

Georges Duverger (6129609)  
Lilian Pedrali (6130615)  
Loris Blanchon (6127401)

COMP 471 / CART 498

**Assignment 2**  
**Final project proposal**

**Screen crime**



23/10/2006

**Name of the project:**

Screen crime

**People and role:**

Our final team project is divided in 3 roles:

- Concept lead
- Construction set
- Max/Jitter programming

The last part is the biggest one. So, we have decided to divide it in 3 steps. For each step, there is one responsible:

Step	Description	Responsible
1	Capturing and tracking passers-by who stay in front of the camera for too long	Georges
2	Draw a stylized border all the way through their silhouette	Lilian
3	Display this thick line on the wall and add some information about it	Loris

**What is it:**

Our final team project is a video responsive system.

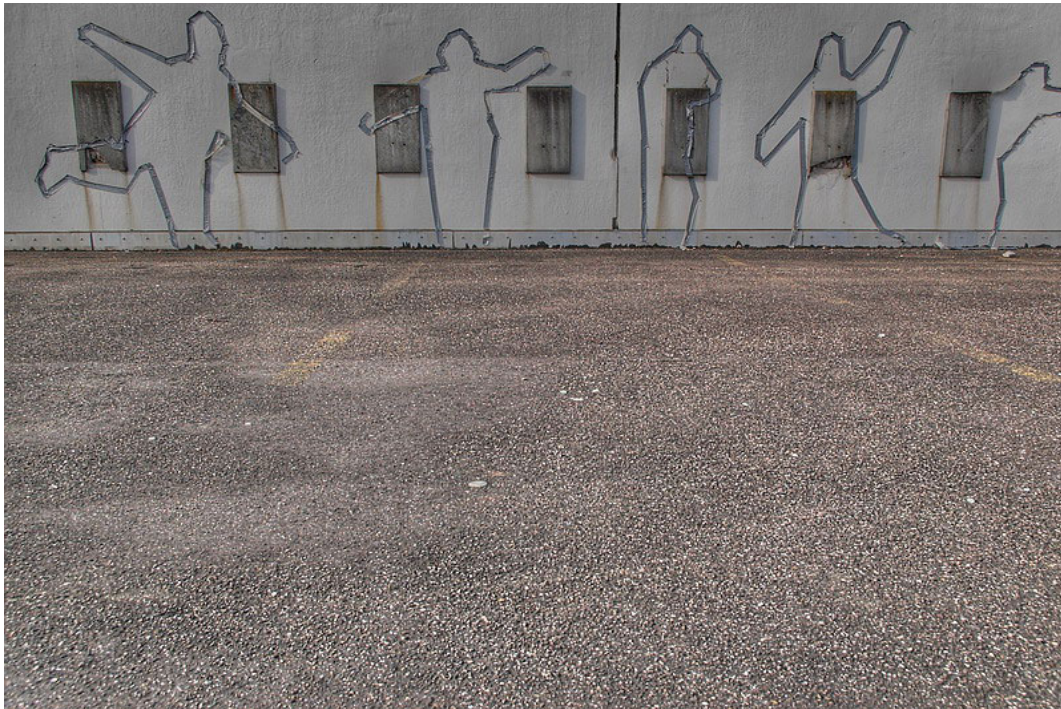
It consists of two square areas; one on the floor, delimited with one of those “do not cross” ribbon, and a second one on the wall, same size, also delimited with the same ribbon. The area on the floor will be where the interaction takes place and the area on the wall will be where the result is displayed.



In our project, passers-by walk in front of the camera and if they stay for too long, they are “killed” by the video responsive system. At this time, when the system is about to record their silhouette (or in other words, to “shoot” them), we hear a gunshot sound.

The system will then display these silhouettes on the wall area (not necessarily in the same place where the camera rolls). Some information (like shooting time, etc.) about each passer-by will be recorded and displayed as well.

As the day goes on, silhouettes will blur, disappear and reduce. Thus, you will see the last victims of the system. But be careful, because, if you look at it for too long, you’ll be one of them!



**What is the project asking or exploring? (Why is it an interesting COMP 471 project?)**

Technically, this project needs to use some motion tracking. So, it is very interesting and useful to explore it. Moreover, we have found a funny way to use motion tracking.

Another reason that makes this project interesting is that, to obtain a stylized border representing the passer-by, we will have to consider only the "minimum curvature points" and the "critical" ones. So we will need to search how to locate them. COMP471 seems to be a good place to think about this kind of problems.

