



**NTNU – Trondheim**  
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## HTML Forms

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**Which is the most famous form?**

# Google!!!

A large, empty search bar input field. To its right is a small icon of a microphone inside a speech bubble shape.

[Google Search](#)

[I'm Feeling Lucky](#)

Google.no offered in: [norsk](#)

# Introducing Web Forms

- **Web forms** collect information from users
- Web forms include different **control elements** including:
  - Input boxes
  - Selection lists
  - Drop-down lists boxes
  - Option buttons or radio buttons
  - Check boxes
  - Group boxes
  - Text areas
  - Form buttons

# How Forms Work

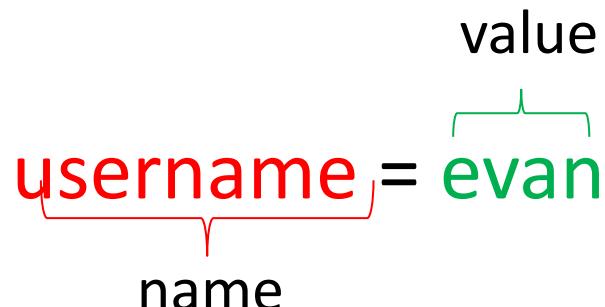
- A user fills in a form and then presses a button to submit the information to the server.
- The name of each form control is sent to the server along with the value the user enters or selects.

# How Forms Work

- The server processes the information using a programming language such as PHP, C#, Java, JavaScript, python and many more. It may also store the information in a database.
- The server creates a new page to send back to the browser based on the information received.

# How Forms Works

- A form may have several form controls, each gathering different information. The server needs to know which piece of inputted data corresponds with which form element.
- To differentiate between various piece of inputted data, **information is sent from the browser to the server using name/value pairs.**

value  
  
name = value

# Form Controls

- There are several types of form controls that you can use to collect information from the visitors of your site.
  - Adding Text
  - Making Choices
  - Submitting Forms
  - Uploading Files

# Adding Text

- **Text Input**, single line text for uses like email etc.

Username:

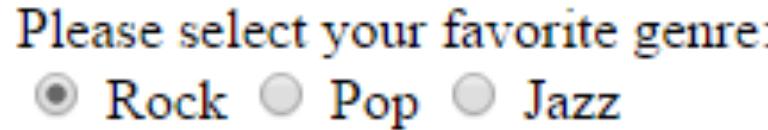
- **Password Input**, like a single line but masks the character

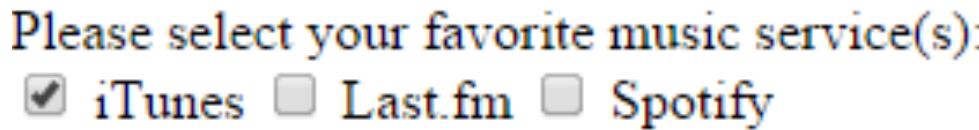
Password:

- **Text Area**, is multiline for longer areas of text

What did you think of this gig?

# Making Choices

- **Radio Buttons**, for use when a user must select one of a number of options.  


Please select your favorite genre:  
Rock Pop Jazz
- **Checkboxes**, when a user can select and unselect one or more options.  


Please select your favorite music service(s):  
iTunes Last.fm Spotify
- **Drop-down boxes**, when a user must pick one of a number of options from a list.  


What device do you listen to music on?  
iPod  
iPod  
Radio  
Computer

# Submitting Forms

- **Submit Buttons**, to submit data from your form to another web-page.

Subscribe to our email list:

- **Image Buttons**, Similar to submit buttons but they allow you to use an image.

Subscribe to our email list:

# Uploading Files

- **File upload**, allow users to upload files (eg. images) to a website.

File:

# Form Structure - Syntax

- <form> controls live inside a <form> element.
- This element should **always carry the action attribute** and will usually have a method and id attribute too.
- Every form element requires an **action attribute**. Its value is the URL for the page on the server that will receive the information.

# Form Structure - Syntax

- Forms can be sent using GET or POST methods .

```
<form action="http://www.example.com/subscribe.php"  
method="get">  


This is where the form controls will appear.</p></form>


```

What are the differences of POST and GET?

# Form Attributes – method and action

- Form data is sent as name/value pairs:  
name1=value1 & name2=value2 & ...
  - **method** – indicates how the data collected by the form should be transmitted to the server using the HTTP
    - **GET** – the form data is appended to the URL
    - **POST** – the form data is sent as a separate message

# Forms: GET or POST?

- Use GET if:
  - Interaction is more like a question
  - it is a safe operation such as a query, read operation, or lookup
- Use POST if:
  - Interaction is more like an order, or
  - Interaction changes state of the resource (e.g., payment transaction), or
  - The user will be held accountable for the interaction.

