



September 2019

Noteworthy projects using
AR

**Plus:
The battle over children's digital rights wages on...**

We have liftoff

On the cover: **JFK Moonshot**. An excellent way to put a rocket next to your dog. See page 5.

Children's Technology Review September 2019

Volume 27, No. 9 Issue 236

Coding Critters*, p. 3
Crayola Create and Play, p. 3
Dr. Panda Learn & Play, p. 3
Fox Factory*, p. 4
Gale Interactive: Science
powered by VIVED, p. 4

Harry Potter Invisibility
Cloak, p. 4
JFK Moonshot*, p. 5
KIBO 21 Robot Kit, p. 5
Kurbo Health Coaching, p. 6
Puzzle Play: Toddler's Games,
p. 6
Race With Ryan, p. 6



* Denotes "Editor's Choice."

"Are you really expecting companies to give up profits by restricting the data they collect on children? Of course I am! Of course, everyone should." Beeban Kidron at <https://nyti.ms/2zl42ez>

Dear CTR Subscriber --

The decision for which product to feature on this month's cover was an easy one. JFK Moonshot demonstrates how AR (Augmented Reality or Mixed Reality) technology has matured over the past 12 months. The free app, paid for by aerospace companies with deep pockets, leverages the full power of Apple and Google's AR tools to make history blast off. Mixed reality experiences like this one are getting harder to ignore, which is why we created a CTREX list of 64 noteworthy AR products. See the complete list at <https://bit.ly/2lvZcr6>

Also new for this month -- a new staff member. I'm happy to welcome Chris Guest to our editorial department. Chris is a recent graduate of TCNJ's IMM department. He'll be helping with editorial duties and conference planning.

The Fight Over Children's Digital Rights Wages On

Like the tremors that signal an earthquake, there's an increasing number of events pointing to a reckoning day for profit motivated media providers.

Three to note include a proposed new Digital Bill of Rights for Minors by Senators Edward Markey (a democrat) and Josh Hawley (a republican). This is for older children and teens. Learn more at <http://bitly.com/34jY00Z>

A second is the "social media addiction bill" also from Senator Josh Hawley, which will attempt to ban addictive and deceptive techniques used in many children's apps and video delivery systems. These include the use of the "infinite scroll for newsfeeds" and autoplay for videos. Learn more about this bill at <http://bitly.com/34rDC9o>

And finally, the FTC fined Google's YouTube \$170 million for being evil with children's information by "knowingly and illegally" harvesting personal information from children and targeting them with ads. Read the NYTimes coverage at <https://nyti.ms/2PG1oed>

Will such punishments and legislation lead to better quality media for children? Punishments can change behavior. But so can rewards. We'd rather see a healthy marketplace where ethical children's publishers can make a living making apps worth paying for.

The Dust Award Goes To...

Puppets With Sound by RBI Puppets (\$20) is being sold at our local Shoprite. It is a classic play pattern mismatch. The technology induced sound interrupts pretend play and language experiences. Until the batteries die. Stick with a sock.



Dust or Magic

Nov 3-5, 2019 • Institute The 19th Annual fall institute is on the books.

Save the Date!
www.dustormagic.com

Your Subscription is Your Key to 13,160 Archived Reviews

Your paid \$60 subscription to CTR includes exclusive password access to the CTREX database — a collection of reviews going back to 1985. If you've lost or forgotten your password, please call 908-284-0404 between 9-3 PM EST.

Editor Warren Buckleitner, Ph.D.,
(warren@childrenstech.com) [WB]

Director of Code Matthew DiMatteo [MD]

Editorial Advisor Ellen Wolock, Ed.D.

Reviews Editor Chris Guest

ONE YEAR SUBSCRIPTIONS are regularly \$60 for 12 monthly issues, 52 weekly issues plus online database access. Weekly issues are sent at 8:30 AM on Wednesdays EST. Site subscriptions are available. Contact *Children's Technology Review*™, 126 Main Street, Flemington, NJ 08822 or call 908-284-0404. Visit www.childrenstech.com to learn more.

PRODUCT SUBMISSIONS. Send one product or download code with release information to Warren Buckleitner (warren@childrenstech.com) Editor, 126 Main Street, Flemington, NJ 08822 (Phone: 908-284-0404). No swag, please.

OUR RULES. No ads, gimmicks or politics; we work for the benefit of children. CTR follows editorial guidelines at (<http://childrenstech.com/editorial-guidelines/>). Highlights include:

- We don't sell or profit from the products we review.
- We don't distribute, sell or leverage subscriber information.
- Contributors are required to disclose bias.
- There is no sponsored or advertising content of any variety.
- Complete transparency. We make every effort to disclose review criteria and sources of potential bias.
- We don't skim from other reviewers.

