

# SAGE Final Presentation

UI & Scratch Improvement, bugs fixed

Linnan Li  
Penghe Zhang

# Outline

- Motivation
- UI Improvements
- Scratch Improvements
- Bugs Fixed
- Future Work

# Motivation

- Made the score and feedback clearer for students
- Enabled per-block feedback feature
- Created different modes for research purpose
- Fixed bugs for better user experience

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# Move Score and Feedback from Scratch to Frontend



keep going

Correct move, great  
job!

Per-block feedback  
in right panel

Modify the score board and add a  
meaningful move board

Score

40

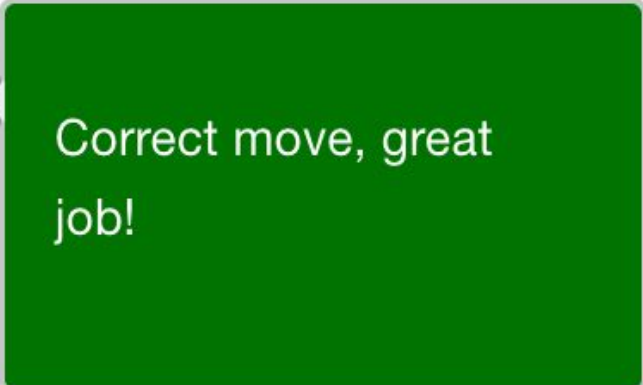
Moves

2

# Classify Feedbacks

A blue rectangular box with a white left-pointing arrow on its left side.

Keep going!

A green rectangular box with a white left-pointing arrow on its left side.

Correct move, great job!

Using different colors to show different per-block feedback.

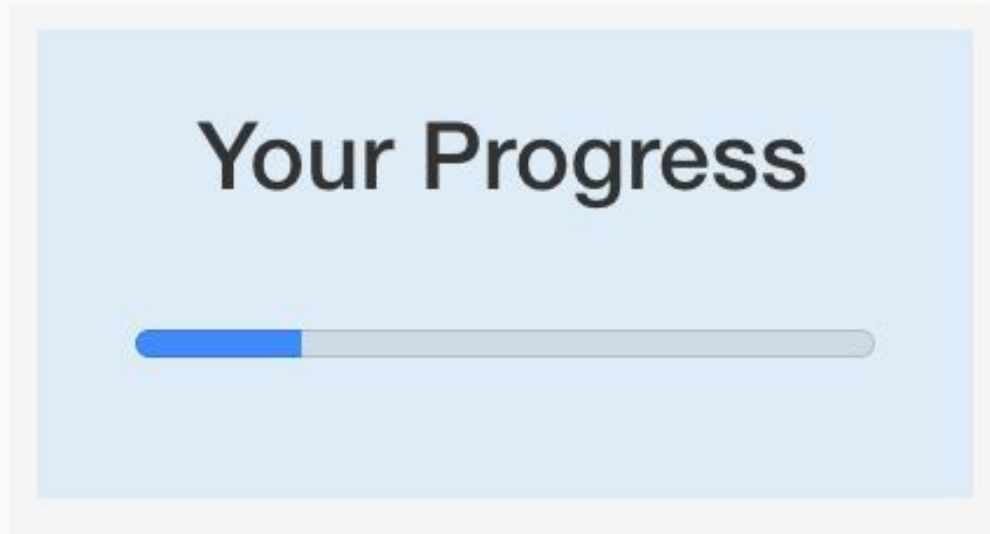
## Legends

	Correct		Incorrect
	Neutral		Distractor

## Real-time Progress Bar for Students

Add a progress bar board in the right panel, which shows the relation between student's current and max score:

$$\text{Current Progress} = \text{Current Score} / \text{Max Score}$$



# The View of Right Panel in Normal Parson's Mode



Correct move, great job!

Congratulations!

## Legends

■ Correct ■ Incorrect  
■ Neutral ■ Distractor

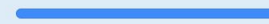
Score

175

Moves

5

Your Progress



05 07

MINUTES

SECONDS

SUBMIT



# Modify the submission modal

Modify the submission modal:

- Different titles for different circumstances:  
“Your Result”, “Time is Up”,  
“Congratulations”
- Add a cancel button, when you press it, the timer of puzzle will start again
- When you finished the puzzle correctly, the modal will pop up automatically

Your Result

Time's Up!

You've got **175** points!

What did you discover while playing this puzzle?

