FRONT-END FOUNDATIONS

In this course

- Making a web page with HTML and CSS

- Writing HTML text tags and CSS selectors

- Laying out a web page with multiple sections

- Working with images on a web page

- Customizing fonts and building HTML forms

FRONT-END
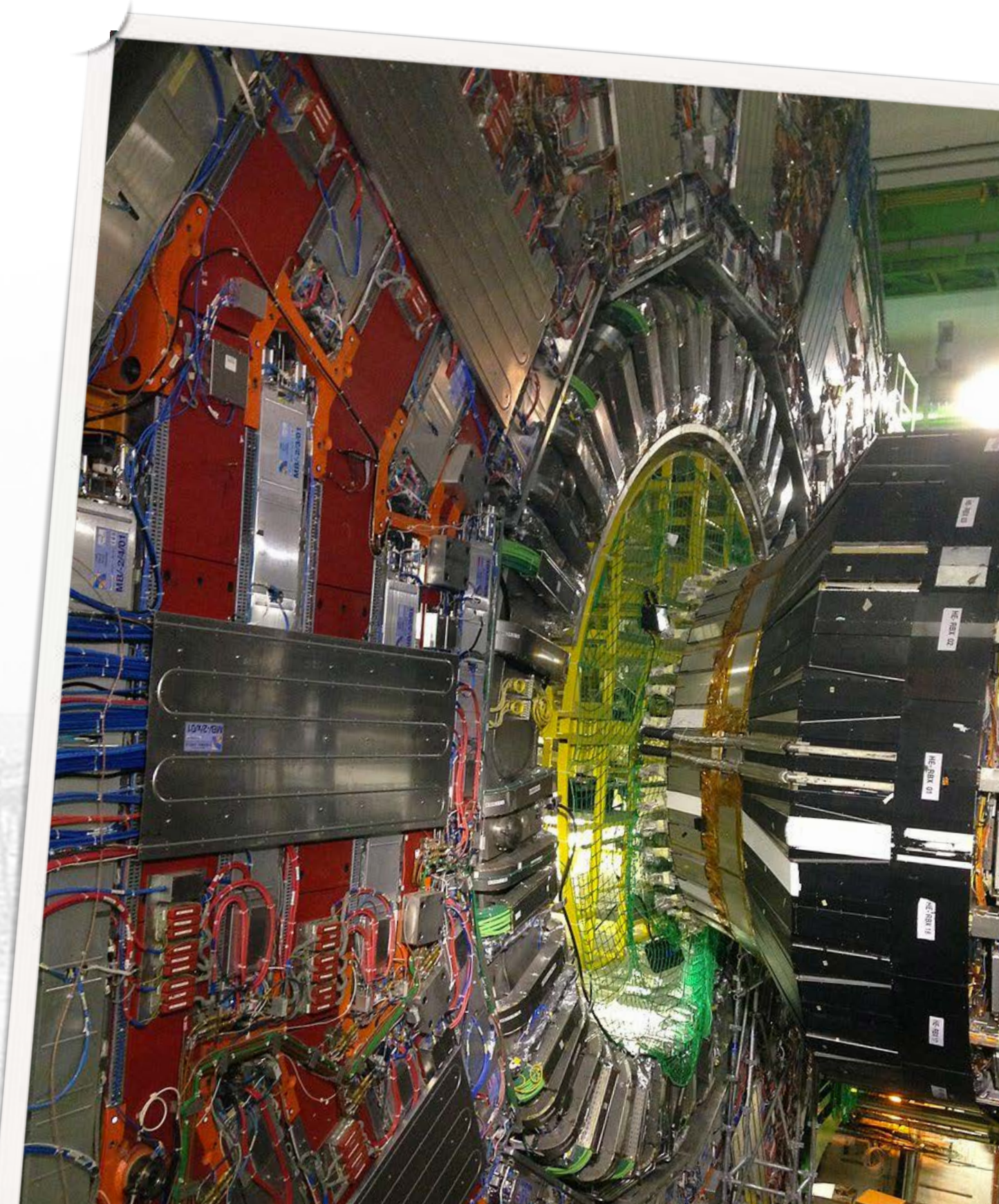FOUNDATIONS

LEVEL 1
HTML

A Quick Story of the Web

In 1980, Tim worked for CERN, where he proposed a better way for researchers there to share and read documents.
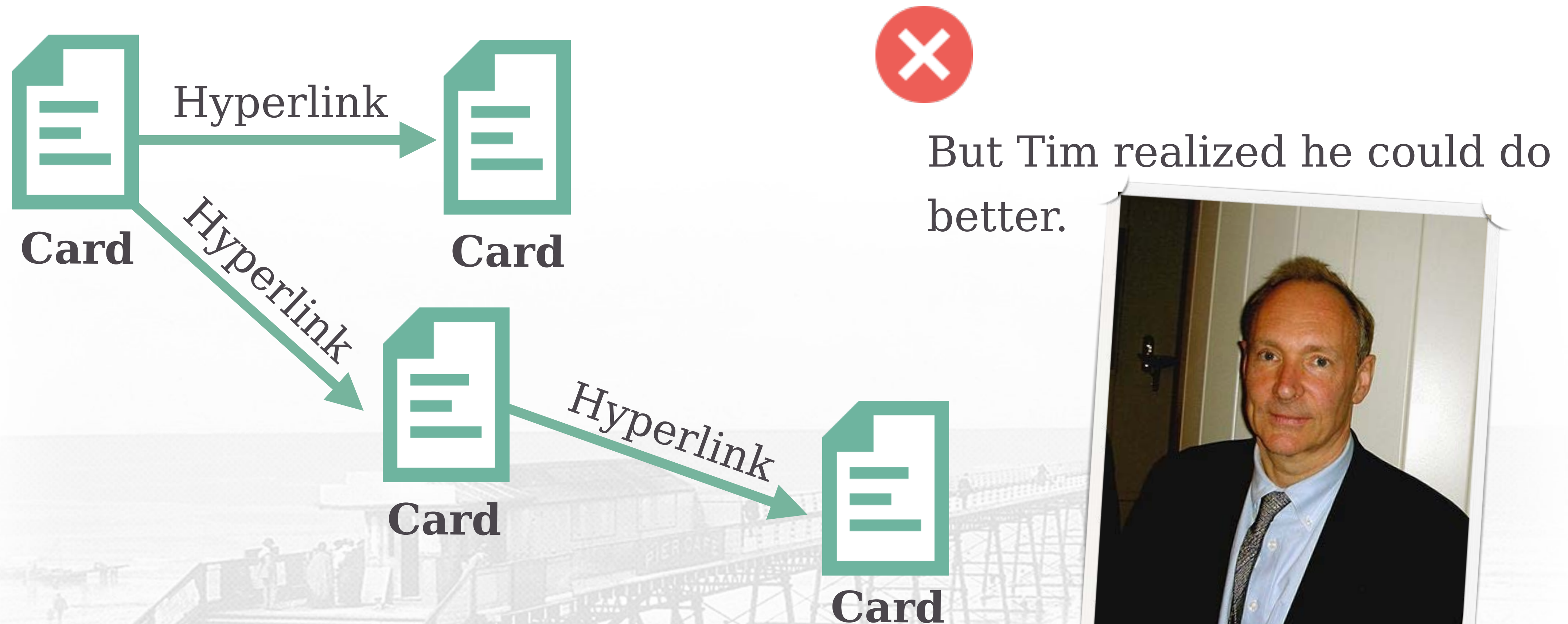
Tim Berners-Lee

