ADVENTURE CRAFT

Teaching Kids to Love Collaborative Creativity

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Introduction & Mission Statement

Elementary and middle school children love to tell a story. These story often capture the ingenuity and spontaneous creativity of children that we grown-ups sometimes wish we had. Sadly, children also often simply forgets about their stories soon after expressing them verbally. Parents of these children also want their kids to capture this creativity and turn it into something concrete, usually in the form of writing that others can read.

Our mission is to make creative writing fun and compelling for kids. We believe this is possible by lowering the barrier to writing itself by helping them to get started on their stories faster, and using collaborative writing to help them build up their stories. Our hope is that children no longer feel like they are simply writing a story, but instead participating in a fun collaborative game. We also hope to help children improve their quality of writing.

Prototype Description

Our application is intended to be used on large screen devices such as iPads. We chose to represent this larger screen size through the use of A4-paper sheets. Each full size sheet represented an entire device screen. Due to the larger size and the flimsiness of the paper, participants were not able to hold it in their hands, but instead placed the prototype on a horizontal surface like a table.

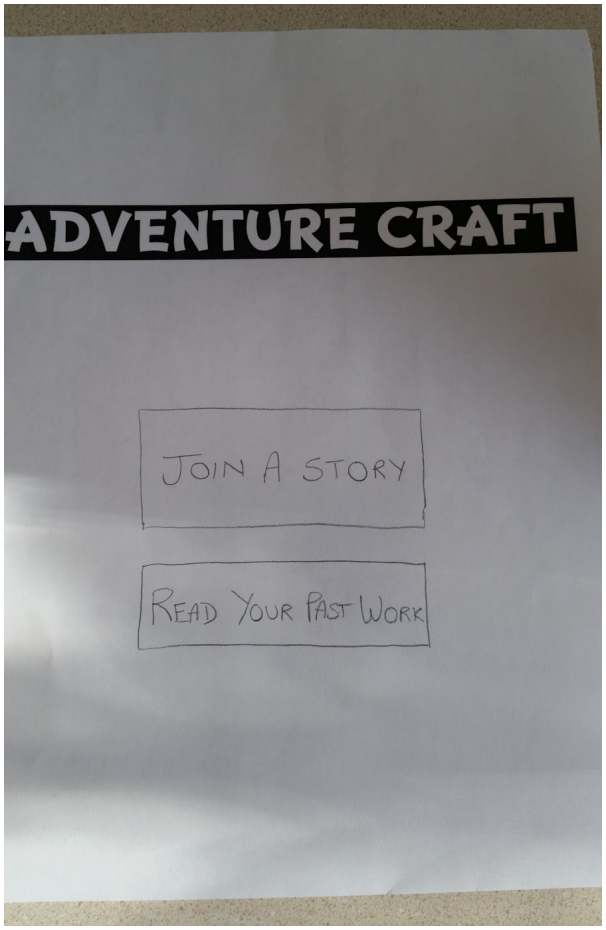

FIG. 1—Home Screen

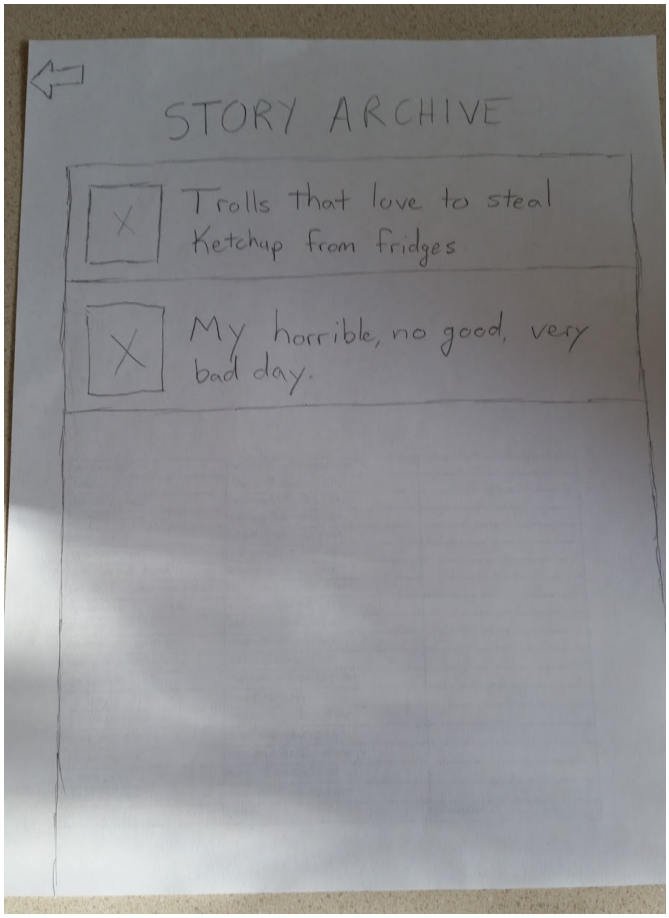

FIG. 2—Story Archive

Users interacted with the prototype by pretending the papers were tablet devices and using their fingers as input. For example, when users tapped the box with "Read Your Past Work" in **FIG. 1**, we swapped the paper in **FIG. 1** with the paper in **FIG. 2**. Using this manner, we were able to simulate moving between screens.

