Alternative Designs Report
Seizure Monitor- Entrepreneur Project
TEAM # 23

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The seizure monitor has three main components: a wrist watch, an alarm clock, and a LabVIEW interface. The first alternative design presented is for the alarm clock.

*Figure 1* below shows one possible design for the alarm clock.

![Alarm Clock Design 1](image)

*Figure 1. Alarm Clock design 1.*

This alarm clock features a snooze button on the top, a speaker on the side and two blue lights on the front that will flash when the alarm goes off. The group included a green power button to turn the alarm clock on and off. The group wanted to make the alarm clock able to plug into a wall outlet and also run on batteries so it can easily be moved around. Thus, a red battery warning LED was created that will blink when the battery to the alarm is low.

The second alternative design for the alarm clock is shown in *Figure 2.*
The functions in this design are the same as the alarm clock Figure 1. However, the clock is round instead of rectangular. In addition, the speaker is now on top of the alarm clock. The battery warning sign is orange, and the time adjust buttons are now above the time. The two lights that will flash when the alarm goes off are now blue with red circles inside.

The final alternative design for the alarm clock is shown in Figure 3.
This alarm clock design has speakers on the front and side of the alarm clock. It has the same functionality as Figure 1 and Figure 2. A light bulb will go on top of the alarm clock and flash when the alarm goes off. The clock display and also very large, making it easier to read for people with poor vision.

The next sets of alternative designs are for the watches that the patient will wear. Figure 4. shows the first design.

![Watch design 1](image)

*Figure 4. Watch design 1.*

The watch will have a Velcro strap to make it more comfortable for the patient to wear. In addition, the clock face has a modern look to it. This makes the watch appear more like a watch and less like a seizure monitor.

*Figure 5. shows the second alternative design for the watch.*

![Watch design 2](image)

*Figure 5. Watch design 2.*
This watch has a different clock face than Figure 4. It also is going use a Velcro band. The group thought that more patients may like a traditional looking watch that has a simple clock face and is easy to read.

The final watch design is shown in Figure 6.

Figure 6. Watch design 3.

This watch has a fashionable look to it. It will use a Velcro wrist band as well. Clients may like the feel of this watch because it looks less like a seizure monitor more like an actual watch.

The last set of alternative designs is for the LabVIEW program interface that will receive data from the alarm clock regarding the seizures. The first design is shown in Figure 7.

Figure 7. LabVIEW interface design 1.
The LabVIEW interface will record the date, time, duration of the seizure, and the degree of the seizure. There will be a scroll bar to observe the history of the seizures. There is a start and stop button for the program. In addition, there is a save button that will allow the patient to save the log information so it can be sent out to a doctor or used just for medical records.

*Figure 8* shows another design for the LabVIEW interface.

![Seizure Monitor Interface](image)

*Figure 8*. LabVIEW interface design 2.

The functionality is the same as *Figure 7*. However, the interface is reorganized so that the save button is at the bottom of the log and start and stop buttons are on the side.
The final LabVIEW interface design is shown in Figure 9. below.

This is the final alternative design for the LabVIEW interface. The interface displays the same information as the other two LabVIEW alternative designs. However, the group made the start and stop buttons on opposite sides of the interface so that the client would not accidently hit the stop or start button.