Max 200 characters

Submit and Go To Main Cancel

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# Customize Feedback for Instructor

Update Move Feedback for Game

Add Up To 5 Feedback

move feedback press return or symbol

Select Move Feedback Type:

☐ Incorrect Response

☐ Correct Response

☐ Neutral Response

☐ Close Response

Save

Feedback Added

Type	Response	
incorrect	wrong !!!!!	
neutral	keep going	

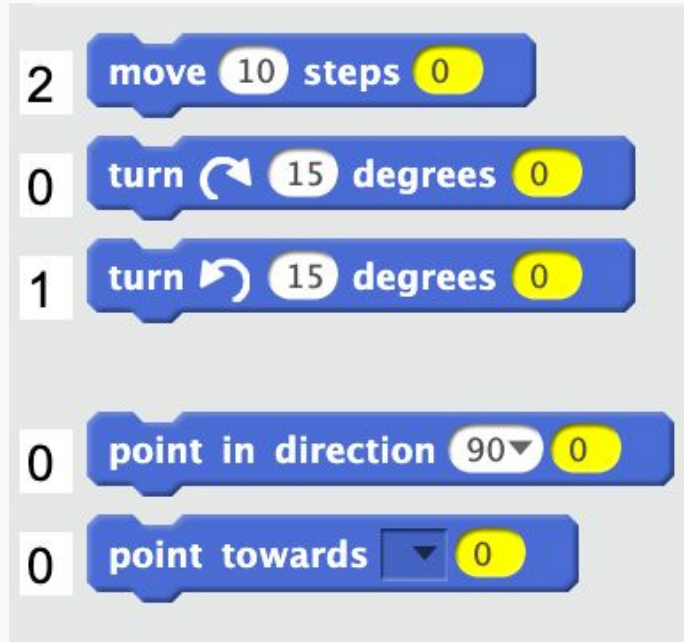
keep going

wrong !!!!!

```
{
  "_id": {
    "$oid": "5db4ed770857c75ac46c588d"
  },
  "assignmentName": "pz2244 game test",
  "assignmentOrder": 1,
  "courseId": "5cb09fdade42bf36e143d1b5",
  "creatorId": "59f8c6fdc1bfb23c4ced8e20",
  "type": "parsons",
  "assignmentFeedbacks": [],
  "moveFeedbacks": [
    {
      "type": "incorrect",
      "content": "wrong !!!!!"
    },
    {
      "content": "keep going",
      "type": "neutral"
    }
  ]
}
```

## Number of Blocks Enabled

Instructor can type numbers of how many blocks he/she wants in the Parson's palette.



In the parson's palette, you can see the blocks of certain amount



# Different Parson's Modes (Parson's Normal Mode)

## Instructor's Side

The screenshot displays the Parson's Normal Mode interface, specifically the Instructor's Side. The interface is divided into two main sections: a left sidebar and a main workspace.

**Left Sidebar:**

- Scripts:** A list of categories for creating scripts, including Motion, Looks, Sound, Pen, Data, Events, Control, Sensing, Operators, More Blocks, and Parsons.
- Costumes:** A section for selecting costumes.
- Sounds:** A section for selecting sounds.