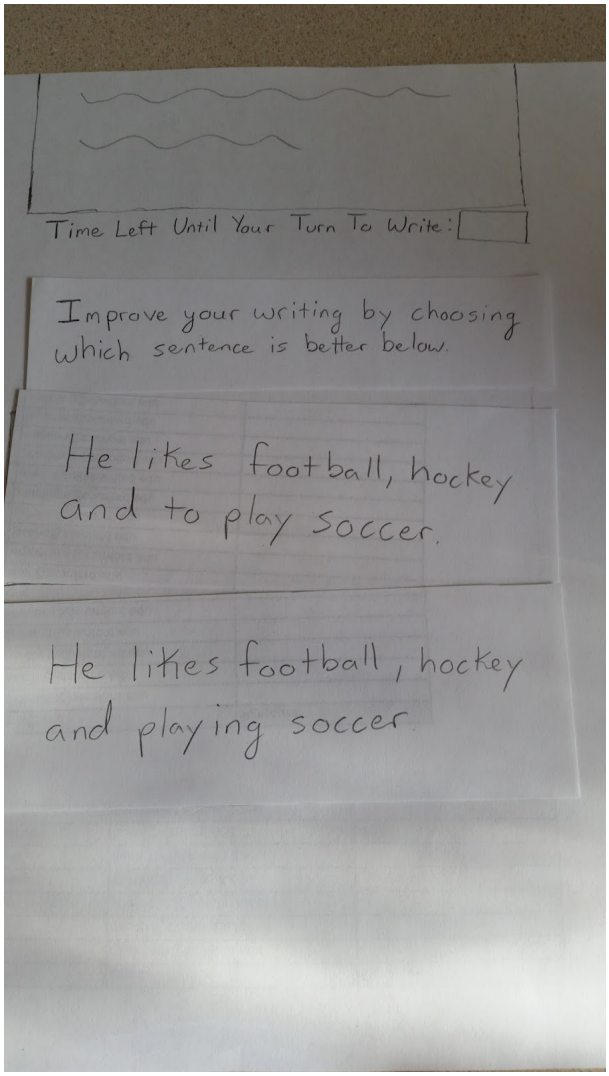

FIG. 3—Grammar Game

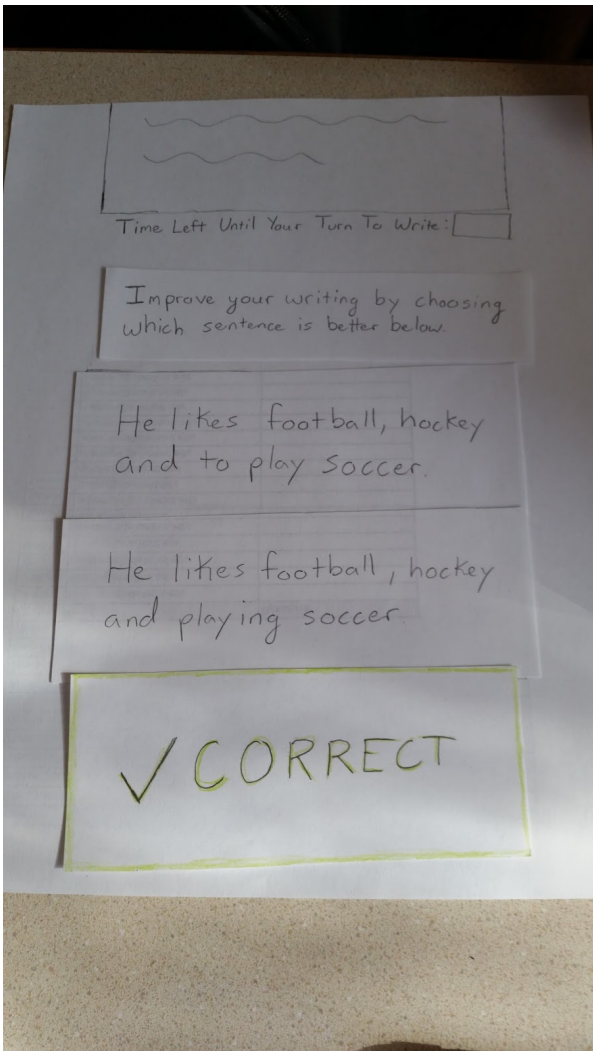

FIG. 4—Game Result

The prototype also included dynamic games that changed and reacted to the users touch. For instance, **FIG. 3** depicts a game where the user is asked to select which sentence was better. The user was able to click on the sentence and depending on the result, we swapped in a piece of paper that said