



KNOWLEDGE CONNECT- A VIRTUAL GROUP STUDY PLATFORM ON STUDENTS' STUDY STYLE

E-Learning

Presentation By
R24 - 077

MEMBERS



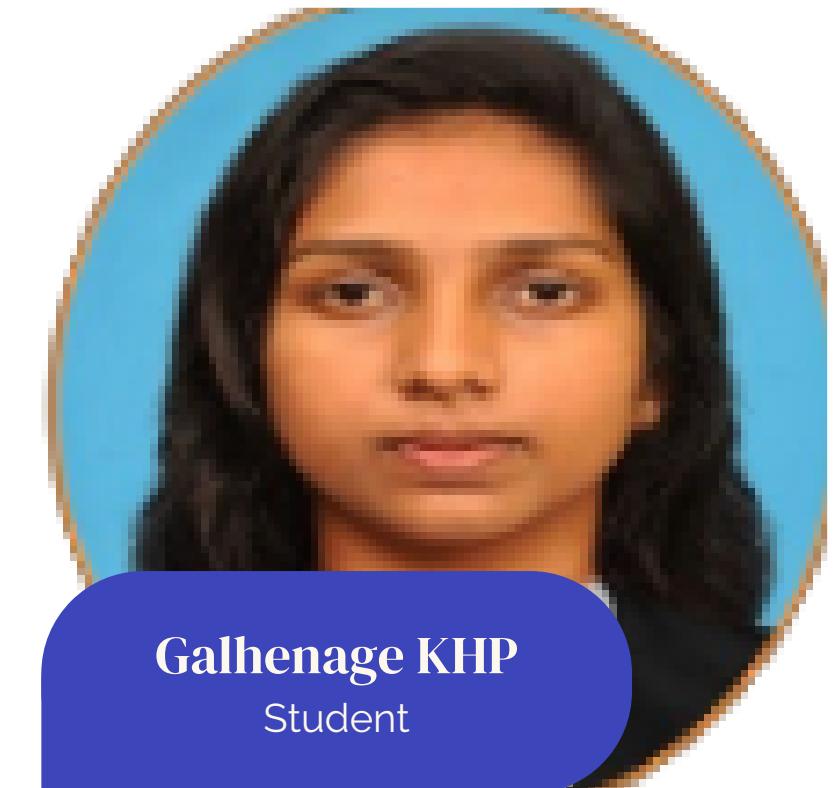
Ms. Anjalie Gamage
Supervisor



Mr. Nelum Chathuranga
Co - Supervisor



Kavind Divyanjana
Student



Galhenage KHP
Student

LIST OF CONTENTS

Introduction

Research
Questions

Components

Individual
Components

INTRODUCTION

BORING

ISOLATING

DECREASE
MOTIVATION

NEED HELP



A SYSTEM FOR FIRST YEAR IT STUDENTS

VIRTUAL EDUCATIONAL
ENVIRONMENT BASED ON
THEIR STUDY STYLE



RESEARCH QUESTIONS



How it's better than traditional method?

