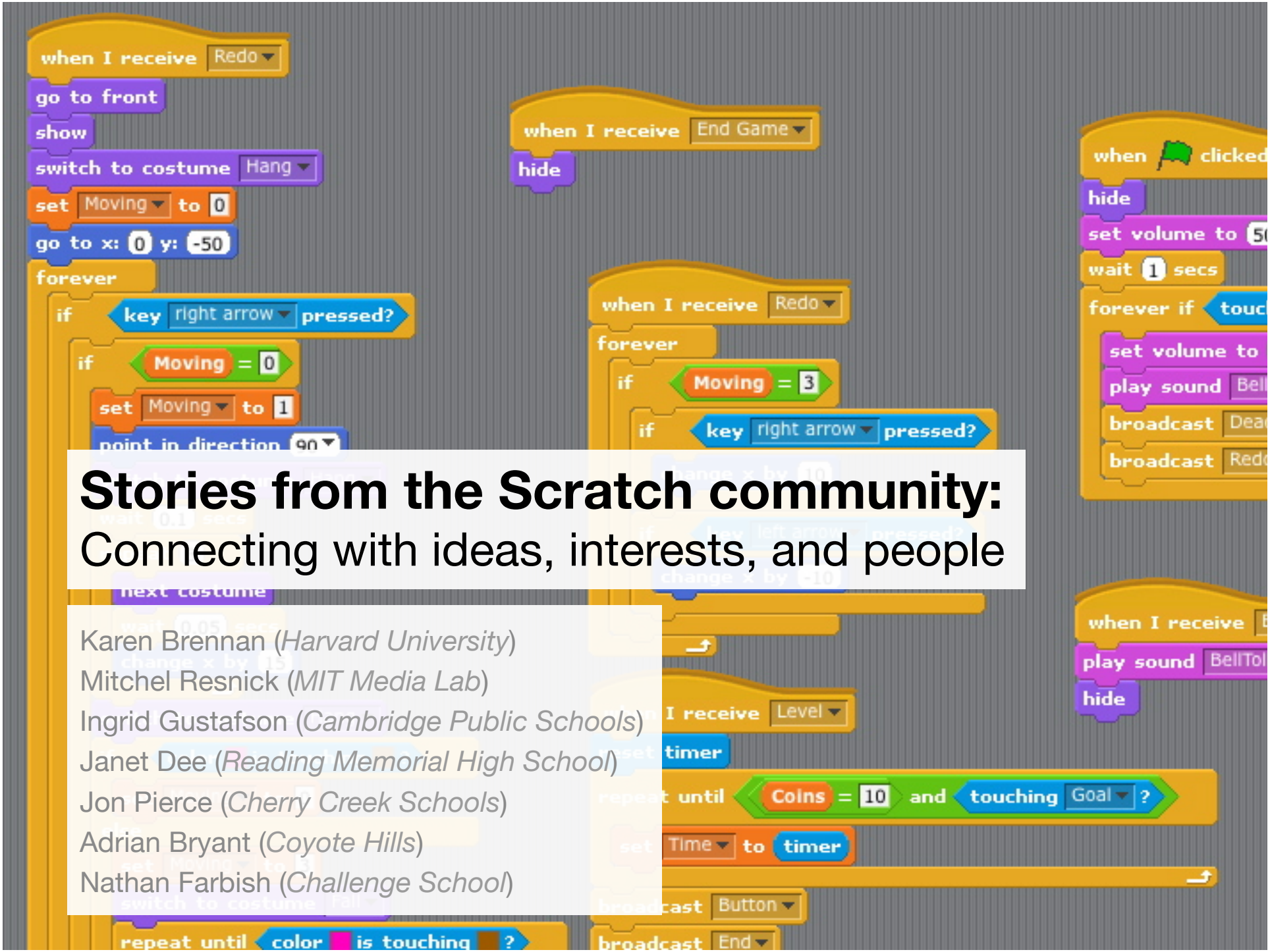


Stories from the Scratch community:
Connecting with ideas, interests, and people

Karen Brennan (*Harvard University*)
Mitchel Resnick (*MIT Media Lab*)
Ingrid Gustafson (*Cambridge Public Schools*)
Janet Dee (*Reading Memorial High School*)
Jon Pierce (*Cherry Creek Schools*)
Adrian Bryant (*Coyote Hills*)
Nathan Farbish (*Challenge School*)

Goal for today’s session

Explore approaches and strategies for engaging a wide range of young people in computer programming, using Scratch in K-12 classrooms as our focus

Plan for today's session

1. Background (Mitch, Karen)
2. Stories from schools (Ingrid, Janet, Jon, Adrian, Nathan)
3. Small-group discussions
4. Whole-group discussion

Part 1
Background

SCRATCH

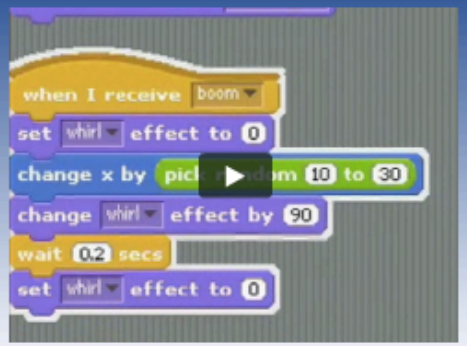
imagine • program • share

home | projects | galleries | support | forums | about | Language

Login or Signup for an account

search

Create and share your own interactive stories, games, music, and art



Check out the 3,087,537 projects from around the world!

To create your own projects:

Download Scratch

Featured Projects

See more

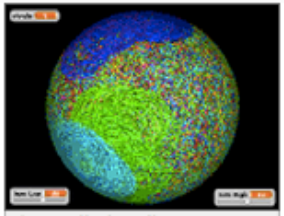
Scratch Viewer-...
by co13

Growing Darknes...
by obsidiousshade

StarHorse V.2
by Appaloosa

Projects Selected by joletole

Learn more



Controlled Walk...
by twins_paradox

Daniel (Online ...
by NeilWest

Tank Attack: th...
by EndoPeru

Scratch 2.0 Beta

Try out the Scratch 2.0 Beta, and help us make it better!

Check it out

ScratchEd

Do you help people learn Scratch? Join ScratchEd, our new online community for educators.

Find out more

Video Tutorials

Check out our new collection of intro video tutorials.

Learn more

SCRATCH | Create | Explore | Discuss | Help | Search | Login

Create stories, games, and animations
Share with others around the world

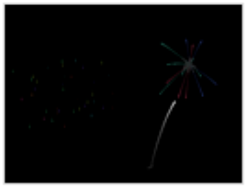
GET STARTED | VIEW PROJECTS | JOIN SCRATCH (it's free)

A creative learning community with **3,064,516** projects shared

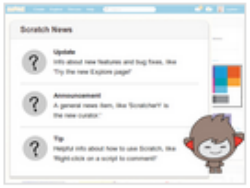
ABOUT SCRATCH | FOR EDUCATORS | FOR PARENTS

Featured Projects

RGB Pen Color Block
by JTxt



Firework Show
by Giddy215

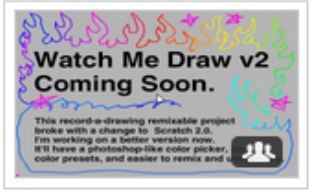


Need Icons for Scratc...
by Lightnin

Take me to the flower ...
by kano-e

Ubbi Dubbi Trubanslu...
by scmb1

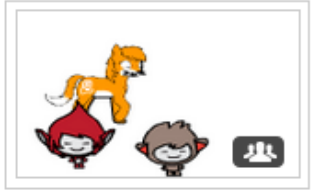
Featured Studios



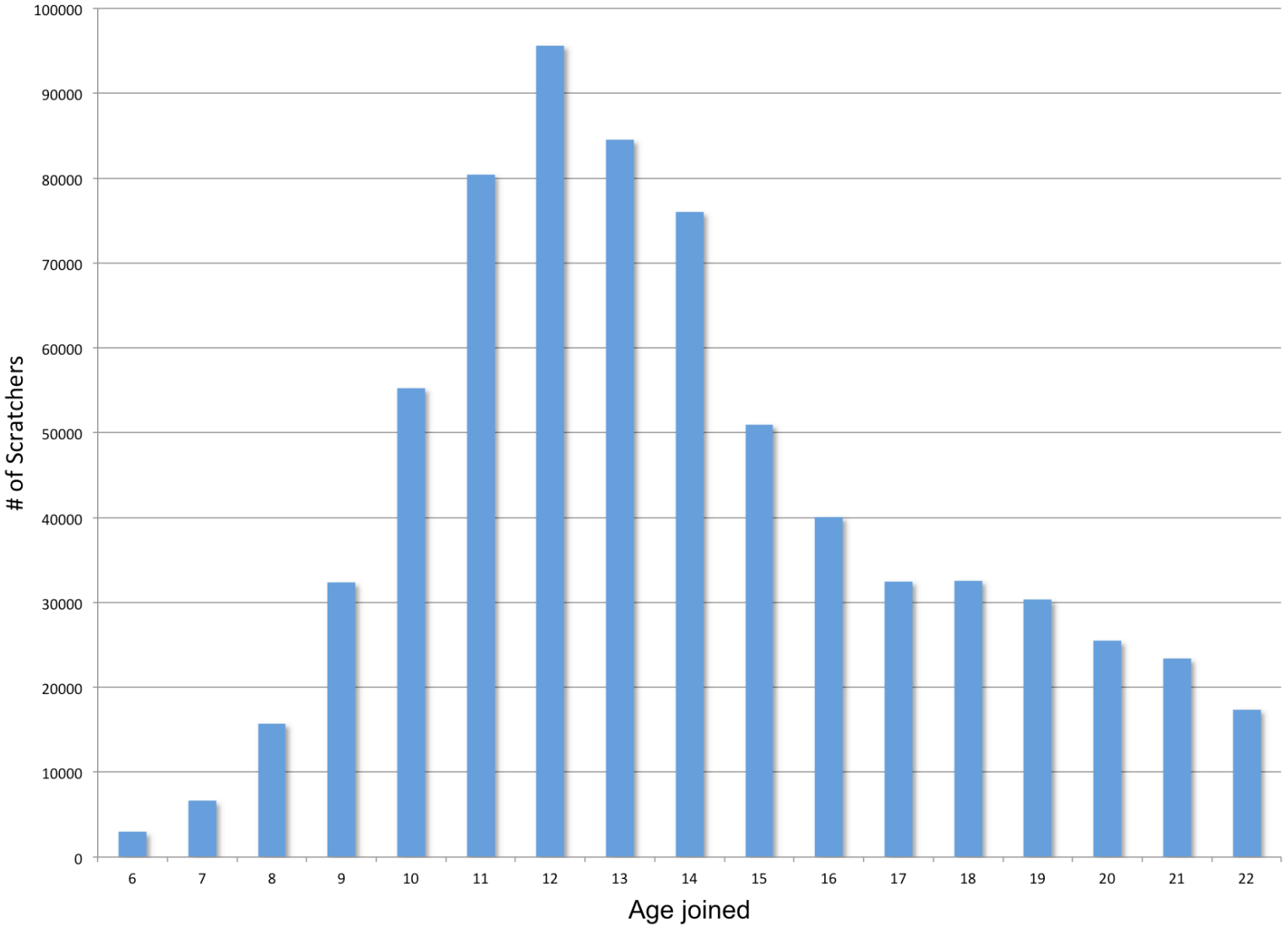
recorded drawings

Starter Projects

Video Sensing



Clone Blocks


100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
# of Scratchers
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
Age joined

south korea
south korea

SCRATCHED
learn | share | connect

Join Sign In About Help Contact

Search All GO

Stories Resources Discussions Members Events

What is Scratch?

