School Safety Week

Suzanne DelPrete, Yuting Liu, Janelle MacLaughlin, and Huan Meng

Working Title

School Safety Week

Project Thumbnail

On December 14, 2012 Adam Lanza fatally shot twenty children and six staff members at Sandy Hook Elementary School in Newtown, Connecticut. This has brought upon issues of child safety in school emergencies. Our game, School Safety Week, aims to teach young children how to remain safe in dangerous situations in a way they will understand without causing them stress.

Delivery Platforms

A 2D game on an iPad or similar tablet device would be the easiest way to reach our target audience. This provides easy access for our players, children of 5-8, as they find it intuitive to use their hands to do such activities as dragging and dropping, drawing a path, etc.

Needs Analysis

Problem Statement

School shootings have become a hot topic recently in the news due to the Sandy Hook tragedy. What's more frightening is after the notorious incident of Sandy Hook there were several other shootings on school campuses. In January 2013 alone, there have been five other incidents. Shots have been fired at high schools in California and Michigan, as well as community college campuses in Missouri, Kentucky, and Texas. These shootings made people more aware of the susceptibility of students and staff in schools, which in turn caused unrest in society. Young children are especially vulnerable to such attacks. In addition to implementing better security systems, schools are trying to teach students about safety to protect them from intruders.

There are two main aspects in school safety education for young children. First, the school needs to make sure that students follow instructions in an emergency situation. Second, the school needs to teach students to identify dangers (such as a stranger in the school or a suspicious object).

Such education can be challenging because it is difficult for young students to remain calm when facing danger. A systematic procedure must be established for students to follow in a school lockdown. In order to avoid leaving students with any psychological trauma, we will identify the suspect gunner as dangerous animals. The students will then be able to easily

identify the potential danger.

While officials want children to feel that school is a safe place, it is imperative to teach them about potential threats as well.

Target Users

Our target users are young children between the ages of 5-8.

Learning Objectives

1. Educate the player on school emergency safety procedures
2. Promote adherence: listening and following the instructions of the authority figure (teacher)
3. Teach without traumatizing; Teach player about serious issues in a way that does not upset them

Hypothesis

By educating students about what to do in school emergency situations, we can prepare them for the worst without worrying them. When an emergency or a drill occurs, better and more organized evacuation or lock down can be expected.

Task Analysis

Objective
- Identify the danger- weather, animal, fire alarm, intruder, etc.
- Go over/teach what to do in that emergency event (leave school, hide under table, report a suspicious object, locate the basement, etc.)
- Promote listening to the teacher/authority figure

Steps to Take
- Identify the emergency event
  - Show the players pictures of emergency events; identify that event
- Go into steps for the certain situation
  - ex. for fire- wait in line and be lead to the nearest exit
  - sick animals- stay inside the classroom out of sight from the windows and doors
  - extreme weather- stay under desks or head to the basement
  - identification of suspicious objects- report to teacher

User Interface and Environment

The User Interface (UI) is simple and easy to understand. There are only a few buttons for convenience. Movable items either glow or have some form of indication next to it (for example, a red mark). The environment is executed in a clean and fresh style, with color

blocks that look child-friendly. There is a hint button available on the screen, providing additional instructions for confused students. Instruction is being delivered in both text and voice in a clear, audible fashion.

Interactivity
The teacher appears to introduce a school safety issue such as a fire drill. After introducing the issue, the teacher explains to the player how to play the mini game related to that issue. The teacher guides along the student and gives them hints throughout the game. The player can ask the teacher for help at any time. The student is rewarded with certificates at the end of each activity. (Ex. Fire safety award, stranger danger award, etc)

Gameflow/Narrative

The game would start off with the authority figure (teacher or principal) introducing the student to the game. The student would enter the classroom where his or her teacher would inform the student that it is school safety week. The first mini game would then start, introducing the student to the first school emergency event. The player would then play through each consecutive mini game until all are completed. If the player does not understand how to complete the mini game the teacher will provide them with hints until they complete it. Once they complete the game, the player is given a school award such as a virtual badge. When the student has completed all mini games, the teacher or principal will announce that the school safety week has ended successfully.