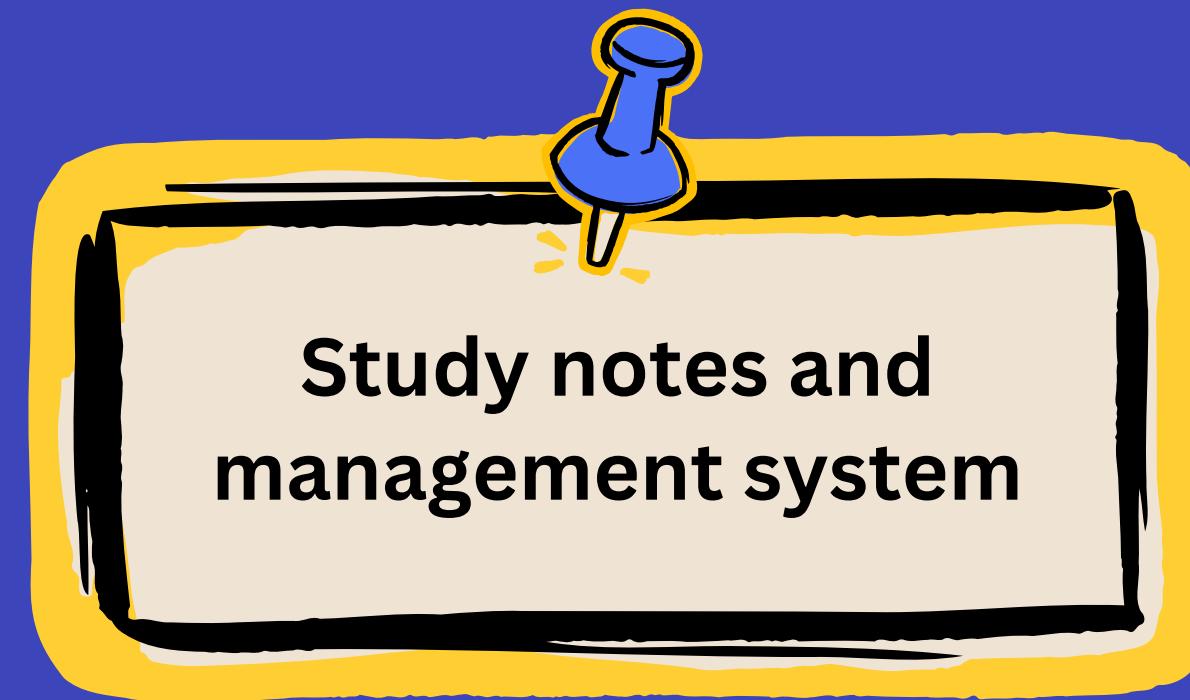
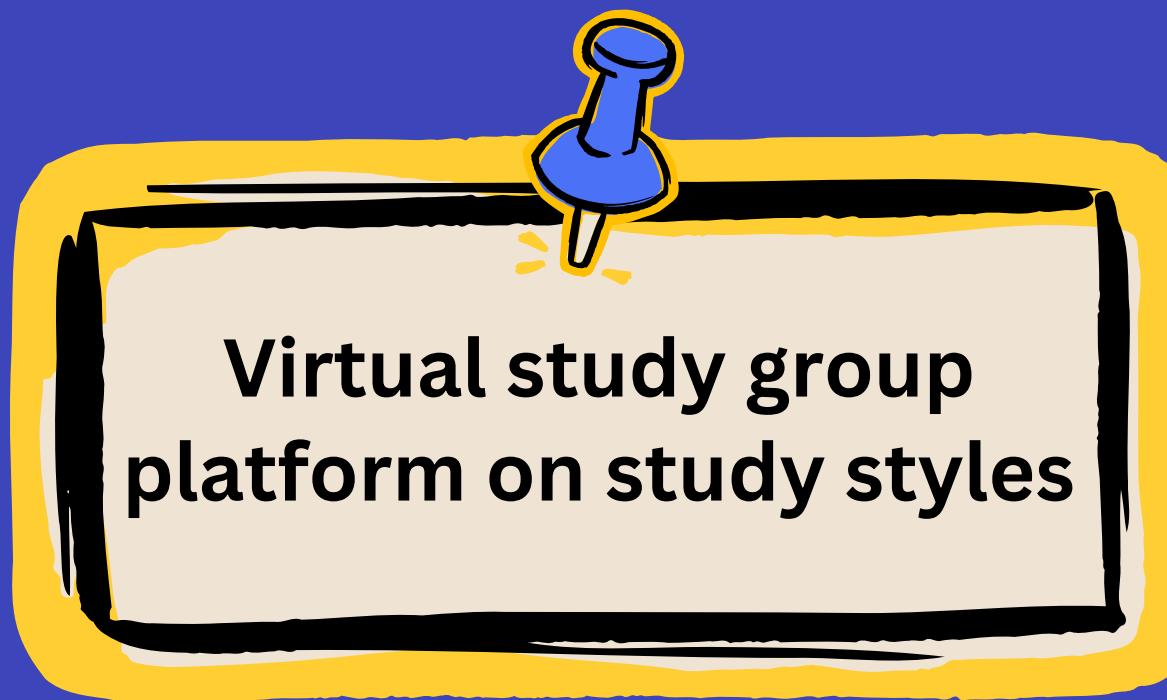
Grouping on study style is better?

Difficulties and how to solve?

How to Identify study styles?

How to make this effective ?

