**Код программы:**

**Форма 1:**

/// <summary>  
/// Логика взаимодействия для AuthPage.xaml  
/// </summary>  
public partial class AuthPage : Page  
{  
int attemp = 0;  
int startTime = 0;  
int endTime = 10;  
DispatcherTimer timer = new DispatcherTimer();  
public AuthPage()  
{  
InitializeComponent();  
timer.Interval = new TimeSpan(0,0,0,1);  
timer.Tick += timer\_Tick;  
}  
  
private void timer\_Tick(object sender, EventArgs e)  
{  
startTime++;  
TimeLabel.Content = $"До разблокировки осталось {10 - startTime} секунд";  
if (startTime >= endTime)  
{  
this.IsEnabled = true;  
timer.Stop();  
TimeLabel.Content = "";  
}  
}  
  
private void LoginButton\_Click(object sender, RoutedEventArgs e)  
{  
string login = LoginText.Text;  
string password = PasswordText.Text;  
  
try  
{  
Users user = DataHelper.GetContext().Users.Where(n => [n.Email](https://vk.com/away.php?utf=1&to=http%3A%2F%2Fn.Email) == login && n.Password == password).Single();  
if(user.RoleID == 1)  
NavigationService.Navigate(new AdministratorPage(user));  
if (user.RoleID == 2)  
{  
if ([user.Active](https://vk.com/away.php?utf=1&to=http%3A%2F%2Fuser.Active) == true)  
NavigationService.Navigate(new UserPage(user));  
else  
[MessageBox.Show](https://vk.com/away.php?utf=1&to=http%3A%2F%2FMessageBox.Show)("Вы заблокированы в системе!");  
}  
  
}  
catch  
{  
[MessageBox.Show](https://vk.com/away.php?utf=1&to=http%3A%2F%2FMessageBox.Show)("Неправильные логин или пароль!");  
attemp++;  
if (attemp >= 3)  
{  
[MessageBox.Show](https://vk.com/away.php?utf=1&to=http%3A%2F%2FMessageBox.Show)("Данные были введены неправильно три и более раза подряд. Окно будет заблокировано следующие 10 секунд.");  
timer.Start();  
this.IsEnabled = false;  
}  
}  
}  
  
private void RadioButton\_Checked(object sender, RoutedEventArgs e)  
{  
LoginText.Text = "[j.doe@amonic.com](mailto:j.doe@amonic.com)";  
PasswordText.Text = "123";  
}  
  
private void UserRadioButton\_Checked(object sender, RoutedEventArgs e)  
{  
LoginText.Text = "[a.hobart@amonic.com](mailto:a.hobart@amonic.com)";  
PasswordText.Text = "6996";  
}  
  
private void Page\_IsVisibleChanged(object sender, DependencyPropertyChangedEventArgs e)  
{  
LoginText.Text = "";  
PasswordText.Text = "";  
}  
}  
}  
}

**Форма 2:**

private Users \_user = new Users();  
public AddUserForm()  
{  
InitializeComponent();  
  
OfficesComboBox.ItemsSource = DataHelper.GetContext().Offices.ToList();  
  
DataContext = \_user;  
}  
  
private void SaveButton\_Click(object sender, RoutedEventArgs e)  
{  
StringBuilder errors = new StringBuilder();  
  
if (string.IsNullOrWhiteSpace([\_user.Email](https://vk.com/away.php?utf=1&to=http%3A%2F%2F_user.Email)))  
{  
errors.AppendLine("Введите Email.");  
}  
else  
{  
string email = [\_user.Email](https://vk.com/away.php?utf=1&to=http%3A%2F%2F_user.Email);  
if (DataHelper.GetContext().Users.Select(n=>n.Email).ToList().Contains(email))  
{  
errors.AppendLine("Такой Email уже существует!");  
}  
}  
  
if (string.IsNullOrWhiteSpace(\_user.FirstName))  
errors.AppendLine("Введите First name.");  
if (string.IsNullOrWhiteSpace(\_user.LastName))  
errors.AppendLine("Введите Last name.");  
if (string.IsNullOrWhiteSpace(\_user.Password))  
errors.AppendLine("Введите Password.");  
if (BirthDatePicker.SelectedDate == null)  
errors.AppendLine("Выберите дату рождения.");  
if (OfficesComboBox.SelectedItem == null)  
errors.AppendLine("Выберите Office.");  
  