Avatar Creation

The player will be able to choose between a male and female cartoon avatar that looks about their age (5-8 years old).

Narrative

Good morning class, my name is Mrs. Smith, and this week is School Safety Week! We will be going over what to do if you are in an emergency situation. We will be playing three games today. But first, we need to fill out an emergency contact card. Please enter your name and pick your avatar.

Here are the 3 games. Which game would you like to play first?

For next 2 times: Which game would you like to play next?

Fire Drill Game

Emergency introduction: If there is a fire drill you must:

- Listen carefully to directions
- Quietly line up
- Walk carefully out of the building to your assigned place
- Stay with your class at all times
- Wait until your teacher or another adult tells you it is safe to return to your classroom

Game introduction: In this game we will be going over where to exit the school in case of a fire drill. Draw a path from the blue star to the nearest exit.

Correct: Good job!
Incorrect: It is important to get out of the school as quickly as possible. Look at the map to see where your class is assigned to go.

Congratulations! You have completed this game! Here is your Fire Drill mini game certificate.

Safety Zone

Emergency introduction: Sometimes we may need to stay inside to be safe from sick animals or a bad storm. It is safer to stay inside if a sick animal is outside. In this situation you will hear the secretary say this message: "Stand by for an important announcement. This is an important announcement for everyone in the school. Please remain in your classrooms away from windows and close all classroom doors. Please wait for further instructions. It is important that all students and staff remain calm."

Game introduction: In this game we will show you places it is safe to hide. There are 5 possible places to hide. Find all of them to complete the game.

Correct: That is correct you have found # out of 5 hiding spots. Hiding (under the table/behind the shelf/in the cubby area) is a good place to hide. It is out of sight from the windows and doors.
Incorrect: That is not a good place to hide. You can be seen easily there from the (door or window).

Congratulations! You have completed this game! Here is your Safety Zone mini game certificate.

Suspicious Objects

Emergency introduction: If you see an object and don't know what it is, it is important that you move away from it and do not touch it. Report what you saw to your teacher and she will take care of it.

Game introduction: In this game objects will move slowly across the screen. Pick out suspicious objects to report to your teacher. Win the game by choosing all the suspicious objects.

Correct: Great job! (A pill bottle/knife/chemical bottle) seems suspicious. If you see one of these things report it to your teacher.
Incorrect: Sorry, that is not a suspicious object

If the object passes: You almost got it, but _____ and _____ are also suspicious objects.

Example of Gameplay

The game starts off with the teacher, Mrs. Smith, telling the player it is school safety week. She informs them that they will be playing a few games to learn what to do in emergency situations. On the next screen, the player chooses which game to play by tapping its icon.

Mini Game 1: School Map

The first mini game is a 'where to go' game. A school map is shown to the player. The map is customizable for each individual school to match different graphical features. If we were doing a play through with a student we would use a map of their school. That way they would easily recognize where the doors were and where they usually go in a fire drill.

The player's location is shown as a red star on the map, randomly generated each time they play. The player needs to find the nearest exit as quickly as possible. He or she can ask for help from the teacher by clicking the hint button at any time. Once they have drawn the route to the nearest exit, they will receive a message indicating a successful mission.

Mini Game 2: Safety Zone

The second mini game is a 'where to hide' game. The game scenario can be in a classroom, library or gymnasium. Before the game begins, pictures will flash up on the screen, teaching the player where they can hide if a "sick animal" is inside the building or if there is an extreme weather threat (tornado). Players are also informed they must stay out of sight from windows and doors. The mini game will then show a room with places similar to those they have just been taught about. The player must identify each hiding place in the shortest amount of time possible. Once they have identified all of the hiding places in the room, they will receive a message indicating a successful mission.

Mini Game 3: Identifying Suspicious Objects

Finally, the Identifying a Suspicious Object game takes place in school as well. Players are presented with a line of items on a conveyor belt. The belt is slowly but constantly moving the objects across the screen. Players need to identify objects that do not fit into the school environment and might be dangerous. The player will then tap on the objects and then on a "report" button to inform their teacher. When they have picked out all suspicious objects, they will receive a message indicating a successful mission.

