schoolview

Chia-Han Chung | Kyle Freed | Ji Soo Yim

Web Development
Storyboarding

Project Manager
User Researcher
Designer

Writer
Storyboarding

Problem and Solution Overview

Middle school is where the most frequent and severe bullying occurs today. Our project addresses the need for teachers and administrators to track and gain insight into bullying behavior trends in order to implement or refine current school policies to address bullying among middle school students. Our web-based design offers tools to teachers that expand solutions beyond simply punishing individual students and promote systemic, school wide changes and track their results.

Contextual Inquiry

For our contextual inquiries, we sought out people that were involved in some way with middle school students such as teachers, staff, or parents. Unfortunately, this demographic proved difficult to approach without existing connections in place. We expanded our potential participants to those involved in high school and educational studies as well, and started investigating if our tool could be generalizable to a wider age range. The interviews are arranged in chronological order.

High School Teacher – Bill
We interviewed Bill who is a current lecturer at a university in the Pacific Northwest for his insight into the administrative and teaching side of schools. We met Bill in person at his current position teaching in a University in the pacific northwest. He described how isolating being a teacher can feel and important discussion between faculty is.

Middle School Teacher – Dave
Dave teaches at a private school on the east coast and serves as the wilderness coordinator and was interviewed over Skype. Dave's school is closely involved with the emotional health of their students and solve disputes by facilitating communication between the affected parties. We talked to Dave about what key information teachers are interested in when there is an instance of bullying. In a follow up interview, he agreed that teachers are often missing a holistic view of the school which we recorded as a defiance in communication, and kept as a prevailing theme.

High school student – Tom
Tom completed middle school and one year of high school in Taiwan before moving to Seattle. Although Tom did not experience any problems with bullying, he described how prevalent technology is in schools. Most students have smartphones and use them to communicate. At this stage of our inquiry, we were considering focusing our design on the students.

Digital Youth Researcher – John
John researches the child computer interaction and curriculum development and served as an expert for our design concepts. We met in his office, and afterwards decided against an anonymous reporting system for fear of it being used for bullying. Our consultation proved extremely helpful in giving a new direction to our project and we shifted to a community health approach.

Middle School Principal – Lindsay
We approached Lindsay for administration details how bullying situations are handled, who causes problems, and where records are stored. We also discussed curriculum success tracking, which we learned was mostly done informally.

Middle School Teacher – Samantha
We already had put together 3 before interviewing Samantha, so we were able to both gather background information and get feedback from our designs. Samantha, interviewed via video chat with her colleague David, brought to our attention we had been approaching communication incorrectly. Rather than a text based conversational solution, the real value of communication was a shared knowledge base that all teachers have available. Communication was actually quite common in departments, with a meeting happening on at least a weekly basis. She explained that their department was trying to implement formal trend tracking and curriculum success tracking. With this new information, we refocused our approach to these two key tasks.

Contextual Inquiry Results and Themes

Busy, Busy, Busy
Both Bill and Dave mentioned the busy schedules of teachers. They are usually not allowed to step out of the classroom without securing a substitute teacher to stay behind to supervise the student. Further, teachers are constantly trying to improve their students' experience. This tells us that any task that we design must not be time-consuming nor overly complicated to learn.

Inter-Teacher Discussion
Bill and Dave mentioned that they talked with other teachers often. We recorded that it is important for teachers to have an easy way to share information about students. This theme initially manifested itself as communication, however we learned later that supporting the existing style of communication (via written word) was not as important as providing teachers access to information in a centralized place.

De-Emphasis on Escalation and Promptness
Bill and Dave both discussed the need to deal with an issue quickly and calmly. Contacting administrators, parents, and the principal are only for extreme cases and a teacher will attempt to do everything possible to not escalate any issues. This takes the form of teachers addressing the student in private and, when at loss, consulting other teacher-peers.