CERN
You know, the same people who run the Large Hadron particle accelerator.

ENQUIRE

So in 1984, he built something called ENQUIRE for CERN, which was made up of Cards (Documents) and Hyperlinks (which connected the Documents).

Hyperlink

Card

Card

Hyperlink

Hyperlink

Card

Card

But Tim realized he could do better.

The World Wide Web

With Robert Cailliau, Tim Berners-Lee wrote a proposal in 1990 for the creation of the **World Wide Web**.

When it started, the WWW was a way for scientists around the world to create and share their own webpages.

The World Wide Web's First Logo

The language of a webpage is HTML

HTML allows you to take a plain text document created in any simple text editor...

```
Learn By Doing

No setup. No hassle. Just Learning.

Code School teaches web technologies in the
comfort of your browser with video lessons,
coding challenges, and screencasts.
```

.. and organize it into lists, link to other webpages, include images, and more.

Learn By Doing

No setup. No hassle. Just learning.

Code School teaches web technologies in the comfort of your browser with video lessons, coding challenges, and screencasts.

View Our Courses
Learn:

- Git
- Backbone.js
- Sass
- Rails
- jQuery

But what does HTML mean?

HTML stands for **H**yper**T**ext **M**arkup **L**anguage

Hypertext

Overcoming the constraints of written text. *Interactive*.

Markup Language

A way to literally "Mark Up" a document to specify attributes, like different font sizes, lists, links to other webpages, and images.
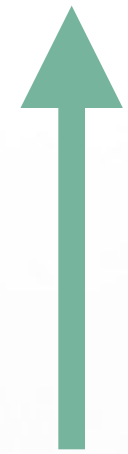
HTML is written in text files

Just like most programming languages, we type a bunch of HTML into a file (aka. document) so we can send it around.
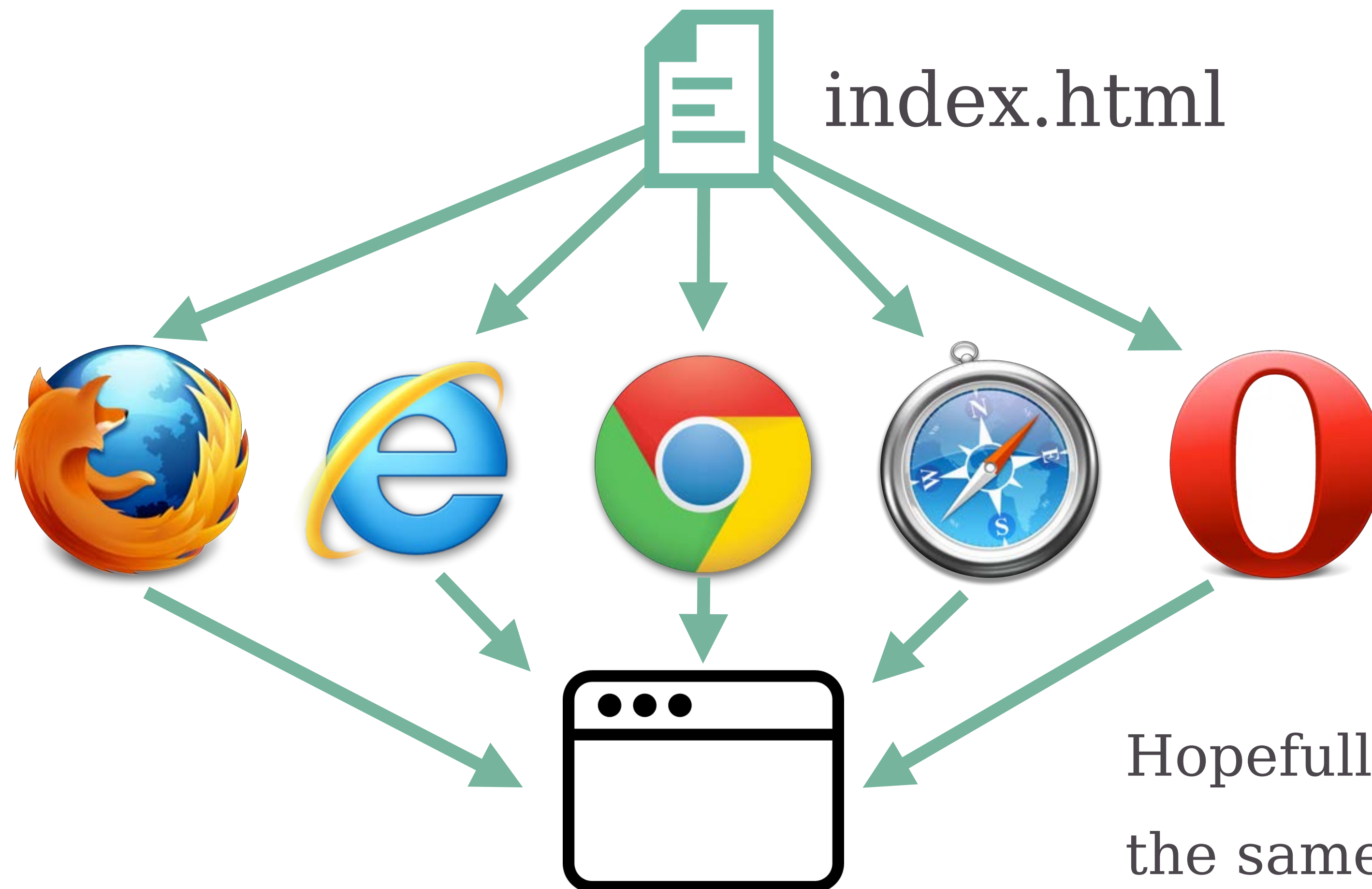
index.html

Name of the file

File extension
(tells the browser the file contains HTML)

To display an HTML file we need a browser

Web Browsers are basically "HTML Readers."

