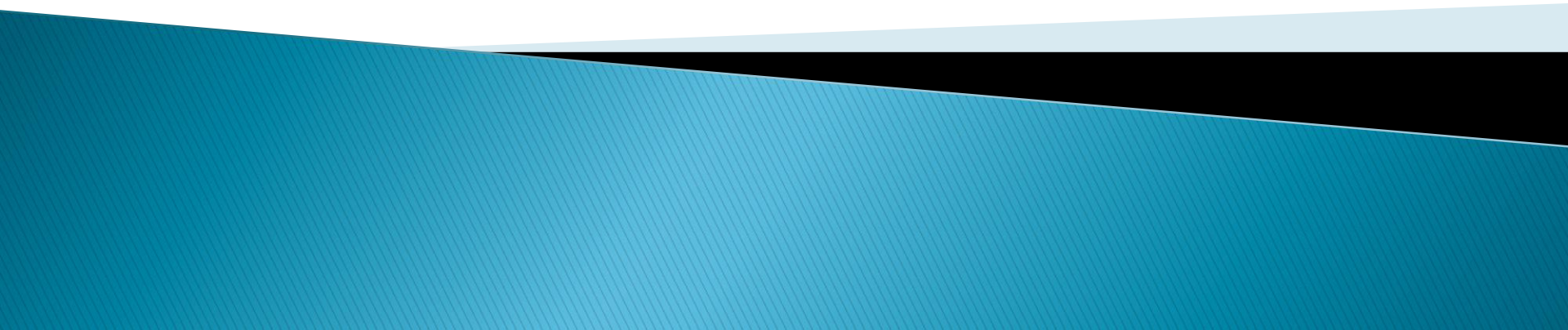


# Doceri in and out of the Physics Classroom

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Doceri is branded as “an Interactive Whiteboard for iPad” and allows users to control, annotate and record presentations on a presentation workstation using wireless internet connections. The Doceri software provides inexpensive smart board functionality with great flexibility. This presentation discusses our experience using Doceri for small introductory physics classes. In addition to standard smart board functions, we’ll discuss “in seat” student board work and out of class videos for additional examples and lecture snippets.



# What is Doceri?

- ▶ “Remote Desktop” control from iPad
  - Internet connection required for both
    - Watch out for firewalls!
    - iPad & computer do NOT need to be on the same network
  - With many classroom oriented features
    - Ease of use (especially making connection)
    - Annotation
    - Recording (snapshot, video)
  - (relatively inexpensive) Smart Board!

My experiences are limited to small classrooms (10 -35 students)



# Doceri in the Physics Classroom

- ▶ Smart Board Function, with bonuses
  - Annotation, worked examples
    - Images posted in class management system
  - Portability within classroom
    - Students can participate without leaving their desks
      - Control simulations (OSP apps, PhETs, etc)
      - Board Work

# Driving Doceri: screen view

PowerPoint Presentation - Adobe Reader

File Edit View Window Help

Open 12 / 15 82.6% Tools Fill & Sign Comment

Example: A motorist traveling with a constant velocity of 15 m/s (about 34 mph) passes a school crossing, where the speed limit is 15 mph. Just as the motorist passes, a police officer on a motorcycle waiting at the crossing accelerates at a rate of 3.00 m/s<sup>2</sup> in hot pursuit of the motorist.

$V_0 = 0$

How much time elapses before the officer catches up with the motorist?

What is the officer's speed at this point?

How far beyond the crossing are the vehicles at this point?

police driver

$x = x$  "catch up"

$x_0 + v_0 t + \frac{1}{2} a t^2 = x_0 + v_0 t + \frac{1}{2} a t^2$

$\frac{1}{2} a_p t^2 = V_{0d} t$

Created with Doceri

Phys211C2 p12

10:38 AM 12/30/2014

# Driving Doceri: tablet view

The screenshot shows an iPad screen with the Doceri app interface. At the top, the status bar displays "iPad", signal strength, "10:45 AM", and "85%" battery. Below the status bar is a toolbar with various drawing and editing tools. The main whiteboard area contains the following text and equations:

How far beyond the crossing are the vehicles?

