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Link to my home page (scroll down to find Ewewhon image link)

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A report explaining the content and layout of the EAAA website and what design principles were followed to produce it along with a comparison to the newsletter previously produced

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Summary

People who arrive at a website don't read pages but scan them (Nielsen). By applying the design principles, building in accessibility and standards, users of the Ewewhon Amateur Astronomical Association Website will enjoy an enhanced user experience and will return and tell their friends.
They will be able to find what they are looking for or leave knowing with certainty that the site is or is not for them.

Introduction

Different media have different strengths in achieving an organisation's objectives and can meet users' needs in different ways. In this report I will explore the design principles I used in designing the EAAA website, then move on to compare and contrast the differences between it and the EAAA printed Newsletter.

Methodology

When I started planning the website, I applied Baxley's principle of analysing the competition, (Baxley, 2002) to access what they are doing, what they are not doing and what they think their users expectations are.
A Google search of "Astronomy UK" shows that astronomers do not spend money on their websites. (See appendix) Their enthusiasm for their subject is enough keep them interested when they go to retrieve information (Sevilla, 2002) Even the most highly ranked UK sites are poorly designed.
The EAAA website is new. I can make some assumptions about it's potential users, and the goals/ purpose of this website. The design I have produced need not be the final version because I would expect some editing after user testing.
Firstly I sketched out a rough a grid. Then decided on the type of content for the whole site.
Then decided how that was going to break up onto each page, sketched out the content across six pages. Next I used Fireworks to prepare the images. Used Adobe Illustrator to prepare the logo.

Dreamweaver to put the website together. It was helpful for the accessibility with it's prompts for titles and "alt" tags. I used my own naming conventions for the CSS rather than Dreamweaver. But I used Dreamweaver for generating long code for example on the Kids page. For the tabbed navigation I used a tutorial from Andrew 2007

Discussion

Design Principles for website

Before starting the website design and build, I first decided what the goals of the site are:

1. Encouraging members to increase their involvement in the association's activities.
2. Increasing the membership.

To successfully achieve both these goals there will be a balance between what is desirable by the user, what is viable in terms of cost and what is technically feasible (Baxley 2002).

To achieve Goal One it is important for the members to be able to quickly publicise any event they have without contacting the web professional and incurring cost. As this is an amateur association, the organisers cannot afford to pay each time they wish to add something.

To achieve Goal Two I thought it would be essential to include an online membership form and to give the new member or potential member something that usually just the members get – a free copy of the newsletter. This make them feel party to privileged information, but before they even get to any of that the potential new member must be inspired, and confident that this amateur association is of benefit to them. This could be by having expertise that is worthwhile knowing and learning from, or somewhere to share their interest and socialise with. But this is only going to happen if the new users arrive a site that is professional and readable.

As the web designer one of my first considerations was that the website took familiar design cues from the newsletter. It is clear from both documents that they are from the same "family".
Before I got into what colours, photos and articles to include I drew out a basic grid. For the grid I used the "rule of thirds" which is a simplified version (Baird 2007) of the golden ratio or divine proportion. This gives the structure on which to hang the content, but where sensible I have made very small modifications. For example rather than start the navigation bar right at the left hand edge I have brought it in slightly by the same distance to balance the name of the association at the right hand edge. I have also broken the rule of thirds for the main content for the Kids page, but the image I have chosen is best viewed as large as possible.

Exact alignment of the layout unfortunately cannot be guaranteed due to the way some browsers, screens and user preferences will render the page.