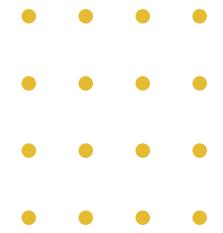
COMPONENTS





VIRTUAL STUDY GROUP PLATFORM BASED ON STUDENTS' STUDY STYLE

DIVYANJANA W.A.K
IT 21079740



THE PROGRESS

**Developed a questionnaire to identify
students' learning style and
implemented a grouping system.**

INTRODUCTION

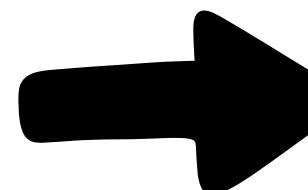
- **BACKGROUND**



**Students have a unique way of
absorbing, processing, and
applying information**

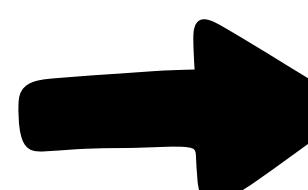
- **BACKGROUND CONT.**

Absorbing
Information



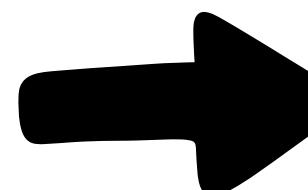
Sensory Preferences

Processing
Information



Cognitive Styles

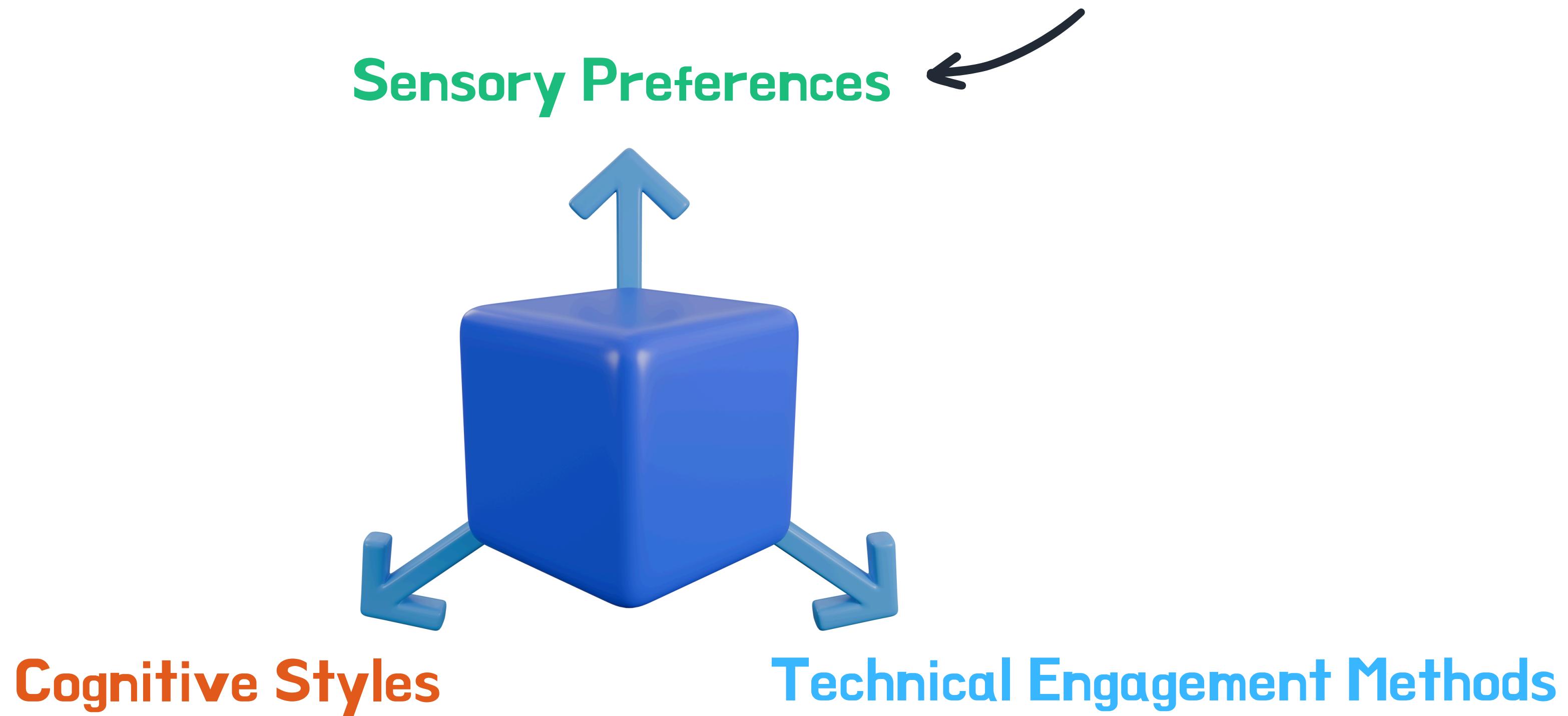
Applying
Information



**Technical Engagement
Methods**

- **BACKGROUND CONT.**

3 Dimensional Framework



- **BACKGROUND CONT.**



Visual

Sequential

Collaborative

Auditory

Global

Independent

Reading/Writing

Analytical

Hands-on Practice

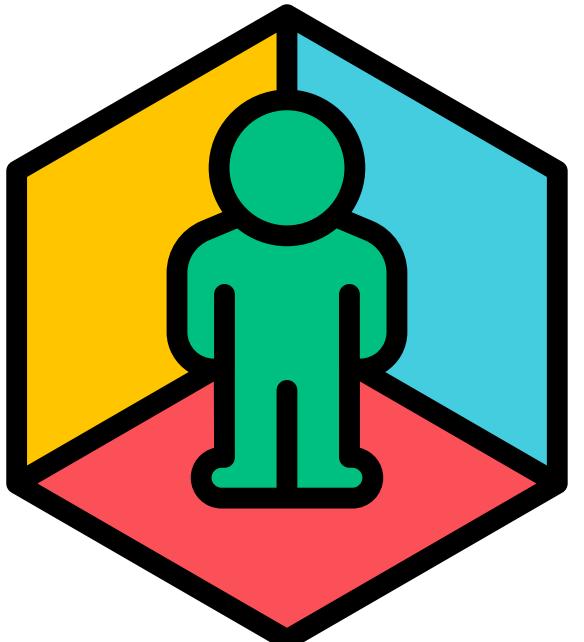
Kinesthetic

Random

Theoretical Understanding

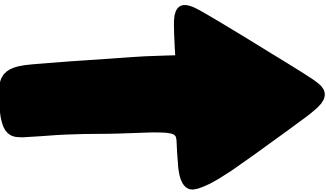
- **BACKGROUND CONT.**

