**Architecture**:   
  
Layered Pattern

Allows us to separate functionality between the layers, it also allows us to either use the same computer for all tiers or to use a separate computer for each layer which would enhance the processing power allowing us to process the images at a faster rate.

**Why we selected the layered pattern?**

* **Abstraction**. Layered architecture abstracts the view of the system as whole while providing enough detail to understand the roles and responsibilities of individual layers and the relationship between them.
* **Encapsulation**. No assumptions need to be made about data types, methods and properties, or implementation during design, as these features are not exposed at layer boundaries.
* **Clearly defined functional layers**. The separation between functionality in each layer is clear. Upper layers such as the presentation layer send commands to lower layers, such as the business and data layers, and may react to events in these layers, allowing data to flow both up and down between the layers.
* **High cohesion**. Well-defined responsibility boundaries for each layer, and ensuring that each layer contains functionality directly related to the tasks of that layer, will help to maximize cohesion within the layer.
* **Reusable**. Lower layers have no dependencies on higher layers, potentially allowing them to be reusable in other scenarios.
* **Loose coupling**. Communication between layers is based on abstraction and events to provide loose coupling between layers.

**Framework to be used**

Open CV

**Why?**

* Open source, free for both academic and commercial use.
* It has C, C++, Phython and Java interfaces.
* Supports Windows, Linux, Mac OS, iOS and Android.
* Provides a strong focus on real-time applications.
* Provides a range of image processing functionality.

**How will we tackle the problem?**

As stated OpenCV provides us with a framework for image processing.

Because we have chosen to develop this software using the agile methodology we will be implementing new functionality per sprint, gradually building up to the final completed project.