Trending @ School Libraries

Brian Pichman       |       Evolve Project
Our experienced and popular “Games & Gadgets” guy explores the tools, tech, gadgets and robotics that are trending for school libraries.
About Me
Entrepreneur, Librarian, Innovator

Nice to meet you

- 16 – First job was within a library as a page.
- 18 – Director of IT for the Library.
- 21 – Build an interactive library space
- 22 – Explore the impact of start-ups to libraries.

Now I get to help libraries around the world with leadership strategies, funding and partnership initiatives, makerspaces and solve spaces, and IT tech trends/security.
Evolve Project

The Challenge:

- Renovate the entire Children’s library with a budget of a 165,000 To include all new technology, furniture, space layout, and fresh colors.
- Introduce new technology frequently and host workshops sharing the technology.
- Teach patrons new skills as it relates to coding, electricity, engineering, or creative art.
- Build hype about the evolving library.

Changing the way people see libraries
Gartner Hype Cycle

- Innovation Trigger
- Trough of Disillusionment
- Peak of Inflated Expectations
- Slope of Enlightenment
- Plateau of Productivity
Tech moves through these five phases

**Innovation Trigger**
A potential technology breakthrough kicks things off. Early proof-of-concept stories and media interest trigger significant publicity. Often no usable products exist and commercial viability is unproven.

**Peak of Inflated Expectations**
Early publicity produces a number of success stories — often accompanied by scores of failures. Some companies take action; many do not.

**Trough of Disillusionment**
Interest wanes as experiments and implementations fail to deliver. Producers of the technology shake out or fail. Investments continue only if the surviving providers improve their products to the satisfaction of early adopters.

**Slope of Enlightenment**
More instances of how the technology can benefit start to become more widely understood. Next generation products appear. More enterprises fund pilots; conservative companies remain cautious.

**Plateau of Productivity**
Mainstream adoption starts to take off. Criteria for assessing provider viability are more clearly defined. The technology's broad market applicability and relevance are clearly paying off.

Emerging Technology Trends 2018

Democratized AI
- AI PaaS
- Artificial general intelligence
- Autonomous driving Level 4
- Autonomous driving Level 5
- Autonomous mobile robots
- Conversational AI platform
- Deep neural nets
- Flying autonomous vehicles
- Smart robots
- Virtual assistants

Digitalized Ecosystems
- Blockchain
- Blockchain for data security
- Digital twin
- IoT platform
- Knowledge graphs

Do-It-Yourself Biohacking
- Biochips
- Biotech – cultured or artificial tissue
- Brain-computer interface
- Exoskeletons
- Augmented reality
- Mixed reality
- Smart fabrics

Transparely Immersive Experiences
- 4D printing
- Connected home
- Edge AI
- Self-healing system technology
- Silicon anode batteries
- Smart dust
- Smart workspace
- Volumetric displays

Ubiquitous Infrastructure
- 5G
- Carbon nanotube
- Deep neural network ASICs
- Neuromorphic hardware
- Quantum computing

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4D Printing?
https://www.ted.com/talks/skylar_tibbits_the_emergence_of_4d_printing
The idea of printing something that can change over time (so the fourth dimension would be time)
“Think: a printed cube that folds before your eyes, or a printed pipe able to sense the need to expand or contract.”

Smart Dust?
is a system of many tiny devices that have sensors, cameras, and more that can detect light, vibration, chemicals, you name it.
A Virtual Twin or Digital Twin is a virtual representation of an actual physical object.
Magic Leap One™
Creator Edition

We're adding another dimension to computing. Where digital respects the physical. And they work together to make life better. Magic Leap One is built for creators who want to change how we experience the world.
In the Classroom: Google Expeditions

With the Expeditions app, classrooms have no boundaries

With VR and AR, teachers are no longer limited by the space of the classroom. VR lets you explore the world virtually while AR brings abstract concepts to life—allowing teachers to guide students through collections of 360° scenes and 3D objects, pointing out interesting sites and artifacts along the way.

https://edu.google.com/products/vr-ar/expeditions/
In the Classroom: Science with AR
In The Classroom: Orboot
Biotech is artificially grown muscles. While still being developed, this could be used to provide skin and tissue to grow over a robot...allowing it to have more sensory perceptions such as sensitivity to pressure.
Do-It-Yourself Biohacking
Emerging Technology Trends

People will want to take their own health in their own hands

Hacking Biology is becoming more available and understood and is increasing in popularity. Through this, there will be more new diagnostic tool sets and neural implants; causing societal and legal questions involving ethics and humanity.

