

ADVENTURE CRAFT

A collaborative platform for helping kids learn to love writing

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Problem Solution Overview

Elementary and middle school children love to tell a story. These stories often capture the ingenuity and spontaneous creativity of children that we grown-ups sometimes wish we had. Sadly, children also often simply forget 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. However, the current way of teaching writing in school and at home ultimately fails at teaching children to fully express and explore their creativity because they often fail at making writing “fun.” As a result, children wind up spending time on activities that fail to develop their keenly creative and explorative senses.

This is where we come in. We would like to present a tool which children can use to express their ideas, collaborate creatively, and most importantly, discover the joy of creative writing. We aim to remove the parts of writing that children enjoy least from the whole process, by giving them a chance to work with others or providing suggestions on how to move forward when they’re stuck. This will help children improve their writing skills, learn to collaborate with others and appreciate the ideas that others bring to them. Contributors on our platform can help the children organize their thoughts to take them from interesting ideas to coherent stories. This will encourage children to write, get feedback and also give them the chance to read well-formulated stories based on the ideas of other children their age.

Contextual Inquiry Customers

Corrine and Luc

Joint interview between Corrine and Luc that took place in their home. Luc is a 6th grader who was recently crowned the “Remarkable Reader” at his middle school for the amount of time he spends reading books. He enjoys reading but does not enjoy the writing process as much, even though he has ideas that he thinks others would find interesting. Corrine, Luc’s mother, is the Resident Fellow

at Crothers (Varun's Dormitory) and an advisor to the Stanford in Government program. She spends a lot of time with her children and encourages them to read, while often also helping them with their writing homework. Corinne wishes that Luc would write more so he can better express his interesting ideas. Further, she is disappointed with the way that Luc spends his time when he is not reading (mindless games and TV shows). We believe that together they embody our target customer, because we want to encourage children to write and get their ideas out there with the help of supportive parents.



FIG. 1

Kohler and Angel working on a story

Kohler, Angel, and Mark

Joint interview with two elementary students and a parent that took place over Google Hangouts while they were in their home. Kohler is a 6th grade student and Angel is a 4th grader. They were recruited because they are Kesler's siblings, around the right age, and perform well in school. They also have a supportive parents that are interested in their growth. Angel was specifically recruited because we wanted to see how a 4th grader compared to a 6th grader. Neither Kohler nor Angel were actively writing outside of school, but Kesler had played writing games with them in the past that they both highly enjoyed (and often asked to play again). Mark is a large proponent of writing, and is often the parent that reads and edits school essays before they are submitted for assignments. He on occasion writes, but rarely does it take the form of stories.



FIG. 2

The Flink Children attack story-writing together

Virginia, Truette, and Eliza

This was a joint interview with two third-grade and one second-grade girls, with their mother watching the process from a distance. They were recruited as the Flink family is a very design-based family (Residential Fellow at Stanford, also Professor at D.School) and children are naturally very creative and open to others' ideas. The interview was conducted at their home, where each girl took a turn creating a sentence to add on to the story. Kuan the coordinator also transcribed what the children were saying so they didn't have to write and the mom did not participate besides giving them snacks.

Contextual Inquiry Results

Many of the assumptions we had originally made turned out to be wrong (for example we thought maybe kids would like "choose your own adventure books" which they didn't). One common thread was that the kids were all excited and motivated by others' writing. For instance, Kohler originally became interested in writing a story about a dream he had after he saw his older brother writing a

story, and Luc, who openly voiced his dislike of writing, expressed great enthusiasm at the opportunity of writing a story with his mom, Corrine.

All the interviewees seemed to have similar problems when it came to writing, in that they spent a majority of their time in the pre-writing stage. Luc said that his main problem was fully thinking through an idea before he starts to write, whereas Kohler, even though he had his idea fully thought out, did not know where to start telling the story. Another problem that both the children faced was that they didn't know the best way to organize their thoughts (which the parents thought was one of their strengths).

One thing that worked well for the children during the writing process was the flow of thoughts that came naturally to them (after they got started) and the attention they paid to details. These thoughts seemed to be inspired by their past experiences. For example, Luc's thoughts were inspired by fantasy books that he had been reading like the Percy Jackson and Hunger Games Series', while Kohler's ideas came from dreams he'd had and shows he'd watched in the past. This process of generating ideas and seeing them take shape in a story was very enjoyable for the kids. The actual writing process, however, was less enjoyable especially for younger kids.

