

ET 623 PROJECT

**STUDENT
COMPANION**

LEARNING ANALYTICS

TEAM 12

KIRAN, VISHAL, ROMESH

CONTENT

- 01** USER CHALLENGES
- 02** GOALS AND OBJECTIVES
- 03** TECHNICAL CHALLENGES
- 04** STRATEGIES
- 05** RESULT

USER CHALLENGES

WHAT?

- What courses to learn?
- What skills to have?
- What platforms offer courses similar to my interests?

WHICH?

- Which courses align with my budget ?
- Which courses have positive reviews from past students?
- Which courses suit my learning curve?

HOW?

- How can I test my skills and knowledge



GOALS AND OBJECTIVES

Objective 1

Course Recommendation

Content based recommendation using various features and user inputs

Objective 2

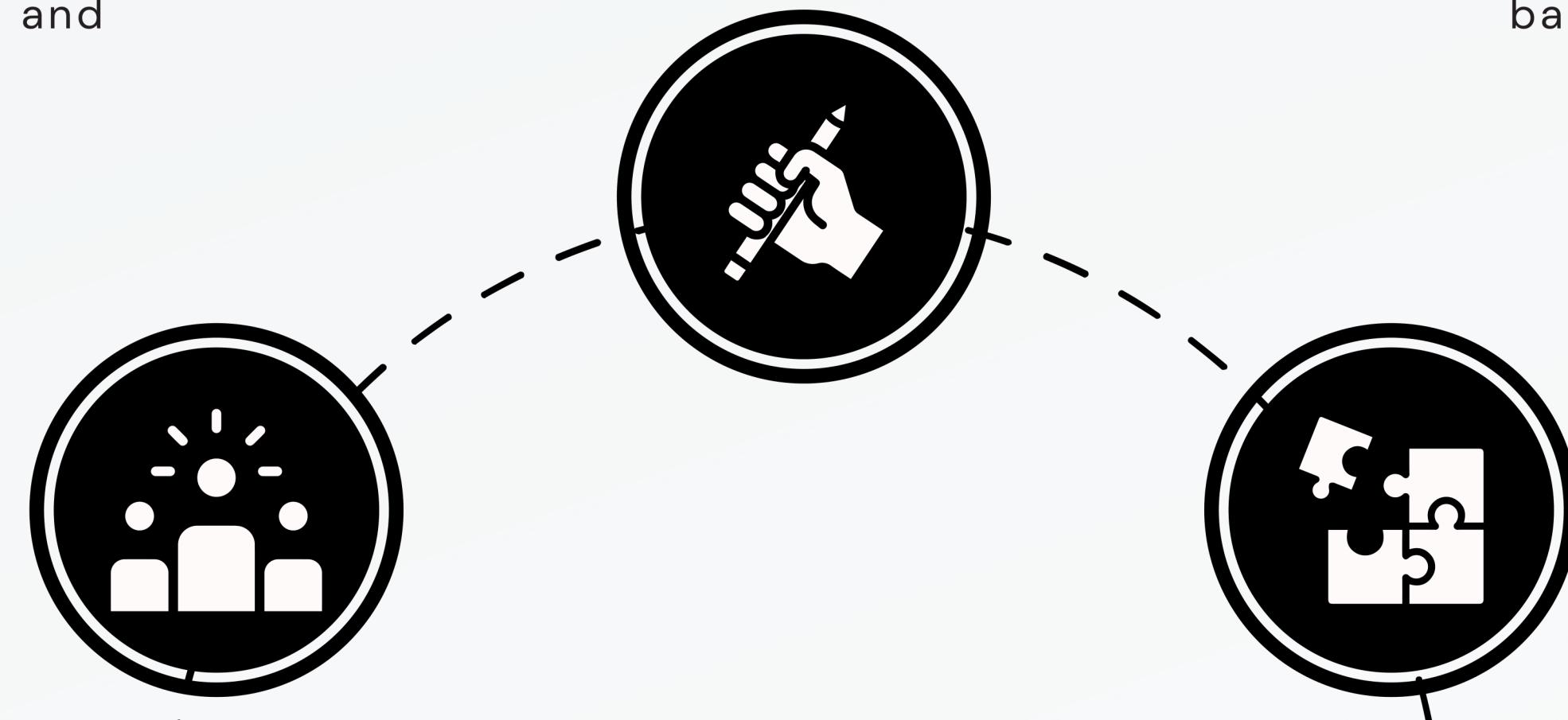
Chatbot for Course

Clear your doubts about specific courses to learn, skills to have, content etc.

