

Creating Educational Opportunities without Connectivity

World Possible and the Intel® Education Content Access Point



Digital resources are transforming education worldwide. Access is paramount for students of all ages. But what happens when connectivity is intermittent or unavailable? More than 60 percent of the world's population remains off-line.¹ This population is disproportionately rural, low income, elderly, illiterate, and female.

World Possible provides direct, ongoing support, tools, and technology to infrastructure-challenged communities. Says Jeremy Schwartz, World Possible's executive director, "A common refrain we hear in these populations is that children are in school, the teacher is there, but no one is learning. Off-line content serves as a resource for students and teachers to not just educate themselves, but also develop vital 21st century skills in digital literacy, research, and critical thinking."

The organization uses the innovative Intel® Education Content Access Point (CAP) to provide an affordable solution for schools and organizations that have no Internet connectivity or low or intermittent bandwidth. World Possible is bringing these Intel®-based solutions to schools and communities worldwide—crossing the digital divide with inspiring results.

"Today, these students felt empowered. No longer were they dependent on what the teacher could teach them at the blackboard. No longer did those who 'got it' need to wait on the others who needed more time."

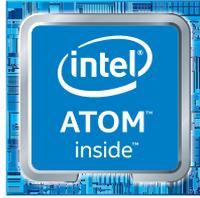
– Ambassador Enterprises on RACHEL-Plus deployment at St. Paul's Episcopal School in Liberia

INNOVATION WHERE IT COUNTS

World Possible works primarily with schools and organizations that lack Internet access. Future plans include deploying CAP devices along with tablets or notebooks to create small off-line learning labs.

World Possible's Remote Area Community Hotspot for Education and Learning* or RACHEL-Plus* installed on CAP can be accessed via any a standard web browser without the need for Internet connectivity. CAP provides a resilient, independent piece of hardware to host off-line copies of Creative Commons licensed educational, vocational, and reference websites—allowing viewers to access millions of webpages and thousands of videos, and progress through self-paced software. World Possible uses custom-designed websites to store a small copy of the Internet locally on the CAP's ample 500GB internal drive.

CAP also provides a hub for collecting and sharing hyper-local content for a particular school or community. This allows creation of locally relevant content by communities that otherwise lack the infrastructure to participate in the digital revolution.



GROWING FREE CONTENT LIBRARIES

World Possible's social entrepreneurs are steadily increasing their resources to deliver standards-based, localized content to schools. In keeping with World Possible's mission, all content offered on CAP is available for free download by anyone, anywhere.

World Possible's ever-growing library of free content can be viewed or downloaded at: dev.worldpossible.org/mods.

“In jail, a lot of stuff is done for you. It’s nice to have the ability to find things out for ourselves. If I have a question and need to find an answer, I know how to research it. This is training I’ll be able to use for the rest of my life.”

– Stephen K.,
Oregon Youth Authority

DELIVERING RELEVANT CONTENT

World Possible's content modules represent a copy of a website (as that site exists at a given point in time), and include leading reference and educational sources such as Wikipedia, Hesperian Health Guides, Gutenberg World Library, and much more. Pre-installed content on CAP is tailored and localized for deployments in Guatemala, East Africa, Southern Africa, and even the Departments of Juvenile Justice and Corrections in the United States.

World Possible's off-line tools and content are available in multiple languages. The content localization process is led by World Possible's in-country social entrepreneurs, who work to obtain digital copies of local, country-specific curriculum and pacing guides. These social entrepreneurs then host a series of meetings with educators and teachers to align that local curriculum to off-line content hosted on CAP.

Recently, RACHEL-Plus on CAP began supporting interactive digital content, such as GCFLearnFree.org*, and Khan Academy Lite, which allows students to create logins, do exercises, and receive feedback—all off-line.

MAKING AN IMPACT

World Possible is working in local communities around the globe, from rural schools to state correctional facilities. The type and extent of impact can vary widely, dependent, in part, on local ownership and buy-in.

Explains Schwartz, “When local ownership is combined with consistent buy-in and a long-term horizon, we have seen tremendously positive outcomes. In one of our longest-running pilot programs in Sierra Leone with CAUSE Canada, Affia Junior Secondary School was previously flagged with unsatisfactory performance on national

exams. After introducing our off-line content solution for math and science training, 23 of 24 students received a passing grade in math exams during the following school year.”

Upcoming initiatives include supporting university-sponsored randomized testing samples in Sierra Leone, Liberia, and Guatemala.