They understand how to read HTML and display it for you.

index.html

Hopefully they all display

the same thing (that's the idea).

A guide to the slides

In this course, we're going to show you HTML, CSS
and what those look like in the browser.

Look for these symbols to help you figure out what you're looking at:

HTML HTML code

CSS CSS code

What it looks like displayed in the browser

Building Recipe World

First things first: get some content!!

Before you start making a web page, you've got to figure out what content it is going to show.

We'll start with a single recipe with these sections.

Page Title: Recipe World

Recipe Name: Magic Cake

Section Name: Ingredients

Section Name: Directions

Writing HTML

Most of the time, you'll put your content in between **HTML tags**, which have corresponding <u>opening</u> and <u>closing</u> versions.

`<h1>` Recipe World `</h1>`

HTML

opening tag

the closing version has a slash before the tag name

closing tag

Recipe World

Use heading tags to define your content hierarchy

Higher heading numbers mean the content that appears between the headings is less important than lower numbers.

HTML

```
<h1>Recipe World</h1>       ⟵  More important
<h2>Magic Cake</h2>
<h3>Ingredients</h3>
<h3>Directions</h3>          ⟵  Less important
```

Recipe World

Magic Cake

Ingredients

Directions

Generally speaking:

The **page title**/**company name** goes in the **\<h1\>**

The **page main subject** goes in the **\<h2\>**

\<h3\> through **\<h6\>** are used to organize other divisions of page content

Use paragraph tags for non-heading text

<p> is called the paragraph tag.

```
<h1>Recipe World</h1>
<h2>Magic Cake</h2>
<p>Magic Cake is one of the tastiest...</p>


<h3>Ingredients</h3>
. . .
```

This paragraph describes Magic cake

Add paragraph content (where necessary) in between heading tags.

Magic Cake

Magic Cake is one of the tastiest cakes the world has ever known. Few have tried it and lived to tell about it, and these are their stories.

Use an unordered list to display a list of things

<ul> stands for unordered list.

Each list item needs to also be put inside of an **<li>** tag.

unordered list →

list items →

```
<h3>Ingredients</h3>
<ul>
    <li>2 eggs</li>
    <li>1 pound of sugar</li>
    <li>3 sticks of butter</li>
</ul>
```

This list of ingredients doesn't need to be in a specific order

Ingredients

- 2 eggs
- 1 pound of sugar
- 3 sticks of butter

Nesting tags

HTML tags don't have to always just contain text, they can contain other HTML tags.

```
<p>Magic Cake is one of...
<h3>Ingredients</h3>
<ul>
  <li>2 eggs</li>
  <li>1 pound of sugar</li>
  <li>3 sticks of butter</li>
</ul>
<h3>Directions</h3>

...
```
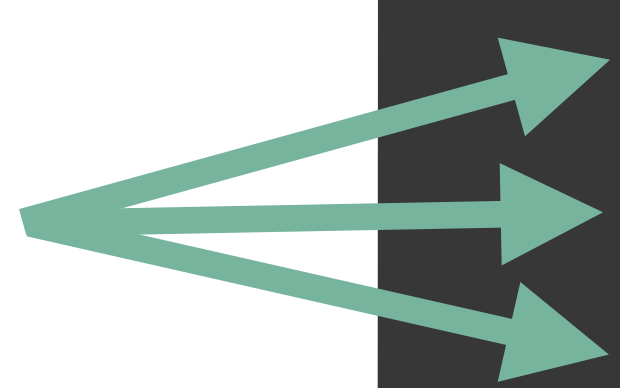
parent

children

when you indent, it's easy to see that 3 <li> tags are nested inside of a <ul> tag

A tag that contains other tags is called the **parent**.

The tags contained in a parent tag are called **children**.

Not indenting child tags makes HTML hard to read

```html
<h1>Recipe World</h1>
<h2>Magic Cake</h2>
<p>Magic Cake is one of...
<h3>Ingredients</h3>
<ul><li>2 eggs</li><li>1 pound of
sugar</li><li>3 sticks of butter</li>
</ul>
<h3>Directions</h3>
...
```

HTML

This is valid HTML, but it's really hard to read

Use an ordered list to show list items in a certain order

If the content in your list does refer to steps to be followed, use an ordered list.

```html
<h3>Ingredients</h3>
<ul>...

<h3>Directions</h3>
<ol>
    <li>Mix eggs, sugar, and butter in
        a large bowl.</li>
    <li>Spread into a non-stick dish</li>
    <li>Bake at 350
    <li>Let sit at r
        minutes</li>
    <li>Eat and enjo
</ol>
```

these steps need to be followed in order or the cake will be ruined

ordered list

list items

Directions

1. Mix eggs, sugar, and butter in a large bowl.
2. Spread into a non-stick dish
3. Bake at 350 degrees for 1 hour
4. Let sit at room temperature for 20 minutes
5. Eat and enjoy!

Wrapping everything in the body

Any content that appears on a web page should be in between a <body> tag.

the parent of all visible content

```
<body>
    <h1>Recipe World</h1>
    <h2>Magic Cake</h2>
    <p>Magic Cake is one of...</p>
    <h3>Ingredients</h3>
    <ul>...</ul>
    <h3>Directions</h3>
    <ol>...</ol>
</body>
```

Recipe World

Magic Cake

Magic Cake is one of the tastiest cakes the world
have tried it and lived to tell about it, and these a

Ingredients

- 2 eggs
- 1 pound of sugar
- 3 sticks of butter

Directions

1. Mix eggs, sugar, and butter in a large bow
2. Spread into a non-stick dish
3. Bake at 350 degrees for 1 hour
4. Let sit at room temperature for 20 minutes
5. Eat and enjoy!