Objective 3

Question & Answer Generation

Generate MCQ type Question & Answers based on topics to test your learnings



CHALLENGES



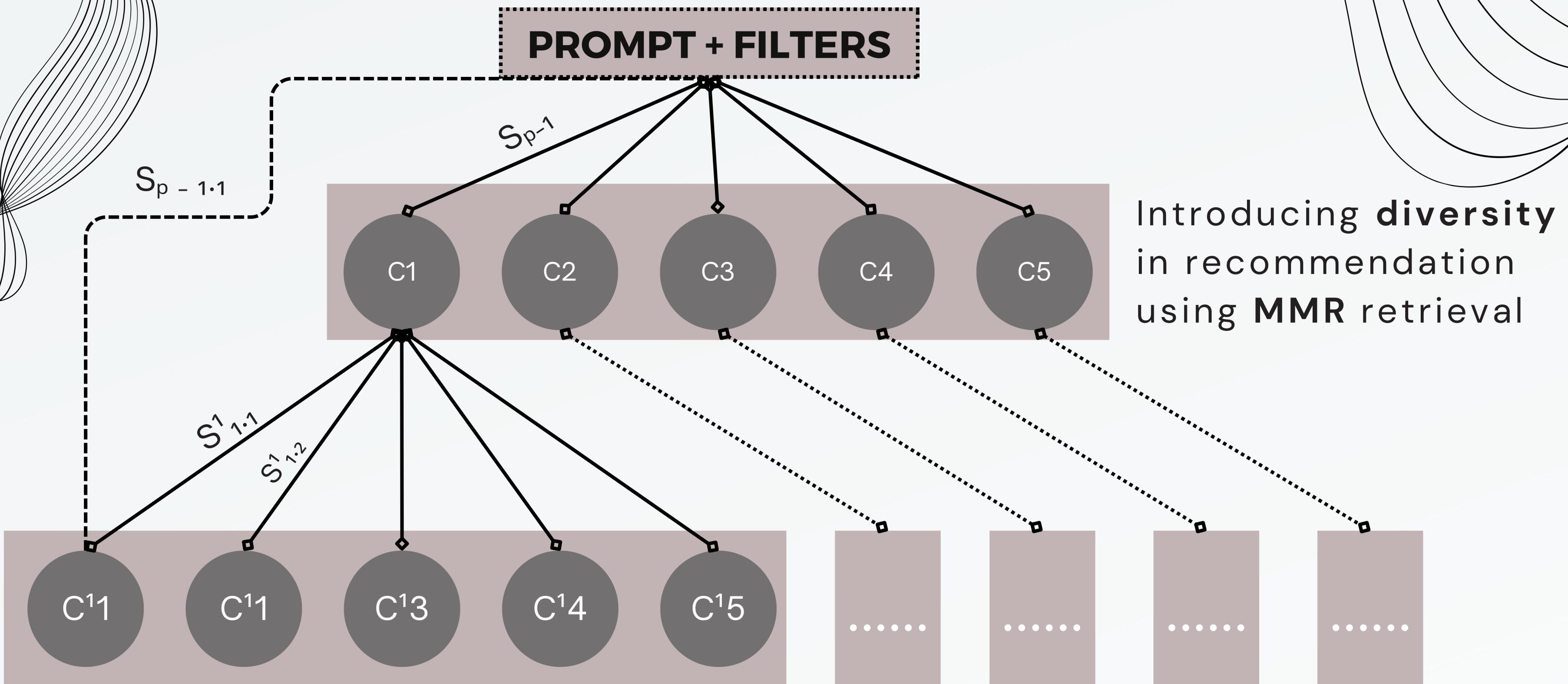
- WEB SCRAPPING :
 - Complex website structures with nested pages and dynamic content.
 - Dealing with unstructured or inconsistently formatted scraped data.



