



ENGAGING, IDENTITY EXPLORATION AND
RETAINING PARTICIPATION ON AN ONLINE
SOCIAL NETWORK FOR CHILDREN

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Abstract

Online social networks experience difficulty retaining participation of user on to their site. For social network sites whose audience is children, retention is especially hard. In order to improve retention rates, a site must engage children through social and exciting activities. After experiencing low retention rates KidGab, a social network that promotes online safety for girls between ages 7-12, we decided to expand on the fun and exciting activities provided within KidGab in order in order to gain and sustain longitudinal participation. To engage users over a long period of time, we needed a reasonable amount of quality activities. In this work, we discuss the impact of our personality quizzes, chat parties, adventure stories, badges, digital quests, and advertising bracelets on the longitudinal participation on KidGab. Particularly, we provide an in-depth analysis of the quiz-taking behavior of the KidGab users. One interesting result of introducing personality quizzes on KidGab has been that many of our users have choose to discuss their results amongst friends without any suggestions. By the users being satisfied, our goal is that they will motivate others to join KidGab, allowing the site to expand and share its message of online safety across a wider audience.

1 Introduction to KidGab

KidGab is a sketch-based social network site created for children between the ages of 7 to 12 that promotes online safety and etiquette. KidGab's goal is to prepare children for larger social network sites (like Facebook). It's intended use is for small organized groups of children, for example for use in a classroom, sports team, or a scout troop. The current domain of KidGab is the Girl Scouts of Central Texas, with each troop being part of a group. When a girl activates her account, she automatically becomes 'friends'

with the girls from her respectable troop and does not have to search for her friends on the site.

KidGab is monitored by the Administrators, through the children, and through the parents of the users. KidGab asks for parent's involvement, in order for the parents to monitor their children themselves. When a parent activates their account, the parent automatically becomes friends with their child and the child cannot 'unfriend' their parent. In order to maintain safety of the other children and limit potential child predators, a parent cannot become friends of other children besides their own.

KidGab allows children to choose their own user name and we suggest that a child does not use their real name. This was one way KidGab allowed the children to be able to explore their self-identities. KidGab also has avatars and themes. KidGab does not allow children to have their profile contain a picture of themselves. Instead, the children can create avatars. The child can also explore their self-identity through creation of their avatars.

At first, KidGab had trouble with retention rates. At the beginning of June 2015, KidGab contained one personality quiz, 3 adventure stories, and a group of badges. The badges alone were getting approximately one girl to return. Since then, old activities have been expanded on and new activities have been added. We currently have 166 users on the site. We asked our users what they believed was an active user and they said an active user who went onto a site at least once a week, which we use to determine an active user.

2 Personality Quizzes

Personality quizzes are fun quizzes that ask questions related to people's personalities. A person chooses the answer that they believes

fits them best. After finishing all of the questions, the person receives their 'answer', or their result. None of the personality quizzes have been scientifically proven and exist solely for entertainment purposes.

By introducing this type activity to our users, who are beginning to gain self-awareness and an idea of self-identity, we hoped for our users to come back to our site. We had no intention to influence our users in any way through our users. We gave girls the ability to share their results with their friends as well. This gives the girls an option to share their results with their friends and see who has received what.

2.1 Types of Quizzes

In order to appeal to the different interests of our users, we have different types of personality quizzes. We have quizzes in the subjects of sports, fashion, animals, anime, books, and quizzes related to Girl Scouts. Every quiz is in the form of a suggestion in order not to force a girl to feel like she should buy a certain object or limit her to a certain title. For example, 'what pet should you own' is one quiz where the quiz is in the form of a suggestion.

Figure 1 Example of Different Types of Quizzes



2.2 Administrator: Quiz Creation

There are three main steps to creating a quiz. These steps are creation, coding, and testing. Creation is about developing and writing the quiz, with the subject of the quiz, the questions, responses, and answers. Coding is about coding the quiz onto KidGab. Testing is about making sure the quiz can be taken and the girls can share their results.