Social Pressure and Sensitivity
Our inquiries pointed us to middle schoolers being concerned of what their peers think of them. Bill and Dave emphasized that dealing with troubled students in a non judgmental way. Many students are extremely reluctant to approach a teacher about a problem that needs reporting for fear of being involved in the problem in their peers' eyes. This theme suggested that an anonymous reporting method may be a solution to the social concerns. However, we realized that by approaching the problem systemically rather than on an individual intervention basis we were able to alleviate this concern.

Administration Disciplinary Record Keeping
Bill and Dave explained that student records are kept by administration and school counselors, which teachers are allowed to reference as well. This suggests our solution cannot be a "catch-all" for students, teachers and administration. The approaches would have to be pretty different. Ultimately, trying to appeal to the general audience was dropped in favor of limiting our design to teachers and administration.

Answers to Task Analysis Questions

Who is going to use the design?
Our design will be used by teachers and administrators who are wishing to implement changes in their middle school aimed at curbing bullying incidents and want to see how their school is faring using metrics not based on academics alone.

What tasks do they now perform?
Teachers conduct intervention with the students directly affected on a case by case basis. Administrators keep records for every student and are in charge of contacting the parents and taking disciplinary action. The effects of policy changes are observed informally.

What tasks are desired?
We place emphasis on a shared knowledge base regarding negative behavior. Further, teachers and administrators should be able to track the changes that occur due to newly implemented or tweaked school policies while also being to view an overall health monitor of the state of the school. Our tool should also be able to provide an analysis of trends in bullying incidents in the school.

How are the tasks learned?
We are hoping our design will be simple and intuitive enough to need at most a brief tutorial that informs the features of the design when first using it. A "Help?" button will be provided in an easy-to-find yet discreet area containing any FAQs that may arise.

Where are the tasks performed?
Our tasks will be performed in the school offices of teachers and administrators.

What is the relationship between the person and data?
To access the data, a secure log-in will be required to authenticate the user. Teachers and administrators, for example, will be able to view the bullying incidents sorted by location, time of occurrence, students involved, and date, while also being able to see the state of the community health and an analysis of current policy changes and trends.

What other tools does the person have?
Currently, anti-bullying efforts are not consistent nor standard and anti-bullying or bullying-response tools are overlooked or not provided to the teachers during their training period. Depending on the type and extent of bullying, a person can contact their school, their Internet provider (if cyberbullying), and/or law enforcement. These channels require those wishing to report the bullying incident to proactively contact these authorities and take responsibility.

How do people communicate with each other?
Teachers and administration communicate in person informally and in department meetings frequently. We decided methods of communication would be kept outside the program primarily, as robust solutions already exist.

How often are the tasks performed?
The number of times the tasks are performed will vary depending on many factors, the most important being the number of bullying incidents in the school.

What are the time constraints on the tasks?
Systemic changes do not produce changes overnight. As such, an analysis of the effects of policy changes should be viewable considering a longer time-span, e.g., by month, by quarter, by semester, by year, etc.

What happens when things go wrong?
When data is entered erroneously, the person logging the incident should be able to go back and edit the entry. If the user forgets their password, they should be able to retrieve it by answering a security question and/or receiving a confirmation email.

