

of the deployed application, providing color and contrast options may be a requirement. If this is the case, the application must allow the user to select from a wide variety of color and contrast options from within the application or via user preferences. These selections enable users with low vision and users with color deficiencies to use the application effectively. Application options should allow users to choose from a full range of color and contrast settings, including at least two high-contrast options—one with dark text on a light background and one with light text on a dark background—and at least two low-contrast options. These options should be stored so they can be retrieved and applied for each user, instead of reverting to hard-coded defaults whenever the application is restarted.

## Flickering

For many users, flickering or blinking content is distracting and annoying. For users with photosensitive epilepsy, it can be dangerous. Content that flashes, blinks, or flickers within certain frequency ranges can induce seizures in these users. Examples of flickering content include:

- Flashing text
- Rapid changes in background color
- Pulsing lights and strobe effects
- Movie scenes that include gun fire or lightning
- Timers or buttons that refresh frequently

It is best to avoid this type of flickering content whenever possible. Providing users with an option to disable flashing content does not provide adequate protection, because users may not notice the option in time. A seizure may occur faster than a user could disable the flashing.

If flickering or flashing content must be used in the application, ensure user safety by applying a blink rate that is either very slow or very fast. U.S. Government standards prohibit content that flashes at a rate between 2 and 55 times per second. This means that any flickering content must blink fewer than 2 times per second or more than 55 times per second. If the application complies with this flicker rate guideline the content will be safe, regardless of the size, color, or duration of the blinking content.