- EXTENSIVE DATA PREPROCESSING
- SCORING STRATEGY
- USER INTERFACE
- SELECTING SUITABLE MODEL FOR SUMMARIZATION
- FINDING SUITABLE PROMPT FOR TRAINING QUESTION GENERATION MODEL

STRATEGIES

COURSE RECOMMENDER



SCORING STRATEGY

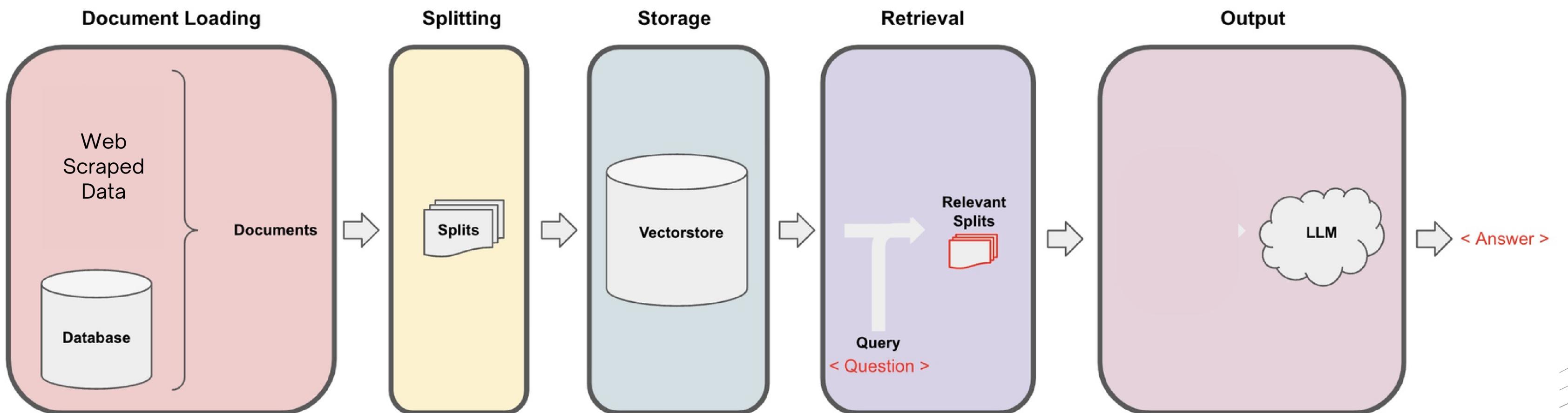
Total Score for course C¹¹ –

$$S = \frac{(0.7 * S_{p-1} + 0.3 * (S^1_{1,1} * S_{p-1})) + w_r * Rating + 0.5 * Popularity}{1.5 + w_r}$$

