



**SKYNET TECHNOLOGIES
USA LLC.**

Achieved 200% Increase in Cloud-based AI Ebook Reader Application Sales and Subscriptions for Italy based Company

Background:

An Italian-based company was keen on making an AI-based eBook reader application through which a publisher uploads the books either in pdf or epub format and only the subscribed readers can access them through this application without affecting the revenue. The books should be in the encrypted format and the subscribed user should be able to download them in native 'xyz' file format. When the users want to read a book again, they have to upload these 'xyz' files into the system and access the book. With the help of AI technology, the application should be able to read out the text for the user and with a single tap, should be able to provide the meaning of the difficult words on the pages. The user should also be able to add different color annotations, add notes on the pages, and bookmark them for a later read.

Overarching Goals and Challenges

While building the application, the company did have its own set of challenges that were creating minor to major inconveniences. The list goes like

1. Converting a book in pdf/epub file format into HTML
2. Implementing the same structure for two different file formats - pdf and epub
3. Providing a swipe option as the users traverse through the pages, bookmark facility, and draggable sticky notes that can be used as per the user requirements.
4. Saving the file into 'xyz' format, making it non-readable by other applications, and loading the same data into the system.
5. Incorporating AI Technology for text and audio search, in-built word dictionary, and even read out the text for the readers.
6. Mobile responsiveness with all the web functionalities intact and dynamic pages for easy compatibility on all devices.
7. Minimizing the latency time and load efforts when there is a bigger file upload that may take time.

Result:

While the client has been looking for a way out to meet all the laid down goals and objectives and overcome the inevitable challenges in the process, Skynet Technologies came to the rescue. With our services, we helped our clients to gain double subscriptions and increase sales by 200%.

1. We've used PDFJS and BackboneJs to read the PDF and Epub files respectively and convert them into HTML format. We also use ghost script with ImageMagick library for storing them into the server.
2. Once the files are converted into HTML format, we've defined a common structure for both PDF and Epub files and convert their default structure into our structure.
3. We've used HammerJs for easy swipe options, saved the bookmark pages into the user database for easy retrieval, and created our own function using jQuery UI for a drag-and-drop sticky note functionality.
4. The entire data is encrypted while saving the pages and converted into 'xyz' format. We also provided another extra layer of security by encrypting the local data at the application end and disabled the developer tools on the browser.
5. Using AI technology and Deep learning, we've eased the search function, know the meaning of the words with a single tap. We've also used Google Text-to-Speech(gTTS) libraries for text to audio file conversions.
6. We've also created a script for styling and user annotations to dynamically improve the mobile experience for the readers.
7. We chose to load only one page at a time and keep the other pages in the backend to minimize the load time.

Tools and Technologies Used

We have been committed to excellence and have enough expertise in web development applications.

- Backend - Laravel(PHP Framework), advanced PHP libraries such as ghost script, ImageMagick.
- Frontend - jQuery UI, PDFJS, JSPDF, Hammer JS, Backbone JS
- Database - MySQL
- Design - BootStrap
- AI - Python with PyTorch and gTTS libraries
- Team Collaboration - Trello

We also conduct Beta testing and maintain regular client interactions for feedback and improvisation to accelerate the development process.

Our Coveted Team

We have brilliant technical excellence in designing, developing the interactive architectural interface.

- Dedicated Project Manager
- Certified Web Developers
- Creative Designers
- Shrewd QA and Testing Teams

Project Completion Time - Six months approximately.

Agile Methodology

While the challenges are huge but not insurmountable, at least not for us. Our approach began with understanding the vision of the company while we were brainstorming over the application requirements. We adhered to the Agile methodology to keep pace with the rapid application deployments in the face of changing requirements. We successfully developed the AI eBook Reader app within the stipulated time and pre-defined budgets. We helped clients meet their sales goals and subscriptions.

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