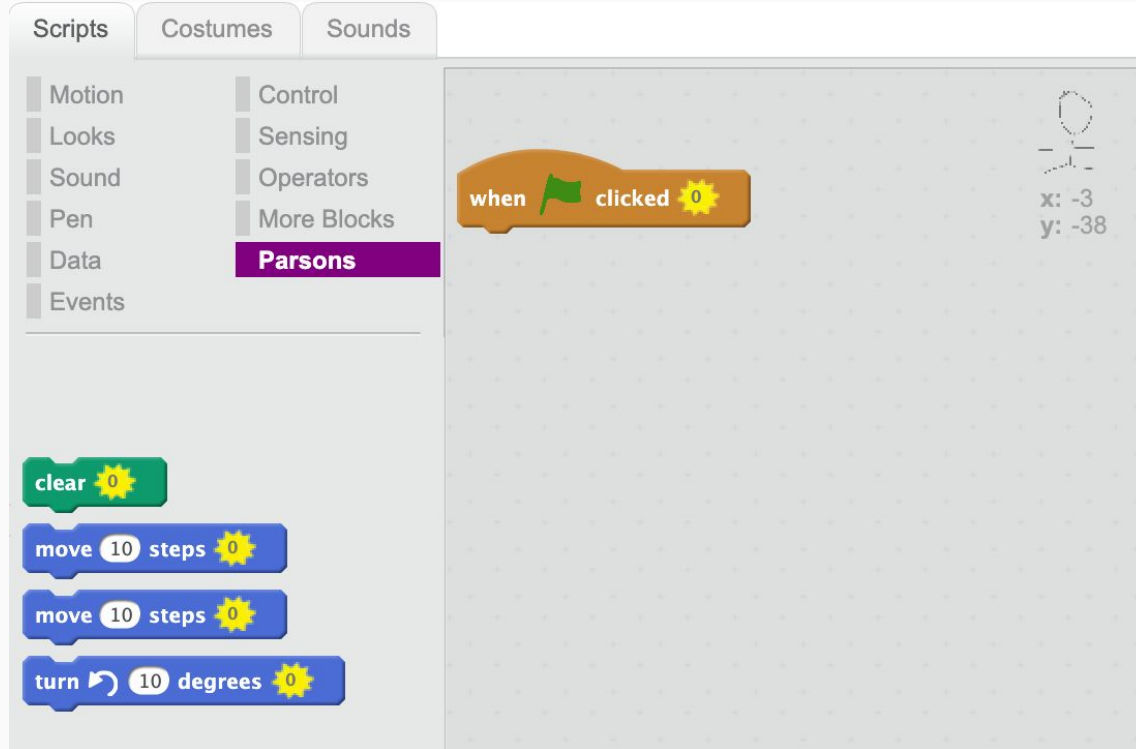
**Main Workspace:**

- Script Area:** A sequence of blocks is visible:
  - when clicked** (orange block)
  - move 10 steps** (blue block)
  - turn 10 degrees** (blue block)
  - move 10 steps** (blue block)
  - clear** (green block)
- Stage Area:** A stick figure is shown on the stage with coordinates **x: -3** and **y: -38**.