The science of today is the technology of tomorrow.
-Edward Teller
the theory and development of computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.
Zumi

Meet Zumi! She's here to make learning about the exciting world of artificial intelligence (AI) and self-driving cars accessible for everyone.

BACK US ON KICKSTARTER
Misty II

An advanced personal robot with professional grade sensors that you can code with the languages you already know -- or even with a visual block programming interface. There hasn’t been a robot like this before at this price.

View the Misty II Specs

Get Misty II
https://youtu.be/emQqrhV3Jo
Overview:
Recent studies have shown that year after year, children’s reading plummet while the use of apps, games, and social media continues to skyrocket. So we decided to do something about it. We used AR in a non-traditional way as we wanted to enhance the experience of book reading. We also wanted to affect human relations and this is the reason we created a stand alone product instead of a mobile app.

Read to me completely changes the way that digital books can be read, and how publishers can profit from selling their contents as there is now a whole new field for multimedia books.
Novel Effect

Bring the story to life.

Music and sound effects follow along as you read your favorite children's books aloud with Novel Effect.
Sphero: Specdrums

Turn color into music
Microduino: Itty Biggy Buggy
Coding with Arduino and Robotics

STEM
A new generation of intelligent toys. Itty Biggy Buggy includes the components that allow you to create and configure many fun projects.

Itty Bitty Buggy

Core Features...

- LEGO compatible block connection
- High torque gear motor enable differential steering
- Hub supports LEGO compatible form factor. Users can design a variety of configurations.
- Microduino uses our patented U27 mCookie series for expansion and creativity by adding technologies.
- Multiple sensor hubs supports a broad variety of sensors.
- Long life rechargeable battery
- Embedded Bluetooth supports uploading program and mobile phone control
- MicroUSB hub for battery charging and direct program uploading.
Harry Potter Kano Coding Kit
Harry Potter Fans can code too!
Botley
Coding Robot for ages five and up
Sensible Object: When In Rome

The Trivia Game Where Alexa is Your Game Show Host!

Just announced! When in Rome is a 2019 Toy of the Year Finalist.

“What famous food is said to have been invented in Berlin?”

“We love nicknames in New Zealand. Even for trees. What do we call the native pohutukawa tree?”

“We’re super superstitious in Bangkok! What does it mean in Thailand if you have big earlobes?”

BUY NOW ON amazon
3Doodler → New and Improved!
Sphero RVR
Drive, program, and customize out of the box. Make, build, and expand with 3rd party hardware.
Tech You May Have Seen Before

Ozobot
- Bit
- Evo

Squishy Circuits

Bee-Bot

Plum Geek Robotics
- Wink

litteBits

Birdbrain Technologies
- Web Development
Tech You May Have Seen Before

Circuit Scribe
SAM Labs
Cubelets
Osmo
Ways to Stay Informed

How can we stay informed?

South by South West
Every year in March in Texas, is a festival of innovation, excitement, art, music and education
https://www.sxsw.com/

Consumer Electronic Show
First week in January every year in Las Vegas – see all the latest product announcements and trends in technology
https://www.ces.tech/

Webinars, TED Talks, Etc
Attend as many different events that are available to you. There is always lots of great information out there.

SXSW

Crowd Funding Sites
Take a look at sites such as Kickstarter and Indiegogo

Other Events

Crowd Funding
Questions / Contacts
Feel free to reach out!

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