Indian Institute Of Technology,
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CS 101

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User Manual Draft

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Contents

[0]NOTE: This is a DRAFT Manual, all text given in italics must be treated as comments and will be amended in the final document. The sections will be extended as we notice more points

1 What's new?

These are some features which our application has to offer over the existing techonology to mark attendance for students or employees across institutions around the world.

- Attendance can be marked down if someone leaves before scheduled departure.
- Human effort is remarkably reduced. Apart from the minimal amount of supervision required to train the machine to recognize faces, there is no human intervention required for the execution of the application.
- The application is capable to recognize multiple faces in the same frame, thus enabling it to mark attendance for multiple persons at once.
- Face recognition is confirmed by tracking the person's face across frames and attendance is triggered by detection of "blinking" of eyes.
- The program updates its central database regularly to account for inaccuracy due to evolution of facial features

2 Setup

In the current release, noname is compatible with Microsoft Windows OS 7 and above. Both 32-bit and 64-bit versions are available for download on our site.

We will rent a domain and host a website with all relevant documents to the project and download links

2.1 32-bit

Here we shall describe with screenshots the process to install the program onto the system

2.2 64-bit

Here we shall describe with screenshots the process to install the program onto the system

3 Tutorials

tutorial comes here

4 Extending and Embedding

noname is built under GNU General Public License. You can fork the source at https://github.com/cheekujodhpur/cs101 and extend it to your desired needs.

This version does not allow support for preparing the application for an embedded system. However, there is no difficulty other than having the required dependencies parallel to the application while executing the application on a custom architecture. This constraint is elaborated in the SRS document, which can be found on our website.

5 FAQs

Q. How does it work?
We use Intel's opencv library to capture and process frames from a web cam. The data is represented via a pseudo-HMM and the match likelihood is used as a confidence parameter to identify faces

And more such questions, depends on what people ask us?

6 Known Issues

- Abrupt changes in facial features, although unlikely is known to cause inaccuracy in prediction.
- Facial effects such as sunglasses and cape hinder the function of the application as bad as the last point.
- The recognition is illumination dependent. There is a listed feature-request to make our algorithm illumination independent and it is expected to be included in the beta-release
- Subject can come up with a bizarre facial expression to confuse the machine but it is unclear why would anyone want to do so.

7 Precautionary Measures

- Data must be collected for a variety of facial expression to ease the behavioural constraints on subjects for effective function of the machine.
- Subjects can be directed to avoid wearing facial effects.
- Illumination can be explicitly designed to optimize machine function