<body> doesn't display anything, but helps keep the page content organized.

Adding a head tag

Non-visible stuff goes in the <head> tag.

HTML

```
<head>
</head>          ⟵  we'll discuss what goes in the
<body>              <head> later when we need it
  <h1>Recipe World</h1>

  . . .

</body>
```

You'll eventually use the head tag to load other useful scripts, like CSS and JavaScript.

Make everything a child of a single parent tag

All of your HTML goes inside of the **<html>** tag.

```html
<html>
   <head>
   </head>
   <body>
      <h1>Recipe World</h1>

      ...
   </body>
</html>
```

Notice that we're indenting again so it's
easy to see the parent/child relationship

Setting the DOCTYPE to html

The DOCTYPE sets the HTML version.

```
<!DOCTYPE html>
<html>
    <head>
    </head>
    <body>
        <h1>Recipe World</h1>

        ...
    </body>
</html>
```

The browser can make better decisions about how to display your page when it knows which version of HTML you're using.

The recipe page so far

Recipe World

Magic Cake

Magic Cake is one of the tastiest cakes the world has ever known. Few have tried it and lived to tell about it, and these are their stories.

Ingredients

- 2 eggs
- 1 pound of sugar
- 3 sticks of butter

Directions

1. Mix eggs, sugar, and butter in a large bowl.
2. Spread into a non-stick dish
3. Bake at 350 degrees for 1 hour
4. Let sit at room temperature for 20 minutes
5. Eat and enjoy!

Adding links to our recipe site

Recipe World

- [Home](#)
- [Recipes](#)
- [Suggest](#)

Magic Cake

Magic Cake is one of the tastiest cakes the world has ever known. Few have tried it and lived to tell about it, and these are their stories.

We also need to stress that whatever happens to you as a result of consuming Magic Cake is your responsibility. You've been warned, and you can view our [legal page](#) for more information.

Ingredients

- 2 eggs
- 1 pound sugar
- 3 sticks of butter

Directions

1. Mix eggs, sugar, and butter in a large bowl
2. Spread into a non-stick dish
3. Bake at 350 degrees for 1 hour
4. Let sit at room temperature for 20 minutes
5. Eat and enjoy!

