

## MileStone -1 Team 21



**IIT Madras  
BS Degree**

# **SOFTWARE ENGINEERING PROJECT** **SMART SEEK** **PORTAL**

**Prepared by :**



**Sayan Hrik**  
[21f3002833@ds.study.iitm.ac.in](mailto:21f3002833@ds.study.iitm.ac.in)



**Avijeet Palit**  
[21f1005675@ds.study.iitm.ac.in](mailto:21f1005675@ds.study.iitm.ac.in)



**Uroosha Rahat**  
[21f1002968@ds.study.iitm.ac.in](mailto:21f1002968@ds.study.iitm.ac.in)



**Preetam Mukherjee**  
[21f1002436@ds.study.iitm.ac.in](mailto:21f1002436@ds.study.iitm.ac.in)



**Ayush Singh Rana**  
[21f1005671@ds.study.iitm.ac.in](mailto:21f1005671@ds.study.iitm.ac.in)



**Ramesh Kumar Chandran**  
[21f2000549@ds.study.iitm.ac.in](mailto:21f2000549@ds.study.iitm.ac.in)



**Bodhisatwa Bhattacharya**  
[21f1000270@ds.study.iitm.ac.in](mailto:21f1000270@ds.study.iitm.ac.in)

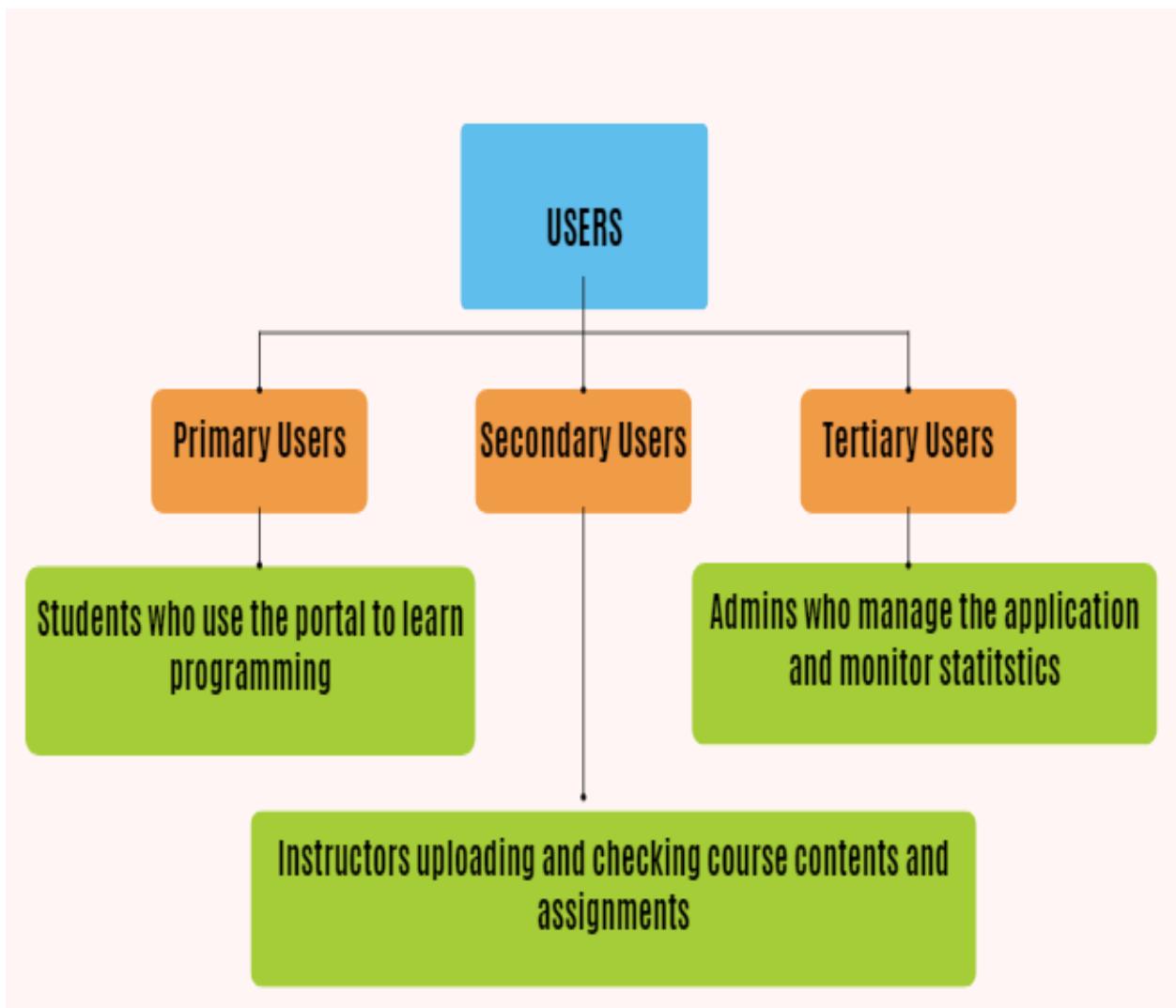


**Sachin Kumar**  
[21f2000143@ds.study.iitm.ac.in](mailto:21f2000143@ds.study.iitm.ac.in)