A common thread was most of these children do not make the effort to write because they can instead spend their with different forms of entertainment like video games or television shows. This is a worrying situation for parents because the more time children spend in these activities, the less time they spend thinking and learning how to express themselves creatively. In light of this situation, an engaging application for children that urges them to write stories (and even read stories written by others) seems crucial to encourage creative expression from an early age.

Takeaways unique to each interview

During Kohler's interview we let him write the beginnings of a story. After he had made it through the first paragraph, we suggested a direction to take the next portion of the story. His response to our suggestion was negative and while he was polite, he told us that the way he imagined the story didn't correlate with our suggestion. It is important to note that our suggestion came at a time when he was not stuck. He had been writing at the time, but we paused him to make our suggestion. Later in the interview, though, he said that he would like to collaborate with other students on stories because it would help him have more ideas for his stories. He was also interested in collaborating because it would help him write longer stories. During the interview there were two times when Mark would prompt Kohler and Angel to help them get unstuck. This help was not encouraged by us, but was voluntarily provided.

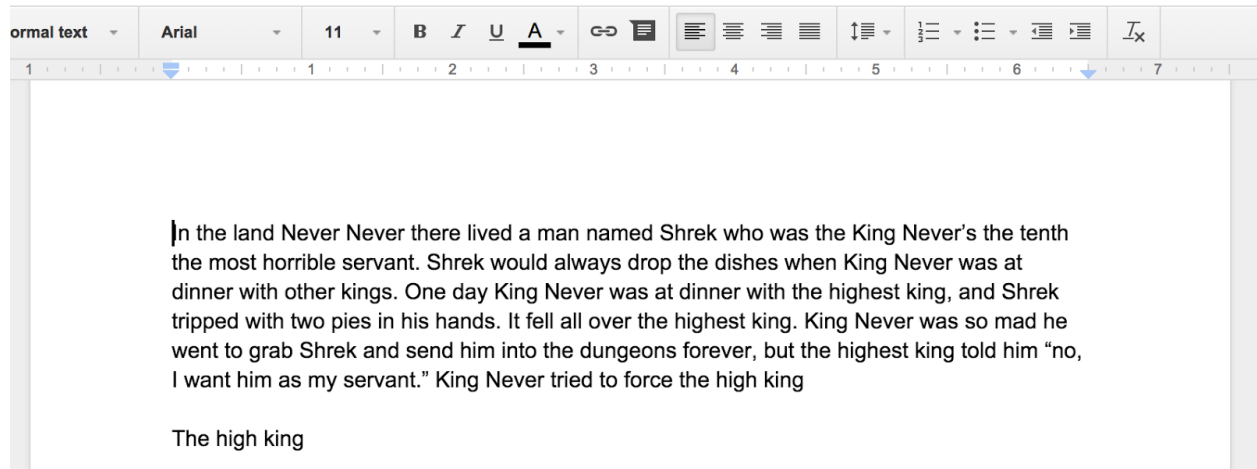


FIG. 3

Kohler's story at the time of our interjection

Luc had a slightly different outlook on writing than Kohler. He was not interested in the idea of writing for fun (though his mother thought it would be great!), but said he would be excited if people would work with him while he writes to help him when he gets stuck. He also said that he would enjoy reading other children's ideas, even though he thinks that sometimes people his age don't write about anything particularly unique.

The Flink children generally had a very enthusiastic attitude about the prospect of writing together; although initially they tended to create a story that had no connection to one another at all (one particular girl was really trying to stress the idea that she had), eventually everybody started building on the same story, and the story suddenly became much more coherent. One girl commented something along the lines of "It was confusing that other people's idea weren't the same as mine, but it got really fun as other people contributed their ideas." In fact, the girl who was very adamant about her idea to begin with started to clamor for an app that would not only contain this collaborative writing but also some sort of voice over. Mrs. Flink also particularly liked the fact that she didn't have to participate at all and yet the children were fully engaged in something creative and stimulating (and highly stressed that any app we make for kids shouldn't involve the parents).

Standard Task Analysis Questions

Who is going to use the system?

The system could be used by all persons interested in collaborative writing, but our contextual inquiries (CI) suggested our target customers are elementary or middle school students and their parents. These students will not necessarily already be in the habit of writing, but will most likely have stories or ideas that could be turned into stories. Although not necessary, the CI's revealed that

many of these students will have parents that are interested in participating in the writing process with their child as a means of encouraging motivation.

What tasks do they now perform?

