

Edubridge

Team : AI-e-250453

Prototype Phase

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Overview

EDUBRIDGE is an offline AI-powered educational platform designed to deliver lessons, quizzes, and video content without requiring internet connectivity. The system combines a FastAPI backend with a static frontend to provide a seamless learning experience.

Techstack:

AI MODEL: T5-SMALL.

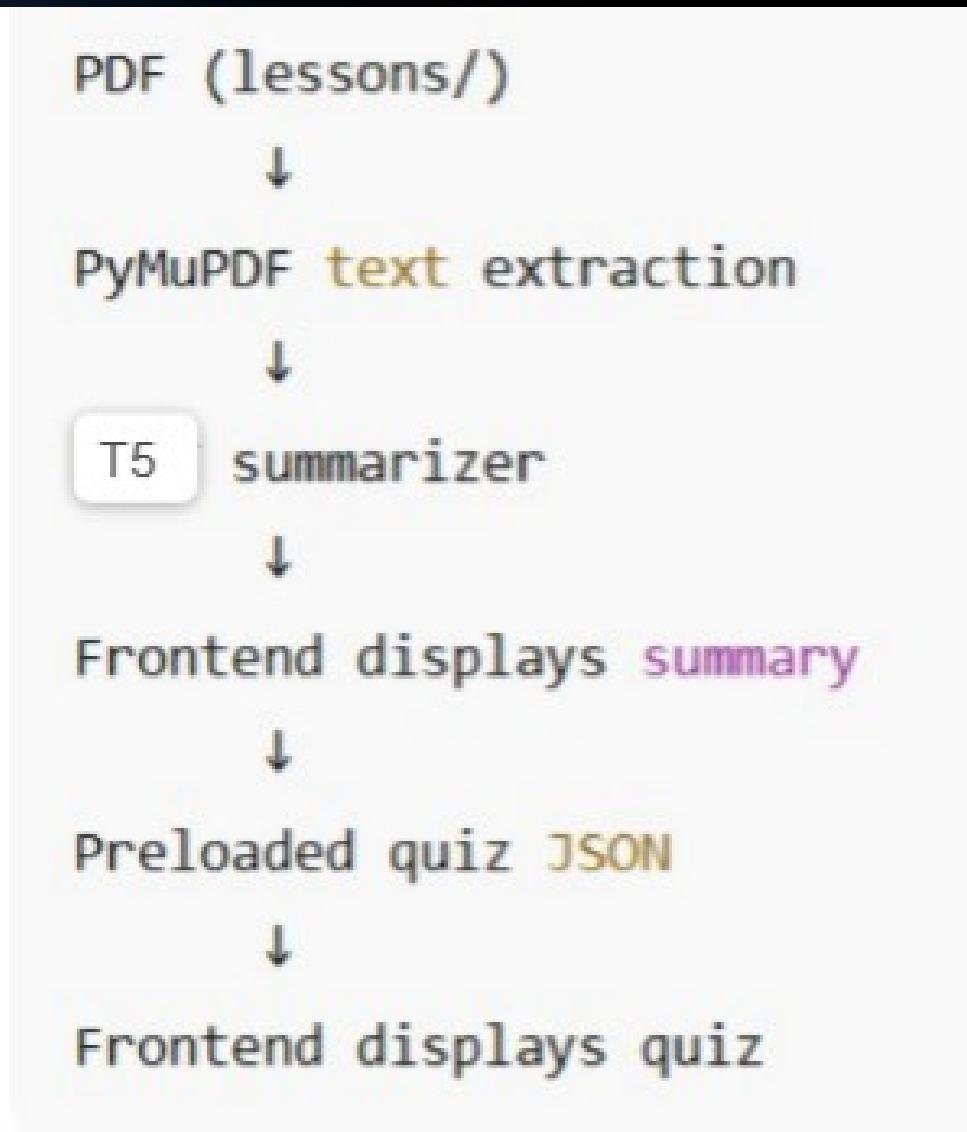
Lessons are projected through pdfs.

Videos are projected of lessons which are preloaded.

Quizes are stored in form of JSON file.

Summary is generated by T5-Small AI model.

