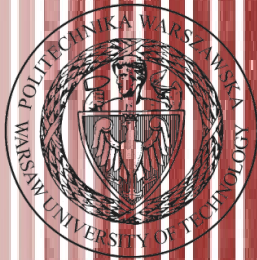


# Advanced Programming C#

## Lecture 4

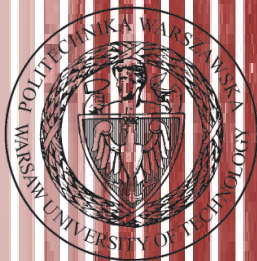
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Winter Semester 2018/2019



# PROJECTS!

This week (or next Monday the latest) I would like to receive proposals for the Projects. Please send 1-2 sentences to  
[majanik@if.pw.edu.pl](mailto:majanik@if.pw.edu.pl)



# ASP .NET (Web Forms)



# ASP.NET



**ASP.NET** is an open source **web framework** for building modern web apps and services with .NET. ASP.NET creates websites based on HTML5, CSS, and JavaScript that are simple, fast, and can scale to millions of users.

<https://www.asp.net/>

# ASP .NET

---

**ASP** stands for **A**ctive **S**erver **P**ages



ASP is a development framework for building web pages.

ASP supports several different development models:

**ASP.NET Web Forms**

ASP.NET MVC

ASP.NET Web Pages

ASP.NET Single Page Application

# ASP .NET Web Forms

ASP.NET Web Forms is a part of the ASP.NET web application framework and is included in Visual Studio.

## ASP.NET Web Forms are:

- Based on Microsoft ASP.NET technology, in which **code that runs on the server dynamically generates Web page output to the browser or client device.**
- Compatible with any browser or mobile device. An ASP.NET Web page automatically renders the correct browser-compliant HTML for features such as styles, layout, and so on.
- Compatible with any language supported by the .NET common language runtime, such as Microsoft Visual Basic and Microsoft Visual C#.
- Flexible because you can add user-created and third party controls to them.

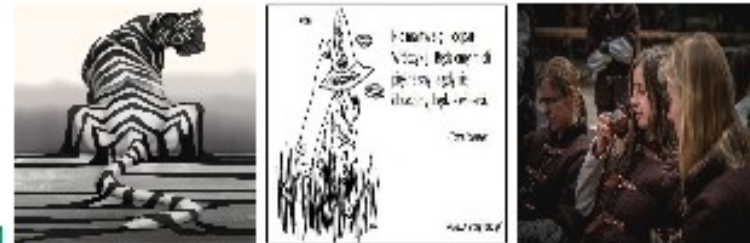
## ASP.NET Web Forms offer:

- **Separation of HTML and other UI code** from application logic.
- **A rich suite of server controls for common tasks**, including data access.
- Powerful data binding, with great tool support.
- Support for client-side scripting that executes in the browser.
- Support for a variety of other capabilities, including routing, security, performance, internationalization, testing, debugging, error handling and state management.

<https://www.asp.net/web-forms/what-is-web-forms>

- Intro: create new Web Forms Project, check it out, make some simple modifications

### Photo Gallery

  Successfully uploaded file witcher1.jpg

- File upload: allow users to upload their pictures into appropriate directory on the server
- Gallery: display uploaded pictures side by side
- If picture is clicked, bigger version should be displayed below

# Tasks: Intro

---

- Create new Web Forms Project: „PhotoGallery”
- Run the project in the browser
  - Try to register & login, remember to use password with special character!
- Modify the „About” web page
- Add new Web Form (with Master Page) → „Gallery”. Add it to the main menu (at the top)
  - Project → Add new... → Web Form with Master Page
- Prepare Photo Gallery service



# ASP .NET Web Forms

- New Project

The screenshot illustrates the process of creating a new ASP.NET Web Forms project in Visual Studio. It shows three overlapping windows:

- New Project:** The 'Visual C#' category is expanded, and 'ASP.NET Web Application (.NET Framework)' is selected. The framework is set to '.NET Framework 4.6.1'.
- New ASP.NET Web Application - Test\_Login\_WebApplication1:** The 'Web Forms' template is selected. The 'Authentication' is set to 'Individual User Accounts'. The 'Test project name' is 'Test\_Login\_WebApplication1.Tests'.
- Change Authentication:** The 'Individual User Accounts' option is selected. A yellow warning icon with an exclamation mark is overlaid on this dialog.

