Ideation Phase

Literature Survey

A comprehensive literature survey was performed to understand and critically evaluate the current state of research on gesture recognition software for non-intrusive image browsing. The findings are listed below.

S. No.	Paper Title	Findings	Algorithm/Model
1.	G.R.S Murthy, R.S. Jadon, “Hand gesture recognition using neural networks”	Analyzed and classified hand gestures for HCI applications using computer vision-based techniques	Supervised feed-forward neural network with backpropagation for classifying hand gestures
2.	Hsien-I Lin, Ming-Hsiang Hsu, and Wei-Kai Chen “Hand gesture recognition using neural networks”	Introduced the skin model, applied the above to calibrated position and orientation of the hand used to classify gestures	Gaussian Mixture Model (GMM), filters out non-skin colours of an image and removes lighting bias
3.	Y. Fang, K. Wang, J. Cheng and H. Lu, "A Real-Time Hand Gesture Recognition Method"	Classified hand gestures using skin colour and hand feature cues, used optical flow techniques for hand tracking	Image segmentation model based on skin colour, finger and palm features
4.	Wachs, J. *et al.* “A Real-Time Hand Gesture Interface for Medical Visualization Applications”	Implemented a vision-based gesture recognition system by clustering hand features, deployed the model sterile browsing of images	Haar features to represent the hand, fuzzy c-means clustering for classifying the gestures
5.	Ionescu, B. *et al., “* Dynamic Hand Gesture Recognition Using the Skeleton of the Hand”	Superposed the hand skeletons for each posture into a single dynamic signature for the image, relative positions of features used for gesture classification	Two-dimensional skeleton representation of the human hand, Baddeley's distance as a measure of dissimilarities between model parameters.