Our CIs affirmed our suspicions that our student customers are writing, but only when required for school assignments. They do however, have ideas that come to them that they wish could be turned into stories. When they do actually write, their task becomes “how do I write?” and can be broken down into smaller pieces such as:

- How do I start?
- Where should I put new paragraphs?
- What should happen next?
- How do I introduce characters?

Our parent customers engage in the task of trying to get their kids to write more, but are usually unsuccessful in this task and settle for the somewhat easier task of encouraging their children to read. We also observed that often in school, kids more often write a story on their own rather than collaborating with friends (this idea of writing a story collaborative simply disappears despite the fact that it very common for smaller kids to do).

What tasks are desired?

Our parent customers are often frustrated with what their kids spend their time doing, and wished that writing were more enticing. Children want to see their ideas take shape as stories that they can later read or have their friends read, however, children often don't want to put in the work, or don't have the skills required to make the transition from an interesting idea to a well thought out and written story. Further, we learned from Luc, that children who like to read don't like the inevitable time-lapse between finishing one book and starting another. Thus, allowing people to move between stories seamlessly was an idea that appealed to Luc greatly.

How are the tasks learned?

Writing is mostly learned at school and at home. Students are given assignments to write essays. Sometimes these are completed during the school day, and other times these assignments are to be completed at home. Many parents also encourage their kids to participate in writing at home, although the our interviews revealed this is seldom successful. The skills required of writing are enhanced through structured school lessons, but benefit the most from practice.

Where are the tasks performed?

As mentioned above, these tasks are normally learned in the classroom or in the home. Traditionally the task of writing was performed with pen and paper. Technology has vastly transformed this practice, however, and now it is common writing to occur on mobile devices, such as tablets, or on computers.

What's the relationship between customer & data?

First, the problem is parents want their kids to write more and kids have ideas they would like to see turned into ideas, but currently neither wish is really being fulfilled. We believe this is due to the vast number of easier options available to kids. Playing video games or watching television are both options that are arguably more entertaining and require less effort than the task of writing. Thus this other “data” contributes to the problem. Secondly, the data could be seen as the difficulty of actually writing. When writing a story, the possibilities are literally endless. There is an infinite amount of data that could be selected for the story. Learning to craft stories from this pool of data can be inhibiting for novice writers.

What other tools does the customer have?

Each task faced by our users have slightly different tools. Currently, if a user has a story to tell he has a few different medium to choose from. The simplest of those medium, especially for children, is verbal communication. When a child has an interesting idea, his first thought is to go and talk to his parents, siblings or friends (who may or may not want to listen to his story) about it.

When parents want their children to write they often struggle to encourage them to get started. This is mostly because children don't have any incentive to put their ideas on paper unless they're getting a grade for it, especially when no one is willing to help them through the parts of writing that they don't enjoy (like figuring out how to organize ideas or where to get started) and when they don't have an audience to share their stories with. Thus, we find that the only real tool for parents to get their children to write is homework assignments from school.

For the task of actually writing, most students have access to computers that they can use to type their stories instead of using pen and paper, although that still is an option.. Some schools have started to use Google Docs in their classrooms which kids use to write and share their stories.

The internet is also full of small writing games that try to simplify the process of writing. The website <http://www.funenglishgames.com/writinggames/story.html> contains such an example. MIT has also developed a visual programming approach to storytelling, scratch.mit.edu, that helps students create simple graphical programs to tell a story. Ensemble, a new creative storytelling tool, simplifies the collaborative part of writing but it appears to be targeted at an older audience.

How do users communicate with each other?

Communication between children is fairly straightforward and takes place through face-to-face conversations. The ability for students to communicate with each other during the writing process happens most often in a classroom setting, but also can happen through collaborative writing editors such as Google Docs.

How often are the tasks performed?

The task of writing is performed mostly in school and according to our CIs, it doesn't happen very frequently. This is especially true of creative writing. Parents desires for their children to write more seemed more of a constant, and could happen as frequently as daily. Idea generation seemed far more sporadic and differed greatly between students. For instance, Kohler seemed to form ideas very quickly, with many of them just popping randomly into his mind. Luc, however, explained that he had to work very hard on an idea before it became clear to him.

What are the time constraints on the tasks?

Time is an interesting factor in this problem. In the case of school homework, the time constraint is simply the deadline of the assignment. There is another time constraint, however, that the longer the task of writing takes, the less likely the writer is to participate, thus time is a factor even when there is no set due date. Some experienced writers find that it takes time to "get in the zone". This "zone" is a mental state in which they are able to efficiently write. Minimizing time taken to enter this zone could also be considered a time constraint.