If we can finish the different steps before the deadline, maybe we will explore OpenGL because it would be great if we could display OpenGL objects when the responsive system "kills" someone.

**Milestones/Timetable:**

As we mentioned at the beginning, the project is composed of 3 steps. For each step, we have decided to put deadline. Thus, it will be easier to do the project on time.

Step	Description	Deadline
1	Capturing and tracking passers-by who stay in front of the camera for too long	October 7
2	Draw a stylized border all the way through their silhouette	October 22
3	Display this thick line on the wall and add some information about it	December 1

There is a week between the end of the third step and the deadline of the project. During this week, we will synthesize the 3 steps, do tests, adjust the settings and other final things to do.

**Deliverable:**

For this project, the deliverable will be:

- The Max/Jitter patch
- The documentation
- An input video
- An output video

The input video and output video will be an example to show what our project is.

**Resources needed:**

Our final team project needs several resources.

Like most of projects, we need essential resources:

- A webcam: it is our video input.
- A projector: it provides to project our video output on a screen.
- Max/Jitter: it is the software that provides real-time processing and synthesis of video.

On the other hand, we also need specific resources to do the construction set. For example, we have to find a good place to do the example videos and we have to do 2 “do not cross” ribbons and other elements of the background.

**References:**

The obvious reference of our project is the crime scene well known from crime movies. In such movies, the edges of a dead man silhouette are drawn on the floor. In our case, passers-by are “killed” by the video responsive system.

We also look for pictures on different websites to have ideas for the construction set. We have found these pictures:

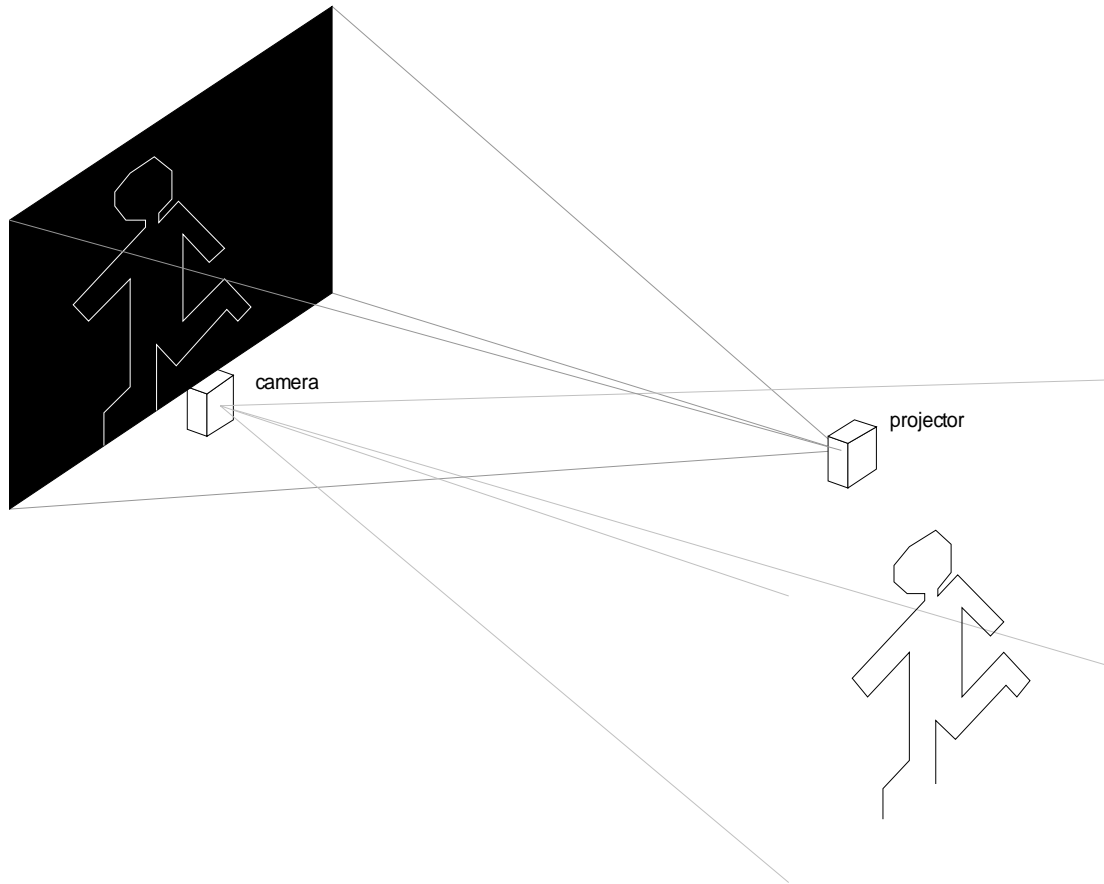
<http://www.tomgpalmer.com/images/Crime%20Scene.jpg>

