
Visual Gestalt in Campaign Web Sites

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Abstract

Since 2000, a vital part of media portrayal of national political races is based on color. "Red States" signify a predominance of Republican support, while "Blue States" back the Democrats. Although both designations are based exclusively on the recent Presidential election results, the jargon has assumed larger political connotations. This preliminary study attempts to understand the visual gestalt of selected 2006 campaign web sites through the reduction and quantification of colors in page design. This value is examined to see if a pattern of color connotation emerges that might warrant further exploration.

Keywords

Color analysis, Color use, visual gestalt, Congressional races, political campaigns, DeGraeve, connotation.

ACM Classification Keywords

H.5.2. User Interfaces: Evaluation/methodology. I.4.8. Scene Analysis: Color. E.4 Coding and Information Theory: Data compaction and compression.

Introduction

Use of the World Wide Web by U.S. politicians has increased steadily since the 1998 national elections [11]. In 2004, use of the Internet played a prominent role in the Democratic Party, led by upstart former governor Howard Dean's "meet-up" strategy to connect

individuals and motivate them to make small contributions to his campaign [3]. Today, Congressional incumbents benefit from both an official web site hosted on a government server and personal campaign web sites catered to the current re-election. Most candidates have come to realize the Internet as an inexpensive, effective way to reach out to voters [11].

One way to view a political web site is as a visual speech composed for a specific audience. *Official* web sites more often focus on serving the incumbent's constituency, the people in the districts and states the politician represents. *Campaign* web sites are usually disposable and cater to potential voters in the context of a specific election. One would expect to find differences in the intentional design of these sites reflecting the strategy invoked by the political candidate. The use of color may be perceived as a symbolic placeholder for a strategic message.

This study attempts to explore the *visual gestalt*—the overall sense of a design—of a campaign web site in terms of its color reduction. That is, all of the colors used on the page are condensed into a single representative color and compared to that of other political sites. Screenshots of selected 2006 Congressional home pages are quantified as a single RGB color. This relative value is examined for emerging patterns in color use, in particular red and blue as a cultural connotation for political ideology.

Background

Red and blue hold specific meaning for contemporary U.S. politics. Red is Republican. Blue is Democrat. This configuration, however, dates back only to the media coverage of a highly contested Presidential race in

2000. Although there are approaches that might explain how one perceives color [5] in a way that impact elections, the focus in this study is strictly on examining the use of color as a connotative cue to voters. Whether or not this is an intentional strategy employed by individual campaigns to attempt to identify with potential voters in a specific way, color is unavoidably embedded in the content of a web site and therefore will be perceived as part of that message.

Political use of color

Although not universal, the traditional merging of political and color spectra uses the linear metaphor of visible light. Leftist politics, like Marxism and socialism, are equated with the color on the left side of the spectrum (red), while conservative politics are on the right side of the spectrum (blue) [1,7]. That metaphor is ambiguous, though, in that visible light is sometimes represented on an energy scale, with red on left, and at other times on a wavelength scale, with blue on left. Ideology, too, has multiple dimensions—such as degrees of personal freedom and economic freedom—making a mapping to a linear metaphor questionable. Ideology also significantly predates media use of color, making the color of politics a fairly recent phenomenon.

In the United States, color-coding political parties probably started in the 1870's as a way to help illiterate and non-English-speaking voters understand election ballots in South Texas. In that system, Democrats were blue and Republicans were red [4].

A century later, media began migrating from black-and-white print to colorized political maps. Each publication and network had a different color scheme, however. *Time* magazine showed the incumbent party in white



Figure 1. The two major parties tend to follow more traditional distinctions in color, with Democrats more red than Republicans. GOP.org dramatically reduced the amount of red with their 2006 design.



and the challenger in red. NBC television anchor David Brinkley described his studio map in 1980 as “a suburban swimming pool” as Republican Ronald Reagan (blue) won a landslide victory over Jimmy Carter (red), an effect *Time* dubbed “Lake Reagan.” Former vice-presidential candidate Geraldine Ferraro noted in her 1985 biography how networks used different colors to depict Reagan’s successful re-election bid [13].

Things changed in 2000 when a highly contentious Presidential election saw George W. Bush rise to power despite losing the popular vote. All major television networks agreed on a color scheme, creating new terms for partisan loyalty: *Red State* and *Blue State*. Since then, media coverage, political blogs and Wikipedia have solidified the terminology [9]. There is even a documentary, “Red State,” about a liberal researcher who travels middle America to interview conservatives [8]. Any ambiguity appears to be lost.

Making visual meaning

In the structure of language, words act as *signifiers* for the *signified*. That is, meaning is made through the association between the content and the thought or object it is meant to represent [2]. Since the World Wide Web is a visual medium, the content of a web site is not restricted to the words on the page, but also includes images as part of its text. Color, therefore, may be viewed as an integral part of the visual communication of a web page. *Visual semiotics* applies a structured language approach to visual communication [6].