PUBLISHER INFORMATION *Children's Technology Review*™ (ISSN 1555-242X) is published monthly (12 issues) by Active Learning Associates, Inc. Send address changes or new subscriptions to *Children's Technology Review*™, 126 Main Street, Flemington, NJ 08822 or circulation@childrenstech.com. **Use of this publication for any commercial publishing activity without prior written permission is strictly prohibited.** Readers are subject to the TERMS OF USE found at <http://childrenstech.com/disclaimer>

Contents © 2019 by Active Learning Associates, Inc. All Rights Reserved.



Feature Reviews and New Releases

SEPTEMBER 2019

Here's an alphabetical listing of both the feature reviews (with ratings) and the new and future releases. "Entry Date" refers to the date we first learned of the product.

Coding Critters


Looking for a starter robot that is screen free? Here's an affordable, durable option that is limited to directions. After you put in the three AAA batteries that are not included, you can put an a short sequence of direction commands by tapping the arrows, and pressing enter. That's it .. the robot starts moving, and backs up if it runs into something.

A set of snap together props makes it possible to make mazes, so you might ask a child to put in the commands needed to get your robot to a house. It's worth noting that the left and right arrows should not be taken literally. Rather than move right, the robot turns right which is spatially confusing. A set of procedure cards can be used to give children specific challenges. Powered by three AAA batteries.

Details: Learning Resources, www.learningresources.com. Price: \$40. Ages: 4-7. Platform: Smart Toy. Teaches/Purpose: programming, coding. Rating (1 to 5 stars): 4.4 stars. Entry date: 8/13/2019. []



Ease of Use	9	88 %
Educational	8	
Entertaining	8	
Design Features	9	
Good Value	10	



Crayola Create and Play

Updated 8/7/2019. Easy to use and control, this variety pack of Crayola-themed games offers plenty to do. But the cost can be a lot (up to \$25/year, as an auto-renewing subscription). So while this app is fun and well designed, we're not sure it's worth that much. There is no login, although there is no way to play any part of the app from the "free" download. You have to start the free trial, which iTunes makes much easier to start than to end. There are five areas: Art Station, Pet Park, Color Lab, Classroom and Arcade. The more you play, the more eggs you unlock, which hatch into pet creatures. The coloring options are well design, offering a lot of templates. There is a camera option, so you can put stickers on any photo you take. Underlying the sugary narration is the ability to actually create. After you subscribe, the app is free of ads or IAP, but there are embedded Crayola logos. The first download is free and fast. Subscriptions are \$3/month or \$25/year.

Details: Crayola, LLC, www.crayola.com. Price: \$25/year. Ages: 3-5. Platform: iPad, iPhone, Android. Teaches/Purpose: creativity, coding, logic, logic, letters, color theory. Rating (1 to 5 stars): 4.3 stars. Entry date: 11/14/2018. []



Ease of Use	9	86 %
Educational	9	
Entertaining	9	
Design Features	9	
Good Value	7	

Dr. Panda Learn & Play

A subscription-supported collection of 50 activities plus a large collection of videos featuring Dr. Panda and his friends. Activities are responsive and well designed, but more academic than traditional Dr. Panda games that you might know and love. In addition, Dr. Panda talks in a clear English accent (all the Dr. Panda games were made in China). If you download the free trial, you frequently encounter locked content with prompts to get your parents in order to unlock the rest of the app.

Covers early reading, the ability to trace 40 English words. The monthly subscription is \$4/month or \$30/year. Is it worth it? We'd suggest getting the paid versions of the Dr. Panda apps instead. An Internet connection is required

Details: Dr. Panda Limited, drpanda.com. Price: \$30 year. Ages: 2-5. Platform: iPad, iPhone. Teaches/Purpose: early reading, counting, logic. Rating (1 to 5 stars): 4 stars. Entry date: 8/22/2019. []



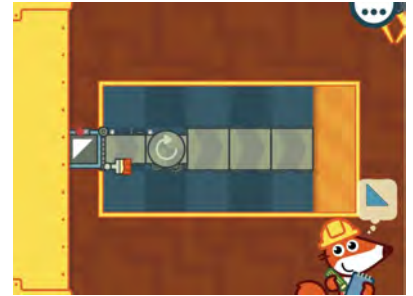
Ease of Use	9	80 %
Educational	8	
Entertaining	8	
Design Features	8	
Good Value	7	



Fox Factory

Construct an assembly line to make geometric tangram shapes needed to rebuild a village. This requires dragging command squares onto a grid. You can determine the direction, shape, rotation and color of the part. There's a bit of a learning curve to this app, but it's not bad, and the leveling is well done, making it well worth the download. We liked that there are often several different answers to the same problem, and that it is possible to debug your invention. Content includes 70 puzzles in four settings. This is an ethical app with no ads, IAP or commercial content.