Once players finish each game, they will get a reward such as a certificate or a badge.

Instructional Design

Since this game's primary audience is young children, help and/or hints will always be available from their teacher. We want to teach that the player can always go to an authority

figure for help in dangerous situations. If the player requests help more than 20 times in one game he or she will be required to play that game again. The main goal is that if the player faces an emergency event in the real world, he or she will be prepared and know what to do in that situation. The main means of interaction the student has in the game is drag and drop and tapping the touch screen- children are focused on using their hands. One mechanic we use is the flash mechanic in the "where to hide" game. This highlights the places where a child could hide from a sick animal in a classroom, library, gymnasium, etc. Awards, such as a certificate or a badge, are given to the player once they complete the tasks.

Paper Prototype

Construction

Mini Game 1
For the paper prototype, we will have a map to show the player. For the red star, indicating the players starting location, we will draw it on the map with a red dry erase marker. For the paper prototype, we will use clear laminating paper over the map. This way the child can use a dry erase marker and if they make a mistake, they can easily erase or "retrace" their route.

Mini Game 2
To simulate this game, we will show a picture of a classroom to the player. We will circle places on the picture that they would be able to hide if an emergency situation occurred. We will then show the student another picture that is similar to the first, but has things in certain places. The student will be given a small paper person to simulate the avatar and be asked to place it on the certain places they could hide in the classroom, gym, etc. A flip chart (small notebook) will be used to document the number of places the student has pointed out of the total amount in the room. Testers will have a stopwatch or clock to time the student. The game will end when the student has found all of the places to hide.

Mini Game 3
For this paper prototype, we will make paper cutouts of suspicious and non -suspicious objects. We will then also create a conveyor belt out of paper. To mirror the game, we will tape the paper objects to a piece of string and slowly pull the string to simulate them moving along the conveyor belt. The player will then be asked to point to an object they deem suspicious and tap on a piece of paper that represents the "report to teacher" button. Our "computer" member will then remove it from the string. The game ends once the student reports all suspicious objects to the teacher.

General UI
For the general user interface, there will be three main buttons: continue, hint, and pause. We will construct these out of paper and make them resemble the actual buttons in the game as close as possible. We will also construct the teacher out of paper. The "computer" member will provide the dialogue for the teacher. The teacher cutout will be there when explaining school safety week, but will be removed during the mini games. Any time the

student taps on the hint button, we will place the teacher cutout in front of the student and the "computer" member will be the voice giving them suggestions. To choose a mini game, we will construct three objects out of paper to be icons for each task. For example; a star can be used for the "school map" game, a desk for the "where to hide" game, and a suitcase for the "identifying suspicious objects" game.

We will also create the avatars out of paper, string, googly-eyes, etc., so as to let the player choose their character.

Iterations
Replay value- in the first mini game, the player's location can be randomly generated so the player can play this mini game multiple times.

The game detects how many hints a student uses. If a student completes the entire game with more than 20 hints, he or she will be asked to play it again.

After the play through in class we got a few suggestions. The first was to change the "language" of the narrative. The words may be too big and the descriptions too complicated for children in our target user group. If we were to playtest this with a child we could comment on this and make further changes. The second suggestion was that the game should involve more fading. An example of this would include during the first play through, the instructor (teacher) would give the player instructions and show them what to do. Realistically, the student would be listening to the teacher's instructions rather than deciding what to do on their own. The second time through the player would be theoretically separated from their class or teacher in some way. He would then be faced with deciding where to go or where to hide on his own.

