



Students Overcome Reading Challenges with Assistive Technology Powered by ABBYY

Customer Overview



Name

Open LORE

Location

Beaverton, Oregon, USA

Industry

Assistive Technology

Web

www.open-lore.com

Challenge

Empower individuals with reading difficulties to learn and study more productively by making the text in digital files and paper documents accessible via Open LORE's assistive technologies.

Results

ABBYY FineReader Engine SDK enabled Open LORE to incorporate powerful OCR functionality into its reading software products – enabling users to convert paper and e-documents into digital text that is easily available via text-tracking and text-to-speech.

Open LORE supports individuals with reading disabilities via assistive technology that makes eBooks and other digital resources available to people via text-to-speech. But content within printed documents and unsuitable digital formats was still beyond users' reach — until the company integrated Optical Character Recognition (OCR) into its solutions using ABBYY FineReader® Engine SDK.

“ABBYY FineReader Engine opens up a whole new world of content that customers previously could not get to. It easily integrated into our software to become a natural part of the user's workflow”

Steve Bauer, Chief Technology Officer, Open LORE

Opening the knowledge within books to individuals with special needs

Glen Wagner and Steve Bauer founded Open LORE to enable people with reading disabilities to enjoy and learn from books independently. “Twenty percent of our population, have difficulties that make reading frustrating or even impossible,” says Wagner, Open LORE CEO. “Our mission is to eliminate barriers to success with software that turns digital text into speech and provides tools that build reading skills.” To achieve this, the company offers Open LORE Read, which helps individuals with Dyslexia, ADHD and Irlen Syndrome process electronic text and eBooks. Features include text-to-speech and text-tracking tools that help users visually track the words being read to them by the software. Also included is a user-configurable library, dictionary, highlighting, adjustable word and sentence tracking colors, customizable backgrounds and more.

The upcoming Open LORE Learning Center adds study guides, word games and more. But despite such advances, one barrier for users remained: “Printed materials were still inaccessible,” states Bauer, Open LORE CTO. “And eBooks may be copyright restricted or unavailable in accessible formats. The answer lay in giving our software the power to convert such content into text that it can read to users aloud. That required sophisticated Optical Character Recognition (OCR).”

ABBYY FineReader Engine OCR: Beginning a new chapter in assistive reading technology

As Bauer explains, Open LORE Learning Center needed to empower students and professionals to bring electronic and printed materials of every kind into its learning environment: from image-only PDFs and screen captures to printed loose documents, correspondence, assignments, books and flyers. Adding OCR would let them do so independently — by scanning and converting printed content into machine-readable text, or capturing and converting digital files.

But among other challenges for Open LORE's team, two stood out: "The OCR solution had to be highly accurate. Otherwise the text-to-speech feature produces imprecise results," says Wagner. Bauer adds, "It had to integrate tightly with Learning Center, and the user experience had to be seamless and effort-free." Based on previous experience in leveraging OCR to add value to products for Intel and Hewlett Packard, Wagner and Bauer agreed on ABBYY FineReader Engine SDK as their go-to choice for creating a solution.

"FineReader Engine is great," says Wagner. "It's an easy SDK to use, provides excellent integration tools, offers competitive pricing and delivers top-of-class OCR." And Bauer confirms that the SDK met all expectations in terms of implementation, user ease and compatibility: "FineReader was easily integrated into our software to become a natural part of the user's workflow. Its tools smoothed the way for connecting the software programmatically into our code base."

Changing the story when it comes to accessibility

By integrating FineReader's OCR functionality into Learning Center, the Open LORE team accomplished a major goal: Enable individuals struggling with reading printed text to understand documents with no fatigue — and enable them to do so without assistance. "Previously it was necessary for a teacher to stand beside a student with reading difficulties and point at text while reading it aloud — enabling the student to track text to the teacher's speech," said Wagner. While effective, he explains, instructors could only handle one student at a time. Plus, this technique severely limits the student's opportunity for independent study.

Now, with Open LORE Learning Center, that story has changed for individuals with learning exceptionalities for the better: "Learning Center repurposes that one-on-one methodology, putting it to work for the student electronically. It reads text aloud at a customizable pace while highlighting the text being spoken," says Bauer. Additionally, students can access more than eBooks. The software's integration with FineReader lets them create machine-readable text from screen captures, scans and — by using Open LORE's optional Camera Bundle — digital photos of printed materials.

The results

Learning Center's rich feature set provides people struggling with reading with a comprehensive solution for reading and studying — and with FineReader-powered OCR, the ability to turn virtually any text into a resource for learning and enjoyment. "FineReader is helping to rewrite the book when it comes to accessibility," confirms Wagner. "They simply copy and paste text from other digital documents, copy an image with text, or use a document camera or scanner to capture an image — FineReader handles the rest. It supports users' natural reading and composition workflow, lets them quickly and accurately digitize printed material and do on-the-fly conversion of text from inaccessible forms."

Wagner concludes, "ABBYY opens up a whole new world of content that our customers previously could not access."

About ABBYY

ABBYY is a leading global provider of technologies and solutions that help businesses effectively action information.

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