# Contents

1. User Identification	3
2. Learner Journey Maps	4
1.1 Without GenAI Integration .....	4
1.1.1 Scenario1.....	4
1.1.2 Scenario2.....	5
1.1.3 Scenario3.....	6
1.2 With GenAI Integration.....	7
1.2.1 Scenario1.....	7
1.2.2 Scenario2.....	8
1.2.3 Scenario3.....	9
3. Requirement Gathering Techniques	10
4. User Stories based on Learner Journey Maps	11

# User Identification



## 1. Learner Journey Maps:

### 1.1 Without GenAI Integration:

#### 1.1.1 Scenario1: **Submitting a Programming Assignment:**

##### **(i) Research and Understanding:**

- Student: Searches for resources to understand the assignment requirements.
- Pain Point: Time-consuming to find relevant resources.

##### **(ii) Coding:**

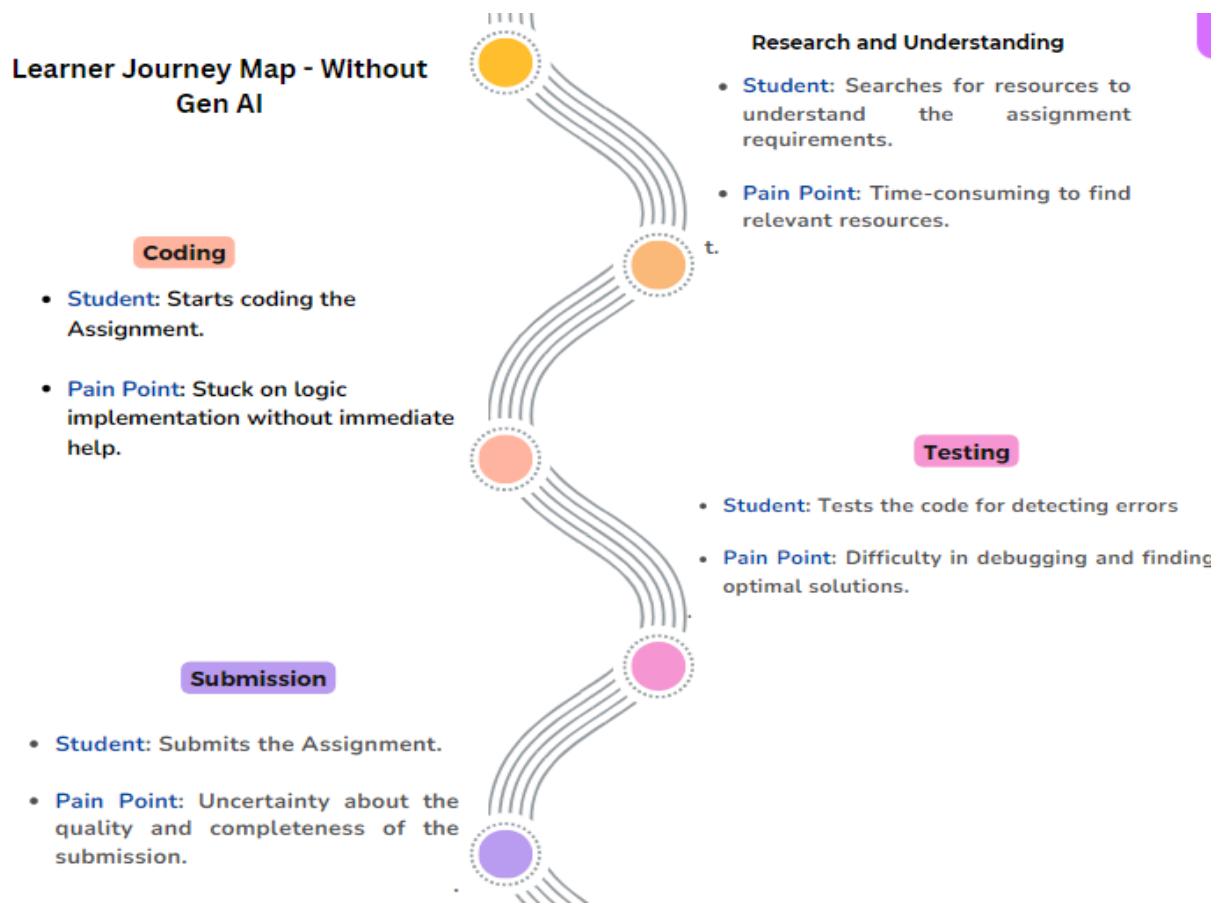
- Student: Starts coding the Assignment.
- Pain Point: Stuck on logic implementation without immediate help.