Proposed Design Sketches

Design 1 - Web application using social media data
The focus is communication between teachers and administration and descriptive data using social media networks. This approach gives an overview of the school's overall health while tracking the progress of certain policy changes and analyzing trends in bullying behavior. Also, this design allows teachers and administrators to discuss concerns and share information.
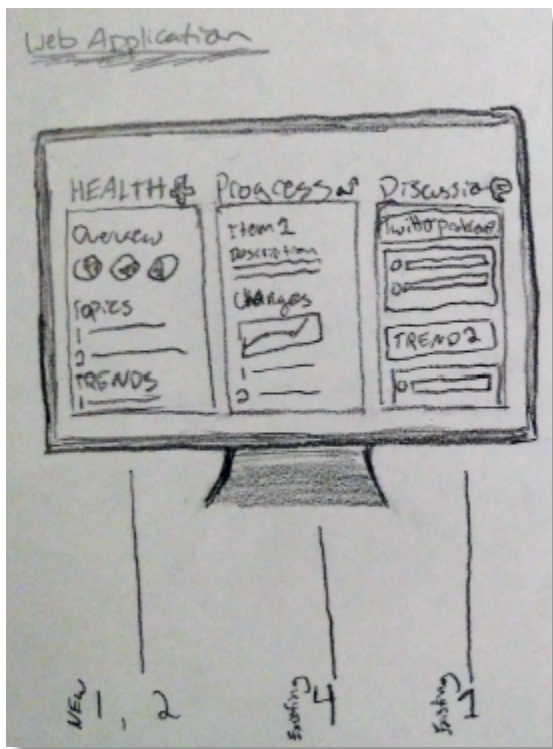
Design 2 – School Website Plug-In Reporting Tool
A plug-in located on the school website gives easy access to students to report bullying incidents and teachers and administrators to