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| university of reading |
| A Face Authentication System |
| Final Year Project |
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**Project ID: A-FACE**

**Module Code: SE3IP11**

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**Submitted: TBD**

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**Abstract**

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**Acknowledgments**

Hong Wei – project supervisor

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## Glossary of Terms and Abbreviations

OPENCV – Open computer vision

## 

## Introduction

Face recognition has been and continuous to be a focused area of research. A such a versatile technology the application and versatility are endless. From

## Source the beginning content from the PID document and use a sa good guide into the subject problem domain, motivations, constraints and

## Problem Articulation / Technical Specification

## Literature Review

PCA is one of the most successful face detection algorithms to date. PCA is the method of reducing the dimensionality of the data space (observed variables) and extracting data from the feature space (Independent Variables) which are needed to represent the data economically.

* PCAC one of the most popular methods for face image analysis.

APPLICATIONS OF FACE RECOGNITION

* Face recognition has been inherited by many high street retailers to recognise VIP guests/customers so that a platinum service can be delivered.
* Most commonly face recognition is being used in surveillance and Security. Crowd control. Lost device services.

Ethical and social impacts:

The ethical and social use of face recognition has been questioned much already. With the ever growing technical strive to innovate methods of human computer interaction biometric analysis.

* Extended face recodnition research investigates the use of thermal cameras to collect image data. This allows a better representation of a 3D face model as it does not detect facial items such as glasses and records only heat signature data. <https://en.wikipedia.org/wiki/Facial_recognition_system>

## The Solution Approach

OpenCV(Open Vision Library). Using a java wrapper. Java OpenCV

OPENCV Haar Classifier for face detection.

PCA(Principal Component Analysis) for face recognition.

## Implementation

## Testing: Verification and Validation

## Discussion

## Conclusion

## Project Commentary

## Social, Legal, Health & Safety and Ethical Issues

## Reflection

## References

## Appendices