ДОДАТКИ

ДОДАТОК А

Текст програми

Файл Diagram.xaml

```
<UserControl x:Class="OlapDSS.View.Diagram"
             xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
             xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
             xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
             xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
             xmlns:ss="clr-
namespace:System.Windows.Controls.DataVisualization.Charting;assembly=System.Windows.Control
s.DataVisualization.Toolkit"
             mc:Ignorable="d"
             d:DesignHeight="300" d:DesignWidth="300">
    <Grid>
        <ss:Chart  Name="AreaChart1" Title="Діаграма збуту"  >
            <ss:AreaSeries DependentValuePath="Value"
          IndependentValuePath="Key" ItemsSource="{Binding}"
            IsSelectionEnabled="True"/>
        </ss:Chart>
    </Grid>
</UserControl>
```

Файл ElementsOperCosts.xaml

```
<UserControl x:Class="OlapDSS.View.ElementsOperCosts"
             xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
             xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
             xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
             xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
             mc:Ignorable="d"
             d:DesignHeight="300" d:DesignWidth="300">
    <StackPanel>
        <TextBlock Text ="Елементи операційних витрат" HorizontalAlignment="Center"/>
        <TextBlock/>

        <TextBlock Text="Період"/>
        <ComboBox x:Name="PeriodComboBox"/>

        <Grid>
            <Grid.RowDefinitions>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
```

```
            </Grid.RowDefinitions>
            <Grid.ColumnDefinitions>
                <ColumnDefinition Width="*"/>
                <ColumnDefinition MinWidth="50" Width="Auto"/>
            </Grid.ColumnDefinitions>

            <TextBlock Text="Матеріальні затрати"/>
            <TextBlock Grid.Row="0" Grid.Column="1" Text="{Binding MatCosts}"/>

            <TextBlock Grid.Row="1" Grid.Column="0" Text="Витрати на оплату праці"/>
            <TextBlock Grid.Row="1" Grid.Column="1" Text="{Binding WorkPay}"/>

            <TextBlock Grid.Row="2" Grid.Column="0" Text="Витрати на соціальні заходи"/>
            <TextBlock Grid.Row="2" Grid.Column="1" Text="{Binding SocialCosts}"/>

            <TextBlock Grid.Row="3" Grid.Column="0" Text="Амортизація"/>
            <TextBlock Grid.Row="3" Grid.Column="1" Text="{Binding Amo}"/>

            <TextBlock Grid.Row="5" Grid.Column="0" Text="Інші витрати"/>
            <TextBlock Grid.Row="5" Grid.Column="1" Text="{Binding Others}"/>

            <TextBlock Grid.Row="6" Grid.Column="0" Text="Разом"/>
            <TextBlock Grid.Row="6" Grid.Column="1" Text="{Binding Sum}"/>
        </Grid>
    </StackPanel>
</UserControl>
```

Файл FinanceResult.xaml

```
<UserControl x:Class="OlapDSS.View.FinanceResultView"
             xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
             xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
             xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
             xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
             mc:Ignorable="d"
             d:DesignHeight="300" d:DesignWidth="300">
    <UserControl.Resources>
        <Style TargetType="TextBlock">
            <Setter Property="Margin" Value="2"></Setter>
        </Style>

    </UserControl.Resources>
    <StackPanel>
        <TextBlock Text ="Finance results" HorizontalAlignment="Center"/>
        <TextBlock/>
        <TextBlock Text="Period"/>
        <ComboBox x:Name="PeriodComboBox" Text="За місяць"/>
        <Grid>
            <Grid.RowDefinitions>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
                <RowDefinition/>
```

```
            <RowDefinition/>
        </Grid.RowDefinitions>
        <Grid.ColumnDefinitions>
            <ColumnDefinition Width="*"/>
            <ColumnDefinition MinWidth="50" Width="Auto"/>
        </Grid.ColumnDefinitions>

        <TextBlock Text="Дохід від реалізації продукту"/>
        <TextBlock Grid.Row="0" Grid.Column="1" Text="{Binding Input}"/>

        <TextBlock Grid.Row="1" Grid.Column="0" Text="Податок на додану вартість"/>
        <TextBlock Grid.Row="1" Grid.Column="1" Text="{Binding Tax}"/>

        <TextBlock Grid.Row="2" Grid.Column="0" Text="Чистий дохід від реалізації"/>
        <TextBlock Grid.Row="2" Grid.Column="1" Text="{Binding ClearInput}"/>

        <TextBlock Grid.Row="3" Grid.Column="0" Text="Собівартість реалізованої
продукції"/>
        <TextBlock Grid.Row="3" Grid.Column="1" Text="{Binding AllCosts}"/>

        <TextBlock Grid.Row="4" Grid.Column="0" Grid.ColumnSpan="2" Text="Валовий"
FontWeight="Bold"/>

        <TextBlock Grid.Row="5" Grid.Column="0" Text="  прибуток"/>
        <TextBlock Grid.Row="5" Grid.Column="1" Text="{Binding InputVal}"/>

        <TextBlock Grid.Row="6" Grid.Column="0" Text="  збиток"/>
        <TextBlock Grid.Row="6" Grid.Column="1" Text="{Binding LoosInput}"/>

        <TextBlock Grid.Row="7" Grid.Column="0" Text="Адміністративні витрати"/>
        <TextBlock Grid.Row="7" Grid.Column="1" Text="{Binding AdminCosts}"/>

        <TextBlock Grid.Row="8" Grid.Column="0" Text="Витрати на збут"/>
        <TextBlock Grid.Row="8" Grid.Column="1" Text="{Binding CostsForSale}"/>


        <TextBlock Grid.Row="9" Grid.Column="0" Grid.ColumnSpan="2" FontWeight="Bold"
                   Text="Фінансові результати від операційної діяльності"/>

        <TextBlock Grid.Row="10" Grid.Column="0" Text="  прибуток"/>
        <TextBlock Grid.Row="10" Grid.Column="1" Text="{Binding FinanceInput}"/>

        <TextBlock Grid.Row="11" Grid.Column="0" Text="  збиток"/>
        <TextBlock Grid.Row="11" Grid.Column="1" Text="{Binding FinanceLoss}"/>

    </Grid>
</StackPanel>
</UserControl>
```