The 'Change Authentication' dialog includes the following text and options:

For applications that store user profiles in a SQL Server database. Users can register, or sign in using their existing account for Facebook, Twitter, Google, Microsoft, or another provider.

[Learn more](#)

☐ No Authentication

☒ Individual User Accounts

☐ Work or School Accounts

☐ Windows Authentication

Buttons: OK, Cancel

# Web Forms: run default project

Application name Home About Contact

Register Log in

## ASP.NET

ASP.NET is a free web framework for building great Web sites and Web applications using HTML, CSS, and JavaScript.

[Learn more »](#)

### Getting started

ASP.NET Web Forms lets you build dynamic websites using a familiar drag-and-drop, event-driven model. A design surface and hundreds of controls and components let you rapidly build sophisticated, powerful UI-driven sites with data access.

[Learn more »](#)

### Get more libraries

NuGet is a free Visual Studio extension that makes it easy to add, remove, and update libraries and tools in Visual Studio projects.

[Learn more »](#)

### Web Hosting

You can easily find a web hosting company that offers the right mix of features and price for your applications.

[Learn more »](#)

© 2016 - My ASP.NET Application

# Modification of „About” webpage

---

```
<asp:Content ID="BodyContent"
ContentPlaceHolderID="MainContent" runat="server">
    <h2>Your Photo Gallery </h2>
    <h3>Our platform allows to create photo gallery.
You can browse photos any time from any device.</h3>
    <p>Register, log in, add new photos and browse!</
p>
</asp:Content>
```

# Modifications of the master webpage

File: Site.master

Name of the application

```
<a class="navbar-brand" runat="server"
href="~/ ">Your Photo Gallery</a>
```

Comment the code

```
<% - - - - %>
```

Adding new pages to the main menu (site.master)