##### **(iii) Testing:**

- Student: Tests the code for detecting errors.
- Pain Point: Difficulty in debugging and finding optimal solutions.

##### **(iv) Submission:**

- Student: submits the Assignment.
- Pain Point: Uncertainty about the quality and completeness of the submission.



### 1.1.2 Scenario2: Doubts and Feedbacks:

#### (i) Access Discourse:

- Student: Goes to the discourse portal and types the doubt.
- Pain Point: Time-consuming to get a response.

#### (ii) Wants to extend the Conversation:

- Student: Does not understand the solution completely
- Pain Point: More time consuming and a hurdle in the learning journey.
- Instant doubt clearing is not possible.

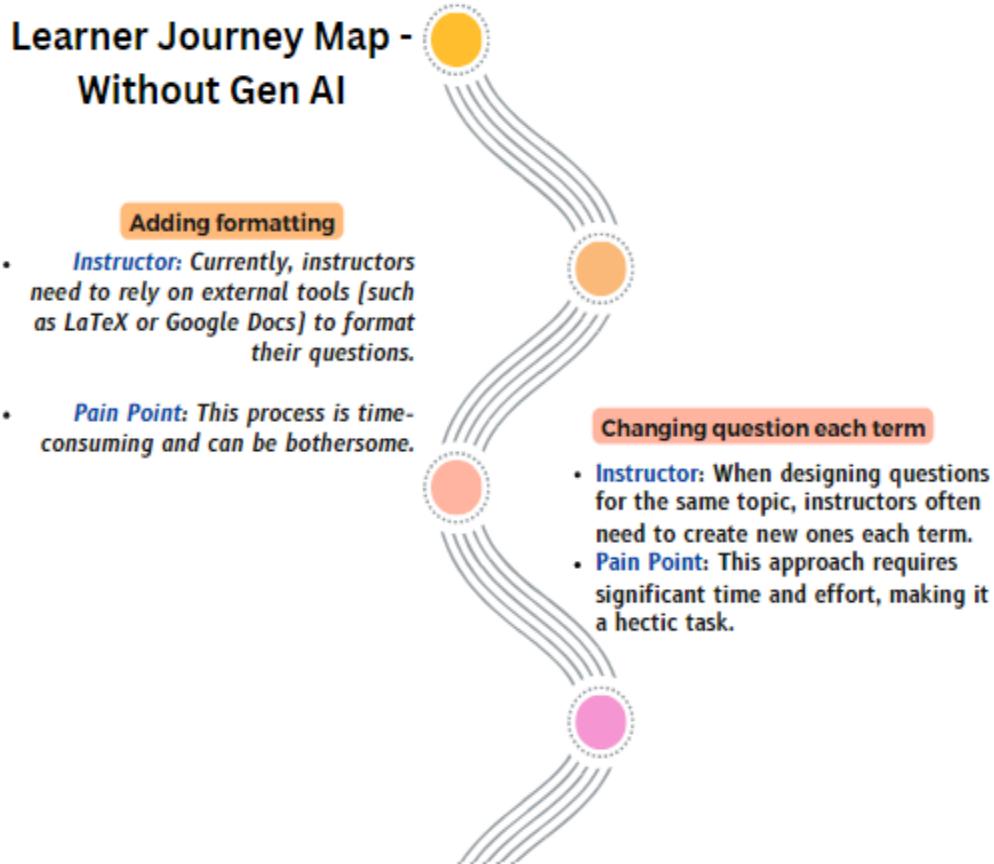
### **1.1.3 Scenario3: Question Creation (Instructor):**