2.2.1 Creation

In creation, the subject of a quiz must be decided. There should never be any quizzes

release one right after the other in the same subject. If a quiz about fashion is released, another quiz about fashion should not be released a couple of days later. After a subject of a quiz is decided, the results for the quiz must be chosen. The results should be relevant to the subject and there should be either 4 or 5 individual results. An appropriate image and description is also needed for the results. After the results are completed, the questions with their answers must be created. The questions do not have to be related to the subject. The questions can ask a girl what does she likes or what would she do in a situation. While the questions do not matter, the answers to the questions do matter. The answers should relate back to the results. There should be at least 5 questions.

2.2.2 Coding

After creation, it is time to code the quiz into the site. For KidGab, we use WordPress as our base. When coding a quiz, we need a formidable and two pages. Within WordPress, we have created a template for coding quizzes, which is split into two-parts, one for a formidable and one for a normal page. The formidable will hold all of the questions for the quiz, as well calculate which result received the most answers. It will be linked to the two pages. One page will display the quiz to the users, having a direct link to the formidable. The second page will contain the descriptions and images, as well as the sharing button, for the quiz. The formidable will link to the second page. After adding in the information from the creation stage and changing variables within the templates, the quiz is ready to be tested.

2.2.3 Testing

Testing is the final stage before deployment onto the site. Three things need to be tested. The quiz itself needs to be tested, to make sure all of the possible results appear and there is no problems within the formidable

or any of the pages. If there are any problems, inspecting the element and trouble-shooting are the best ways to solve any problems.

The ability to share a person's results need to be tested. After this is tested, the result needs to be deleted from an administrator's profile. The last thing that needs to be tested is after the results have been posted, does clicking on the image and links lead to a restart of the quiz for a different user or session. Once everything has been tested, an administrator can add in the URL and the title for the quiz in our page dedicated for activities (called Cool Stuff) and send a message about it to the sites users.

2.3 Quiz Results

Out of our 165 users, 48 of them have taken at least one personality quiz. Within those 48 users, we have experienced some unexpected results. As shown in figure blank, approximately 25 percent of users have taken at least one quiz multiple times. In figure blank, it shows which quizzes had been taken multiple times and how many girls took the quiz more than once. Out of our 22 quizzes, only two quizzes have not been taken multiple times.

Figure 2 User Data

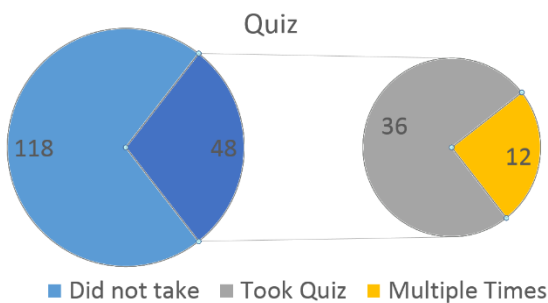


Figure 3 Total Quiz Data

Total Quizzes Taken	Median	Min	Max	Girls Taken a Quiz
327	15	2	29	48/166

The data collected creates more questions than answers. Why did some girls

take a quiz multiple times? Why did some girls take a specific quiz more than once, but not with the others? There are some possible answers to this. While looking through the data we collected, a couple of the girls took a quiz more than once, possibly in an attempt to see what the other results for the quiz were. These girls ended up receiving 3 to 4 of the results within 5 to 6 attempts of the quiz, all within an hour.

List of how many times each Quiz was taken as of August 6th, 2015		
Quiz Name	Girls Took Quiz	Who Took Multiple Times
Sidekick	23	4
Fashion	29	8
Camp Song	20	5
Spirit Animal	25	5
Season	22	5
Anime Life	16	5
Team Sport	16	2
Ice Cream	19	3
Pet	23	1
Leading Ladies	20	4
Summer Activity	13	0
Performance Sport	13	2
Harry Potter House	12	1
Shoes	13	5
Superpower	9	2
Horse	11	3
Girl Scout Cookie	12	2
Individual Sports	6	1
Pokémon Starter	5	1

