Aperture Bioscience Laboratories

Progress Report 4 for NICView: A Virtual NICU Simulation

Due: 1/16/15

Professor Walker

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I.   Background of the project

Because of the new regulations that limit work hours for medical residents, these residents do not have the same real case experience as in the past. This reduces patient safety, because the residents do not experience a large and varied amount of cases. In order to solve this problem, our project will involve developing a simulation game that can be played at the resident's home. By playing this game, the residents will be able to gain experience by going through different scenarios, which addresses the issues of volume and variety of cases and patient safety.

II.   Achievements since the last report

Since the last report, there have been three main areas of progress. The first area is in programming. Jenn, as the lead programmer, has developed sample code that will display the initial information of the scenario, such as vitals, age, and medication. This text will then fade out to the main screen. This sample code is shown below.

```
using UnityEngine;
using System.Collections;

public class UIManageNICU : MonoBehaviour {

        public bool proceedClicked = false; //Has PROCEED been clicked?
        public GUIText scenarioDescrip;

        // Show Text if Proceed not Clicked
        public void ShowText () {
                //Assign scenarioDescrip
                scenarioDescrip = GameObject.Find ("ScenarioDescrip").guiText;

                //If/else to control text visibility
                if (proceedClicked == false) {
                        scenarioDescrip.enabled = true;
                } else {
                        scenarioDescrip.enabled = false;
                }

        }
}
```

}

Another area in programming where progress has been made is that code has been developed for a button that will be used for transitions, such as between scenarios and decision points when an option or medical device has been chosen. This code is shown below.

```
using UnityEngine;
using System.Collections;

public class UIManagerScript : MonoBehaviour {

        // Initializes Game
        //Still need to figure out how to generate random level - worry about after level 2
        public void StartGame () {
                Application.LoadLevel ("NICU2.0");
        }

        //Brings to LevelSelect Screen
        public void LevelSelect (){
                Application.LoadLevel ("ScenarioList");
        }

}
```
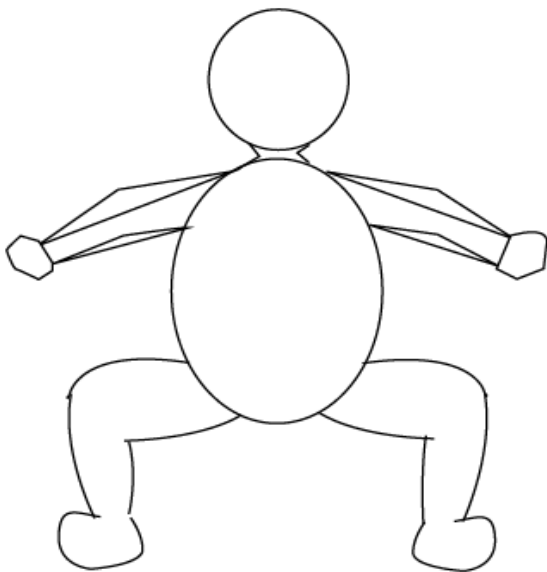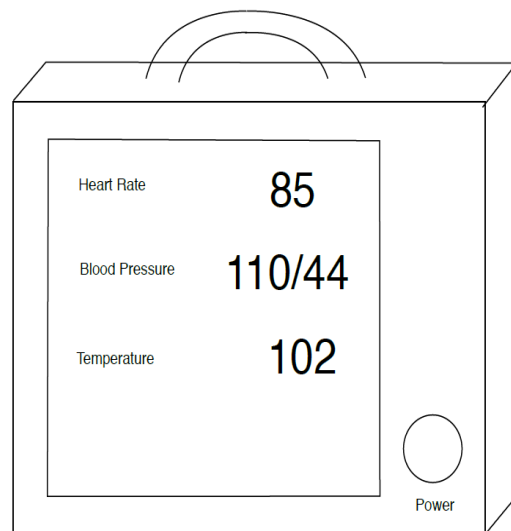
a)   b)

Figure 1: a) Initial Baby Drawing b) Vitals Monitor

The next area of progress is that the initial drawing of the baby has been completed. Also, a preliminary vitals monitor has been created. Both of these are shown in Figure 1. The last area of progress is that the group has received the last three scenarios from Dr. Krakauer. Therefore, Lindsey, Caitlin, and Amy will take a scenario each and flowchart the scenarios using the Gliffy flowcharting software. Also, each member will list the relevant medical equipment needed, so Pam will know what needs to be designed for each scenario.

III. Deviation from the plan and corrective action

Currently, there is not much deviation from the plan or need for corrective action, because the project is moving according to schedule.

IV. Plan for next week

In looking at the plan for next week, the following goals and timelines in Table 1 need to be considered.

Table 1: Goals for Dates

Dates	Goals
All scenarios flowcharted and 1st scenario game completed	February 1st
Second Scenario completed	March 1st
Third Scenario completed	March 15th
Fourth Scenario completed	March 31st
Design Day	April 20th

The main plan is for all of the scenarios to be flowcharted by the next meeting. Also, since the baby is now designed, Jenn will work on programming the baby's response in regards to the decision points of the scenario. Pam will also finish designing the needed equipment in order to establish the environment of the scenario.

V. Assessment of Progress

Given the dates listed in Table 1, our project is ahead of schedule due to the fact that we are now working on flowcharting the final three scenarios. If this level of progress continues, the project is on track to finish on time.