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The Smart Clock

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PSU Innovation Challenge Competition 2014

Technology for Aging Generations

The Main Idea

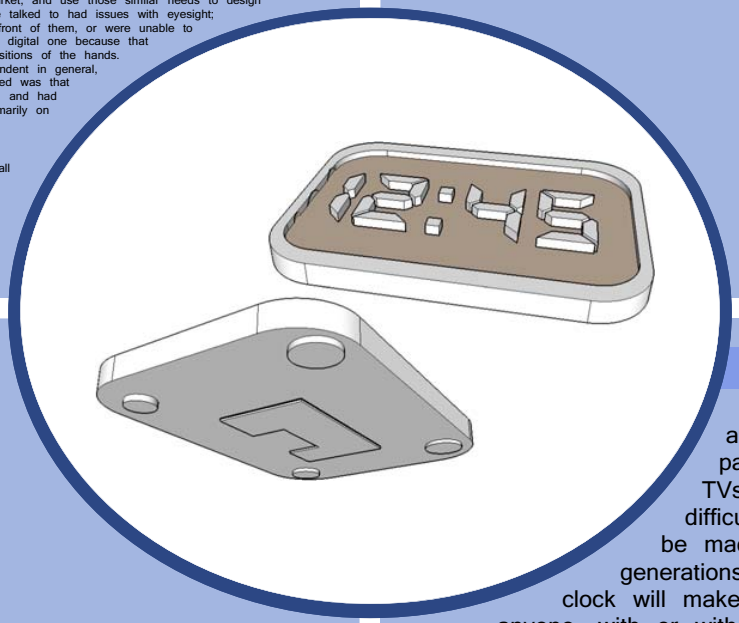
Modern technology continues to change and improve constantly as people find ways to make things faster, smaller, and better - but these changes often leave the elderly behind. This year's Innovation Challenge asked groups to focus on how to create and improve technology geared towards the aging generations. For our initial research, the Grant High School team and mentors visited an elderly care center and interviewed a few of the residents, asking what types of technology currently improve their lives, and what types of technology could potentially improve their lives.

The Problem:

After the interviews, we were able to identify similarities in the needs of our target market, and use those similar needs to design a product. We noticed when we visited the elderly care facility that many of the residents we talked to had issues with eyesight; some residents were unable to see when a cell phone started going off across the desk in front of them, or were unable to make out pictures on the wall. Residents told us that they prefer using an analog clock to a digital one because that is what they had used most of their lives, but they could no longer clearly make out the positions of the hands. People who cannot see the time have a harder time staying on schedule, and staying independent in general, as they cannot stick to their personal daily routine without the time. A separate issue we noted was that many of the elders we visited had trouble with mobility. They had less mobility in their limbs, and had difficulties controlling their fingers. In addressing these problems in our project, we focused primarily on the issue of sight, but made sure to accommodate those with limited mobility as well.

The Solution:

After taking into account the needs we found, we came up with a idea to combine wall clocks with the technology found in many smart phones to create a smart clock. This clock will allow users with and without mobility and sight disabilities to keep track of time and tasks. This would allow the aging generations to more easily stay on track with their essential and nonessential routines and plans by making the benefits of newer technology much more accessible and easy to understand.



How It is Different

About Chart: This chart compares our team's proposed Smart Clock to general categories of relatively similar or related products:

	Our Smart Clock	Smart Watches	Competing Smart Clocks	Smart Phone	Traditional Clocks & Calendars
Wall-mounted	✓				✓
Stand Alone	✓		✓		✓
Multiple Programmable Alarms	✓	✓	✓	✓	
Voice Recognition	✓	✓		✓	
Easy to Use	✓				✓
Optional Remote	✓				
Optional App	✓				

Features

Our clock will have a digital display with large, bold numbers and will allow users to choose whether they would prefer it mounted on a wall or standing on a desk or dresser. Voice recognition software will allow users to set and disable alarms. These alarms can also be programed by means of an app on a mobile device or on a website. At the time of an alarm, the clock will say the time and a statement programed by the user or a family member, as well as having the statement scroll across the clock screen. For example, the clock would say and write "It is now 4 o'clock. It is time to take your medication." For users programing via voice recognition, the clock will repeat the alarm statement back to the user and ask for confirmation that the alarm is correct before it is finalized.

The clock will have an optional remote with a microphone to allow users with soft voices or mobility problems to program the clock from across the room. The remote, if the user has chosen to utilize it, will have the option of vibrating when the alarm goes off, in case the user is in another room. If the remote gets lost, a button on the clock will trigger a ringing noise to allow the remote to be found.
To make the clock easy on the eyes, it will be reminiscent of a picture frame, with a thin build and rounded corners. The clock's display will be front-lit e-paper to allow users to read the clock face with ease in any type of lighting.

Center Image: This is a mock-up of the basic theoretical design of our smart clock, showing both the front and back faces.

Key Features:
- multiple alarms
- standing or wall-mounted
- voice-recognition programming
- optional remote
- optional app
- relatively inexpensive

In Conclusion

As we age, so does our technology. This allows for new technology, and improvements to past technology. The use of smart phones, smart TVs, and complex PCs has become increasingly difficult for the aging generations, and changes must be made to current technology to help aid the aging generations with the latest technological improvements. Our clock will make keeping track of time and tasks easy for anyone, with or without disabilities - even helping to improve their memory and attentiveness as they anticipate the next time the clock tells them it's time to take their medication, or that it's time to go to that lunch meeting they've been planning. Voice recognition, app, and website will allow users to program their alarms with ease. Every aspect of our product has been created with the problems users might face in mind. This device is created to bridge the gap between modern technology and the older generations, providing an easy user experience in an affordable device that would aid in improving the quality of life of older individuals.

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