**5. CONCLUSIONS**

**5.1 Conclusion:**

A non-invasive system to localize the eyes and monitor fatigue was developed. Information about the head and eyes position is obtained through various self-developed image processing algorithms. During the monitoring, the system is able to decide if the eyes are opened or closed. When the eyes have been closed for too long, a warning signal is issued. In addition, during monitoring, the system is able to automatically detect any eye localizing error that might have occurred. In case of this type of error, the system is able to recover and properly localize the eyes. The following conclusions were made:

• Image processing achieves highly accurate and reliable detection of drowsiness.

• Image processing offers a non-invasive approach to detecting drowsiness without the annoyance and interference.

• A drowsiness detection system developed around the principle of image processing judges the driver’s alertness level on the basis of continuous eye closures.

* 1. **Advantages:**

1. Here is no need for individual modules for these two detections i.e. eye and face detection. So, Cost is reduced

1. Driver assistance system based on informing drivers about the drowsy and faults they have committed.
2. To help drivers become more aware about their driving attitude and may persuade them to change their driving styles
3. Traffic signs and other messages can be intimated to the user of vehicle which helps in maintaining traffic and to follow road rules.

**5.3 Disadvantage:**

With 80% accuracy, it is obvious that there are limitations to the system. The most significant limitation is that it will not work with people who have very dark skin. This is apparent, since the core of the algorithm behind the system is based on binarization. For dark skinned people, binarization doesn’t work. Another limitation is that there cannot be any reflective objects behind the driver. The more uniform the background is, the more robust the