



# Assessments at Scale

**Is Tech The Driver?**

Tech4Impact Non-Profit Convergence  
Mumbai, 12th Sep. 2025  
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# AF Mission

Help students lift themselves & their families out of poverty in a ***single generation*** by helping them qualify to ***quality professional undergraduate courses*** & develop the skills needed to build successful careers

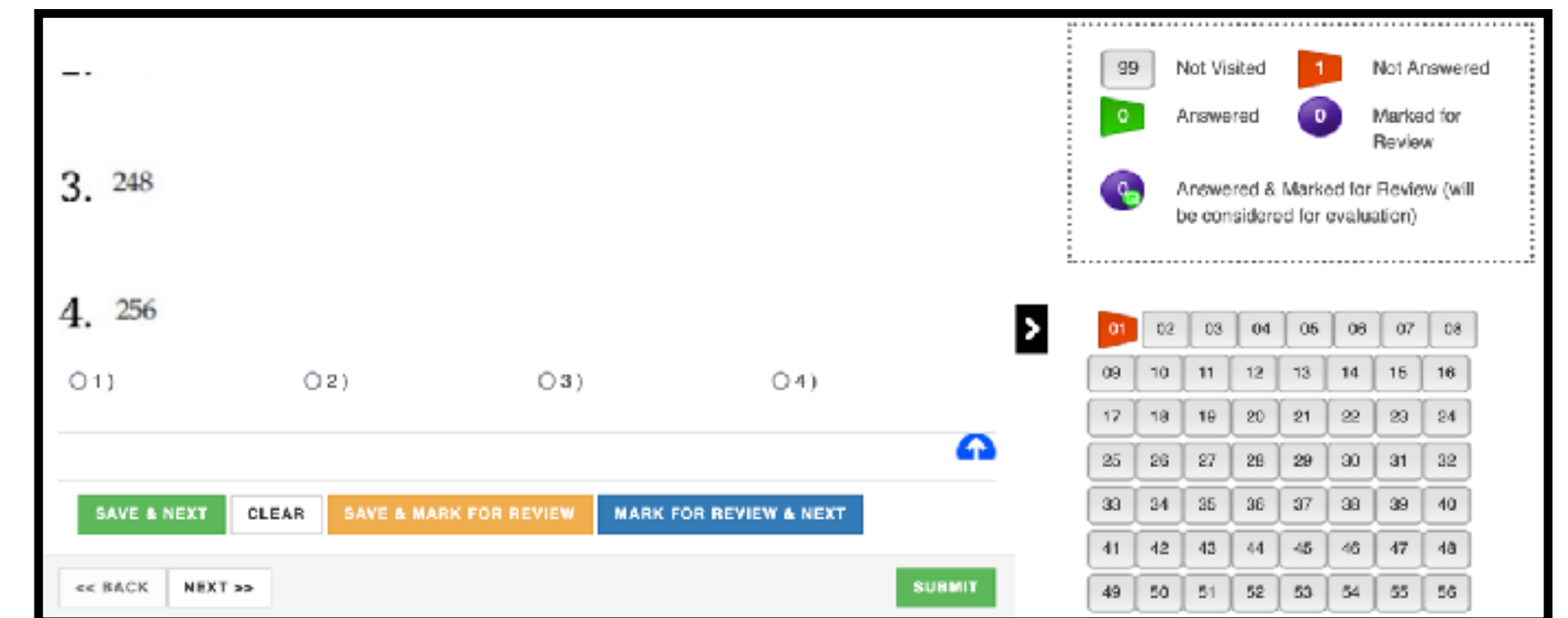
## TestPrep Offline

- After-school hours
- Class 11 & 12
- JNV Nodal, JNV CoE, TN SoE
- *High touch*: Teacher feedback, Worksheets

## TestPrep Online

- After-school hours
- Class 11 & 12
- Punjab, Delhi, UTK
- *Low touch*: Free online tutoring, Tech Interventions

# Quiz Engine for Assessments



NTA Web Application with ~20 sample papers

Quiz Engine is **Open Source!**

Contributions from interns we found through the **Code for GovTech (C4GT)** program.