Файл FinanceResult.xaml.cs

```
namespace OlapDSS.View
{
    /// <summary>
    /// Interaction logic for FinanceResult.xaml
    /// </summary>
    public partial class FinanceResultView : UserControl
    {
        public FinanceResultView()
        {
            InitializeComponent();
            data = new MDXDataProvider().GetFinanceResult();
```

```
            this.DataContext = data;
        }

        public DBO.FinanceResult data = new DBO.FinanceResult();
    }
}
```

Файл MainGridView.xaml

```
<UserControl x:Class="OlapDSS.View.MainGridView"
             xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
             xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
             xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
             xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
             mc:Ignorable="d"
             d:DesignHeight="300" d:DesignWidth="300">
    <StackPanel>
            <TextBlock Text = "Congratulation" HorizontalAlignment="Center"></TextBlock>
            <DataGrid x:Name="ViewDG" ColumnWidth="*" IsReadOnly="True"
ItemsSource="{Binding}" LoadingRow="ViewDG_OnLoadingRow"/>
     </StackPanel>
</UserControl>
```

Файл MainGridView.xaml.cs

```
namespace OlapDSS.View
{
    /// <summary>
    /// Interaction logic for MainGridView.xaml
    /// </summary>
    public partial class MainGridView : UserControl
    {
        public MainGridView()
        {
            InitializeComponent();
        }

        private void ViewDG_OnLoadingRow(object sender, DataGridRowEventArgs e)
        {
            e.Row.Header = (e.Row.GetIndex()).ToString();
        }
    }
}
```

Файл Login.xaml

```
<Window x:Class="OlapDSS.Login"
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
        Title="Login" Height="316.418" Width="300" ResizeMode="NoResize">
    <StackPanel Margin="5">
        <TextBlock Text="Login" FontSize="32" Margin="0,0,0,10"
HorizontalAlignment="Center"/>
        <TextBlock Text="SaleStore"/>
        <ComboBox x:Name="SaleStoreComboBox" />
        <TextBlock/>
        <TextBlock Text="SalesPerson"/>
        <ComboBox  x:Name="SalePersonComboBox" SelectedIndex="0"/>
        <TextBlock/>
        <TextBlock Text="Password"/>
        <PasswordBox x:Name="PasswordBox"  FontSize="22" />
        <TextBlock/>
```

```
        <Button Content="Login" FontSize="22" Click="Login_OnClick"></Button>
    </StackPanel>
    <Window.Background>
        <LinearGradientBrush>
            <GradientStop Offset="0" Color="White"/>
            <GradientStop Offset="1" Color="LightBlue"/>
        </LinearGradientBrush>
    </Window.Background>
</Window>
```

