



MESA DAY CONTEST RULES

2019-2020

Ver. 8.2.2019

Scratch It Up! (Pilot)

LEVEL:	Middle School (All Grades)
TYPE OF CONTEST:	Team
COMPOSITION OF TEAM:	2 Students per team
NUMBER OF TEAMS:	Preliminary – Determined by your MESA Center
SPONSOR:	Enrique Guzman, UC Santa Barbara

OVERVIEW:

Teams will design and create an interactive video game using Scratch to demonstrate knowledge of core programming principles within the designated time limit.

MATERIALS:

- Scratch 1.4
 - <https://scratch.mit.edu/download>
- Computer able to run Scratch 1.4 or higher

GENERAL RULES:

- A. No project is submitted prior to MESA Day.
 - a. Teams should work on their game idea and learn the necessary technical knowledge to create a game in 60 minutes during MESA Day.
 - b. They will create their game from a new file at MESA Day and not from a file completed before MESA Day.
- B. Teams will have 60 minutes to create a game using Scratch with the specifications listed below.
- C. Teams will be judged based on the quality of their game using a rubric.
- D. Teams must be made up of 2 people. Both team members must be physically present.
- E. Teams may use their MESA Lab Books when creating their game at MESA Day.

Specifications:

The following are the minimum requirements for the Scratch Game:

1. **Points System – the game must have a point system.**
 - a. The points system or scoreboard must be visible
 - b. The user will earn points in at least two different increments.
 - i. Example, bronze coin worth 1 point, gold coin worth 10 points.
 1. *NOTE: You do not have to use coins as part of your points system.*
 - ii. The point system should calculate correctly.
 - iii. There must be at least one method that a user may lose points.
 - c. A sound effect must be played when a player earns or loses points
 - d. *Lab Book Specification: Include* under **TRY OUT**, use of mathematical concepts
 - i. Describe how your point system works, how points are added for applied math concept #1, how points are deducted for applied math concept #2 and any variables you used along with their definition.

2. A User Controlled Character

- a. The character must have at least two-costume changes during gameplay.
- b. Must be controlled with a keyboard or mouse
- c. *Lab Book Specification: **Under Design**,*
 - i. Include how your character (sprite) will interact with the environment you created. Include how the player will control the character
 - ii. This will be your Trial #1.

3. A non-Player Controlled (NPC) Character

- a. Must have at least two costume changes.
- b. Must be able to move on its own during gameplay.
- c. *Lab Book Specification: **Under Design**,*
 - i. Include how the NPC (sprite) will interact with the environment you created. Include how the character moves on it's own.
 - ii. This will be Trial #2
 - iii. For Trail #3, describe how the NPC and your user controlled character interact.

4. Background

- a. The "Stage" must have at least 2 backdrop changes during Gameplay.
- b. Each background must have their own looping sound.
- c. *Lab Book Specification: **Under Make It better, Build and prepare competition ready project***
 - i. Include a sketch of the environment for example identify and clearly label the scoreboard, the timer, your user controlled character, the non-player controlled character and any other objects that impact gameplay.

5. The game should have a **timer** where the game play must end between 2-3 minutes.

6. Instructions – The game must contain clear and informative in-game instructions relevant to all ages and skill levels.

*a. Lab Book Specification: **Under Create***

- i. Teams must include the instructions under the Create Section.

7. Start Menu and Restart

- a. The Start Menu will have the title of the game and a button to start the game.
- b. There must be a restart button that when selected the scoreboard, timer and characters to return to their initial status or positions.

JUDGING:

Games will be judged on the following criteria:

- ✓ Creativity
- ✓ User ability
- ✓ Mechanics
- ✓ Implementation

AWARDS:

1st, 2nd, 3rd place will be awarded.

ATTACHMENTS/APPENDIX:

Specification and Score Sheet
Scratch It Up!