either "Correct" or "Incorrect". **FIG. 4** shows an example of this when the user correctly identified the better sentence.

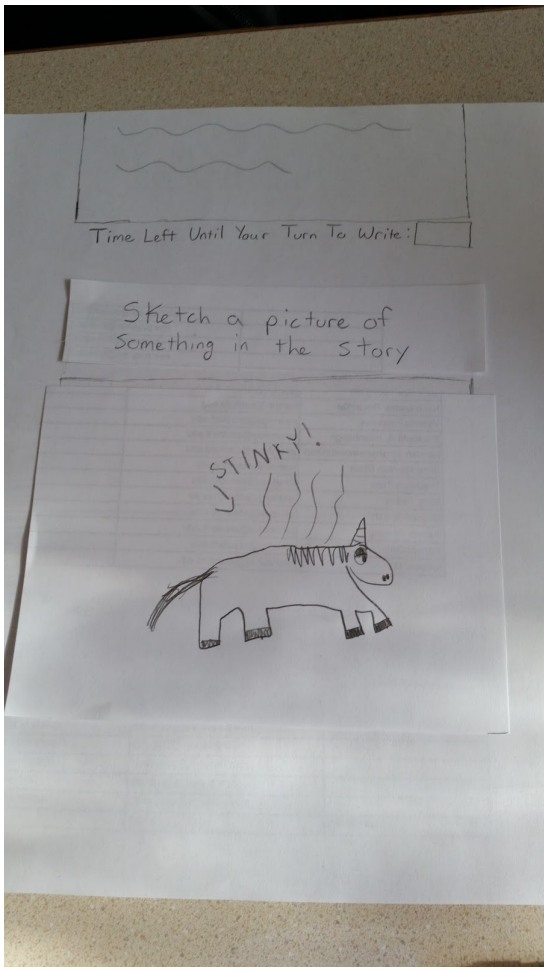

FIG. 5—Drawing Game

In addition to the Grammar Game, users were asked to "Sketch a picture of something in the story." As seen in **FIG. 5**, we simulated this behavior by providing the user with a piece of paper that they could use a pencil to draw on.

