Library For All delivers digital learning resources to Ukrainian children to ensure access to education anywhere

Discover how Library For All, a nonprofit entity, is giving Ukrainian children globally free access to e-books and learning using the cloud.

Overview

When Russia escalated the ongoing conflict in Ukraine in February 2022, it triggered not just the largest refugee migration in Europe since World War II, but also disrupted the education of more than five million children in Ukraine.

An Australia-based nonprofit entity, Library For All, sought to use its expertise in delivering digital learning tools to ensure that Ukrainian children could continue learning, wherever they found safety. However, given the ongoing conflict, Library For All could not distribute learning resources the way they used to—by preloading them onto Android-based tablets and hand-delivering them. With Ukrainian children finding refuge all over Europe and even further afield, Library For All's previous offline, hardware-based solutions needed a revamp.

In June 2022, Library For All began working with Amazon Web Services (AWS) and AWS partner Cognizant to host its digital learning resources on a cloud-based app instead of on devices themselves. The organization used the AWS cloud to create a full library of culturally relevant books available for free on any Android or Apple device globally.

- Scalability: Facilitates Library For All's vision of supporting thousands of children
- Speed: Accelerates deployment of new learning resources
- Agility and responsiveness: Addresses up to 10,000 instances within minutes

Working in close collaboration, AWS and Cognizant designed and built a serverless platform guided by one of the best implementation practices that addressed the six pillars of an AWS well-architected framework and delivered the outcomes Library For All demanded from its new platform.

Opportunity: Scaling up delivery of learning resources to improve educational outcomes

Founded in 2011, Library For All provides high-quality digital-first books and distributes digital learning tools globally for children who have limited access to learning resources. It currently has over 3,000 digital books in its database and hopes to improve access to education for 20 million children by 2030.
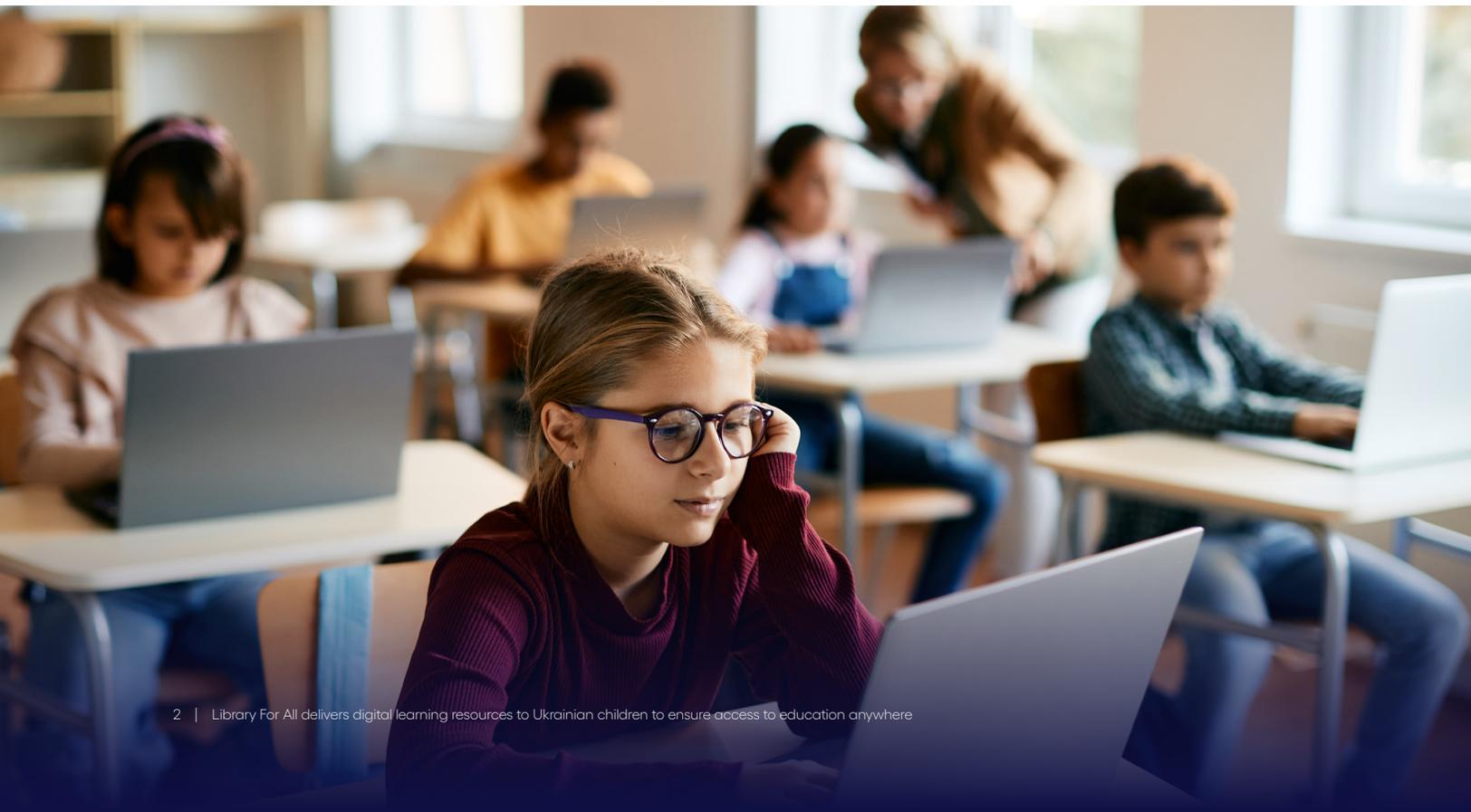
As of 2023, Library For All has provided learning materials to over half-a-million children across 16 countries, including Lao People's Democratic Republic, Myanmar and Papua New Guinea. Its books have also been published in 17 languages, which ensures that children from different countries can access content that is meaningful and relevant to them, and learn in languages they understand.

