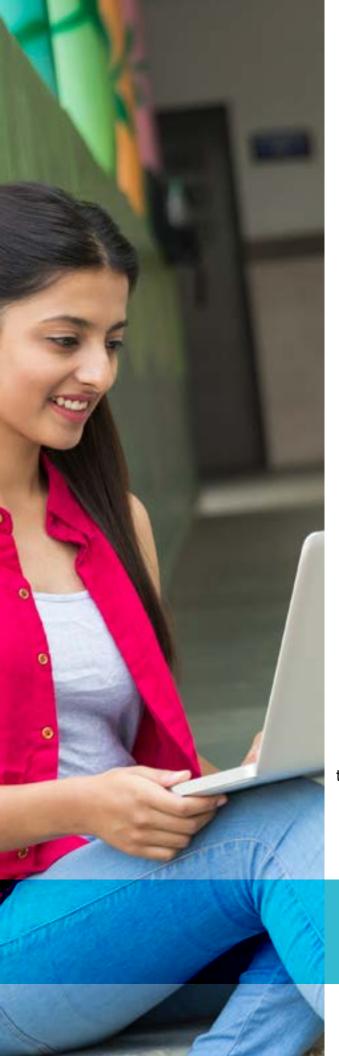




Powering education for the **new normal**



The effects of COVID-19 are growing at an unprecedented scale and speed. This represents a very rare challenge where businesses not only have to respond quickly by assessing their readiness to accommodate the new ways of working but also establish business continuity at pace, and re-innovate the business models.

As the world shifts to virtual ways of doing things, HCL believes there is great opportunity for education providers who step up to respond to challenges now. Analyzing the current situation, we recommend to our customers and partners to not only look at immediate solutions but think beyond to create a cumulative strategy—to emerge as industry leaders.

With HCL's 4R Framework, education providers can start working on all horizons in parallel to emerge as successful businesses and gain an edge against the competition in the post COVID-19 world.

HCL has prepared a COVID-19 emergency response toolkit (CRT) under the 4R framework, offering a holistic blueprint for education providers



HCL has prepared a COVID-19 emergency response toolkit (CRT) under the 4R framework, offering a holistic blueprint for CSPs

COVID-19

Respond to the immediate crisis

Focus on aligning to the new normal

Re-innovate and build for competitive differentiation

Kick off

Survive (respond, redefine)

6 to 8 Weeks

Thrive (redefine, reimagine)

3 to 6 Months

Grow (reimagine, re-innovate)

6 Months +







SURVIVE

- Fluid Digital Workplace
- COVID Helpdesk
- CFO Cockpit (iDashboard)
- PCaaS
- · Remote Proctoring
- Accessibility
 # View HCL's Remote
 Proctoring Video



- ED_{NX} Next Gen OTT
- Interactive Video
- Cyber Security
- Enhanced Digital Marketing
- Enterprise Resilience and Optimization
- Enrollment Forecasting

GROW

- Emerging Industry Alliance
- Enterprise Studio
- Automated Metadata
- Tagging
- Social Enterprise
- Sustain Innovation
- Smart Campus
 # View HCL's Smart Attendance Video

HCL is fully committed to partnering with you to overcome the COVID-19 related challenges and will help in building a roadmap to survive, thrive, and grow during and beyond this pandemic:



Augment and integrate with your task forces



Assess current state



Plan for leveraging current resources



Digital enablement for effective learning



Comprehensive plan for the new normal in education

Why HCL



Enabled 95% of 150K HCL ideapreneurs to operate in secure work-from-home environment #COVID-19 with zero service disruption



Strategic alignment to your goals, leveraging investments in innovation and operation. 100+patents, \$40Mn investment in automation, scaled agile, and other emerging technologies



Strong ecosystem to bring in varied experiences across Education Publishers, Professional Information Providers, ISVs, University, Assessment Boards, Corporate Learning



Globally distributed, 600-location across 45-countires to ensure high continuity and scale



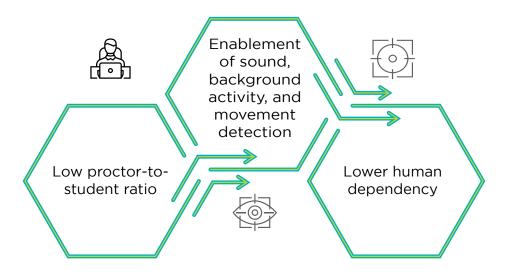
Strategic, long-term partner to Fortune 500 companies

As the COVID-19 pandemic continues to impact global health rapidly, the extended repercussions are also being felt by many industries including the education ecosystem. While the day-to-day functioning of education and publishing industry has been affected globally, there is a growing concern of the pandemic leading to school dropouts. There is a need, now more than ever, to identify students that are at high risk of dropping out so that appropriate and timely remediation is done.