Harry Potter Pet	7	0
Hair Style	9	2
Socks	2	1

A couple of the girls may be showing KidGab to non-KidGab members and have them take the quizzes. In our data, one girl took a quiz multiple times, but the attempts at the quiz occurred days apart. The difference between her attempts were results. On one day, she received the same result twice. A couple of days later, she took the quiz again with different results. Our data does not state that this possibility occurred. In this specific instance, the girl may

Another answer may be that the girl was not satisfied with her result and took the quiz again until she was satisfied. We came up with this possibility due to one girl taking a quiz multiple times, receiving the same result, until she received a different result and shared the new result with her friends.

3 Choose Your Own Adventure

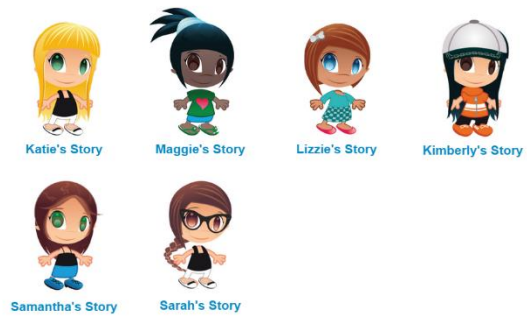
Adventure stories are short stories for the users to read. The purpose of each story is to educate the users about internet safety and etiquette through showing them the possible consequences of their actions. Each story follows a girl in the user's age range as she goes through a particular problem, such as pressured into plagiarism to being stalked by a sexual predator. The user then is able to decide on what path the character takes, with each path leading to a different ending. Each adventure story has at most two choices per page and each path leads to at least 3 different endings. The stories are all age appropriate, with a couple of stories being more jarring and serious than the others. We currently have 6 stories on KidGab.

%Intro to adventure stories, purpose

3.1 Administrator: Adventure Creation

Figure 4Home Page for Adventure Stories

Choose Your Own Adventures



These questions need to be asked first: what is the problem and how does it relate to technology. After answering these questions, the next part is deciding upon at least 3 different endings. The plot needs to be created afterwards, along with the creation of the character. Next is outlining the story, along with the different paths and what path leads to what ending. Once everything is plotted out, next is the writing of the story. It often needs to have dialogue and realistic responses from the character. Once finished, the story needs to be edited for grammar and flow, whether the paths make sense and the character's sound believable. Once down, we need to add the story to the page, coding in the story and the paths. Once finished, at least on KidGab, we need to create an avatar for the character to add for a visual aspect on KidGab's Adventure page. After testing on a local host, the story can be pushed and added on to KidGab.

Figure 5First Page for a Story

Cyber Adventures - Kimberly's Story



Kimberly is a 15-year-old basketball star of her school's team. She has many dreams and goals for the future and she wants to someday play on a WNBA (Women's National Basketball Association) team.

Kimberly and her BFF, Iris were sitting in Kimberly's room, working on a science project for their school's science fair the next day. Unfortunately, because both girls had been really busy playing basketball, they didn't know what to do for their project.

"This is taking too long and it's so boring. I wish there was a way we could come up with an idea soon, I don't want to spend all day working on this," Kimberly told Iris, who was looking at a website on her laptop.

"I have an idea. What if we just copied a project from this site? It has everything we need and we don't have to do anything," Iris said, turning her laptop around to show Kimberly the website she was looking at.

How should Kimberly respond?

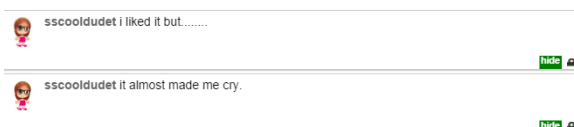
Option: 1
Sure, let's copy the project.

Option: 2
No way, I don't want to get into trouble.

