

HTML and page layout

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1 Introduction

1.1 Continuous flow

The second word-processing program for microcomputers, [WordStar](#), adopted the continuous flow approach to layout. This was in part because it was aimed at typists and secretaries used to typing continuously without lifting their fingers from the keyboard.

Interruptions to the continuous flow such as:

- absolute page boundaries
- conditional page boundaries — declaring the page boundary if there were less than a specified number of lines left in the page
- child documents
- data — as when individualised story books were produced for children with their names in the story
- images and
- columns

were all treated as interruptions to the continuous flow after which the continuous flow resumed.

WordStar even allowed you to script the insertion of child documents and data or to create user prompts as to whether to insert particular child documents or data; unless specifically directed not to do so, WordStar gave child documents and data the same formatting as the main document. So there was no need to format child documents or bother about the variable length of data; WordStar would work out how to integrate them seamlessly into the main document.

This approach also reflected the approach of traditional typesetters when typesetting books and was adopted by [TeX](#), the typesetting program written by Donald Knuth which sought to bring traditional typesetting to computers.

Calderdale needs energy efficient homes

In January 2019 Calderdale Council passed a climate emergency motion; it needs to follow this up by specifying that all new homes should meet the zero carbon homes standard.

Straw Works in Todmorden is a leading consultancy in building energy efficient homes and designed Shelf Library for the Council while there are houses in Kirklees built to the Passivhaus standard.

Saving

Energy efficient homes benefit the environment and those who live in them with a typical saving on utility costs of £1000 a year, money which residents will often spend in the local economy.

Traditional building companies can charge an exorbitant amount more to build an energy efficient home because they do not have the expertise to build such homes; but companies with experience of building energy efficient homes can do so at the same or only a slightly higher cost than that of an energy inefficient home.

Contact the local Green Party

Email: info@calderdale.greenparty.org.uk
Web: <http://calderdale.greenparty.org.uk>



Passivhaus and strawbale

Homes built to the German Passivhaus standard which the Green Party recommends rely on mechanically sealing the house to avoid heat loss while strawbale houses rely on the fact that straw is a natural insulator. There is enough straw from farming to build 640,000 strawbale houses a year; straw does not burn and strawbale houses recover from flooding much more quickly than a traditional house.

Further enhanced

Whatever standard is used, energy efficient houses can be further enhanced by other environmentally friendly practices such as building as many as possible on available brownfield sites and by designing them to collect rainwater to flush the toilets.

Green Councillor spearheads climate change initiatives

Cllr Andrew Cooper, a Kirklees Green Party councillor, has spearheaded initiatives such as LED street lighting, solar panel installation, the promotion of energy efficient housing and the purchase of electric vehicles for council use.

These initiatives make Kirklees Council miles ahead of Calderdale in reducing carbon emissions. They not only reduce costs for the council but also for Kirklees residents who then have more money to spend in the local economy.



Cllr Andrew Cooper

Cllr Cooper has also led an initiative to enable local authorities to gain recognition for their contribution in reducing carbon emissions under the Paris Climate Change agreements.

Cutting air pollution

Calderdale Council can take action to cut harmful carbon emissions which are damaging our children's health today. These will be of more benefit to council tax payers than the Halifax Town Centre Project.

Elland station

- The new Elland station should have electric car charging points and public transport links to all parts of Elland throughout the day and the evening.
- The promised investment as a result of opening Elland station should be matched by the Council re-opening services in Elland to avoid the need for Elland residents to travel elsewhere for them.

Improving transport

- The council should explore making bus services free as Dunkerque has done.
- Taxis should be electric.
- No idling by standing diesel vehicles should be enforced.

Figure 1: Page based layout

1.2 Page based

However, there was an equally long-standing approach in the newspaper industry: page based, in which material is typeset to fit on a single page, which was adopted by desktop publishing programs such as [QuarkXpress](#), [Adobe InDesign](#) and [Scribus](#). Everything is held in separate containers for the different content types such as text, images and tables. Provision is made for text to flow from one page to another but only from one container on one page to another container on another page.

Figure 1 offers an example of a page based layout following traditional lines created in Scribus. Note that there are headlines at the top of each page and sub-headers throughout to draw the reader in; also there are no horizontal or vertical breaks across the main body of each page.

2 HTML

Initially HTML presented itself as continuous flow but, perhaps under the influence of desktop publishing programs, by the early years of the 21st century, using tables and `<div>` elements to divide up the page became the norm. This appeared to work well but using tables and `<div>` elements almost inevitably violated the long established principle that there should be no horizontal or vertical breaks across the main body of each page.