What happens when you type a URL in the Browser

1 Enter a URL into the browser's address bar.

Browser

http://example.com/magic-cake.html

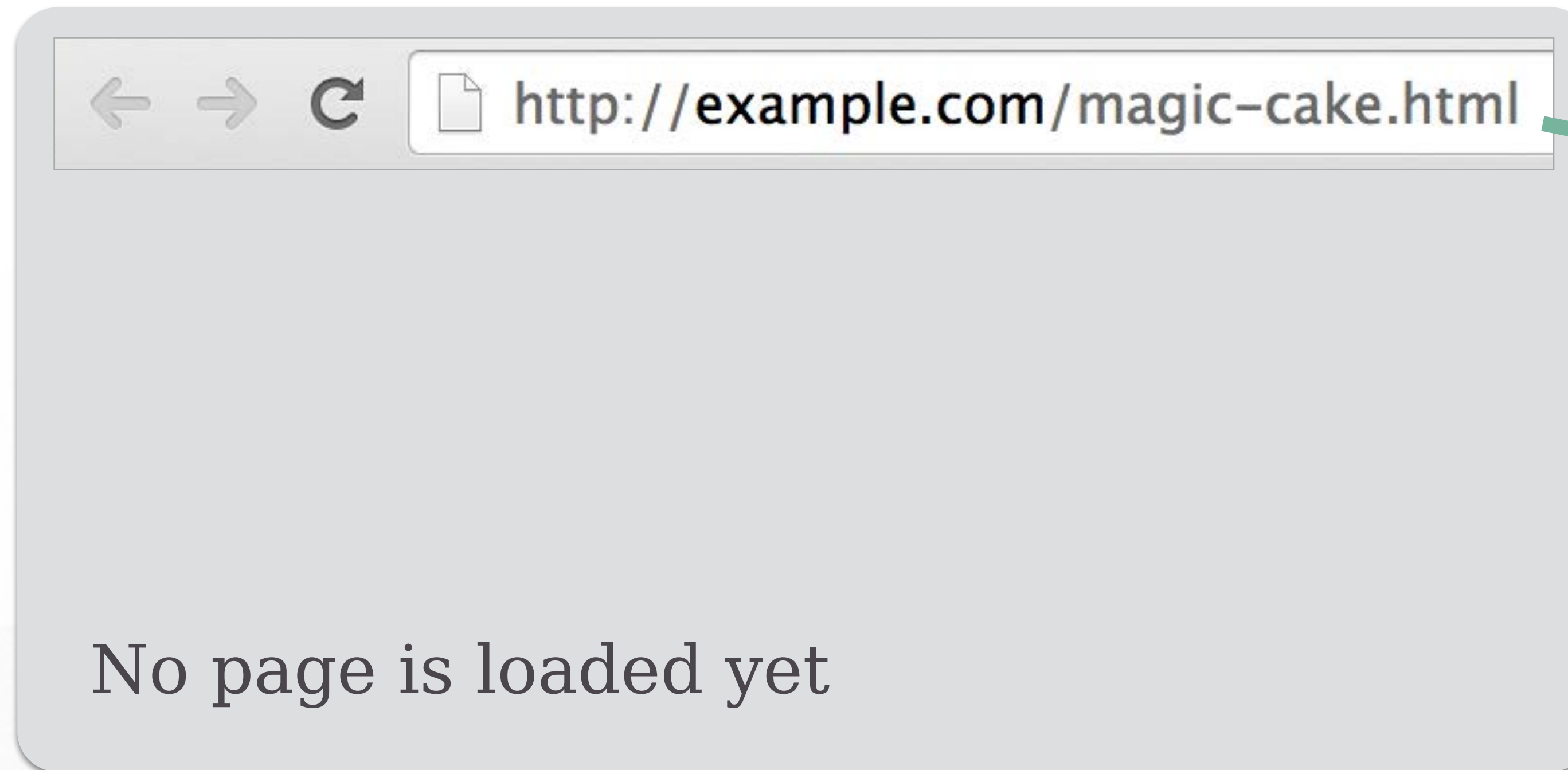protocol   server   Path to a file

No page is loaded yet
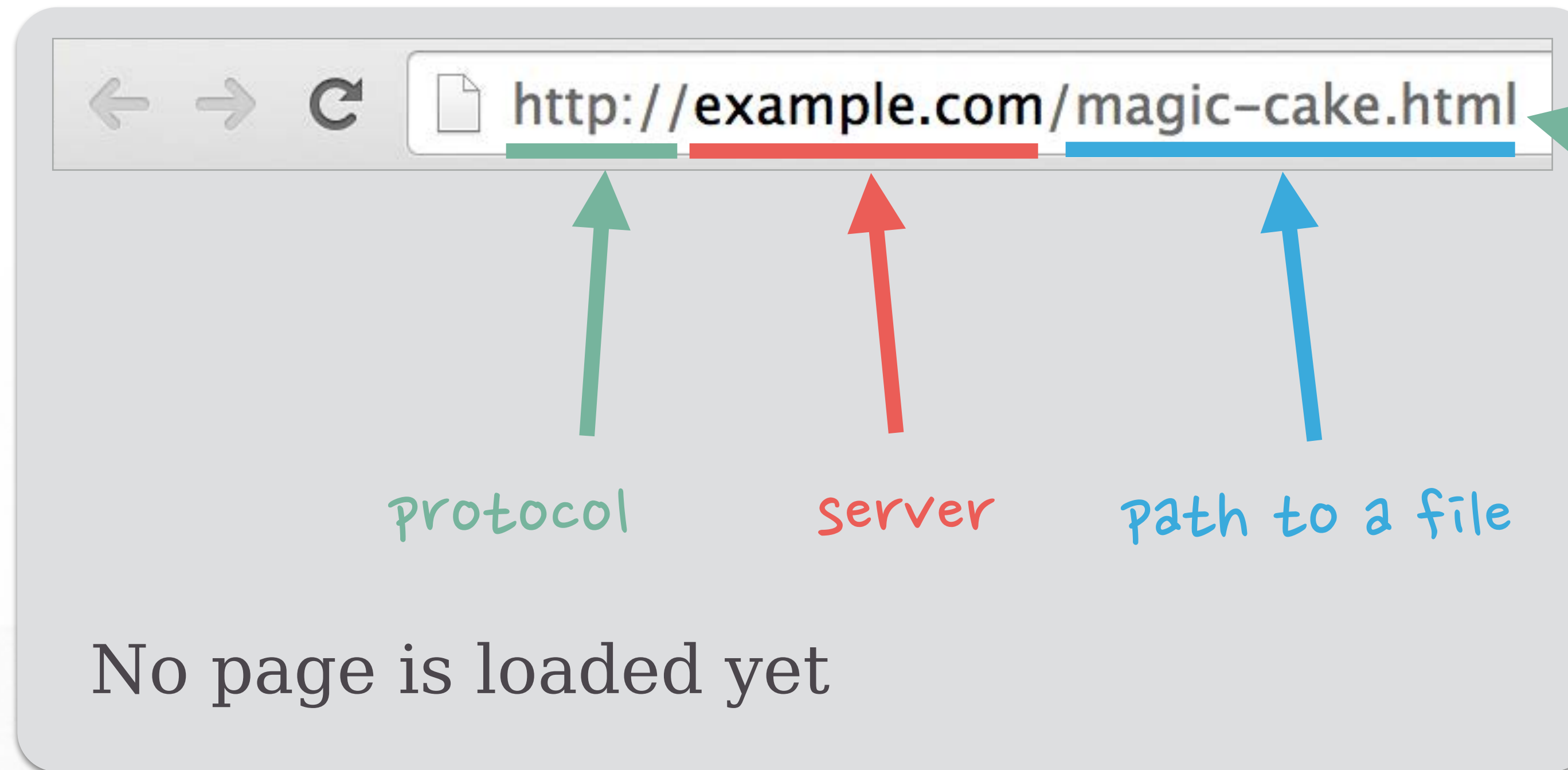
The URL contains a **protocol**, **server** and a **file** that is being requested.

What happens when you type a URL in the Browser

2 A request is sent to the server, and the server looks for the file that's being requested.

Browser

Server
example.com

http://example.com/magic-cake.html

request

HTML

File

magic-cake.html

No page is loaded yet

What happens when you type a URL in the Browser

3 The server returns the file to the browser and the browser displays it.

Browser

Server
example.com

http://example.com/magic-cake.html

request

response

Recipe World

Magic Cake

Magic Cake is one of the tastiest cakes the world has ever known. Few have tried it and lived to tell about it, and these are their stories.

HTML

File

magic-cake.html

What happens when you click a link in the Browser

Clicking a link is like typing a URL in the address bar, only the URL is already pre-entered in HTML as part of link.

Server
example.com

(1) Click the link on the page, and a request for the file in that link is sent to the server.

Browser

current page containing the link

http://example.com/magic-cake.html

Magic Cake

Magic Cake is one of the tastiest cakes the world has ever known. Few have tried it and lived to tell about it, and these are their stories.

We also need to stress that whatever happens to you as a result of consuming Magic Cake is your responsibility. You've been warned, and you can view our legal page for more information.

