



# SAGE Gameful Direct Instruction: Parson's Puzzles

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# Goals

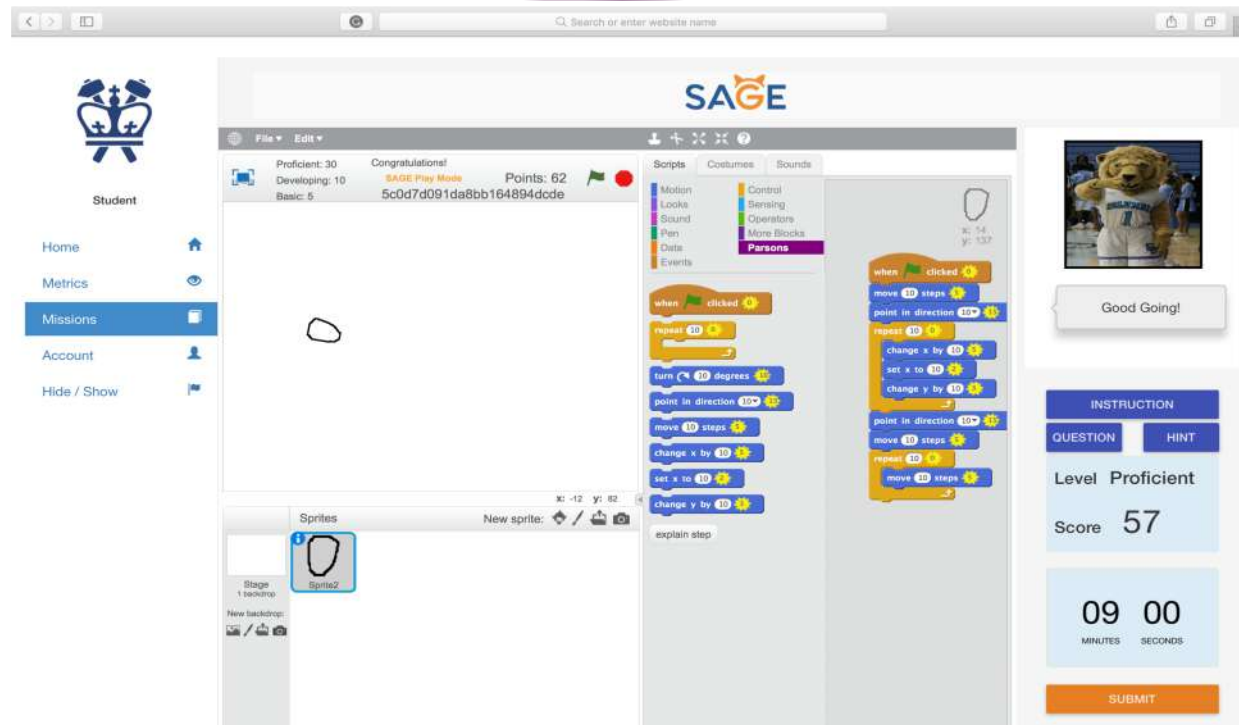
- ▶ Incorporate visual programming to parson's puzzles
- ▶ Fixing possible student misconception about initialization
- ▶ Providing detailed feedback for errors
- ▶ Increasing student collaboration
- ▶ Reinforce learning



