WPF app project

Introduction

The purpose of the project was to create a WPF application. The application was to be created on Microsoft Visual Studio coded with XAML for the user interface and C# for the animations and effects. The goal of the application was to show the user nutrition and training plans. One of the main goals was to make the application as user friendly and as instinctive to navigate as possible. It should also be pleasing for the user to look at with good animations and formatting.

The user should be able to switch between two pages, training and nutrition, from the home page. Once on each of these pages, the user should be able to switch between different training and nutrition plans. Once a plan is selected, all plans will become invisible apart from the one selected. To navigate the app, two picture links will be on the homepage, taking the user to the training and nutrition page. The home page will be accessed easily from any page using a home button in the top right-hand corner. To show that the user is hovering over a link, the image for the link should decrease in opacity.

Procedure

The first step in the procedure was to open visual studio and create a new WPF app by selecting “file”, “new” then selecting WPF under the visual C# section. Next, the user interface was to be designed, which can be done using the toolbox or by XAML coding. For this project, a mixture of coding and the toolbox was utilised.

The first step to designing the user interface was to add in two other pages as well as the main window automatically created by selecting “add new item” then “window”. The windows/pages were also renamed so they could be linked to easily. Then a red to black gradient background was added to all pages using the following code:

```
        <Grid.Background>
            <LinearGradientBrush EndPoint="0.5,1" MappingMode="RelativeToBoundingBox"
StartPoint="0.5,0">
                <GradientStop Color="Black"/>
                <GradientStop Color="Red" Offset="1"/>
            </LinearGradientBrush>
        </Grid.Background>
```

Then, using the toolbox, image was selected to add in two images to be used as links to the nutrition and training pages. The images were moved to the correct spot on the window then resized by dragging the corners. To make the correct images appear, the sources were changed to the image file locations using the properties tab. To add in the title, “title” was selected from the toolbox and placed at the top of the page. Once the title was added, it was formatted with the following code:

```
<TextBlock x:Name="title" Height="116" Margin="0,0,-0.667,0" TextWrapping="Wrap"
Text="fitness app" VerticalAlignment="Top" Foreground="#FF00FA26" FontSize="72"
FontWeight="Bold" FontFamily="Segoe UI Black" TextAlignment="Center"
Grid.ColumnSpan="2">
            <TextBlock.Effect>
                <DropShadowEffect ShadowDepth="10"/>
```

```
            </TextBlock.Effect>
        </TextBlock>
```

This code changed the title of the object, size and margins. It also changed the text to “fitness app”, centred it and formatted it in other ways such as changing the colours and making it bold. Also, an effect was added to create a shadow on the text.

The same code used for the home page title was also used to add titles to the other pages, the only difference being the text displayed but with the same formatting. On both the training and nutrition pages, an image of a home icon was added to the top left corner in order to be later linked to the home page.

The images of the meal plans were added to the nutrition page, all the same size in the same location. The idea of these images is they were only to become visible when selected so the visibility was set to hidden for all of them in the appearance section of the properties tab. The names and sources were also changed for all the images and the same process was repeated for training plans on the training page.

To be able to select between images of nutrition plans, a combo box was added to the nutrition page from the toolbox. Then the following code was used to add items to the combo box and change what was displayed in each item:

```
 <ComboBox HorizontalAlignment="Left" Margin="285,86,0,0" VerticalAlignment="Top"
Width="227" Height="30" Background="Black" BorderBrush="Black" Foreground="#FF00FA26"
FontFamily="Segoe UI Black" FontSize="14">
            <ComboBoxItem x:Name="mp1" Content="meal plan 1"
HorizontalAlignment="Left" Width="227" Selected="Mp1_Selected" Background="Black"
Foreground="red"/>
            <ComboBoxItem x:Name="mp2" Content="meal plan 2"
HorizontalAlignment="Left" Width="227" Selected="Mp2_Selected" Background="red"
Foreground="black"/>
        </ComboBox>
```

The code above also named the combo box items and changed the colours to alternate between black or red for every other item. A combo box was also added to the training page using the same code but with four items with different names and content.

