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SAGE Research
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Abstract

In these past few months, I have focused on redesigning the SAGE teacher interface and implementing Game Routes. The teacher interface designs are complete and can be found at sage-frontend/wireframes on Github. I have also made significant progress implementing the skeleton structure and necessary UI for Game Routes. The design work does not have a corresponding epic, and Game Routes is the epic formally known as "Game Mechanic Blocks." The specific features that have been completed include "GMB Definition and Shape" and "GMB Palette".

Design

I began the project by redesigning the teacher interface. I studied the old interface to pick out the important features and workflow that existed. I took those ideas and implanted them in a new design that is modernized, simplified, and informative. Through these changes, the new interface will be easier to use by new and returning users.

To begin I simplified the navigation. The names of the main navigation tabs were changed for simplicity, and a sub-navigation bar was added to the top of any screen that needed further organization. Each screen was fit into a single page that adapts to the user's screen size, to relay a true dashboard feeling. All buttons and information are displayed right on the initial screen, there is no need for scrolling to find features.

Zoning in on the specific navigation tabs, the classes tab is the newest concept. Within this tab, teachers can create and manage their classes. Specifically, they can modify rosters, and assign quests to students. Teachers also have a bird's eye view of student progress and can spot any student that may be falling behind.

The next refreshed navigation tab is games. Teachers now have a systematic and intuitive way to create games, missions, and quests. Once they are created, they can be viewed in an informative grid. All items can be modified in case changes need to be made.

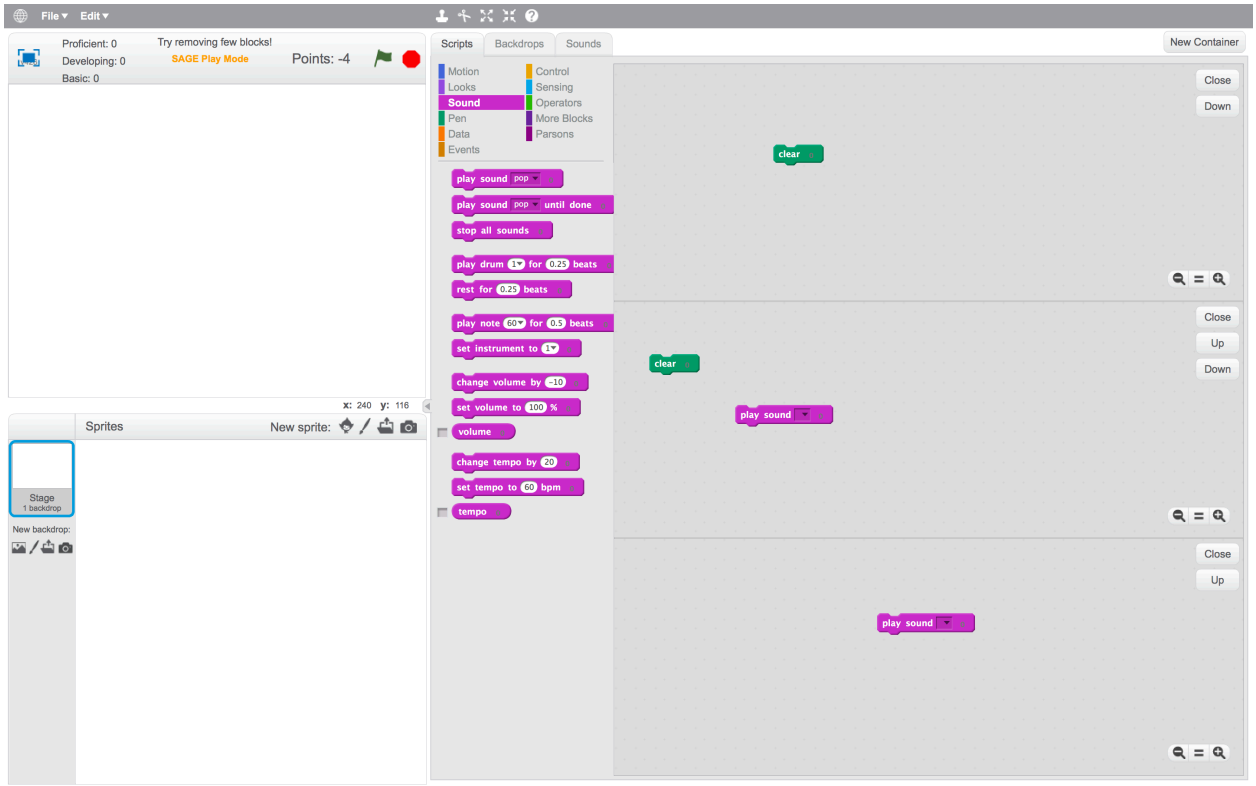
Ultimately, pictures are worth a thousand words. The wireframes crafted do the best job of describing the new additions and changes that were made to the interface. The images can be found at sage-frontend/wireframes on Github.

Implementation

Once the teacher interface designs were complete, I moved onto implementing Game Routes. I began the implementation by modifying the current Scratch framework UI to allow for Game Routes. I made sure to integrate into the current implementation and follow the existing protocols and style.

I approached Game Routes by creating multiple Script Panes, and housing them in a Game Route Object. Each Script Pane can then be thought of as a container, a concept described in my project proposal. Since the containers are Script Panes, the current Scratch implementation automatically takes care of all interactions done with the pane, such as dragging in a block.

With this new approach, a teacher can now add multiple containers to the Game Route. They can interact with each container in the same manner they previously interacted with the Scripts Pane. For example, blocks can be dragged into each container instance. Containers can also be removed and re-ordered as needed. A screenshot of the new implementation is included below.



Future Work

The next step with Game Routes is to set up the functionality for each container. As of now, only one container is hooked up to Scratch. Therefore, when performing actions such as executing the Scratch program or saving the Scripts Pane, only one of the containers is considered the Scripts Pane. I will now work on treating each container as part of a whole Game Route and applying functionality accordingly.