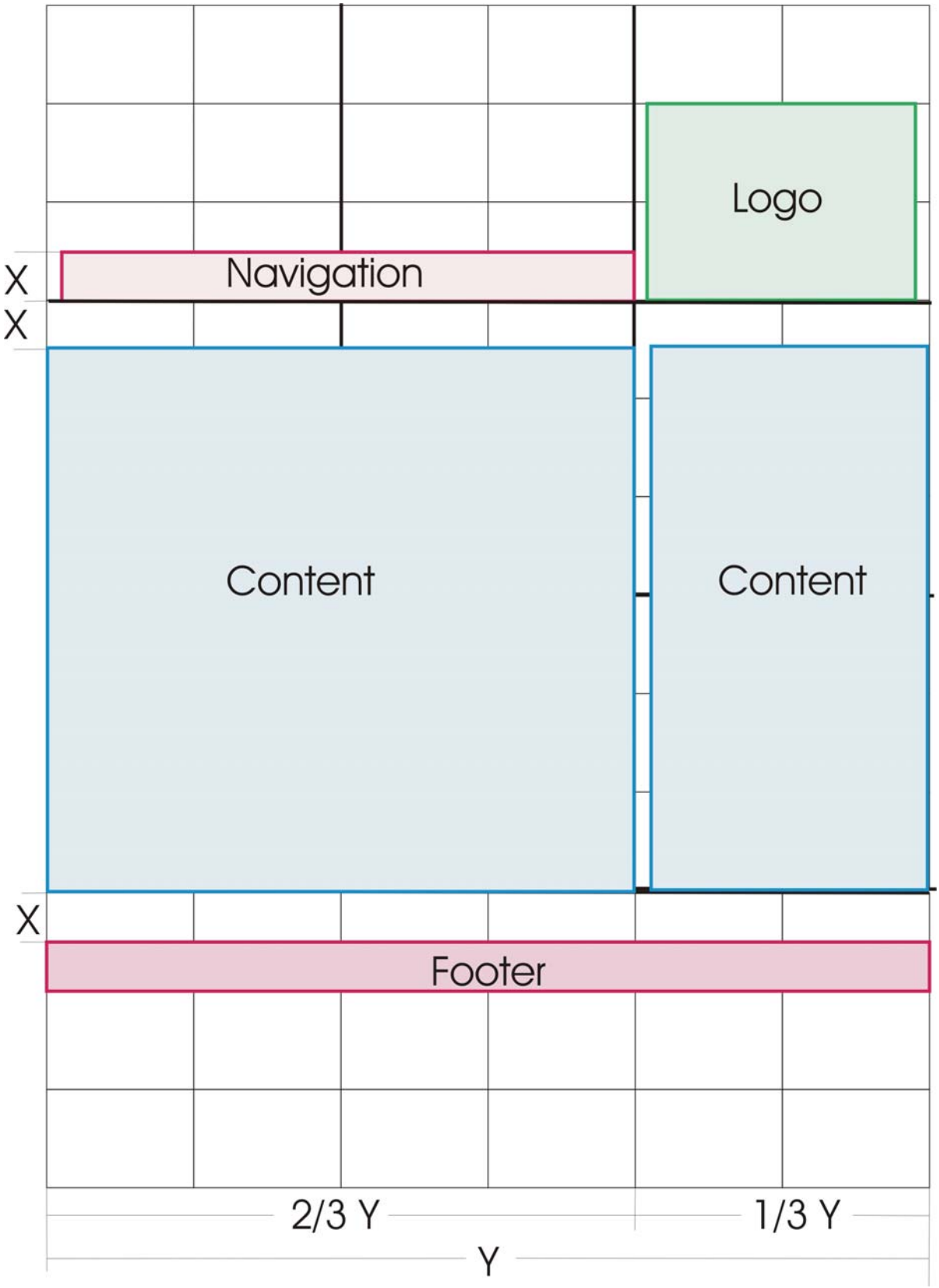

Diagram 1

Choice of Colour
The black background, giving out no light works well (Gotz) with no flicker, plus it is for me the most obvious choice for an astronomy website. I have gone for white text throughout to provide the most contrast except for the link colours.
Gotz says that you should avoid highly intensive contrasts but I don't think that this is the case here. The black is very restful and there is enough space around the text to make it readable.

Choice of Font
Often a screen renders serifs badly (Sevilla 2007) so I have used a sans-serif font throughout. To reach the widest audience I used the most commonly available true type. To make the text scalable and satisfy accessibility requirements I used ems, rather than points. (Gotz) This is in contrast to the Newsletter where I used points.

Link colours
The colours of the links I have chosen are muted to complement the overall design style of the website. I agree with Sevilla (2007, p281) when she says that different link colours are fine as long as they consistent. We have moved on since Jakob Nielsen published his top ten web page errors in 1996 where this appeared as point eight. I have kept underlining just for links (Gotz).