request

File
magic-cake.html

File
legal.html

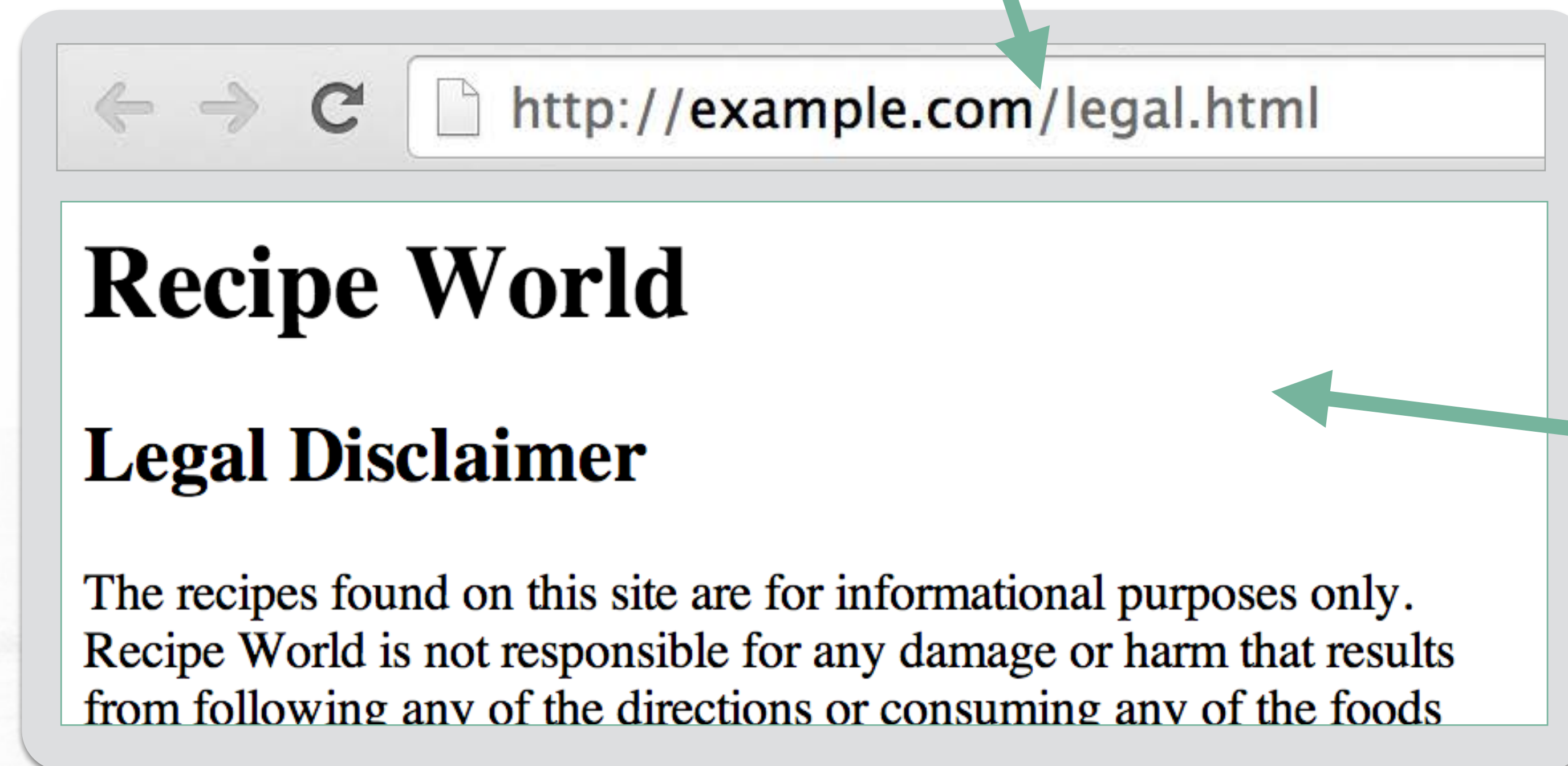# What happens when you click a link in the Browser

2 The server returns the file to the browser and the browser replaces the current page with the new file.

Server
example.com

Browser

new page loaded

http://example.com/legal.html

Recipe World

Legal Disclaimer

The recipes found on this site are for informational purposes only. Recipe World is not responsible for any damage or harm that results from following any of the directions or consuming any of the foods

File
magic-cake.html

response

File
legal.html

How to make a link

Anything that appears between the opening and closing **a** tags is the part that will be a clickable link on the web page.

```
<p>...can view our <a>legal page</a> for more...</p>
```

a is short for **anchor.**

link text

ew our legal page for m

How to make a link

The **href** attribute sets what page should open when the link is clicked.

the value of the attribute

should always be in quotes

HTML

```
<a href="http://example.com/legal.html">legal page</a>
```

HTML attribute

HTML **attributes** let you add additional features or information to a tag beyond just the tag name and text content.

How to make a link

The **target** attribute sets where the page you set in the href should open when the link is clicked.

```
<a href="http://..." target="_blank" >legal page</a>
```

HTML attribute

if you don't add the target attribute, the default is _self

_blank means *open this page in a new tab/window.*

_self means *replace the currently open page in this tab/window.*

Demo of a link opening in a new tab

Absolute vs. Relative paths

Absolute paths ask for a file from a specific server

```html
<a href="http://example.com/legal.html">legal page</a>
```

absolute always includes the protocol and server

Relative paths ask for a file with no server specified.

```html
<a href="legal.html">legal page</a>
```

relative never includes the protocol and server

Since no server name is included, the browser assumes you mean the same server that your page is on.

