

Re: Video motion tracking and speed estimation

Source: <http://sci.tech-archive.net/Archive/sci.electronics.design/2009-03/msg01993.html>

- *From:* Jan Panteltje <pNaonStpealmtje@xxxxxxxxxx>
 - *Date:* Sun, 15 Mar 2009 18:48:20 GMT
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On a sunny day (Sun, 15 Mar 2009 13:31:41 -0500) it happened "Anthony Fremont" <nobody@xxxxxxxxxx> wrote in <KKSdnZdqU7wT1CDUnZ2dnUVZ_uqdnZ2d@xxxxxxxxxxxxxxxx>:

Jan Panteltje wrote:

On a sunny day (Sun, 15 Mar 2009 10:59:55 -0500) it happened "Anthony Fremont" <nobody@xxxxxxxxxx> wrote in <aL-dnfRulbJguCDUnZ2dnUVZ_sTinZ2d@xxxxxxxxxxxxxxxx>:

Jan Panteltje wrote:

On a sunny day (Sun, 15 Mar 2009 09:51:12 -0500) it happened "Anthony Fremont" <nobody@xxxxxxxxxx> wrote in <Iv-dnZWSocN_iCDUnZ2dnUVZ_q7inZ2d@xxxxxxxxxxxxxxxx>:

Hello all,

I posted a short video on ABSE showing something I've been tinkering with over the last couple of weeks. I wanted to learn a little about the capturing data from the video for Linux (V4L2) interface, and one thing led to another. I'm using a cheap BT878 capture card and a really cheap camera.

Anyone have any tips on

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improving the results or
know of a good
source of info on the
internet? Google likes to
return links to
patent claims on anything
related to the subject.

I am sort of interested, but do you have any
other site then a
newsgroup that is not available?

Here is a link to a folder on photobucket. Sorry about the
adds,
but it's free.
<http://s55.photobucket.com/albums/g143/afremont/capture/>

There are 10 still images and a couple of videos. One of the
videos
is a much earlier trial.

Very nice.

The speed measurement depends on the distance I suppose?

How do you get the distance?

Could perhaps be done with 2 cameras, the parallax would tell you
something about it.

It's really just an estimate. It's reasonably accurate, but still just an
estimate. The true way to tell how fast they are going is to watch how long
it takes to cover a known distance (like you didn't already know that).
It's true that I'm giving the further cars a bit of a break on the speed
measurement, but I'm far enough back and the street is narrow enough that
the distance variation is very limited in range so I don't factor it in.

I basically measure how fast the vertical yellow segments progress thru the
frame. Each pixel moved per frame is approximately 1.8MPH. Frames arrive
30 times per second; each is timestamped to the uS by the capture card's
device driver.

Neat.

How do you get the motion vector?

I have some motion detection here,

<http://panteltje.com/panteltje/mcamip/>

but I just subtract 2 subsequent frames,

and the amount of difference tells me is something changed.

Do you calculate a motion vector?

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