

## Bigshot Galleries



## Bigshot Mission

### The Camera For Education

The enormous appeal of the camera can be used to turn it into a compelling tool for learning. We believe that a camera designed for education must have three features. First, it should be designed as a kit for assembly – putting the kit together should expose the user to a wide range of science concepts. Second, it should include features that cannot be found in other cameras, allowing the user to explore new creative dimensions. Finally, it should be low-cost, making it accessible to the less privileged. Bigshot has been designed with these goals in mind. There is another important feature that sets Bigshot apart from virtually all educational kits – once you have built it, it is a fully functioning digital camera that you can use everyday!



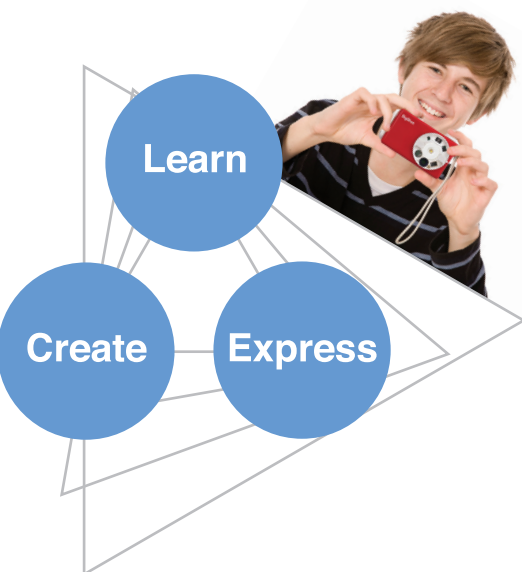
### Learn, Create, Express

Bigshot offers you three distinct experiences.

**Learn:** While assembling it you can use the descriptions, illustrations and demonstrations on Bigshot website to learn fundamental concepts in optics, mechanics, electromagnetism, electronics and image processing.

**Create:** Once assembled, use Bigshot to tap into your creative potential as a photographer. You can compose and capture moments from your everyday life, while experimenting with framing, lighting and motion.

**Express:** You can share your favorite photos and related stories with others in different communities or even different countries. We believe that the sharing of life experiences through photos, across geographical and cultural boundaries, is a powerful way to open the minds of kids (and adults) who may not have the resources to travel the world.



### Our Target Audience

A major goal of the Bigshot project is to exploit the engaging nature of cameras to draw young minds to science and engineering. In doing so, we are particularly interested in targeting children in under-served communities (see Bigshots for Good). However, Bigshot has been designed to reach a very wide audience. It is a great project for a parent to work on with their child. For elementary and middle school students, a teacher may pick bits and pieces from our Learn section and add their own (grade appropriate) lessons to develop a course or an after-school program. An adult who is fascinated by cameras but is not aware of all its inner workings may find answers to some of their questions. We hope you too will enjoy the Bigshot experience!



Learn at [www.bigshotcamera.com](http://www.bigshotcamera.com)

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**EDU-SCIENCE (H.K.) LTD.**

Tel: (852) 2363 1681 Fax: (852) 2355 7663  
e-mail: [info@edu-science.com](mailto:info@edu-science.com) website: [www.edu-science.com](http://www.edu-science.com)

# Bigshot

The Camera For Education  
For kids and adults alike.  
Build, Learn, Shoot.

