

YOUNG ENTREPRENEURS IN AMERICA

BUILDING DESIGN COMMUNITIES

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1.0 Meet Anthony Halmon, Teen Inventor of the Thermofier

As someone who recognizes the importance of STEM education, President Obama announced the first-ever White House Science Fair in 2009, an event that honors young innovators who have created some of the best inventions. In 2013, nineteen-year-old Anthony Halmon of Chicago, IL was among the students selected to receive this recognition with a lifetime achievement award.

Anthony was not an ordinary high school student at the time of receiving the award. He grew up in a rough neighborhood in Chicago and was involved in many gang-like activities. His father died when he was only 16 years old, and in the same year, his own daughter was born. It was during these dramatic life transitions that he started learning the responsibilities of fatherhood and realized that he needed to change his lifestyle to build a better future for his family. This led him to search for help in the local community.



Figure 1. Anthony Halmon, meeting with President Obama

1.1 Collaboration of the Local Community

In his sophomore year of high school, Anthony was introduced to a local non-profit organization called NFTE (Network for Teaching Entrepreneurship) through his school counselor. NFTE taught Anthony about

the product development process and helped identify opportunity areas from his own experiences, which ultimately led him to build a business plan around his product idea called the Thermofier. As a parent, he was concerned about the health of his own daughter and was searching for better ways to monitor her health when ill. Anthony understood that many kids do not like to have thermometers in their mouth, but love to bite on their pacifiers. So, he conceived an idea to combine the two products to make a thermometer more intuitive for everyday use.

To make this product come to fruition, Anthony needed support to help visualize and design a prototype for his concept. When TJ Kim, a local consultant designer in Chicago, and Michael Beltran, a lab instructor at Northwestern University, learned about his story, they volunteered to share their time and knowledge to help Anthony reach his goal. They helped to develop a visual representation of the concept through sketch, rendering, CAD, and 3D prototypes in their lab. This allowed Anthony to communicate and demonstrate his idea to the others in a more tangible way.

1.2 Journey to the White House

The Thermofier is a pacifier with a built-in thermometer that aims to ease the woes of parents by providing a way to monitor their child's temperature without a standard issue thermometer when ill. The LED indicator will light up when the temperature reaches a certain degree to warn the parents that the child may need medical attention.