[http://photo.montybaecker.de/images/20060322110112\\_crime\\_scene\\_01.jpg](http://photo.montybaecker.de/images/20060322110112_crime_scene_01.jpg)

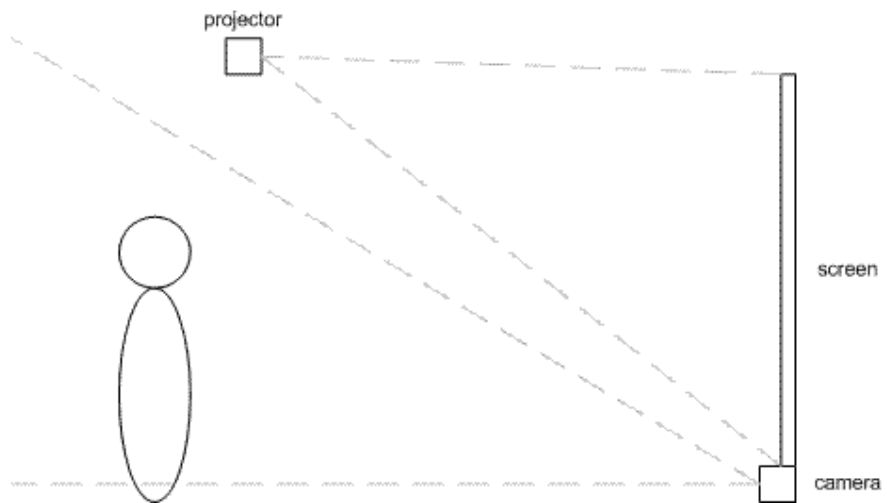
[http://blogs.citypages.com/blotter/images/crime\\_scene\\_mgmt.gif](http://blogs.citypages.com/blotter/images/crime_scene_mgmt.gif)

**Diagrams of installation:**

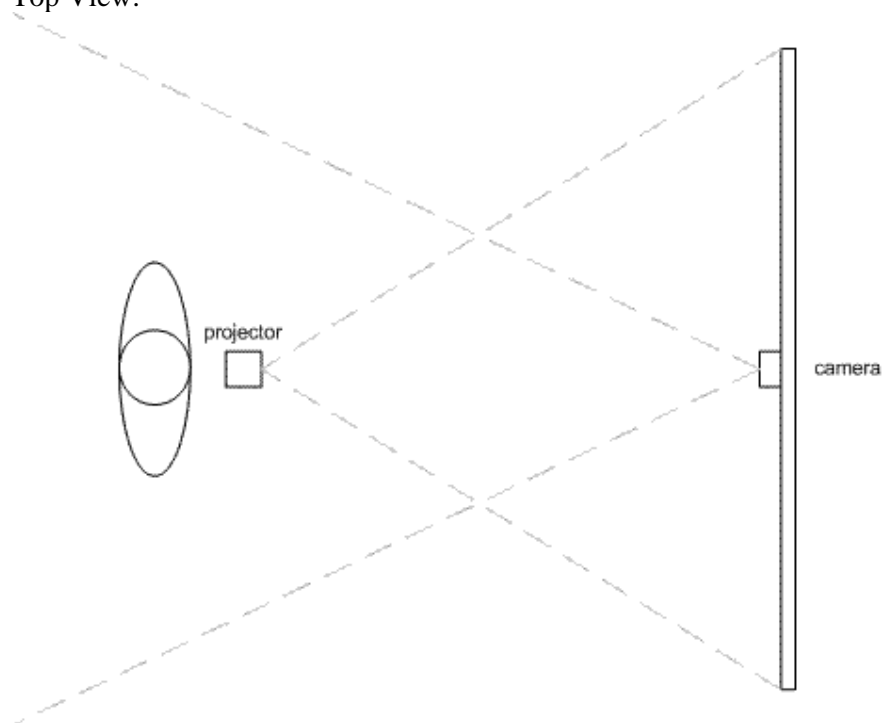
General schematic:



Side view:



Top View:



