

# AI.COM “Micro CMS”

Version 0.7 – February 24, 2017

## Introduction

This is a very basic Content Management System that I made for my website, [fdossena.com](http://fdossena.com).

In its current state this project is no good for inexperienced users, but it's not meant to replace Wordpress, it's just a very small CMS for people who want a nice looking Portfolio/Blog website.

## Features

- Based on modern technologies
- Very lightweight
- Responsive
- Indexable by search engines
- Compatible with browsers as old as IE6 with minimum limitations
- Printing support (for articles)

## Features that I am not planning to introduce in future releases

- Any form of user authentication
- Article editor

## Features that may be introduced in future releases

- Administrative area to add/remove articles and comments

## Installation

### Requirements

- Apache Web Server with PHP and MySQL
- A few Mbytes of free space

### How to install

- Extract the contents of *AI\_MINI* to the root of your server (usually it's the *htdocs* folder)
- Enter PHPMyAdmin or another MySQL administration software
- Create a new database, empty
- Import *db.sql* into it
- Add an user with SELECT, UPDATE and INSERT permissions.
- Edit *\_config.php* and insert the parameters for accessing the database (username and password of the newly created user, database name and the DB server address)
- Save

## Basic customization

At this point, the site will have a Home page, an “About me” page and 2 sections (Projects and Blog) with an article each. All the content is placeholder text so you'll have to fill it.

### Essential Info

- Edit *\_config.php* and change Site\_Title, Site\_Description, Site\_Keywords and Site\_Author to match your site
- Save
- Replace *favicon.png* and *favicon.ico* with the icon you want for your site (both 128x128)

- Replace *campaign-icon.png* with the image you want to show when a link to your site is shared on a Social Network (~512x512)

### Editing the Home page

- Edit *home.frag* and replace the placeholder text with whatever you want to show on the Home page
  - Replace *photo\_home.jpg* with a picture of you (~1080x1080, <400KB)
  - Save
- Later we'll see how to add links to sections to the home page.

### Editing the "About me" page

- Edit *about.frag* and replace the placeholder text with something about you
- Replace *photo.jpg* and *photo\_small.jpg* with a picture of you. The first one can be any resolution, but the second one should be smaller (~800x600, <100KB)
- Save

### Editing the Privacy Policy

- Edit *privacy/index.frag* and insert your own privacy policy. You can see an example here: <http://fdossena.com/privacy>
- Save

## Creating an Article

The easiest way to create a new article is to start by copying one of the 2 included examples, and change it to your needs.

- Copy one of the examples
- Edit *index.frag*. Keep in mind that ALL paths have to be relative to the root, because the .frag file is loaded by *index.php* (or *basic.php*), which is at the top level. An article can link to another .frag file, using a link like `<ai_link frag="path/page.frag">Text</ai_link>`. `<ai_link>` tags will be processed into `<a>` tags at runtime. Never link directly (a href) to a .frag file. Needless to say, .frag files can be .php files if you need to use PHP.
- Save
- Enter PHPMYAdmin or another MySQL administration software and add a new entry into the *articles* table. Parameters:
  - *Section*: the id of the section you want to add the article to (by default, 1=Projects, 2=Blog)
  - *Frag*: path to the .frag file of your article
  - *Description*
  - *Icon*: path to an icon file (~200x200) for the article list. Only shown when the site is in basic mode. If left null, noicon.png will be used
  - *CampaignIcon*: image that will be shown when the article via social media (~512x512). If null, default campaign-icon is used
  - *Cover*: path to an image (~1000x600) for the article list. Only shown when the site is in full mode. If left null, nocover.png will be used
  - *Title*
  - *Date*
  - *Relevance*: a decimal between 0 and 1. Articles in a section are sorted by relevance first, then date.
  - *Keywords*: keywords separated by commas (for search engines)
  - *UpdateFreq*: how often the article is updated. If left empty, it will be set to never. Valid values are daily, weekly, monthly, yearly and never.
  - *Views*: view counter. Do not touch

- *Featured*: date of last time the post was featured or null if was never indexed. Post with the most recent featured date is featured

## Links with <ai\_link>

All links should use the <ai\_link> element, which is processed at runtime and will be automatically turned into regular links for indexability by search engines.

Internal links (to other .frag files) can use this syntax:

```
<ai_link frag="myPage.frag" ..other attributes...>Text</ai_link>
```

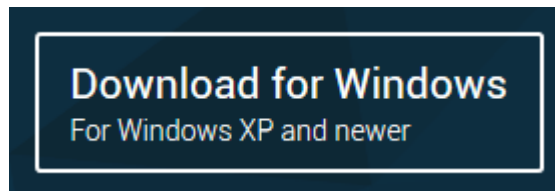
External links can use this syntax or the regular a href:

```
<ai_link ext="http://example.com" ...other attributes...>Text</ai_link>
```

These elements are processed client side when the site is in full mode, or server side when in basic mode. Note that server side, the PHP DOMDocument parser is used, which may screw up your pages if they're not valid XHTML.

