");
                DefaultMutableTreeNode b3floor1=new
DefaultMutableTreeNode("floor1");
                DefaultMutableTreeNode b3floor2=new
DefaultMutableTreeNode("floor2");
                DefaultMutableTreeNode b3floor3=new
DefaultMutableTreeNode("floor3");
                DefaultMutableTreeNode b4floor1=new
DefaultMutableTreeNode("floor1");
                DefaultMutableTreeNode b4floor2=new
DefaultMutableTreeNode("floor2");
```

```java
                DefaultMutableTreeNode b4floor3=new
DefaultMutableTreeNode("floor3");
                DefaultMutableTreeNode ph1=new
DefaultMutableTreeNode("Pharmacy");
                DefaultMutableTreeNode ph2=new
DefaultMutableTreeNode("Pharmacy");
                DefaultMutableTreeNode ph3=new
DefaultMutableTreeNode("Pharmacy");
                DefaultMutableTreeNode ph4=new
DefaultMutableTreeNode("Pharmacy");
                DefaultMutableTreeNode gw1=new
DefaultMutableTreeNode("General Wards");
                DefaultMutableTreeNode gw2=new
DefaultMutableTreeNode("General Wards");
                DefaultMutableTreeNode gw3=new
DefaultMutableTreeNode("General Wards");
                DefaultMutableTreeNode gw4=new
DefaultMutableTreeNode("General Wards");
                DefaultMutableTreeNode icu1=new
DefaultMutableTreeNode("ICU");
                DefaultMutableTreeNode icu2=new
DefaultMutableTreeNode("ICU");
                DefaultMutableTreeNode icu3=new
DefaultMutableTreeNode("ICU");
                DefaultMutableTreeNode icu4=new
DefaultMutableTreeNode("ICU");
                DefaultMutableTreeNode ent=new
DefaultMutableTreeNode("ENT");
                DefaultMutableTreeNode ec=new DefaultMutableTreeNode("Eye
Care");
                DefaultMutableTreeNode dt=new
DefaultMutableTreeNode("Dental");
                DefaultMutableTreeNode psy=new
DefaultMutableTreeNode("Physio");
                hospi.add(block1);
                hospi.add(block2);
                hospi.add(block3);
                hospi.add(block4);
                block1.add(floor1);
                block1.add(floor2);
                block1.add(floor3);
                block2.add(b2floor1);
                block2.add(b2floor2);
                block2.add(b2floor3);
                block3.add(b3floor1);
                block3.add(b3floor2);
                block3.add(b3floor3);
                block4.add(b4floor1);
```

```java
                      block4.add(b4floor2);
                      block4.add(b4floor3);
                      floor1.add(ph1);
                      b2floor1.add(ph2);
                      b3floor1.add(ph3);
                      b4floor1.add(ph4);
                      floor2.add(gw1);
                      b2floor2.add(gw2);
                      b3floor2.add(gw3);
                      b4floor2.add(gw4);
                      floor3.add(icu1);
                      b2floor3.add(icu2);
                      b3floor3.add(icu3);
                      b4floor3.add(icu4);
                      floor3.add(ent);
                      b2floor3.add(ec);
                      b3floor3.add(dt);
                      b4floor3.add(psy);
                      JTree jt = new JTree(hospi);
                      JScrollPane sp=new JScrollPane(jt);
                      treePanel.add(sp);
                      sp.setBounds(49, 31, 235, 357);
                      treePanel.setVisible(true);

                      JLabel t1 = new JLabel("N/A");
                      t1.setVerticalAlignment(SwingConstants.TOP);
                      t1.setHorizontalAlignment(SwingConstants.LEFT);
                      t1.setFont(new Font("MS PGothic", Font.BOLD | Font.ITALIC,
15));
                      t1.setBounds(428, 33, 243, 124);
                      treePanel.add(t1);


                      //JScrollPane :

                      tabbedPane.addTab("Features", null, scrollPanel, null);
                      scrollPanel.setLayout(null);