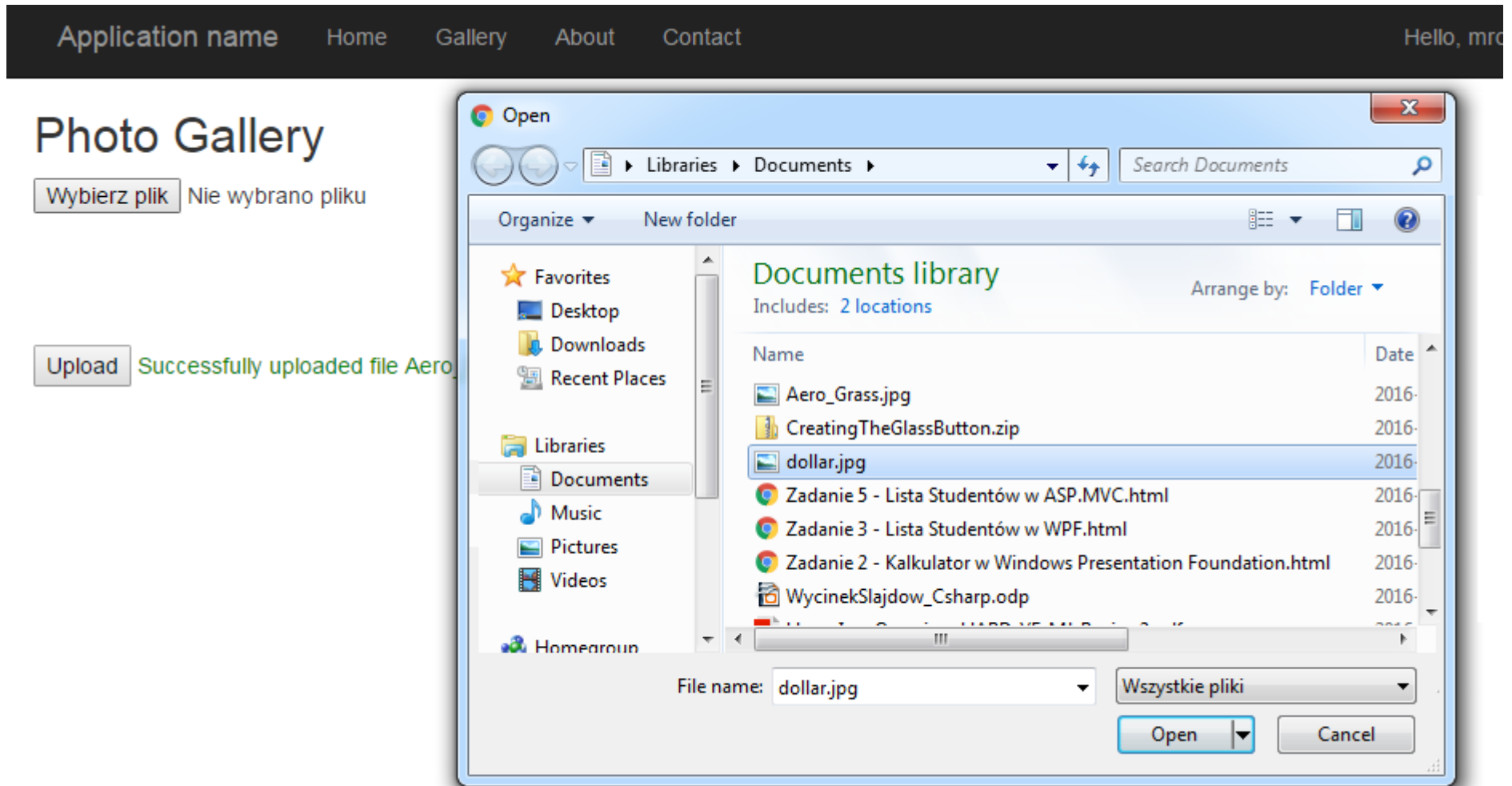
- 1) Project → Add new... → Web Form with Master Page
- 2) Code below should be modified:

```
<div class="navbar-collapse collapse">
  <ul class="nav navbar-nav">
    <li><a runat="server" href="~/ ">Home</a></li>
    <li><a runat="server"
href="~/About">About</a></li>
    ...
```

Adding Gallery page!

