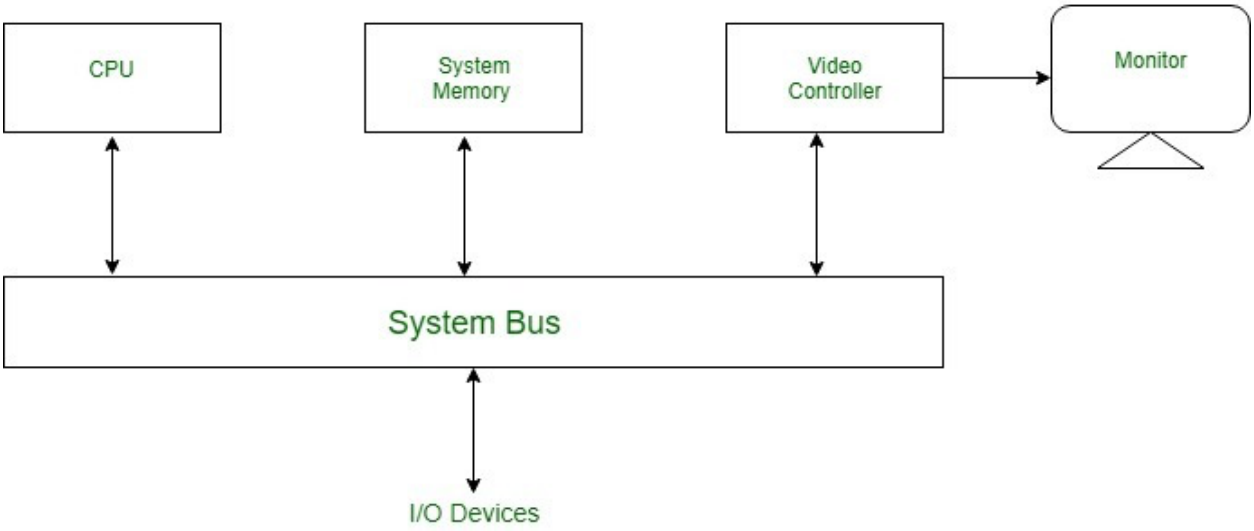
Raster and Random Scan System Architecture

An important function of display process is to digitize a picture definition given in an application program into a set of pixel-intensity values for storage in refresh buffer. This process is referred to as **scan conversion**. The purpose of display processors is to relieve the CPU from graphics jobs. Display processors can perform various other tasks like: creating different line styles, displaying color areas, etc. Typically display processors are utilized to interface input devices, such as mouse, joysticks.



ADVANTAGES:

- Real life images with different shades can be displayed.
- Color range available is bigger than random scan display.

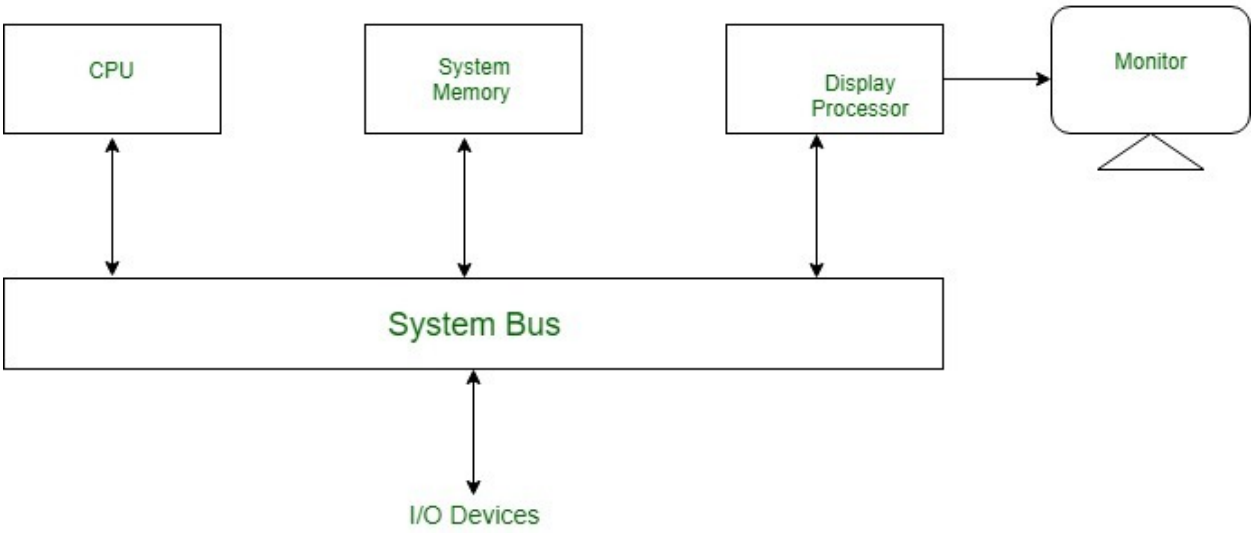
DISADVANTAGES:

- Resolution is lower than random scan display.
- More memory is required.
- Data about the intensities of all pixel has to be stored.

Random Scan System Architecture

nput in the form of an application program is stored in the system memory along with graphics package. Graphics package translates the graphic commands in application program into a display file stored in system memory. This display file is then accessed by the display processor to

refresh the screen. The display processor cycles through each command in the display file program. Sometimes the display processor in a random-scan is referred as *Display Processing Unit / Graphics Controller*. The structure of a simple random scan is shown below:



ADVANTAGES:

- Higher resolution as compared to raster scan display.
- Produces smooth line drawing.
- Less Memory required.

DISADVANTAGES:

- Realistic images with different shades cannot be drawn.
- Colour limitations.