Oregon Youth Authority

The Oregon Youth Authority (OYA) uses evidence-based, effective treatment practices to prevent youth offenders from committing additional crimes and to teach pro-social behaviors. OYA collaborated with World Possible to realize a powerful vision: empowering youth in custody through education and development of 21st century skills.

The two organizations worked together to identify relevant digital content and secure agreements to provide that content off-line on CAP. When the juveniles previously had full Internet access, they were continually finding workarounds to obtain restricted content beyond traditional firewalls. By limiting content to that which can be stored on the CAP, students have 24-hour access to rich educational content, without requiring constant supervision.

World Possible preinstalled CAP with RACHEL-Plus for Corrections, 350GB of content relevant to users in the Department of Juvenile Justice. World Possible also helps remotely manage and update CAPs through a cloud-based remote management console when CAPs are connected to the Internet.

Together, OYA and World Possible continue to pursue locally relevant content partnerships and deploy this technology across the state. Eleven other states have now piloted the program; four more have broad roll-outs of RACHEL-Plus.



Students learning with CAP in Las Canoas Altas, Guatemala.

World Possible Guatemala, Mundo Posible

World Possible's community development program in Guatemala delivers localized, digital content on CAP. The program is empowering students and interested users to gain confidence and skill on computers, study independently, research areas of interest, and prepare for exams. Mundo Posible leader Israel Quic recognized that a lack of reliable connectivity in remote schools was hindering indigenous children's access to quality education and was determined to address it.

Israel and his team curated a library of content for off-line delivery on CAP. The collection of PDFs and videos is structured as a digital Dewey Decimal System, offering quality content on Guatemalan government, agricultural practices, Mayan history, and much more.

An independent study by MANAUS Consulting validates the offline approach. The study aimed to understand whether the use of Khan Academy with different devices (computers and tablets) and Internet connectivity had a differentiated effect on academic performance. Findings include a larger positive impact on math scores, from sub-interventions with no Internet available (using off-line servers)—an eight-point increase—compared to sub-interventions with Internet available, with a six-point increase.

In 2015, Mundo Posible Guatemala installed RACHEL-Plus in 44 schools, trained 743 teachers, and provided off-line content to more than 14,000 learners in schools that lacked reliable connectivity. In 2016, the team presented their work to the new vice president of Guatemala and minister of education, who recognize the value in off-line digital content and potential cost savings compared to traditional texts.

INTEL® EDUCATION CONTENT ACCESS POINT

Innovative education solutions to improve teaching and learning worldwide.

CAP provides access to digital content where none existed before, including education, transportation, public information hubs, factories, and more.

- **Ideal for education:** Teachers can easily upload their own content via a WiFi connection or USB, and organize it into lessons for quick access to relevant materials for the entire class.
- **Fast deployment:** Provides significant time-saving, particularly in situations where digital content is typically distributed to one client device at a time via a shared USB stick.
- **User-friendly:** There is no special software required. Just launch a web browser to access content or to upload new content and curriculum to the device.
- **Flexible connectivity:** Provides access to content in wired, wireless, 3G/4G/LTE, or even unconnected environments.
- **Supports a Bring Your Own Device model:** Different device types are no problem. CAP works with a variety of operating systems and web browsers.
- **Simplified access:** Combines an Internet access point and stand-alone content server in a single, powerful package. Includes 3G/LTE support for teachers interested in using the device as a portable hotspot.
- **Mobile and efficient:** Provides a compact, lightweight design and built-in battery, with up to five hours of continuous use, plus, up to 500GB of storage.

ACCESS FOR ALL

Access to digital resources, combined with relevant localized content, training, and support, is making a powerful and measurable difference for thousands of students and helping schools and countries realize their mission of educating 21st century citizens.

Research shows that programs such as World Possible are having a positive impact on academic performance, as well as decreasing dropout rates and increasing the likelihood that students will be promoted to the next grade.²

As World Possible has shown, there is no limit to what students can accomplish when they have the opportunity. The combined World Possible and CAP solution is just one example of Intel's commitment to transforming education for students and teachers, everywhere.

Learn more >

See the product brief >

Discover World Possible:
worldpossible.org

Discover RACHEL-Plus:
racheloffline.org



¹ Offline and Falling Behind: Barriers to Internet Adoption, McKinsey and Company, September 2014, <http://www.mckinsey.com/industries/high-tech/our-insights/offline-and-falling-behind-barriers-to-internet-adoption>.

² FUNESPA Monitoring and Evaluation Report, MANAUS Consulting, 2012, http://media.wix.com/ugd/ac62c7_361e3c6186ab43348b3672048df01785.pdf.

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