Файл Login.xaml.cs

```
public partial class Login : Window
    {
        public Login()
        {
            InitializeComponent();

            provider = new DBDataProvider();
            SalePersonComboBox.ItemsSource = Users;
        }

        private void Login_OnClick(object sender, RoutedEventArgs e)
        {
            if (!provider.Login(SalePersonComboBox.SelectedItem,
SaleStoreComboBox.SelectedItem, PasswordBox.Password)) return;

            this.Hide();
            new MainWindow(SalePersonComboBox.SelectedItem as User).ShowDialog();
            this.Show();
        }
        private DBDataProvider provider;
    }
```

Файл MainWindows.xaml

```
<Window x:Class="OlapDSS.MainWindow"
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
        xmlns:local="clr-namespace:OlapDSS"
        Title="MainWindow"
        x:Name="TheMainWindow"
        Height="350" Width="525">
    <Window.CommandBindings>
        <CommandBinding Command="{x:Static local:MainWindow.ShowReportCommand}"
                        Executed="ShowReport_Executed"/>
    </Window.CommandBindings>
    <Grid>
        <Grid.ColumnDefinitions>
            <ColumnDefinition Width="Auto"/>
            <ColumnDefinition/>
        </Grid.ColumnDefinitions>
        <Grid.RowDefinitions>
            <RowDefinition Height="Auto"/>
            <RowDefinition/>
            <RowDefinition Height="Auto"/>
        </Grid.RowDefinitions>
        <Menu Grid.ColumnSpan="2">
            <Menu.ItemsPanel>
                <ItemsPanelTemplate>
                    <DockPanel HorizontalAlignment="Stretch"></DockPanel>
                </ItemsPanelTemplate>
            </Menu.ItemsPanel>
            <MenuItem Header="_File">
                <MenuItem Header="_Exit" " Command="Exit"/>
```

```
            </MenuItem>
            <MenuItem Header="_About" Command="About"></MenuItem>
            <MenuItem Header="LogOut" HorizontalAlignment="Right" " Command="LogOut"/>
        </Menu>

        <StackPanel Grid.Column="0" Grid.Row="1" Margin="2" MinWidth="100">
            <Button Content="Початкова сторінка" Command="{x:Static
local:MainWindow.ShowReportCommand}" CommandParameter="{x:Static
local:Pages.MainGridView}"/>
            <TextBlock Text="Звіти"/>
            <Button Content="Фінансовий" Command="{x:Static
local:MainWindow.ShowReportCommand}" CommandParameter="{x:Static local:Pages.FinanceView}"/>
            <Button Content="Елементи операційних витрат" Command="{x:Static
local:MainWindow.ShowReportCommand}" CommandParameter="{x:Static
local:Pages.ElementsOperCosts}"/>
            <Button Content="Обрахунок показників прибутковості"/>
            <Button Content="Діаграма збуту" Command="{x:Static
local:MainWindow.ShowReportCommand}" CommandParameter="{x:Static local:Pages.Diagram}"/>
            <StackPanel.Background>
                <LinearGradientBrush>
                    <GradientStop Offset="0" Color="LightGray"/>
                    <GradientStop Offset="1" Color="LightSteelBlue"/>
                </LinearGradientBrush>
            </StackPanel.Background>
        </StackPanel>

        <ScrollViewer Grid.Row="1" Grid.Column="1">
            <StackPanel x:Name="ContentPanel"/>
        </ScrollViewer>

        <!--<Button Grid.ColumnSpan="3" Grid.Row="2"
Click="ButtonBase_OnClick">Debug</Button>-->
    </Grid>
</Window>
```

Файл MainWindow.xaml.cs

```
namespace OlapDSS
{
    /// <summary>
    /// Interaction logic for MainWindow.xaml
    /// </summary>
    public partial class MainWindow : Window
    {
        public static RoutedCommand ShowReportCommand = new RoutedCommand("ShowReport",
typeof(MainWindow));

        public MainWindow(User user)
        {
            InitializeComponent();

            _user = user;
            _provider = new GeneralDataProvider();

            SwitchUser();
            SetView(Pages.MainGridView);
        }

        public void SetView(UIElement page)
        {
            this.ContentPanel.Children.Clear();
            this.ContentPanel.Children.Add(page);
        }
```

```
        private void ShowReport_Executed(object sender, ExecutedRoutedEventArgs e)
        {
            Pages.ClearViews();
            SetView(e.Parameter as UIElement);
        }

        private void SwitchUser()
        {
            switch (_user.Role)
            {
                case Role.Admin:
                    view = _provider.GetData(new QueryObject(DBDataProvider.UserAdminQuery,
QueryType.SQL));
                    break;
                case Role.Manager:
                    view = new
MDXDataProvider().GetManagerView(MDXDataProvider.userManagerQuery, 1);
                    break;
                case Role.Saler:
                    view = _provider.GetData(new QueryObject(MDXDataProvider.userSalerQuery,
QueryType.MDX));
                    break;
            }


            TheMainWindow.DataContext = view;

        }

        private DataView view;
        private User _user;
        private GeneralDataProvider _provider;
    }
}
```