A **three-dimensional framework** identifies individual learning styles using the **VARK model, cognitive styles, and technical engagement method**



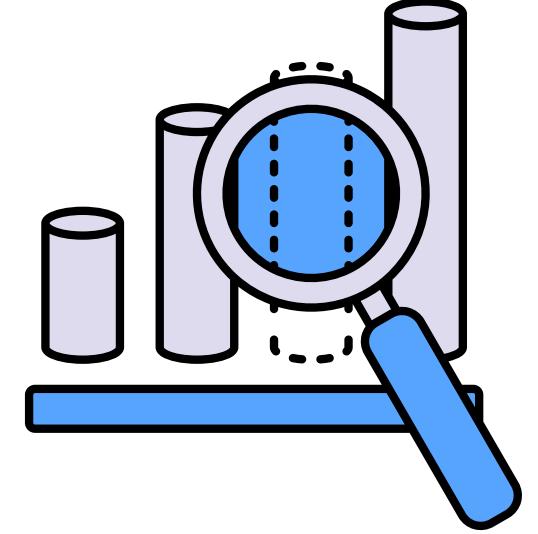
- **BACKGROUND CONT.**

**By grouping students with
similar learning preferences**



**enhance collaboration,
engagement,
and academic success.**

RESEARCH GAP



**Existing
Approaches Are
Limited to Single
Dimensions**

**Lack of
Integration of
Cognitive and
Technical
Preferences**

**One-Size-Fits-
All in IT
Education**

**Limited
Collaboration
Tools in
Personalized
Learning**



SYSTEM COMPARISON

Features	1	2	3	4	Our System
Learning Style Personalization	✗	✗	✗	✗	✓
Cognitive Style Personalization	✗	✗	✗	✗	✓
Technical Preferences	✗	✗	✗	✗	✓
Collaboration Tools	✗	✗	✓	✓	✓
Adaptive Learning	✓	✓	✗	✗	✓

1 - Smart Sparrow

2 - Knewton

3 - Edmodo

4 - Moodle

RESEARCH PROBLEMS

01

How to identify the individual learning styles of IT students?

02

How to tailor content and collaboration tools to suit each student's learning preferences?

03

How to enhance engagement and academic performance by grouping students based on their learning styles?