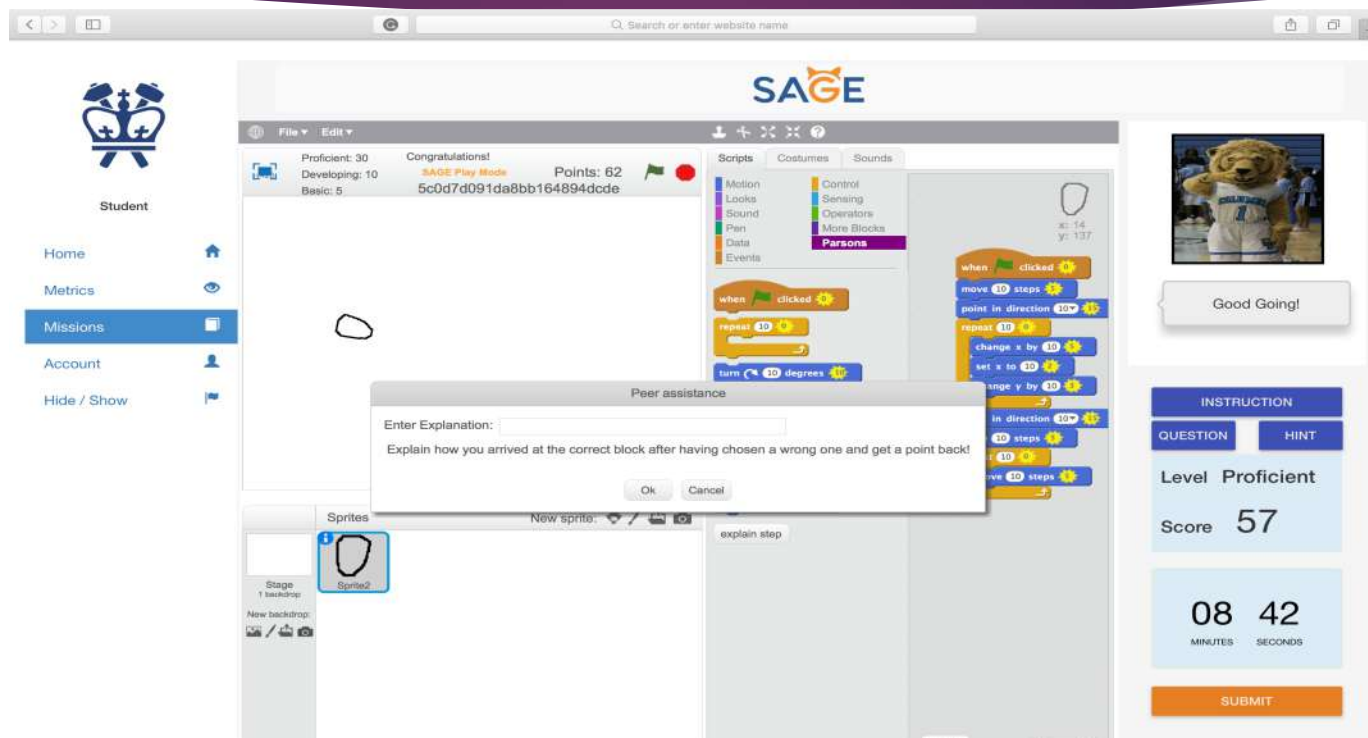
# Features

- ▶ Collecting student error explanations
- ▶ Providing these explanations to other students
- ▶ Collecting instructor feedback for errors
- ▶ Auto-initialization
- ▶ Auto-execution
- ▶ Defaulting green flag