Файл Pages.cs

```
namespace OlapDSS
{
    public static class Pages
    {
        private static UIElement _mainGridView;
        private static UIElement _financeView;
        private static UIElement _elementsOperCOsts;
        private static UIElement _diagram;
       ……

        public static UIElement MainGridView
        {
            get
            {
                if (_mainGridView == null) _mainGridView = new MainGridView();
                return _mainGridView;
            }
        }

        public static UIElement FinanceView
        {
            get
            {
                if (_financeView == null) _financeView = new FinanceResultView();
                return _financeView;
            }
        }
```

```
        public static UIElement ElementsOperCosts
        {
            get
            {
                if (_elementsOperCOsts == null) _elementsOperCOsts = new
ElementsOperCosts();
          ......

        public static void ClearViews()
        {
            _mainGridView = null;
        }
    }
}
```

Файл QueryObject.cs

```
namespace DAL
{
    public class QueryObject
    {
        public QueryObject(String query, QueryType qtype)
        {
            Query = query;
            QType = qtype;
        }

        public String Query { get; set; }

        public QueryType QType { get; set; }

    }

    public enum QueryType
    {
        SQL,
        MDX
    }
}
```

Файл MDXDataProvider.cs

```
namespace DAL
{
    public class MDXDataProvider : DataProvider
    {
        private static String connString =
            "provider=msolap;Data Source=(local);initial catalog=MultidimensionalProject4;";

        public DataView GetData(String query)
        {
            using (AdomdConnection mdConn = new AdomdConnection())
            {
                mdConn.ConnectionString = connString;
                mdConn.Open();
                AdomdCommand mdCommand = mdConn.CreateCommand();
                mdCommand.CommandText = query; // << MDX Query

                DataTable dt = new DataTable();
                CellSet cs = mdCommand.ExecuteCellSet();

                TupleCollection tuplesOnColumns = cs.Axes[0].Set.Tuples;
```

```
        TupleCollection tuplesOnRows = cs.Axes[1].Set.Tuples;

        foreach (var member in tuplesOnRows[0].Members)
        {
            dt.Columns.Add(new DataColumn(member.ParentLevel.Caption));
        }

        foreach (var col in tuplesOnColumns)
        {
            dt.Columns.Add(new DataColumn(col.Members[0].Caption));
        }

        for (int row = 0; row < tuplesOnRows.Count; row++)
        {
            List<Object> lst = new List<Object>(8);

            foreach (var member in tuplesOnRows[row].Members)
            {
                lst.Add(member.Caption);
            }

            // fill columns
            for (int col = 0; col < tuplesOnColumns.Count; col++)
            {
                lst.Add(cs.Cells[col, row].Value);
            }

            dt.Rows.Add(lst.ToArray());
        }

        return dt.DefaultView;
    }
}

public Object GetSingleData(String query)
{
    Object result;
    using (AdomdConnection mdConn = new AdomdConnection())
    {

        mdConn.ConnectionString = connString;
        mdConn.Open();
        AdomdCommand mdCommand = mdConn.CreateCommand();
        mdCommand.CommandText = query; // << MDX Query

        CellSet cs = mdCommand.ExecuteCellSet();

        result = cs[0].Value;
    }

    return result;
}

public DataView GetManagerView(String query, Int32 id)
{
    query += "WHERE ([Dim Stores].[Store ID].[Store ID].[" + id + "])";
    return GetData(query);
}

public FinanceResult GetFinanceResult()
{
    FinanceResult result = new FinanceResult();
    result.Input = Convert.ToDouble(GetSingleData(GetTotalIncome));
    result.Tax = result.Input * 0.2;
```

```
            result.ClearInput = result.Input - result.Tax;

            result.AllCosts = Convert.ToDouble(GetSingleData(GetActualCostsofIncome));
            if (result.ClearInput >= result.AllCosts) result.InputVal = result.ClearInput -
result.AllCosts;
            else result.LoosInput = result.AllCosts - result.ClearInput;

            result.AdminCosts = 100;
            result.CostsForSale = 98;

            var a = result.InputVal - result.AdminCosts - result.CostsForSale;
            if (a > 0) result.FinanceInput = a;
            else result.FinanceLoss = a * -1;

            return result;
        }

        #region queries
        public static String userSalerQuery = " SELECT NON EMPTY { [Measures].[Quantity],
[Measures].[Product Actual Cost] } ON COLUMNS, NON EMPTY { ([Dim Product].[Product
Name].[Product Name].ALLMEMBERS * [Dim Date].[Full Date UK].[Full Date UK].ALLMEMBERS ) } ON
ROWS FROM [Sales DW]";

        public static String userManagerQuery = " SELECT NON EMPTY { [Measures].[Quantity],
[Measures].[Sales Total Cost] } ON COLUMNS, NON EMPTY { ([Dim Sales Person].[Sales Person
Name].[Sales Person Name].ALLMEMBERS * [Dim Product].[Product Name].[Product
Name].ALLMEMBERS ) } DIMENSION PROPERTIES MEMBER_CAPTION, MEMBER_UNIQUE_NAME ON ROWS FROM
[Sales DW]";

        public static String GetTotalIncome = "SELECT NON EMPTY { [Measures].[Sales Total
Cost] } ON COLUMNS FROM [Sales DW] ";
        public static String GetActualCostsofIncome = " SELECT NON EMPTY {
[Measures].[Product Actual Cost] } ON COLUMNS FROM [Sales DW]";

        #endregion
    }
}
```