If you've used a previous version of this project, your links with loadFragment are still valid.

## Square download buttons



You can style an *a* or *ai\_link* element to look like a typical square button with text inside by applying the *downloadButton* class. Here's an example:

```
<ai_link class="downloadButton" ext="http://example.com" ...other attributes...>
  Main button text
  <div class="small">Smaller button text</div>
</ai_link>
```

Note: you cannot put a link within a link. Some browsers allow it, others don't.

## Adding/Removing Sections

Sections do not actually exist, *articles.php* simply fetches all articles from the DB that match a given section id, therefore, adding and removing sections is very simple.

- Edit *nav.php*: this is the file that contains the menu on top of the screen.
- You will see lines that look like this:
 

```
<ai_link frag="articles.php?s=2">Blog</ai_link>
```
- Simply add/remove such lines. Make sure each section has its unique id (shown in red here) and name (shown in blue here)
- Save

As a direct consequence of this mechanism, it is possible to implement "secret" sections by adding articles with a section id that's not in the menu and loading it manually using `loadFragment('articles.php?s=id')` in your browser's console (usually F12). Note that this provides no real security.

Additionally, you might want to add a link to the provided home.frag, which is a bit more complicated:

- Inside *basicLinks*, add a link with a new id (for instance `link4`)
- Inside *cubesArea*, copy an entire *cubeContainer* (change the colors if you want), and inside the *div.text*, set a new id (for instance `l4`)

- In the script below, add a line like this

```
I("14").innerHTML=I("link4").innerHTML;
```

- Save

## Comments

This micro CMS has a built-in simple comments system with no login.

Each .frag file can have a comment section, by simply adding `<div id="article_comments"></div>` where you want to create the comment section. Note that that can only be 1 comment section per page. The provided examples already have this implemented.

Older versions of this project used the id `_comments_` instead. This is still supported and will automatically be replaced with `article_comments` at run time.

The comments system is protected against SQL Injection and XSS attacks.

In the DB, comments are stored in the *comment* table. Each comment has a pointer to the page where it belongs to (the .frag file) and the comment text.

### Removing comments

At the moment, comments can only be deleted from PHPMyAdmin or some other MySQL administration software.

### Activating Disqus

Disqus is disabled by default. It can be activated from *\_config.php* and it will replace the builtin comment system:

- Set *\$Disqus\_Enabled* to true
- Set *\$Disqus\_Shortname* to your site's shortname. You get the shortname when you register your site to Disqus

Note: comments cannot be transferred from the simple comment system to Disqus and viceversa.

Also note that Disqus is proprietary software and heavy. It's convenient because most users like it, but Richard Stallman would piss on your website!

## Sharing links

You can create an area with share links and buttons by simply adding `<div id="_share_"></div>` where you want to create that area. Links for Facebook, Twitter and Google Plus will be created, as well as a text field with the URL.

## Customizing the background

Edit *\_config.php* and change *Background\_JS* and *Background\_ClassName* to select one of the backgrounds.

- Starfield (default) <http://fdossena.com/?p=warpspeed/i.frag>  

```
$Background_JS="BACKGROUNDS/warpspeed.js"
$Background_ClassName="WarpSpeed"
$Background_Config="{speedWhileLoading:18}"; //optional Note that this is a JS object, NOT A JSON STRING!
```
- Triangles <http://fdossena.com/?p=muhTriangles.js/index.frag>

```
$Background_JS="BACKGROUND/muhTriangles.js"
$Background_ClassName="MuhTriangles"
$Background_Config="{saturation:0.8,customHue:202,lightness:0.25,outline:false,gradientType:"random",gradientIntensity:0.7,gradientMode:"smooth",gradientInvert:false,speed:1.5,instability:0.7,density:0.75,responsiveDensity:true,model:"mesh",fps:22}"; //optional. Note that this is a JS object, NOT A JSON STRING!
```

You may also want to change `Chrome_TabColor` to match your new style. This color is visible on Android Chrome.

If you want to create your own background, a template is included in the `BACKGROUNDS` directory.