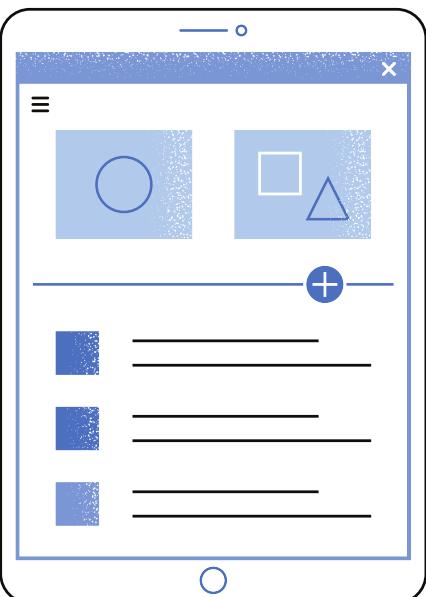


OBJECTIVES



Main Objective

Identify students' learning styles and grouping them.



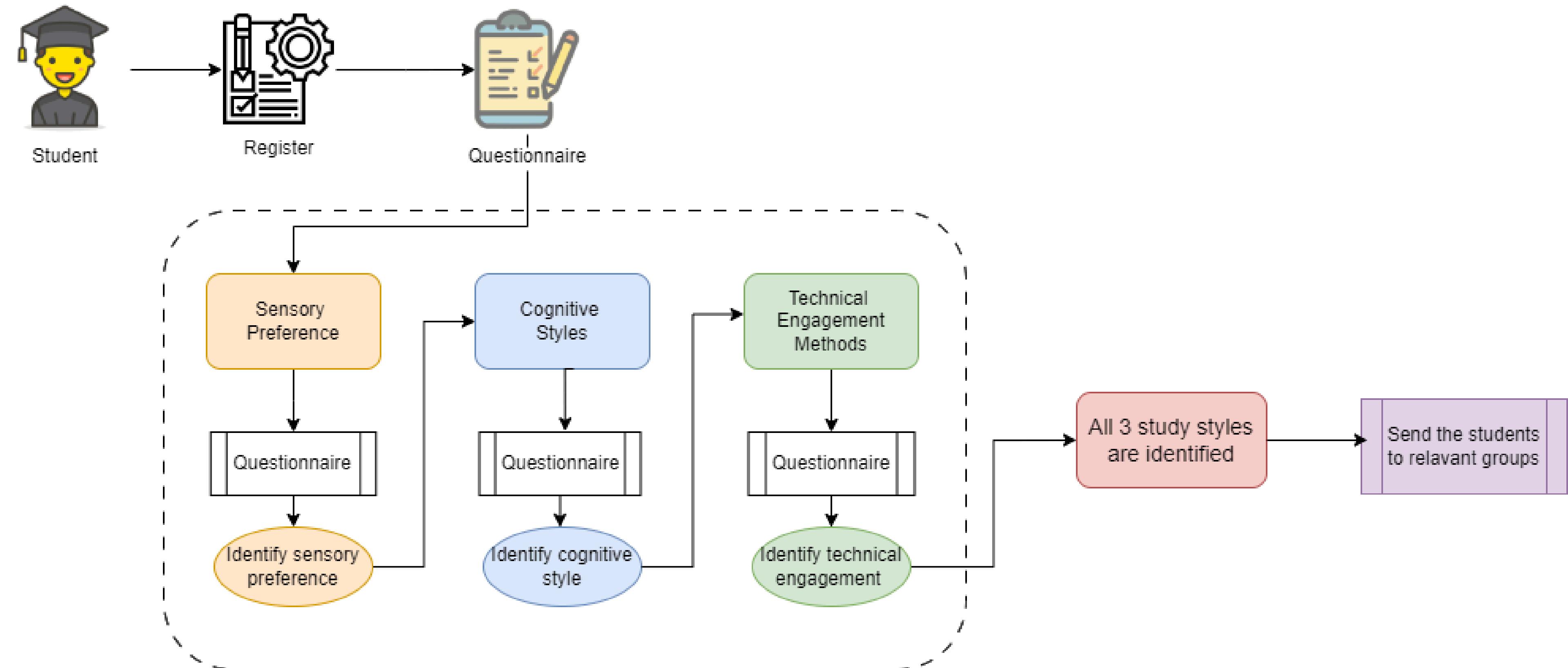
Sub Objectives

Developing a questionnaire

Implementing a virtual room function

Implementing a forum function

METHODOLOGY



REFERENCES

- [1] Developing Personalized Education: A Dynamic Framework Leonard Tetzlaff¹ & Florian Schmiedek^{1,2} & Garvin Brod¹
- [2] Personalized Learning in Virtual Learning Environments Using Students' Behavior Analysis Rezvan Nazempour and Houshang Darabi
- [3] AI-Based Personalized E-Learning Systems: Issues, Challenges, and Solutions MIR MURTAZA , YAMNA AHMED, JAWWAD AHMED SHAMSI FAHAD SHERWANI , AND MARIAM USMAN
- [4] Individual differences and personalized learning: a review and appraisal Sherry Y. Chen¹ · Jen-Han Wang



Study notes and management System

Galhenage K.H.P
IT 21040726

Background



- This involves building a simple academic note management system that users can easily access and use. Notes can be categorized by adding tags and notes will be synced across all devices and note history will manage to reverse changes to notes.
- Also, users will be able to get the support of AI to gain insight on their study notes, like further study areas, missing points and how the notes can be improved.
- Include a function that keeps track of and shows note revision histories, assisting students in tracking modifications and making necessary revisions.
- in this about building a simplified study note management system that users can easily access and use. Notes can be categorized by adding tags and notes will be synchronized on all devices.
- Also users will be able to get the support of AI to gain insight on their study notes, like further study areas, missing points and how the notes can be improved.
-

CONTENT

- 1** Research Problem
- 2** Research Gap
- 3** Specific and Sub Objectives
- 4** Methodology
- 5** Component Requirements
- 6** Supporting Items

Research Problems

How to optimize the Generative AI model to make suggestions on the notes?

figuring out the most effective and dependable synchronization strategy to minimize latency and possible conflicts and guarantee smooth note updates across all devices



How to manage the version controlling of the notes?



Research Gap

Compared to other research papers in this area this approach covers,

- Generative AI to enhance study notes by making suggestions and finding out what are the missing points.
- A version control system to see previous versions of the saved notes.



Specific and Sub Objectives

Main Objectives

To develop a simplified study notes management system that enables users to easily access, categorize, synchronize, and manage their study notes across multiple devices.

Sub Objectives

- Provide a simple, intuitive design that makes it quick and unnecessary for users to write, organize, and access their study notes.
- Put in place a strong system for labeling notes that helps users organize them effectively and facilitates searching and retrieving particular themes or subjects.
- Create a smooth synchronization system to guarantee that notes are automatically updated and available on PCs, tablets, and cellphones.