Details: Studio Pango, www.studio-pango.com. Price: \$2.99. Ages: 6-12. Platform: iPad, iPhone. Teaches/Purpose: coding, logic, procedures, tangrams. Rating (1 to 5 stars): 4.5 stars. Entry date: 8/7/2019. []



Ease of Use	8	90 %	
Educational	10		
Entertaining	9		
Design Features	9		
Good Value	9		

Gale Interactive: Science powered by VIVED

Digital video is paired with interactive 3D models in this science curriculum. Covers topics in biology, chemistry, and earth and space science. Students can zoom in, rotate, or pull some items apart. As of 8/29/2019 the anatomy part of the program contains 4,300 structures modeled in 3D, 13,500 anatomical landmarks, 25,000 cryogenic cross-sectional images and 750 CT/MR sections throughout the body. An Author Mode lets you create and playback anatomy presentations. You can zoom, rotate, and pan to examine and manipulate the scene. Content is based on the Anatomica Terminologia standard. Embedded quizzing feature challenges student to find anatomical structures and answer multiple choice questions. Other modules cover general science, chemistry and earth science.

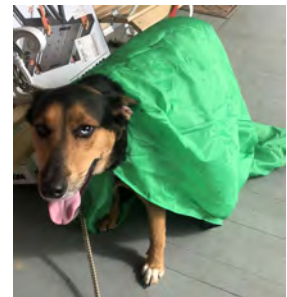
Details: VIVED, www.vivedlearning.com. Price: \$500 by subscription. Ages: 5th -8th. Platform: Platform Agnostic, Windows, Mac OSX, Chrome, Internet Site. Teaches/Purpose: science, biology, science, earth science. Entry date: 8/28/2019.



Harry Potter Invisibility Cloak

Let's state the obvious -- you can't really become invisible with this well made fabric cloak. Sorry. But if you know how green screen technology works, you can create the illusion of invisibility, with the assistance of your smart phone, tablet and an app that requires forced registration. You need to download the app by typing in a code. So ironically, your data is probably not invisible when you use this product. You can then create the illusion that you can disappear in real time, or make a video. The cloak itself is well made and has a clasp that makes it easy to put on child or adult -- or a dog. The Standard Version, retails for approximately \$69.99, includes detailed patterning and a foldaway stand to steady your smart device (not included) while in use. The Deluxe Version, retails for approximately \$79.99 and features authentic patterning with serpent intertwined borders and includes a deluxe table-top tripod to hold a smart device (not included). It would be good as a Halloween costume. If you really want to become invisible we suggest becoming a graduate student.

Details: Wow Stuff, www.wowstuff.com. Price: \$70. Ages: 8-up. Platform: iPad, iPhone, Android. Teaches/Purpose: Harry Potter. Entry date: 8/13/2019.





JFK Moonshot

Put the Apollo 11 mission on your living room rug or classroom with this well design AR (augmented reality) experience. Besides the ability to watch the launch and mission, you can play six mini-games that recreate key parts of the mission.

The app is organized around four chapters -- Launch (witness the fully-synchronized augmented retelling of the Saturn V rocket launch); Track: Follow the Apollo 11 mission in real time with archival NASA footage from July 16-20, as it makes its five-day journey to the moon;

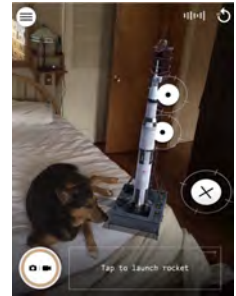
Log: Discover JFK's vision for the space program and Apollo 11 insider facts through education multimedia experiences and Play: Test your JFK knowledge with six games that include landing the lunar lander on the moon surface and collecting moon rocks.

Learn more at www.jfkmoonshot.org.

The work was funded by Raytheon, Digitas, BNY Mellon, Boeing and others using NASA content. The app was created by Digitas and UNIT9 for the JFK Library.

Details: John F. Kennedy Library Foundation, www.jfklibrary.org. Price: \$free.

Ages: 5-up. Platform: iPad, iPhone, Android. Teaches/Purpose: history, moon, astronomy, space, JFK, Kennedy. Rating (1 to 5 stars): 4.9 stars. Entry date: 8/28/2019. []



Ease of Use	9	98 %
Educational	10	
Entertaining	10	
Design Features	10	
Good Value	10	



KIBO 21 Robot Kit

KIBO is an ambitious attempt to create a screen-free robotics and creativity kit for younger children. We tested the \$500 KIBO 21 kit that comes in a plastic tub containing the robot with all snap on sensors, three motors, markers and wooden command blocks.