Navigation
Sevilla says Users ask: - Where am I? Where can I go? How will I get there? And how can I get back to where I once was? (Sevilla 2007)

I choose tabbed navigation as according to Krug it is "self-evident, easy to see and distinctive" (Krug 2006). Tabs answer the basic user questions listed above instantly.

I gave the navigation more visual appeal by making the tabs of the pages transparent, enabling the header image to show through. I signposted "Where am I" by making the page the user is on solid white, with the name of the page in black. I made sure the tabs expand with the text if someone chooses larger text for accessibility reasons.
Navigation of all the pages is also available via the footer. Titles are different for each page but all start with EAAA or Ewewhon Amateur Astronomy.

Overall
I applied the "Contrast, Repetition, Alignment & Proximity" (CRAP) principles (Williams 2004).
I paid particular attention to "Repetition", ensuring common design elements appeared on each page. This is the most important principle (Williams 2004) otherwise users will think they are on a different website. For alignment see the diagram 1 above although not always exact because of browser and screen rendering. Similar items are grouped together (Gestalt).
Space is free on the web, so where needed I have increased the leading to add readability.
I have also ensured a tight integration of words and graphics/pictures (Horn).
Line lengths have been kept short (Sevilla p120) except for the gallery page, but since it was only four well-spaced lines I did not see this as a problem.

Audience

There are two main audiences for this website:

1. EAAA members
2. Non-members i.e. everyone else.

For both parties their technology plays a key role in their user experience. This includes the sort of machine they are using, their browser, the screen size and connection speed. This information can be captured using analytics software e.g Google Analytics and used to improve the website. In addition the user profiles (or personas) will become more accurate and so content and layout can be changed to become more relevant.

For the membership I have assumed that they will want to share information including photos and articles, they will want to buy and sell their equipment through a reliable source and they would want to meet up so they would need to publicise any events. The blog gives them the opportunity to make their own contributions quickly and with little skill.

For everyone else I will have to assume that they have some sort interest in the subject, with I hope the raised profile of the International Year of Astronomy 2009 they could well be a very diverse demographic and so I have attempted to capture the interest of everyone. The aim for the Association is to keep non-members interested enough to turn them into members.

Content

I have used Schriver's "Redundant Principle" for most of the site so that the graphic and text support each other. For the News Page though the pictures for the main two headline stories set the stage for the text.

Content – By Page:

Home Page – I have treated this page as the EAAA's invitation to join. It's basically saying "Hey we do interesting things come join us". As 2009 is the International Year of Astronomy, I would expect a higher than normal public interest in the subject and the added publicity should drive people to the site. To fully exploit the higher traffic, top right I have included a link straight through to the membership form.

News Page – Two main stories that have to be included because they are the top stories of this month, March 2009. I have assumed that the membership would expect those stories to be included because they have reached the wider public through sites like BBC.co.uk. These stories should be familiar to the intended wider audience and reinforce that this is an astronomy site and this is the type of thing that the EAAA members are interested in.
User generated content is a great way to add new, fresh, relevant content and involve members, developing and fostering a community feel, giving additional value for very low

cost, so I have developed and linked to a blog. With very little web skills members can start adding their own content. (Lynch and Horton 2009) The blog will also improve the site's Google ranking
I have also included a link to a PDF version of the newsletter free to download or print for non-members or members.

Kids Page – In astronomy the solar system is "our backyard" and the basics for any young astronomer. This page could grow to include for example, facts from the Guinness World Records, a younger take on the month's stories and maybe puzzles and games to make learning interesting.

Gallery – This is the full version of the story on page 3 of the newsletter, included because it is at the core of what Astronomy is about. There are incredibly beautiful images that are like secrets revealed by the high-powered telescope Hubble. This page is astronomy "porn" designed to fan the flames of passion for the subject.

Classified – This was something that would become out of date quickly for the newsletter so I useful page for the members is available here.

About/Join – The essential part of the website to achieve the goal of increasing the membership is to collect the new members details. The right hand side of the page tells them why they should.

Standards & Accessibility

Standards exist so that there is an agreement between different browsers on how documents should be presented/rendered.
Looking forward to the future there is always a new next generation browser and adhering to standards ensures that the web pages keep their original look.
Part of that standard is writing clean mark-up and separating presentation from the content. This gives the user the control over how they want access the content.
This also makes it easier for redesigning a website and providing different versions, including a text only version in high contrasting colours.

