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**Title**

Give It Your Best Shot!

**The Project Thumbnail**

Everyone knows that kids are afraid to go to the doctor and get shots, but vaccinations are very important for maintaining good health. Our game seeks to reduce the anxiety and stress kids face when going to the doctor by providing them with information and techniques to help.

**Target Users**

Our target users are elementary-school aged children in America.

**Delivery Platforms and Justifications**

We plan to implement our game in HTML5 and make it browser-based so that it can be easily accessible at home and can be loaded up on computers in the waiting room. The simple user interface and accessible nature of the minigames would allow it to be easily ported to devices with touch screens, making it more enticing to young kids.

**Needs and Task Analysis**

<u>Needs Analysis</u>	<u>Task Analysis</u>
Educate kids on a doctor's purpose	Provide definition of a doctor's office through: <ul style="list-style-type: none"><li>● Examples<ul style="list-style-type: none"><li>○ Relatable family stories</li><li>○ Other people at the doctor's office</li></ul></li><li>● Teaching agent<ul style="list-style-type: none"><li>○ friend that comes along to the doctor</li></ul></li></ul>
Educate kids on the benefits of the doctor's office	Provide resources for the player to interact with, such as: <ul style="list-style-type: none"><li>● Doctor/Nurse</li></ul>

	<ul style="list-style-type: none"> <li>● Informational Posters</li> <li>● Magazines/Newspapers <ul style="list-style-type: none"> <li>○ Positive medical stories</li> </ul> </li> </ul>
Educate kids on what happens on a typical vaccination visit	Procedural challenges consisting of: <ul style="list-style-type: none"> <li>● Inoculation/Vaccination <ul style="list-style-type: none"> <li>○ Shots</li> </ul> </li> </ul>
Teach behaviors that help reduce stress and anxiety during vaccinations	During procedural challenges listed above encourage players to: <ul style="list-style-type: none"> <li>● Inoculation/Vaccination <ul style="list-style-type: none"> <li>○ Look away from the needle</li> <li>○ Breathe Steadily</li> <li>○ Focus on other things</li> <li>○ Practice giving a shot to a stuffed animal to reduce stress</li> </ul> </li> </ul> Use positive reinforcement to encourage the retention and repetition of these exercises

### User Interface and Environment

The user interface would be minimal during ordinary gameplay, in traditional style for a point and click adventure game. The initial environment would be the waiting area of a doctor's office, and the game would later move into the actual office. The game would either be navigated by clicking with a mouse or by tapping on a touch screen.

If an NPC is selected, the interface switches to visual novel style. A box would appear at the bottom containing the dialogue between the player and the character. In order to continue through the dialogue, the player would need to tap or click to get to the next page of dialogue, which replaces the previous dialogue in the same box.

During mini-games (such as practicing giving shots to a doll, as explained later in the document), an appropriate but minimal display would appear to instruct the player on the course of action to take. This would take the form of a small text box containing instructions for the minigame, and the objects that the player will need to interact with to complete the mini-game.

In the waiting room, there is a variety of magazines to look at, as well as informational posters and NPCs (the main character's friend, another patient waiting to be called in, and eventually the nurse). All of these would be interactable, resulting in dialogue in the case of the NPCs and informational text and news stories in the case of the magazines. The posters would simply display a zoomed-in version of themselves for the player to look at. A full list of gameplay objects in both rooms can be found in the Interactivity

section

below.

*(Waiting Room.*

*Image source:*

*Google*

*Images)*

*After*

the player



has interacted with three of the objects in the environment, the nurse shows up and asks if they would like to see the doctor. The player has the choice to say yes, proceeding to the next room, or to say no and stay in the waiting room to view the other objects. However, once they have interacted with everything in the waiting room, the move to the doctor's office is mandatory.

The environment of the game will be presented through two stationary screens: one screen being the waiting room, the other being the doctor's office. These will present all available information

to the player on one screen, without the need for scrolling or navigating. They will be completely separate, with only one-way navigation possible.

The interactive objects will have a slight golden glow. When the object is hovered over with the mouse, the glow will intensify, signifying that the player can interact with the object. Once an object has been interacted with, it will remain in the environment but will no longer glow at all, letting the player know that the opportunities for interactivity have passed.

[Insert stock of doctor's office]

## **Interactivity**



*(Early sketches of Tyler, the main character's friend. Original concept art by Peter Lepper.)*

The user will be able to interact with objects in the environment, which consist of:

- **Waiting Room**
  - Variety of magazines
  - Informational posters

- Another waiting patient
- Your friend
- The nurse
- Doctor's Office
  - Informational posters
  - A practice doll
  - The doctor
  - Your friend
  - The nurse

The user will also be able to talk to NPCs by clicking or tapping on them, and be presented with dialogue. The NPCs present consist of:

- The friend [Tyler]
- The doctor
- The nurse
- Another waiting patient

During the visit with the doctor, the player will be introduced to the concept of getting a shot through a minigame involving practicing giving shots to a doll, helping the player to get used to the procedure and becoming more comfortable with the idea of getting a shot. This minigame will involve administering the shot to a doll in a manner similar to the Cooking Mama games, where the player goes through several smaller subgames to perform a task. In our case, the player will first "disinfect the arm", swabbing the doll's arm by clicking and dragging gauze across the doll's arm until it sparkles and shines. After this, the player will be tasked with inserting the needle into the doll's arm after a countdown by clicking and dragging the needle. If the player is too early, the doctor will lightly admonish them, reminding them that the doctor will be honest and follow the countdown himself. The player will then

have to inject the needle by pushing through clicking the handle and dragging it in. Finally, the player will have a choice of several band-aid depicting child-friendly art, including a space theme, a dog theme, a cat theme, and a floral theme.