if (errors.Length > 0)  
{  
[MessageBox.Show](https://vk.com/away.php?utf=1&to=http%3A%2F%2FMessageBox.Show)(errors.ToString(), "Ошибка!", MessageBoxButton.OK, MessageBoxImage.Error);  
return;  
}  
  
try  
{  
[\_user.Active](https://vk.com/away.php?utf=1&to=http%3A%2F%2F_user.Active) = true;  
\_user.RoleID = 2;  
  
DataHelper.GetContext().Users.Add(\_user);  
DataHelper.GetContext().SaveChanges();  
}  
catch(Exception ex)  
{  
[MessageBox.Show](https://vk.com/away.php?utf=1&to=http%3A%2F%2FMessageBox.Show)(ex.Message.ToString());  
}  
}  
}  
}

**Форма 3:**

public partial class UserPage : Page  
{  
private Users \_user = new Users();  
public UserPage(Users user)  
{  
InitializeComponent();  
this.\_user = user;  
TrackingHelper.track = new Tracking  
{  
UserID = [user.ID](https://vk.com/away.php?utf=1&to=http%3A%2F%2Fuser.ID),  
LoginTime = [DateTime.Now](https://vk.com/away.php?utf=1&to=http%3A%2F%2FDateTime.Now),  
Crashe = true  
};  
  
var crashe = user.Tracking.Where(n=>n.Crashe == true && n.CrasheReason == null).FirstOrDefault();  
  
if (crashe != null)  
{  
CrasheReportForm crasheReportForm = new CrasheReportForm(crashe);  
crasheReportForm.ShowDialog();  
}  
  
WelcomeLabel.Content = $"Hi {user.FirstName}, welcome to AMONIC Airlines";  
TimeSpentLabel.Content = $"Time spent on system: {[user.Tracking.Select](https://vk.com/away.php?utf=1&to=http%3A%2F%2Fuser.Tracking.Select)(n=>n.OnSystemTime).Sum()/60}";  
CrashesNumberLabel.Content = $"Number of crashes: {user.Tracking.Where(n=>n.Crashe == true).Count()}";  
  
TrackingData.ItemsSource = DataHelper.GetContext().Tracking.Where(n=>n.UserID == [user.ID](https://vk.com/away.php?utf=1&to=http%3A%2F%2Fuser.ID)).ToList();  
  
DataHelper.GetContext().Tracking.Add(TrackingHelper.track);  
DataHelper.GetContext().SaveChanges();  
}  
  
private void ExitItem\_Click(object sender, RoutedEventArgs e)  
{  
NavigationService.GoBack();  
}  
  
private void Page\_IsVisibleChanged(object sender, DependencyPropertyChangedEventArgs e)  
{  
if (this.IsVisible == false)  
{  
TrackingHelper.SaveTrack();  
}  
}  
  
private void BookFlightButton\_Click(object sender, RoutedEventArgs e)  
{  
NavigationService.Navigate(new BookFlightPage(\_user));  
}  
  
private void Amentities\_Click(object sender, RoutedEventArgs e)  
{  
AmentitiesForm amentitiesForm = new AmentitiesForm();  
amentitiesForm.ShowDialog();  
}  
  
private void ReportAmentities\_Click(object sender, RoutedEventArgs e)  
{  
ReportAmenitiesForm reportAmenitiesForm = new ReportAmenitiesForm();  
reportAmenitiesForm.ShowDialog();  
}  
}  
}

**Форма 4:**

public partial class CrasheReportForm : Window  
{  
Tracking \_tracking = new Tracking();  
public CrasheReportForm(Tracking tracking)  
{  
InitializeComponent();  
\_tracking = tracking;  
// LogoutLabel.Content = $"No logout reason for your last login on {tracking.LoginTime.Date.ToString("dd.MM.yyyy")} at {tracking.LoginTime.ToString("hh:mm")}";  
}  
  
private void SaveButton\_Click(object sender, RoutedEventArgs e)  
{  
\_tracking.CrasheReason = ReasonText.Text;  
DataHelper.GetContext().SaveChanges();  
this.Close();  
}  
}