Component Requirement

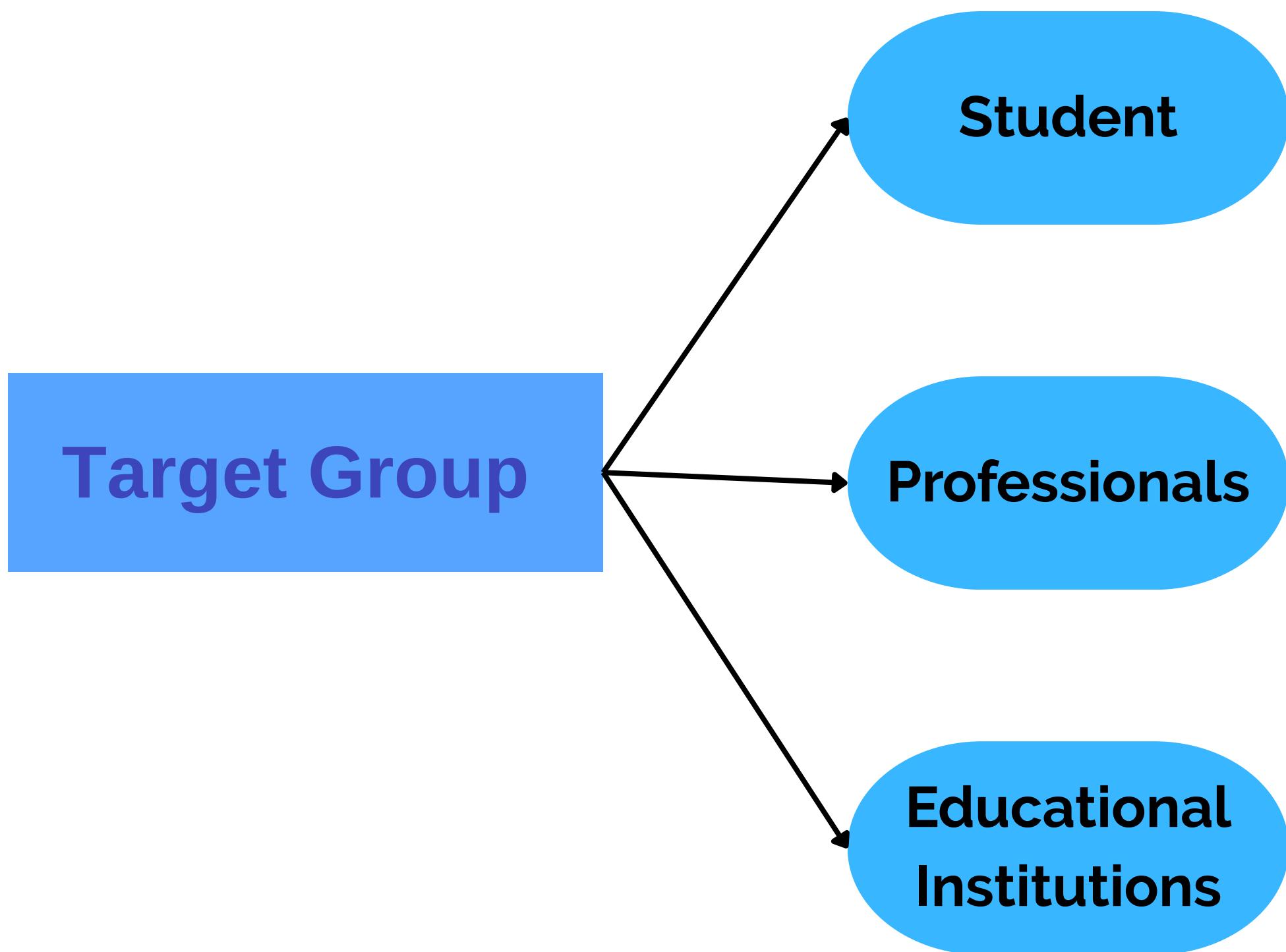
Functional Requirements

1. Notes can be categorized by adding tags.
2. Notes will be synced across all devices.
3. Note history will be managed to rollback to previous versions.
4. Users will be able to get the support of Generative AI to gain insight on their study notes, like further study areas, missing points and how the notes can be improved.

Non-Functional Requirements

- Make the Generative AI Optimized for faster generation.
- Implement caching functions to speed up the website.