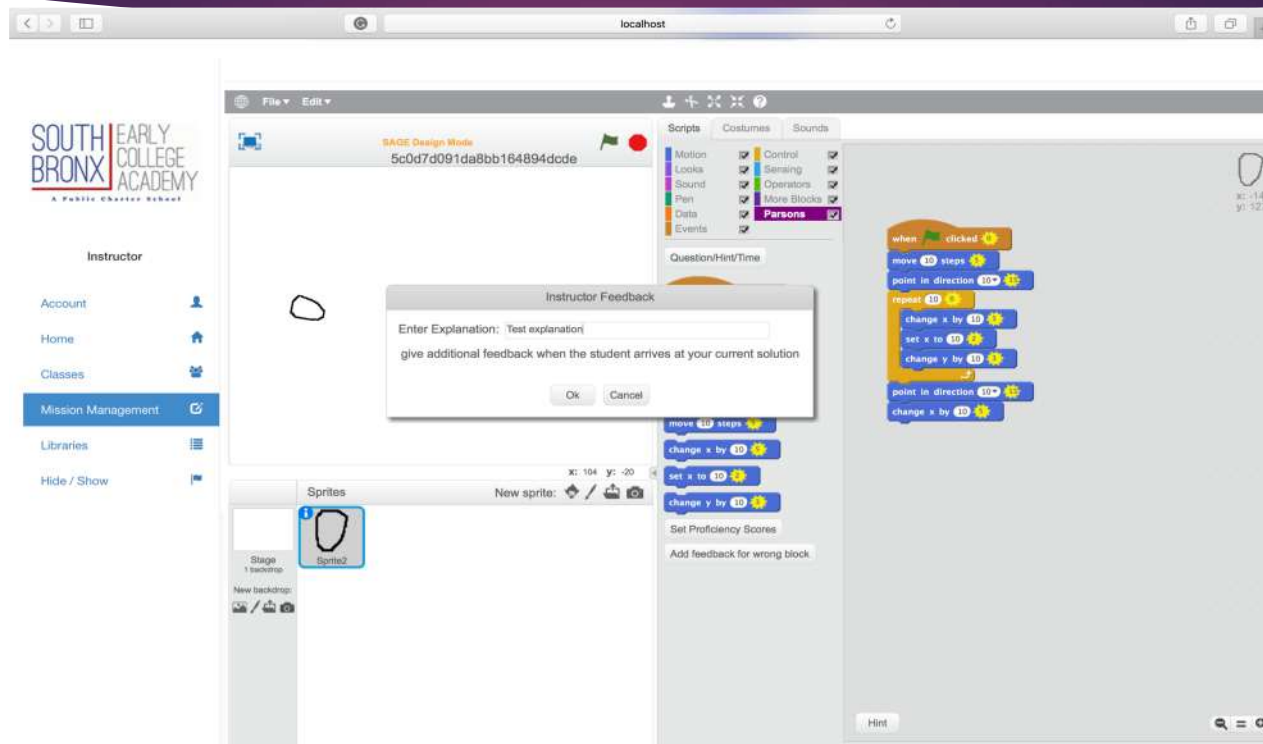
# Collecting feedback from students: explain step button



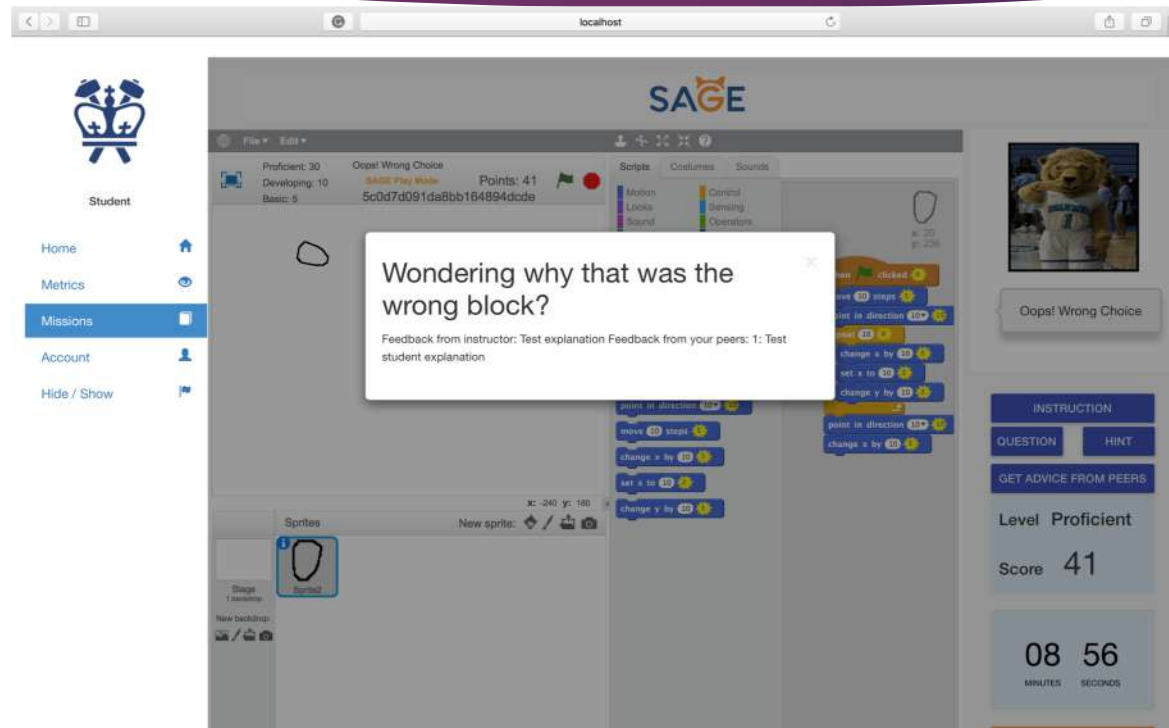
# Collecting feedback from students: Dialog Box