# Variations of Quiz Engine

00:58:57

End Test

Pune 12: FC Road ... Id: test\_admin

Q.1 | Single Choice Chemistry

The 'spin-only' magnetic moment [in units of Bohr magneton, ( $\mu_B$ )], of  $Ni^{2+}$  would be (Atomic number of  $Ni = 28$ )

☐ 2.82

☒ 4.90

☐ 0

☐ 1.73

NOT ANSWERED

<

>

Clear

Review >

Save & Next

Assessment

Review: HP GRADE ... Id: test\_count\_1

Q.3 | Single Choice Total Questions: 4

If person A can complete a task in 12 days, how many days will it take for person B to complete the same task if B works twice as fast as A?

☒ 6 days

☐ 12 days

☐ 24 days

**Solution:**

Since B works twice as fast as A, B will take half the time A takes to complete the task. Therefore, B will take 6 days.

<

Continue

Homework

00:58:09

End Test

Pune 12: FC Road ... Id: test\_admin

Chemistry

MCQs with SINGLE correct option  
Correct: +4, Wrong: -1, Skipped: 0  
You may attempt all questions in this section.

Q.1:

☐ A

☐ B

☐ C

☐ D

Q.2:

☐ A

☐ B

☐ C

☐ D

Q.3:

☐ A

☐ B

☐ C

☐ D

Q.4:

☐ A

☐ B

☐ C

☐ D

Digital OMR

Student Profile Base... Id: test\_vis

Q.9 | Matrix Numerical Input Total Questions: 66

What is your academic goal for Grade 11? Enter a percentage value out of 100. Enter 00 if you do not have Mathematics/Biology as a subject

Item	Value
Math	<input type="text" value="80"/>
Physics	<input type="text" value="85"/>
Chemistry	<input type="text" value="90"/>
Biology	<input type="text" value="90"/>
English	<input type="text" value="90"/>

<

Save >

Questionnaire



# Another Variation with an AI Intervention

HP GRADE 9 FOUN... Id: test\_count\_1

Q.3 | Single Choice Maths

A तीन-चौथाई समय में उससे आधा काम करता है। यदि उन्हें मिलकर काम पूरा करने में 18 दिन लगते हैं, तो B को इसे पूरा करने में कितना समय लेगा?

A does half as much work as B in three-fourth of the time. If together they take 18 days to complete the work, how much time shall B take to do it?

☒ 30 days

☐ 35 days

☐ 40 days

☐ None of these

GPT-4o

Review: HP GRADE ... Id: test\_count\_1

Q.3 | Single Choice Total Questions: 4

If person A can complete a task in 12 days, how many days will it take for person B to complete the same task if B works twice as fast as A?

☒ 6 days

☐ 12 days

☐ 24 days

**Solution:**

Since B works twice as fast as A, B will take half the time A takes to complete the task. Therefore, B will take 6 days.

< Continue

Review: HP GRADE ... Id: test\_count\_1

Q.3 | Single Choice Total Questions: 4

Is it true that if one person does half the work of another in the same amount of time, they will take twice as long to complete the same task alone?

☐ Yes

☒ No

**Solution:**

If one person does half the work of another in the same amount of time, they will indeed take twice as long to complete the same task alone. This is because the rate of work is directly proportional to the time taken.