Once the user interface had been designed, the animations could be coded using C#. To add an event, the event handlers icon (lightning icon) was selected in the properties tab. From there, there is a list of events to select. Once an event is selected, a function is automatically created for the event in the coding section related to that page.

For the home page, the mouse enter event was used to create a function for the nutrition image (link). The following code was added to the function to decrease the opacity of the image to 0.5 when the mouse enters the image:

```
private void Nutrition_MouseEnter(object sender, MouseEventArgs e)
        {
            nutrition.Opacity =0.5;
        }
```

This was then repeated for the mouse leave event to increase the opacity back to 1 so the user knows they are no longer hovering over the image. The following code was added to the same image for the on click event in order to link it to the nutrition page:

```
private void Nutrition_MouseLeftButtonDown(object sender, MouseButtonEventArgs e)
        {
```

```
            main.Content = new NutritionPage();
        }
```

The same event functions were used for the training image (link), but it was linked to the training page instead. The home icon on the training and nutrition page had the same functions as the home page images for the mouse enter and mouse leave events to change the opacity. The following code was used for the home button on click event to restart the application back to the home page:

```
private void Home_MouseLeftButtonDown_1(object sender, MouseButtonEventArgs e)
        {
            Process.Start(Application.ResourceAssembly.Location);

            Application.Current.Shutdown();
        }
```

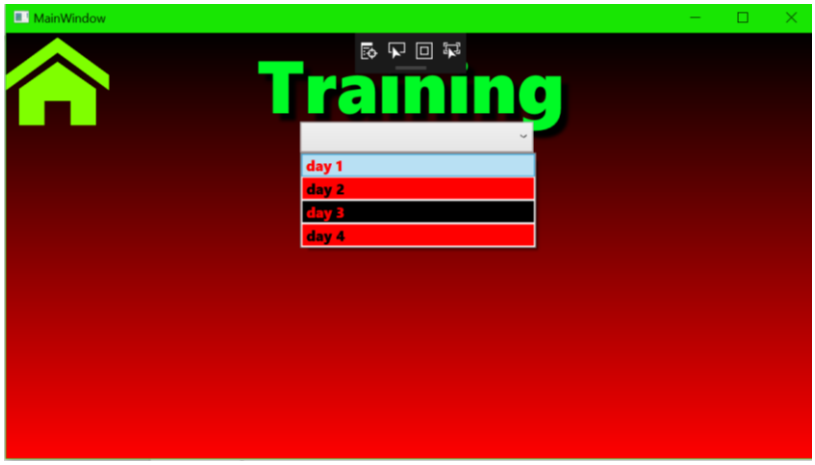
The final step was to change which images were visible when a certain option was selected. Below is an example of code from the function for the first box being selected on the training page:

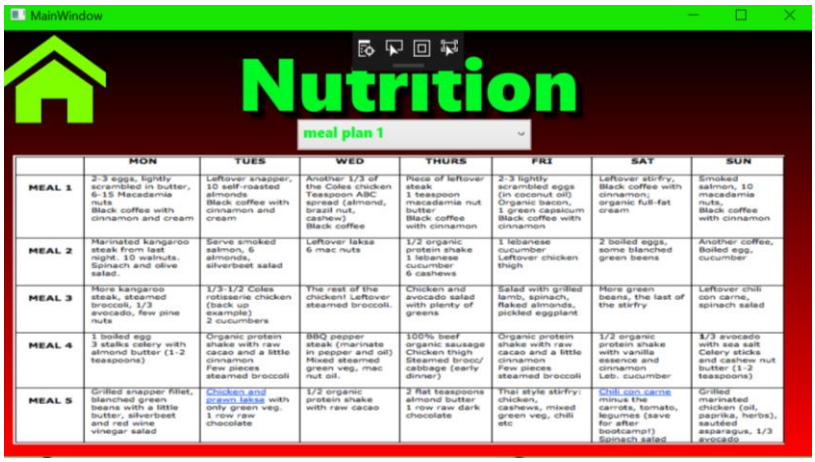
```
private void D1_Selected(object sender, RoutedEventArgs e)
        {
            day1.Visibility = Visibility.Visible;
            day2.Visibility = Visibility.Hidden;
            day3.Visibility = Visibility.Hidden;
            day4.Visibility = Visibility.Hidden;
        }
```