The EAAA website was validated using the W3C validation tool for XHTML and CSS and passed. This means that complying with accessibility requirements is easier and considerable progress has been made to comply with the WCA Guidelines. There are fourteen guidelines but only a few are relevant here. The guidelines have been assigned checkpoints and that allow the web designer to check whether or not the web site conforms to the guidelines. Each checkpoint has been assigned a priority level or 1, 2, or 3. The priority level tells the web designer how important the checkpoint is.
The Priority 1 checkpoints identify the basic steps that should be taken to ensure that most people can access the website.
I have summarised the relevant WCA guidelines for the EAAA site: -

1. Provide text equivalents for pictures i.e. meaningful alt tags.
2. Don't rely on colour alone
3. Use mark up and style sheets
6. Ensure pages featuring new technologies transform gracefully

Guidelines 1, 2 and 3 I have included, but the EAAA site fails on Guideline 6 for the Kids Page even though it validates for XHTML and CSS, as I would need to provide an alternative text version of the page.

Dreamweaver has tools to check validation for XHTML, which seemed very accurate although I used the W3C's validation tool alongside. I used the tool to check for browser compatibility and it has highlighted that I may have some issues in Internet Explorer 6. I have no presentation issues in Firefox 3.0 or Internet Explorer 7, which are the two browsers I consistently checked the pages in.
I have checked each page for accessibility using Dreamweaver's tool and the main issue was not providing meta data for all pages, needing to provide some title's to links on some of the pages and on the Kids page I would need to provide alternative to the JavaScript rollovers. The rollovers could actually be done using CSS and in the future I will do that instead.
I have built the tabbed navigation bar to expand to fit larger text.

Keywords

<META NAME ="keywords" CONTENT="Ewewhon, amateur, Astronomical, Association, IYA, IYA 2009, planetarium, astronomy, telescope, space station, lulin, hubble " />

<META NAME="description" CONTENT="This page is about Ewewhon Amateur Astronomical Association." />

Keywords are a type of meta data which describe content. Appropriate keywords for this site are words taken from the text of the pages, as anything else can be penalised (Smith 2008) and result in a lower ranking. Other keywords I could include in the above are misspelled versions, plurals, and abbreviations.

The relevance of keywords is not as important as it once was. Google no longer takes any notice of them according to searchenginewatch.com. What Google looks at is key. Nielsen online has publicised the search engine share rating January 08 for each of the major search engines.
Google Search captures 62.8% of all searches, followed by Yahoo at 16.2% and MSN at 11.2%.
The highest of the others is no higher than 4% and most are below 1%.
Google places more focus on titles, headers, alt tags and main text, i.e. the content so I ensured this could be the easily read by Google and the other search engines.

On what shouldn't be a keyword
The word "Welcome" is on every page but it is within the header background and cannot be read by search engines. It is meaningless out of context.

Compare and Contrast 2 types of media: Newsletter & Website

With the newsletter the user can look at the whole document at a glance, size it up and gauge how long it will take to read in it's entirety, or quickly find the information they need or indeed see if it's not there.

Users of a website can arrive, because of searches at any page, not know at what point they have arrived and may need to spend a few moments clicking to orientate themselves. It may take a while before they build up a sufficient mental map to realise that they have arrived somewhere that does or does not have the answers. In the case of the Ewewhon AAA website as it stands it is only six tabbed pages so it is easy for the user to know where they are in relation to the rest of the pages.

Users are not prepared to read long pages, this is because users are usually in a hurry, they are there because they want information fast to save them time over printed matter (Krug), plus reading on screen is harder than from a printed page and read 25% more slowly (Nielsen). Shorter lines are therefore much more important, (Sevilla) along with simple sentence structures (Nielson) and plain English. Users to save the time simply scan the page looking for the bits they need and move on.(Krug) Web content should always be 50% of the size of it's paper equivalent (Nielsen)

With a newsletter you can use humour, metaphor and local colloquialisms more freely because there is less chance of offending people from other countries that may not understand.

In the Newsletter I used points, but in contrast on the website to make the text scalable (Gotz) and satisfy accessibility requirements I used ems, rather than points.

