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# Adaptive Design

## Description

Adaptive design refers to the creation of websites that operate within static thresholds for display resolution, known as the viewing context. The viewing context of the target device is assessed and a set of stylings are applied accordingly to the elements of the web page.

## Advantages

The main advantage of adaptive design is the final presentation of the webpage’s display is much more predictable during development. This is due to the elements being sized according to a selected fixed layout, determined by the screen’s resolution.

Adaptive designs can be made applicable to older devices that do not support responsive designs.

## Disadvantages

Adaptive design is limited to the static definitions of resolutions defined by the developer. As the webpage is loaded, and the resolution is assessed, a pre-determined layout is selected appropriately. Adaptive design has limitations here bound by the definitions of the developer.

Once a webpage is loading, adaptive layout selection is no longer applied. For example, in modern devices where it is possible to scale the resolution of the web browser on screen, the webpage will not adapt its design to a modified screen resolution after the page has loaded.

# Responsive Design

## Description

Responsive web design refers to the creation of websites using dynamically sized elements that are responsive to their parent containers, and ultimately the display resolution.

## Advantages

Responsive design is extremely flexible in its rendering approach. The designs are fluid are able to display responsively to any viewing context, in contrast to adaptive design’s fixed layout approach.

Statistics show that more than half of the global internet traffic (52+%) is from a mobile device (Hosting Tribunal, 2020). As mobile devices continue to be produced in various shapes and sizes, responsive designs gain an advantage of dynamically adapting to these devices.

Responsive designs achieve higher site rankings by search engines like Google or Yahoo!, therefore leading to more web traffic.

Responsive designs can reduce the need, and therefore the cost of, developing a separate mobile-friendly version of the website.

## Disadvantages

Site navigation can become more challenging to keep consist with responsive designs. As the screen size decreases, so too do the elements portraying the navigation paths.

Responsive web designs can also take longer to load than adaptive designs. This is due to their relative nature where the elements are sized in relation to the size of the parent elements. Longer loading times can often leading to a bad browsing experience on the user’s behalf.

Older browsers, or older devices who are limited with software, may not be compatible with responsive designs and will therefore show incorrectly.

# Project Selection

For this project we have chosen a hybrid design incorporating both Responsive and Adaptive approaches in order to maximise the benefits of both approaches.

Responsive design will provide an overall better look and feel (user experience) to the finished product and result in a higher Search Engine Optimization ranking. The majority of elements will be designed to be responsively sized and placed.

However, to maintain a broad support of different screen resolutions certain structural elements will have to be altered in order to conserve a functional user interface across large changes in resolution. This is where adaptive design will apply appropriate page layouts and stylings to particular structural elements such as the navigation menu in order to prevent un-intended visual phenomena or inhibition of the user interface.

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