Links using relative paths

If no protocol/server is included, the browser assumes the protocol and server are the same as the page you're requesting from.
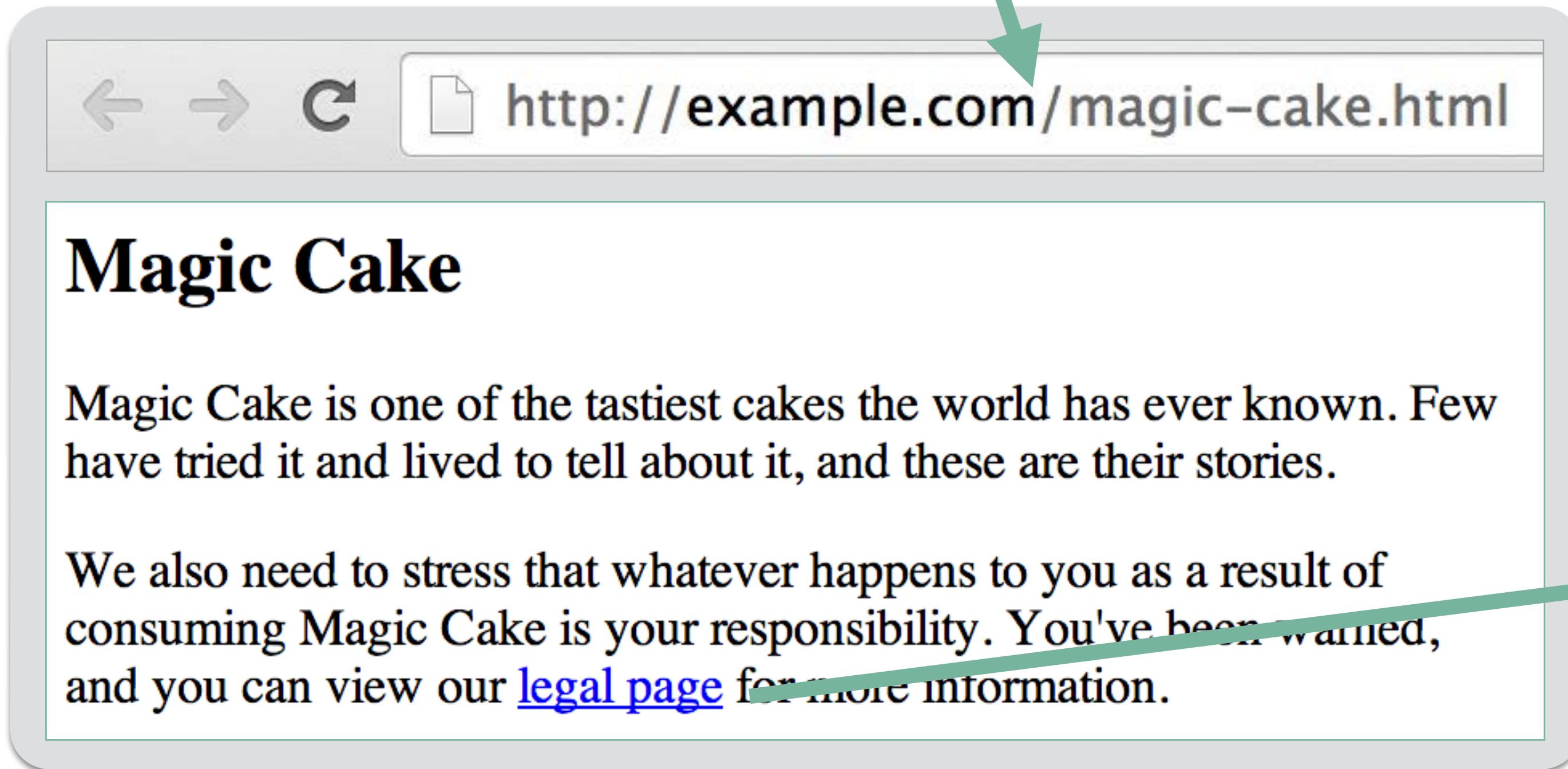
```
<a href="legal.html">legal page</a>
```
HTML

Server
example.com

Browser

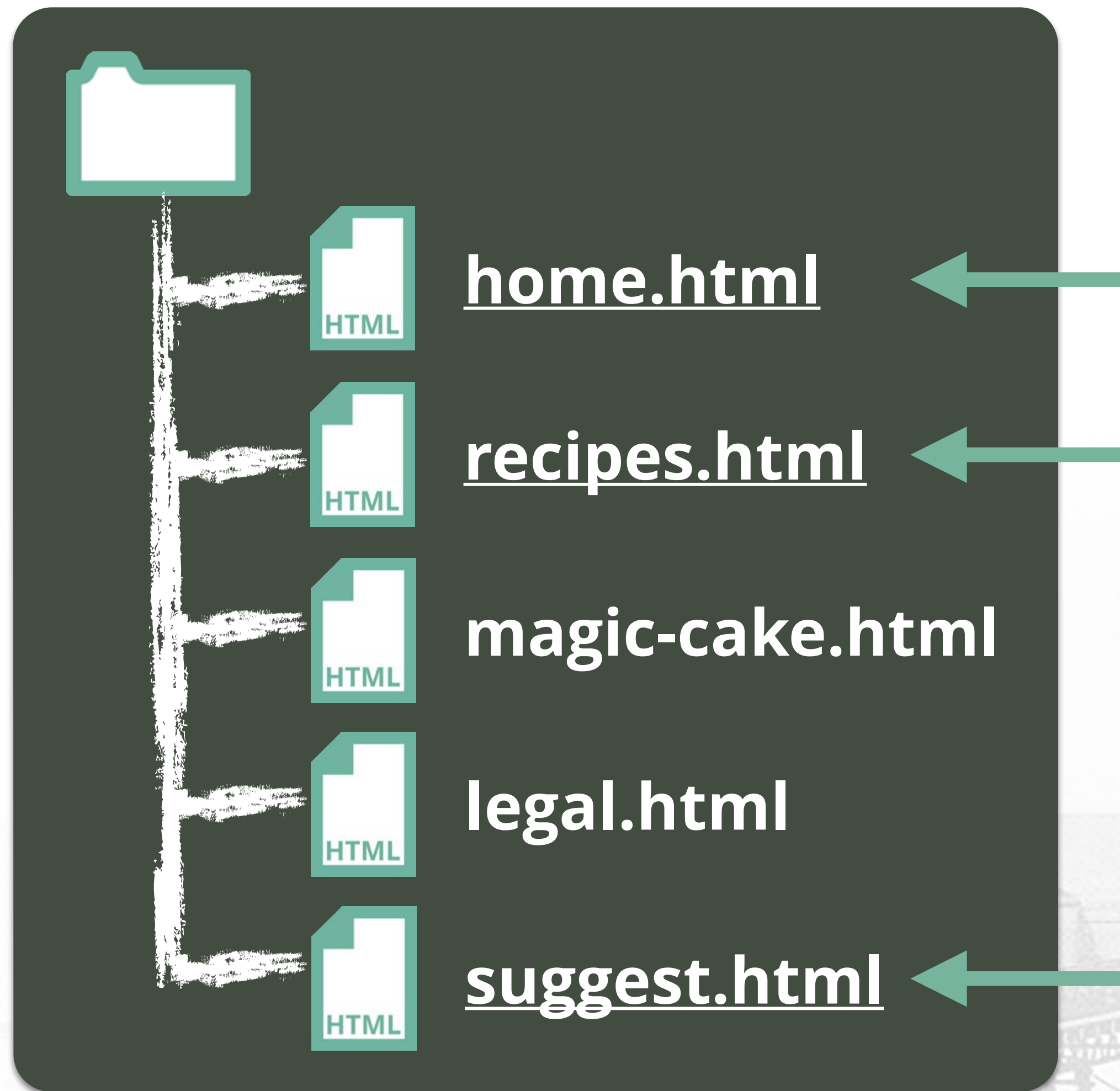current page containing the link

http://example.com/magic-cake.html

Magic Cake

Magic Cake is one of the tastiest cakes the world has ever known. Few have tried it and lived to tell about it, and these are their stories.