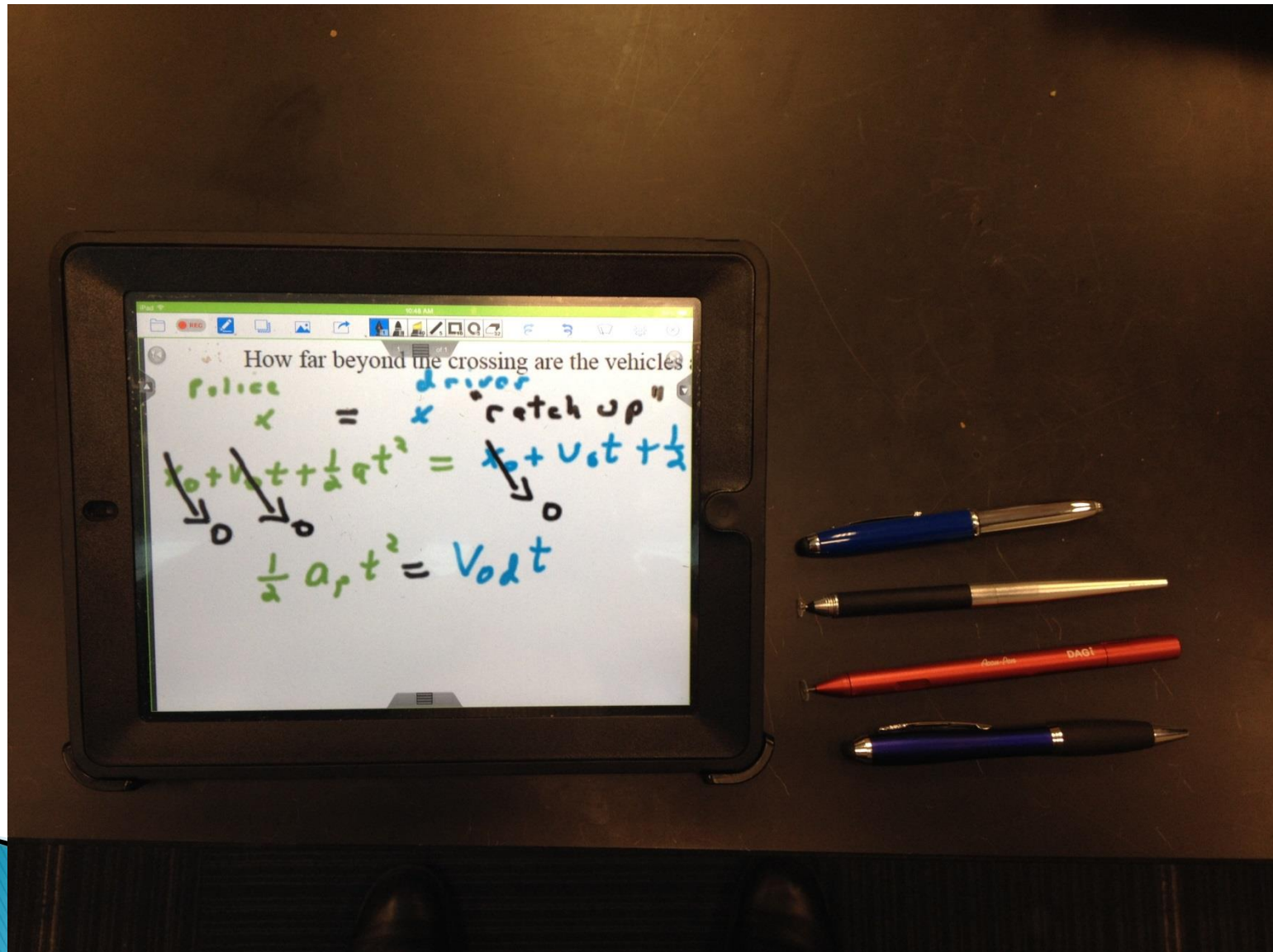
Police  $x$  = driver  $x$  "catch up"

$x_0 + v_0 t + \frac{1}{2} a t^2 = x_0 + v_0 t + \frac{1}{2} a t^2$

$\frac{1}{2} a_p t^2 = v_d t$

Arrows point from the  $x_0$  terms in the equations to small circles representing the starting positions of the vehicles.

# Driving Doceri: human view



# Doceri out of the Physics Classroom

- ▶ “Problem/Example of the Week”
  - Video or images
- ▶ Snow Days
  - Short Videos + Activities

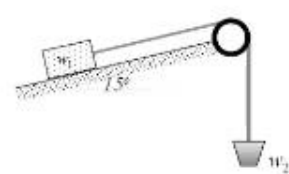
# Video Snippet

PowerPoint Presentation - Adobe Reader

File Edit View Window Help

Tools Sign Comment

Tension over a frictionless pulley: A weight  $w_1$  slides on a frictionless  $15^\circ$  slope. A cable attached to the weight is also attached over a pulley to a counterweight  $w_2$  chosen to just counter balance  $w_1$ , so that the entire system moves at constant velocity. Determine  $w_2$  in terms of  $w_1$ .



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Phys211C5 p1

Mon 2/14/2014 9:02 AM

Created: 2/14/2014 9:02 AM

Version: 2.0 frames/second

File size: 1506kbps

Bitrate: 1006kbps

light\_normal\_ramp.avi

Show all thumbnails...

# Doceri Tips

- ▶ Use a Stylus
- ▶ Learn Multitouch gestures
  - Zoom
  - Pan
- ▶ Practice
- ▶ Support

Colleagues, Tech Support, Instructional Design Specialists



# Thanks

- ▶ Brian Young (Penn State *Teaching and Learning with Technology*)
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  - Ronald Kelly                Instructor in Administration of Justice
  - Nicole Andel                Assistant Professor of English
  - David Rill                Instructor in Radiological Sciences
  - Lee Silverberg                Assistant Professor of Chemistry
    - L. J. Silverberg, J. Tierney, and M. J. Bodek, “Use of Doceri Software for iPad in Online Delivery of Chemistry Content,” *J. Chem. Educ.*, published online 8/18/2014. doi.org/10.1021/ed4009057.
    - L. J. Silverberg, “Use of Doceri Software for iPad in Polycom and Resident Instruction Chemistry Classes,” *J. Chem. Educ.*, 2013, 90, 1087-9.