

# Problem Statement: Scantron Alternative

**Goal:** Classroom teachers desire an alternative to the proprietary Scantron assessment forms and scoring machine.

## Desired workflow:

Create bubble forms with desired number of questions and responses and a field for a student ID number.

Using an existing tool is acceptable; for example, <http://catpin.com/bubbletest/>

It's permitted to have sync marks on the form, or any other modifications to reduce the technical complexity of the scoring.

Version 1 may restrict form to one specific template.

Desired question types: true/false, multiple choice, multiple answer.

Print form using laser printer and make copies for students.

Student fill out the bubble form with their answers. Students include their ID number.

Teacher completes the bubble form with the correct answers ("answer key").  
(Alternately, the answer key may be specified in some plaintext file format).

Answer key and student forms are scanned in bulk using department copier/scanner, producing PDF or TIFF output.

Digital output from previous step (and perhaps answer key file) is read by scoring software, which computes the score for each form.

Three reports are generated:

1. Output scores in order the ID numbers were read by the scanner, so the results can be manually recorded on the students' forms.
2. Output scores in numeric order of ID, perhaps as a CSV file, for input into teacher's record keeping.
3. Statistics on student performance such as high and low score, mean, standard deviation, and frequency of missed questions.

## Commercial Examples

<http://akindi.com/>

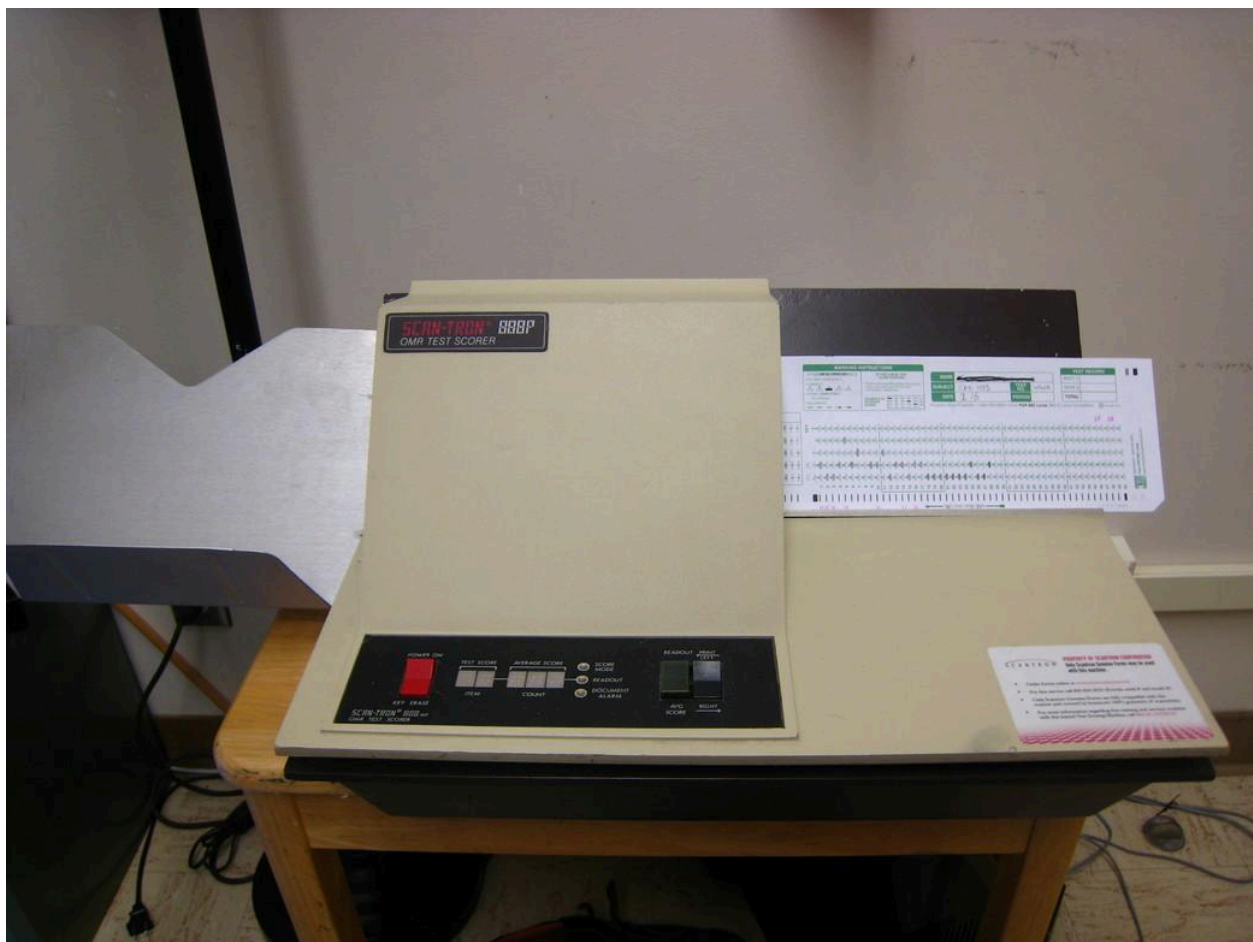
<http://inspiroscan.com/>

<http://www.gradecam.com/>

### Third Party Software

It is recommended to not write your own image recognition software from scratch, but to use already existing software. Any third-party software integrated into your project must have a license that permits unlimited use for non-commercial applications. It does not have to be open-source.

[Video of Scantron machine in operation.](#)



Still photo of Scantron machine to give a sense of how large it is.