## Changing the footer

Edit `footer.php` and replace it with your code. PHP can be used freely but make sure it's compatible with both basic and full mode. Styling can be changed from `main.css`

## More customization

The system uses a few `.css` files that you can edit to change the appearance of the website. These files are:

- *main.css*: contains the rules for full mode
- *basic.css*: contains the rules for basic mode
- *basic\_overrides\_ie.css*: contains fixes specific for IE<9 (for instance, using `.eot` fonts instead of regular `.woff` ones)
- *article.css*: rules common to articles
- *thumbnail.css*: rules for thumbnails and gallery

## Basic mode and Full mode

A site based on this project will have 2 modes: Full and Basic.

### Full mode (`index.php`)

- For modern browsers
- Responsive
- AJAX
- CSS Animations
- Animated background
- Article list with covers
- Simple comments or Disqus

### Basic mode (`basic.php`)

- For old browsers and search engines
- Not responsive on very old browsers, partially responsive on relatively newer browsers
- Static
- No animations on very old browsers, some animations on relatively newer browsers
- Static background
- Simple article list
- Disqus may not work properly (officially requires IE10+)

## Compatibility

On `fdossena.com`, Basic mode is compatible with very old browsers (IE6+), while full mode requires a 2013-2014 browser at least (IE11+).

Needless to say, YOU are responsible for writing .frag files that keep compatibility with older browsers.

Links are interchangeable: if a user with an old browser receives a link that points to the full version, it will be redirected to the basic version, and vice versa.

Search engines and bots will only see basic mode.

**Javascript must be enabled** -even in basic mode- to ensure full functionality. With JS turned off, only very basic functionality is provided.

If you use Disqus, it officially supports only IE10+, therefore it may not work properly on older browsers and there's nothing that can be done to fix it.

## Creating .frag files from scratch

### Basics

The first thing to do is to create a new empty file, and give it a name, such as *test.frag*.

The basic structure of a .frag file is very simple:

```
<div>
    CODE
</div>
```

Inside that div, you will put all your content. Content is organized in stripes. Each stripe element contains a content element, where you will put your text, images, ...

```
<div>
    <div class="stripe">
        <div class="content">
            Actual content
        </div>
    </div>
</div>
```

There can be more than one stripe, of course, but there should only be 1 content element per stripe. Use stripes to separate large sections of your page (like the article from the comments).

### A handy template

```
<div>
<link rel="stylesheet" type="text/css" href="article.css" /> <!--optional, adds CSS rules useful
for creating articles-->
<style type="text/css" scoped="scoped">
    /*optional: put your custom style rules here*/
</style>
<div class="stripe">
    <div class="content">
        <h2>Article title</h2>
        <p>Paragraph text</p>
        
        <p>More text</p>
        <h3>A subsection</h3>
        <p>A paragraph</p>
        ...
    </div>
</div>
<script type="text/javascript">
    //optional: put your custom js here
</script>
<div class="stripe">
    <div class="content">
        <h2>Share this article</h2>
        <div id="_share_"></div>
    </div>
</div>
<div class="stripe">
```

```

        <div class="content">
            <h2>Comments</h2>
            <div id="article_comments"></div>
        </div>
    </div>

```

## Javascript functions that can be called from .frag files

### isBasicMode()

Returns true if in basic mode, false otherwise. This is the easiest way to find out whether you are in basic mode or not using JS.

### isDesktop() / isMobile()

Returns whether the user is in desktop or mobile view. This does not necessarily guarantee that the user is using a certain type of device, it just says which view is being used, it could be a small window on a desktop, or a big tablet in desktop mode.

### hideNav()

Hides the menu on top. Will be shown again when a new .frag file is loaded.

### showNav()

Shows the menu on top if it was hidden.

### hidePage()

Hides the .frag file. Will be shown again when a new .frag file is loaded

### showPage()

Shows the .frag file if it was hidden.

### openLightbox(url)

Opens the image at the specified URL in a lightbox. In basic mode, it opens it in a new window.

### closeLightbox()

Closes a previously opened lightbox. In basic mode, it does nothing.

### flash(color)

Flashes a certain color. Color can be any CSS color, expressed as a string.

### loadFragment(url, pushState)

Loads a .frag file at the specified URL. The second parameter should always be true or not defined. If set to false, the new .frag file won't be added to history and it won't be possible to go back/forth between pages (useful for transitions within subpages of the same article).

In full mode, the .frag file is loaded via AJAX, but in basic mode it will trigger a full page reload.

### setBackgroundCfg(cfg)

Sets a new background config, stores it in localStorage and applies it by reloading the background page. In basic mode, it does nothing.

### onFragUnload()

This method can be overwritten by .frag files to perform an action when the fragment is unloaded (for instance, remove some function added to the window object).

It can be overwritten in this way: `window.onFragUnload=function(){ ...code... }`

Keep in mind that if this throws an exception, it will crash the loading of the new fragment.

`l(id)`

A short way to write `document.getElementById(id)`.