Файл GeneralDataProvider.cs

```
namespace DAL
{
    public class GeneralDataProvider
    {
        public DataView GetData(QueryObject qObject)
        {
            DataView data = null;
            switch (qObject.QType)
            {
                case QueryType.MDX:
                    data = _mdxDataProvider.GetData(qObject.Query);
                    break;
                case QueryType.SQL:
                    data = _dbDataProvider.GetData(qObject.Query);
                    break;
                default:
                    throw new ArgumentException();
            }

            return data;
        }

        public GeneralDataProvider()
        {
```

```
            _mdxDataProvider = new MDXDataProvider();
            _dbDataProvider = new DBDataProvider();
        }

        private MDXDataProvider _mdxDataProvider;
        private DBDataProvider _dbDataProvider;
    }
}
```

Файл DBDataProvider.cs

```
namespace DAL
{
    public class DBDataProvider : DataProvider
    {
        private static String connStringSystem = "Data Source=DIMA;Initial
Catalog=OlapDSSSystemDB;Integrated Security=True";

        private static String connStringOlap =
            "Data Source=DIMA;Initial Catalog=Sales_DW;Integrated Security=True";

        public Boolean Login(Object store, Object person, String pass)
        {
            using (SqlConnection conn = new SqlConnection(connStringSystem))
            {
                SqlCommand command = new SqlCommand("TryLogin", conn);
                command.CommandType = CommandType.StoredProcedure;

                conn.Open();

               if (command.ExecuteScalar() == null) return false;
            }

            return true;
        }

        public DataView GetData(String query)
        {
            DataTable dt = new DataTable();
            using (SqlConnection conn = new SqlConnection(connStringOlap))
            {
                SqlCommand command = new SqlCommand(query, conn);
                SqlDataAdapter sqlDataAdapter = new SqlDataAdapter(command);

                conn.Open();
                sqlDataAdapter.Fill(dt);
            }

            return dt.DefaultView;
        }

        #region queries

        public static String UserAdminQuery = "SELECT  dbo.DimStores.StoreName,
dbo.DimSalesPerson.SalesPersonName, dbo.DimStores.StoreLocation FROM
dbo.DimSalesPerson INNER JOIN dbo.DimStores ON dbo.DimSalesPerson.StoreID =
dbo.DimStores.StoreID ";

        public static String UserManagerQuery = "";

        #endregion
    }
}
```

Файл FinanceResult.cs

```
    public class FinanceResult
    {
        public Double Input { get; set; } //дохід
        public Double Tax { get; set; } //ПДВ
        public Double ClearInput { get; set; } // чистий дохід
        public Double AllCosts { get; set; } //собівартість
        public Double InputVal { get; set; } //валовий прибутор
        public Double LoosInput { get; set; } //валовий збиток
        public Double AdminCosts { get; set; } //адмін витрати
        public Double CostsForSale { get; set; } //витрати на збут

        //фін результати опер діяльності
        public Double FinanceInput { get; set; } //прибуток
        public Double FinanceLoss { get; set; }  // збиток

    }
```

Файл User.cs

```
public class User
    {
        public Role Role { get; set; }
        public String Name { get; set; }

        public Int32 Id { get; set; }

        public override string ToString()
        {
            return Role.ToString();
        }
    }

    public enum Role
    {
        Admin,
        Manager,
        Saler
    }
```

ДОДАТОК Б

Копії публікацій за матеріалами дипломної роботи