                         final JLabel label = new JLabel();
                       label.setSize(500,100);
                       JButton choose=new JButton("choose");
                       choose.setBounds(200,150,80,30);
                       final DefaultListModel<String> l11 = new
DefaultListModel<>();
                         l11.addElement("1.patient Registration");
                         l11.addElement("2.Electronic Medical Record");
                         l11.addElement("3.Appointment and scheduling");
                         l11.addElement("4.Biling and Financial Management");
```

```java
                l11.addElement("5.Doctor Information");
                l11.addElement("6.Inventory Management");
                l11.addElement("7.Labarotory Management");

                final JList<String> list1 = new JList<>(l11);
                list1.setBounds(100,100,75,75);
                DefaultListModel<String> l2 = new DefaultListModel<>();
                l2.addElement("8.Statistics and Reports");
                l2.addElement("9.support");
                l2.addElement("10.Mobile App");

                final JList<String> list2 = new JList<>(l2);
                list2.setBounds(100,100,75,75);
                scrollPanel.add(list1);
                scrollPanel.add(list2);
                scrollPanel.add(choose);
                scrollPanel.add(label);
            //  scrollPanel.setSize(450,450);


            //JTable :

            tabbedPane.addTab("Monitor", null, tablePanel, null);
            tablePanel.setLayout(null);

            JTable table = new JTable();
            Object[] columns = {"First Name", "Role", "Job Field",
"Phone"};

            DefaultTableModel model = new DefaultTableModel();
            model.setColumnIdentifiers (columns);
            table.setModel(model);

            table.setGridColor(Color.red);
            table.setSelectionBackground (Color.white);
            table.setFont(new Font("Tahoma",Font.PLAIN,17));
            table.setRowHeight(30);


            JScrollPane pane = new JScrollPane(table);
            pane. setForeground (Color.BLUE);
            pane.setBackground (Color.WHITE);
            pane.setBounds (10,10,598,350);

            tablePanel.add(pane);

            JTextField textFirstName = new JTextField();
            textFirstName.setBounds (121, 374, 184, 35);
```

```java
tablePanel.add(textFirstName);
textFirstName.setColumns(10);

JTextField textRole = new JTextField();
textRole.setBounds (121, 418, 184,35);
textRole.setToolTipText("Enter Doctor/Nurse/Technisian");
tablePanel.add(textRole);
textRole.setColumns(10);

JTextField textField = new JTextField();
textField.setBounds (432, 374,171,35);

tablePanel.add(textField);
textField.setColumns(10);

JTextField textPhone = new JTextField();
textPhone.setBounds (432, 418, 171, 35);

tablePanel.add(textPhone);
textPhone.setColumns(10);

JLabel lblFirstName = new JLabel("First Name");
lblFirstName.setFont(new Font("Tahoma", Font.PLAIN, 19));
lblFirstName.setForeground (Color.BLUE);
lblFirstName.setBounds (10, 385, 103, 20);
tablePanel.add(lblFirstName);

JLabel lblRole= new JLabel("Role");
lblRole.setForeground (Color.BLUE);
lblRole.setFont(new Font("Tahoma", Font.PLAIN, 19));
lblRole.setBounds (10, 429, 103, 20);
tablePanel.add(lblRole);

JLabel lblField = new JLabel("Field");
lblField. setForeground (Color.BLUE);
lblField. setFont(new Font("Tahoma", Font.PLAIN, 19));
lblField.setBounds (342,385,103,20);
tablePanel.add(lblField);

JLabel lblPhone = new JLabel("Phone");
lblPhone. setForeground (Color.BLUE);
lblPhone. setFont(new Font ("Tahoma", Font.PLAIN, 19));
lblPhone.setBounds (326, 429, 103, 20);
tablePanel.add(lblPhone);

// ROWS

Object[] row = new Object[4];
```

```java
            // ADD BUTTON

        JButton btnAdd = new JButton("ADD");
    btnAdd.setBounds (10, 463, 295, 35);
    tablePanel.add(btnAdd);