where,

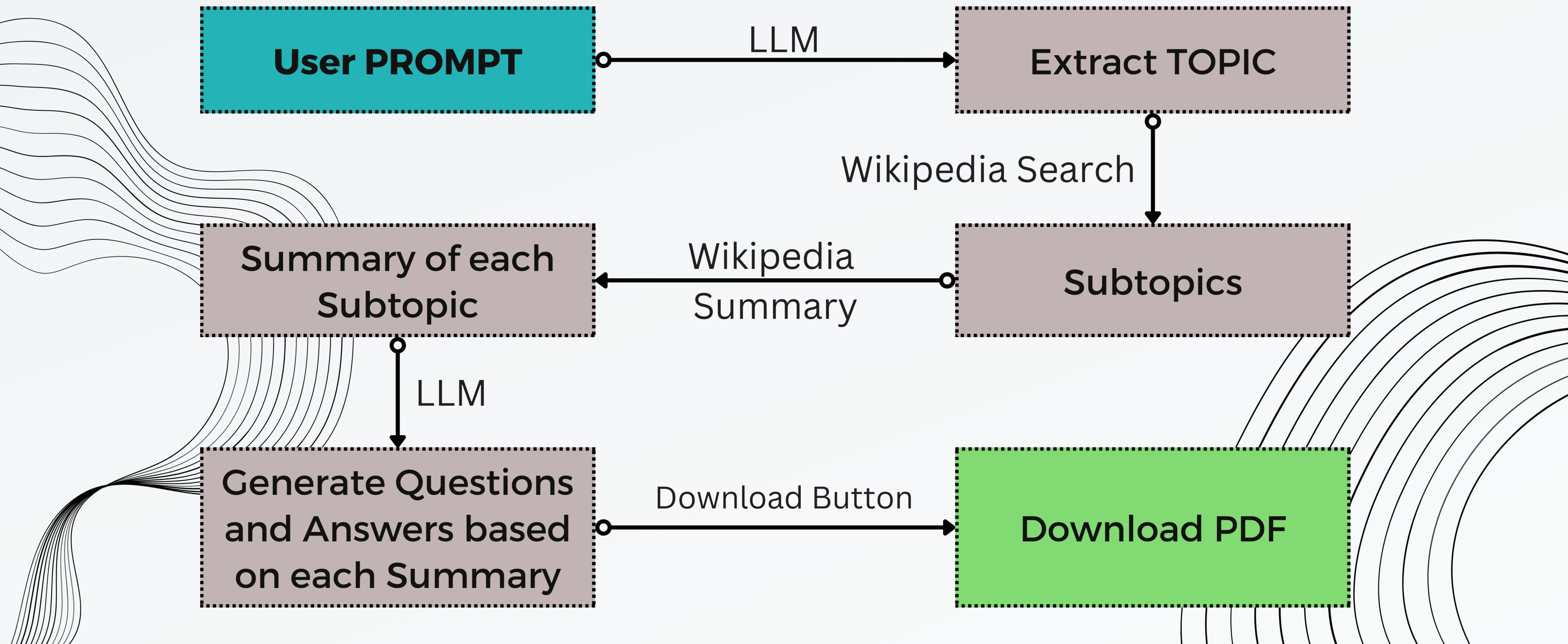
$$w_r = \ln\left(1 + \frac{\text{Number of Ratings}}{\text{Number of enrolled Students}}\right)$$

EDU-JARVIS: CHATBOT



STRATEGIES

Q&A GENERATOR



RESULTS

- Course Recommender

- User Inputs
 - User Query consisting of skills/courses
 - Difficulty Level
 - Duration
 - Price
- Output
 - Course Title
 - Organization
 - Short Description of Course
 - Cost
 - Platform
 - Difficulty Level
 - Skills
 - Rating etc.

- Used OpenAI Embeddings
- Models:
 - **text-embedding-3-small**
 - **facebook/bart-large-cnn**

DEMO LINK : [LOCALHOST8008/](http://localhost:8008/)

Content based Course Recommender

Enter your query in your own words. Mention either topic name or skills to acquire:

I want to learn machine learning and data science. I have to acquire skills such as data interpretation, data visualization and SQL.

pick your preferred difficulty level

- any
- Introductory
- Beginner
- Intermediate
- Advanced
- Mixed

pick maximum duration of the course in weeks

12

pick maximum price in Rs.

0

5000

10000

Submit

The most similar course is What is Data Science? by organization called IBM. Other similar courses are given below. Please have a look. Happy learning 😊

	Title	Organization	short summary
119	What is Data Science?	IBM	Define data science and its in
225	Databases and SQL for Data Science with Python	IBM	Analyze data within a database
1,113	SQL for Data Science	IBM	check out the website in give
362	SQL for Data Science	University of California	Identify a subset of data need
1,013	Python Basics for Data Science	IBM	This course will quickly take
1,498	SQL aplicado en la ciencia de datos	IBM	check out the website in give
1,113	Introduction to Data Science	IBM	check out the website in give

RESULTS

- **EduJARVIS : Chatbot**

- User Inputs
 - User Query related to skills, courses etc.
- Output
 - Answer related to Query

- **Model: gpt-3.5-turbo**

EduJARVIS

EduJARVIS is a student companion. You can ask EduJARVIS your queries related to courses to learn, skills to acquire for your career path, what are popular courses etc.