# Tasks: Photo Gallery – File upload

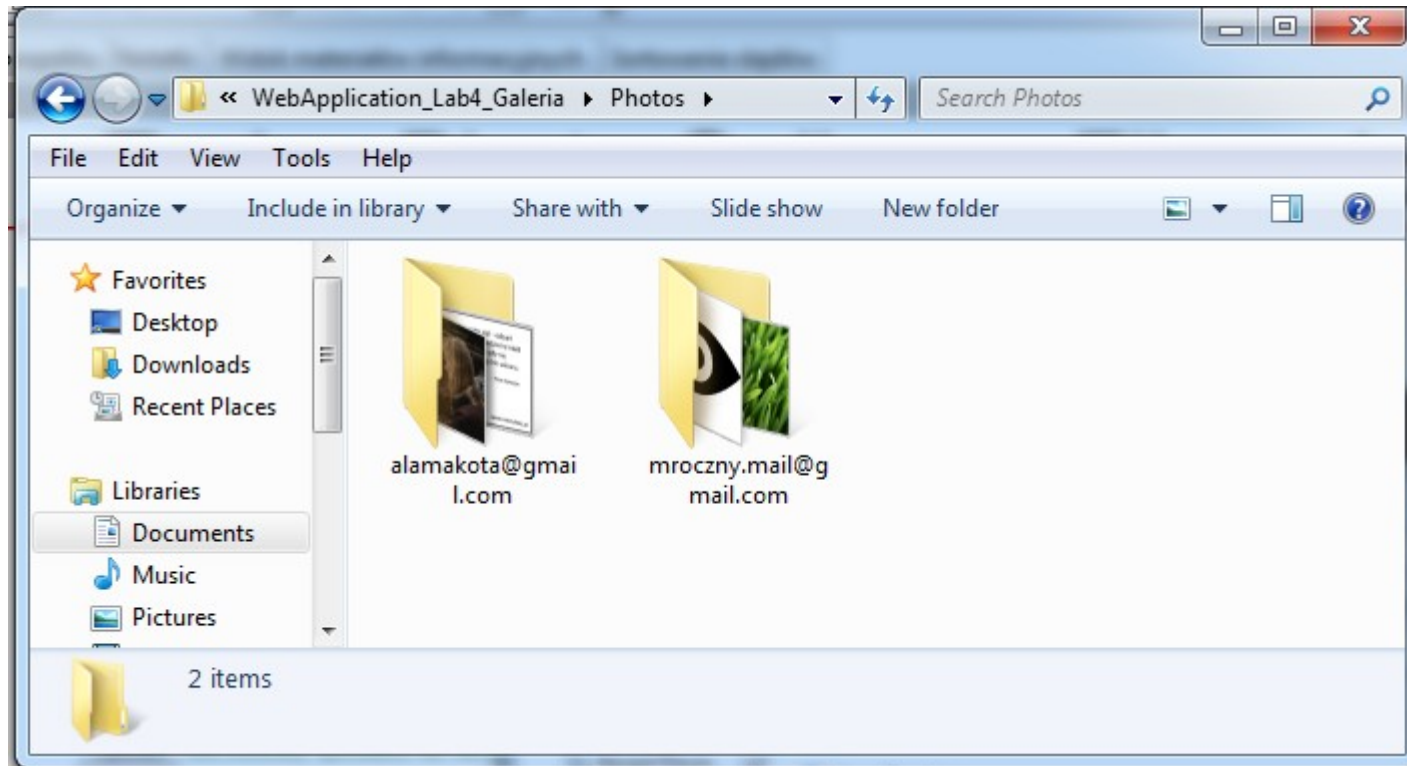
- Idea:





# Tasks: Photo Gallery – File upload

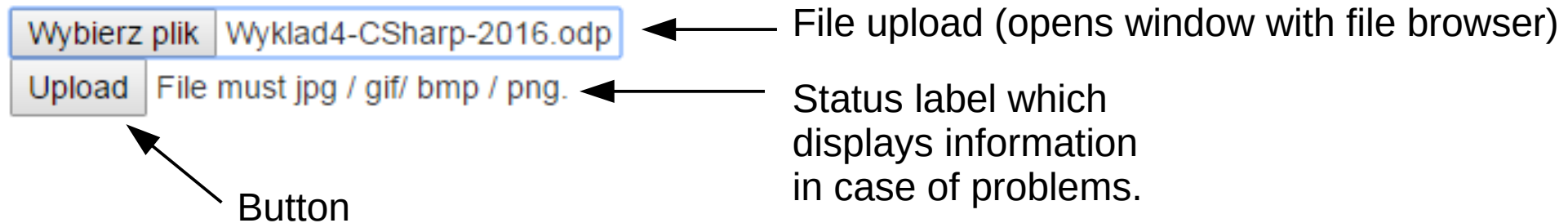
- Uploaded files should be saved in „Photos” folder (located in the project home folder) in the user directory
  - ~/Photos folder should be created by hand (once)
  - User folders should be created by the application
  - Photos should be stored in appropriate user folders



# Tasks: Photo Gallery – File upload

- Idea:

## Photo Gallery



- Add controls:
  - **FileUpload** control
  - Upload **button**
  - **Label** for the status display

# Tasks: Photo Gallery – File upload

- Create OnClick event for upload button
  - Check:
    - If FileUpload has a file uploaded?
      - `FileUpload.HasFile`
      - If not, write appropriate text in status label
    - If file type is one of the following: jpg / gif / png / bmp?
      - `(FileUpload.PostedFile.ContentType == "image/jpeg")`
      - `||`
      - `(FileUpload.PostedFile.ContentType == "image/png")`
      - `|| ...`
      - If not, write appropriate text in status label
    - If file size is < 10 MB?