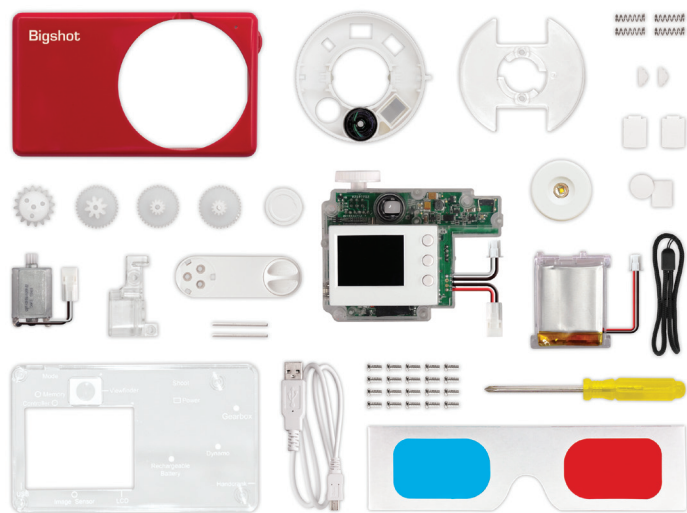


## The Do-It-Yourself Digital Camera





## Educational and Fun

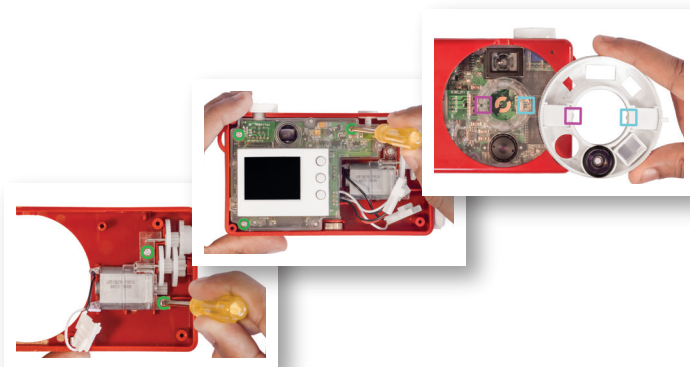


### DIY Digital Camera

Make your own digital camera! Explore what's inside it.

### Learn By Building

Browse the interactive "learn about" section to learn all the underlying concepts – optics, mechanics, electromagnetism, electronics and more!



### Green Camera

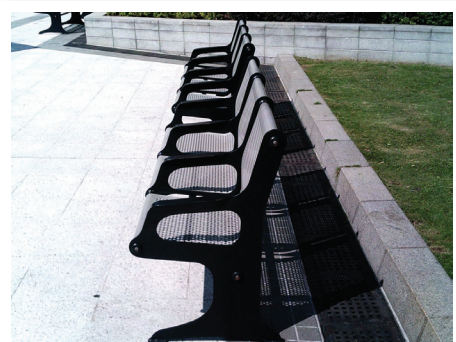
Low battery? Just rotate the hand crank a few times and continue to shoot your photos!



### "Swiss Army"® Lens

Ever taken a 3D photo? Simply rotate the lens wheel to switch between **regular**, **panoramic** and **3D** modes.

Regular



Panoramic



3D



### Explore Your Photos

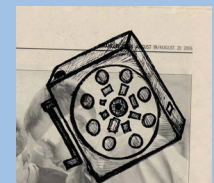
Done with taking photos? Use the Bigshot software (for Windows and OSX) to download and process your photos.



## Creation

Bigshot was created by Shree Nayar, a Professor of Computer Science at Columbia University. He worked with a team of contractors to build the first set of working prototypes. He also worked with a group of gifted students, led by Guru Krishnan and Brian Smith, on developing the first version of the educational website and field testing the initial prototypes. The Bigshot project at Columbia was partly funded by a Google research award and an ONR Instrumentation Grant. In 2011, Nayar founded Kimera, LLC, a social venture focused on making Bigshot available to kids and educators around the globe. Below are some of the milestones in the evolution of the Bigshot project.

## Bigshot History

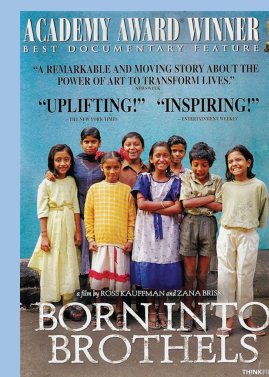


## Inspiration

In 2004, Ross Kauffman and Zana Briski made the documentary *Born into Brothels*, which is a portrait of several children living in the most inhumane conditions in the red light district of Calcutta. Briski gave each child a camera and taught them photography. Soon, the children began to look at their world with new eyes. *Born into Brothels* reaffirms that the camera is unique as a technology in its ability to inspire creativity. The Bigshot project attempts to go even further in exploiting the power of the camera, by redesigning it to serve not only as a creative tool but also a medium for education.