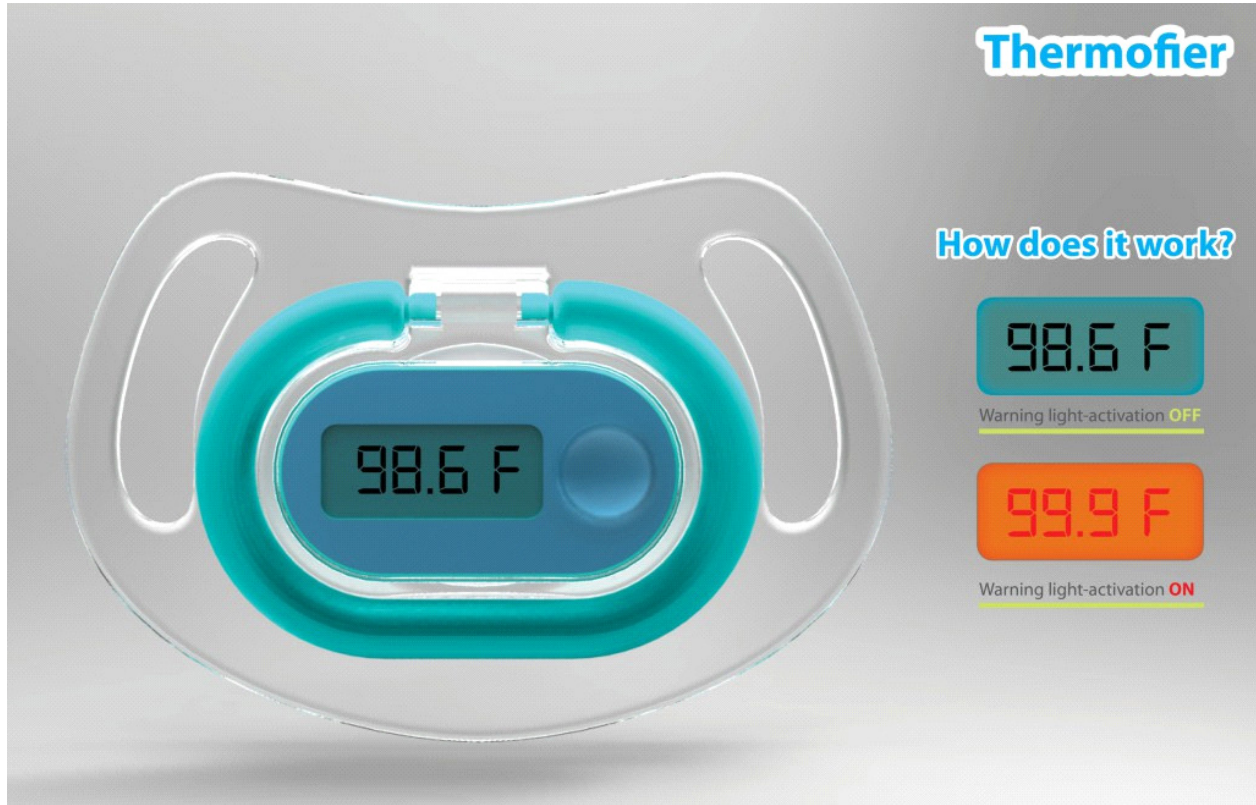


Figure 2. Description of how the Thermofier works

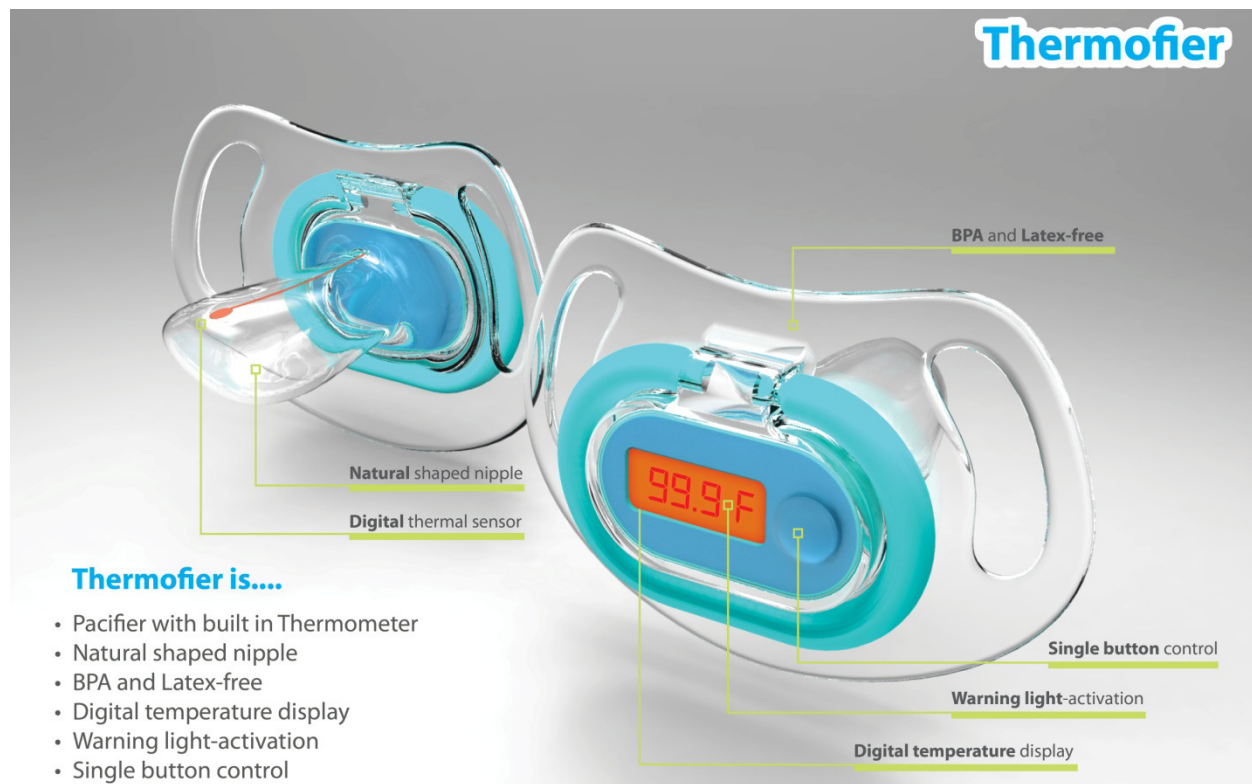


Figure 3. Features and Benefits of Thermofier

Later in the year, his idea was selected to be presented at the White House Science Fair to President Obama. His dramatic life story was also featured on MSNBC to inspire and encourage other young pioneers like him, who would challenge themselves to build a better future despite the obstacles they face in their current environment.

