Colour-blind Series: Deuteranopia

What is it for?

Deuteranopia is a form of colour blindness that affects the ability to see green. Like Protanopia, it is a type of "red-green colour blindness". Protanopia affects the cells that sense red. Deuteranopia affects the cells that sense green. It is actually the more common of the two, affecting about 1% of men. It is very rare in women.

In practice, the experience is similar. Red and green become very difficult to tell apart, making colour-coded information unreliable. A traffic light style status indicator, a heatmap, or a form validation message relying on red and green will all present the same challenge.

Deuteranopia is part of a broader family of colour vision deficiencies, and this Colour-blind Series looks at each of the main types. Each type affects a different part of the colour range, but they all teach the same lesson: never rely on colour alone to share something important.

How to support it

The key principle is that colour should always be paired with another visual cue.

- Designers can add icons, labels, or patterns next to colour to show meaning. They can also use colour blind simulation tools to check designs before they are built.
- Developers can ensure interactive states like errors and warnings are distinguishable by more than just colour (e.g. by using icons or supporting text).
- Content writers can make sure any meaning shown through colour is also stated in words.

Useful links

- Web Content Accessibility Guidelines (WCAG) 1.4.1: Use of Colour
- Colour Blindness Simulator (Coblis)
- Colour and Accessibility (WebAIM)