What happens when things go wrong?

According to a [study](#) conducted in 2011 by the National Assessment of Educational Progress (NAEP) only 24% of 8th graders performed at the NAEP Proficient level, which level represents solid academic performance for each grade assessed. This study suggests that things are already going wrong, and that writing skills for most middle school students is below what is expected.

Another way of looking at "things going wrong" could be that our approach actually makes writing skills digress, or our platform decreases motivation. These are definitely metrics that would need to be measured and adjustments made to make sure our platform is actually helping kids.

Revised Tasks

Write quickly, get stuck less frequently, and make it fun. (simple)

A major blockage to writing was just starting. Staring at a blank page was very intimidating for our interviewees. Similar situations can occur in later stages of writing as well and are commonly referred to as "writer's block". Our platform will provide tools to help our writers get started writing more quickly and get unstuck when it inevitably happens, and by making this process less painful, we hope to keep the momentum of excitement the writers have about their stories.

Collaborate and get feedback with others that are writing (moderate)

Part of the excitement expressed by our interviewees regarding the writing process was the potential feedback and collaboration they could have with others. The collaboration process in writing is somewhat difficult at the moment. Tools exist to make it feasible, but an easy way for young writers to form easy collaborations is not currently in existence. Our platform aims to make collaboration seamless and natural.

Improve writing ability (complex)

While writing will improve simply through practice, we also believe that there are practices we can tie into our platform to increase the rate of improvement. Kohler, from one of our interviews, expressed serious frustration regarding not knowing where to put paragraphs and wished that he could come to know the rules regarding writing better. Similar to how editors underline text with green lines to indicate grammar mistakes, or underline with red lines to indicate spelling errors, our approach can use similar prompts to help writers become more aware of better practices and common writing errors.

Three Best Application Ideas

Idea #1 - Writing RPG Style

As illustrated by the insanely popular Minecraft world, social role-playing games where virtual characters level up and progress through online worlds have become very popular with kids. We believe a similar social RPG approach could be taken in the realm of writing where users accrue experience, badges, and items as they write stories and interact with their fellow peers. The gamification aspect would hopefully provide enough motivation for kids to be excited about writing.

Idea #2 - Structured Writing

This idea focuses on removing many of the barriers writers face via intelligent prompts and common writing structure. Instead of a user simply starting with a blank document, they would be given sequential steps to follow. An example flow might be to first use this tool to define your characters. Once the characters are defined, the user is given a few sample introductions and asked to write his own introduction using the examples as guides. This method reduces the number of options the user has to consider and gives them a clear path for making progress.

Idea #3 - Circle Writing

A common writing game played in groups has each member write the beginnings of a story on a piece of paper. After a few minutes each person folders their paper in a manner such that only the very last line is visible, at which point all of the stories are passed to the next person. The next person continues writing the story, with only the previous writer's last sentence to go off of. When

several rotations have occurred, the stories are then read aloud. The end result is normally a collection of random and bizarre stories, but loads of laughter from the writers. One possible idea for promoting writing, is to build this game as a web application.

	Significance	Feasibility	Interest
Idea #1	High	High	High
Idea #2	High	Med	High
Idea #3	Low	High	Med

The Winner

Based on our the table above, we chose to pursue a combination of Idea #1 and Idea #2. Both ideas seek to promote the end goal of kids writing more, and while their approach for making this happen are very different, they are not conflicting. The combination of the two, could provide the motivation to bring kids back to the platform and also make the process of writing much simpler.

