Project Overview
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- **Basic Objectives**
  - Allow real time tracking and recognition of human faces in a video stream
  - Compare the performance of different combination of face detection and recognition algorithms
  - Develop a security application which can keep track of all the people entering and leaving a secured zone.
Project Overview

● **Team Structure**

  ● Abhishek Dutta
    - team coordinator, development of KEPENEKCI face recognition module
  
  ● Anjan Nepal
    - development of ADABOOST face detection module, final field testing incharge
  
  ● Bibek Shrestha
    - development of ROWLEYNN face detection module, project maintainer & release manager
  
  ● Lakesh Kansakar
    - development of LDA face recognition module, documentation manager
Project Overview

- **Underlying technology**
  - C++ codebase
  - GCC compiler and automake based build system
  - GTK+ used for the User Interface
  - OpenMP used for multithreading
  - Kdevelop IDE
  - Libraries dependencies: opencv, octave, boost, vigra, fftw
Project Overview

• License
  • GNU GPL (General Public License)
    - strong copyleft license
    - ensures that the source code of all modifications, additions, or derivatives of RTFTR will be disclosed (eventually)
Unique Selling Proposition
Unique Selling Proposition

- **Featured Aspects of RTFTR**
  - Uses *multiple algorithms* in parallel for better accuracy and *OpenMP* based multithreading for real time performance.
  - **Modular architecture** of RTFTR ensures
    - easy incorporation of new face detection/recognition algorithms
    - visual data processing pathway can be modified as per user requirements
Unique Selling Proposition

- **Market Values**
  - Can be used to **support security personnel** by automatically keeping records of entry/exit in a secured zone.
  - Small businesses like banks, hotels, etc cannot afford the cost of military grade surveillance system. RTFTR comes to fill in this void and provide a **low cost solution**.
  - **Customization** of RTFTR according to specific requirements of clients can be used to build up customer base and generate money.
Unique Selling Proposition

• Benefits to the society
  • **GPL** license ensures that everything in RTFTR will remain open source
  • A platform to conduct **R&D** in the field of Computer Vision
  • With RTFTR, everybody in the society has access to a **surveillance system** that can be used to secure homes, schools, public places, etc
Open Source Aesthetics
Open Source Aesthetics

- **Open source philosophy**
  - license source code of RTFTR has been released under GPL license
  - RTFTR developed in the true spirit of Open Source Software
    - Open source compiler (gcc) and build system (automake)
    - All the development and testing was done in Linux (we never felt the need to switch to other OS)
    - All the external libraries that RTFTR depends on for its functionality are also open source.
    - Open Source project management tools (svn, mediawiki, trac, mailman, etc) were used during the development of RTFTR
Open Source Aesthetics

- Open source libraries and software used

- Boost
- FFTW
- GCC
- KDevelop
- VIGRA
- The GTK+ Project
- OpenMP
Open Source Aesthetics

- Open source project management tools used
What did we learn?

- **Open source project management tools used**
  - we had only read about open source phenomena, now we have experienced it
  - open source world is **self sufficient** (never needed to foray into other OS)
  - project **management** and **collaboration** skills
  - project management tools, if used correctly, can ensure the successful and timely completion of an open source project.
  - a good knowledge base of **Computer Vision**
Thank You

http://rtftr.sourceforge.net/
http://collaborate.d2labs.org/projects/rtftr