# Form Method: GET

- Form data appended to URL.
- URL is followed by “?” and then the name/value pairs.

`http://www.google.com/search?hl=en&q=tourism`

- GET requests can be cached

# Form Method: GET

- GET requests can remain in browser history
- GET requests can be bookmarked
- GET requests can be distributed & shared
- GET requests can be hacked
  - Don't send password or sensitive data with GET.

# Form Method: POST

- Form data sent as a separate message
- Use for sensitive data such as
  - passwords
  - credit card numbers
  - bank account numbers
- IE has max url length of 2048 characters. So if lots of data, use POST instead of GET even if not sensitive.

# Text Input

- **The <input> element is used to create several different form controls.** The value of the type attribute determines what kind of input they will be creating.
- When users enter information into a form, the server needs to know the name of this information.
- You can use maxlength attribute to limit the number of characters a user may enter into the text field.

# Text Input

```
<form action="http://www.example.com/login.php">  
<p>Username: <input type="text" name="username" size="15"  
maxlength="30" /></p></form>
```

Username:

# Password Input

When type attribute has a value of password (**type="password"**) it creates a text-box that acts just like a single line input, except that the characters are hidden in the way that someone sees only dots.

```
<form action="http://www.example.com/login.php">  
<p>Username:  
<input type="text" name="username" size="15" maxlength="30" />  
</p><p>Password:  
<input type="password" name="password" size="15" maxlength="30" /></p></form>
```

Username:

Password:

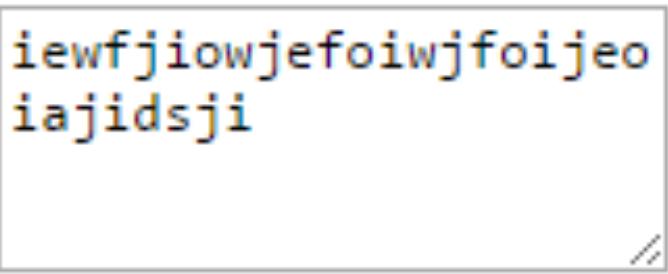
# Text Area

- The <textarea> element is used to create a multi-line text input.
- This is not an empty element, it should therefore have an opening and closing tag.

# Text Area

```
<form action="http://www.example.com/comments.php">  
<p>What did you think of this gig?</p>  
<textarea name="comments" cols="20" rows="4">Enter  
your comments...</textarea> </form>
```

What did you think of this gig?



iewfjiowjefoiwjfoijeo  
iajidsji

# Radio Button

Type="radio", Radio button allow users to pick just one of the options.

```
<form action="http://www.example.com/profile.php">  
<p>Please select your favorite genre:  
<br />  
<input type="radio" name="genre" value="rock" checked="checked" />  
Rock  
<input type="radio" name="genre" value="pop" /> Pop  
<input type="radio" name="genre" value="jazz" /> Jazz  
</p></form>
```

Please select your favorite genre:

Rock  Pop  Jazz

# Checkbox

**type="checkbox"**, checkboxes allow users to select (and deselect) one or more.

```
<form action="http://www.example.com/profile.php"> <p>Please  
select your favorite music service(s): <br />  
<input type="checkbox" name="service" value="itunes"  
checked="checked" /> iTunes  
<input type="checkbox" name="service" value="lastfm" /> Last.fm  
<input type="checkbox" name="service" value="spotify" /> Spotify  
</p> </form>
```

Please select your favorite music service(s):

iTunes  Last.fm  Spotify

# Dropdown list box

- A dropdown list-box allows users to select one option from a drop-down list.
- The <select> element is used to create a dropdown list box. It contains two or more options.

# Dropdown list box

```
<form action="http://www.example.com/profile.php">
<p>What device do you listen to music on?</p>
<select name="devices">
    <option value="ipod">iPod</option>
    <option value="radio">Radio</option>
    <option value="computer">Computer</option>
</select></form>
```

What device do you listen to music on?