#### **(i)Adding formatting:**

- Instructor: Currently, instructors need to rely on external tools (such as LaTeX or Google Docs) to format their questions.
- Pain Point: This process is time-consuming and can be bothersome.

#### **(ii)Changing question each term:**

- Instructor: When designing questions for the same topic, instructors often need to create new ones each term.
- Pain Point: This approach requires significant time and effort, making it a hectic task.



## 1.2 With GenAI Integration:

### 1.2.1 Scenario1: Submitting a Programming Assignment:

#### (i) Coding:

- Student: Starts coding the Assignment.
- Advantage: Gen AI makes things smoother and faster.

#### (iii) Testing:

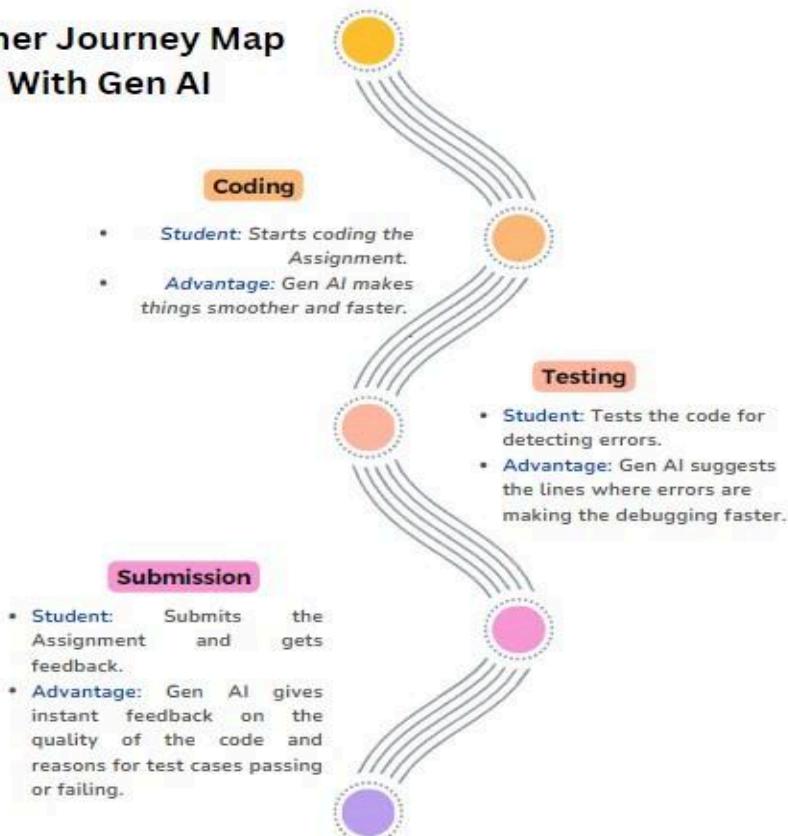
- Student: Tests the code for detecting errors.
- Advantage: Gen AI suggests the lines where errors are making the debugging faster.

