



FLAGS BY DESIGN: IDENTIFYING FLAGS BY PATTERN AND COLOUR

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INTRODUCTION

This is a short study of flag search websites, and a proposal for an alternative.

CONTENTS:

1. What is Available.
2. What is Missing.
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1.0 WHAT IS AVAILABLE

Flags of the World [<http://www.crwflags.com/fotw/flags/index.html>, 10.5.2015] says "In case you don't know the origin of a flag you can try using off-site identifiers such as Ed Mooney's The Flag Wizard or Ivan Sarajčić's The Flag Identifier."

- 1.1. **Ed Mooney's The Flag Wizard** [<http://www.edwardmooney.com/wizard/>, 10.5.2015]
This contains about 200 national flags. Search is simply by selecting one of ten design icons, which then shows all the national flags in that category. It was apparently last updated in 2008.
- 1.2. **Ivan Sarajčić's The Flag Identifier** [<http://www.flagid.org/>, 10.5.2015]
This contains about 1300 flags. The search process is relatively complicated.
Click "Combined identification".
Tick "division", "shape", "colour", and "device".
Click "Start combined search".
Select division, number, shape, colours, device, e.g. horizontal, stripes, 10, rectangular, blue, white, red, mammal, carnivore, lion, red, 1
Each step is a separate screen.

Although this contains the most flags of the flag search websites studied, but maybe just because of that, and the complexity of the search, it has apparently not been updated since 2011.
- 1.3. **Graham Bartram's World Flag Database** [<http://www.flags.net/>, 2015]
This contains about 500 flags, with a multiple-choice search, and is up-to-date.
- 1.4. **"Nareva's" Drapodou** [http://www.nareva.info/ssn_drapeaux/Index_Drapodou.htm, 2015]
This contains about 300 flags, with a multiple-choice search, but dates from 2005.
- 1.5. **Photius Coutsoukis's Easy Flag Identifier**
[http://www.photius.com/flags/flag_identifier.html, 2015]
This contains about 200 flags. Search is from 4 types of design, and the site dates from 2009.
- 1.6. **Google**
Today, Google is the choice search engine. From the search results, one can click to see only images.

When this is done, the search box ends with a camera icon. Clicking on the icon allows one to upload an image, which is analysed “by magic” to find similar images. Success is surprising, but not guaranteed. Furthermore, Google takes the right to use the uploaded image for its own purposes.

- 1.7. **Flags of the World**, [<http://www.crwflags.com/fotw/flags/index.html>, 2015]
 This remains, and will remain, the definitive reference. It contains over 116,000 images, but search is only textual.

Comparison of what is available

Out of personal interest, I have also included whether the website contains the Luxembourg civil flag.

Who	WWW	Search	Flags		Updated
 Edward Mooney	Flag Wizard	10 patterns	~ 200	No	2008
 Ivan Sarajčić	Flag Identifier	Hierarchy	1,282		2011
 Graham Bartram	World Flag Database	Multiple choice	~500		2015
“Nareva”	Drapodou	Multiple choice	304	No	2005
Photius Coutsoukis	Easy Flag Identifier	4 types	~ 200	No	2009
 Google	Google > Images > Camera icon	Image search			2015
 FOTW	Flags of the World	Text	116,000		2015

(The leading flag is the flag of the respective website “author”).

2.0 WHAT IS MISSING

2.1 Quantity of flags.

The biggest flag search website contains about 1,300 flags, which is a factor of 100 smaller than Flags of the World. The most up-to-date contains only about 500 flags.

2.2 Recent updates.

Only one flag search website is up-to-date. This is presumed to be due to the joint problems of encoding

flags for the search engine to be able to find them, and the simple quantity of flags.

2.3 Search refinement.

None of the websites allows the seeker to refine the search criteria.

2.4 “Similarity” search.

None of the websites allows the seeker to find similar flags according to pattern or colour.

2.5 Links to Flags of the World.

None of the websites has links to the corresponding flag pages on FOTW.

3.0 MIKE’S PROPOSAL

3.1 Choice of shape, pattern, & colours all on one screen, e.g. Horizontal Stripes, 3, Red, White, Blue:

Flags-by-Design Search by: [Name](#); [Shape](#), [Pattern](#), [Colour](#); [Colour %](#); ([Diagnostics](#))

Shape: any shape [Reset] [ShowFlags]

Background: any colour

Pattern: Horizontal Stripes Number: 3
Reds White Blues

Pattern: any pattern Number: any number
any colour any colour any colour

Pattern: any pattern Number: any number
any colour any colour any colour

3.2 Immediately show all the matching flags on one screen.

Flags-by-Design Search by: [Name](#); [Shape](#), [Pattern](#), [Colour](#); [Colour %](#); ([Diagnostics](#))

Flags by Shape, Pattern, & Colour

3 Horizontal Stripes; Reds; White; Blues

Croatia Luxembourg Netherlands Paraguay Paraguay reverse

5 flags on this page.

Too few flags?

- [Go back and reduce the criteria](#)
- [Use the basic search](#)

- Matching flag images, names, and flagpoles for orientation;
- A count;
- Search refinement options depending on the previous screen, e.g. colours reversed, colours in any order, pattern rotated 90°, which return to the results screen with new matching flags.