Strengths of Newsletters
The EAAA newsletter may be the only newsletter around that a user can read but a website can be easily discarded and a new one found or thousand new ones.
The EAAA newsletter is very portable requires no special equipment to view it and the user is more likely to take time to read more complex information from it.

Weaknesses of Newsletters
The EAAA newsletter is out of date the moment it leaves the printers and once it is out amongst the members and non-members very little can be done to change it. Although I have combated that making available an online version for download and I can change history by editing the online version.
The quantity of the newsletters printed will be down to cost or rather budget.

Strengths of the Website
The website can provide up to date relevant information and if not relevant react quickly with the necessary edits.
The interactivity such as collecting user information via tools like Google Analytics and new member details via the membership form is something a newsletter cannot do.
The mouse rollover on the Kids page is a bit of interactivity that unique to this online medium.
Web Space is so much cheaper than print that it is practically free.

Weaknesses of the Website
Users arrive with only a certain amount of goodwill and this can easily be lost if there are, especially in this scientific field, factual errors and more generally broken links or unclear navigation.

Conclusion

Developing an online presence is a valuable tool for achieving EAAA's aims of increasing membership and involvement. The live, dynamic, interactive nature of web technology brings the newsletter content to life and extends the range of content possible, attracting new audiences. The newsletter acts as a valuable incentive for members to join and consume more complex issues in a portable way. Using appropriate design principles e.g. CRAP and the rule of thirds is key in both media to making the content effortless to consume and navigate, improving the user experience.

The real benefits come from using the media in combination, leveraging their strengths to help achieve EAAA's wider marketing and member engagement objectives.

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V Götz, Type – for the Internet and other Digital Media (AVA Publishing, 2003)

Text Books.
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Get Into Bed with Google by Jon Smith 2008
Fireworks 8 by Patti Schulz 2006

Accessibility

W3C
http://www.w3.org/WAI/ER/tools/Overview.html
Techniques for Web Content Accessibility Guidelines 1.0
http://www.w3.org/TR/WAI-WEBCONTENT-TECHS/

Web Content Accessibility Guidelines 1.0
W3C Recommendation 5-May-1999
http://www.w3.org/TR/WCAG10/

Jakob Nielson
http://www.useit.com/jakob/

Writing for the Web by Jakob Nielsen, distinguished engineer; PJ Schemenaur, technical editor; and Jonathan Fox, editor-in-chief,
http://www.sun.com/980713/webwriting/

Source of Photo and Articles

Index Page
IYA2009
http://www.astronomy2009.co.uk/index.php/home-mainmenu-1

News Page
ISS
http://www.universetoday.com/
http://news.bbc.co.uk/1/hi/sci/tech/7956332.stm

Comet Lulin
Picture
http://assets.gearlive.com/blogimages/Lulin-Jan-19-Jaeger_400.jpg
story from
http://www.timesonline.co.uk

Christmas Party
http://www.tvrcc-suffolk.co.uk/gallery.asp

Kids Page
Information
http://www.kidsastronomy.com/

Guinness World Record logo
pallettribune.com

Jupiter image
http://nssdc.gsfc.nasa.gov/photo_gallery/photogallery-jupiter.html

Solar system
http://chandra.harvard.edu/photo/2005/orion/najita.html

mercury
http://www.physorg.com/newman/gfx/news/mercury.gif

Venus
http://www.aposperitis-rooms.com/photo-gallery/planet-photos/Aposperitis-planet4.jpg

Earth
www.knowledgerush.com

mars
http://www.geocities.com/eeyoremd/mars_planet.JPG

jupiter
http://www.geocities.com/beyondearth2001/jupiter_files/image003.jpg

saturn
http://cas.lgl.lu/Saturn_ring_system/saturn%20_rings/planet_saturn.gif

uranus

http://apod.nasa.gov/apod/ap971115.html

Neptune
http://www.johnpratt.com

Pluto
http://www.edb.utexas.edu/petrosino/Legacy_Cycle/ab_mm_ca/ab_mm_ca.html

Gallery Page
http://www.dailymail.co.uk/legacygallery/gallery-9139/Hubble--The-amazing-space-photographs-universe.html

Classified Ads
Ebay