

Portland State University

PDXScholar

PSU High School Innovation Challenge

2014 Innovation Challenge

May 3rd, 1:00 PM - 3:00 PM

MediBox

Bronson Kim

Benson Polytechnic High School

Chris Halverson

Benson Polytechnic High School

Devon Straub

Benson Polytechnic High School

Rose Adrian

Benson Polytechnic High School

Theo Nyguen

Benson Polytechnic High School

Follow this and additional works at: https://pdxscholar.library.pdx.edu/innovation_challenge



Part of the [Engineering Education Commons](#)

Let us know how access to this document benefits you.

Kim, Bronson; Halverson, Chris; Straub, Devon; Adrian, Rose; and Nyguen, Theo, "MediBox" (2014). *PSU High School Innovation Challenge*. 7.

https://pdxscholar.library.pdx.edu/innovation_challenge/2014/Posters/7

This Event is brought to you for free and open access. It has been accepted for inclusion in PSU High School Innovation Challenge by an authorized administrator of PDXScholar. Please contact us if we can make this document more accessible: pdxscholar@pdx.edu.

Thoughts on design concepts:

- Product must fill a need and appeal to its target consumer.
- A product must be wanted.

The Industry's design concept for the elderly:

- Slightly alter products aimed toward other people.
- Promise to improve their lives by adding something new to their routine.

Our findings and Ideas:

- The elderly have developed their methods and routines.
- They don't need something new to worry about.
- A product for the elderly should enhance their lives without burdening or inconveniencing them.
- Utilizing a familiar form and with an inventive look at existing functionality.
- It is important to allow the elderly to keep track of their health from day to day, rather than just a doctor visit every month.
- Giving them the ability to do so without having to introduce them to a complex device out of a sci-fi novel.



Medibox

Benson Polytechnic High School

Bronson Kim, Chris Halverson, Devon Straub,
Rose Adrian, Theo Nyguen

Thoughts on Function:

- Having medical diagnostics done behind the scenes.
- Health checkup just by going about your daily business.
- Imagine having the convenience of being able to check your blood sugar level while having dinner with your family.
- Inform both you and your doctor if there's something wrong.
- Create a database of one's health.
- A consumer can purchase (or be prescribed by their doctor) once and then leave running in their crawlspace or under the kitchen sink and never concern him or herself with again.

Additional Thoughts:

- Along with the Medibox there would be a collection of accessories that could be the actual diagnostics equipment.
- Diagnostics equipment could be prescribed, or bought in store.
- The line of network compatible items could be sold at venues that sell basic medical equipment along side other consumer goods, such as a pharmacy.
- These items would be similar to: a fork that reads blood sugar, or a pillow that analyzes sleeping patterns.
- All of this data would be sent remotely to, and analyzed by the Medibox.

All of the data would be sent to the box to be gathered and configured.

From there we came up with some options:

- Have the data sent to your doctor remotely
 - Pros: Elderly people don't have to touch the tech, data can be sent instantly for a real-time day-by-play
 - Cons: Can potentially be hacked if proper encryptions are not in place.
- Bring a data chip (flash drive/SD card/something else) from the box on your next appointment
 - Pros: Virtually impossible to hack, easier to make.
 - Cons: Elderly may have trouble remembering the card, and the doctor only gets the data at check-ups.

An individual could consult with their doctor to decide which method would be better for their needs.



Ideas for Compatible Items:

- More of these that could be covered by insurance agencies, the better.
- Dentures could contain a lot of tech inside.
- Shoe insoles: would keep on them throughout the day, monitor anything from weight to pace anomalies.
- A toothbrush that takes your temperature.
- A fork that reads you blood sugar.
- A pillow that monitors sleep patterns.
- The wristwatch could use infrared tech to measure heart rate.