3.3 Search by Colour Percentages, e.g. Red 30%, White 30%, Blue.

Flags-by-Design Search by: [Name](#); [Shape, Pattern, Colour](#); [Colour %](#); [\(Diagnostics\)](#)

100%	<input type="text" value="Reds"/>		
90%	<input type="text" value="Reds"/>	5/6	Select the colours in order of predominance. When you select one colour, all the fields below it will also be set to that colour. Then jump down an appropriate number of fields to select the lesser colours.
80%	<input type="text" value="Reds"/>	4/5	
70%	<input type="text"/>	3/4	
60%	<input type="text"/>	2/3	
50%	<input type="text"/>	1/2	
40%	<input type="text" value="Blues"/>	1/3	The percentages and fractions are guidelines.
30%	<input type="text" value="Blues"/>	1/4	
20%	<input type="text" value="Blues"/>	1/5	
10%	<input type="text" value="Blues"/>	1/6	

Results screen

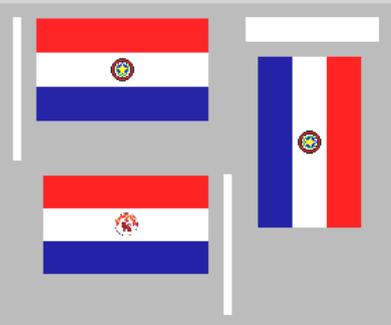
The system currently works in tenths, so 30% represents 33%, and the final 34% becomes 40% to add up to 100%. Nevertheless, the search engine handles this correctly.

And where is France? France is actually Blue/White/Red, not Red/White/Blue.

3.4 Clicking a flag gives one screen:

Flags-by-Design Search by: [Name](#); [Shape, Pattern, Colour](#); [Colour %](#); [\(Diagnostics\)](#)

Paraguay



- [Larger image](#)
- [Flags of the World page](#)

Show similar flags:

Fx = 3nwbO1x

C- r4w4b4

The reverses and hanging flags are only shown where they are not standard.

[Analyse](#)

Showing flag in various orientations.

Paraguay has a different reverse, and consequently is also hung differently from most flags.

Link to the corresponding Flags of the World page, in this case Paraguay.

Similarity buttons for:

- Shape/pattern/colour;
- Colour percentages;
- Average colour
- Topology (Number of colour areas);

which all return to the results screen with new matching flags.

The “Analyse” link leads to:



(Here only the obverse is analysed, so, in the case of Paraguay, the reverse and hanging images are wrong).

The coloured panel and numbers represent the mean and standard deviation of the colours.

3.5 Alternative ways of searching, by:

Name Currently by the first one or two letters of any word in a name, where the first letter is a capital. This means that “A” will find “United States of America”, but “O” will not see “of”.

Average colour This is not suitable for a first search, but for finding similarities or uploaded images.

Topology Number of colour areas.

Pre-defined Searches This is particularly foreseen for searches that cannot be made using the normal interfaces, such as “Complex flags”.

Upload a flag image/photo Like Google, for analysis and “similarity” search.
Unlike Google, this will only find flags.

“Draw a Flag” Like a web-based drawing program, but flag-specific, and subsequently allowing a “similarity” search.

Note: All searches show matching flags on one screen.

4.0 HOW IT WORKS

An encoding system for flag images. **Encode sharp**, e.g. encode different shades of “primary” colours. The latest encoding system is defined, but the database needs to be updated to match the latest definition.

A search mechanism. **Search fuzzy**, e.g. searching for a “primary” colour will find all the shades. The search works, but will be updated to simplify the refined searching, and become much faster.

Example of encoding: JavaScript on your PC

```
function f_flag (name, code, colr, topo, iso2, fotw, fold);
f_flags[++i] = new f_flag(
'Afghanistan', // name
'Fx=3krq$1w', // code: shape, patterns, & colours
'C4k3r3g3w1', // colr: colours & tenths
'T4k1r1g1w1', // topo: number of areas and colours
",           // iso2 : ISO-2 code, default 'af'
",           // FOTW link code, default = iso2
");         // fold: folder, default 'iso2[1]/iso2'
```

5.0 CURRENT STATUS

- More flags than Mooney, but less than Flags of the World.
- Shape, pattern, and colour encoded, but needing verification.
- Colour percentages encoded, again needing verification.
- Analysis program calculates mean and standard deviation of colours.
- Shape and pattern algorithms outlined.
- Not online until ready.

6.0 FUTURE

- Flags of the World contains about 116,000 images. This implies automation:
- Programs to automatically analyse and encode a flag image.
- Programs for a list or folder of flag images.
- Option to upload a flag image/photo, like Google, for analysis and similarity search.
- A flag drawing program.

REFERENCES (all accessed 10.5.2015)

Ed Mooney's The Flag Wizard	http://www.edwardmooney.com/wizard/
Ivan Sarajčić's The Flag Identifier	http://www.flagid.org/
"Nareva" Drapodou	http://www.nareva.info/ssn_drapeaux/Index_Drapodou.htm
Photius Coutsoukis, Easy Flag Identifier	http://www.photius.com/flags/flag_identifier.html
Google	http://www.google.com/
Flags of the World	http://www.crwflags.com/fotw/flags/index.html

BIOGRAPHICAL

Mike Thomas is a computer systems programmer, webmaster, and security specialist for the European Commission's Cyber Attack Response Team in Luxembourg. He is also a volunteer fire chief, and teaches Cardio-Pulmonary Resuscitation (CPR).

His interest in flags stems from before he can remember, rekindled by the 2007 campaign to change the Luxembourg flag, working in a building with 29 different flags outside, and travelling.

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