



## Case Study



## Upgrading a mature education technology platform to the next generation

A successful edtech platform improves user experience and becomes scalable using modern architecture and technologies



## Executive Summary

---

Technology products not only have to constantly offer new features, but they also have to keep up with ever changing user experience expectations & underlying technological changes. A mature education technology product needed to modernize itself to stay relevant and grow. Our customer spotted the limitations of a long running successful product and engaged us to upgrade their product to the next generation.



## Overview

---

A mature edtech product had tasted a lot of success. It had good content, more than 50 million registered users and marquee customers. But a lot had started to change in the external environment. Online learning had become commonplace. Although our customer definitely had an early mover advantage, with changing external environment, there was more pull for the product. Sensing that it was at the cusp of another huge growth curve, our customer decided to modernize the product to stay relevant & grow. This story covers how GS Lab helped the company make it happen.

## Challenge

---

The product has multiple users viz. teachers, students, parents, schools, district administrators and product administrators.

- There was long awaited list of new features which were hard to implement with the existing architecture.
- The user experience for teachers and administrators needed an upgrade.
- There were challenges in onboarding new institutes:
  1. Integration with different information and school data management systems was difficult.
  2. Importing large volumes of data proved to be a hurdle.
- Several 3<sup>rd</sup> party vendors in the same domain were interested in developing extensions for the platform. But the developer ecosystem was reluctant to commit resources due to out-of-date workflows.
- A complete overhaul of the products is usually expensive. For each action, RoI has to be computed and justified.
- The product needed stronger access level control across schools, teachers, classes, groups, communities, districts, admins, super admin for artifacts like classes, study material, posts and assignments.

- Due to lack of test cases and code coverage, the product was facing robustness issues.

## Solution

---

We studied the product experience, usage analytics and architecture thoroughly.

1. Performance benchmarking tools were used to identify problem areas. Working with the customer, GS Lab computed ROI for enhancement on different product areas. Together, we decided which parts of the product needed modernization.
2. GS Lab interviewed different stakeholders and studied analytics. We then worked on the user experience of the product.
3. The monolithic architecture was modernized to take advantage of the latest technologies.
4. Modular architecture allowed integration with modern information and data management system
5. Developer workflows and documentation were enhanced.
6. GS Lab modernized the application from UX to development and QA to integrations.
7. We implemented OAuth 2.0 protocol which allowed integration with 3<sup>rd</sup> party products.
8. We designed a strong access control layer to support various layers for different artifacts, some of which are open to public.
9. GS Lab established and owned the entire QA function and focused around creating an automated platform for release testing and reporting, including a 1000+ case-strong daily test suite.
10. Domain experts validated uploaded videos on the platform as part of the QA process.

## Impact

---



**30%**  
Improved  
performance



**100M Users**  
Platform scaled to 100  
million users over time



**~50k**  
Daily  
users

- The product now scales well. The number of users have doubled to 100 million+ without any hiccups.
- There was an immediate jump in daily active users by ~50k due to the release of the much awaited features.
- Bulk uploads and enhancements in onboarding process improved the performance by 30%.
- 4 popular school data management systems now have ready integration mechanisms.
- Owing to 1000+ daily test runs, the product is now extremely robust.
- Many positive reviews were received from teachers, content owners and administrators.
- Streamlining of developer workflows and easy availability of resources have enabled rapid integrations for enhanced functionality.
- The product has gained more users via 3<sup>rd</sup> party vendors/connectors



Great Software Laboratory (GS Lab) has been the technology partner of choice to 100+ organizations across North America, Europe and Asia-Pacific for over 16 years. Leveraging our expertise in 130+ tools & technologies, we have created 300+ 'first-of-its-kind' solutions to real-world problems. Our 'Beyond code' philosophy ensures that we not only push boundaries of existing technologies but also try out newer problem solving approaches to keep our customers one step ahead of their competitors. Our global team of 1200+ employees is adept at creating 'real value' at each stage of the customer growth journey, right from proof-of-concepts to completely scaled up products. For more information about our solutions & offerings, please visit [www.gslab.com](http://www.gslab.com)

Copyright©2020 Great Software Laboratory. All rights reserved. No part of this document may be reproduced, stored in a retrieval system, transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the express written permission from Great Software Laboratory. The information contained herein is subject to change without notice. All other trademarks mentioned herein are the property of their respective owners.