        JButton btnDelete = new JButton("DELETE");
        btnDelete.setBounds (313, 463, 290, 35);
        tablePanel.add (btnDelete);

            jt.addTreeSelectionListener(new
TreeSelectionListener()
            {

                @Override
                public void valueChanged(TreeSelectionEvent e)
{
                    // TODO Auto-generated method stub
                    DefaultMutableTreeNode node=(
DefaultMutableTreeNode)jt.getLastSelectedPathComponent();
                    if(node == null) return;
                    t1.setText("WELCOME TO"+"
"+node.getUserObject().toString());
            }
          });

        choose.addActionListener(new ActionListener() {
         public void actionPerformed(ActionEvent e) {
            String data = "";
            if (list1.getSelectedIndex() != -1) {
               data = "                  Features Available : " +
list1.getSelectedValue();
               label.setText(data);
            }
            if(list2.getSelectedIndex() != -1){
               data =data+" Other facilites Selected by patients:
";
               for(Object frame :list2.getSelectedValues()){
                  data =data +frame + " ";
               }
            }
            label.setText(data);
          }
        });

     btnAdd.addActionListener(new ActionListener() {
```

```java
        public void actionPerformed (ActionEvent e) {

        row[0] = textFirstName.getText();

        row[1] = textRole.getText();

        row [2] = textField.getText();

        row[3] = textPhone.getText();
         model.addRow(row);

        }

        });

        btnDelete.addActionListener(new ActionListener() {

        public void actionPerformed (ActionEvent e) {

        int i = table.getSelectedRow();

        if(i>=0) {

        model.removeRow(i);

        } else {

        JOptionPane.showMessageDialog(frame, "Select to Delete");

        }

        }});

        frame.setVisible(true);

