



## Assignment 2:

**Networked Systems:** A render farm is a network of interconnected computers, often hundreds or even thousands of them. This network allows for the distribution of workload across the various machines.

**Parallel Computing:** A single movie frame requires rendering millions of polygons, applying textures, simulating lighting effects, and more. With parallel computing, the frame is broken down into smaller tasks. Each computer in the render farm then works on a specific portion of the frame simultaneously. Once complete, the individual pieces are assembled to form the final rendered frame.

**Why it's important:**

**Faster Rendering Times:** Traditionally, rendering a single frame could take hours or even days. Parallel computing through render farms drastically reduces rendering times, allowing studios to meet tight deadlines and create more complex visual effects.

**Cost-Effectiveness:** Building and maintaining a single, powerful computer capable of handling complex rendering would be incredibly expensive. Render farms utilize readily available computer hardware, making CGI production more cost-effective.

**Pushing the Boundaries of Visual Effects:** The speed and efficiency of render farms allow artists to create more intricate and realistic digital worlds. This enhances the visual storytelling experience for audiences and pushes the boundaries of what's possible in CGI.