#### (iv) Submission:

- Student: Submits the Assignment and gets feedback.
- Advantage: Gen AI gives instant feedback on the quality of the code and reasons for test cases passing or failing.

### Learner Journey Map

#### - With Gen AI



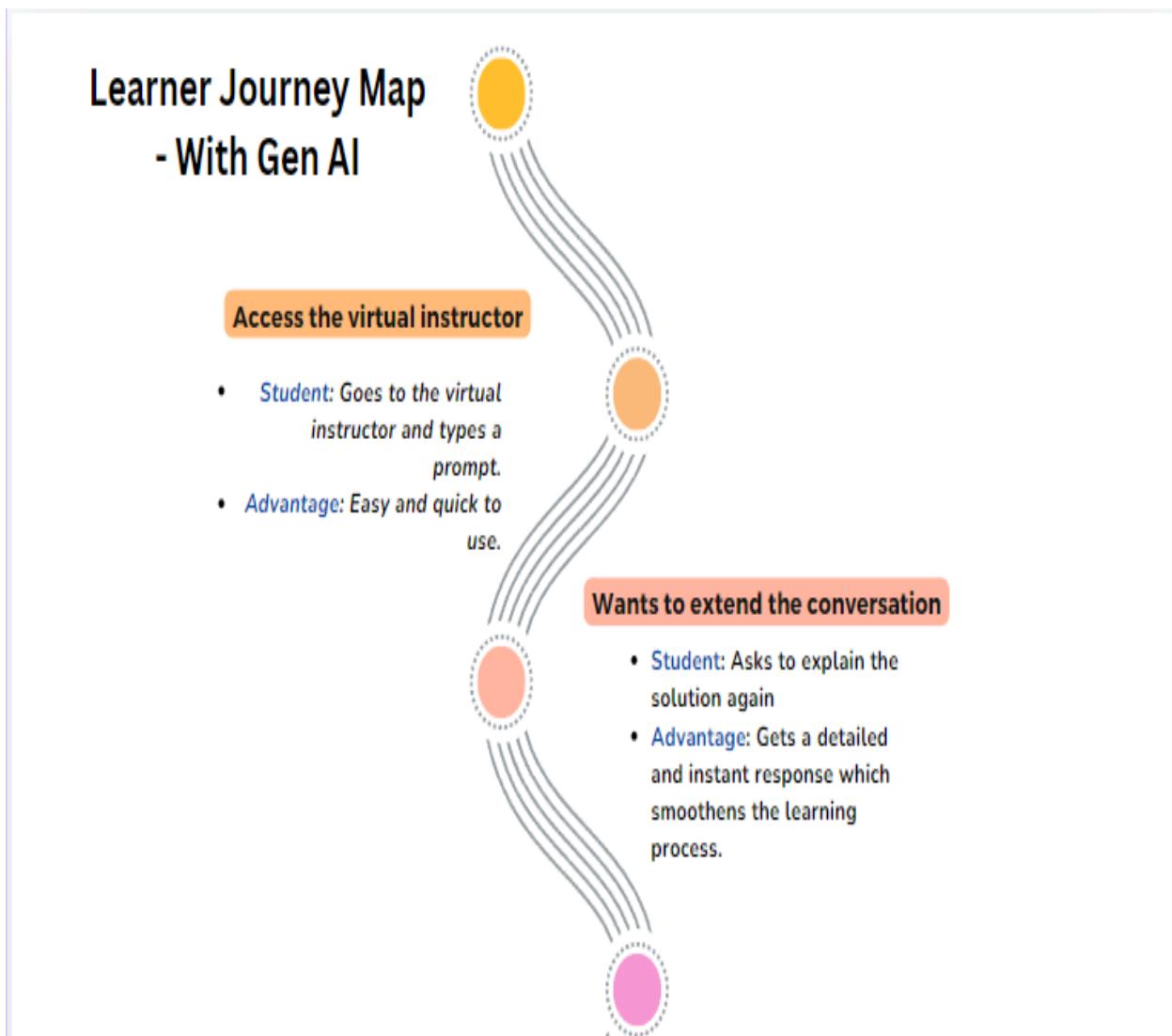
### **1.2.2 Scenario2: Doubts and Feedback:**

#### **(i) Access the virtual instructor:**

- Student: Goes to the virtual instructor and types a prompt.
- Advantage: Easy and quick to use.