Since the past two decades, HCL has always been committed to providing our clients with best-in-class solutions based on market needs and challenges. We believe in innovating and investing for learning so that our customers in this domain are better equipped to provide seamless and uninterrupted education.



Why Remote Proctoring



The global computer-based assessment market is worth an estimated USD 42 billion. It is expected to grow due to the increasing internationalization of education.

The market for **online remote proctoring and remote invigilation** is predicted to **reach USD 10 billion** by **2026**, covering areas such as education, vocation, corporate, and training. The remote invigilation market is estimated to be worth **USD 60 million per annum in the United States alone.**

What is

HCL's Online Remote Proctoring solution

HCL's Online Remote Proctoring solution is backed by Artificial Intelligence (AI) / Machine Learning (ML) remote monitoring and management, where the students can take assessment in a regulated environment in the comfort of their home. Various types of control measures are available in such remotely proctored exams depending on the scalability and severity of examinations taken.



HCL's Remote Proctoring solution features

Identity Check

- Scrutinize the presence of an impersonator
- Check examinee's identity with the corresponding registered identity
- Compare it against the list of registered students
- Alert the authorities in case of any mismatch

Assessment On-boarding

- Read out the terms and conditions before commencement of the remotely proctored exam
- Environment check of the examinee (presence of unwanted material, objects, and people)

Adverse Sounds

- Track decibel level during examination.
- Raise an alarm when the decibel level surpasses the defined threshold.

Unfair Means

- Scan for unauthorized possessed objects.
- Compare it against the list of prohibited/ undesired objects.

Student Focus

- Capture the prolonged deviation and track multiple deviation from the desired focus.
- Track adverse movement (hand movement, and head and eye rotation) in the class.

Monitoring

- Monitor the potential cheating scenarios such as:
 - · Adverse movement.
 - Adverse sounds.
 - · Background activities.
 - · Using unfair means



Background Movement

- Analyze the background activities of the exam hall.
- Notify authorities in case of discrepancies.



View HCL's Remote Proctoring solution video to understand how **HCL's Al-enabled Remote Proctoring solution** can benefit your organization



HCL's EDNX

HCL's EDNX solution is an OTT-based video streaming solution for improved learning opportunities covering different facets of student life across multiple touch points. This OTT solution offers continued learning at a self-directed pace with the help of personalized content recommendations. The OTT platform helps students connect to subject matter experts as well as live streaming of faculty lectures on an one-on-one basis. The OTT solution offers an industry connect portal to help students gain exposure through insights from experts and alumni. It also helps analyze and predict the student engagement index based on content consumption, time spent, activities completed, and study patterns.

The OTT solution can be used across revenue models: SVOD/TVOD/AVOD



Features

The OTT video streaming solution has the following key features:



It facilitates live faculty sessions to enable distant learning. It also allows students to take notes and tag teachers on queries via text/audio. The platform offers an industry connect portal for career guidance and industry-related updates.



It houses a smart repository for learning videos, animated learning content, and subject-wise recorded faculty lectures processed with AI/ML-enabled metadata to ensure rich and easily searchable content.



The solution caters to content recommendations to ensure continued learning and student engagement. These recommendations are based on intrinsic factors such as content consumption pattern and extrinsic factors such as upcoming literary events.



It determines the student engagement index based on study patterns, courses completed, timely assignment submissions, and the number of attended webinars.

Revenue models

The solution enables multi-format revenue models depending on business needs and flexibly integrates the customer with the current landscape:



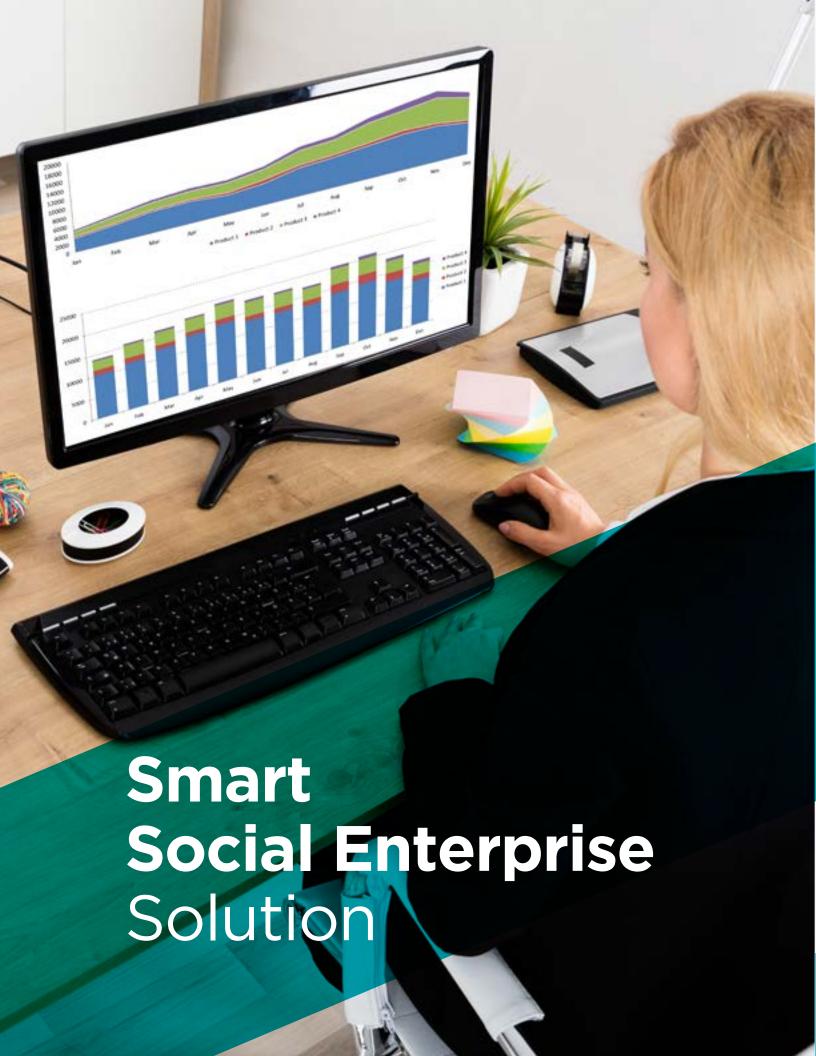
SVOD - A subscriptionbased model allows students to subscribe to educational reference material without any interruption. It also works as a relatively secured revenue stream for universities.



AVOD - An ad-based revenue model permits educational institutions and publishers to distribute opensource content to students at no cost. AVOD helps them to balance the revenue stream from advertisements to accommodate free access to materials.



TVOD - A transactionbased model offers universities to allow access to global webinars or specialized courses on a pay-per-use basis.



A Social Enterprise is necessitated by high school dropouts- 'The Silent Epidemic', as christened by the Bill & Melinda Gates Foundation

Every year, over 1.2 million students drop out of high school in the United States alone. That's a student every 26 seconds - or 7,000 a day

About 25% of high school freshmen fail to graduate from high school on time

The U.S
which had some
of the highest graduation
rates of any developed
country, now ranks 22nd
out of 27 developed
countries in this regard

Almost 2,000 high schools across the U.S. graduate less than 60% of their students.

What is

HCL's Social Enterprise solution

HCL's Social Enterprise solution is envisioned to build an online platform for schools and states which can provide:

- Indication of a potential high school dropout/failure case based on current and historical data of students' cognitive skills, customizable list of noncognitive skills, and socio-economic background
- Recommendation of an apt solution for identified students by creating a crowdsourced platform for different participating entities
- **Tracking of student progress** across academic, economic, and other parameters. The platform further recommends remedial steps for 'at-risk' students.

The Path to a **Social Enterprise**

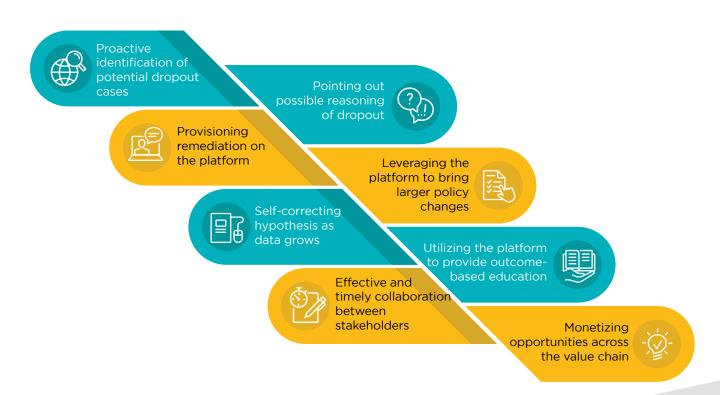
HCL's understanding of dropout impact parameters

Numerous reports established the following:

- Cognitive skills have a direct impact on dropouts
- However, non-cognitive skills couldn't be ignored as it leads to the decision of dropping out
- Socio-economic factors make students behave in a particular way

Benefits of

HCL's Social Enterprise solution





The growing need for an analytical framework is to understand student's attentiveness and performance correlation with faculty's teaching methodology. Facilitating classrooms with Smart Class features like monitoring has been every education institution's need.