AI Pipeline / Prototype Architecture

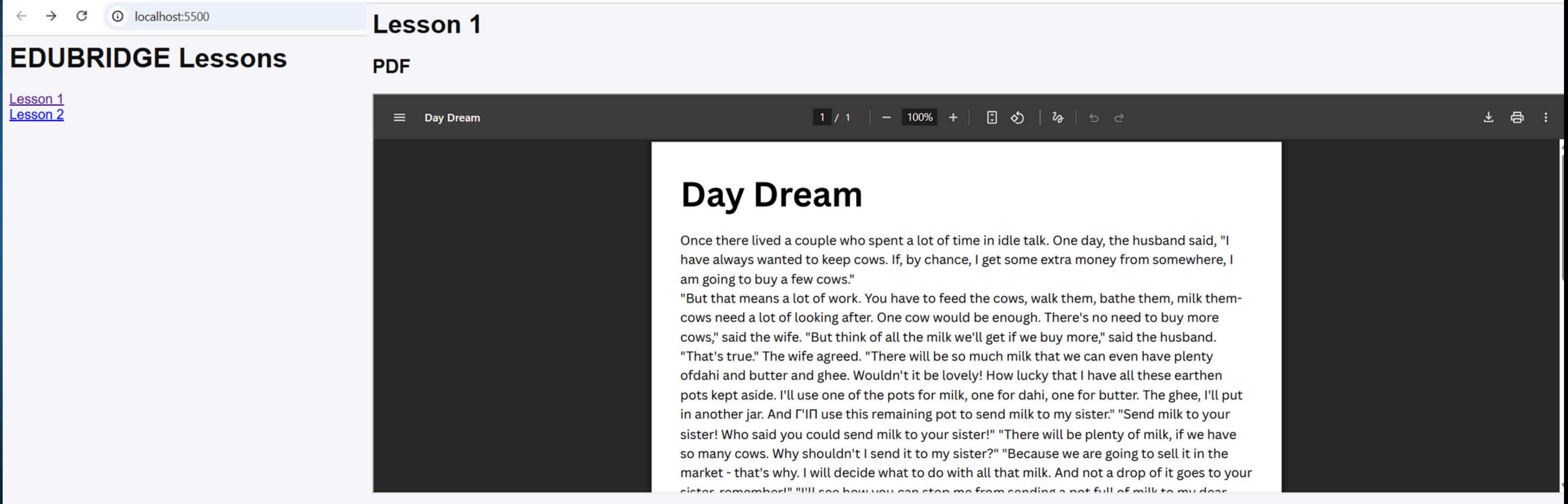


A screenshot of a file explorer window titled "OFFLINE-AI-PLATFORM". The structure is as follows:

- backend
 - __pycache__
 - .venv
- frontend
 - index.html
 - lesson.html
 - lesson.js
 - script.js
 - styles.css
- lessons
 - lesson1.pdf
 - lesson2.pdf
- quizzes
 - lesson1.json
- venv
- videos
 - lesson1.mp4

The "requirements.txt" file is also visible in the main directory.

Prototype:



The screenshot shows a web browser window at `localhost:5500`. The title bar says "Lesson 1" and "PDF". The main content area is titled "Day Dream". The page contains a story about a couple planning to buy cows and the subsequent responsibilities and decisions they face. The browser interface includes a toolbar with icons for zoom, search, and file operations.

EDUBRIDGE Lessons

[Lesson 1](#)
[Lesson 2](#)

Lesson 1

PDF

≡ Day Dream

1 / 1 | - 100% + | ⌂ ⌂ | ⌂ ⌂

Day Dream

Once there lived a couple who spent a lot of time in idle talk. One day, the husband said, "I have always wanted to keep cows. If, by chance, I get some extra money from somewhere, I am going to buy a few cows."

"But that means a lot of work. You have to feed the cows, walk them, bathe them, milk them—cows need a lot of looking after. One cow would be enough. There's no need to buy more cows," said the wife. "But think of all the milk we'll get if we buy more," said the husband.

