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News: A $20 8-Bit Wikipedia Reader For Your TV   Comments: 122

Posted by timothy on Thursday July 29, @03:00PM
from the thought-experiments-welcome dept.
An anonymous reader writes with this excerpt from Wired about another entry in the ongoing quest for low-tech-high-tech educational tools to take advantage of distributed knowledge:

> "*The Humane Reader, a device designed by computer consultant Braddock Gaskill, takes two 8-bit microcontrollers and packages them in a 'classic style console' that connects to a TV. The device includes an optional keyboard, a micro-SD Card reader and a composite video output. It uses a standard micro-USB cellphone charger for power. In all, it can hold the equivalent of 5,000 books, including an offline version of Wikipedia, and requires no internet connection. The Reader will cost $20 when 10,000 or more of it are manufactured. Without that kind of volume, the each Reader will cost about $35.*"

Hardware: Developer Creates DIY 8-Bit CPU 187 comments
Submission: $20 8-Bit Wikipedia Reader by Anonymous Coward

A $20 8-Bit Wikipedia Reader For Your TV

Blurry text (Score:3, Insightful)

by wjousts (1529427) on Thursday July 29, @03:03PM (#33073974)
I can't imagine that the audience this is aimed at is likely to own an HDTV, so presumably they'll be trying to read masses of blurry text on an older SDTV. Sounds like fun.

Re: (Score:2)

by Capt.DrumkenBum (1173011)
My first 3 computers hooked up to an old SDTV. In fact as I recall it

was a Black & White TV.
Now get off my lawn!

Re: (Score:2)

by Capt.DrumkenBum (1173011)
I don't usually talk to myself, but:
1. Timex Sinclair 1000
2. TRS-80 Color Computer 2
3. TRS-80 Color Computer 3

Re: (Score:2)

by Dogtanian (588974)

My first 3 computers hooked up to an old SDTV. In fact as I recall it was a Black & White TV.

But did you tie an onion to your belt? ;-)

I don't usually talk to myself, but:
1. Timex Sinclair 1000
2. TRS-80 **Color Computer 2**
3. TRS-80 **Color Computer 3**

Oh, the irony! :-)

Er, I can't talk, given that the first computer I used was a ZX81 (i.e. UK version of the TS-1000), and the first three machines I used were connected to black and white tellies, including my Amiga at one point(!)

Re: (Score:2)

by Gilmoure (18428)

Ti-99/4a (with 16k RAM!)

I still have it in it's box with all the manuals and packaging. I figure now's the time to bring it out and show the kidlet (9 years old) what computing used to be. Wish I still have the modem with handset couple. Not that I have any phones it

could attach to...

Re:Blurry text (Score:4, Insightful)

by drHirudo (1830056) on Thursday July 29, @03:23PM (#33074302) Homepage

Reading from the screen is not hard. Even on old TV sets. Teletext exists since ages and nobody complains about it being unreadable. In fact in today technological society there are already more people reading more from screens of some kind, than from paper. With such cheap device as the one in the article, the ratio of people reading from screen versus the people reading from paper will increase even more in favour of the ones readering from screen.

Re: (Score:2)

by sourcerror (1718066)

It should be noted however that most TV sets have a 200% magnification option for Teletext for a reason.

Re: (Score:2)

by Dogtanian (588974)

Teletext exists since ages and nobody complains about it being unreadable.

People aren't trying to read Wikipedia on it though. And if people didn't complain about it in the past, it's because there was nothing better (it was good for the time, but still limited compared to (e.g.) a newspaper). And if people don't complain now, it's probably because very few people use it. The operator of the UK's commercial Teletext service illegally ditched it last year (in breach of their license) because it wasn't making them money any more.

Anyway, Teletext's 40 columns is very narrow by mo

Re: (Score:2)

by underline westlake (615356)

In fact in today technological society there are already more people reading more from screens of some kind, than from paper.

Facts like these could stand a little batter anchorage.

Teletext exists since ages and nobody complains about it being unreadable.

They might, if all they had to go on were the screen shots in the Wikipedia. Teletext [wikipedia.org]

Re: (Score:3)

by evilviper (135110)

> Reading from the screen is not hard. Even on old TV sets.

Yes. Yes it is. Interlacing is BAD. VGA-resolution is bad. No magic will fix that.

> Teletext exists since ages and nobody complains about it being unreadable.

