

# Using Technology to Enhance Teaching of Multimedia Projects in Introductory Computer Science Courses at Scale



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## Objectives

- Provide engaging, creative fun languages (Scratch, Alice) in introductory courses at scale w/out “army of graders”
- Provide automated feedback for simple problems
- Display projects in a way that facilitates grading
- Prevent overreliance on system (individual debugging skills)
- Counteract negative psychological effects (make feedback meaningful and accurate)

## History

- Automated feedback system for non-visual code deployed (C,C++)
- Students rely as much on system as possible, unhappy with limits
- Scratch projects, automated analysis framework, and automated submission system developed for summer camp.
- Beauty and Joy of Computing has engaging projects not amenable to automated feedback/grading

## Activities/ Materials

10-week course – Scratch projects leading to python projects  
Automated analysis of each project  
Display and/or grading support for TAs and students

## Execution

Introductory Programming

## Major Issues

Designing projects that are creative and engaging, yet can be automatically analyzed  
Providing feedback appropriate for introductory non-majors  
Limiting feedback while keeping students happy