By itself, color can be perceived as icon, index or symbol [2]. It is iconic when it signifies the objective color, as in “red” refers to the way light reflects off of

surfaces. Because that objective color leads to experiences in which perceptual color arises [5], red is indexical when it refers to a shared cultural notion of color. Red is also a symbol when associated with some other cultural meaning, such as politics. For this study, political use of color is defined as a symbolic connotation to an ideological identity.

The gestalt theory that arose in psychology is applicable to visual literacy. In *visual gestalt*, images are understood as a combination of its properties, rather than a collection of individual parts [10]. The visual gestalt of a web site might be tantamount to the user’s first view of the home page. In that moment, the whole is dominant, and the user’s mind will attempt to categorize and even judge the site’s content by the combination of visual properties.

Because people assign meaning to colors and color is used in the design of political web sites, it is appropriate to investigate the connection between color and its potential impact on election outcomes.

Methodology











Use of color in web sites is complex. Even a limited “web-safe” palette consists of 216 colors used in infinite combinations and amounts. Color is perceived differently in combination than as component parts [12], but to find a simple measure of a web page’s color content, a method was needed to reduce all colors to a single value. This is meant only to be a framework.

Calculating color

Using a Macintosh computer, screen captures of sample political web sites were acquired. Each PNG file generated from the capture, depicted the top of the



Figure 2. Steven DeGraeve's Color Palette Generator is an online tool that analyzes an image and selects an appropriate 5-color web palette to match the image. For this study, screen shots of campaign web sites were processed with this tool.

dull	vibrant
 #000066	 #000055
 #443333	 #332222
 #ffffff	 #ffffff
 #aaaacc	 #aaaacc
 #998855	 #998844

main page of the site, was cropped to 994x618 pixels. Using Macromedia Fireworks MX 2004, a GIF file was generated using a web-adaptive palette. Twenty-four such files were uploaded to a web server.

Using Stephen DeGraeve's Color Palette Generator (<http://www.degraeve.com/color-palette/index.php>) to process each image, the color scheme was reduced to two five-color palettes (see Figure 2). This study used the "vibrant" palette for comparisons. The DeGraeve tool relies on common perl scripting modules and the Quantize function from ImageMagick for color reduction, choosing the darkest, lightest and most vibrant colors [Stephen DeGraeve, email, 2006]. The average RGB values were calculated to arrive at a single representative color, and the differences between the values in each channel were analyzed.

Identifying sample political races

Since Congressional races for the U.S. House of Representatives occur most frequently, the assumption is that those campaigns would be most likely to react to current conventions for political identity. Furthermore, a political race projected to be very close in voting would be more concerned with making clear distinctions between opponents. The search for close Congressional races focused on Indiana (Red State) and Washington (Blue State), each representing 11 electoral votes.

Six Congressional races were closely contested: Indiana Districts #2, #7, #8 and #9; Washington Districts #2 and #8. Every candidate has a campaign web site, with incumbents also having an official government site. The home pages of each site were captured and processed on November 1, 2006, prior to the election results.

Politician Web Site	District	Diff	Light	Color
John Hostettler (R)*	IN 8 th	176.8	46.2%	#a04860
Don Mantoath (I)	IN 9 th	102.0	46.7%	#845472
Julia Carson (D)**	IN 7 th	95.2	47.6%	#745684
Eric Dickerson (R)	IN 7 th	81.6	45.3%	#606084
Brad Ellsworth (D)	IN 8 th	74.8	52.4%	#907868
Darcy Burner (D)	WA 8 th	74.8	43.1%	#685274
Dave Schansbert (L)	IN 9 th	68.0	44.9%	#586678
Dave Reichert (R)*	WA 8 th	68.0	42.2%	#725266
Doug Roulstone (R)	WA 2 nd	61.2	48.4%	#666884
Chris Chocola (R)**	IN 2 nd	61.2	45.8%	#806264
Mike Sodrel (R)*	IN 9 th	47.6	54.2%	#907678
Chris Chocola (R)*	IN 2 nd	40.8	45.8%	#706274
John Hostettler (R)**	IN 8 th	34.0	44.4%	#706070
Dave Reichert (R)**	WA 8 th	34.0	42.2%	#586864
Mike Sodrel (R)**	IN 9 th	27.2	55.6%	#868678
Rick Larsen (D)**	WA 2 nd	27.2	51.1%	#747482
Julia Carson (D)*	IN 7 th	20.4	50.7%	#787278
Baron Hill (D)	IN 9 th	20.4	48.9%	#747076
Joe Donnelly (D)	IN 2 nd	20.4	45.3%	#726666
Rick Larsen (D)*	WA 2 nd	13.6	48.4%	#747074

* incumbent's campaign web site

** incumbent's government web site

Table 1. Screenshots of 20 web sites for six Congressional races were processed into composite colors. *Difference* measures the amount of total variance between RGB values. *Lightness* measures those values as a percentage of the maximum (white). *Color* reflects an average of the five-color palette suggested by the DeGraeve tool.