Prior to migrating to AWS, Library For All operated in a remote capacity, delivering solutions almost entirely offline—to children living in marginal communities, including those with limited electricity, internet and poor access to external resources.

To enable digital learning for children in Ukraine, Library For All is determined to provide the best solution that would utilize on-demand, scalable and secure access on the cloud. Doing this would help the Library for All deliver digital learning resources to Ukrainian children with internet access in a cost-effective, timely and safe manner.

"AWS and Cognizant took the time to understand our challenges and provided scalable and cost-effective solutions. Our collaboration exemplifies how businesses can work with nonprofit organizations to change the world in significant and impactful ways." — Rebecca McDonald, Founder, Library For All

Solution: Facilitating learning in times of crisis

One of the key challenges for a nonprofit organization is budget constraints. Library For All had to keep the cost of backend infrastructure as low as possible and invest maximum resources into developing learning assets and delivering them to children. It used AWS Lambda to build a serverless infrastructure to lower costs, paying only for the compute time it uses.

The AWS cloud also helped to facilitate the accessibility of learning resources drawn from disparate locations. It enabled the organization to support children in accessing Library For All's resources without disruptions and scale flexibly to reach its goal of supporting thousands of children by end of 2023.

Leveraging Cognizant's DevOps and software delivery lifecycle (SDLC) expertise, dual delivery and upskilling model, Library For All was able to significantly accelerate their deployment of new learning resources with the AWS cloud by more than 20%. With its previous offline rollouts, Library For All had to produce a set of learning resources before delivering them to target communities. Now, the organization immediately rolls out learning resources as they are ready and can now operate separate workstreams for hardware builds and content development, with each team delivering its outputs as soon as possible without constraints from the other. Library For All can now deliver its digital learning resources in half the time it used to take. System uptime has also increased from 95% to 99.9% with zero downtime or outages required for software code changes. Additionally, their new platform has experienced a five-fold scalability improvement as measured by the number of users it can serve across various geographies.

For data storage, delivery and management across the entire cloud infrastructure, Library For All uses Amazon Simple Storage Service (Amazon S3), Amazon CloudFront and Amazon Relational Database Service (Amazon RDS).

- Amazon S3: Stores digital learning resources in the cloud
- Amazon CloudFront: Used to securely upload digital learning resources from Australia, where the organization is based, and make them available to users globally without delay
- Amazon RDS: Reduces resource iteration time as the online user data is captured in real time

Library For All now uses AWS Web Application Firewall (AWS WAF) and AWS Control Tower to set up, govern and protect its web applications and multi-account environment. While these time-consuming security related tasks are managed by AWS, Library For All can redirect resources toward creating new digital learning resources and rapidly provide them to children in need.

As it was Library For All's first time running a cloud project, AWS and Cognizant worked with them to identify operational gaps and recommended relevant cloud services. This included multiple AWS-organized training workshops to upskill the Library For All team on serverless architecture.

Outcome: Supporting Ukrainian children's access to education

As of March 2023, Library For All has launched and globally deployed its free cloud-based digital library of almost 300 books, making it available to Ukrainian children. With the resources saved through deploying the app on the cloud, Library For All has also been able to provide hardware to around 200 digital learning centers run by the international charity organization, Save the Children, and the Ukrainian government.

About Library For All

Library For All is an Australia-based nonprofit organization that creates and publishes free digital books and learning tools for children without ready access to quality education. As of 2023, the organization has reached over 500,000 children across 16 countries, including Lao People's Democratic Republic, Timor-Leste, Papua New Guinea, and Ukraine. Library For All's digital books have also been published in 17 languages.

About Cognizant

Cognizant partners with organizations to build robust and secure digital platforms on AWS cloud, enabling them to accelerate innovation, improve customer experience, scale business services, increase agility and become future ready. Cognizant combines its system integration capabilities, accelerators, frameworks and toolkits, along with advisory, implementation and managed services, with AWS's cloud computing technology and services—to create a pathway of endless possibilities that drive return on investment in businesses, deliver desired outcomes and ensure competitive edge and agility.

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