We also need to stress that whatever happens to you as a result of consuming Magic Cake is your responsibility. You've been warned, and you can view our legal page for more information.

relative link

legal.html

assumed server

is example.com

File
magic-cake.html

File
legal.html

Figuring out the site navigation

Recipe World server files

- **home.html**
- **recipes.html**
- magic-cake.html
- legal.html
- **suggest.html**

All of our HTML files are currently in our main site folder on the server.

These are the three main pages that should go in our site navigation.

Adding site navigation with relative links

Relative links should almost always be used when linking to pages that are located on the same site.

add this block of HTML to all pages

```html
<body>
  <h1>Recipe World</h1>
  <ul>
    <li><a href="home.html">Home</a></li>
    <li><a href="recipes.html">Recipes</a></li>
    <li><a href="suggest.html">Suggest</a></li>
  </ul>
  <h2>Magic Cake</h2>
  ...
</body>
```

The Magic Cake recipe page with site navigation

Recipe World

- [Home](#)
- [Recipes](#)
- [Suggest](#)

Magic Cake

Magic Cake is one of the tastiest cakes the world has ever known. Few have tried it and lived to tell about it, and these are their stories.

We also need to stress that whatever happens to you as a result of consuming Magic Cake is your responsibility. You've been warned, and you can view our [legal page](#) for more information.

Ingredients
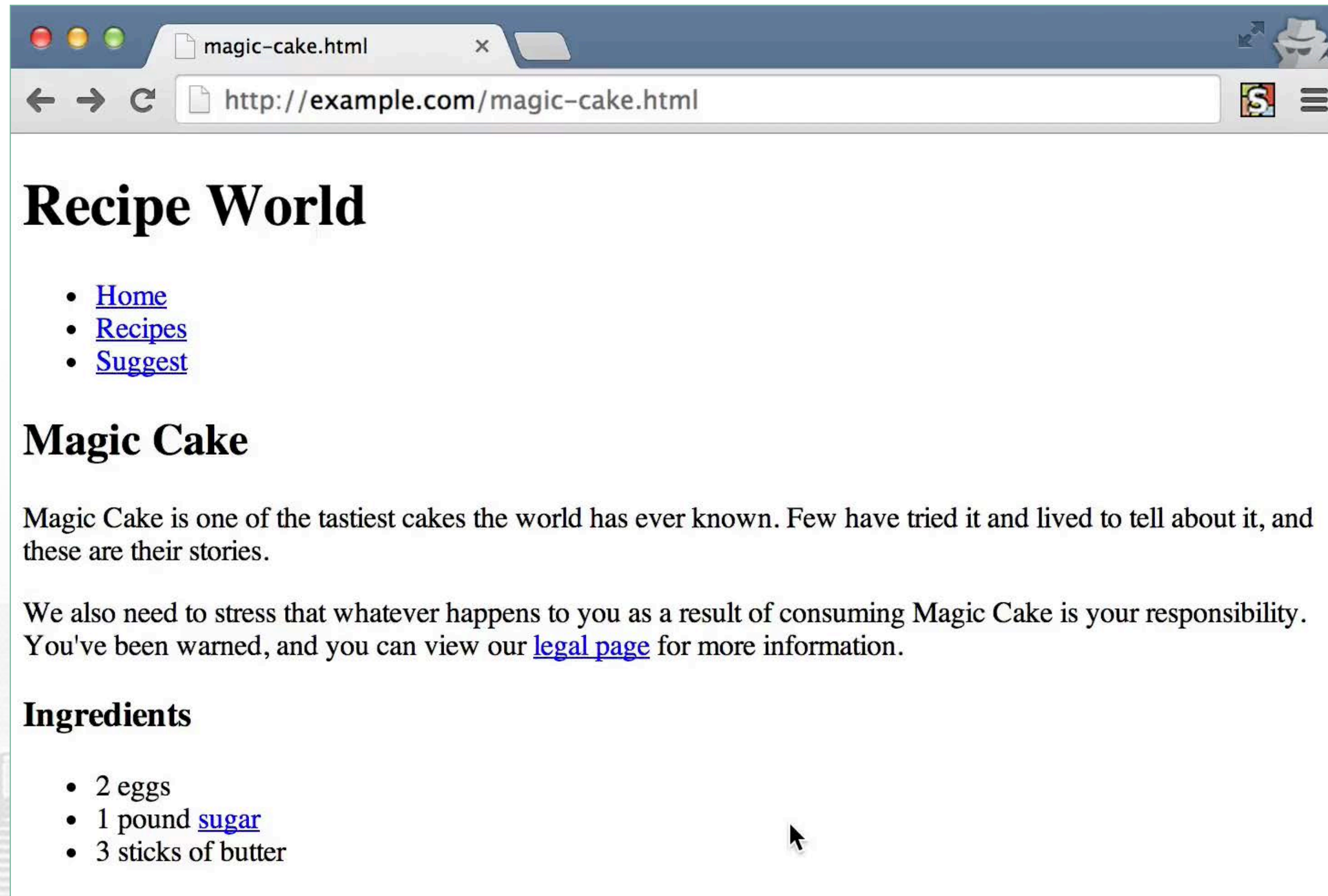
- 2 eggs
- 1 pound sugar
- 3 sticks of butter

Directions

1. Mix eggs, sugar, and butter in a large bowl
2. Spread into a non-stick dish
3. Bake at 350 degrees for 1 hour
4. Let sit at room temperature for 20 minutes
5. Eat and enjoy!

Creating a link to another web site

First, find and copy the URL to the other site

Creating a link to another web site

Absolute links need to <u>always</u> be used when linking
to pages that are located on another site/server.

```html
<h3>Ingredients</h3>
<ul>
  <li>2 eggs</li>
  <li>1 pound of
    <a href="http://www.amazon.com/Domino-...">sugar</a>
  </li>
  <li>3 sticks of butter</li>
</ul>
```

absolute path

link text