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| A Face Authentication System  Tom Bedford  BSc Computer Science, xw009807@reading.ac.uk  **ABSTRACT**  Facial recognition is the identification and recognition of noticeable characteristics of a human face. In the field of image analysis it is leading the race in research as its speed and versatile application out weights previous methods. It is less invasive than other biometrical analysis methods like retinal and finger print recognition with less hardware requirements. Human to computer authentication is an integral functionality of many software systems as it manages data or location security.  This report explores the application of face recognition and its effectiveness as an authentication system using the open vision library developed by IBM. The recognition algorithm uses Viola-Jones methodology of classification to detect the users face using trained Haar classifiers. PCA (Principal Component Analysis) is then used to train image sets to and extract a given range of Eigen values. Derived Eigen faces are compared and accepted when falling within a given threshold of variance.  [ *To be deleted before submission – Paste in the remaining available space one or two figure(s)/tables from your SCARP paper with corresponding caption(s) – Remember this abstract page must be kept to ONE SIDE OF A4, and will be published online on the SCARP website*]  Description: Garden Spider  **Figure 1.** Detected Eigen Faces |
| T Bedford, A Face Authentication System, *Proc. 15th School Conf. for Annual Research Projects*, University of Reading, 31st March 2016. |