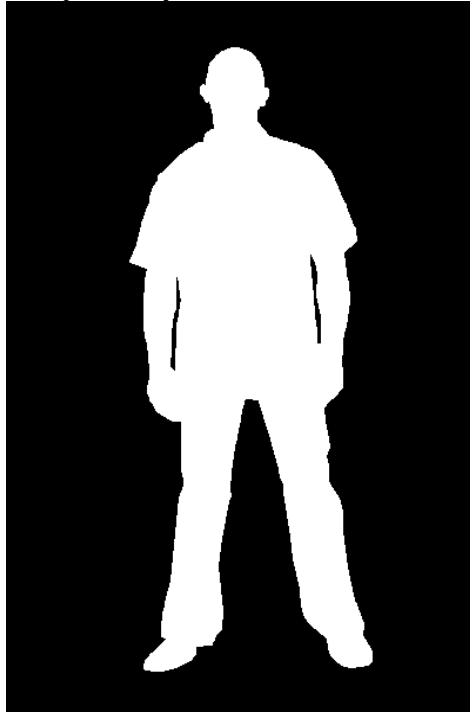
**Process steps:**

(Photo found here: from <http://idata.over-blog.com/0/19/67/13/book-photo/debout.jpg> )

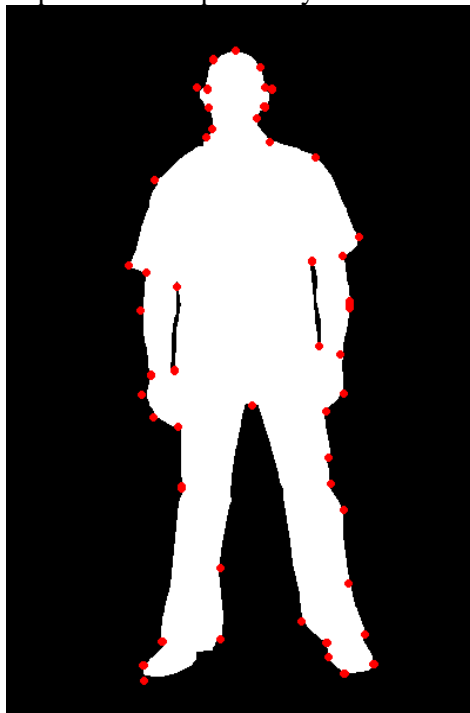
1. Motion tracking to detect the passer-by



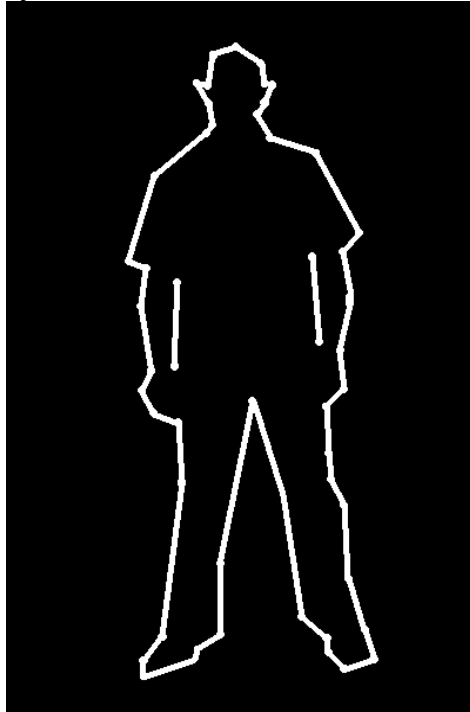
2. detect the inactivity of a passer-by



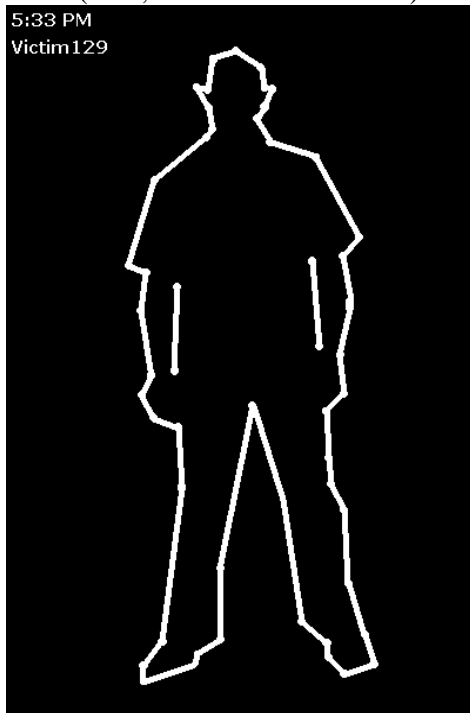
3. detect some particular points on the passer-by



4. Draw a line between points



5. Display it with some info (time, number of the victim) and play a sound.





6. gradually blur and resize it