Teletext takes up, what, 1/5th of the screen for TWO LINES of text? Yeah, at those sizes, anybody can read them. Trying to read a lengthy document like that proves VERY cumbersome. Non-stop scrolling to the next few lines, and an exhausting experience as your eyes have to travel vastly furth

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Re:Blurry text (Score:5, Informative)

by CohibaVancouver (864662) on Thursday July 29, @03:25PM (#33074338)

so presumably they'll be trying to read masses of blurry text on an older SDTV.

Until the "IBM PC" came along, most of us hooked our home computers to our televisions:

http://www.vintagecomputer.net/apple/appleII
/appleII_display_graph.jpg [vintagecomputer.net]

We wrote BASIC programs, played ZORK, and labouriously keyed in
source code printed in the likes of "Creative Computing." Today,
none of us are blind. Well, some of us are. But likely for other reasons
than reading text on an SDTV.

Now get off my lawn.

Re: (Score:3, Informative)

by blincoln (592401)

*We wrote BASIC programs, played ZORK, and labouriously
keyed in source code printed in the likes of "Creative
Computing." Today, none of us are blind.*

While this is true, the text back in those days was pretty
barebones. I couldn't find a screenshot of what the TV output
looks like from this device. Is it that same sort of old-school
no-frills monospaced font with 40 (or 80 at most) characters per
line? Or is it an attempt to shoehorn something with more
modern formatting onto a TV via composite signal? I se

Re: (Score:2)

by Jason Levine (196982)

I've used my Nintendo Wii on my SD TV to browse websites and the
text isn't blurry. They should be able to pull off clear text even if the
TV isn't high-definition.

My apple //e had composite out (Score:2)

by way2trivial (601132)

I remember the first time I dared hook it up to the VCR input
(5 siblings, one televison, and i was going to do something that made
it single use person only)
and DAMN it looked good in color on the TV...

Cool, but (Score:3, Interesting)

by Vahokif (1292866) on Thursday July 29, @03:06PM (#33074018)
Cool, but places where people have televisions also have public libraries.
It's not like they can't find knowledge if they want to.

Re:Cool, but (Score:4, Insightful)

by dave562 (969951) on Thursday July 29, @03:21PM (#33074264)
Journal

On the other hand, a public library might not be updated as
regularly as Wikipedia. Or if your library is like the ones in my
neighborhood, the computers often have a wait time. This is
something I think would be a great tool to be used in conjunction
with a public library. At the start of every semester or school year,
some kid's parent could go to the library and download the latest
version of Wikipedia. Then the kid can access information at home. I
know it's hard to believe, but not every home in America can afford a
computer and a $30 a month DSL bill.

Re: (Score:2)

by TooMuchToDo (882796)
I'd say pay for the 802.11 chipset and allow the device to update
wirelessly. I've found it much easier to find WiFi than an
ethernet plug almost anywhere in the world except Japan (WTF
Japan?)

Re: (Score:3, Insightful)

by Joce640k (829181)

A public library is where devices like this really belong.

$20 for 8 bits?!?! (Score:5, Funny)

by Ossifer (703813) on Thursday July 29, @03:17PM (#33074184)

That's $2.50 per bit!

Outrageous!

Re:$20 for 8 bits?!?! (Score:5, Funny)

by CannonballHead (842625) on Thursday July 29, @03:31PM
(#33074468)
Yeah... that's a bit expensive.

Re: (Score:2)

by SQLGuru (980662)

[quote]two 8-bit microcontrollers[/quote]

Reading comprehension fail. $20 for 16-bit. $1.25 each.

Re: (Score:2)

by Eternauta3k (680157)
Sure beats my data charges...

Bits or books (Score:2)

by clarkkent09 (1104833)
it can hold the equivalent of 5,000 books

...if the books are 200 pages long each. Or it can hold 500 books if they
are 2000 pages long each. In other words it either holds a dump truck full
of books, or a Volkswagen full of books. Hope that makes it clear for the
non-technical readers out there.

Re:Bits or books (Score:4, Funny)

by Capt.DrumkenBum (1173011) on Thursday July 29, @03:37PM
(#33074568)
But are the books paperback or hard covered?
Inquireing minds want to know.

Re: (Score:2)

by CohibaVancouver (864662)

Hope that makes it clear for the non-technical readers out there

It won't really be, until the values are based on "Numbers of Libraries of Congress."