# Creating Input Boxes

- Input types:

`type="image"`

**Displays an input image that can be clicked to perform an action from a script**

`type="password"`

**Displays an input box that hides text entered by the user**

`type="button"`

**Displays a button that can be clicked to perform an action from a script**

`type="file"`

**Displays a browse button to locate and select a file**

`type="hidden"`

**Creates a hidden field, not viewable on the form**

# Multiple Select Box

- You can select more than one option by holding down control on a PC or command key on a Mac while selecting different options.

```
<form action="http://www.example.com/profile.php">
```

```
<p>Do you play any of the following instruments? </p>
```

```
<select name="instruments" multiple="multiple">
```

```
    <option value="guitar" selected="selected">Guitar</option>
```

```
    <option value="drums">Drums</option>
```

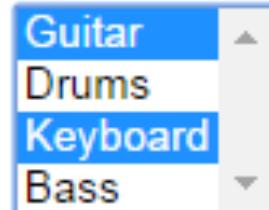
```
    <option value="keyboard" selected="selected">Keyboard</option>
```

```
    <option value="bass">Bass</option>
```

```
</select></form>
```

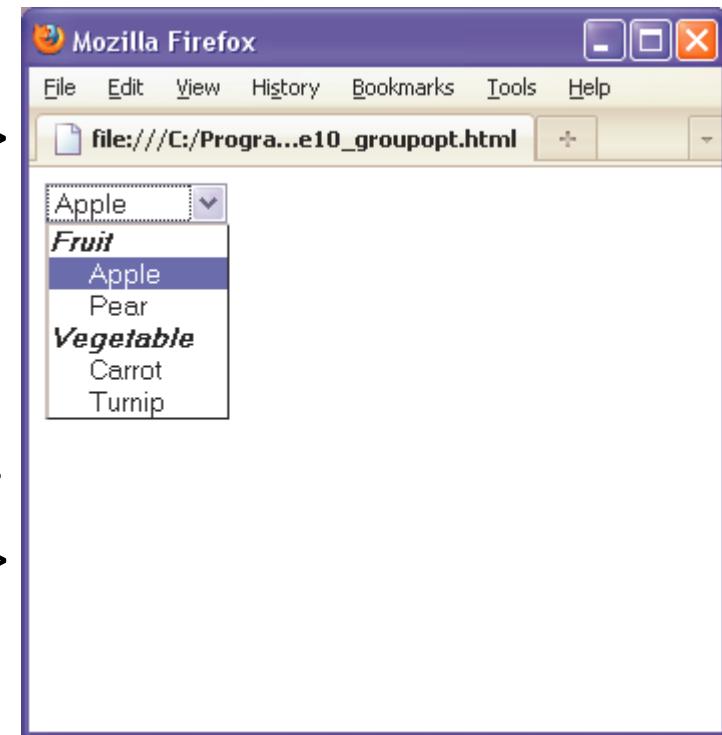
Do you play any of the following instruments?

Not very good support  
from the browsers



# Option Groups: Example

```
<html> <body>
  <select>
    <optgroup label="Fruit">
      <option value="apple">Apple</option>
      <option value="pear">Pear</option>
    </optgroup>
    <optgroup label="Vegetable">
      <option value="carrot">Carrot</option>
      <option value="turnip">Turnip</option>
    </optgroup>
  </select>
</body> </html>
```

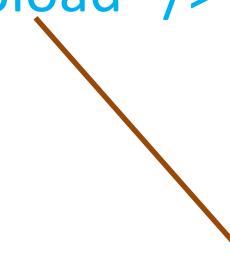


# File Input Box

- If you want to allow users to upload a file (eg. image, video, PDF) you will need to use a file input.
- **Type="file"** you can use only post method.

```
<form action="http://www.example.com/upload.php" method="post">
<p>Upload your song in MP3 format:</p>
<input type="file" name="user-song" /><br />
<input type="submit" value="Upload" /> </form>
```

Upload your song in MP3 format:



Choose File No file chosen  
Upload

# Submit Button

**Type="submit"**, the submit button is used to send form to the server.

```
<form action="http://www.example.com/subscribe.php">  
<p>Subscribe to our email list:</p>  
<input type="text" name="email" />  
<input type="submit" name="subscribe" value="Subscribe" />  
</form>
```

Subscribe to our email list:



# Image Button

**type="image"**, If you want to use an image for the submit button, you just need to work like in an <img> element.

```
<form action="http://www.example.org/subscribe.php">  
<p>Subscribe to our email list:</p>  
<input type="text" name="email" />  
<input type="image" src="image/sub.jpg" width="100" height="20" />  
</form>
```

Subscribe to our email list:

# Button and Hidden Controls

- The <button> element was introduced to allow users more control over how their buttons appear.
- You can combine text and images.

```
<form action="http://www.example.com/add.php">  
<button> Add</button>  
<input type="hidden" name="bookmark" value="lyrics" />  
</form>
```