Supporting Items



METHODOLOGY

1

System Diagram

2

Methodology

3

Evaluation and Testing

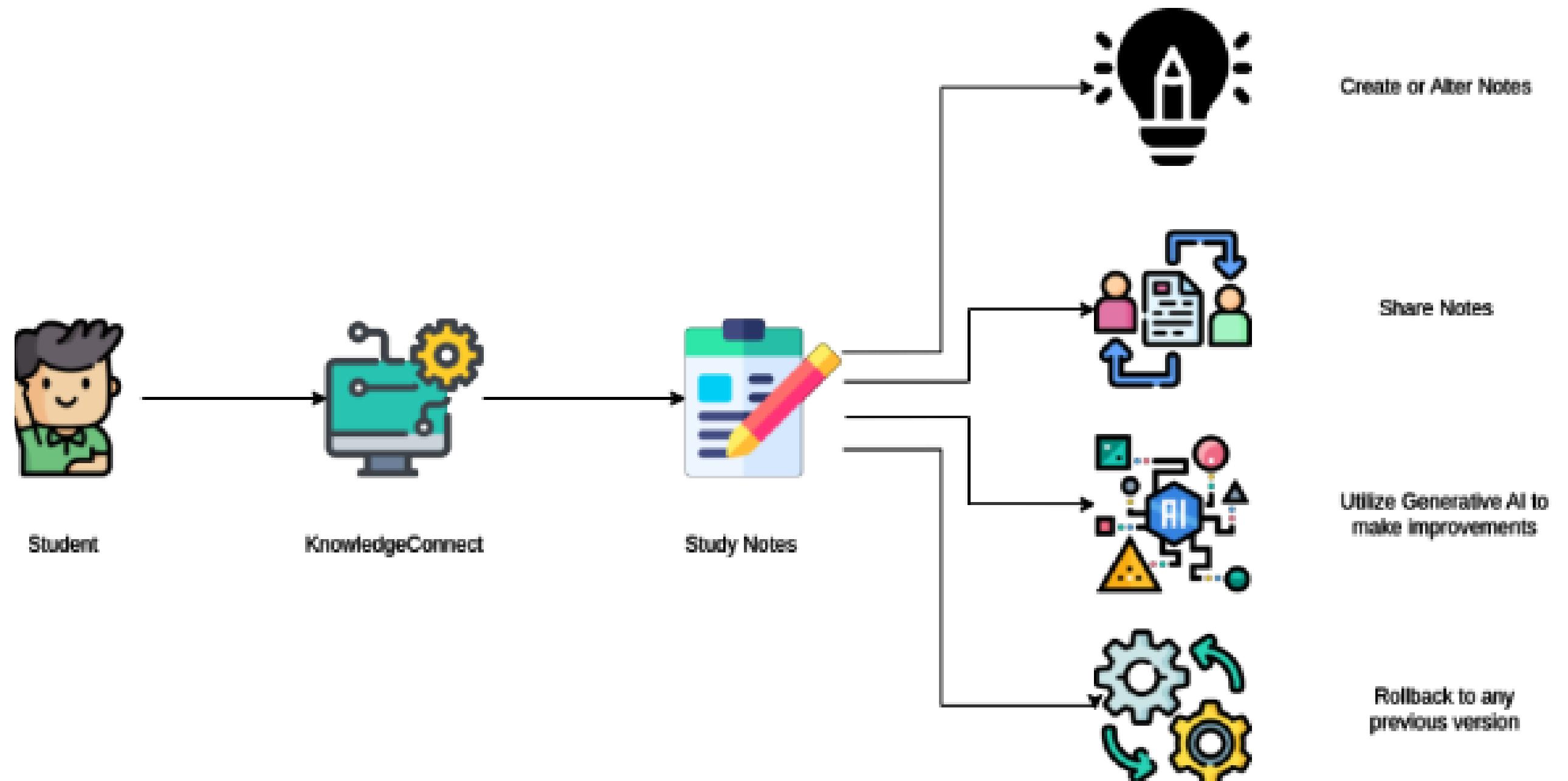
4

Tools and Technology

5

Work Breakdown Structure

System Diagram



Methodology

- Students can navigate to Knowledge Connect and add notes as their preference in the web interface.
- Once added these notes can be categorized into relevant categories.
- Students can utilize Generative AI to generate further study areas, suggestions on how to improve notes.
- Generative AI analysis will be done via an opensource Large Language Model Mistral 7B available on hugging face.
- User are also allowed to share the notes with other users.

Evaluation and Testing

Study Notes

Filter by name Filter by category Filter by tags

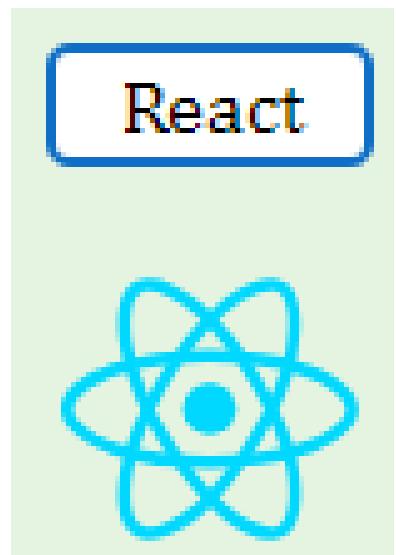
Name	Category	Status	Actions
Security Operations Center	Security Operations Center (SOC)	Ready	Delete Download Review
Quality Assurance Note	Software Quality Assurance	Ready	Delete Download Review

Submit New Study Note

Note Name
Choose File No file chosen

Submit Note

Tools and Technology



References

- [1] Alavi, M., & Leidner, D. (1999). Knowledge Management Systems: Issues, Challenges, and Benefits. *Communications of the Association for Information Systems*, 1, from <https://aisel.aisnet.org/cgi/viewcontent.cgi?article=2486&context=cais>
- [2] Alavi, M., D. E. Leidner. 2001. Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quart.* 25(1) 107–136.
- [3] Cabrera, A., W. C. Collins, J. F. Salgado. 2006. Determinants of individual engagement in knowledge sharing. *Internat. J. Human Resource Management* 17(2) 245–264.

thank you!