So even before the arrival of the iPhone in 2007, Apple, Opera and Mozilla had decided that

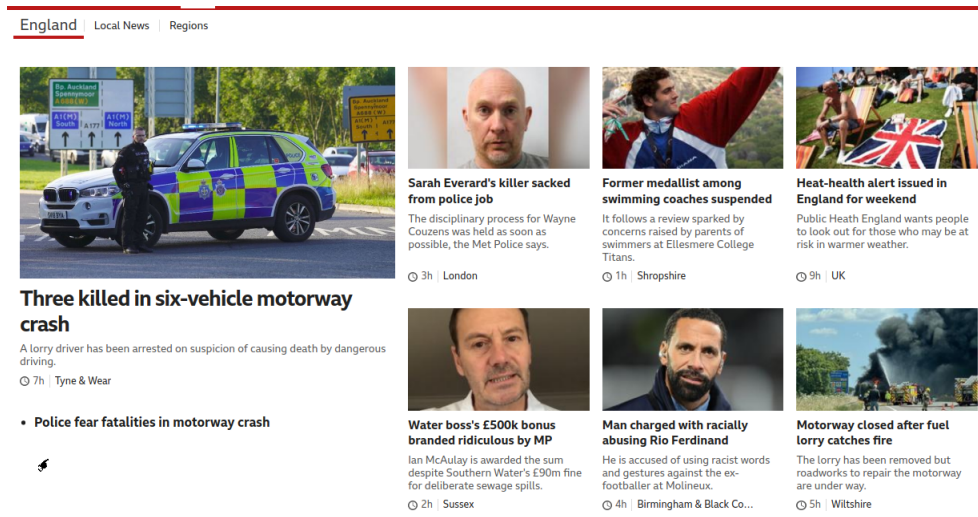


Figure 2: BBC website on 2007 computer

this was not the best way to take HTML forward and begun to work on what was to become HTML5. This went back to the 1990s principle that content and styling should be separate; so using tables and `<div>` elements for styling was deprecated. They also recognised that the geometry of devices had changed dramatically and so table layouts which worked well on the almost square devices of the early part of century no longer worked on the more oblong devices of the second decade of the century. I have a computer from 2007 with an almost square screen on which the BBC website fits perfectly (figure 2) whereas on my later computers there is lots of white space on either side of most pages because the BBC website does not expand to fill the available space but assumes it is still displaying on a device from the early 21st century.

The [City of Bradford website](#) similarly displays with lots of white space and its HTML code is full of `<div>`s (figure 3); there are at least seven different `<div>`s defined in this short snippet including one for 'accessibility' which is redundant at the website does not display in a screenreader!

Since 2011 most HTML elements have been defined by their content and styling is left up to CSS. There are a few exceptions where using an HTML tag changes the styling; for example,

- the content of an `<i>` tag normally displays in italics as it is intended to hold foreign words with, for example, `<i la="fr">` indicating that the content of the tag is in French — this is useful for warning screenreaders about a change in language;
- the content of a `<cite>` tag normally displays in italics as it is the title of a book and
- the content of a `<code>` tag normally displays in **monospace** because it is code.

The designers of HTML5 found that most websites displayed five elements:

- a header,
- a footer,
- a navigation bar or pane,

```

<body>
  <header aria-label="BMDC Print logo">
    <div class="BMDClgo visible-print">
      <!---->
    </div>
  </header>
  <div class="navbar navbar">
    <div class="container">

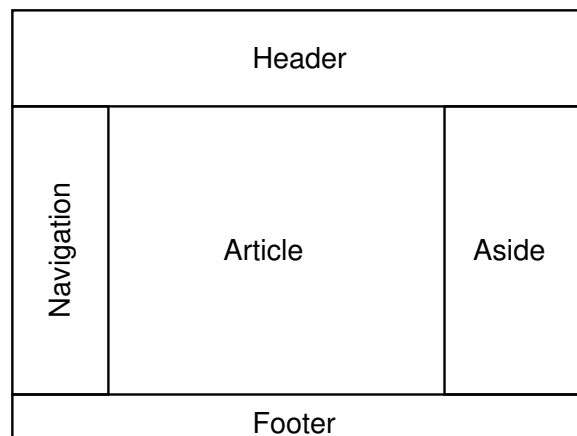
      <div class="topHeader">
        <div id="skiptocontent" role="navigation" aria-labelledby="skiptocontent"><a href="#maincontent">skip to main content</a></div>
        <header aria-label="BMDC Logo">
          <a href="/">
            <div class="BMDClgo">
              <!---->
            </div>
          </a>
        </header>
        <div class="browseAloud">
          <div id="__ba_launchpad"></div>
        </div>
        <div class="topRightHeader">
          <div class="accessibility">
            <div role="complementary" aria-label="Language selection">
              <div id="google_translate_element"></div>
            </div>
          </div>
        </div>
      </div>
    </div>
  </div>

```

Figure 3: HTML code from City of Bradford website

- an element with related material which was not part of the main content and
- the main content

and they gave these five elements the names: `<header>`, `<footer>`, `<nav>`, `<aside>` and `<article>`.



Placing the `<nav>` and `<aside>` elements on either side of the main content helped to keep the line length of the main content down on more oblong devices, albeit at the expense of white space below the `<nav>` and `<aside>` elements where the main content was lengthy.

