Collaborative ScratchJr Project Guide

What is a collaborative ScratchJr project?
When starting out, children often use one tablet to convey a story on ScratchJr. With a multi-tablet collaborative project, the images and movements can span across multiple screens to tell a story. The images on each tablet can be set to play at the same time or even staggered to make images appear to move between tablets. Each project typically has one overall theme (e.g. cultural holiday or dance) or a story (e.g. cars racing to a finish line).

Example: Lunar New Year is a festival celebrated in many Asian countries to commemorate the arrival of spring. Using nine synchronized tablets, the ScratchJr project displays various aspects of the festival: the blooming of peach and pear flowers, the traditional Dragon Dance, and the lighting of red lanterns and firecrackers. Watch the full project: https://youtu.be/YkoWjRtL4tQ

Learning Outcomes for Children:
- Engage more deeply in the engineering design process (ask, imagine, plan, create, test & improve, share)
- Create more complex and dynamic stories
- Develop greater communication and collaborative skills
- Expand coding potential with ScratchJr

The positive technological development (PTD) framework developed by Dr. Marina Umaschi Bers outlines six behaviors in children that are supported by using educational technologies: communication, collaboration, community building, content creation, creativity, and choices of conduct. Children can work collaboratively on a multi-tablet ScratchJr project and develop the skills needed to engage in these behaviors. Learn more about PTD in these books by Dr. Bers: Coding as a Playground: Programming and Computational Thinking in the Early Childhood Classroom (2018) and Designing Digital Experiences for Positive Youth Development: From Playpen to Playground (2012).

Creating a Multi-Tablet ScratchJr Project:
Use the guidelines below to create your own multi-tablet project! Some ScratchJr tips have also been provided at the end of the guide.

1. Choose a topic for your project! Research the topic & brainstorm elements that you could incorporate into your project.
   a. What images and/or scenarios come to mind when you think about this topic?
   b. What activities are happening in the scenario, and where do they happen?
   c. Who or what is involved in the activities?
   d. What are some cultural elements you might want to consider?
   e. Are there particular sounds or music that are relevant to the topic?
2. Pick 4-5 ideas from your list that you think would best represent your topic in a creative, playful way. You can of course incorporate more ideas, but it’s best to focus on 4-5 things that you can focus on coding uniquely.

3. Plan out your design by drawing a sketch/map, making a bulleted list, etc.
   a. How many tablets will your project have? How will the use of multiple tablets enhance the overall effect of your project?
   b. How will you arrange the tablets? Would all of the tablets start simultaneously on the green flag? Would any of the tablets be synchronized (i.e. have the exact same code)?
   c. What characters will you have in your program? Will you create any new characters that do not currently exist on ScratchJr?
   d. How might you code different characters to “move” across multiple tablets?
   e. What ScratchJr blocks might you use for the code?
   f. What backgrounds might you use? How many pages will the program have?
   g. Are you working individually or with a small group? How might you divide tasks among your group?

4. Create all of your characters on ONE tablet to begin with.
   a. This is so that if you modify an existing character or create a whole new character, you won’t have to recreate it on each tablet, saving you lots of time and effort!
   b. If you know that a particular code will be used for multiple tablets, create the code for that character so that it can be shared with the other tablets.

5. Share the project with the other tablets using either AirDrop or email.
   a. It may be helpful to number the tablets in your design plan (i.e. Tablet #1, Tablet #2, etc.). Once you share the project with the other tablets, you can name each project with that same number to keep it consistent.

6. Program the rest of your project on the other tablets.

7. After you finish each page, test it out by running the programs in presentation mode. You may need to go back and adjust the codes, particularly your stop and wait blocks.

8. Many trial runs later… run your whole program together and make any final adjustments.

9. Congratulations! You have successfully created a multi-tablet ScratchJr project.

Additional Tips:
- Characters do not necessarily have to be animate objects – anything can come to life in ScratchJr! Create new characters from scratch, or modify an existing character using the paint editor. The shape tools on the left side of the paint editor are particularly useful for adding new features to your characters. The Duplicate stamp tool on the right side allows you to copy a character or shape, so you can program a set of similar characters with a single set of code (e.g. programming a group of people to cheer on the sidelines).
- To copy one character’s code to another character, simply drag the code to the character’s box on the left side of the screen. Similarly, to copy a character on one page to another page, drag the character to the page thumbnail on the right side of the screen.

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