Sketches

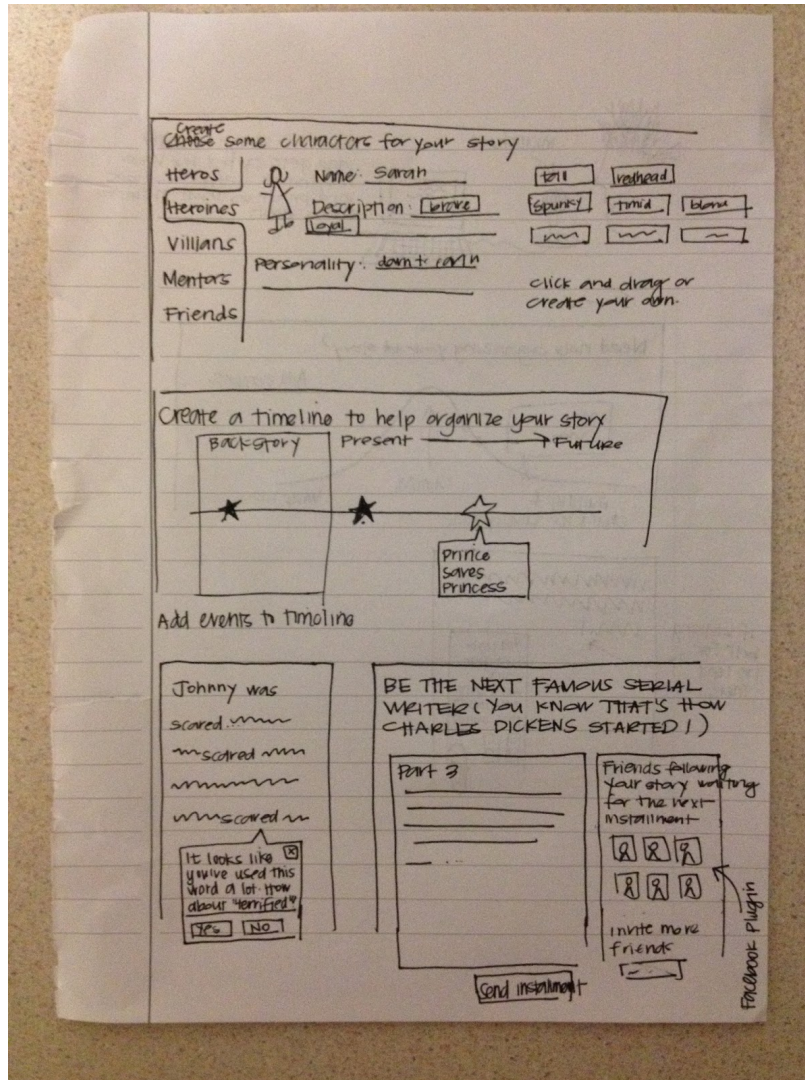


FIG. 4

Sample interface for providing structure.

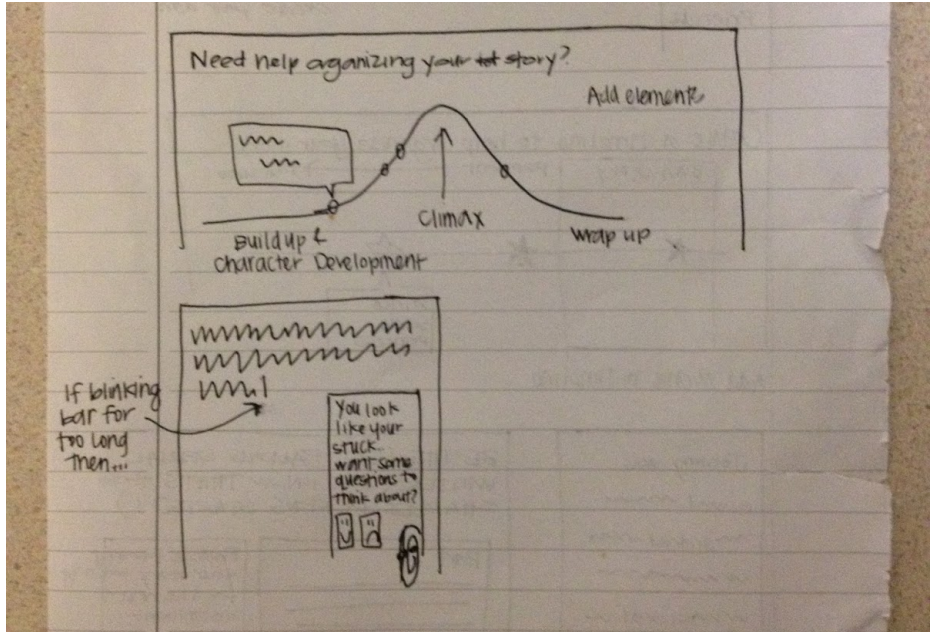


FIG. 5

Additional interfaces for providing structure.