Today, Anthony is attending Cornell University in New York, where he is studying general engineering. He received a full scholarship in recognition of student excellence from the school and has set up ambitious career goals to build a better future for his family. All of this was made possible with the help of experts from various industries volunteering our time and occupational expertise in our community.

2.0 Young Entrepreneurs in America

In many cases, students are not exposed to learn about design until their college years, due to the fact that many high school teachers and counselors do not have a good understanding of design and its role in the industry. In Chicago, groups of designers at local design firms, University students, and community educators decided to build a platform to help elementary school students be exposed to design, engineering, and marketing in their early years called the DIG 8. This platform allows students to have a better understanding of the value of design in business organizations and the community.

DIG 8 is a young entrepreneurship program that was developed in Chicago for 8th graders to learn and practice the product development process and business. Through this intense 14 week program, students

are taught research, concept generation, sketching, CAD, prototyping, promotions, and how to use a crowd-funded online design platform to launch the product. This is to ensure that students understand the role of design in the product development process and practice different skill sets that they learned through their school education.

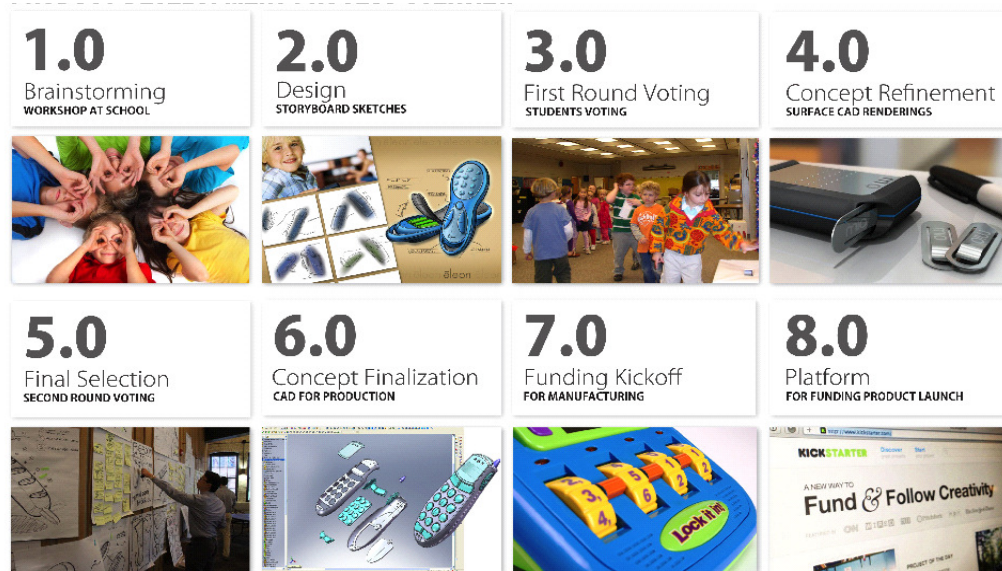


Figure 4. DIG 8 Program process overview

2.1 Product Launch

Through this program, the students were able to develop a product called “elephant hooks”. An elephant hook is a wall-mounted organizer made out of a single piece of metal, which is simple and easy to manufacture at a local factory in Chicago. With keeping children in mind, the product was developed to encourage them to keep their rooms clean by making it a fun and interactive everyday use item. The design also symbolizes an family unit: an elephant father, mother, and baby.



Figure 5. DIG 8 Program outcomes

Using Kickstarter, a crowd-funded platform, the students were able to reach their fund budget. The money raised was put back into the program to help the school purchase new design tools and equipment. The success of the program did not stop there. The program was also picked up by another local high school in Chicago, Lanetech High, to grow and influence more people in our community.

3.0 Design Business Models

Both Anthony's and DIG 8's stories are amazing and could not have been possible to achieve without various organizations' collaboration and dedication. Their dream would have vanished over time, as many others do, without collaborators sharing their expertise and knowledge. Most of the people involved in these community activities are volunteers who have been successful in their careers, and are also looking for ways to aid others with their experience and knowledge.