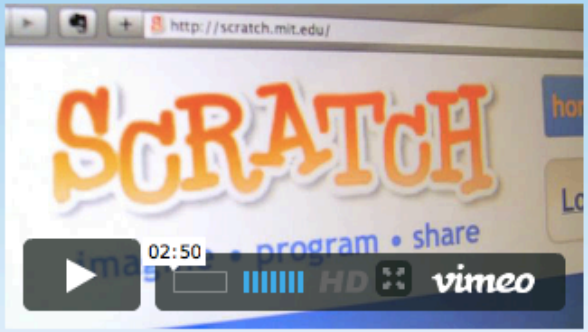
Scratch is a programming language that makes it easy to create interactive art, stories, simulations, and games – and share those creations online.

Learn more »

What is ScratchEd?

ScratchEd is an online community where Scratch educators:

share stories exchange resources ask questions find people



Get Started with Scratch

Imagine the creative possibilities with Scratch and the online community in this intro video.

New Stories

Chopper extended
Chopper game extended
Hans Braakmann posted this *1 week* ago

Bobbie
Animation of Bobbie! Six lessons to introduce scratch animation in the classroom.
Hans Braakmann posted this *1 week* ago

When the last bell rings, the fun begins in 21st Century After School program
Nemesio Ferrer (center), 11, a fourth-grader at Carlos Pacheco Elementary School, shows his family how he uses Scratch.

New Resources

Redox
Elizabeth Christophy posted this *13 hours* ago

STRETCh with Scratch
Heidi Williams posted this *4 days* ago

Hybridization of Orbitals
Elizabeth Christophy posted this *4 days* ago

Soluble or Insoluble
Elizabeth Christophy posted this *4 days* ago

- Find a resource
- Share a resource

New Discussions

Scratch2013BCN will be awesome
Joek van Montfort posted this *12 hours* ago

Looking for Science and Social Science teachers using Scratch
Elizabeth Christophy commented on this *13 hours* ago

