INTRODUCING
APTUS CLASSROOM WITHOUT WALLS
Transforming the teaching-learning experience with low-cost innovative technology

How can children in a small school on an atoll in Maldives access textbooks?

Can the forest people in Kabale district of Uganda be reached for training in beekeeping?

What devices will be needed to train teachers in Kiribati?

165 mm

The Commonwealth of Learning (COL) is an intergovernmental organisation created by Commonwealth Heads of Government to encourage the development and sharing of open learning and distance education knowledge, resources and technologies.

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The Commonwealth of Learning (COL) believes that it is possible to reach the unreached through the use of appropriate and affordable technologies. Our Aptus Classroom Without Walls is an exciting innovation that can transform the teaching-learning experience everywhere it is used – even under a tree in a remote resource-poor location.

Opportunities and challenges

Over the past 18 months, the cost of generic tablets has come down significantly, while their computing power and memory have increased by 200%. Many countries have launched tablet distribution projects to equip learners with access to web-based learning materials through these low-cost devices. This development, however, has highlighted a significant barrier: limited or lack of access to the Internet still restricts learners from using web-based materials.

The Aptus solution

COL's Aptus Classroom Without Walls addresses this barrier. At its core is the Mini PC which today has the same computing power as an entry level server of a few years ago, and can easily host a large number of learning materials. Used in combination with a wireless router, these materials can be accessed by multiple learners using tablets, laptops, or mobile phones and devices – even in places where no Internet is available. Aptus is an off-grid, offline virtual classroom where learners can still benefit from digital resources and learning networks.

Wireless and solar-charged power

The Mini PC is powered by a battery pack inside the wireless router. This battery pack can be recharged via grid power or solar charger as needed. Together, these two devices cost approximately USD100.

Repurposing technology

COL has developed this original prototype by repurposing available commercial products to create a new learning concept. To collaborate with COL in testing Aptus, we invite you to contact us at **aptus@col.org**

Device specifications

Hardware

Wireless router
- Supports up to 20 tablets, laptops or mobile devices.
- Covers up to 25-metre radius for 20 hours per charge.
- Compatible for use with solar power charger.

Mini PC (MK802iv Quad Core)
- Supports external micro SD cards up to 128 GB.
- Connects to pico projector or monitor via Mini HDMI output.

Indicative cost
- Mini PC USD60-70
- Wireless router USD30-50
- Total cost of Aptus approximately USD100

Software
- Open source operating system: Ubuntu 12.04 or 14.04
- Open source content management systems (CMS), such as Drupal or WordPress.
- OwnCloud file sharing application and Samba file share service.

OER content
- Approximately 2,000 Khan Academy videos.
- 6,000 articles and 50,000 images from Wikipedia for Schools.
- 100,000 articles from Simple English Wikipedia.
- More than 1,000,000 entries with English definitions from Wiktionary.
- Bootstrap based HTML 5 homepage.