Assessment

Pre-test/Post-test

Before the game, students would be interviewed about what they would do in case of each school emergency. These questions would be simple true or false questions. Examples of these questions are things like:

- It is safe to hide close to windows and doors. (False)
- If I see a suspicious object, I should pick it up and bring it to my teacher. (False)
- If there is a fire drill I should run out of the classroom without my class. (False)
- If there is an emergency situation I must listen to my teacher. (True)

Ideally, we would also like to put the children through situations such as fire drills or school lockdowns and assess them on how well they did. We realize that this would probably not be feasible as it would have to involve an entire school and we would have to go through many levels of administration to be approved. This game can be tested on a smaller group

of students and would not need to involve the entire population of a school. After the game students would be interviewed again and asked the same questions. The testers would then compare the results of how the children did before playing the game and how they did after the game. Based on these results, testers could determine if the games provided positive behaviors in school emergency events. It is important to note that with this game we are not trying to teach a behavior. This is already done in school with various drills and lessons from kids' teachers. We are trying to reiterate what they already know in a new and hopefully interesting way.

Pictures

Original Mockups
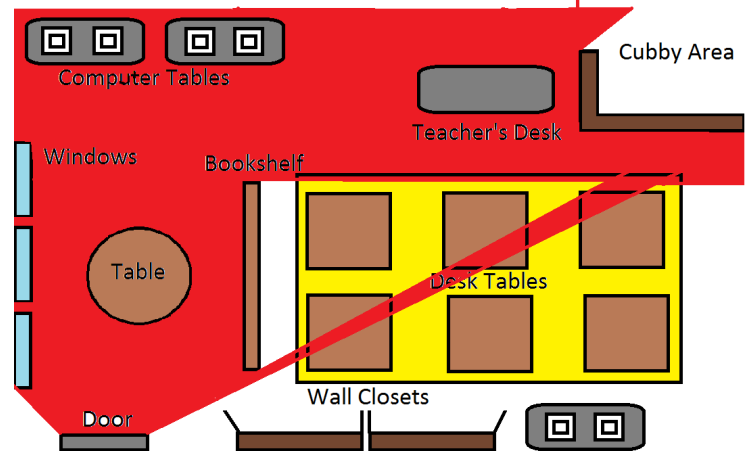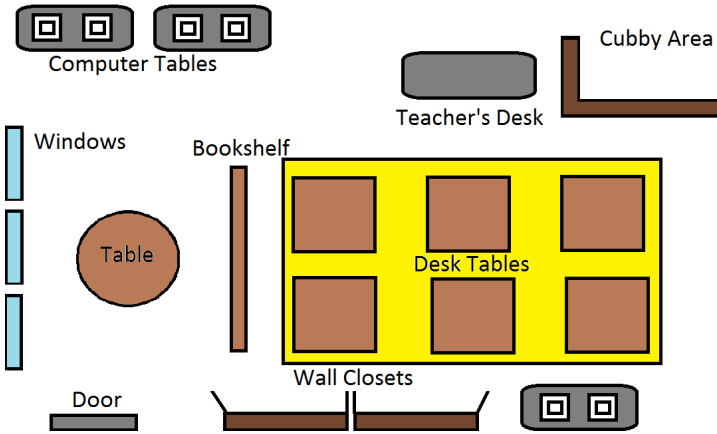
"Where to Hide" Game- Later Scrapped
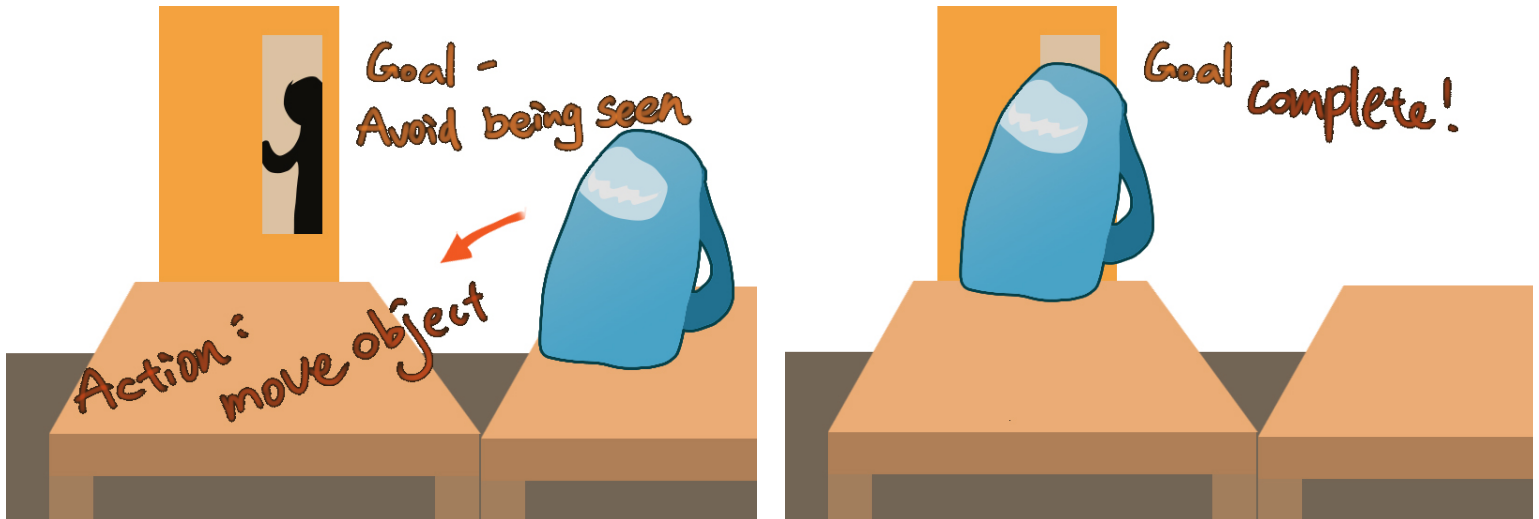
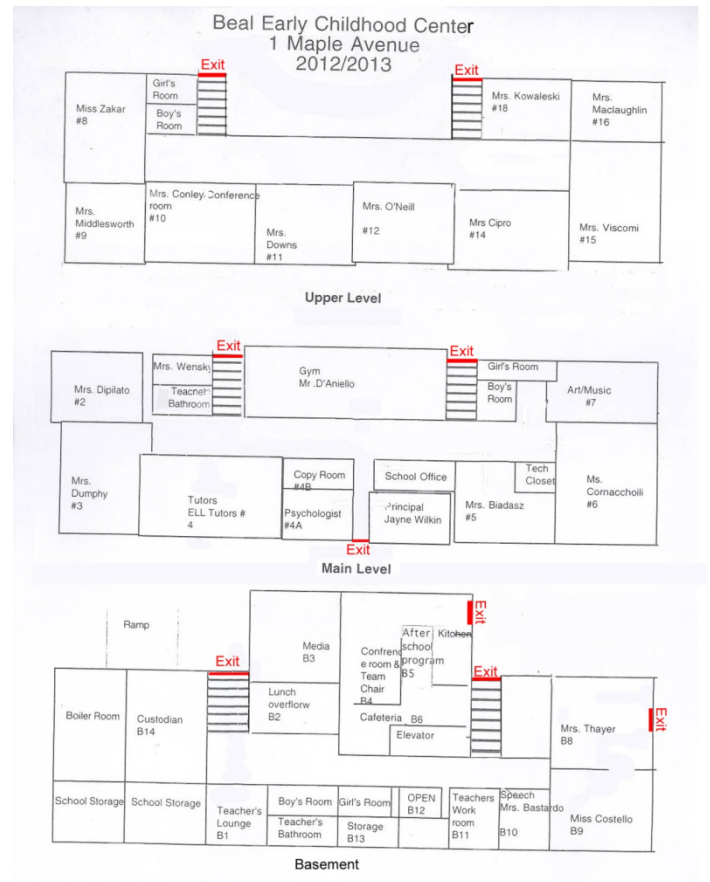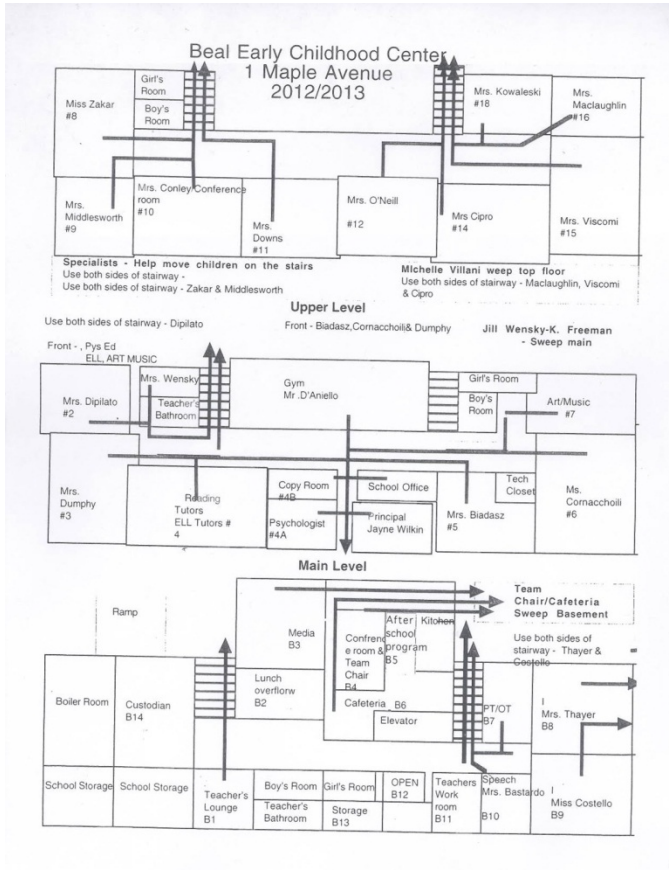Left- Identifying Suspicious Objects. Right- Safety Zone Game

