# Task 18 - Spike: Sprites and Graphics

**CORE SPIKE**

**Context:** The facility to load 2D images from file and display them to screen is a critical part of many software applications, especially 2D and 3D games. Using a library to support this functionality requires the developer to understand a libraries API and 2D graphics terminology.

**Knowledge/Skill Gap:** The developer needs to know how to load and display multiple images, including sub-regions of one image onto another. We will use SDL2 for presenting images and sub-regions of regions.

**Goals/Deliverables:**
[CODE] + [SPIKE REPORT]

Create a graphical 2D application capable of displaying images. Your application must:

1. Display a single image as the background image for your application, which can be toggled “on” or “off” using the “0” (zero) key

2. Load one other image that contains three identifiable sub regions (tiles) within it

3. Define three rectangles that specify the sub-region (“part”) for each tiles image
    a. Display each tiles image to a unique random location using a toggle “on” or “off” in response to the 1, 2 and 3 number keys

**Recommendations:**

- Find and read documentation and tutorials related to simple (not complex or extended) image loading and display in your framework. Note – keep this as simple as possible.
- Create two of your own simple images (but do not waste time on this) saved as simple format. (.bmp is enough - there's no need to launch into more complex formats)
- Make sure you are aware of the bit-depth of your images and the screen. Always “optimize” your images to the current screen bit-depth to avoid performance penalties.
- Strongly suggest that you display messages to the console that describe what is happening and help debug your program -- such as “loading image1.bmp”, “tile 3 display ON at location (10, 40)” and so on.
- Do not over-engineer this; if you are implementing classes or using a number of libraries you have almost certainly gone too far! Just because you can does not mean you should…