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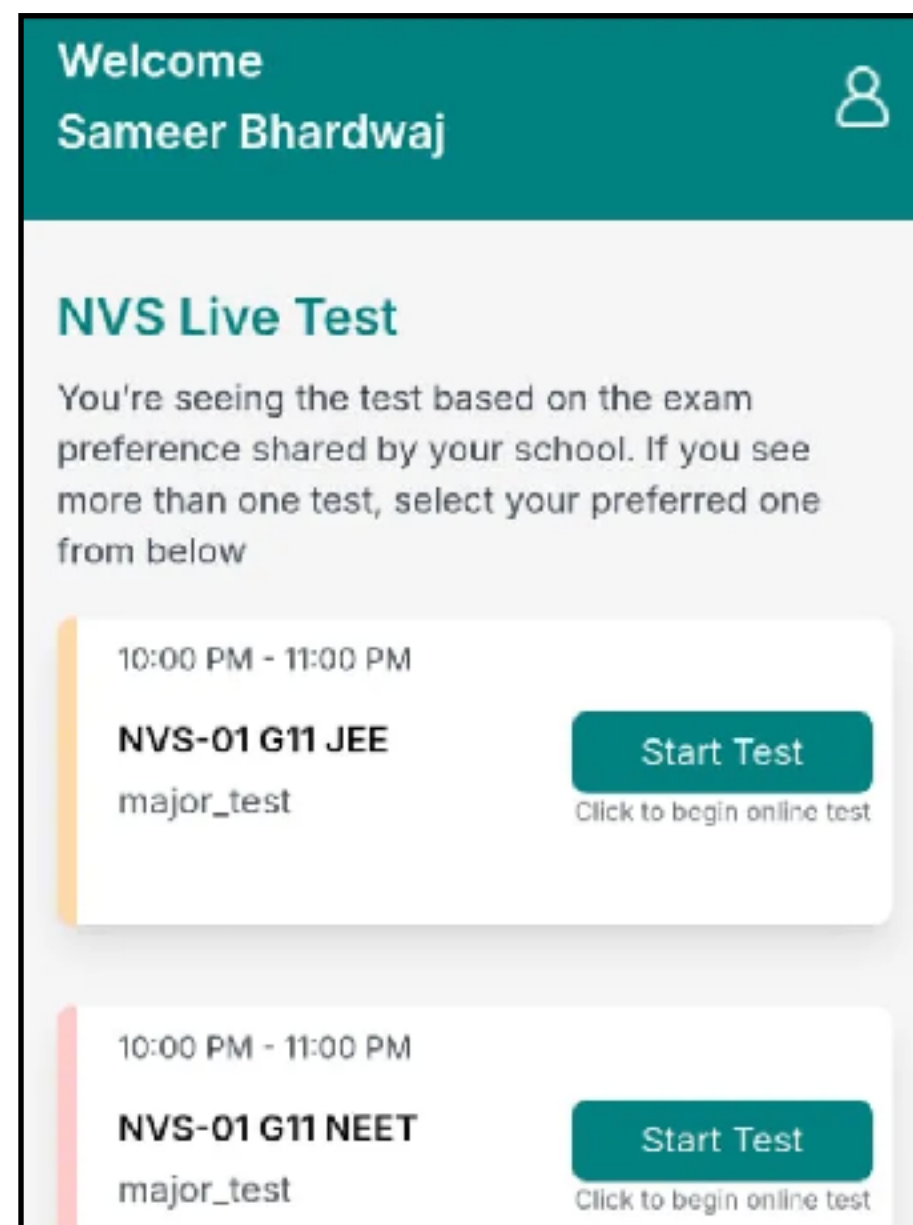
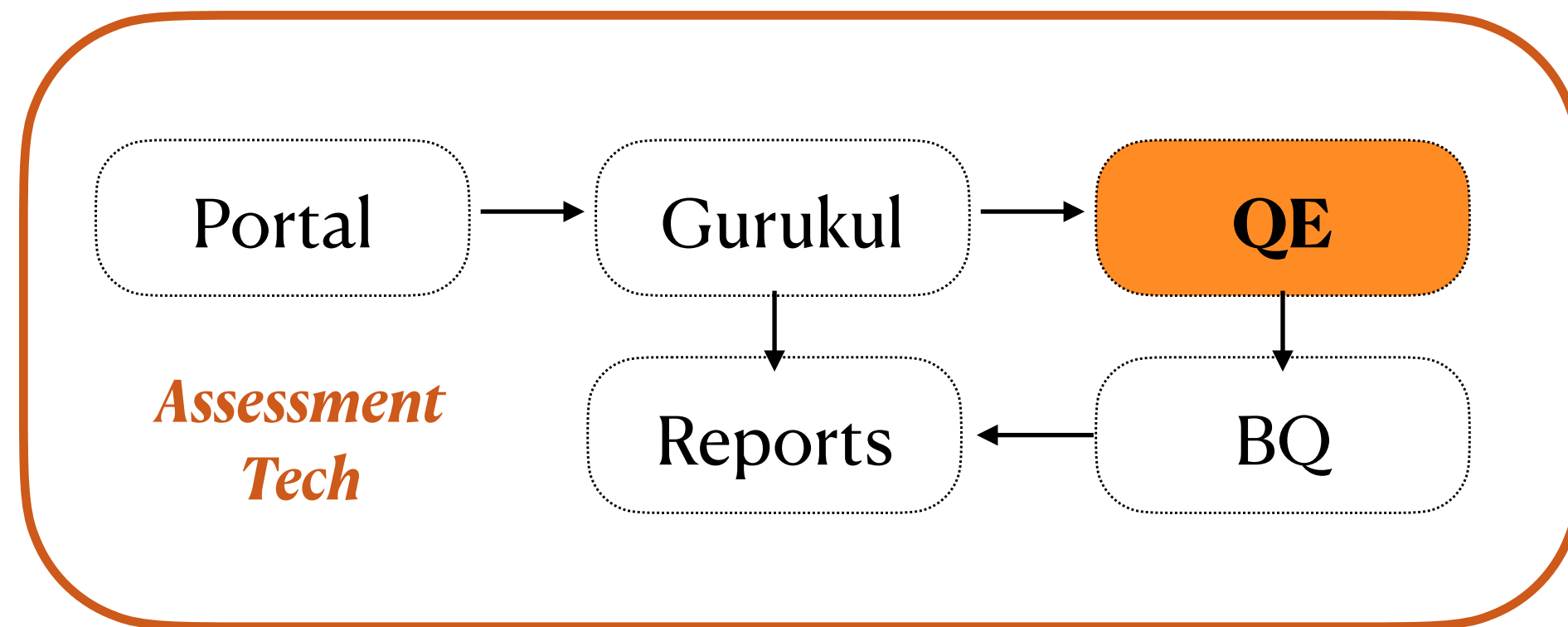
RAIL Fellowship  
with Digital Futures  
Lab