KIBO uses an innovative bar code reading system to get instructions. These are printed on color coded wooden cubes that you link together. The next step can be tricky and doesn't always work. You need to aim the nose of the robot at the blocks, shining a red strobe light at the bar codes. It sometimes works. (We've since learned that you must scan the blocks in order, one at a time). Once instructions are passed to the robot, you press the single button on the top of the robot to run your commands. You can move forward or back, react to light or sounds or drag a marker to create patterns (we liked the fact that you can use traditional markers). You can also put a rotating LEGO friendly stage on top of KIBO in case you want to use the kit for an art project. For example, you could make an interactive scarecrow for Halloween that spins when it detects a sound.

The main drawback to this kit -- besides the price -- is in the frustrating scanning process. Because the bright red light keeps continually flashing and beeping, you don't know when you've successfully transferred your program. There are many reasons this might happen. Your robot needs to have the right parts (you can't ask for movement if you don't have your motors installed) or the scanner might be incorrectly lined up -- hitting a shadow or nearby block. The bar codes are printed on glossy paper which can create reading errors. This problem is compounded by a lack of a manual reset or undo button. The only way to know the robot is clear of previous commands is to take out one of the four AA batteries. While the multicolor LED is bright, the speaker sounds meager, and is overused by the Interface. This is a case of being so easy to use that you can't figure it out. There needs to be far fewer interface noises and lights and a more direct way to enter commands.

Besides the robot, the kit we reviewed came with 21 wooden programming blocks, 12 parameter cards, 3 motors, 2 wheels, 3 sensor modules (light, sound and distance), 1 lightbulb module, 1 Expression module, 1 Sound Record and Playback Module, a stage art platform, and a rotating art stage for making spinning robots. There is a USB port that we did not test. Powered by four AA batteries. KIBO was created at Tufts University by teams led by Professor Marina Umaschi Bers. Here's the unboxing <https://youtu.be/XG49lcOOrL8>

Details: Kinderlab Robotics, <http://kinderlabrobotics.com/>. Price: \$500. Ages: 4-7. Platform: Smart Toy. Teaches/Purpose: robotics, programming, coding, creativity. Rating (1 to 5 stars): 1.9 stars. Entry date: 8/13/2019. []



Ease of Use	3	38 %
Educational	5	
Entertaining	5	
Design Features	5	
Good Value	1	



Kurbo Health Coaching

From Weight Watchers comes Kurbo -- A dieting curriculum for older children that attempts to help build healthy eating habits. It uses a red/yellow/green traffic signal system to show children what foods are good, OK or bad. The app mixes coaching videos with a food database. The idea is that before you eat a meal, you put your food items into a list. The app tracks the number of calories you consume. While the database is impressive (just about every imaginable food is included) the app interface could use polish. Screen orientations change on the iOS version so the transition to the coaching videos aren't always smooth. The app includes a sorting game to teach you to spot the good foods. While the app is free, the coaching component is not and prompts to subscribe are easy to stumble upon. Costs range from \$70 for a week to \$600 for a year.

Details: Weight Watchers, www.kurbo.com. Price: \$600/year. Ages: 8-up. Platform: iPad, iPhone, Android. Teaches/Purpose: health, weight, food, diet. Rating (1 to 5 stars): 4 stars. Entry date: 8/19/2019. []



Ease of Use	8	80 %
Educational	9	
Entertaining	7	
Design Features	8	
Good Value	8	

Puzzle Play: Toddler's Games

Easy to download and use, the preview of this app includes three puzzles at no cost, before asking you to download more content via IAP. It also includes the possibility of making a wrong answer, and some pedagogically sloppy shape or color requests. There are certainly better apps, such as Busy Shapes. This app was featured by Apple, hence the review.

Details: wonderkind GmbH, <http://wonderkind.de>. Price: \$free trial with IAP of \$3.99. Ages: 2-5. Platform: . Teaches/Purpose: logic, shapes, matching. Rating (1 to 5 stars): 3.7 stars. Entry date: 8/7/2019. []



Ease of Use	8	74 %
Educational	7	
Entertaining	8	
Design Features	7	
Good Value	7	

Race With Ryan

Featuring the voice of a YouTube child actor Ryan Kaji, this is a 1 to 4 player collection of games that follow typical play patterns like racing and mazes. This is the first console game to be released as part of Ryan's World. The characters were created by Ryan's dad, Shion.

Release date November 1st on PlayStation 4, Nintendo Switch, Xbox, PC. Release date Nov. 1, 2019. Learn more at <https://www.outrightgames.com/RaceWithRyan>

Details: Outright Games, www.outrightgames.com. Price: \$40. Ages: 5-up. Platform: Windows, PlayStation 4, Wii, Xbox One. Teaches/Purpose: racing, social, fine motor. Entry date: 7/9/2019.