`Convert.ToInt64(FileUpload.PostedFile.ContentLength)`  
– If not, write appropriate text in status label

# Tasks: Photo Gallery – File upload

- Inside OnClick event for upload button

- Check:

- If folder exists

- Get folder path+name:

- `string` photoFolder =

- `Path.Combine(Server.MapPath("~/Photos/"),`  
`User.Identity.Name);`

- Check if folder exists:

- `Directory.Exists(photoFolder)`

- If not, create folder:

- `Directory.CreateDirectory(photoFolder);`

# Tasks: Photo Gallery – File upload

- Inside OnClick event for upload button
  - Create new name for the uploaded file:
    - We want the name to be unique (if client uploads two files with the same name, we want to be able to store both)
    - We have to change default file name: insert timestamp
      - NameOfFile.jpg → NameOfFile.636138997008655118.jpg
  - Useful methods:

Comes from timestamp

`Path.GetFileNameWithoutExtension(FileUpload.FileName)` → returns filename only, without extension

`DateTime.Now.Ticks.ToString()` → returns series of numbers based on the current time

`Path.GetExtension(FileUpload.FileName)` → returns extension (string)

`Path.Combine(photoFolder, name + time + extension)` → „Path.Combine()” method allows to create strings representing properly defined paths



# Tasks: Photo Gallery – File upload

- Inside OnClick event for upload button

- Upload the file

```
FileUpload.SaveAs(full_file_path);
```

- Change status label

```
LabelStatus.Text = "<font color='green'>  
Successfully uploaded file " + FileUpload.FileName +  
</font>";
```

- Try it!

# Tasks: Photo Gallery – Display Photos

- Change aspx file: add Repeater control
  - With „img” as the repeated item template

```
<asp:Repeater ID="RepeaterUserPhoto" runat="server">
```

```
    <ItemTemplate>
```

```
    
```

```
    </ItemTemplate>
```

```
</asp:Repeater>
```

- Change aspx.cs file:
  - Add new function

```
public void DisplayUploadedPhotos(string folder)
{ }
```

# Tasks: Photo Gallery – Display Photos

- DisplayUploadedPhotos function
  - As the name suggest, should display all uploaded photos of the current user
    - Get paths of all photos that should be displayed
      - Get filenames of photos

```
string[] allPhotoFiles = Directory.GetFiles(folder);
```

- Create list of filenames with full path included

Create `List<String>` where the proper paths will be stored.

Use foreach loop to iterate over `allPhotoFiles` array. For each string stored in array (for each file) add one full path to the created list of strings. Full path should consist of `"~/Photos/" + User.Identity.Name + "/" + Path.GetFileName(file).`

- Connect list as a source for the repeater.

```
RepeaterUserPhoto.DataSource = pathList;
```

```
RepeaterUserPhoto.DataBind();
```

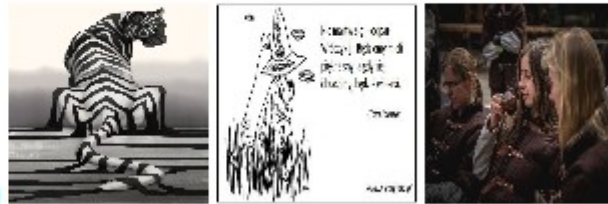
# Tasks: Photo Gallery – Display Photos

- After uploading a photo run DisplayUploadedPhotos function

```
DisplayUploadedPhotos(photoFolder);
```

- Try it!

## Photo Gallery

  Successfully uploaded file witcher1.jpg

# Tasks: Photo Gallery

- After clicking a photo we would like it to be enlarged.
  - Add an image control below repeater that will hold enlarged image
    - ``
  - Add attribute to the img controls inside repeater:
    - `onmouseover="preview.src=this.src"`



# References & additional info

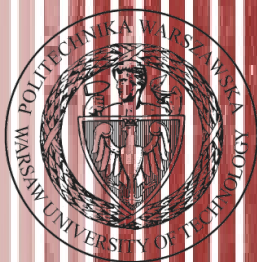
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- Upload Photos to your website – YouTube tutorial

<https://www.youtube.com/watch?v=dPUmQBowlfs>

- ASP .NET

<https://www.asp.net/>



# KONIEC

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*Winter Semester 2018/2019*