search through the reports database. This approach supports the tasks of reporting bullying incidents, allowing communication between teachers and administrators, allowing database information search and retrieval, and analyzing trends.
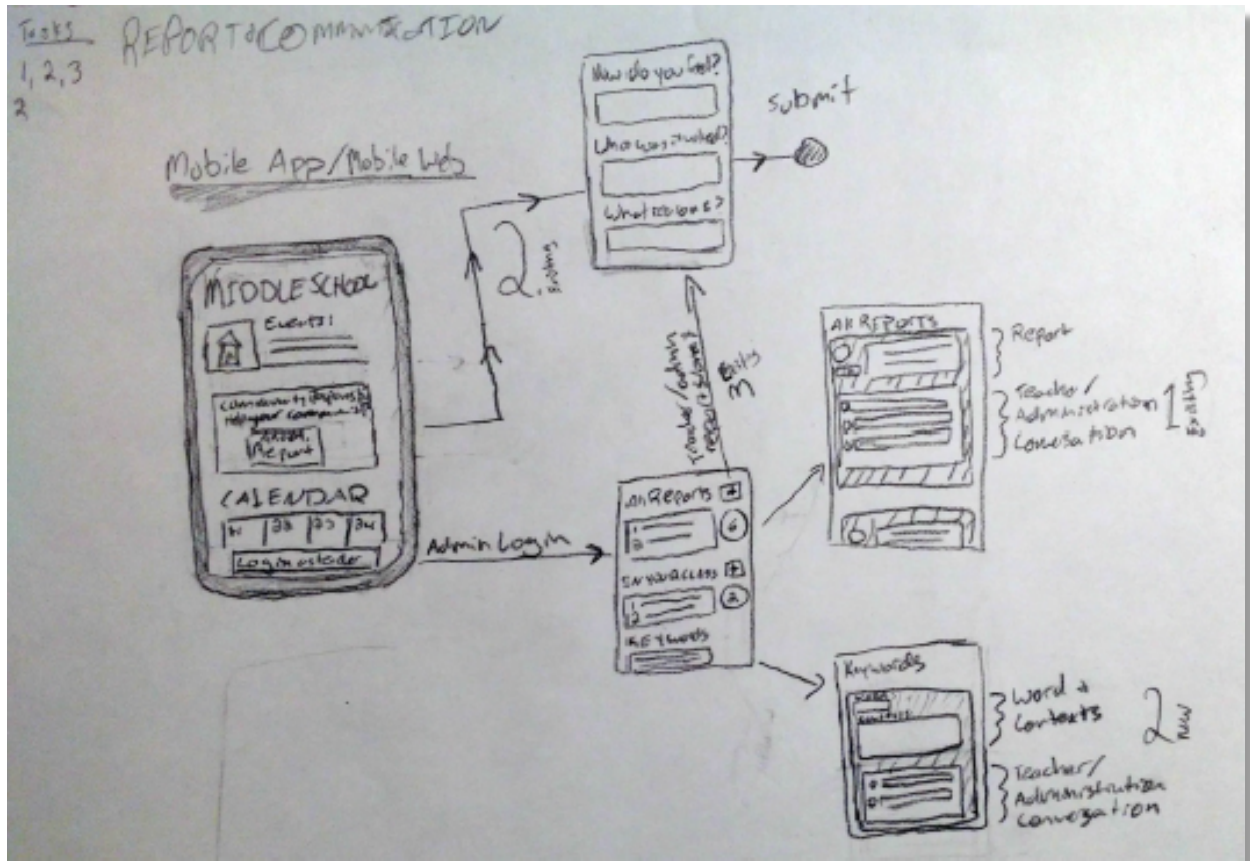
Design 3 – Web-Based Overall Health View
This design is a web-based application that provides a summary view of the state of the school. This website tool allows teachers and administrators to obtain reports regarding trends in bullying incidents and the progress of school policy changes while also allowing teachers and administrators to retrieve data.
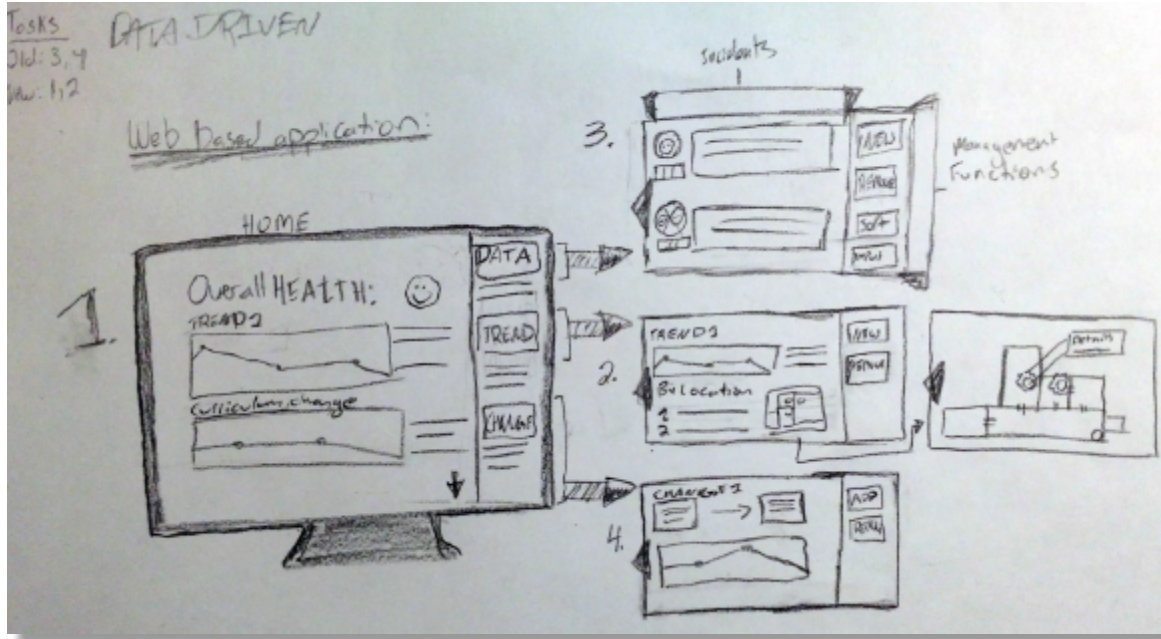