HCL's Smart Class solution

The HCL Smart Class solution facilitates intelligent monitoring of student behavior, class engagement and attentiveness. It tracks the assessments by means of computer aided vision, facial recognition, and movement analysis.

A few key features of HCL's Smart Class solution are listed below:

- Automated capturing of attendance through facial recognition
- Tracking attentiveness of students based on their head/ hand movements toward or away from the teacher to improvise the engagement between students and teachers.
- Capturing students' moods (happy, sad, confused, scared, angry, and neutral) by understanding their interest in the classroom, and gauge the effectiveness of teaching methodology. It can also analyze mood charts against their attendance and attentiveness, and understand students' concerns.
- Tracking student activities in class reading, listening, level.



Smart Class Offerings



- Attendance
- Attentiveness
- Mood
- Teaching methodology
- Adverse movement
- Hazardous object
- Activity/movement tracking
- Emergency situation



- Examinee verification and presence
- Assessment on-boarding
- Monitoring
- Adverse movement
- Compromised object
- Student focus deviation
- Background movement

Monitoring

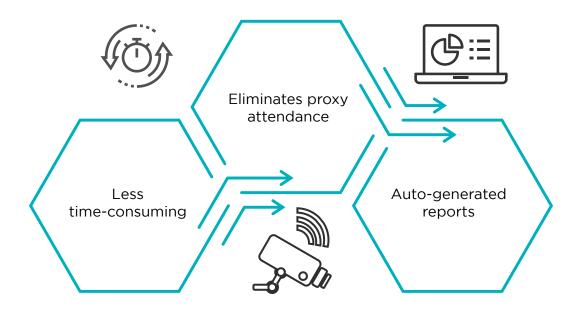


Proctoring





Why Smart Attendance



The traditional attendance method involves an average of 8.93 ± 1.06 minutes, which is approximately 15% of the total time of the one-hour lecture.

Additionally, there is a need for an **analytical** framework to understand the student's attentiveness and performance correlation with the faculty's teaching methodology.



View HCL's Smart Attendance Solution Video

What is HCL's Smart Attendance solution

A technology-driven smart attendance management system which enhances class engagement and draws a correlation between the student's performance and his attendance track records.

It encourages
more class
interaction by
reducing manual
efforts consumed
in the attendance
process

It encapsulates
facial recognition
technology to
capture students'
face images and
match it against
the registered
photo ID

HCL's Smart
Attendance solution
is designed to
protect student
privacy and is
EuroPriSe-certified.
It ensures a
protective and safe
environment for
storing students'
data

It facilitates
auto generation
of reports and
helps to drive
a correlation
between student
performance
and attendance
status

HCL's Smart Attendance Solution features



- Records the student's face image
- Enhances the image captured using an image enhancement tool.
- The refined image is then sent for face matching



- The refined image is matched against the registered student ID photo
- Student's attendance is marked as per the match results
- In case the image matches, the student is marked present, otherwise absent



- The attendance report is auto generated and sent to the teacher
- The report details out the total number of students, present and absent on a particular date and subject
- The provision of an analytical framework helps to correlate attendance with performance



- A notification is sent to the admin and parents when a student misses more than three classes (customizable per the client's business rules)
- Email/SMS notification is facilitated
- Human intervention/ counselling sessions on a need basis to address critical situations

We look forward to initiate discussions with you leveraging HCL's 4R framework and start building the roadmap today, for better tomorrow. To know more: **cs_marketing@hcl.com**



Hello there! I am an Ideapreneur. I believe that sustainable business outcomes are driven by relationships nurtured through values like trust, transparency and flexibility. I respect the contract, but believe in going beyond through collaboration, applied innovation and new generation partnership models that put your interest above everything else. Right now 150,000 Ideapreneurs are in a Relationship Beyond the Contract™ with 500 customers in 46 countries. How can I help you?