Today, the design business models take many different shapes. Designers are continuing to practice the role of design as a consultancy and entrepreneurship to create new products for businesses. However, many designers also have found new ways to practice their design, sharing their skills and knowledge with non-designers and community organizations. Through design communities, they have helped others fulfill dreams. Individual experts from different industry areas can meet and pass on their experiences to others. Groups of teams are created to collaborate with each other. These efforts may not always come to product solutions but still can help people understand the role of design in product development process and the importance of design and design thinking in our everyday life.

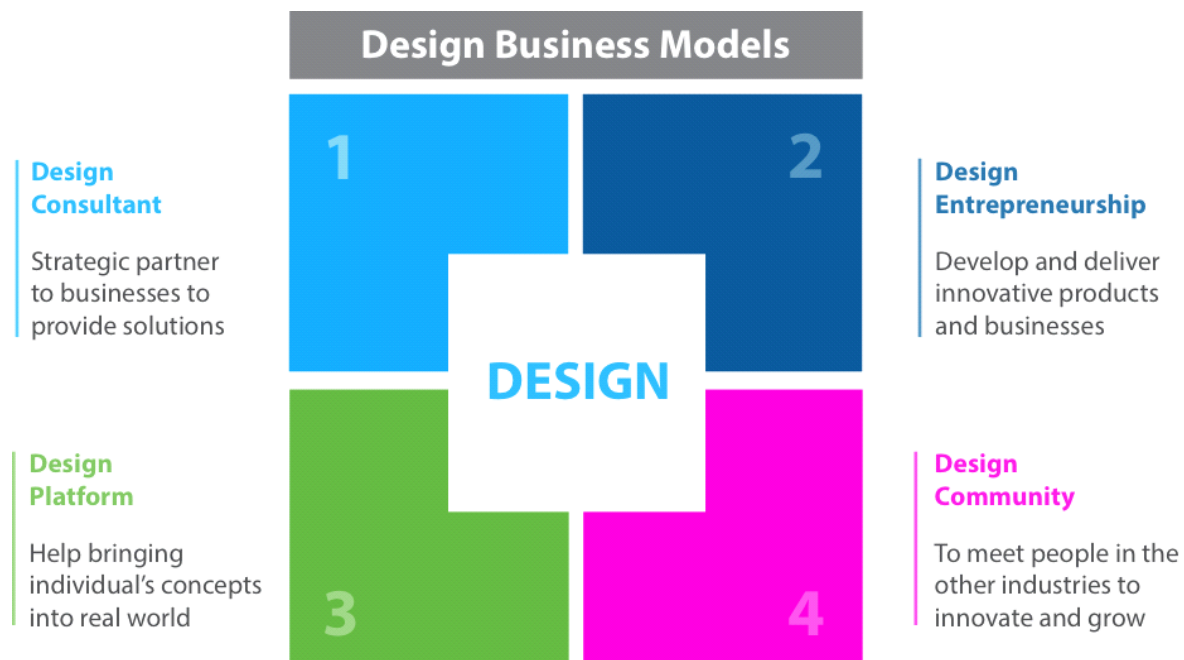


Figure 6. Design Business Models

3.2 Design Paradigm Shift

In the past, design was mostly considered a part of a product development process to deliver innovative solutions for the business. But today, design paradigm has begun to change with more people understanding the true value of design. Design is not just about technical skill sets, it is also a language to communicate to others, a process of delivering the solutions, and a way to think differently. The new meaning of design is about connecting the dots in our community and helping individuals find a new product development opportunity by collaborating with others in the community. As design leaders, we need to create more design communities to help educate the young minds with the design thinking, so that design can be practiced continuously by all of us in the community.



Figure 7. DIG 8 program participants at Nettle Horst elementary school

Epilogue

Today, after over 16 years of experience in the industry, TJ Kim has decided to return to school not as a student, but as an educator to influence and encourage upcoming young designers with a new role of design in our community. He has been involved in many design community activities, including NFTE and DIG 8, and has found new meaning to being a designer through educating young designers and non-designers.

Reference

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Other Resources

Video of Mellisa from MSNBC interviewing Anthony [here](#).

Video of Dig 8 [here](#).