Hey what's your query..? 😊 :

I am a Mechanical Engineer. I want to do a career transition from mechanical to data science. what are the skills I should acquire for this ? also can you suggest a learning curve for this transition ?

Submit

To transition from Mechanical Engineering to Data Science, you would need to acquire skills such as Data Engineering, Data Management, Extract, Transform, Load, Databases, Network Security, Big Data, Data Warehousing, SQL, Data Science, Python Programming, Machine Learning, Data Visualization, and more.

Here is a suggested learning curve for your transition:

1. Start with an introductory course on Data Engineering like the one available at Coursera: <https://www.coursera.org/learn/introduction-to-data-engineering>
2. Move on to an intermediate course on Data Science and Machine Learning like the one available at edX: <https://www.edx.org/course/data-science-and-machine-learning-capstone-project>
3. Further enhance your skills with a specialization in Data Science with Databricks for Data Analysts: <https://www.coursera.org/specializations/data-science-with-databricks-for-data-analysts>
4. Consider taking courses on programming skills, algorithms, and software development to strengthen your foundation in these areas.

By following this learning curve and continuously practicing and applying the skills you acquire, you can make a successful transition from Mechanical Engineering to Data Science.

RESULTS

- **Am I Good Enough? : Q&A Generator**

- User Inputs
 - User Query consisting of topic for Q&A
- Output
 - 10 Multiple Choice Questions for each subtopic with Solutions

- Model: gpt-3.5-turbo

Check your Understanding ?? Enter your topic here: 😊 :

I want to test my knowledge on Shakespeare drama

Submit

Questions for subtopic: Chronology of Shakespeare's plays

1): What is the main focus of Shakespearean scholars in reconstructing the relative chronology of Shakespeare's plays? a) Using external evidence only b) Using internal evidence only c) Using both external and internal evidence d) Using performance history only
Answer: c) Using both external and internal evidence

2): How are most modern chronologies of Shakespeare's plays based? a) E.K. Chambers' book "The Problem of Chronology" b) John Heminges and Henry Condell's First Folio c) William Shakespeare's personal diary d) Edward Blount's private documents
Answer: a) E.K. Chambers' book "The Problem of Chronology"

3): Why is performance history considered limited in determining the chronology of Shakespeare's plays? a) Because the first recorded performances were all done after Shakespeare's death b) Because the dates of performance were unreliable c) Because performance history only establishes the terminus post quem of composition d) Because there is no surviving evidence of performances
Answer: c) Because performance history only establishes the terminus post quem of

4): Which term has modern criticism introduced for what scholars believe to be Shakespeare's later comedies? a) Melodramas b) Romances c) Tragedy d) Tragi-comic Histories
Answer: b) Romances

5): What is the traditional division of popular English theatre prior to Shakespeare's era? a) Comedies b) Histories c) Problem Plays d) Tudor morality plays
Answer: d) Tudor morality plays

6): Which popular English theater did dramatists write for when Shakespeare arrived in London? a) The Globe b) The West End c) The Curtain d) The Royal Opera House
Answer: c) The Curtain

7): In what language have Shakespeare's plays been translated into? a) Latin b) French c) Every major living language d) German
Answer: c) Every major living language

8): How many of Shakespeare's plays remained unpublished until the posthumous First Folio was published? a) All of them b) Approximately half c) None of them d) One third
Answer: b) Approximately half

9): What term has modern criticism introduced for some of Shakespeare's plays that elude easy categorization? a) Enigmas b) Conundrums c) Problem Plays d) Puzzles
Answer: c) Problem Plays

10): What dramatic tradition did dramatists combine when writing for London's new commercial playhouses? a) Elizabethan b) Jacobean c) Victorian d) Edwardian
Answer: a) Elizabethan

Download Combined Summary as PDF

THANKS