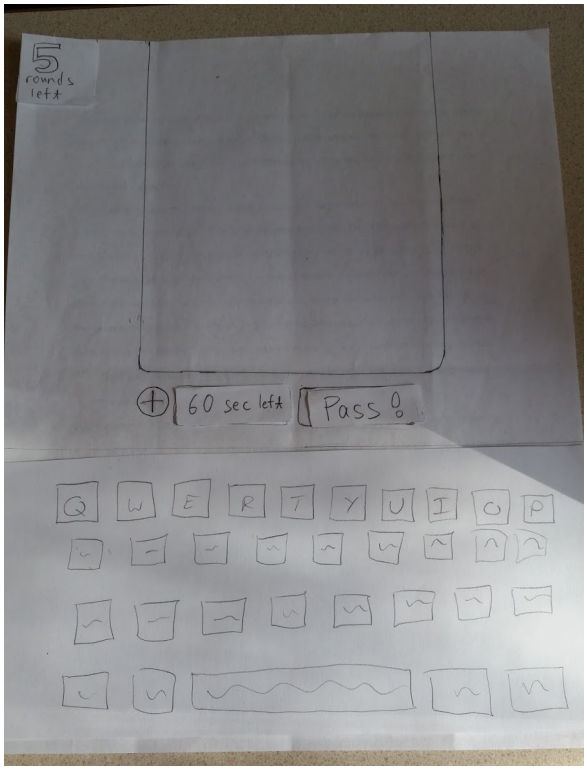

FIG. 6—Writing Mode

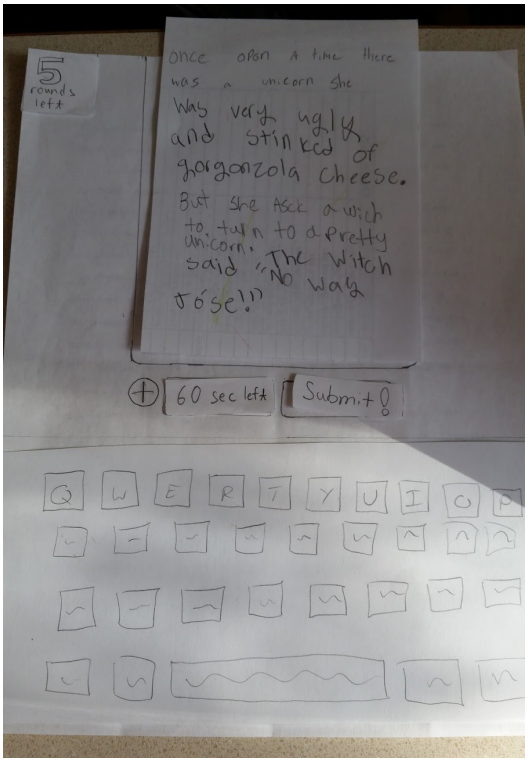

FIG. 7—Finished Story

FIG. 6 and **FIG. 7** both depict the same screen of the prototype, which the user can reach via the "Join a Story" button in **FIG. 1**. This is the screen we expected the user to spend the most time in, and as such is the most dynamic (we have several buttons, such as the timer and pass/submit button right above the keyboard, that we swapped to show this,). This screen provides the user with a textbox that they can type in (see the blank box on the top of **FIG. 6**). To simulate typing, we provided the user with a piece of paper that they were able to write on (as seen in **FIG. 7**).