Inactive Learning: Immediately  
view the correct answer

**Delayed Feedback:** Answer a simpler  
pedagogical question or a Yes/No question



# QE: A Simple Microservice



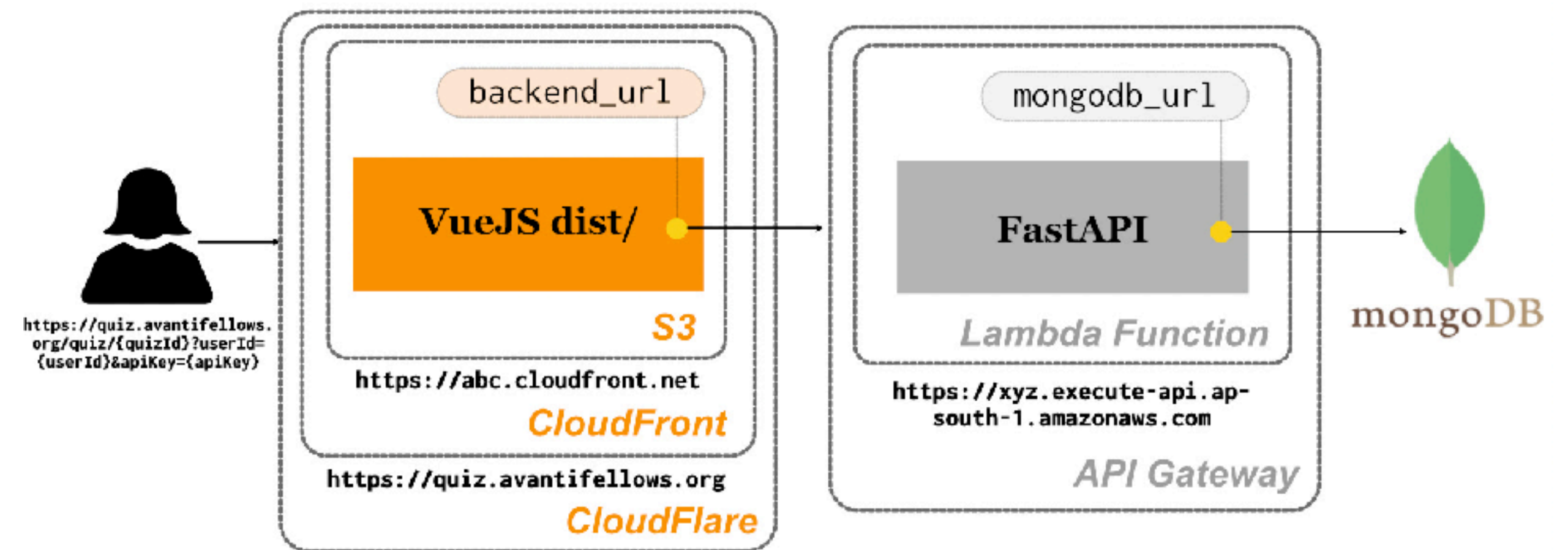
Student ID: test\_rahul

0% DELHI Dropper Batch JEE PT-1  
2023-08-13

[Click here to review your answers](#)

