


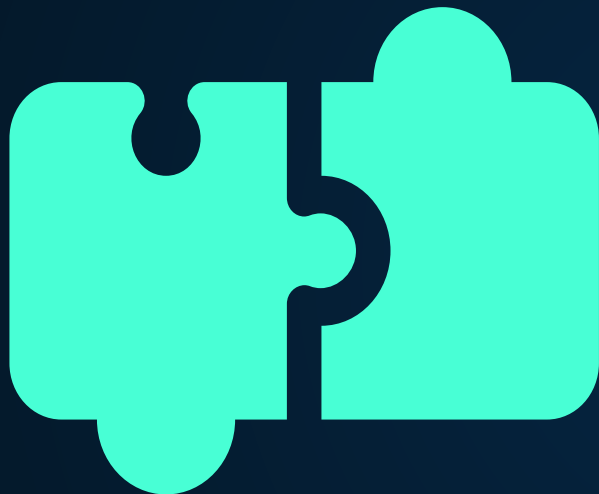


**IBM**  
**Reimagine <Future>**  
**Hackathon**  
**(Education)**

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# PROBLEM STATEMENT

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Education in the post COVID world would see the technology enabled redesigning of the experience for educators and students. Schools and universities will see adoption of blended learning methodologies with an increased focus on online learning content and remote learning methodologies. Technology enabled solutions will revamp Learning Management Systems and simplify tasks like attendance tracking, designing question papers and grading/assessments. There is a need for creative ways to bridge the digital divide and make education accessible for students in rural areas too.

Propose innovative strategies such as smart ed-tech solutions powered by AI to create personalised learning experiences with focus on student engagement through immersive experiences using Virtual Reality and Gamification using IBM Cloud.



# SOLUTION

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Website which will allow students and teachers to access to a platform from anywhere, and will provide them a platform where they can interact with each other properly and effectively. Some of the features it includes:

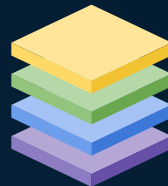
- Video conferencing (with time limit).
- Take attendance records on daily basis.
- Space for assignment submission (with time limit set as per time required).
- Poll system ( so that teacher can know what majority wants regarding particular issue).
- Notification (as per requirement).

# CHALLENGES

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1. To empower education in rural areas.
  - To fulfill it, the most efficient way we think is to develop a dedicated website which will be lot more versatile when talking about device compatibility and accessibility.
2. Notifications and Updates in the regions with low internet connectivity.
  - We can overcome this difficulty by providing notifications not only through our website but also via SMS, MMS, etc.
3. To make education more engaging and interesting!
  - This is the most important factor one need to consider while providing the solution. So, we have come across some of the ways like, ranking system based upon the performance on the platform, For example, for a student, the number question solved, attendance and even timely assignment submission, being active on the platform for minimum of about 1 hour, etc.
4. How can we monitor our users?
  - As we have mentioned in our solution we have incorporated several methods, some of them includes; Attendance tracking system , Assignment system, Poll system, etc. All of these involves storing of data in some databases or cloud storage (IBM Cloud).

# TECH STACKS



## BACKEND :

- Node.js
- Express.js
- Mongoose

## FRONTEND :

- HTML + CSS
- EJS
- JavaScript

## DATABASE :

- MongoDB

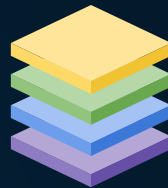
## CLOUD USED :

- IBM Cloud



# WHY THESE TECH STACKS?

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- We have decided to go for the MEEN (MongoDB, Express.js, EJS, and Node.js) stack.
- MongoDB because it will allow us the flexibility and potential for scalability that SQL-based databases usually cannot, at least not without significant reworking.
- EJS provides us a lot of features of React, but without the need of including another heavy framework. EJS support is baked into Node.js.
- Node.js is very scalable and ties in very well with the rest of our choices.



# SOCIETAL IMPACT

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- A fully integrated learning system will allow the teachers and students to access most of their “offline” learning tools at a single place, merging most of the functionality of platforms like Moodle, Google Classroom, Microsoft Teams, among others.
- This will potentially save a lot of time that is spent in jumping from one platform to another.
- Attendance is usually taken by the teachers by downloading the attendance list of each class from the different meeting apps, but our integrated platform will ensure that keeping track of the attendances becomes far more organised, akin to a physical class room’s register notebook.
- One single place for teachers to upload the tests and assignments and students to answer them will reduce a lot of hassle that goes into mailing the answer scripts to the teachers and vice versa.
- We plan to have MMS/SMS integration in the service, which will help people in rural areas with spotty and limited internet bandwidth to sit for exams, submit assignments, receive important communication, and the like.
- Our platform will also have an integrated meeting service, which will make other meeting platforms redundant.





# FUTURE SCOPE

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- In future we will try to integrate an **AI** powered **Chatbot** which will make the platform more interactive and biddable.
- Providing user to customize their dashboard according to their convenience.
- Providing Readable format of the pdfs and the documents in multi languages which will aid the illiterate people to understand the idea presented in these documents.
- Introduction to **Virtual Reality** for more engaged learning!

# **THE TEAM**

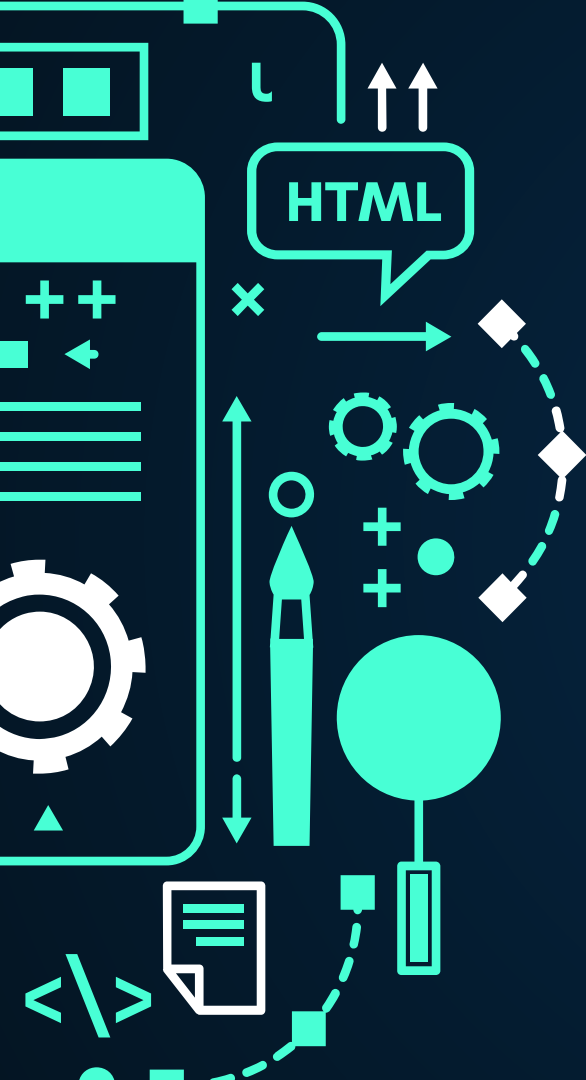
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# THANK YOU!