Safety Zone

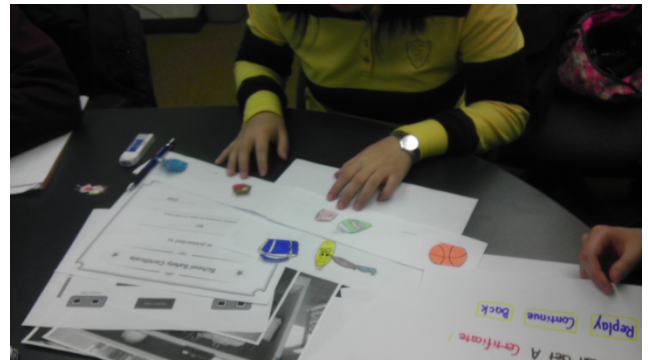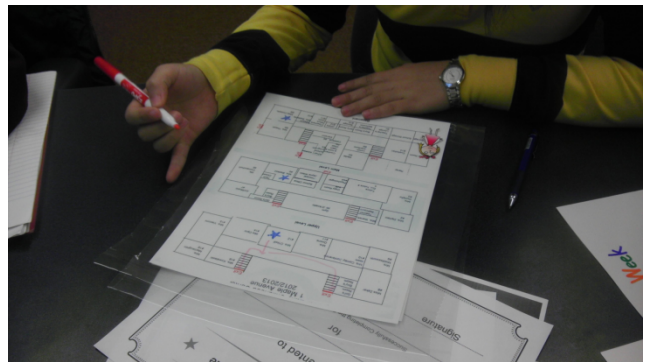Left- Classroom. Place your avatar where you think you should hide. Right- Red areas are unsafe.

School Map Game

Left- All possible routes. Right- Blank slate.

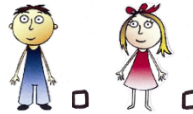Play-testing

Splash Screen Examples

Game Over

Replay   Back

Suspicious Objects

PLAY

BACK

Emergency Contact Card

Your Name:

Pick Your Character:

Enter

Safety Zone

PLAY

BACK

Mrs. Smith

Certificates

★ **School Safety Certificate** ★

is presented to

_____

for

Successfully Completing the Safety Zone Mini Game

_____
Signature

February 26, 2013
Date

School Safety Week

★ **School Safety Certificate** ★

is presented to

_____

for

Successfully Completing the Fire Drill Mini Game

_____
Signature

February 26, 2013
Date

School Safety Week

★ **School Safety Certificate** ★

is presented to

_____

for

Successfully Completing the Suspicious Objects Mini Game

_____
Signature

February 26, 2013
Date

School Safety Week