Scratch 2.0 Video Tutorials
Kunal Chawla commented on this *2 days* ago

Scratch Language and Terms for a course for

ASIA
Atlantic Ocean
AFRICA
Pacific Ocean
Indian Ocean

connections

connections with

ideas

connections with

ideas

interests

connections with

ideas

interests

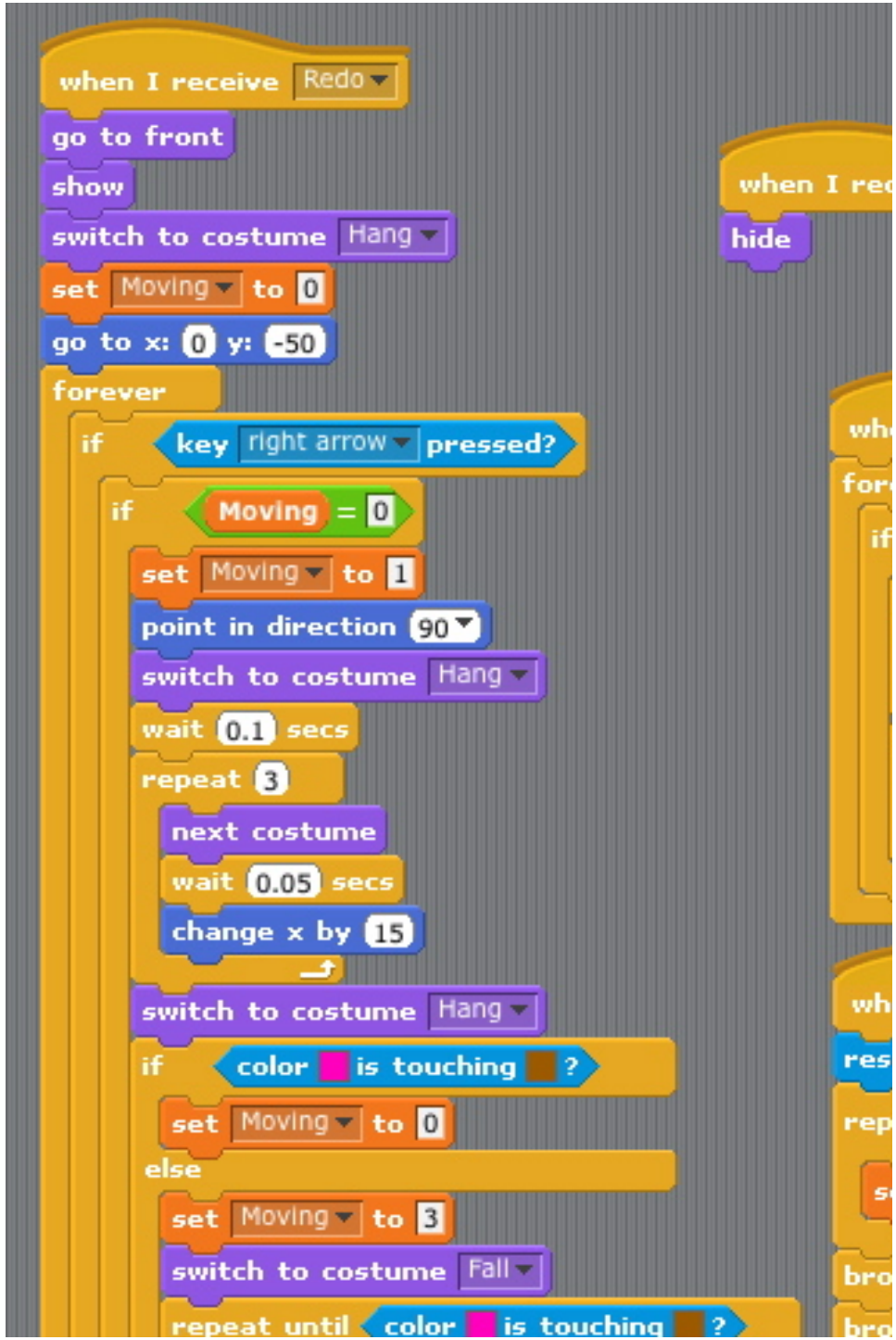
people

connections with

ideas

interests

people

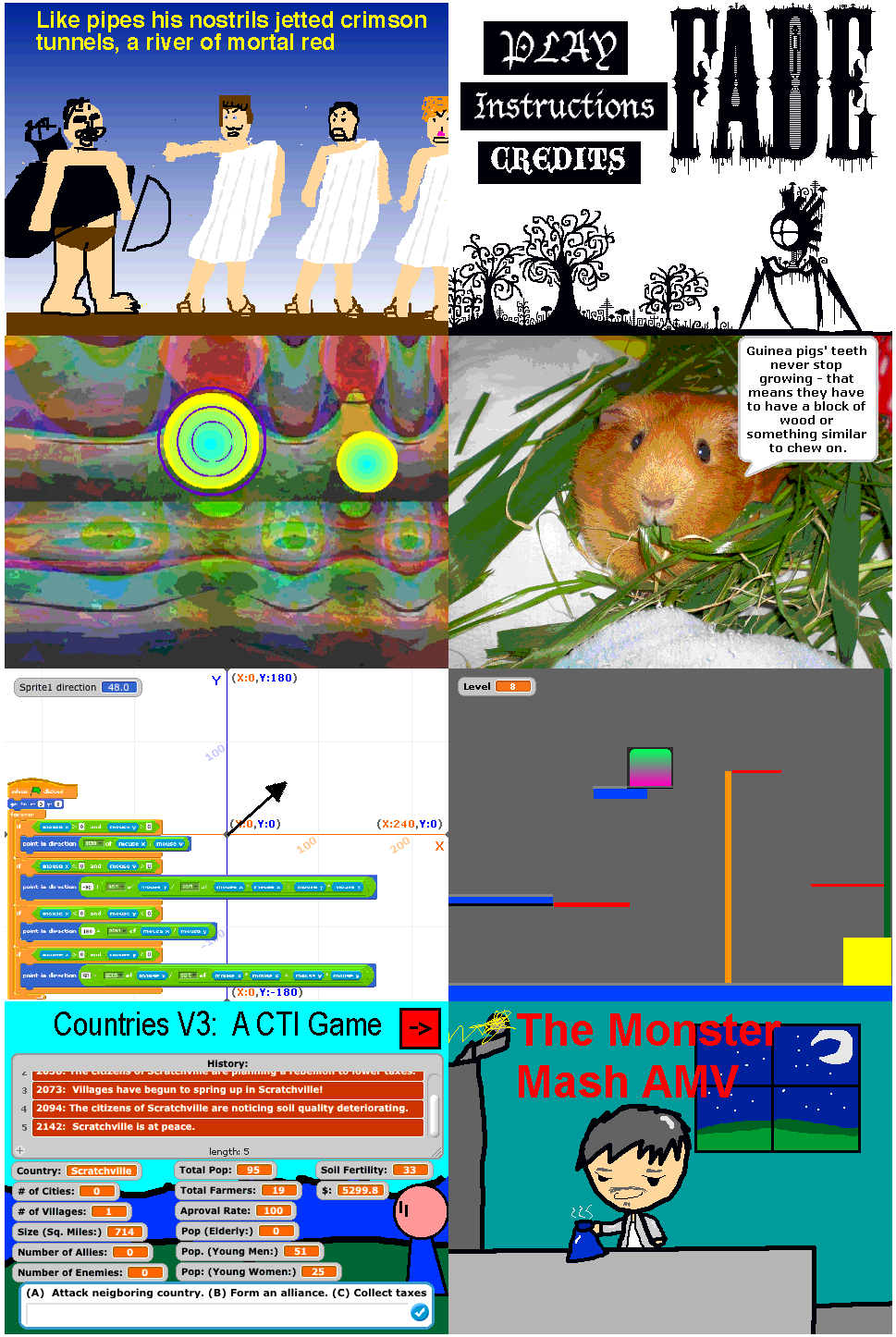


connections with

ideas

interests

people



connections with

ideas

interests

people

Part 2
Stories from schools

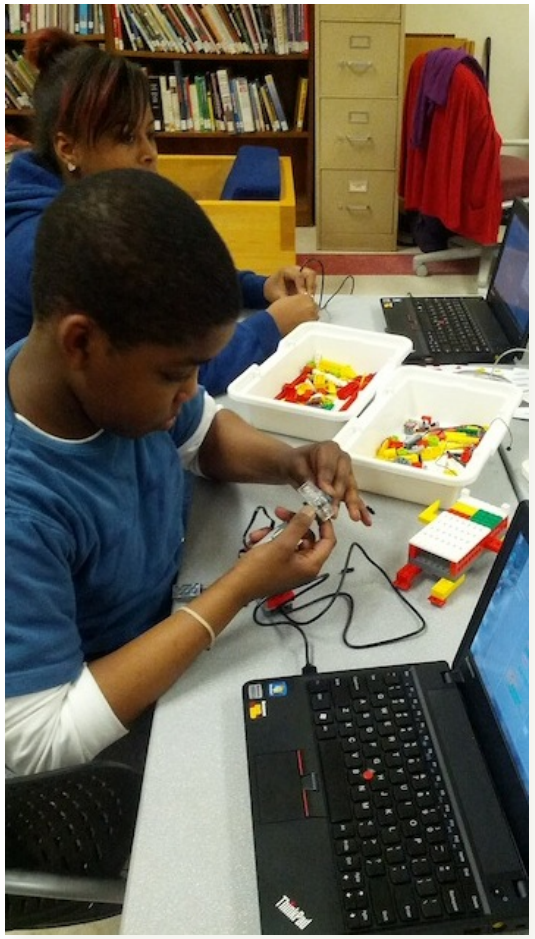
Ingrid Gustafson

Experiences with Scratch

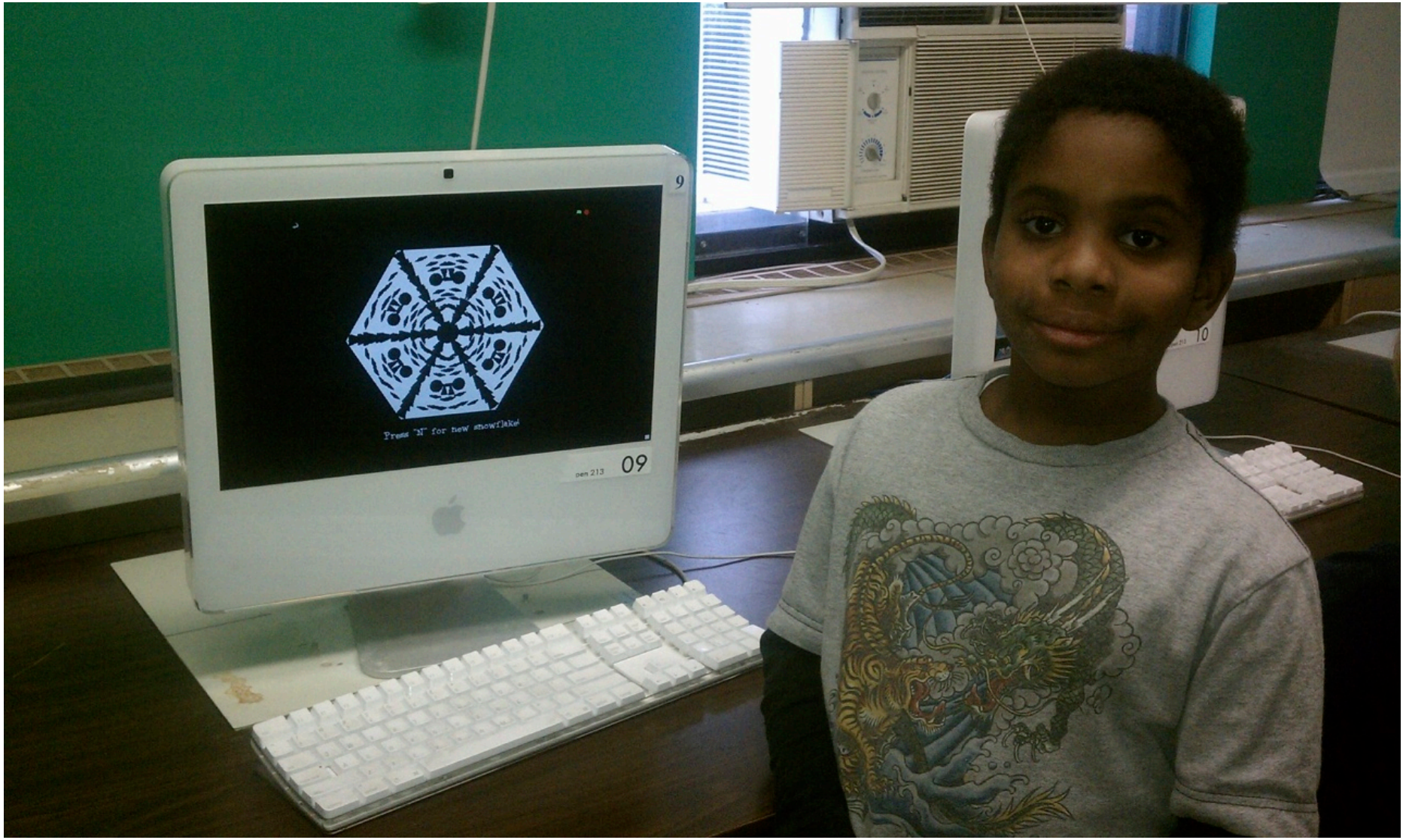
@ingridtech

Instructional Technology Specialist

Cambridge Public Schools, MA



1st & 2nd Graders



1st & 2nd Graders

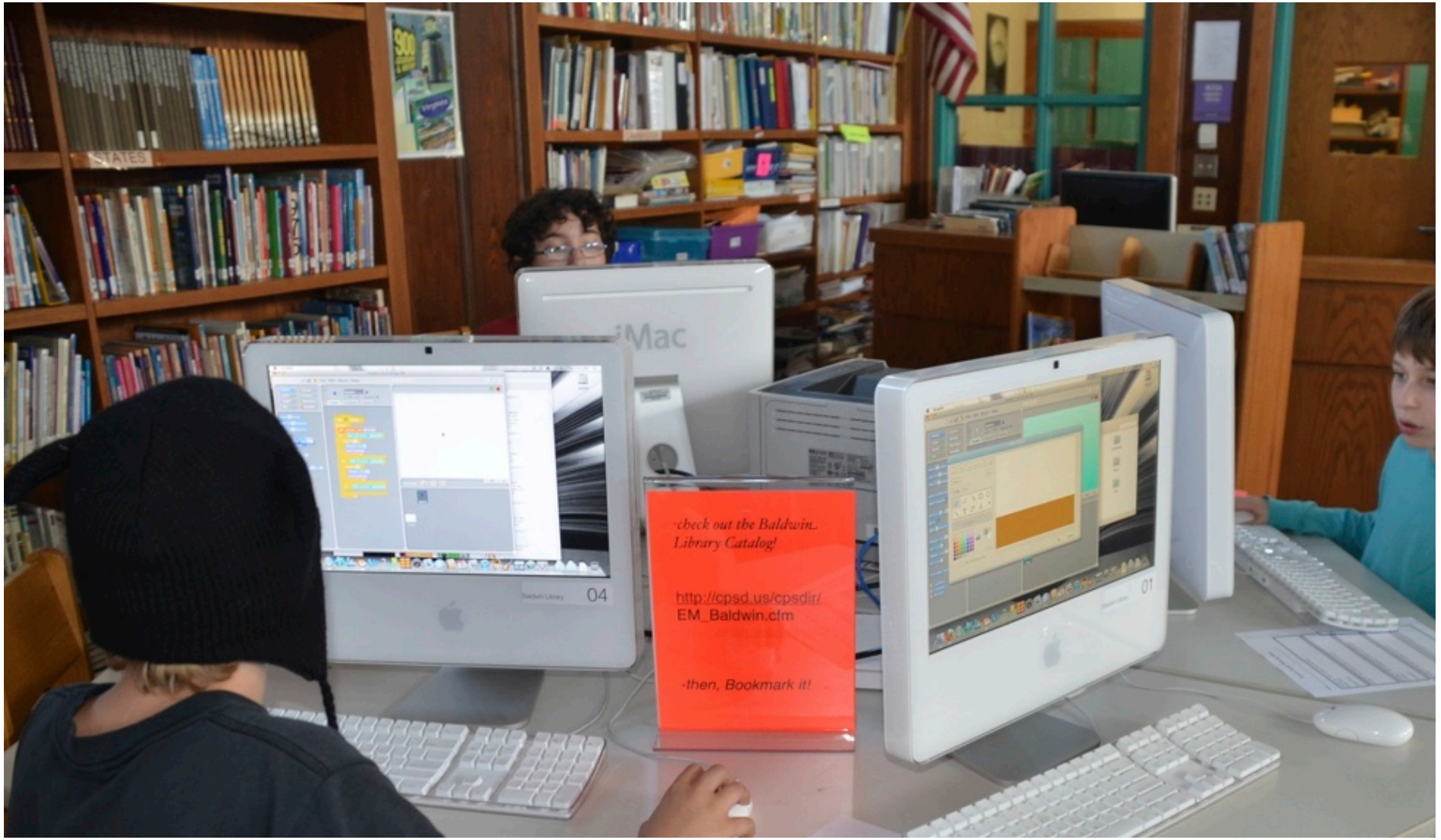
1st & 2nd Graders

1st & 2nd Graders

1st & 2nd Graders

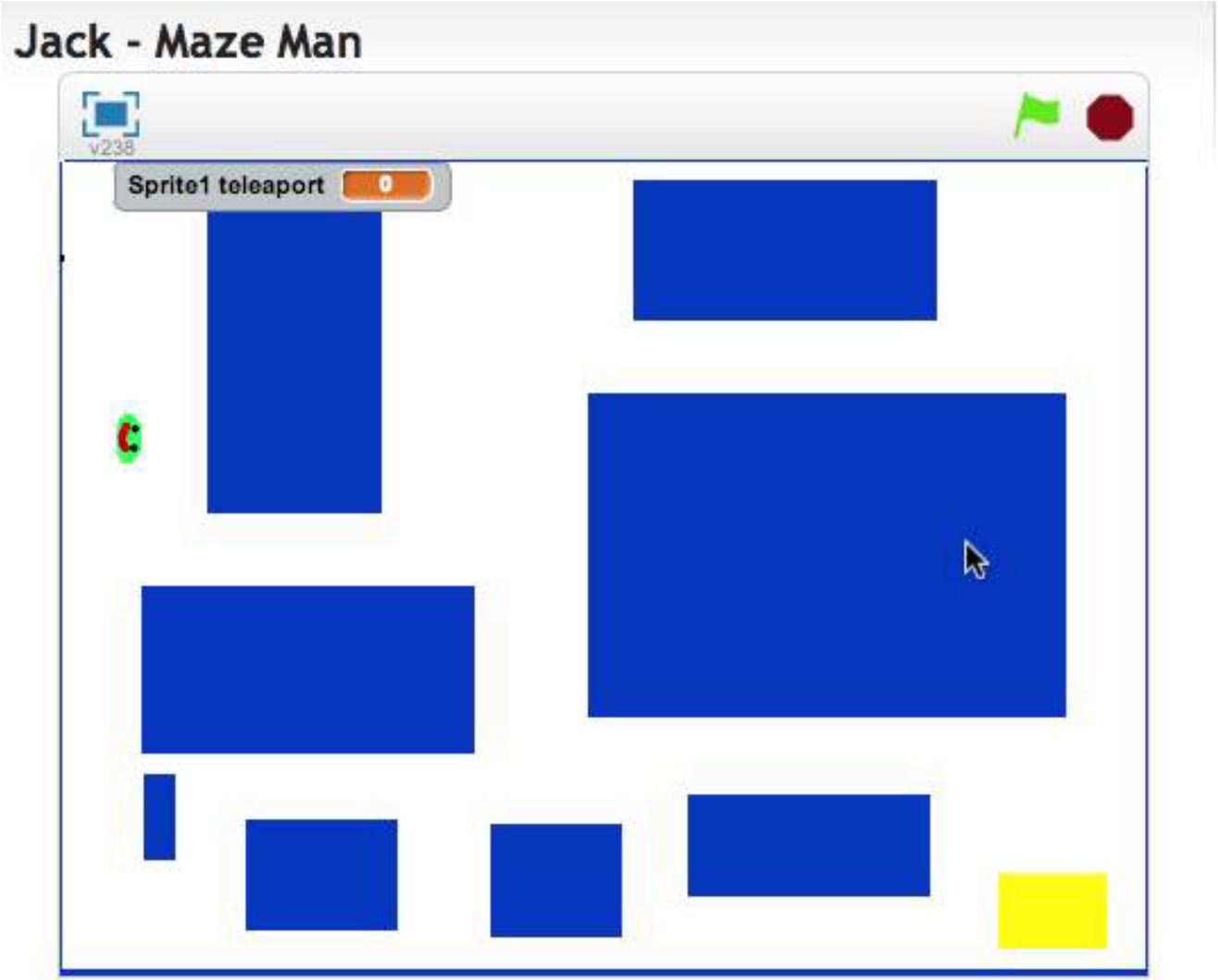
Scratch Club – Jack's Maze

Scratch Club – Jack's Maze



Scratch Club – Jack's Maze

Scratch Club – Jack's Maze



Download this project!