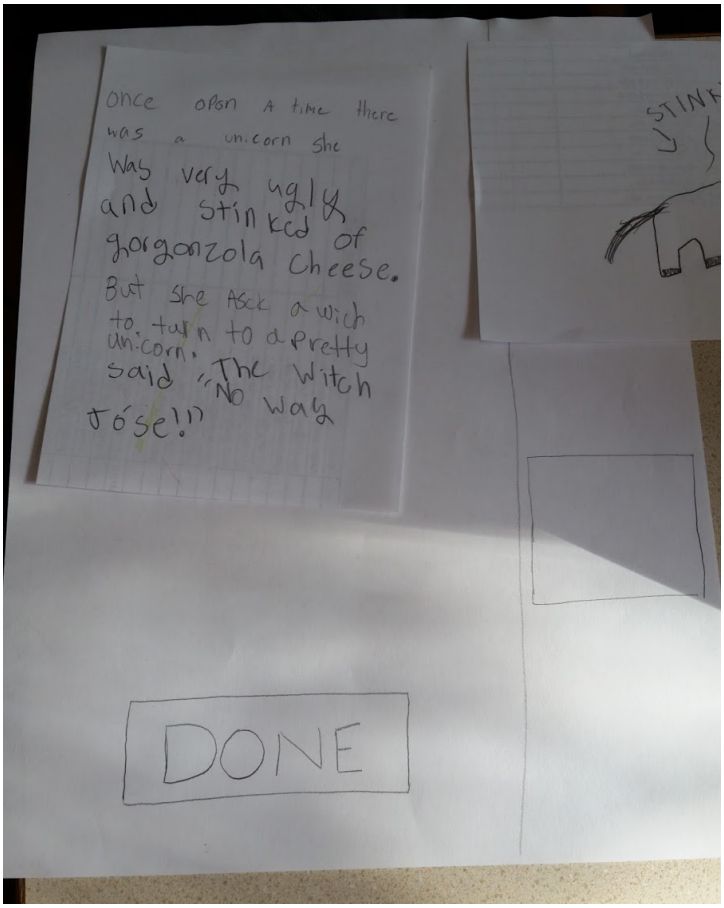

FIG. 8—Finished Story

Previous content generated by users was moved in between prototype screens to show how their content would be displayed and change overtime. **FIG. 8** gives the final view for a story that was collaboratively generated by 2 users. The view also includes a drawing of the story that was sketched by a single user. Both of these pieces of content were generated on earlier screens.