#### **(ii) Wants to extend the conversation:**

- Student: Asks to explain the solution again
- Advantage: Gets a detailed and instant response which smoothens the learning process.



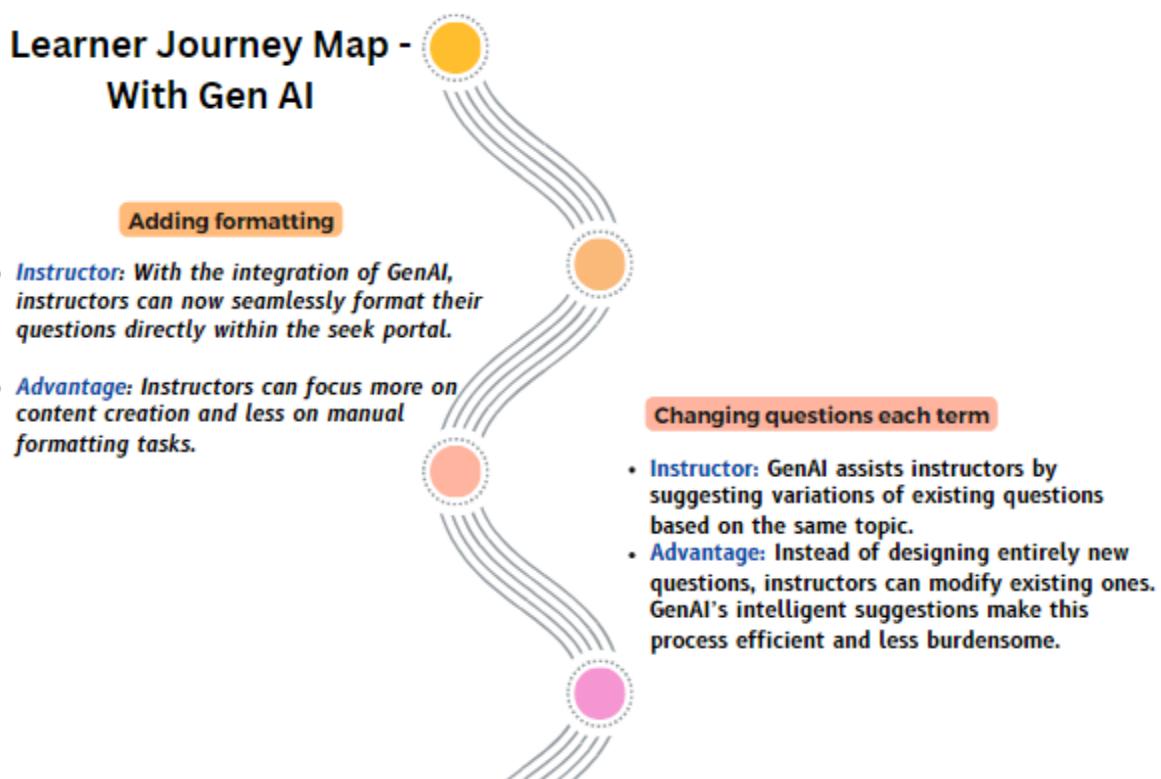
### **1.2.3 Scenario3: Question Creation (Instructor):**

#### **(i) Adding formatting:**

- Instructor: With the integration of GenAI, instructors can now seamlessly format their questions directly within the seek portal.
- Advantage: Instructors can focus more on content creation and less on manual formatting tasks.