Download the one sprite and 12 scripts of "Jack - Maze Man" and open it in Scratch

Project Notes

Hello Welcome here's the goal of the game is that you have to use the arrow keys to get to the end.You also have to use the "S" key to shrink and to grow you press the "D" key.The way I used math in this project is when I used the growth, when you grow the size goes up by 5. When you shrink you go down size by -5. That is how I made my game math related.

Tags

Add Tags

Janet Dee

Scratch In High School
Intro to Computer Programming

@JANETLDEE

TECHNOLOGY INTEGRATION SPECIALIST

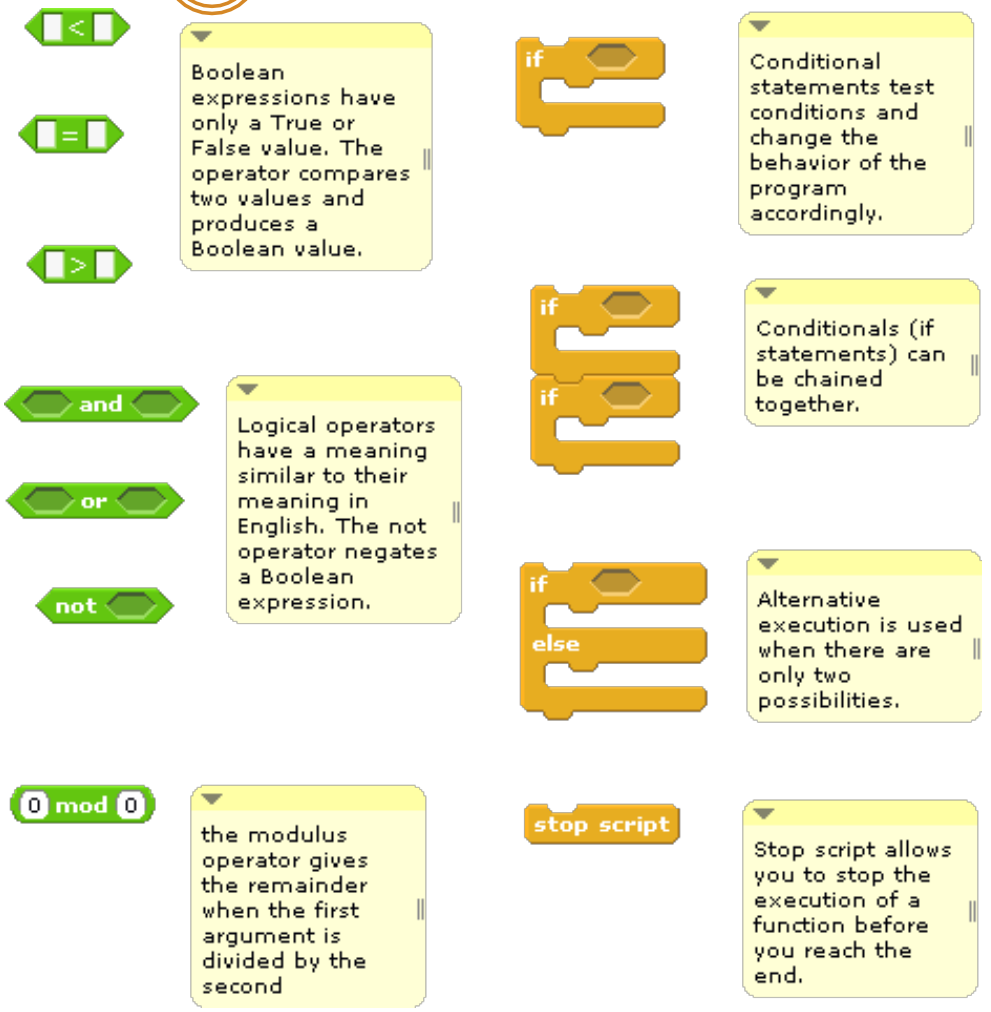
DEPARTMENT CHAIR – BUSINESS AND TECHNOLOGY

READING MEMORIAL HIGH SCHOOL

READING MA

Using Scratch to Teach Programming

Logic and Math



ScratchEd Community

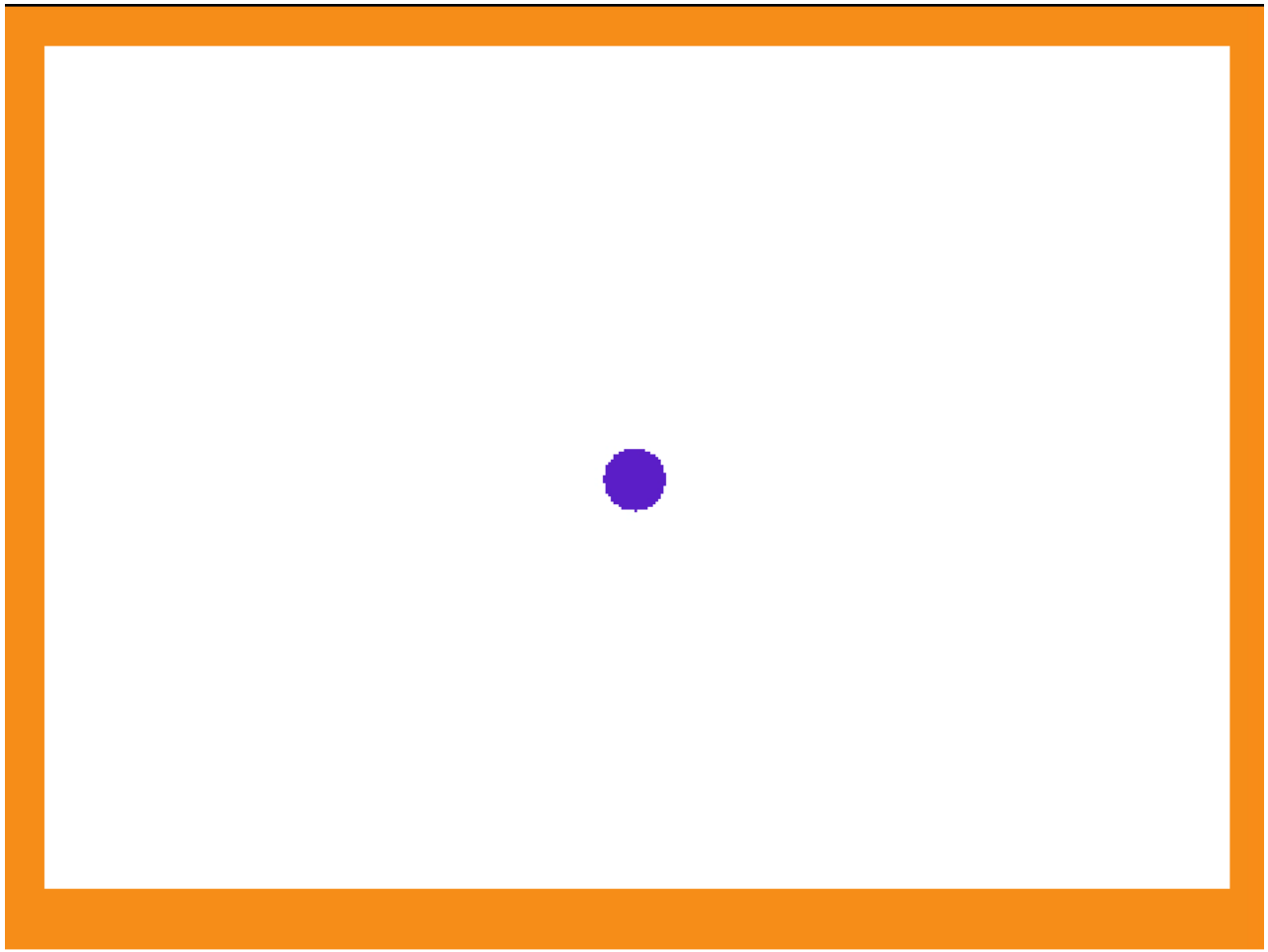
- Meet-Ups (Winter 2011)
  - Luxury to meet with like minded instructors regularly
- Curriculum Guide (Fall 2011)
  - Lesson Plans

    e.g. Orange Square – Purple Circle Assignment
- Common Issues with Teaching Scratch (Ongoing)
  - When is a Project Finished?

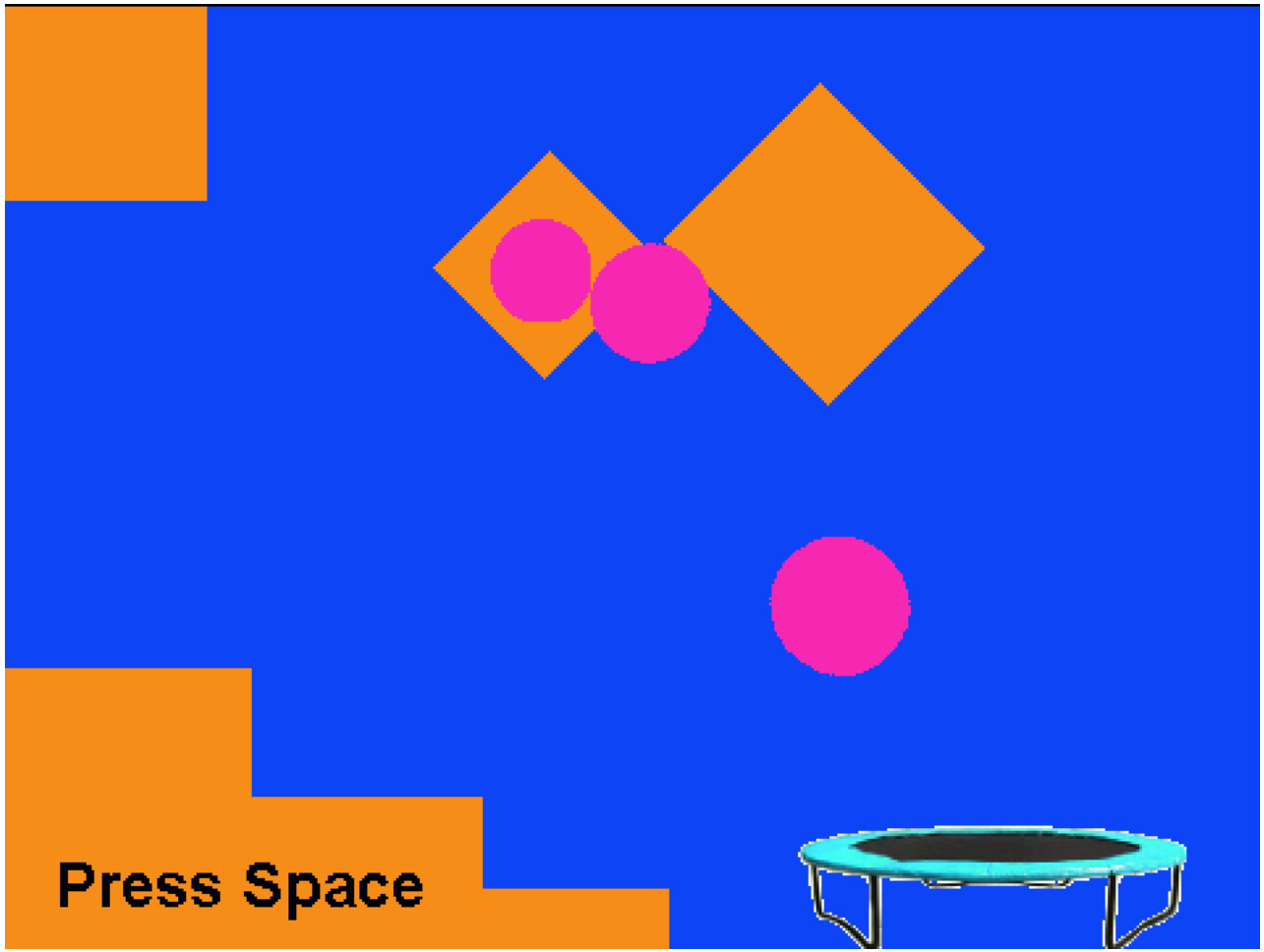
    Problem: see file names for student sentiment