Is it just me? Or is the e-book thing... (Score:2)

by Chas (5144)

Just kinda underwhelming?

Maybe I've become a relic, but I don't enjoy reading for long periods of time on a screen.
If I do, I want a book, or at least, a printout.

Re: (Score:2)

by MozeeToby (1163751)

That's why the majority of eReaders on the market use eInk as their primary display. It basically eliminates the problem of eyestrain from reading off a screen. The older ones don't have very high contrast though, which makes Amazon's recent announcement of 50% better contrast very intriguing to me.

Re: (Score:2)

by Darkness404 (1287218)
That is where e-ink comes in. Seriously, the first time I tried a Kindle I thought there was a sticker on the screen, it looks that much like paper.

Yes, trying to read it on your iPad, laptop, etc. is going to be underwhelming, but the Kindle/Nook e-readers with e-ink is very easy on the eyes and just as good as paper.

Re: (Score:2)

by ISoldat53 (977164)
I second that. Plus the you can change the font size to help the hard of seeing.

Re: (Score:2)

by gEvil (beta) (945888)
Just kinda underwhelming?

Maybe I've become a relic, but I don't enjoy reading for long periods of time on a screen.
If I do, I want a book, or at least, a printout.

That's where the whole e-ink thing comes into play -- a screen that uses reflected (instead of emitted) light. As much of a cliché as it is, the screen really does disappear once you get into whatever you're reading.

Hmm. (Score:2)

by blair1q (305137)

I wish I'd thought of that.

40-column text? (Score:2)

by Joce640k (829181)

It doesn't say what the display is but it's probably going to be 40 column text. 80-column is possible but I remember 80 columns being almost unreadable in my home computer days (and it took 16k of RAM for a black/white 80-column screen).

Will there be graphics....? Decoding JPEG images on an 8-bit chip will be painful. The device won't be able to hold all the bitmaps for a page in RAM so they'd have to be decoded on the fly as you scroll. Ick.

Doing this in 8 bits is reducing it too far. A 16-bit chip wouldn

Sounds over-engineered (Score:2)

by AnotherBlackHat (265897)

Two micro controllers sounds like at least one too many to me, and it looks like they're using reed switches instead of the much cheaper membrain type.

Let's face it, $35 isn't cheap. $20 is a lot better (you're now in impulse purchase range) but it's still not cheap - there's a link to a $12 computer on the same page as the article.

I like the idea, but if you're going to wish for 10,000 units, then you might as well wish for enough units to support full scale integration and put everything on a single chip

Lame design! (Score:3, Interesting)

by jmorris42 (1458) * <[gro.uaeb] [ta] [sirromj]> on Thursday July 29, @07:54PM (#33077982) Homepage

The design is truly lame. Yes bitbanging ntsc video out of an AVR is neat but if you are really trying to build a mass produced device this design is about as stupid as possible. Bitbang video and bitbang USB via yet another AVR with a third as the CPU? Oh. My. God.

Use a single chip ARM or MIPS with a real framebuffer with video out and USB on chip. Can't cost more than the three AVRs in quantity and will do so much more.

And another benefit is that they are also pitching it as a computer but it isn't. I love the AVR line as an embedded colution but the Harvard arch is a killer in that you can't run programs from RAM and the program flash is only good for 10K writes.

Re: (Score:2, Informative)

by blai (1380673)
http://lmgtfy.com/?q=download+wikipedia&l=1 [lmgtfy.com]

You didn't try at all did you?

Re: (Score:3, Informative)

by spazdor (902907)

http://www.free-soft.ro/pocket-wikipedia/pocket-wikipedia.html [free-soft.ro]
It's not official, but it's fine.

Re: (Score:3, Interesting)

by twiddlingbits (707452)
Considering India just announced a $35 Linux laptop INCLUDING screen, memory and hard drive this product is overpriced and under capable. In the longer run the Linux laptop should be under $20. IThe laptop also allows the user to learn anywhere not just where the TV is located. I think most people would be OK carrying a laptop versus a TV. I would also think it takes less power for an LCD laptop than for a TV. Nice invention, only 10 yrs too late.

Re: (Score:3, Insightful)

by b0bby (201198)

The difference is that this can actually be built for around $35, less than that in bulk. The Indian announcement is very unlikely to actually result in a $35 laptop.