Our interactivity allows the user to interact with only the things they want to interact with. They will be able to approach information at their own pace and will not have to be bogged down by having too much information presented at once. The minigame is designed to allow the player to become desensitized to the process of getting a shot while also learning about how the procedure will be like. Practicing on a doll is a proven method that helps educate kids on what will happen while making them feel more comfortable. Putting this method within the context of our minigame also allows us to have players perform the shot themselves rather than simply observing a doctor.

### **Gameflow/Narrative Synopsis:**

#### **Game Start Screen**

- Splash screen with vaccination needle and stuffed doll

#### **Pre-assessment:**

- Ask the player their name, how they feel about going to the doctor, whether they are afraid of shots, and if they have gotten a vaccination shot before
  - The idea is to assess whether the player is afraid of the needle before the game begins so we can have a small indicator of whether our game is successful or not

#### **Doctor's office[patient space]**

- The room is set up with a bunch of chairs for sitting, the NPC friend Tyler, another patient waiting to go in, a window for the receptionist, a table with some magazines, a poster above it, and a door in the middle that leads to the rest of the office.
- The player must interact with at least 3 objects before the nurse will show up telling the player that they can click on her to proceed.

- clicking all the objects in the room earns the player an achievement sticker
- interactable objects:
  - Poster
    - clicking the poster bring up a zoomed image of the pain scale[3]
  - Example: Magazine 1
    - Clicking on the magazine will bring up the news story, “Measles down with vaccinations!”
  - Example: Magazine 2
    - clicking on the magazine will bring up the story, “Flu cases down 50% with new vaccinations!”
  - Example: NPC Friend [Tyler]
    - Clicking on tyler will result in the following dialogue
      - “Don’t worry, everything’s going to be a-okay!”
  - Example: Old NPC[Female]
    - clicking on her will result in the following dialogue
      - “I’m here for my flu shot, so i can stay healthy.”
  - Example: Nurse
    - When the player has interacted with three objects, the nurse character will appear and call the player
    - clicking on her will advance the game and produce the following dialogue
      - “Ready to go?”

**Doctor’s office:**

- Mini-Game: give the doll a practice shot

- Player is given talk from Doctor about how to give prep the patient for shot, and how to wait until the patient is ready to give the shot

- [Part 1] Swab the doll with an alcohol wipe

- [Part 2] Countdown from 3 and then give the doll the shot

- If before the timer gets to 'GO', the doctor comments "Oh, try again!" and this part of the game starts over

- [Part 3] Choosing a bandaid to put on the doll

- player chooses bandaid from several different themes:

- Space theme

- Cat theme

- Dog theme

- Floral theme

- Doctor congratulates the player on a good job and then the player goes through with the actual shot

### **Examples of How Gameplay Will Integrate With and Advance Instructional Design**

Our game will slowly desensitize the player by simulating one of the existing ways used to help kids get over the fear of shots, practicing giving shots to a doll. The mini-games will achieve this desensitizing by using scaffolding to slowly ease the player into the full procedure used for vaccinations. For example, the first step will be the swabbing of the arm to disinfect the area, and then the next step will be to disinfect the arm and along with inserting the needle, and so on. This scaffolding will present

the procedure in digestible chunks in which the player can comfortably and slowly face their fear one step at a time.

Through the playing of the minigame, the knowledge of the procedures used for vaccinations will be taught to the player, as each step of the minigame will correspond to the procedure the player will undergo when they receive a vaccine, and after the player finishes playing they will have the complete picture.

### **Evaluation and Assessments of User Progress, Advancement, or Social Behavior**

Within the context of the game, progress will be determined through a sticker book, one that acts as an achievement system for players. After accomplishing certain tasks, the player will receive a sticker to add to their collection. These tasks would include simple ones such as successfully administering a practice shot as well as more complex tasks such as reading every informational poster. This system would provide incentives towards progressing through the game as well as towards learning all of the information that the game provides. A potential way to determine if learning is actually occurring would be to implement periodic quizzes that may occur after reading some posters, for instance, that would ask basic questions about the information provided. Successful answers could be another source of stickers for their sticker book, giving the player a reason to want to learn the information provided.

Outside of the game, in order to assess the effectiveness of the game, pretests and posttests could be administered as a way to see if improved knowledge on the subject matter can be seen. In addition, pre and post game surveys could be used to get a sense of player opinions and how they possibly have changed after playing the game. This would allow us to determine if players find the prospect of getting a shot less threatening after playing our game, hopefully making the experience of getting a shot less threatening through properly informing them and giving them practice. In order to see differences in how our game would affect this compared to a lack of our game, an experiment could

be run in order to evaluate its effectiveness in comparison. A control group that has not played the game and a group that has played our game can both be monitored during doctor's visits and then interviewed afterwards to get both self-report on how the experience was for them as well as observational data to see if there are any differences in comfort during the process.

References:

<http://teamvaccine.com/2010/03/11/taking-the-%E2%80%9Couch%E2%80%9D-out-of-vaccines/>

<http://preschoolers.about.com/od/healthsafety/a/FluShot.htm>

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