    Solution: Remix Challenge Assignment

Orange Squares - Purple Circles

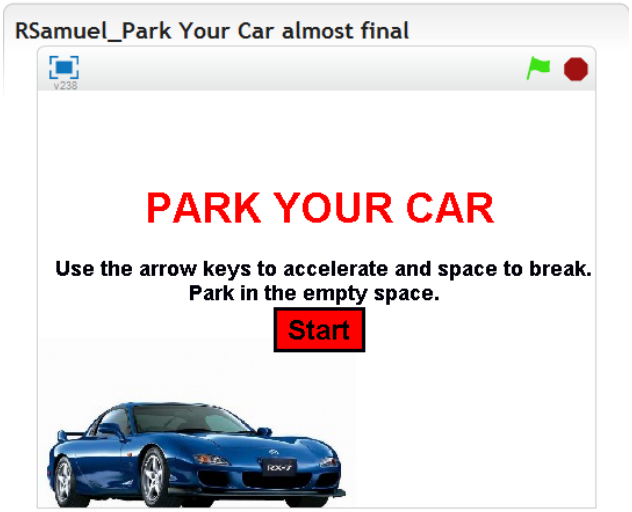


Orange Squares - Purple Circles (with trampoline)



When is a Project Finished?

Park Your Car Almost Final



Max's Finalish Project (Buggy but still works)

Solution: The Remix Challenge

Jimmy H. to **Spring 2011 Programming**

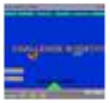
Circus. Still has many bugs

Jimmy H. to **Spring 2011 Programming**

try this

David G. - I remade your game with Score and Mudkipz. I reposted it

Mar 3, 2011



Jimmy H. to **Spring 2011 Programming**

this one is actually working now

Jon R. to **Spring 2011 Programming**

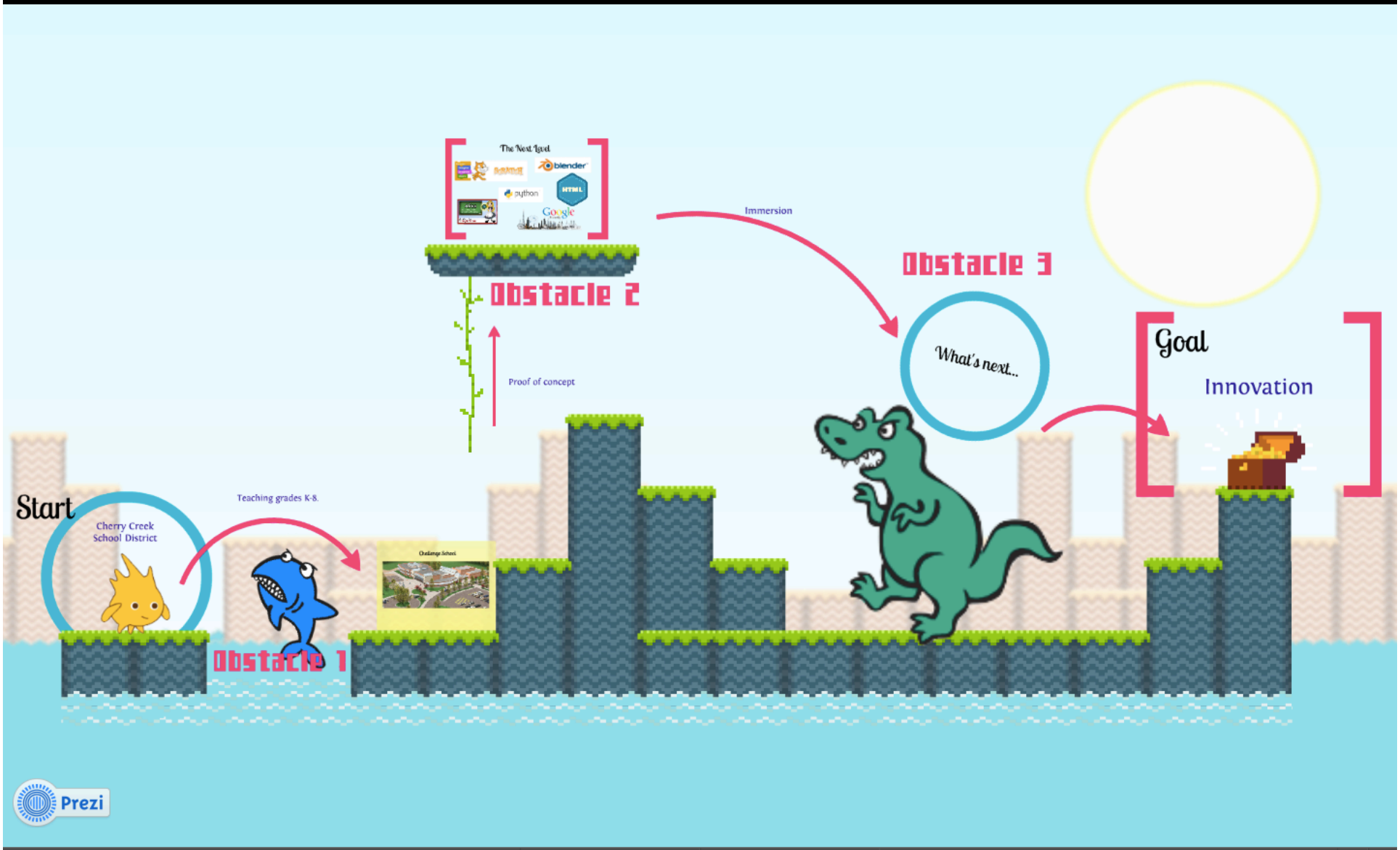
a version of david's improved version of his version of jimmy's circus. with a timer

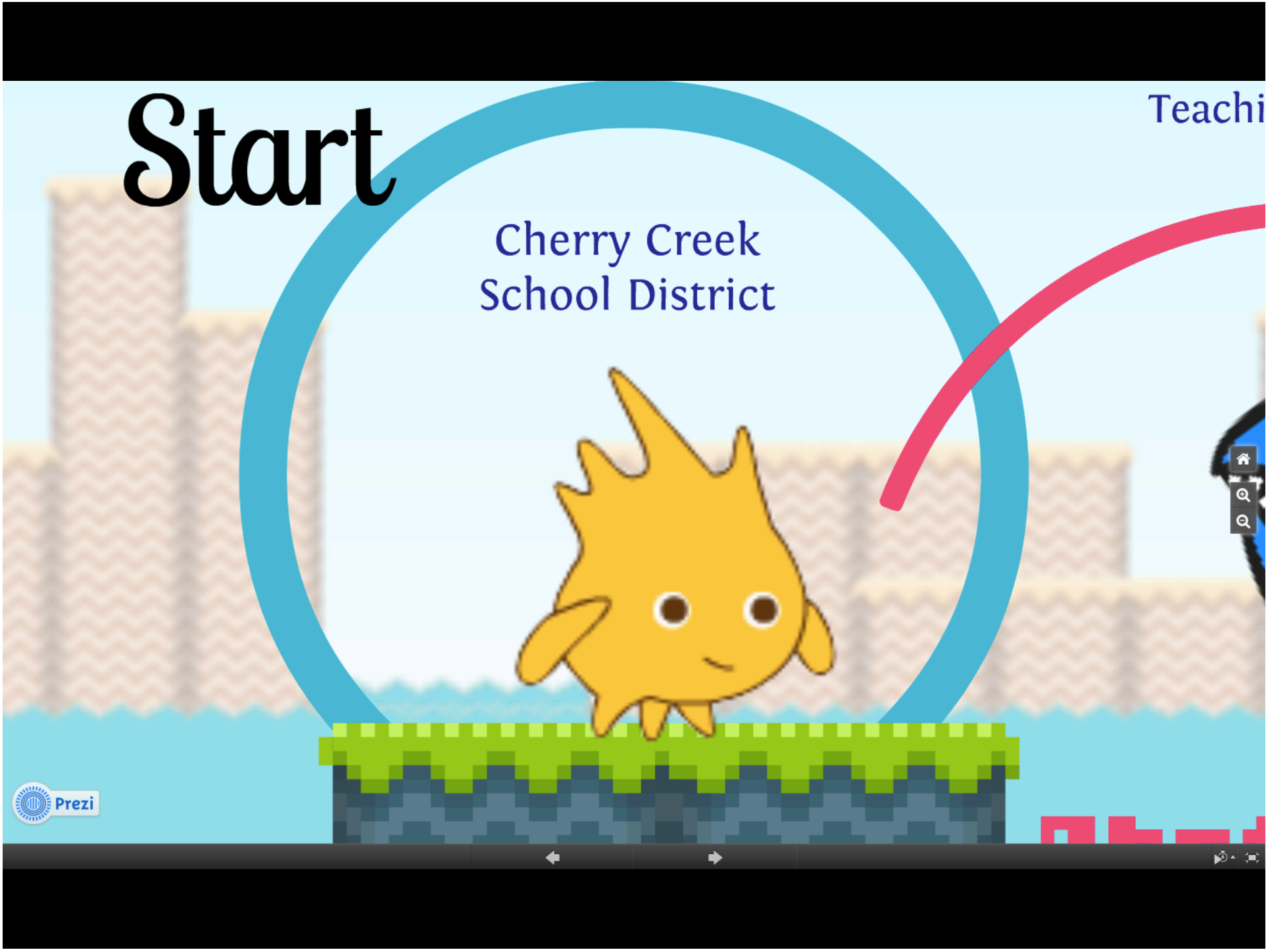
Jimmy H. - cool edits guys

Mar 4, 2011

Jon's version of David's Improved Version of His Version of Jimmy's Circus, With a Timer

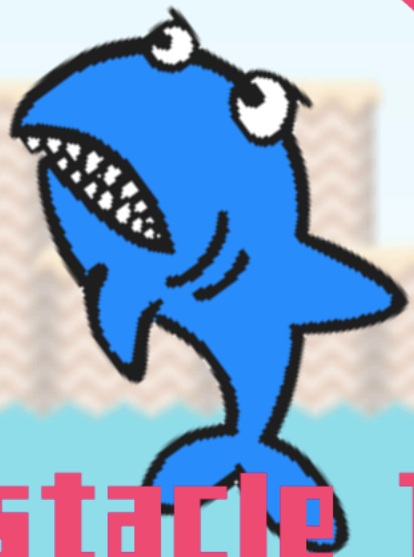
Jon Pierce


Start
Cherry Creek School District
Teaching grades K-8.
Obstacle 1
Obstacle 2
The Next Level
Proof of concept
Immersion
Obstacle 3
What's next...
Goal
Innovation
Prezi

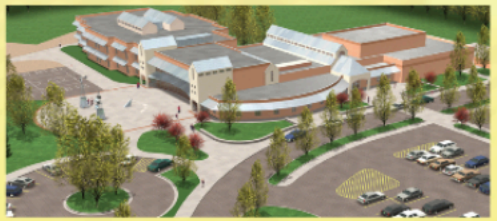

Start
Teachi
Cherry Creek
School District
Prezi

Teaching grades K-8.