This sets all the images to invisible except the one relating to the box selected. This code is repeated for each combo box item being selected, but changing which items are visible and invisible. The same method was used to change the visibility of the nutrition plan images on the nutrition page.

Results and conclusion

In conclusion, the application was successful as it met all the requirements. The application is smooth to run and the user interface feels very instinctive and easy to navigate. All the animations and formatting look good for the user. The app included all the pages that were required and the navigation worked the way it was intended. The opacities of the links changed whilst the mouse hovered over them. Also, the nutrition and training plans appeared once they were selected and only whilst they were selected. Below are images of each of the pages in the interface.





	MON	TUES	WED	THURS	FRI	SAT	SUN
MEAL 1	2-3 eggs, lightly scrambled in butter, 6-15 Macadamia nuts Black coffee with cinnamon and cream	Leftover snapper, 10 self-roasted almonds Black coffee with cinnamon and cream	Another 1/3 of the Coles chicken Teaspoon ABC spread (almond, brazil nut, cashew) Black coffee	Piece of leftover steak 1 teaspoon macadamia nut butter Black coffee with cinnamon	2-3 lightly scrambled eggs (in coconut oil) Organic bacon, 1 green capsicum Black coffee with cinnamon	Leftover stirfry, Black coffee with cinnamon; organic full-fat cream	Smoked salmon, 10 macadamia nuts, Black coffee with cinnamon
MEAL 2	Marinated kangaroo steak from last night. 10 walnuts. Spinach and olive salad.	Serve smoked salmon, 6 almonds, silverbeet salad	Leftover laksa 6 mac nuts	1/2 organic protein shake 1 lebanese cucumber 6 cashews	1 lebanese cucumber Leftover chicken thigh	2 boiled eggs, some blanched green beens	Another coffee, Boiled egg, cucumber
MEAL 3	More kangaroo steak, steamed broccoli, 1/3 avocado, few pine nuts	1/3-1/2 Coles rotisserie chicken (back up example) 2 cucumbers	The rest of the chicken! Leftover steamed broccoli.	Chicken and avocado salad with plenty of greens	Salad with grilled lamb, spinach, flaked almonds, pickled eggplant	More green beans, the last of the stirfry	Leftover chili con carne, spinach salad
MEAL 4	1 boiled egg 3 stalks celery with almond butter (1-2 teaspoons)	Organic protein shake with raw cacao and a little cinnamon Few pieces steamed broccoli	BBQ pepper steak (marinate in pepper and oil) Mixed steamed green veg, mac nut oil.	100% beef organic sausage Chicken thigh Steamed broc/ cabbage (early dinner)	Organic protein shake with raw cacao and a little cinnamon Few pieces steamed broccoli	1/2 organic protein shake with vanilla essence and cinnamon Leb. cucumber	1/3 avocado with sea salt Celery sticks and cashew nut butter (1-2 teaspoons)
MEAL 5	Grilled snapper fillet, blanched green beans with a little butter, silverbeet and red wine vinegar salad	Chicken and prawn laksa with only green veg. 1 row raw chocolate	1/2 organic protein shake with raw cacao	2 flat teaspoons almond butter 1 row raw dark chocolate	Thai style stirfry: chicken, cashews, mixed green veg, chili etc	Chili con carne minus the carrots, tomato, legumes (save for after bootcamp!) Spinach salad	Grilled marinated chicken (oil, paprika, herbs), sautéed asparagus, 1/3 avocado