Final Design
Our final design combines various elements from the previous three designs and focuses on mainly two tasks: establishing and monitoring trends in bullying behavior and tracking the success of newly implemented changes in our school. This shift from our original focus on student reporting and intervention toward tools that can address systemic issues stems from what we learned from the contextual inquiries we conducted. The ability to address systemic issues and to formally analyze the effects of policy changes can have a more lasting impact in curbing bullying incidents rather than individual reporting and student interventions.

Written Scenarios - "1x2"

We created this design because it represented a combination of the best features of the 3 sketches turned in prior.
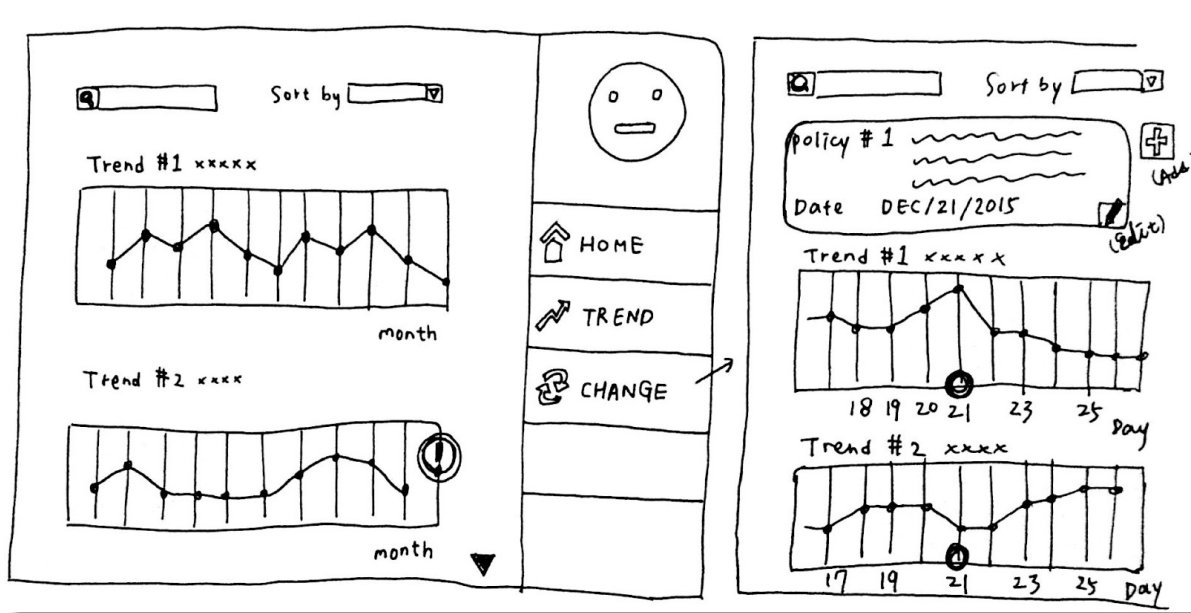
It focuses on these tasks:
1. Establishing and monitoring trends in bullying behavior.
2. Tracking the success of newly implemented changes in the school.

We began our project expecting to focus around anonymous reporting and intervention. Through our field research, we discovered that shared knowledge and the ability address systemic issues and evaluate change are far more important. It's essential that we express where the data comes from would be a project in and of itself. Anonymous reporting, teacher entered tracking, and social media monitoring all have pros, cons, and dangers. These two tasks represent only a small part of a much larger research project.

Scenario 1:
Teachers can find latent problems through the trend report. For example, a student is harassed by others too many times or bullying happen mostly in cafeteria. The trend is generated from data that provided by teachers and administrators. Sometimes, what a teacher see may be deficient to judge a bullying event, but with this system, it will be easier to find unseen issues. They can see the same community health overview and be on the same page of problems.

Scenario 2:
The school staff implements some new policies to decrease bullying and they want to check how effective it is. First, they enact the new policy and enter the start date of it into the system. Then, they can monitor how trend of the behavior they has chosen to follow is decreasing since the policy changed, as well as other trends.