Cherry Creek School District



Challenge School



Obstacle 1

Prezi

Challenge School

The Next Level
blender
python
HTML
Google
SketchUp
Alice
Imm
Obstacle 2
Proof of concept
Prezi

The Next Level

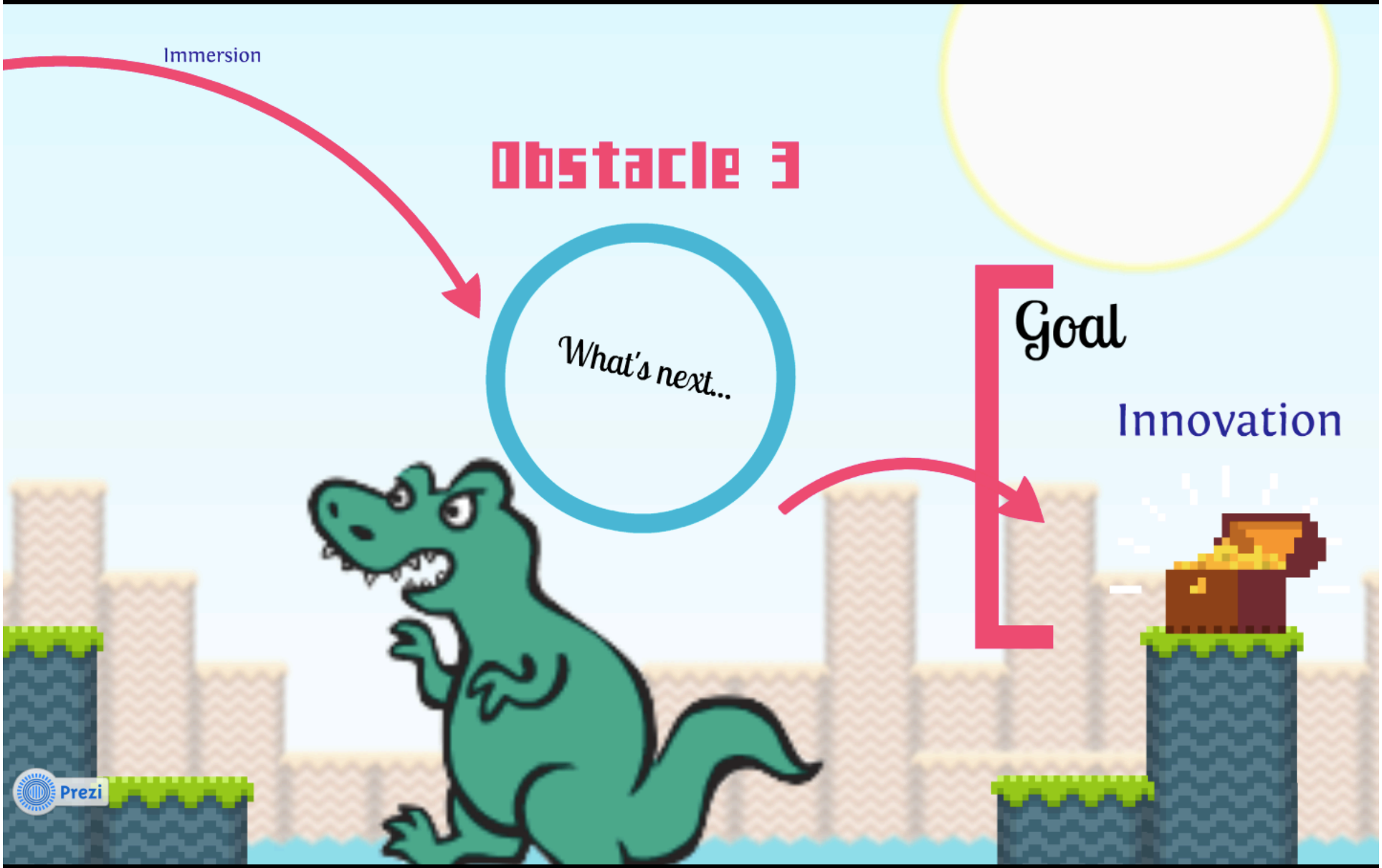
SCRATCH

blender™

HTML

python™

Prezi

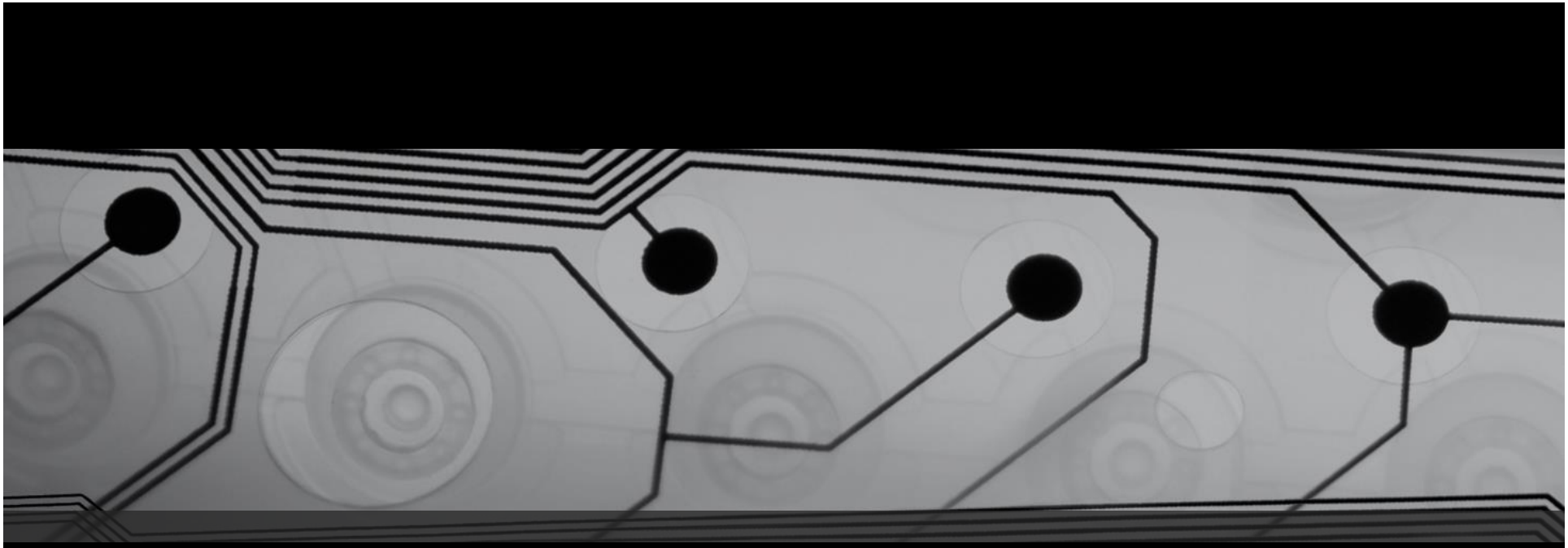

Immersion
Obstacle 3
What's next...
Goal
Innovation
Prezi

What's next...
Prezi

Goal

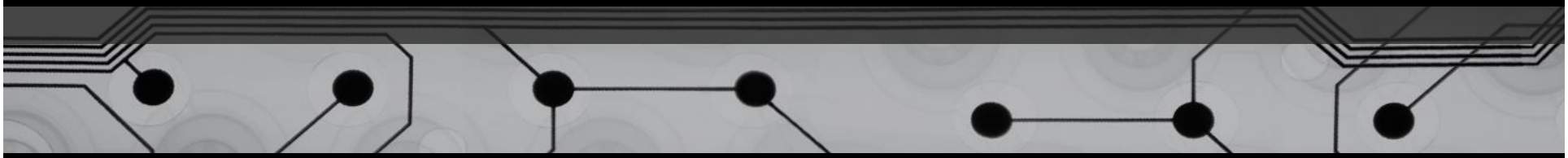
Innovation

Adrian Bryant



Scratch and me

by Adrian Bryant – Coyote Hills Elementary School
My Scratch projects: http://scratch.mit.edu/users/Adrianbryant



Overview

- An introduction
- Some of my projects
  - A Book report (completed)
  - Games for my younger siblings (completed)
  - An Educational project (in development)
- My favorite Scratch features
- Plans for the future

Yours truly

- 10, going on 11
- South African by birth
- From Southern California to Colorado
- Reading list
  - Lord of the Rings, Narnia, Mathematics books, and all the other typical ones
- Karate and Swimming
- Heard about Scratch from my Dad
- Intrigued when CHE announced a Scratch Club… the start of my journey

Scratch Projects

Some of my projects are at http://scratch.mit.edu/users/Adrianbryant

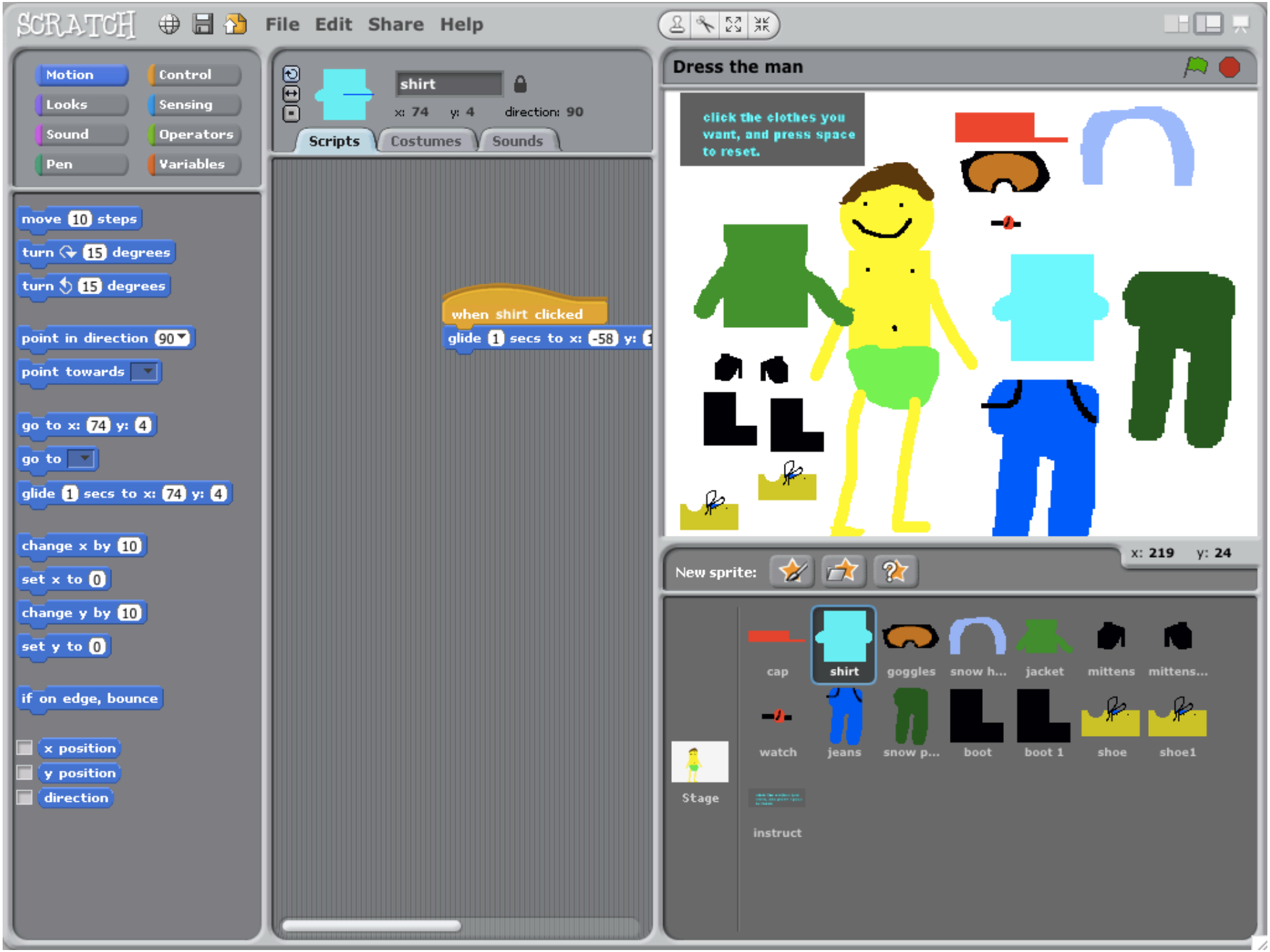
- Book Report –
  - Book report on *Elijah of Buxton* for school.
  - Already had a poster and PPT, need some extra zip, hence a collection of mini games based on story details
  - Link to project
- Games for siblings –
  - Dress the man game for my 6 year old sister – customize clothes on a doll - Link to project 1
  - Very user friendly breakout/pong game for my 4 year old brother - Link to project 2
- Educational project – Still in DEV
  - Movie to teach long division