- Number input
- All palettes available

# Different Parson's Modes (Parson's Normal Mode)

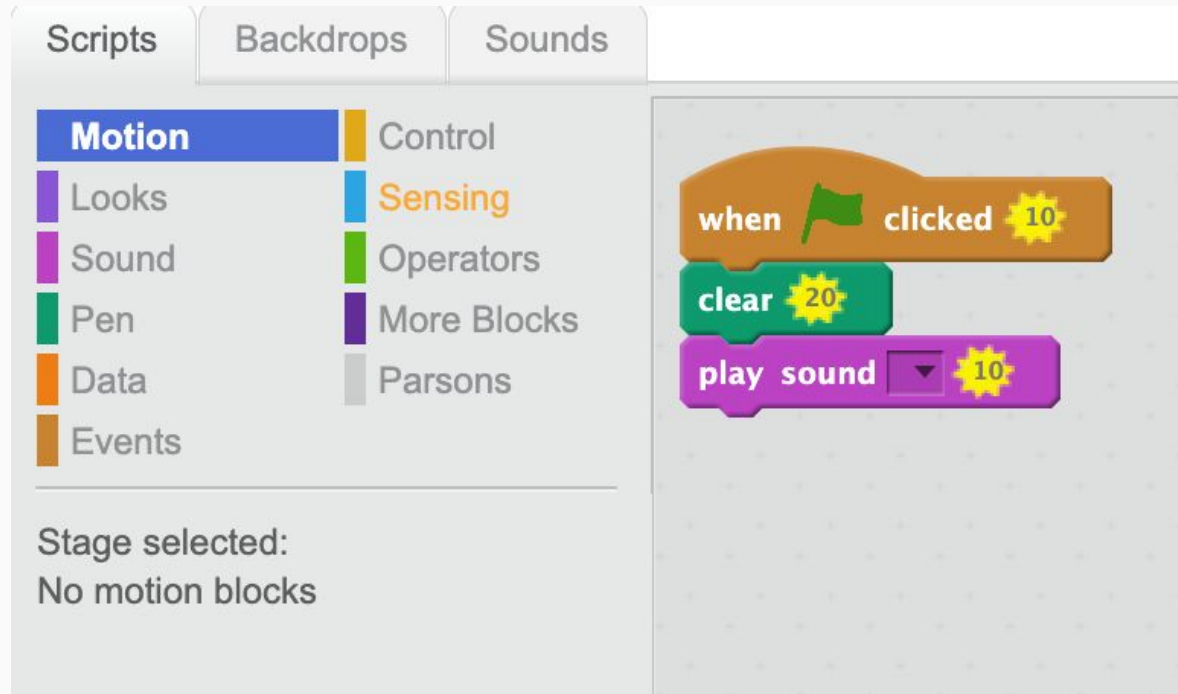
## Student's Side



- No number input
- Only parson's palette can be selected

# Different Parson's Modes (Parson's No Feedback Mode)

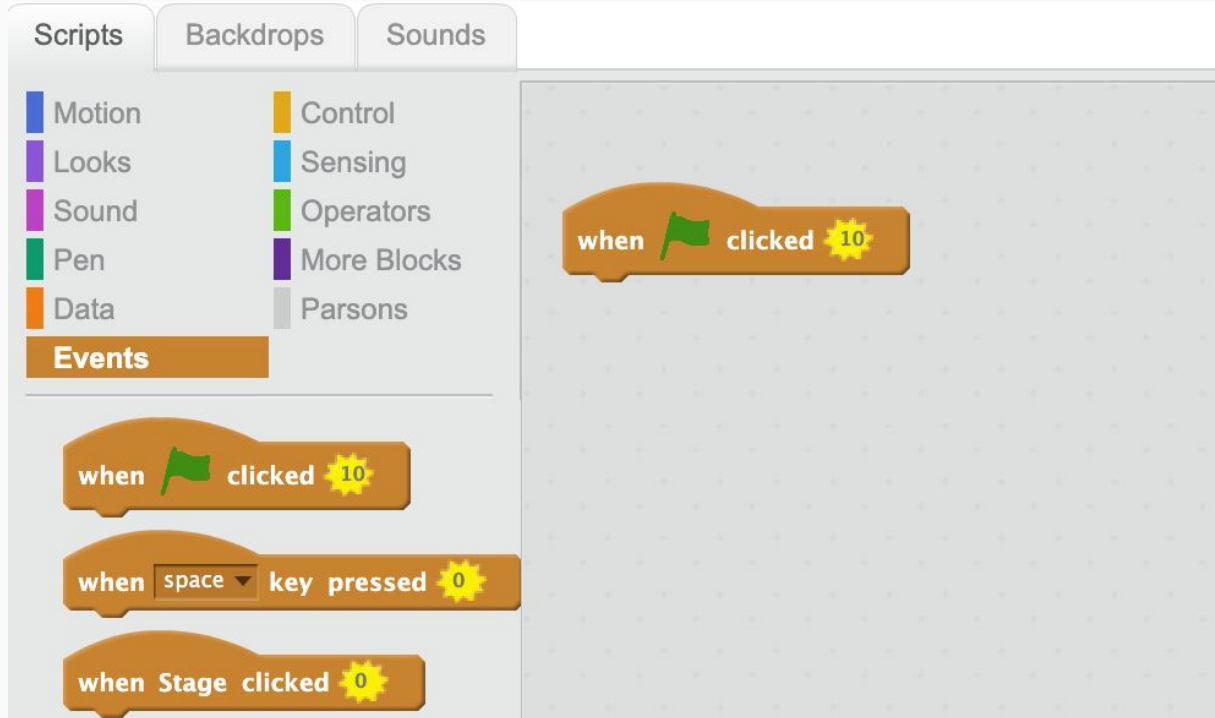
## Instructor's Side



- No number input
- No parson's palette

# Different Parson's Modes (Parson's No Feedback Mode)

## Student's Side



- No number input
- No parson's palette



DEMO

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## Bugs fixed

Fixed nearly 20 bugs in the SAGE:

Instructor's side:

1. Cannot add customize feedback in course level;
2. Cannot create a quest successfully;
3. Tab number bug in the classes' page;
4. Cannot delete a game in the quest;
5. Cannot update instruction in the single-quest page;
6. Redesign the logic when instructor create a new game;
7. Cannot delete customize feedback in the assignment design page;
8. Instruction mismatch.

## Bugs fixed

Fixed nearly 20 bugs in the SAGE:

Student's side:

1. Cannot read games in quest page;
2. When submit a game successfully, the front end will crash down;
3. Cannot update scores in time;
4. Cannot stop timer when finish the game;
5. Didn't stop the timeout function even submitted the result;
6. Cannot redirect to home page after submitting the game;
7. Always show the same information in single-course page;
8. Add limitation on feedback after submitting the quest.

## Bugs fixed

Fixed nearly 20 bugs in the SAGE:

Scratch's side:

1. Cannot read cvg/parson's mode correctly, always show the Parson's palette;
2. The scratch will crash in play mode if there is no designed script;
3. Cannot send correct message to front end when finished the puzzle.

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# Future Work

- Transfer the Scratch code from ActionScript to JavaScript (Based on Scratch v3);
- Clean out useless and outdated code in the front end code;
- Per-block feedback logic can be upgraded;
- Display those metrics in the web page.