# Labelling Form Controls

- Each form control should have its own `<label>` element as this makes the form accessible to vision-impaired users.  
`<label>` element can be used to:
  - Wrap around both text description and the form input
  - To indicate which control it is a label for

`<label>Age: <input type="text" name="age" /></label> <br/>`

Gender:

`<input id="female" type="radio" name="gender" value="f">`  
`<label for="female">Female</label>`  
`<input id="male" type="radio" name="gender" value="m">`  
`<label for="male">Male</label>`

Age:

Gender:  Female  Male

# Grouping From Elements

- You can group related form controls together inside the `<fieldset>` element.
- The `<legend>` element can come directly after the opening `<fieldset>` tag and contains a caption.

`<fieldset>`

`<legend>Contact details</legend>`

`<label>Email:<br /><input type="text" name="email" /></label><br />`

`<label>Mobile:<br /><input type="text" name="mobile" /></label><br />`

`<label>Telephone:<br /><input type="text" name="telephone" /></label>`

`</fieldset>`

Contact details

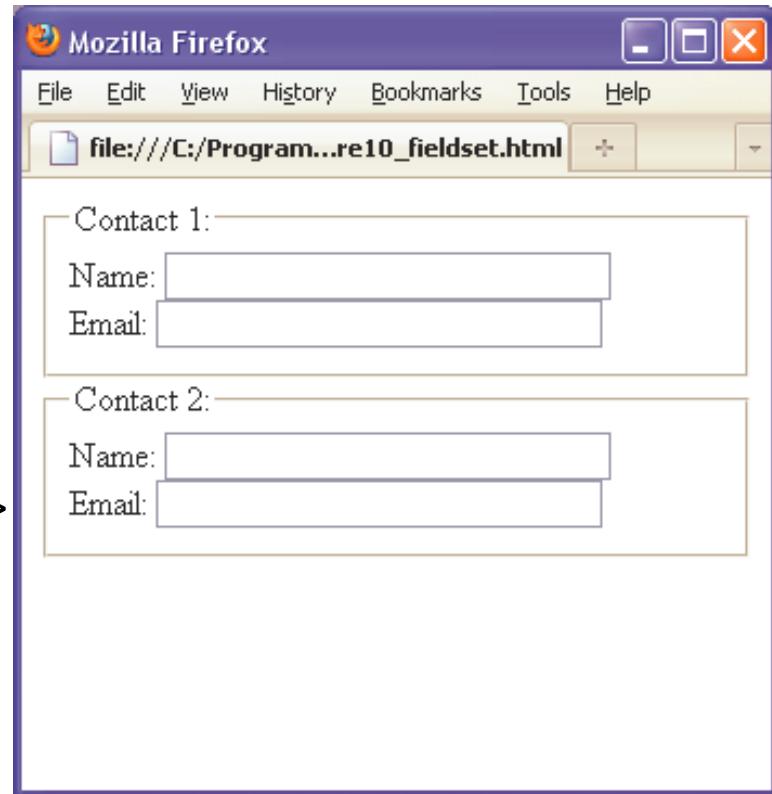
Email:

Mobile:

Telephone:

# Field Set: Example

```
<html> <body>
  <form>
    <fieldset>
      <legend>Contact 1:</legend>
      Name: <input type="text" size="30" /><br />
      Email: <input type="text" size="30" /><br />
    </fieldset>
    <fieldset>
      <legend>Contact 2:</legend>
      Name: <input type="text" size="30" /><br />
      Email: <input type="text" size="30" /><br />
    </fieldset>
  </form>
</body> </html>
```



# HTML5: Form Validation

- Validation ensures that user enters information that server will be able to understand
- Validation has been performed using JS.

```
<form action="http://www.example.com/login/" method="post">  
<label for="username">Username:</label>  
<input type="text" name="username" required="required" /></title><br />  
<label for="password">Password:</label>  
<input type="password" name="password" required="required" />  
<input type="submit" value="Submit" />  
</form>
```



# HTML5: Date Input

- If you are asking the user for a date, you can use an `<input>` element and give **type="date"**

```
<form action="http://www.example.com/bookings/"  
method="post">  
    <label for="username">Departure date:</label>  
    <input type="date" name="depart" />  
    <input type="submit" value="Submit" />  
</form>
```

Departure date:  X ▲ ▼

# HTML5: Email and URL input

- HTML5 has also introduced inputs that allow visitors to enter email addresses (**type="email"**) & URLs (**type="url"**)

```
<p>Please enter your website address:</p>
<input type="url" name="website" />
<input type="submit" value="Submit" />
</form>
```

Please enter your website address:

The image shows a web page with a form. The form consists of a text input field containing the text "ntnu" and a submit button labeled "Submit". A tooltip or validation message is displayed below the input field, showing an exclamation mark icon and the text "Please enter a URL." This indicates that the input is not a valid URL.