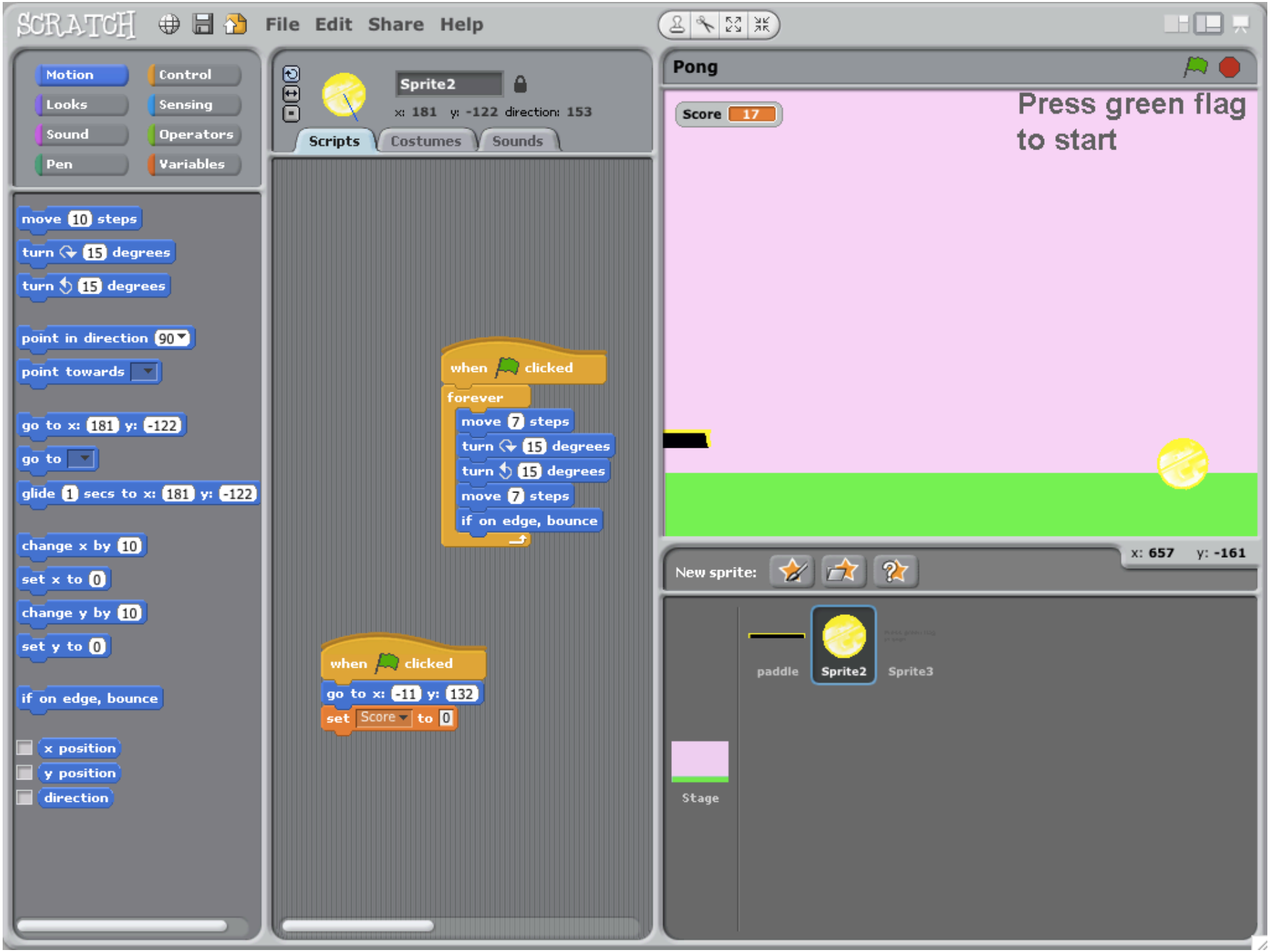
My favorite Scratch features

- Scratch allows me to:
  - Be creative
  - Express my ideas
  - Learn strong programming and logical thinking skills
- Love that the software is now portable and accessible anywhere from the Internet –
  - Means that I can use a faster computer in the house to work, rather than my old laptop. ☺
- Customizable characters (sprites) are a lot more fun than using pre-drawn ones.

The future

- For Scratch:
  - Easier networking/multiplayer ability, without the use of Mesh software.
- For me:
  - Not sure if I will be a software programmer, but having this skill is key to my future (at least that is what my Dad keeps telling me)
- Thank you for the opportunity to present! Any questions?

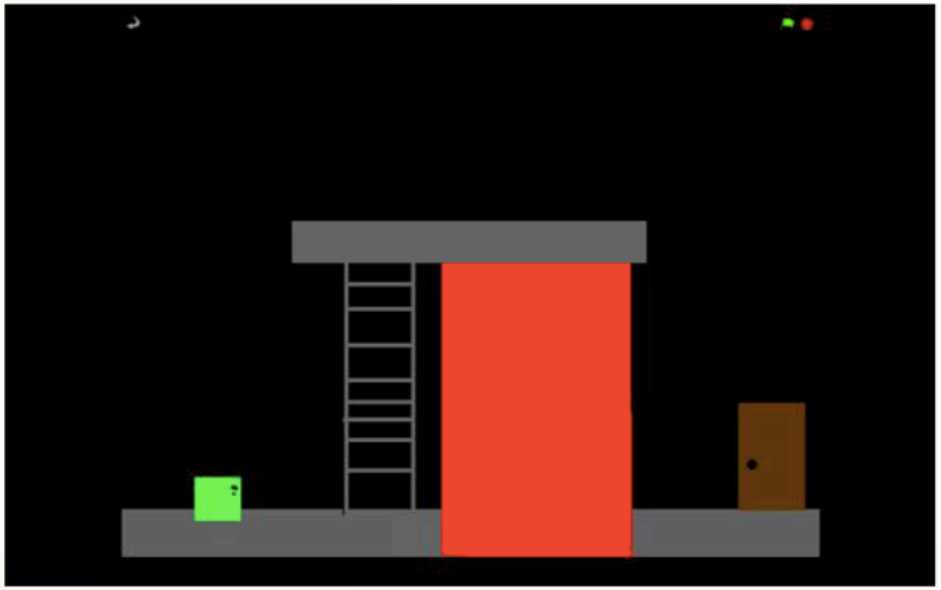

SCRATCH
File Edit Share Help
Motion
Control
Looks
Sensing
Sound
Operators
Pen
Variables
move 10 steps
turn 15 degrees
turn 15 degrees
point in direction 90
point towards
go to x: 74 y: 4
go to
glide 1 secs to x: 74 y: 4
change x by 10
set x to 0
change y by 10
set y to 0
if on edge, bounce
x position
y position
direction
shirt
x: 74 y: 4 direction: 90
Scripts
Costumes
Sounds
when shirt clicked
glide 1 secs to x: -58 y:
Dress the man
click the clothes you want, and press space to reset.
x: 219 y: 24
New sprite:
cap
shirt
goggles
snow h...
jacket
mittens
mittens...
watch
jeans
snow p...
boot
boot 1
shoe
shoe1
Stage
instruct


SCRATCH
File Edit Share Help
Motion
Control
Looks
Sensing
Sound
Operators
Pen
Variables
move 10 steps
turn 15 degrees
turn 15 degrees
point in direction 90
point towards
go to x: 181 y: -122
go to
glide 1 secs to x: 181 y: -122
change x by 10
set x to 0
change y by 10
set y to 0
if on edge, bounce
x position
y position
direction
Sprite2
x: 181 y: -122 direction: 153
Scripts
Costumes
Sounds
when clicked
forever
move 7 steps
turn 15 degrees
turn 15 degrees
move 7 steps
if on edge, bounce
when clicked
go to x: -11 y: 132
set Score to 0
Pong
Score 17
Press green flag to start
x: 657 y: -161
New sprite:
paddle
Sprite2
Sprite3
Stage