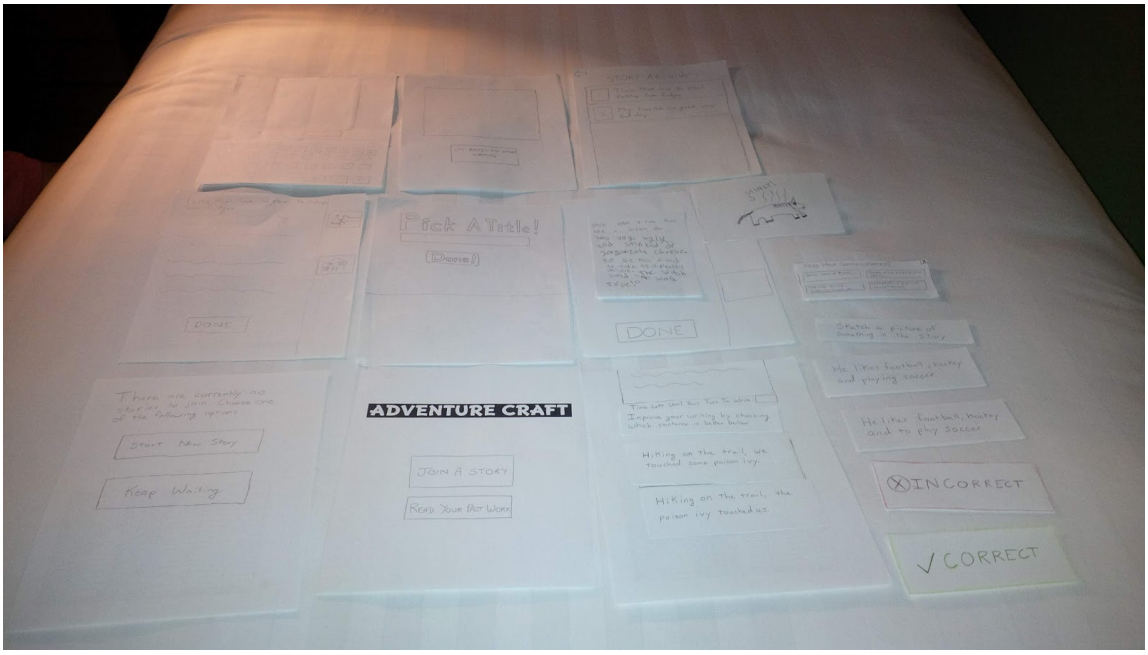

FIG. 9—Entire prototype view

FIG. 10—User Testing

FIG. 11—Computer and Facilitator

Methods

1. Participants

Kuan's RF, Lauren, contacted her daughter's third grade elementary school teacher who gave permission to the daughter to announce our project in class to her fellow students. Several of these third grade students were able to meet with us for 15 minutes at the end of their school day. Lauren also contacted a 5th grade teacher, and we were able to get feedback from one 5th grade student.

2. Environment

We were able to set up our prototype on a table directly outside of the third grade classroom. We asked participants to sit on the bench of one side of the table, while we sat on the other and played the roles of computer and facilitator (**FIG. 11)**.

3. Tasks

We asked our users to pretend that the paper prototype was an actual app, and use it as if it were real. The prototype had them accomplish three tasks: writing, sketching and collaborating. To write, users were given small paper cutouts and asked to use a pencil to write on them. The interfaces made it clear that this would normally be done with an onscreen keyboard. The second

task of sketching was accomplished in a similar manner. Collaboration was accomplished by having two users use separate prototypes but pass the same piece of paper back and forth (**FIG. 7)**.

4. Procedure

Before we asked the users to do anything, we explained to them that this was an app to help students become more excited about creative writing. We also explained our roles as facilitator and "computer" and helped them understand what kind of interaction they could expect from us.

5. Test Measures

Several things were tested during our trial runs. First, we counted how many times a user seemed unsure of their next task. This gave us an idea of how user-friendly our interface was. Second, we measured how long a user spent not writing when they entered "Writing Mode" (**FIG. 6)**. One of the purposes of the app is to help users get unstuck, or get started writing quickly. Lastly, we measured users' enjoyment of the collaborative nature of the app as well as the games that were played while waiting (**FIG. 3-6)**.

Results

The results surprised us, especially the level of comfort children displayed with iPads and technology in general. They seemed to understand what to click when, knew how to move back to a previous screen and often knew exactly what to expect when they clicked on something. We also found that children really enjoy writing, as we saw them flow smoothly through the writing process from start to finish. We ended not needing to use our timers because they finished their sentence so quickly. The children also really enjoyed illustrating their stories, and seemed to get extremely engrossed in the drawing too.

However, there were some screens where we found that our buttons didn't really tell the users what to expect and other places where it was easy for children to get lost, such as when they kept reading past stories instead of writing (**FIG. 2**). Further, the children seemed to enjoy the games that helped them with their writing skills but not necessarily to the extent that will keep them on the app for long.

Discussion

The results of our tests have helped us realize what was missing from our interface and what worked well too. The fact that children are comfortable with iPads and are exposed to technology is encouraging because we know that it is possible for us to reach our intended users despite their age. The ease with which they moved through most of our UI helped us realize that our design was simple enough.

Diving into the specifics of the app, we learned that children indeed have many ideas that they want to write about. We had them write a title before they start the story, and we found that

this really helped them organize their thoughts and that is part of the reason why the writing flowed. We aren't yet sure about the amount/length at which the children are either satisfied by the story or begin to feel bored, because they didn't look like they wanted to stop writing when we stopped them. The children also surprised us with their propensity to spend time drawing. This helped us find that we will be able to keep kids on the app while they wait for their turn to write to come back around again. Drawing will also act as a fun complement to the writing exercises that we let users do while they wait. Speaking of writing exercises, we realized that the children didn't mind doing them but probably would have gotten bored in the long term, but perhaps we can find a way to make the exercises more fun, or even try something entirely to help improve their writing.

The results have shown us that we need to mostly make smaller changes to the design because the children seemed to be able to work through everything fairly easily. One suggestion that we received is that children really want to have usernames so everyone knows who they're writing with. Further, watching children get stuck at certain points along the way and not knowing what to click encouraged us to change our prompts or the sizes of buttons. For example, we had a button labeled "Keep Waiting." but almost everyone was confused about what it meant and suggested we rename it to something like, "Play some games while you wait" so they know what to expect when they click the button.