    }


    }
```
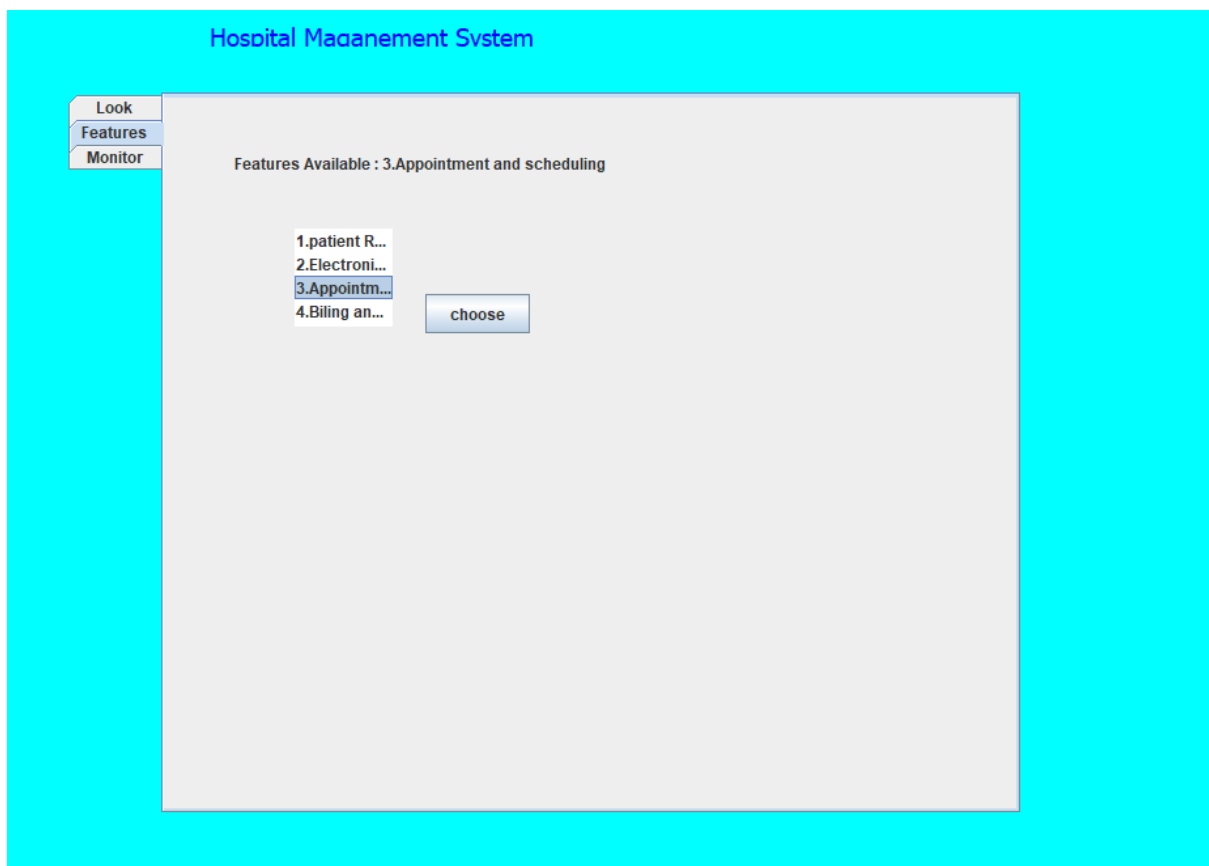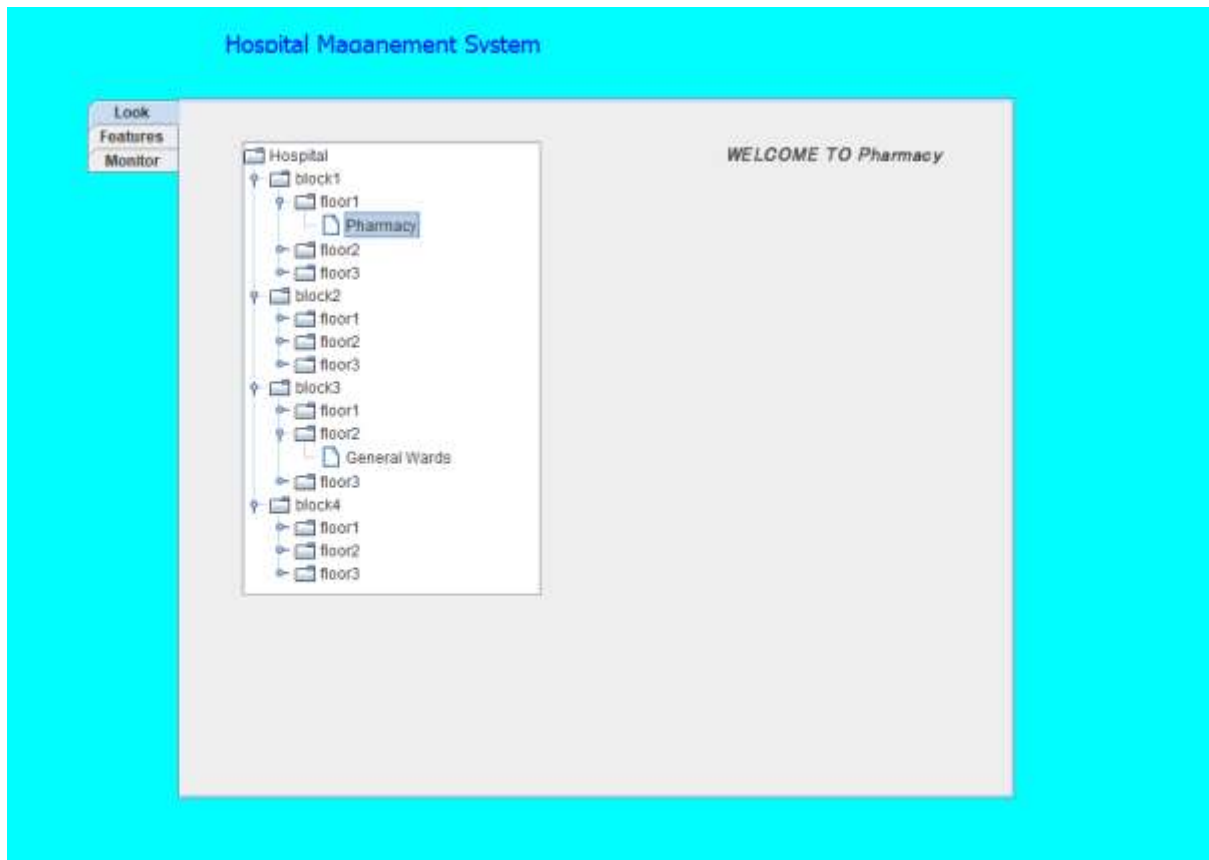
Result:

Thus the above features has been implemented with the swing components.