# HTML5: Email and URL input

```
<p>Please enter your email address:</p>
<input type="email" name="email" />
<input type="submit" value="Submit" />
</form>
```

A screenshot of a web browser window. On the left, there is a vertical grey sidebar. On the right, there is a form field labeled "email". Inside the field, the text "kshitij" is typed. A blue rectangular box highlights the entire input field. Below the input field, a light gray rounded rectangle contains an orange exclamation mark icon and the error message: "Please include an '@' in the email address. 'kshitij' is missing an '@'."

# HTML5: Search Input

- To create the HTML5 search box the `<input>` element should have a type attribute whose value is `search`.
- On any text input, you can also use an attribute called `placeholder`, whose value will be shown in the text box until the user clicks in that area.

```
<p>Search:</p> <input type="search" name="search" />  
<input type="submit" value="Search" /> </form>
```

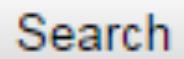
Search:



```
<p>Search:</p>
```

```
<input type="search" name="search" placeholder="Enter keyword" />  
<input type="submit" value="Search" /> </form>
```

Search:



# Forms Example 1

— Your Details: —

Name:	<input maxlength="100" name="name" size="30" type="text"/>
Email:	<input maxlength="100" name="email" size="30" type="email"/>

```
<fieldset>
<legend>Your Details:</legend>
<label>Name:<br />
<input type="text" name="name" size="30" maxlength="100"></label><br />
<label>Email:<br />
<input type="email" name="email" size="30" maxlength="100"></label><br />
</fieldset>
```

# Forms Example 2

```
<fieldset>
<legend>Your Review:</legend>
<label for="hear-about">How .... about us?</label>
    <select name="referrer" id="hear-about">
        <option value="google">Google</option>
        <option value="friend">Friend</option>
        <option value="advert">Advert</option>
        <option value="other">Other</option>
    </select>
</p>
<p>
Would you visit again?<br />
<label><input type="radio" name="rating" value="yes" /> Yes</label>
<label><input type="radio" name="rating" value="no" /> No</label>
<label><input type="radio" name="rating" value="maybe" /> Maybe</label>
</p><p>
<label for="comments">Comments:</label><br />
<textarea rows="4" cols="40" id="comments"></textarea>
</p>
<label><input type="checkbox" name="subscribe" checked="checked" /> Sign me for email updates</label><br />
<input type="submit" value="Submit review" />
</fieldset>
</form>
```

Your Review:

How did you hear about us?

Would you visit again?

Yes  No  Maybe

Comments:

Sign me up for email updates

# Example 1 & 2

Your Details:

Name:

Email:

Your Review:

How did you hear about us?

Would you visit again?

Yes  No  Maybe

Comments:

Sign me up for email updates

# Tips for Creating Effective Forms

- Label all control elements clearly and concisely
- Use horizontal lines, tables, and line breaks to separate topical groups from one another
- Use field sets to organize common groups of fields, especially radio buttons
- Use radio buttons, check boxes, and selection lists whenever possible to limit a user's choice of entries, thus reducing the chance of an erroneous data value.

# Tips for Creating Effective Forms

- Use input boxes only when the field has no predefined list of values.
- Use selection lists for items with several possible options.
- Use radio buttons for items with few options.
- Use a check box for each item with only two possible values

# Tips for Creating Effective Forms

- Let users know the correct format for input box text by inserting default text in the appropriate format (for example, insert the text string, “mm/dd/yyyy” in a Date input box to indicate the format for inserting date values)
- Form elements differ between browsers (especially HTML5, view your form on different browsers and different browser versions to ensure that the form displays correctly in all situations, **use CSS to style your forms.**)
- [http://www.456bereastreet.com/archive/200701/styling  
form controls with css revisited/](http://www.456bereastreet.com/archive/200701/styling_form_controls_with_css_revisited/)

# Summary

- Whenever you want to collect information from visitors you will need a form, which lives inside a <form> element
- Information from a form is sent in name/value pairs
- Each form control is given a name, and the text the user types-in or the values of the options they select are sent to the server
- HTML5 introduces new form elements which make easier for visitors to fill in forms

# Questions?



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Department of

Computer and Information Science