3.2 Adventure Results

We have received direct responses from the girls. For Lizzie's story, a story that deals with an underage girl unknowingly communicating with a sexual predator, one girl responded that she would not recommend the story to her friends due to how disturbing the story was. In the workshops we have held, a couple of girls who read the story could not believe that anything in Lizzie's story could happen in real life. Another story, Kimberly's story, a story that deals with a girl deciding to plagiarize on a project or not, a girl responded that she liked that one the most. She experienced something similar to what Kimberly goes through and she felt like the story was very realistic. Sarah's story, a story about two girls who get mad at each other and post horrible things about each other on the story's version of Facebook, called "Great-Book", received emotional responses, one girl commenting that she liked it, but it almost made her cry. We currently do not have a way to record how many girls have read the stories.

Figure 6 Girl's Reaction



4 Badges

In order to give the children an initiative to use some of KidGab's functions (sketching and making posts) we have integrated a rewards system. Based off of Girl Scout's own system, the users can earn badges to add onto their digital badge (Valentine, Leyva-McMurtry, Borgos-Rodriguez, & Hammond, 2015). In most cases, a girl would check her sash for any new badges to earn, follow the instructions in order to receive the badge of her choosing, and then she would earn the badge. In some cases, a girl would earn a badge by how many times she posts. We have over a 100 badges earned and between 40-50 badges available.

5 Party

These are digital parties, where the girls can get on KidGab between specified hours, and chat with each other, while new badges, quizzes, adventure stories, and other new activities are released. We have had 3 parties. The pilot party was unsuccessful. None of the girls attended. One reason for this may be the time of the event. The party was held from 7pm to 10pm at night, a time we expected for the girls to get on. After that, we consulted the girls to gain their opinion on what times were most convenient for them. We moved the party times to being from 1pm to 3pm, where we saw an increase in participation. The second party received 3 to 4 girls and the third party received at least 5 girls. During the parties, the girls would chat and then go check out the new additions to KidGab. Some girls came back to chat after each new addition, commenting on the new activity. Others continued elsewhere on the KidGab, participating in the new activities as they appeared. With the parties, we were able to gather the girls and have them talk to and meet the other members on the site.

6 Digital Quests

Digital Quests are the newest addition to KidGab. These are short little quests, with a short story behind it, which is interactive. Each quest asks for the user to draw an image (a castle, a sidekick, or a vehicle) in order to solve the quest and help the characters. Unlike our Adventure Stories, the digital quests are not meant to teach the children about internet safety. The quests were also used as an experiment to determine conformity within children, based off of Steven M. Smith's experiment (Smith, Ward, & Schumacher, 1993). We did this by having 9 total quests; 3 of the quests had an image with a user name from children on KidGab attached to it, shown before a child drew anything. We called this primed with name. Another 3 of the quests had an image, but it did not have a user name attached. We called this primed with no name. The last 3 quests had no images attached. When initially implemented on KidGab, the quests were divided into three sections, in order to prolong the activity and increase retention for those three days. Each section had three individual quests and had one primed with name, primed with no name, and a no primed quest. Due to the quests being divided into three sections, some of the quests have been taken more than others. Katya Borgos-Rodriguez goes into more detail in her paper (Borgos-Rodriguez, 2015).

7 Bracelets

We held workshops at Girl Scout camps and in other locations to an attempt to bring in users. While we continued to hold smaller workshop, we decided to stop going to the camps and instead advertise KidGab through the use of bracelets. By sending the bracelets, the camp director, the girls, and the girl's parents were given the complete option on whether they wanted a bracelet or not. Each bracelet had the KidGab's

information on it, with a business card going into more detail about KidGab. With this, instead of taking away from other camp activities, the girls had the option to go to the site once they got back home from camp and wanted to meet with their friends. Since introducing the bracelets, we receive approximately 5 new girls per week.

8 Conclusion

Over the course of a little more than 2 months, KidGab's retention rate has risen. At the beginning of June, we had one semi-active user who came onto KidGab once every couple of weeks. Now, we have approximately 5 active users, 2 of which come onto KidGab almost every day. Even though we implemented many different activities, with some being more successful than other, no activity was able to bring in an increase in retention rate alone. Each activity was useful to our goals; to increase our retention rate as well as teaching online safety and etiquette.

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