"That's true!" The wife agreed. "There will be so much milk that we can even have plenty of dahi and butter and ghee. Wouldn't it be lovely! How lucky that I have all these earthen pots kept aside. I'll use one of the pots for milk, one for dahi, one for butter. The ghee, I'll put in another jar. And I'll use this remaining pot to send milk to my sister!" "Send milk to your sister! Who said you could send milk to your sister!" "There will be plenty of milk, if we have so many cows. Why shouldn't I send it to my sister?" "Because we are going to sell it in the market - that's why. I will decide what to do with all that milk. And not a drop of it goes to your sister, remember!" "I'll see how you can stop me from sending a pot full of milk to my dear

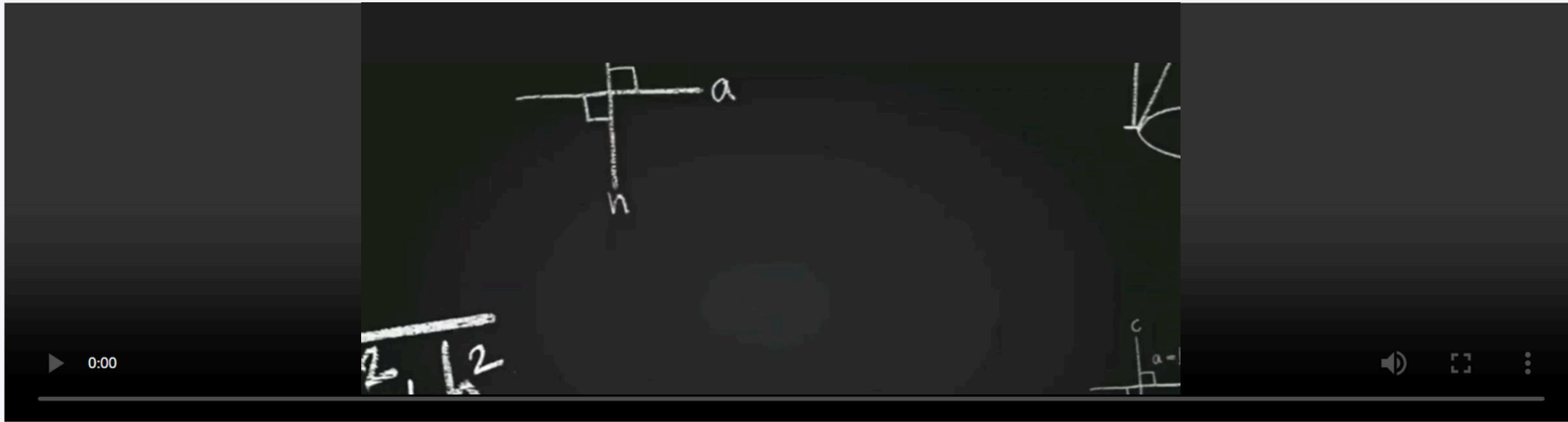
Lessons are projected as PDF

Prototype:

Lesson 1

PDF

Video



Summary

Day Dream

Once there lived a couple who spent a lot of time in idle talk. One day, the husband said, "I have always wanted to keep cows. If, by chance, I get some extra money from somewhere, I am going to buy a few cows."

"But that means a lot of work. You have to feed the cows, walk them, bathe them, milk them—cows need a lot of looking after. One cow would be enough. There's no need to buy more cows," said the wife. "But think of all the milk we'll get if we buy more," said the husband.

"That's true," the wife said. "There will be much milk then."

**Preloaded Videos are played.
and Summary is Generated Through AI Model(T5-Smal)**

Prototype:

```
{ lesson1.json X  
quizzes > {} lesson1.json > ...  
1 {  
2   "questions": [  
3     {  
4       "question": "What was the main topic of the story?",  
5       "A": "A lazy husband",  
6       "B": "A couple dreaming about the future",  
7       "C": "A farmer and his cows",  
8       "D": "A rich merchant",  
9       "answer": "B"  
10      },  
11      {  
12        "question": "What did the husband want?",  
13        "A": "A new house",  
14        "B": "To buy cows",  
15        "C": "To travel",  
16        "D": "To sell milk",  
17        "answer": "B"  
18      }  
19    ]  
20  }  
21 }
```

Quizes are preloaded
in JSON Files

**As a improvement
we just have to
shift our whole
web project into flutter
app and adding feature
of Quiz report and sending it
through whatsapp**



Challenges

Challenge occur while prototype phase is mainly the size of AI Model we used higher model like BART and T5-large their accuracy is higher but they take large size (1.5 GB - 2 GB)

But to solve this challenge we used T5-Small which is small in size (200 mb) we are thinking to shift on T5-Mini (25 mb) it lacks accuracy while summarizing pdf so we extracted text through pdf and then summarize it through the model