Results

Color may be construed as one important visual property used by the viewer in an initial attempt to determine political identity. Obviously, many content cues contribute to this personal assessment, but this study focuses only on color as a signifier. This is an attempt to assess the visual gestalt of a candidate



Figure 3. Incumbent Congressman John Hostettler (R-IN) published two distinctive web site designs. The *campaign* site (above) is significantly more red than the *official* site (below) hosted by the government.



home page by identifying a site through its representative color, a value obtained without regard to the intended meaning of the visible content.

Comparing the values of each of the three color channels—Red, Green and Blue—gives some confusing and false relationships between sites. The Libertarian Party web site, for example, makes use of yellow and gold. Those colors are achieved in an RGB color model by mixing equal parts red and green. Bright yellow images will show high red channel values without presenting as red. Instead, it is more informative to consider the differences between the three values: red-blue, red-green and green-blue.

It is important to emphasize that missing from this preliminary investigation are correlation to voter response and intimate knowledge of decisions that led to the design of these sites. This is meant to be a point of departure for later research, highlighting a potential connection between color connotation and use.

As a group, politicians who were trailing in the polls tended to have more variation in color channel values. Poll leaders and official government sites for incumbents are less varied. Incumbent sites appear to follow clear separations based on the traditional politics of the state, with both Washington sites calculating as less red than those of Indiana. Examination of individual races suggests strategies involving incumbency and political color-coding are reflected in web design decisions.

Washington Races

As the campaign season inched to a close, incumbent Rick Larsen (D) held a sizeable lead in the polls over

Doug Roulstone (R) in the 2nd district, eventually earning two-thirds of the votes. Roulstone's web site is less red and slightly more blue than that of Larsen. In the 8th, incumbent Dave Reichert (R) defeated challenger Darcy Burner (D) by three points. The two campaign sites are significantly more red than Reichert's official government site, with Reichert slightly more red than Burner.

Indiana Races

Joe Donnelly (D) successfully challenged incumbent Chris Chocola (R) for the 2nd district Congressional seat, earning 54% of the vote. Chocola's official site has a higher relative red content than his campaign site. Incumbent Julia Carson (D) won in the 7th over challenger Eric Dickerson (R) by the same margin. Dickerson is significantly less red campaigning within a Democrat stronghold.

In the 8th, conservative-minded Brad Ellsworth (D) defeated incumbent John Hostettler (R) in a landslide, with 61% of the vote. Ellsworth's site is more red and less blue than Hostettler's official site, but significantly less red than his campaign site (see Figure 3).

The 9th district featured a tight race between former Congressman Baron Hill (D) and incumbent Mike Sodrel (R). Sodrel, who ultimately lost by almost 5 points, had a higher relative red content in his campaign site than that of Hill. Two lesser candidates in that race appeared visually to be more extreme.

Future Exploration

The arbitrary nature of this method of color reduction is a potential weakness. No consideration is given to how often the colors are used in the web site design, let

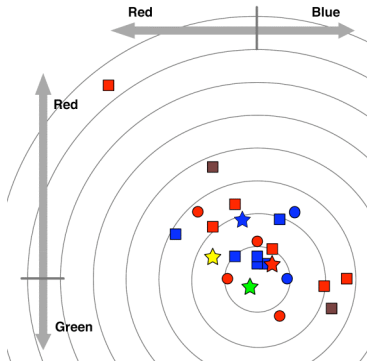


Figure 4. After converting screen captures of campaign web sites into a composite color, the differential between the Red and the two other colors, Blue and Green, were graphed. Stars represent official political party web sites. Squares are 2006 campaign web sites, and circles represent the official incumbent sites hosted by the government. Party affiliation is color-coded: Red Republicans, Blue Democrats, Yellow Libertarians, Green Greens, and Brown Independents.

alone its context. Methodology would be greatly improved by concentrating on how combinations of colors are used to create meaning, relying on existing measurements like the Hård-Sivik Color Combination Theory. Color is not the only visual property. It would be worthwhile to examine how colors map to the other summary text in the publication, such as word clouds and inclusion of certain functional components in the visible content. In other words, there is likely a better way to measure *gestalt*.

There is a temporal nature to the politicizing of color. Longitudinal studies, possibly through historical Internet archives might reveal long-term patterns in how candidates benefit from use of color. Correlations may emerge as well with voting records of constituencies and the success of the campaign.

From an HCI perspective, understanding a design in terms of visual gestalt is important. Users may vary in the amount of time spent with a given interface, but they all begin in the same place—with a first impression, a quick assessment of everything they see. While political insights might be forthcoming, the real benefit will be in advancing a methodology and analytical process to understand visual gestalt.

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