**Изменение роли пользователя:**

public partial class ChangeRoleForm : Window  
{  
private Users \_user = new Users();  
public ChangeRoleForm(Users user)  
{  
InitializeComponent();  
\_user = user;  
OfficeComboBox.ItemsSource = DataHelper.GetContext().Offices.ToList();  
DataContext = user;  
  
if (user.RoleID == 1)  
{  
AdministratorRadio.IsChecked = true;  
}  
else  
{  
UserRadio.IsChecked = true;  
}  
}  
  
private void SaveButton\_Click(object sender, RoutedEventArgs e)  
{  
if (AdministratorRadio.IsChecked == true)  
{  
\_user.RoleID = 1;  
}  
else  
{  
\_user.RoleID = 2;  
}  
  
DataHelper.GetContext().SaveChanges();  
this.Close();  
}  
  
private void CancelButton\_Click(object sender, RoutedEventArgs e)  
{  
this.Close();  
}  
}  
}

**Форма 5:**

public partial class ManageSchedulesPage : Page  
{  
public ManageSchedulesPage(Users user)  
{  
InitializeComponent();  
ReloadPage();  
}  
  
public void ReloadPage()  
{  
SchedulesData.ItemsSource = DataHelper.GetContext().Schedules.ToList();  
ToAirportCombo.ItemsSource = DataHelper.GetContext().Airports.ToList();  
FromAirportCombo.ItemsSource = DataHelper.GetContext().Airports.ToList();  
  
ToAirportCombo.SelectedItem = null;  
FromAirportCombo.SelectedItem = null;  
}  
  
private void ApplyButton\_Click(object sender, RoutedEventArgs e)  
{  
var sortSchedules = DataHelper.GetContext().Schedules.ToList();  
  
var from = (Countries)FromAirportCombo.SelectedItem;  
var to = (Countries)ToAirportCombo.SelectedItem;  
  
if (ToAirportCombo.SelectedItem == FromAirportCombo.SelectedItem &&  
FromAirportCombo.SelectedItem != null && ToAirportCombo.SelectedItem != null)  
{  
[MessageBox.Show](https://vk.com/away.php?to=http%3A%2F%2FMessageBox.Show&cc_key=)("To and From can`t be equal");  
return;  
}  
  
if(FromAirportCombo.SelectedItem != null)  
sortSchedules = sortSchedules.Where(n => n.Routes.Airports.Countries == from).ToList();  
if (ToAirportCombo.SelectedItem != null)  
sortSchedules = sortSchedules.Where(n => n.Routes.Airports1.Countries == to).ToList();  
if (FlightNumText.Text != "")  
sortSchedules = sortSchedules.Where(n=>n.FlightNumber == FlightNumText.Text).ToList();  
if (OutboundDatePicker.SelectedDate != null)  
{  
var date = ((DateTime)OutboundDatePicker.SelectedDate).Date;  
sortSchedules = sortSchedules.Where(n => [n.Date](https://vk.com/away.php?to=http%3A%2F%2Fn.Date&cc_key=) == date).ToList();  
}  
if (SortCombo.SelectedItem != null)  
{  
if(SortCombo.Text == "Price")  
sortSchedules = sortSchedules.OrderBy(n => n.EconomyPrice).ToList();  
if (SortCombo.Text == "Confirmed")  
sortSchedules = sortSchedules.OrderBy(n => n.Confirmed).ToList();  
if (SortCombo.Text == "Date")  
sortSchedules = sortSchedules.OrderBy(n => [n.Date](https://vk.com/away.php?to=http%3A%2F%2Fn.Date&cc_key=)).ToList();  
  