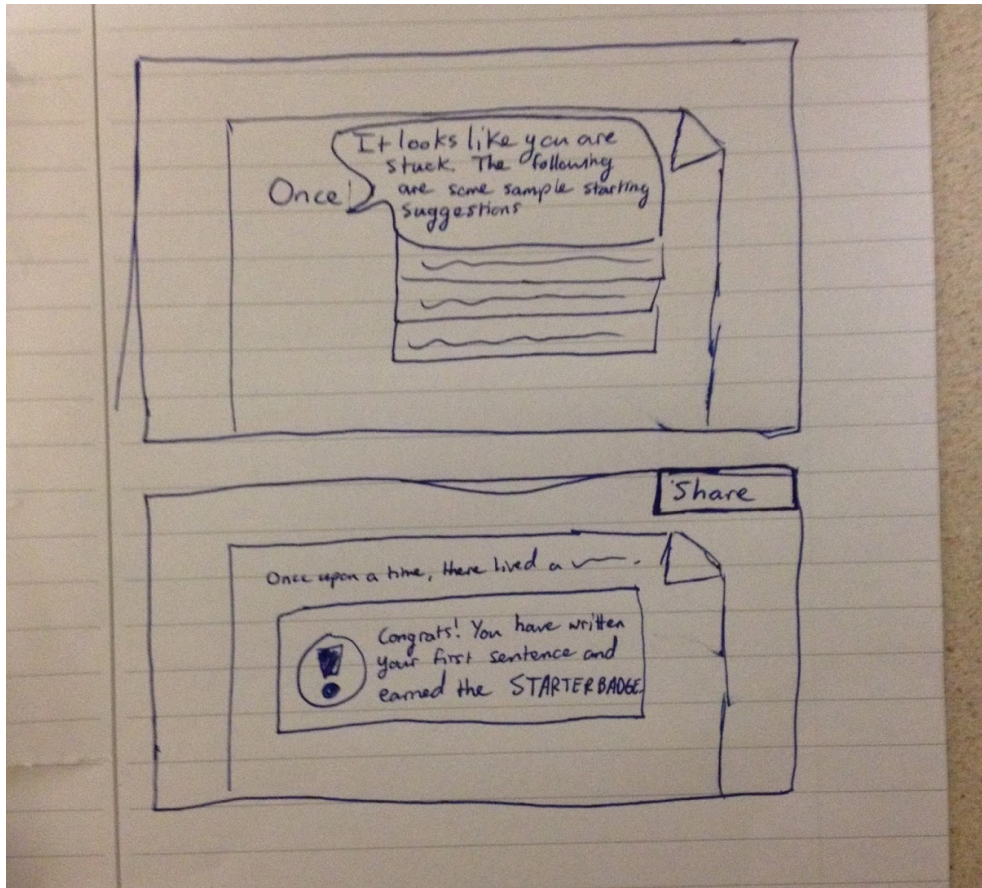


FIG. 6

Top: Interface shows another example of prompting a user that is stuck.
Bottom: Interface shows awarding the user with a badge.

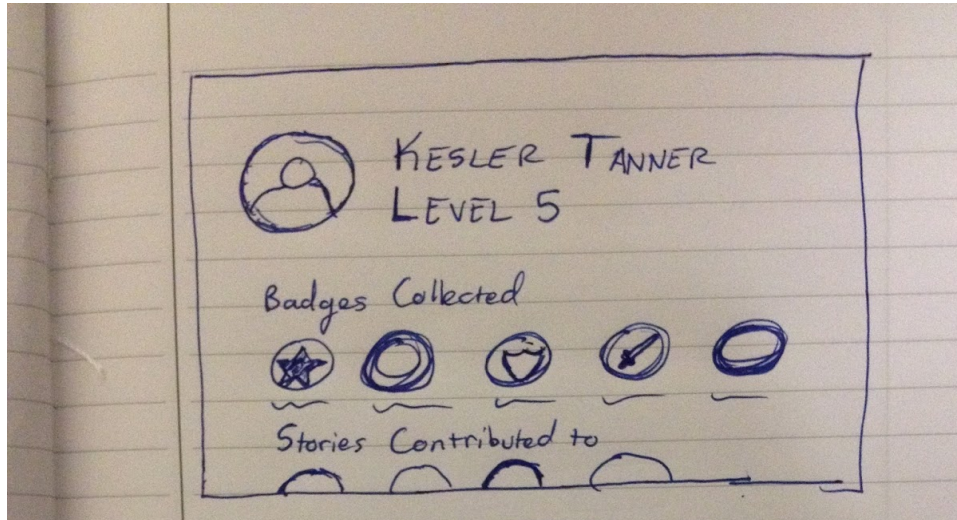


FIG. 7

An interface showing the badges collected by a user as well as stories the user has contributed to.