Dr. Shree Nayar



## Field Tests

The first prototypes developed at Columbia University were used to conduct field tests with a few hundred children in four cities – New York City in the US, Bangalore in India, Vung Tau in Vietnam and Tokyo in Japan. The testers were children between the ages of 8 and 14 years, and from diverse cultural and socioeconomic backgrounds. The field tests were a great success – the responses were very positive and the testers gave valuable feedback on various aspects of the camera and the educational content. Based on this feedback, the camera and website designs were refined.

## Concept

On the top is the first sketch of the Bigshot camera, made in 2006. The circular wheel was conceived to have several lenses that produce different types of images. It is similar in spirit to the Swiss Army® Knife. The rectangles on the wheel are the viewfinder stencils that correspond to the different lenses. The dark spot in the middle is the camera's flash. It was imagined that a dynamo-based generator would power the camera if its battery ran out of charge during a shoot. The power generator's hand crank can be seen on the left. Most of the features envisioned in this initial concept ended up in the final product.

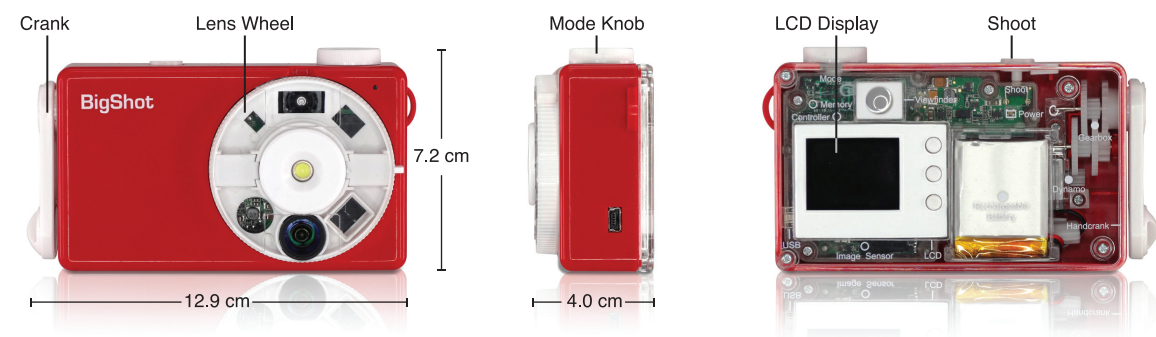
## Launch

In 2011, Shree Nayar founded Kimera, LLC, a social venture with the goal of getting Bigshot in the hands of kids and camera enthusiasts all over the world. While Kimera focuses on this educational website, the camera is manufactured and distributed worldwide by Edu-Science in Hong Kong, a leading maker of educational toys and kits. Edu-Science brought the camera to market in August 2013. You can become a Bigshot right away by purchasing the camera from the Online Store. Kimera uses a part of its royalties from sales to donate Bigshot to children in under-served and under-represented communities across the globe. Visit Bigshots for Good to see the impact we are having in different parts of the world.

## Bigshots For Good

Kimera has licensed the Bigshot camera technology to Edu-Science (H.K.) Ltd., for manufacturing and worldwide distribution. Kimera uses a part of its royalties from sales to donate Bigshots to children in severely under-served communities around the globe. In making these gifts, Kimera also attempts to promote cultural diversity. Since we are working with limited resources, we make the choices of recipients ourselves and are unable to honor specific suggestions.

## Technical Specifications



Color	Red	Display	1.4" LCD
Sensor	3MP (2408 x 1536)	Battery	Lithium Polymer (Rechargeable)
Storage	Internal Flash, ~120 JPEG photos	Backup Power	Hand Cranked Dynamo
Camera Modes	Auto, Flash, No-Flash, Timer	Interface	USB 2.0
Lens Settings	Regular, Panoramic, and Stereo (3D)	Dimensions	129 mm x 72 mm x 40 mm
Field of View	Regular 40°, Panoramic 80° and Stereo 16°	Image Processing	Software for Windows and Mac OSX
Flash	1W LED		