

NICView: An Interactive Neonatal Case Simulator

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Problem Statement

- Because of new work hour limit restrictions on residents in the Neonatal Intensive Care Unit (NICU), they lack sufficient proficiency in identifying and performing basic interventional procedures, such as differential blood pressure, chest compressions, and intubation, in a timely manner.

Primary Objective

- To create a product that solves the problem of NICU resident inexperience in a convenient and effective manner.

Needs Assessment

- A safe and convenient method for residents in the NICU to practice procedures.
- A conceptual virtual learning tool that accentuates the physical practice residents receive in the NICU.
- A practice tool that will expose residents to a large variety of cases.

Goals

- User-Software Interaction
 - Interactive
 - User-friendly
- User-Administrator
 - Feedback system
 - Consequence/Reward
- User-User Interaction
 - Forum
 - Recordable data

Quantitative Measurements of Achievement

- Time to accomplish scenarios
- Comparative skill sets
- Pre- and post-tests
- Point System

Flowchart

Scenario Three Example Flow Chart

Background

- Current standard
 - Practice in the hospital
- Current Solution
 - Simulation doll
 - Pros
 - Cons



<http://www.kyforward.com/our-health/files/2013/07/doll.jpg>

Benchmark for Measuring Care

HOW IS THIS DOCTOR AT ...	RATING SCALE					
	Poor	Fair	Good	Very Good	Excellent Evaluate	Unable to
1. Telling you everything; being truthful, upfront and frank; not keeping things from you that you should know	1	2	3	4	5	#
2. Greeting you warmly; calling you by the name you prefer; being friendly, never crabby or rude	1	2	3	4	5	#
3. Treating you like you're on the same level; never "talking down" to you or treating you like a child	1	2	3	4	5	#
4. Letting you tell your story; listening carefully; asking thoughtful questions; not interrupting you while you're talking	1	2	3	4	5	#
5. Showing interest in you as a person; not acting bored of ignoring what you have to say	1	2	3	4	5	#

Design Approach

- System and Environment
 - Will be played individually at home
 - Will be in 2D
 - Constructed in the form of a vignette

Desired Outcomes

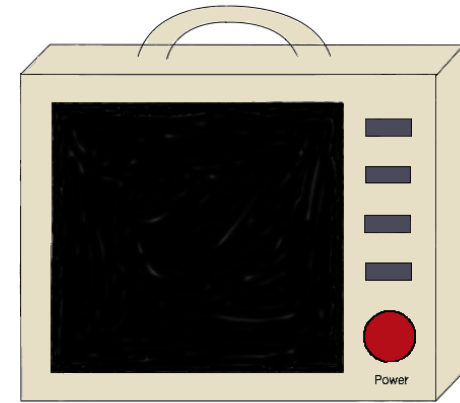
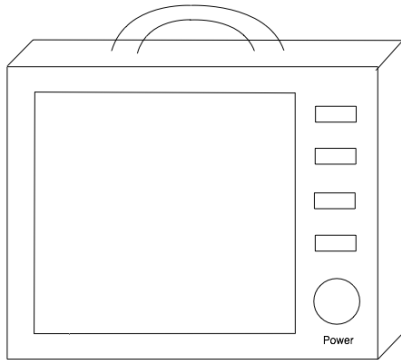
- Residents and medical school students should be able to use our program at home
- The NICU should see increased problem-solving competency and confidence in their residents
- Our program should be modifiable to add more scenarios as desired

Current Progress - Unity

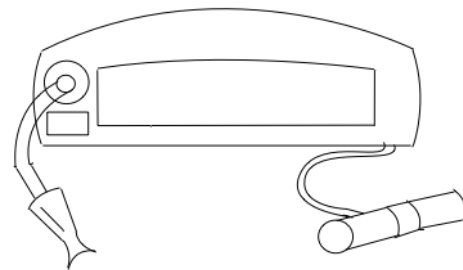
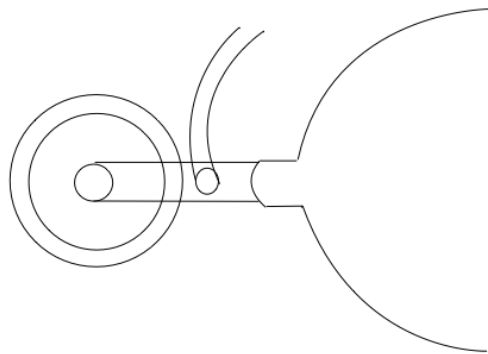
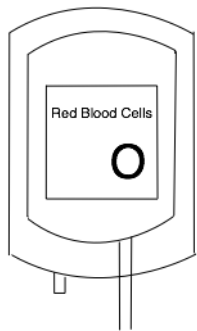
- Asking for vitals/physical/X-rays/labs
- Sequential collisions code
- Inventory code
- Timer code
- Points system
- Codeshare

Current Progress

- Graphics
 - Color and detail
 - Rest of medical instruments



Medical Devices Drawn



Work Plan

- End of March
 - Finish programming scenario two
 - Incorporate inventory, sound, and vitals monitor into game
 - Add in points system
 - Receive post surveys from Dr. Krakauer
 - Finish coloring medical equipment