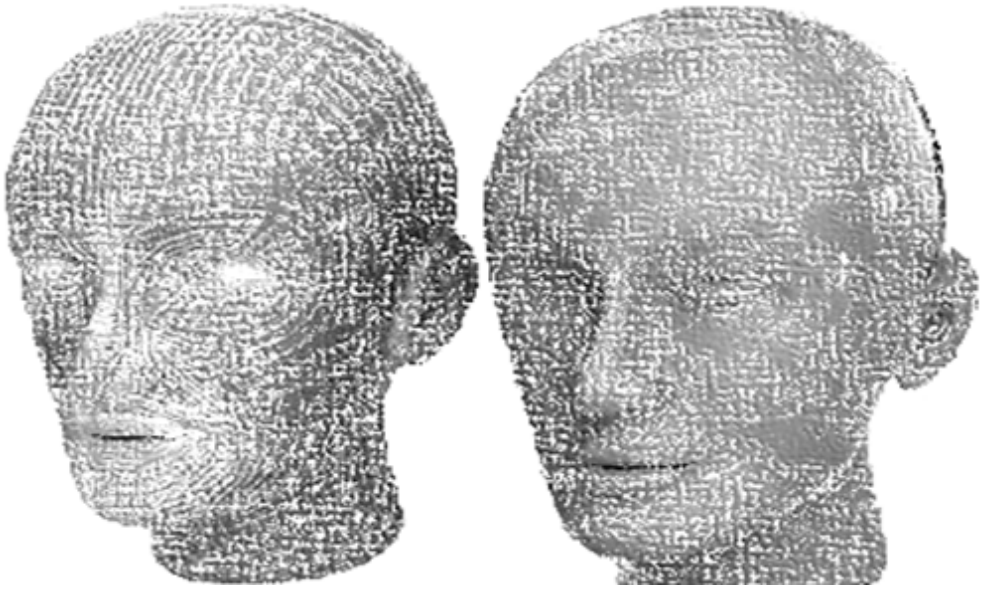
Middlesex University

Faculty of Science and Technology

Department of Computer Science



Project Proposal

M00735429
CST3990 UNDERGRADUATE INDIVIDUAL PROJECT
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Celebrity Recognition with Raspberry Pi

Table of Contents-

1. Introduction-

1.1 Problem Statement-

Some people have a keen interest in celebrities. However, while walking around it is not always possible to recognise a celebrity or somebody who might not look the same at that moment (i.e person without makeup, fake eyelashes, wearing glasses, or a hat/headband). And there are some celebrities who are not very popular, and so, people might not know about them and are unable to recognize those celebrities. Furthermore, it is very difficult to look everywhere at once. For instance, it is hard to search for someone in a crowd, such as a family member or a friend. Similarly, a minority of people suffer from visual impairment so they cannot see other people and objects as clearly as a healthy person.

1.2 Problem Solution-

My solution to these problems is to implement a celebrity face recognition system with a Raspberry Pi Micro and Raspberry Pi ZeroCam that will generate an audio alert whenever it finds a specific individual or a popular celebrity in front of the camera. The camera will click the pictures and upload the pictures to the cloud. In addition to this, I am going to process the pictures of faces with AWS. If the camera identifies a familiar face, the device will generate an audio alert.

2. Deliverables & Milestones-

2.1 Deliverables-

- ☐ D1. Proposal
- ☐ D2. Literature review
- ☐ D3. Interim Submission
- ☐ D4. Final Report
- ☐ D5. Final Product

2.2 **Milestones-**

- ☐ M1. Decide an idea about project
- ☐ M2. Draft of Project Proposal
- ☐ M3. Project Proposal Submission
- ☐ M4. Research
- ☐ M5. Hardware
- ☐ M6. Uploading Pictures to cloud
- ☐ M7. Training pictures using AWS Credits
- ☐ M8. Audio Alert
- ☐ M9. Draft of Literature Review
- ☐ M10. Testing
- ☐ M11. Evaluation process for the device
- ☐ M12. draft of Final Report
- ☐ M13. Final Report Submission
- ☐ M14. Final Device

2.3 **Gantt Chart-**

A timeline of milestones and deliverables with regards to the implementation of the Raspberry Pi face recognition device.

3. Project Evaluation-

Evaluation Process of the tests on the device to verify it's quality. Such as-

- ☐ Local Testing with the pictures of family and friends- Local testing on family and friends will evaluate if the device works properly or not.
- ☐ Local Testing on celebrity's pictures- Testing with the pictures of celebrities would be better to verify the device.
- ☐ Field Testing- Field testing will help to minimise risks in my project and it will make sure that the device works properly before submission.
- ☐ Unit Testing- To verify the correctness of the application.I will make junit tests for the methods that i have been implemented.
- ☐ Performance Testing- To check the stability of the face recognition device under various conditions.

4. Resources-

Resources required to implement this project -

- ☐ Raspberry Pi Micro
- ☐ Raspberry Pi ZeroCam
- ☐ Micro SD Card
- ☐ HDMI Cable
- ☐ AWS Credits
- ☐ Python

5. References-

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