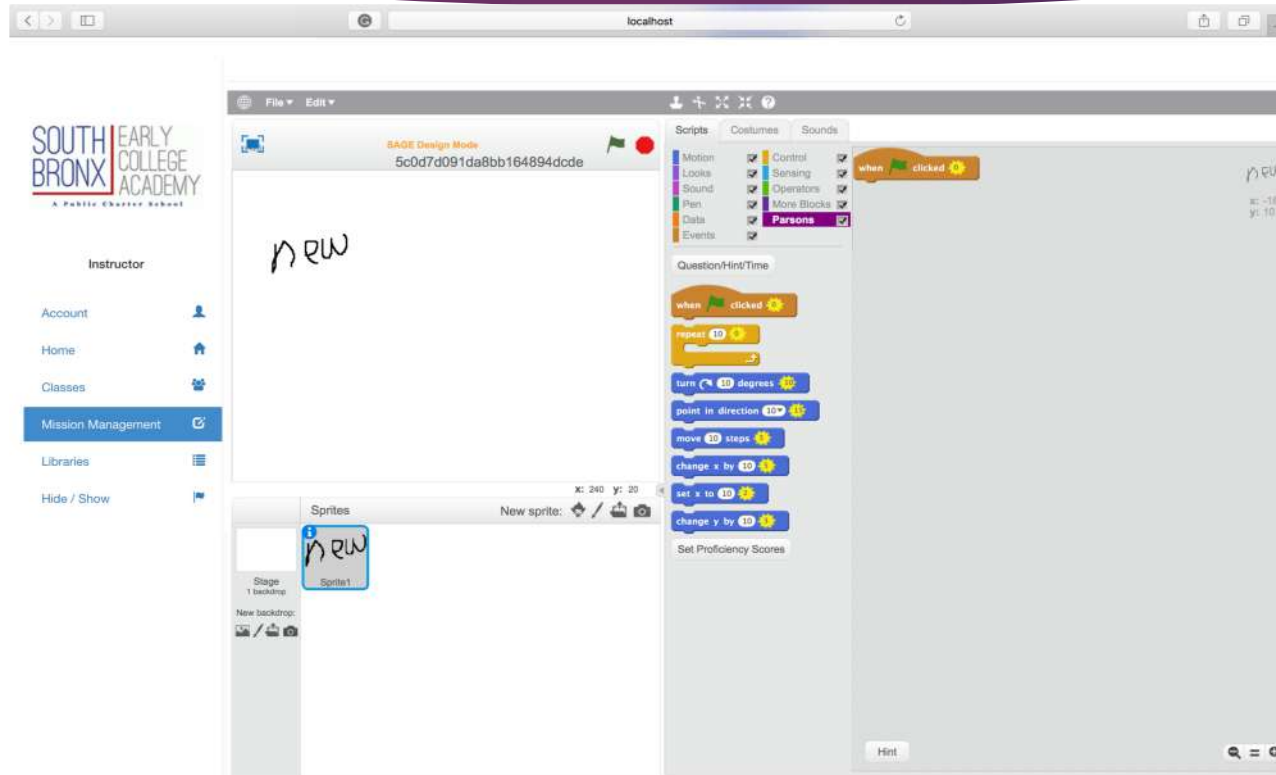
# Collection instructor feedback: button and Dialog box



# Showing student and instructor feedback to students: Button and Dialog Box



# Defaulting green flag when new sprite is added







# Future work

- ▶ Filtering student feedback
- ▶ Pointing out errors that would benefit from instructor feedback
- ▶ Clearly marking initial state of sprite and the sprite's path
- ▶ Altering timing of “get advice from peers” button based on student performance