Middle School

Scratch It Up: 2019-2020

MESA
 2019-2020

CATEGORY: Scratch It Up 6th-8th

Center: _____

Student1: _____

Grade: _____

School: _____

Student2: _____

Grade: _____

Team: _____

Specification Criteria

- A) 2019-2020 rules were followed
- B) Game is properly labeled with team members' names, grade level, school, and MESA Center:
(10% deduction in final score if not properly labeled)
- C) Points system/Scoreboard Visible
- D) Sound is present
- E) A user controlled character is present
- F) A non-player controlled character present and moves on its own
- G) Background changes at least 2 times
- H) Timer present
- J) Instructions Present
- K) Start Menu present
- L) Reset button present and works as expected
- M) Element(s) that adds points is present
- N) Element(s) that deducts points is present.
- O) User controlled character has at least two costume changes
- P) Non-player controlled Character present

Judging Criteria

See attached document for rubric.

Design	Mechanics Score: _ / 5	Creativity Score: _ _ / 5	=	Design Subscore: Mechanics Score + Creativity Score + UI/HCI Score + Implementation Score
	UI/HCI Score: _ _ / 5	Implementation Score: _ _ _ / 5		
Labeling deduction:	Design Subscore X .10 (if applicable)		=	
Specification Deduction:	Design Sub score X % deduction		=	
1-5 Missing elements from the specification checklist apply a 10% deduction. 6+ Missing Elements from the specification checklist apply a 20% deduction.				FINAL SCORE Design Subscore – Labeling Deduction – Specification =

Technical Rubric

Scratch It Up!

Middle School

CATEGORY (POINTS)	EXCEPTIONAL (5):	EXCELLENT (4)	MET CRITERIA (3)	FAIR (2)	BEGINNING (1)	NOT PRESENT (0)	NOTES
MECHANICS SUBSCORE: <div style="border: 1px solid black; width: 50px; height: 50px; display: inline-block;"></div>	<input type="checkbox"/> Scoring system is clearly understood. <input type="checkbox"/> User after one or two play through will understand how the game works.		<input type="checkbox"/> Scoring system is understood. <input type="checkbox"/> Requires a few play through to understand how the game works. <input type="checkbox"/> Scoring can be defined better.		<input type="checkbox"/> Requires several rounds of gameplay to understand how the game works, and how scoring works.		
CREATIVITY SUBSCORE:	<input type="checkbox"/> Game concept is highly creative. <input type="checkbox"/> Uses original sprites not found in the scratch library for most of their game. <input type="checkbox"/> Sound adds to immersion of the user. <input type="checkbox"/> Game makes effective use of multiple costume/background changes that respond to user progress/actions.		<input type="checkbox"/> Game concept is derivative. <input type="checkbox"/> Uses a mix of scratch sprites and sprites not found on the scratch library. <input type="checkbox"/> Sound is present but does not add to the gameplay. <input type="checkbox"/> Has minimal costume/background changes.		<input type="checkbox"/> Game concept is not creative. <input type="checkbox"/> Game lacks variety of sprites. <input type="checkbox"/> Lacking many creative elements (sound, background, costume changes, etc.)		
USER INTERFACE / HUMAN COMPUTER INTERACTION SUBSCORE:	<input type="checkbox"/> Control Scheme is intuitive. With little or no learning curve. <input type="checkbox"/> Clear directions are present. <input type="checkbox"/> Game elements are interconnected or sprites influence other sprites. <input type="checkbox"/> The design is very intuitive (e.g. it is clear what element earns points and what elements to avoid)		<input type="checkbox"/> Control scheme require some direction. <input type="checkbox"/> Some sprites influence other sprites. <input type="checkbox"/> The design is easy (e.g. arrow keys to move around)		<input type="checkbox"/> Controls make game almost unplayable. <input type="checkbox"/> No interconnected sprite actions. <input type="checkbox"/> No clear directions or controls are difficult to figure out.		
IMPLEMENTATION SUBSCORE:	<input type="checkbox"/> The game works as designed with no errors due to programming or design. All elements within the game are used.		<input type="checkbox"/> The game works completely from beginning to end but may have minor flaws in the way it flows. <input type="checkbox"/> There are some design errors but gameplay is not hindered dramatically. <input type="checkbox"/> Game elements are used; a couple elements may have no visible function.		<input type="checkbox"/> The game does not flow well or stops prematurely. <input type="checkbox"/> Contains many elements that are not used.		