**OVERALL PERFORMANCE**

Marks	-6
Unattempted	59
Wrong Answers	14
Correct Answers	2
Partially Correct	0
Percentage	0
Accuracy	12.5



Infrastructure: Lambda Function + S3 + Mongo

Tech4Dev is building **Sashakt**

Enterprise-grade Open Source Monolith\*  
Infrastructure: EC2 + S3 + Postgres DB



# NVS Assessment: A Recent Example

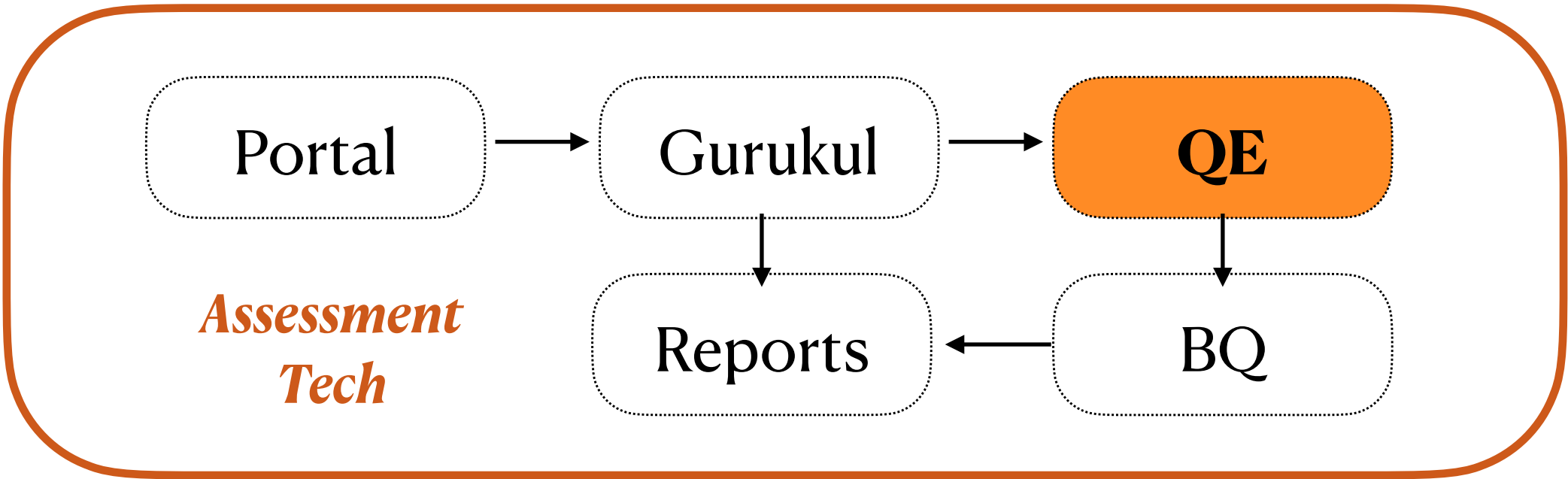
- In the previous academic year, we had **five lakh** test attempts across all programs.
- In the first week of September alone, we've seen **fifty thousand** attempts!
- Reason: System-wide NVS Assessment #1.
  - ~660 JNVs. Say 100 students (Grades 11 & 12) in each JNV => A total of ~68k students.
  - ~60k registrations
  - ~50k test attempts
- Can accommodate 5x more students with the current infrastructure.
  - TN State: assessments for six lakh G11 G12 govt. school students
- Comparison: NTA's JEE Main (2024) **fifteen lakh test attempts**; ~50k users in a session
- Given limited resources, identifying the right set of students turns more crucial for impact.