}  
  
SchedulesData.ItemsSource = sortSchedules;  
}  
  
private void FlightNumText\_PreviewTextInput(object sender, TextCompositionEventArgs e)  
{  
e.Handled = "0123456789".IndexOf(e.Text) < 0;  
}  
  
private void CancelFlightButton\_Click(object sender, RoutedEventArgs e)  
{  
if (SchedulesData.SelectedItem is Schedules schedules)  
{  
schedules.Confirmed = schedules.Confirmed == true ? false : true;  
ReloadPage();  
}  
else  
{  
[MessageBox.Show](https://vk.com/away.php?to=http%3A%2F%2FMessageBox.Show&cc_key=)("Select the schedule!");  
}  
}  
  
private void EditFlightButton\_Click(object sender, RoutedEventArgs e)  
{  
if (SchedulesData.SelectedItem is Schedules schedules)  
{  
EditScheduleForm editScheduleForm = new EditScheduleForm(schedules);  
editScheduleForm.ShowDialog();  
ReloadPage();  
}  
else  
{  
[MessageBox.Show](https://vk.com/away.php?to=http%3A%2F%2FMessageBox.Show&cc_key=)("Select the schedule!");  
}  
}  
  
private void ClearButton\_Click(object sender, RoutedEventArgs e)  
{  
ReloadPage();  
}  
  
private void ImportChangesButton\_Click(object sender, RoutedEventArgs e)  
{  
ImportChangesForm importChangesForm = new ImportChangesForm();  
importChangesForm.ShowDialog();  
ReloadPage();  
}  
}  
}

**Форма 6:**

public partial class ImportChangesForm : Window  
{  
List<ImportChangesHelper> changesWithoutDublicate = new List<ImportChangesHelper>();  
public ImportChangesForm()  
{  
InitializeComponent();  
}  
  
public List<ImportChangesHelper> ProcessCSV(string path)  
{  
try  
{  
return File.ReadAllLines(path).Where(row => row != null).Select(ImportChangesHelper.ParseRow).ToList();  
  
}  
catch (System.IO.IOException)  
{  
[MessageBox.Show](https://vk.com/away.php?utf=1&to=http%3A%2F%2FMessageBox.Show)("Файл занят другим процессом!");  
return null;  
}  
}  
  
private void ImportChangesButton\_Click(object sender, RoutedEventArgs e)  
{  
try  
{  
ImportResultHelper.Clear();  
  
OpenFileDialog openFileDialog = new OpenFileDialog();  
openFileDialog.Filter = "CSV Files (\*.csv)|\*.csv";  
openFileDialog.ShowDialog();  
var changes = ProcessCSV(openFileDialog.FileName);  
changesWithoutDublicate = changes.Distinct().ToList();  
  
foreach (var schedule in changesWithoutDublicate)  
{  
if (schedule == null || schedule.Result != "OK") continue;  
  
Schedules schedules = new Schedules()  
{  
AircraftID = schedule.AircraftID,  
Confirmed = true,  
Date = [schedule.Date](https://vk.com/away.php?utf=1&to=http%3A%2F%2Fschedule.Date),  
Time = schedule.Time,  
EconomyPrice = schedule.BasePrice,  
RouteID = DataHelper.GetContext().Routes.Where(n => n.Airports.IATACode == schedule.From  
&& n.Airports1.IATACode == [schedule.To](https://vk.com/away.php?utf=1&to=http%3A%2F%2Fschedule.To)).Select(n => [n.ID](https://vk.com/away.php?utf=1&to=http%3A%2F%2Fn.ID)).First(),  
FlightNumber = schedule.FlightNumber.ToString(),  
};  
  
if (DataHelper.GetContext().Schedules.ToList().Contains(schedules))  
{  
ImportResultHelper.Dublicate++;  
continue;  
}  
  
if (schedule.Function == "ADD")  
{  
ImportResultHelper.Successful++;  
DataHelper.GetContext().Schedules.Add(schedules);  
}  
  
}  
DataHelper.GetContext().SaveChanges();  
}  
catch (Exception ex)  
{  
[MessageBox.Show](https://vk.com/away.php?utf=1&to=http%3A%2F%2FMessageBox.Show)(ex.Message);  
}  
  
SuccessfulLabel.Content = ImportResultHelper.Successful;  
DublicateLabel.Content = ImportResultHelper.Dublicate;  
RecordLabel.Content = ImportResultHelper.MissFields;  
}  
}  
}