Nathan Farbish

Challenge School

a Cherry Creek Magnet School



Adventures of Cube

Prezi

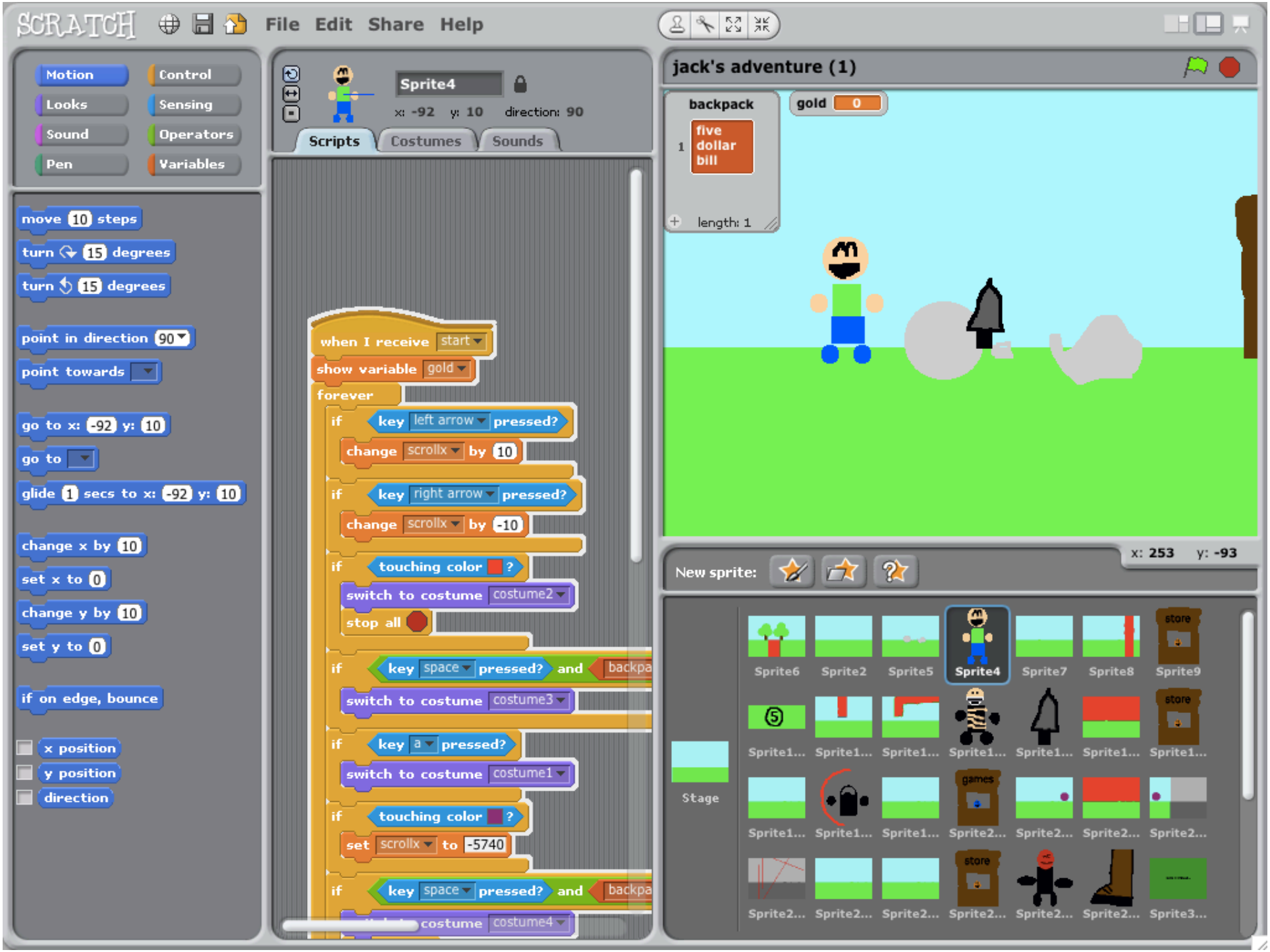
iD Tech Camps®

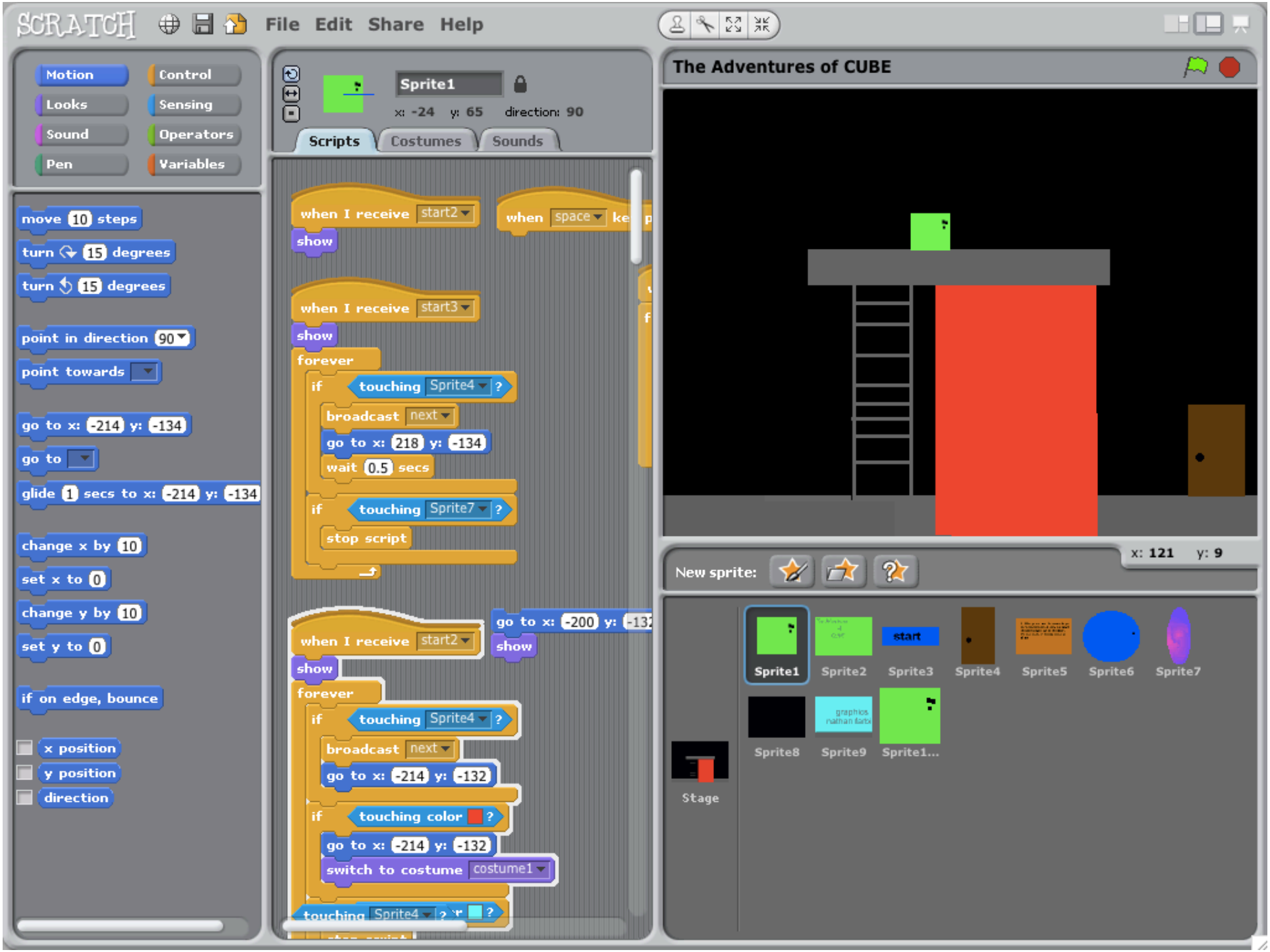
Prezi

SCRATCH

SCRATCH IS THE BEST!!!!

Prezi


SCRATCH
File Edit Share Help
Motion Control
Looks Sensing
Sound Operators
Pen Variables
move 10 steps
turn 15 degrees
turn 15 degrees
point in direction 90
point towards
go to x: -92 y: 10
go to
glide 1 secs to x: -92 y: 10
change x by 10
set x to 0
change y by 10
set y to 0
if on edge, bounce
x position
y position
direction
Sprite4
x: -92 y: 10 direction: 90
Scripts Costumes Sounds
when I receive start
show variable gold
forever
if key left arrow pressed?
change scrollx by 10
if key right arrow pressed?
change scrollx by -10
if touching color ?
switch to costume costume2
stop all
if key space pressed? and backpa
switch to costume costume3
if key a pressed?
switch to costume costume1
if touching color ?
set scrollx to -5740
if key space pressed? and backpa
costume costume4
jack's adventure (1)
backpack
1 five dollar bill
length: 1
gold 0
New sprite:
x: 253 y: -93
Stage
Sprite6 Sprite2 Sprite5 Sprite4 Sprite7 Sprite8 Sprite9
Sprite1... Sprite1... Sprite1... Sprite1... Sprite1... Sprite1... Sprite1...
Sprite1... Sprite1... Sprite1... Sprite2... Sprite2... Sprite2... Sprite2...
Sprite2... Sprite2... Sprite2... Sprite2... Sprite2... Sprite2... Sprite3...


SCRATCH
File Edit Share Help
Motion Control
Looks Sensing
Sound Operators
Pen Variables
move 10 steps
turn 15 degrees
turn 15 degrees
point in direction 90
point towards
go to x: -214 y: -134
go to
glide 1 secs to x: -214 y: -134
change x by 10
set x to 0
change y by 10
set y to 0
if on edge, bounce
x position
y position
direction
Sprite1
x: -24 y: 65 direction: 90
Scripts Costumes Sounds
when I receive start2
show
when space
when I receive start3
show
forever
if touching Sprite4 ?
broadcast next
go to x: 218 y: -134
wait 0.5 secs
if touching Sprite7 ?
stop script
when I receive start2
go to x: -200 y: -132
show
show
forever
if touching Sprite4 ?
broadcast next
go to x: -214 y: -132
if touching color ?
go to x: -214 y: -132
switch to costume costume1
touching Sprite4 ?
The Adventures of CUBE
x: 121 y: 9
New sprite:
Sprite1
Sprite2
start
Sprite3
Sprite4
Sprite5
Sprite6
Sprite7
Sprite8
Sprite9
Sprite1...
Stage

Part 3
Small-group discussions

Starting points for discussion

groups of 3-5 people

How do your experiences relate to the experiences you just heard?

What questions do you have?

15

minutes remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

14

minutes remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

13

minutes remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

12

minutes remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

11

minutes remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

10

minutes remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

9

minutes remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

8

minutes remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

7

minutes remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

6

minutes remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

5

minutes remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

4

minutes remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

3

minutes remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

2

minutes remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

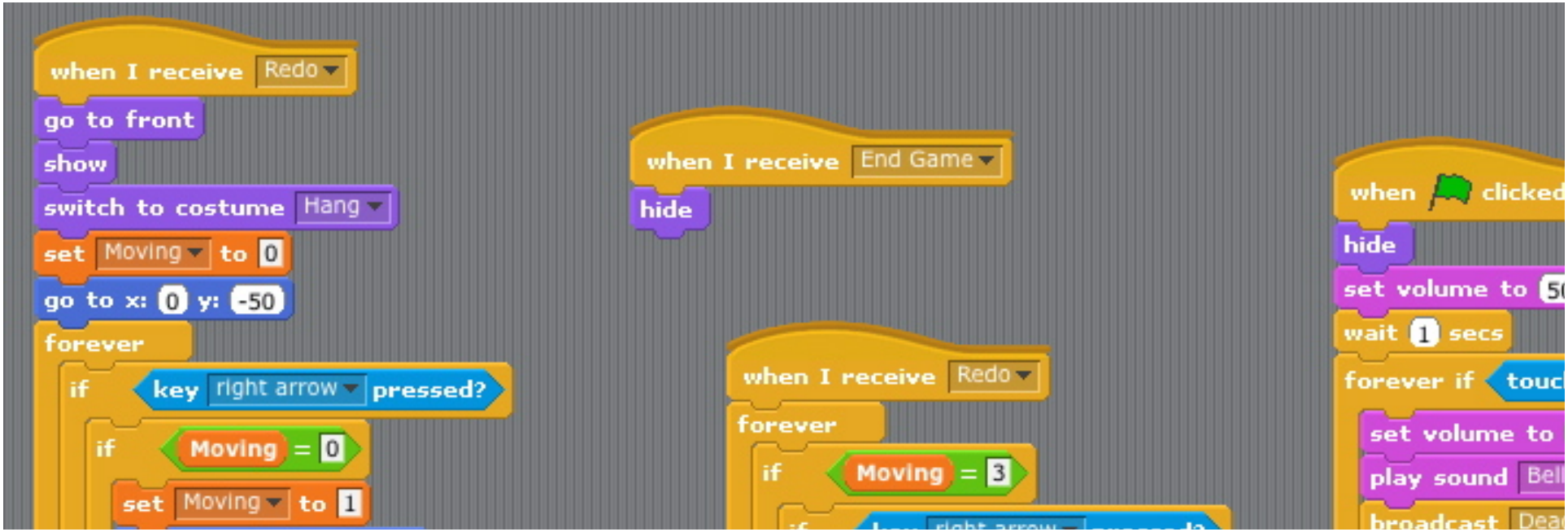
1

minute remaining

How do your experiences relate to the experiences you just heard?
What questions do you have?

Part 4
Whole-group discussion

What did you discuss?



Thanks for joining us!

scratch.mit.edu
scratch-ed.org
@ScratchEdTeam

karen_brennan@gse.harvard.edu
mres@media.mit.edu

igustafson@cpsd.us
janet.dee@reading.k12.ma.us
jpierce20@cherrycreekschools.org