NVS Test #1 in JNV Hassan



# Did we achieve this scale *solely* through tech?



**Corollary:** Is *Assessment Tech* the most important driver for scale? I think, again, no!

Tech <> Ownership

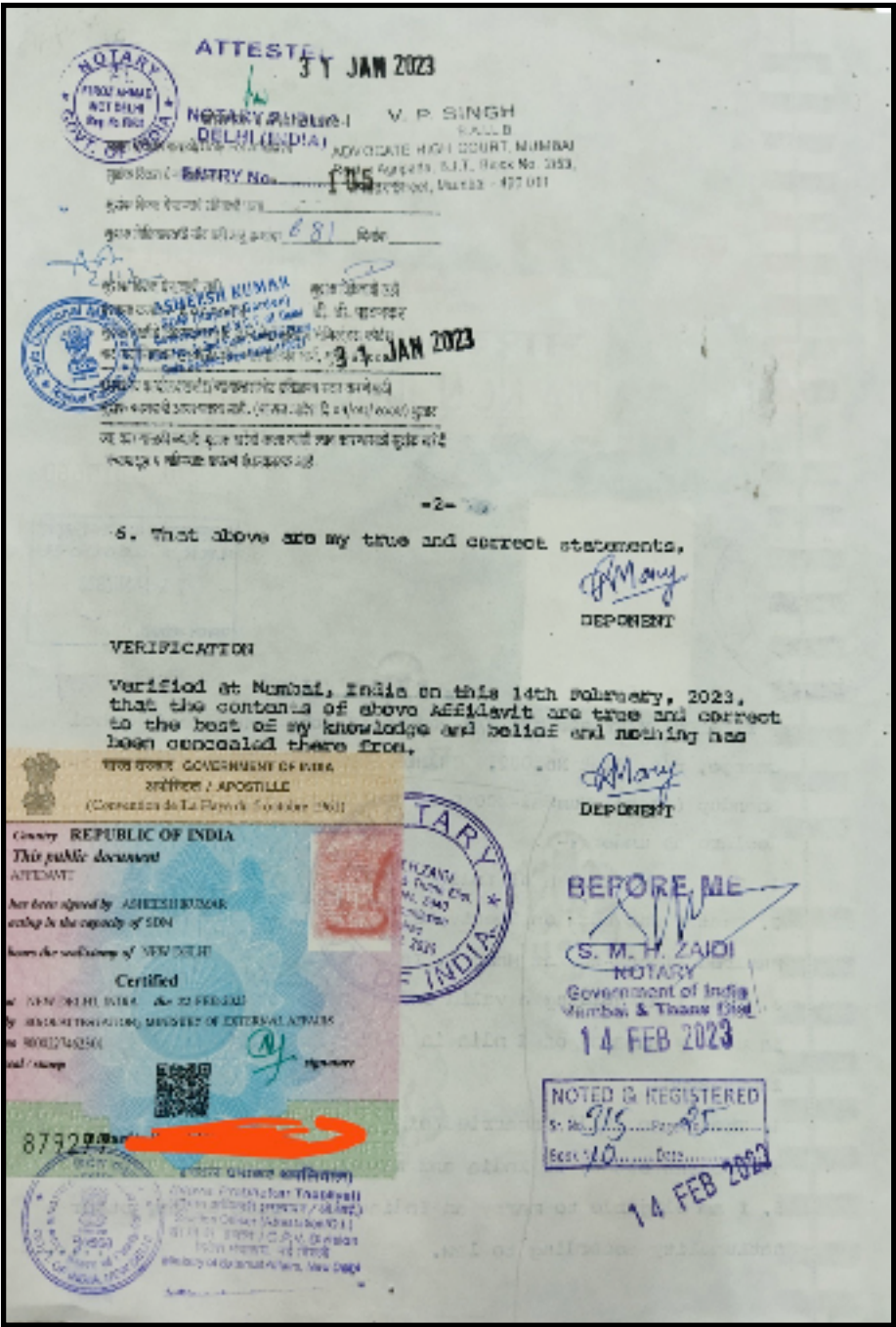
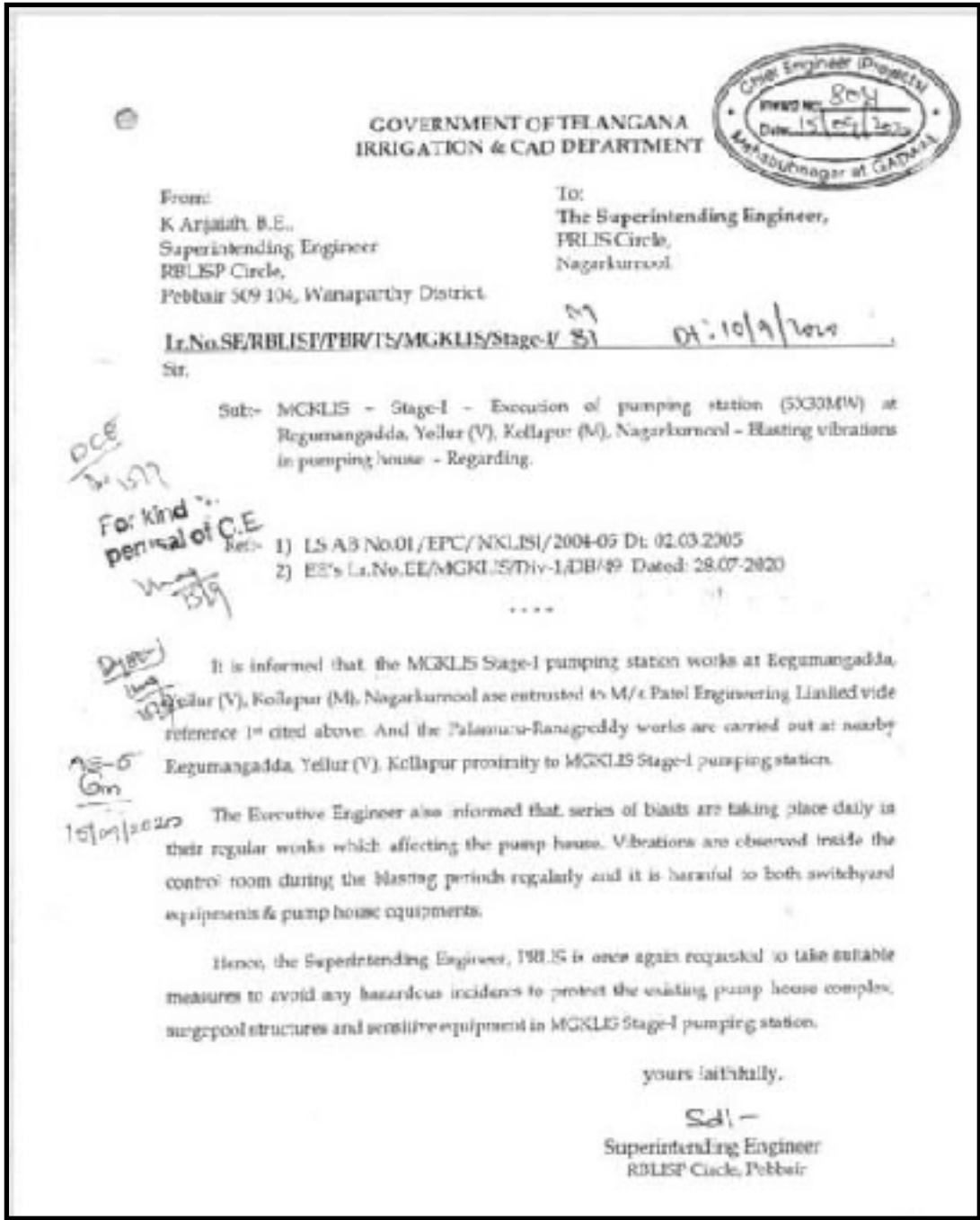
Tech <> Accountability/ Power

**Operations**

Curriculum Research  
Tele calling  
Product Managers  
Teachers  
Program Managers  
Data Analysts

**Bureaucracy**

MIS Data Operators  
Regional Officers  
District Officers  
Principals  
Central NVS Officers  
Education Secretaries



WhatsAppDownload\_2025-09-01\_(1)\_(1).jpeg!



- (1) **Assessment Tech** is simple — both in its function and infrastructure.
- (2) Collaborations: C4GT, Tech4Dev, DFL.
- (3) **Is tech the driver?** It is necessary, but never sufficient. Operations, bureaucratic willingness justifiably play a larger role.



# Thank You!

Slides available  
at [suryabulusu.github.io](https://suryabulusu.github.io)