Storyboards of the Selected Design

Final Task 1: Establishing and monitoring trends in bullying behavior
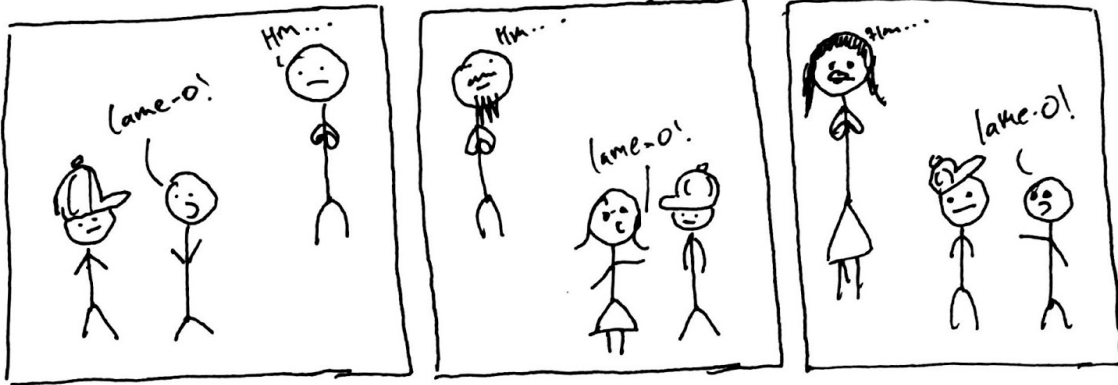
English teacher Dave notices student Ryan being lightly harrassed and enters it as an incident.

Gym teacher Carl notices the same action but doesn't work with Dave. He also logs an incident.

Teacher Sue, also in a serperate department, logs what she might consider normal middle shool behavior.
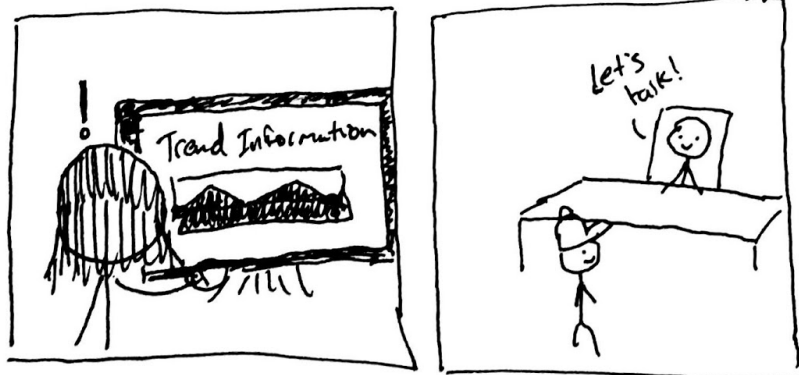
Seperately, these actions might not be concerning. However, the system suggests a trend which was invisible to the teachers individually.

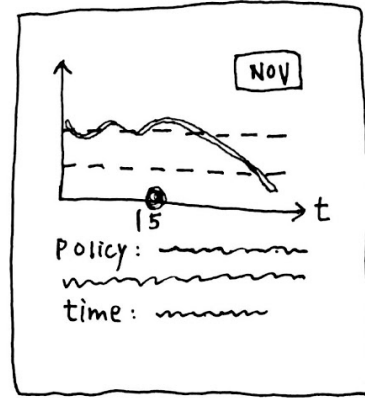Ryan is approached to enter a conversation with someone caring and safe to address the issue.

Final task 2: Tracking the success of newly implemented changes in the school:
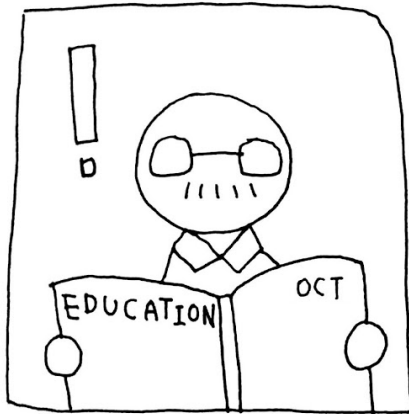
The principal reads a new way to reduce bullying in an education journal.

He gathers counselors and teachers to discuss the new policy and implement it in the school.

He now monitors how trend of the behavior he has chosen to follow is decreasing since the policy changed.