Research for implementation in c#

* Algorithm shortlisted and used:

### K Nearest Neighbours – Classification

### K nearest neighbours: stores all available cases and classifies new cases based on a similarity measure.

### SURF Algorithm

### Three main parts: interest point detection, local description and matching.

### In the sample program:

### Clustering algorithm and Speeded up Robust Features (SURF) is used to perform image classification.

### A set of images are initially loaded and put it into different containers.

* Use SURF, so in order to use a standard clustering algorithm that is based on Euclidean distances.
* A good algorithm for clustering code word is the Binary Split variant of the K-Means algorithm.
* Training based on the set of images available or pre loaded into the system
* Use it to extract representations for each of the images in both training and testing sets.
* Creates the Support Vector Machines that will identify images based on their Bag-of-Visual-Words feature vector representation.
* Automatically estimates a good starting point for Gaussian's sigma parameter using initialization heuristics.
* Method automatically estimates a good starting point for the complexity parameter (C) of the SVM learning algorithm.
* Classifies images into one of the possible classes using the Support Vector Machines learned in the previous steps.

All the methods used have inbuilt files or algorithm used in Visual studio in the form of classes. But still has some error facing for the integration into our system.