`loadText(target,url,onDone,noEscape)`

Loads a text file of any type via AJAX, escapes special characters, puts the result into the target element, then calls the `onDone` function. If `noEscape` is set to true, the loaded text is not escaped (useful for loading a short piece of HTML)

`highlight(target,language)`

Applies `highlight.js` to the target element, with the specified language.

All languages supported by `highlight.js` can be used, and they are dynamically loaded when needed. Available languages are all the ones that are listed under `HLJS/langs`. Notable exceptions: for HTML, use XML, for JSP, use Java, for C/C++ use `cpp`.

Note that this method will replace the target element's CSS classes.

In basic mode, `highlight.js` is not applied, only basic styling.

## Local CSS

A `.frag` file can define its CSS rules that will only apply to that fragment. To do so, simply add this at the beginning of your `.frag` file, right after opening the initial `<div>`

```
<style type="text/css" scoped="scoped">
    CSS RULES
</style>
```

## Importing a CSS file

To import a `.css` file, simply add this at the beginning of your `.frag` file, right after opening the initial `<div>`

```
<link rel="stylesheet" type="text/css" href="path/to/file.css" />
```

## Local JS

### Running a script when the `.frag` is created

Simply add this code somewhere in your `.frag` file (inside the `<div>`, of course)

```
<script type="text/javascript">
    CODE
</script>
```

### Defining JS functions to use in the current `.frag` file

Simply add this code at the beginning of your `.frag` file, right after opening the initial `<div>`

```
<script type="text/javascript">
    window.functionName=function(param1, param2, ...){
        //FUNCTION CODE
    }
</script>
```

## Importing a JS file

Due to browser limitations, `<script type="text/javascript" src="path/file.js"></script>` works slightly differently than you would expect, because the scripts are running while the JS you're importing is still loading, so you need to wait for it to be loaded before you run your code. There are 2 solutions:

- Waiting for a specific class to be loaded. This is especially useful for libraries. Example:

```
var interval=setInterval(function(){if(!window.MyClass){
```



```

        clearInterval(interval);
        //code that depends on MyClass
    }.bind(this),100});

```

- Using XHR to load a JS file, then using `eval(xhr.responseText)`. See this: <http://fdossena.com/?p=html5cool/loadAsync/i.frag>

“Am I in Basic or Full mode?”

JS

`isBasicMode()` returns true if in basic mode, false otherwise

CSS

When in basic mode, the fragment is inside an element that has class `basic`. The code below will only apply when in basic mode.

```

.basic myRule{
    ...
}

```

PHP

Simply check if the URL contains `basic.php`.

```

if(strpos($_SERVER['PHP_SELF'],'basic.php')!==false){
    //basic code
}else{
    //full code
}

```

`basic_only` and `basic_hide` classes

Some elements in your `.frag` files can be shown/hidden in a specific mode.

```

<div class="basic_hide">
    <div class="stripe">
        <div class="content">
            <h2>An exclusive stripe</h2>
            This stripe is only visible in full mode.
        </div>
    </div>
</div>

<div class="basic_only">
    <div class="stripe">
        <div class="content">
            <h2>Filthy old browsers</h2>
            This stripe is only visible if your browser A SHIT!
        </div>
    </div>
</div>

```

Testing a `.frag` in basic mode

If you're using a modern browser, the site will switch to full mode automatically. To prevent this, open the console (F12) and type: `localStorage.noSwitch=true` and reload the page. When you're done, type `delete(localStorage.noSwitch)` and reload to go back to full mode.

Alternatively, if you're on Windows 7 or newer, you can download this portable Internet Explorer 6: <http://downloads.fdossena.com/geth.php?r=ie6-en> (Will probably trigger your antivirus, if you have one). This won't work in Wine. If you're on an other OS, use a Virtual Machine with Windows XP.

## Embedding a full webpage

Iframes can be used to embed other pages. Due to really crappy support from older browsers, it is best to use them only in full mode.

### Using iframe.frag

This code can be used in a script or in a link.

```
loadFragment('iframe.frag?p=url')
```

### Using an iframe

```
<iframe src="url" style="width:100%"></iframe>
```

## Licenses

This project is licensed under the [GNU GPLv3](#) license.

## Frameworks

Nothing

## Libraries

Uses [Highlight.js](#), under the BSD License.

Uses [WarpSpeed.js](#) under the GNU LGPL License (by me)

## Fonts

Uses the Roboto font by [Christian Robertson \(Google\)](#)

Uses the Bebas Neue font by [Fontfabric](#)

Uses the Lato font by [Łukasz Dziedzic](#)

## Additional notes

The pictures of Garrus used as placeholder are unlicensed and were found online on DeviantArt. Garrus Vakarian is property of Bioware Corp.