Overall, we feel that testing the prototype helped us realize a few important things about our application's interface and changes it could use. For the most part, though, we believe that our interface was well received for a low-fi test.

Appendix

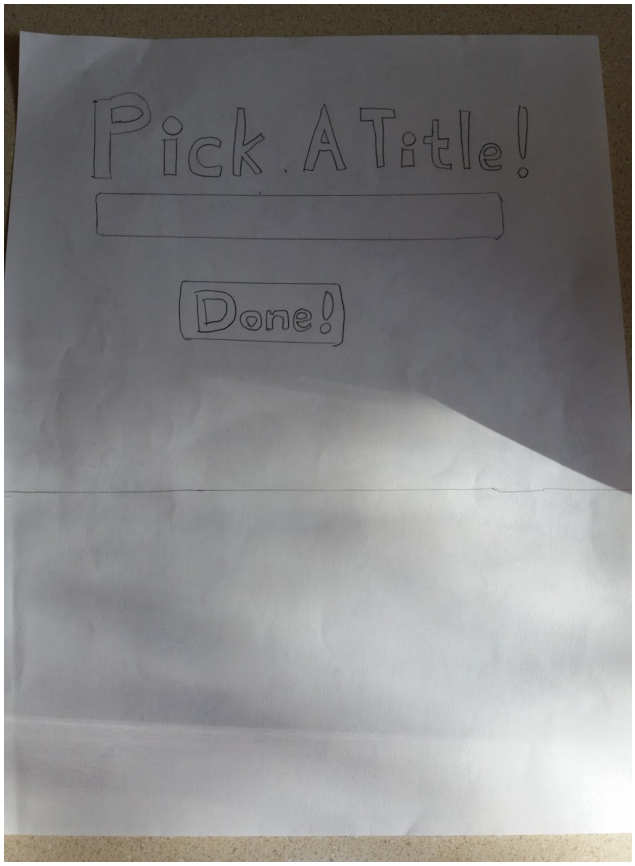

FIG. 12—Starting a story

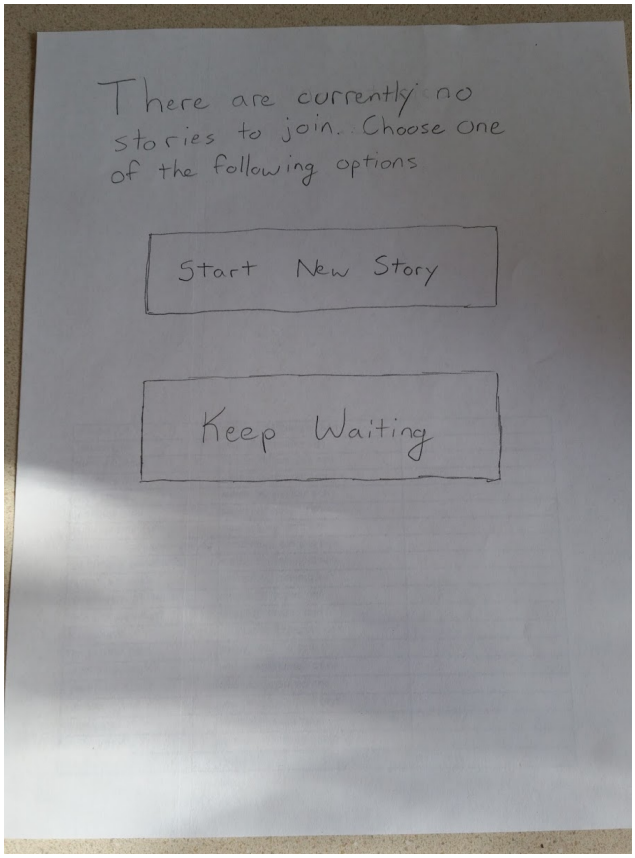

FIG. 13—Joining a story