Subsequently, a `<main>` element was added partly to point users with disabilities to the main part of the web page and partly to open up a range of more sophisticated layouts using CSS containers than had ever been possible using tables and `<div>`.

The contrasts between the City of Bradford website and the [Heath Old Boys Association website](#) could hardly be starker (figure 4):

Not a single `<div>` in sight; instead, after the `<header>`, there is a `<main>` element serving two purposes — pointing screenreaders to the main content of the page and providing a CSS container for the `<article>`, `<aside>` and `<nav>` elements. It is self-evident what each element

```

<html lang="en"/>
<head>
  <meta charset="UTF-8"/>
  <title>Heath Old Boys Association Welcome</title>
  <base href="http://heatholdboys.org.uk/">
  <link rel="stylesheet" type="text/css" href="hoba.css"/>
  <meta name="author" content="John Robert Hudson" >
</head>
<body role="document">
  <header role="banner">
    <h1>Heath Old Boys Association</h1>
    <br>
    <h2>Welcome</h2>
    <br>
  </header>
  <main role="main">
    <article role="article">
      <h3>Welcome to the Heath Old Boys Association website</h3>
      <figure class="left" aria-label="Heath Grammar School Crest">
        
      </figure>
      <p class="first">The Association exists to keep old boys of the former Heath Grammar School in touch
      <p>If you are a Heath Old Boy but not a member of the Association, please <a href="content/Join.htm">Join the Association</a>
      <p>When the site was originally set up in 2003 there were only 820 names on our newsletter database
      <p>In the meantime the Association does all it can to help and support the new Crossley Heath School
      <p>In 2014 it was agreed that Savile Park Primary School would begin to move into the old Heath Grammar School
      <p>We make periodic donations to a variety of local good causes, for example, sport for less privileged children
      <p>The Association has an annual dinner (usually Autumn/Winter), an annual Bowls competition, an annual quiz
      <p>Do get in touch and let us know about yourself, your experiences and your memories as well as to
      <p>Our privacy statement is on our <a href="content/Contact.html" type="text/html" role="link">Contact page</a>
    </article>
    <aside role="complementary" aria-labelledby="recent">
      <h3><a href="content/Searching.html" type="text/html" role="link">Searching the website</a></h3>
      <hr>
      <h3 id="recent">Recent additions</h3>
      <ul role="list">

```

Figure 4: HTML code from Heath Old Boys Association website

does because they all carry out the functions defined for them in post-2011 HTML. Figure 5 shows what this page looks like to a screenreader.

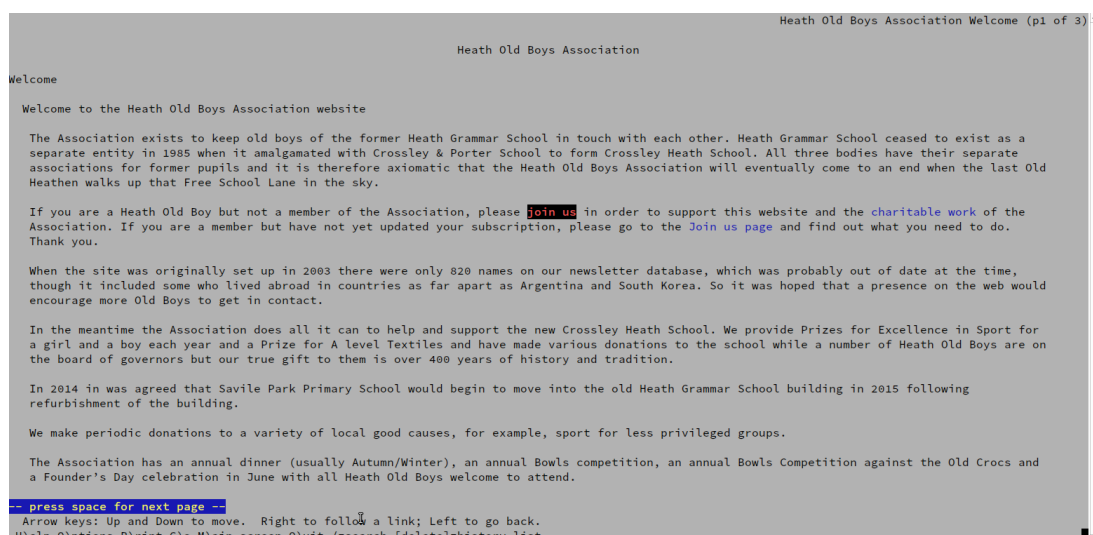


Figure 5: HOBA website as seen by a screenreader

Since 2011 an enormous range of styling features has been added in CSS (see, for example, [CSS Snapshot 2020](#)) which makes using tables and `<div>`s look primitive by comparison. However, these follow the principle of continuous flow; so someone coming to CSS containers, for example, from a desktop publishing perspective may be perplexed by their behaviour whereas someone coming to them from a continuous flow perspective will understand what is going on instinctively.

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