Re: (Score:2, Insightful)

by twiddlingbits (707452)
I seriously doubt that $35 claim on his device. If he sells it in the USA the requirements to make it "safe" will drive up the cost. Who even makes 8-bit microcontrollers? The last time I played with them was the Intel 8051 and 8031 in the early 1990s and they were hard to get then. The $35 laptop made in India for use in India..yea they can do that.

Re: (Score:3, Informative)

by xiox (66483)

I might doubt the cost too, but 8 bit microcontrollers are very popular now, even with the widespread availability of 32 bit systems. Many consumer devices include Microchip and Atmel chips if they don't need more power. There's also a bit Arduino (Atmel) hobby crowd.

Re: (Score:2, Insightful)

by Anonymous Coward
8-bit microcontrollers are easy to buy. You just have to buy the part micro-controller. The arduino has an 8-bit micro-controller.

Re: (Score:2)

by Nadaka (224565)

Considering that the 10 dollar computer that was also announces is turning out to be a 30 dollar plastic box with no input or screen, and it costs no less than $30? that $35 tablet is going to be at least $60 when they are done with it.

Re: (Score:2)

by twiddlingbits (707452)
Even if it is $60 or 60 rupees, for double the cost you get one hell of a lot more utility!!! Plus the laptops can also access the Internet where it is available. IIRC, this thing you hook to the TV you need a PC to download then xfer to an SD card, unless of course they catch on and someone starts selling books on SD cards. With Kindles at $139 now, and laptops under $100 the cost vs utility of this device is poor.

Re: (Score:2)

by Dogtanian (588974)

Most places where this would be useful can't afford a TV to hook it up to.

Where I live (*not* a particularly rich town), there is a total glut of old-style portable CRT TVs- no-one wants them and charity shops aren't even accepting them any more. I'm damn sure you could get one for bugger all if you wanted to.

Re:Nice, but... (Score:5, Informative)

by gorzek (647352) <gorzek@gmail.cREDHATom minus distro> on Thursday July 29, @03:47PM (#33074762) Homepage Journal

You might want to check out the statistics [humaneinfo.com] as related by the company making these devices. The developing world has a glut of TVs but very few computers and little Internet access. These devices can help fill that gap.

Re: (Score:2, Insightful)

by Anonymous Coward

Can't see the forest for the trees, huh? Some guy is trying to create a device to try spread knowledge and you're bickering over a simple typo.

I mean, you're using double question marks in your topic and failing to capitalize a bunch of stuff. Oh, and 'nonetheless' should be contracted into a single word. If you're going to wail about grammar and spelling, then at least try to contribute a comment that's properly formatted, rather than paint yourself a fool.

Re: (Score:3, Insightful)

by Darkness404 (1287218)
Sure, but seriously remember how expensive encyclopedias used to be? Really, times have changed immensely, I remember back when I was in school you had access to an edition of The World Book Encyclopedia or Encyclopaedia Britannica that was older than you, that never seemed to have the article you really needed. You had a

library filled with old outdated books and no real easy way to search them (remember paper card catalogs?). And something like this for cheap would have been a godsend, far better than the

Re: (Score:3, Interesting)

by Mr.Radar (764753)
Unfortunately Wikimedia Commons, the source for all the images on Wikipedia, does not guarantee that all the images it hosts can be redistributed (even solely for the purpose of inclusion with "offline" versions of Wikipedia) and doesn't provide a one-stop download to get all of its content (like Wikipedia provides). Tools to download (scrape) all of Wikimedia Commons do exist, but as of a year or two ago there was already 500 gigabytes of content if you wanted a full mirror and I can only imagine that the

Re: (Score:2)

by Frosty Piss (770223)
And, Wikipedia will not need an Internet conx, so what ever version it is will soon be stale. When they discover that Abraham Lincoln was a Jewish meat-cutter on Staten Island who liked hardcore punk, the people surfing Wikipedia on this thing will remain ignorant.

Re: (Score:2)

by Jeng (926980)

Oddly enough that might not be the demographic they are aiming at, but I would think that would be the demographic more likely to buy one.

Much like the OLPC, they may have been targeted at undeveloped nations, but I would bet more geeks bought them as toys than how many were deployed to undeveloped nations.

Populus vult decipi. [The people like to be deceived.]