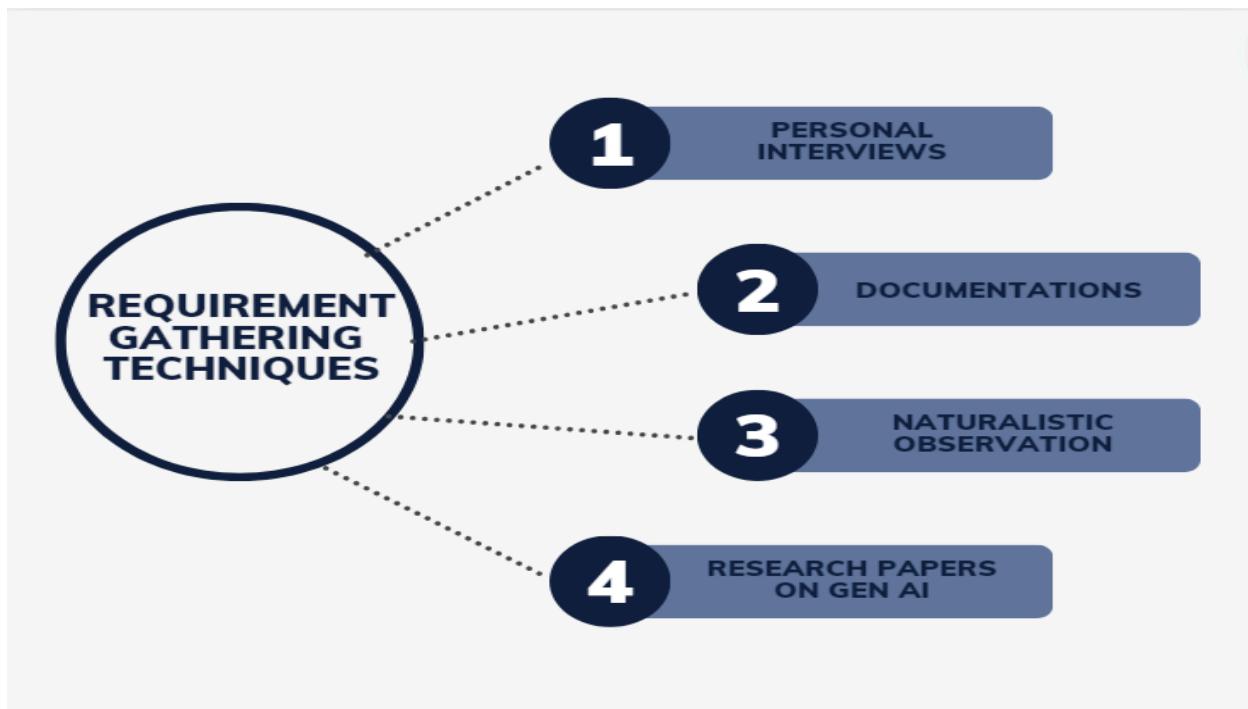
#### **(ii) Changing questions each term:**

- Instructor: GenAI assists instructors by suggesting variations of existing questions based on the same topic.
- Advantage: Instead of designing entirely new questions, instructors can modify existing ones. GenAI's intelligent suggestions make this process efficient and less burdensome.



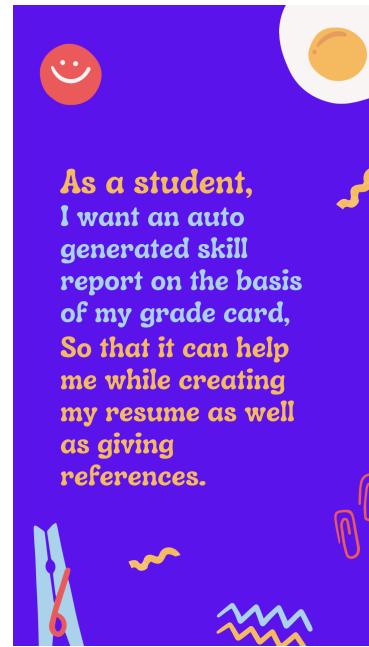
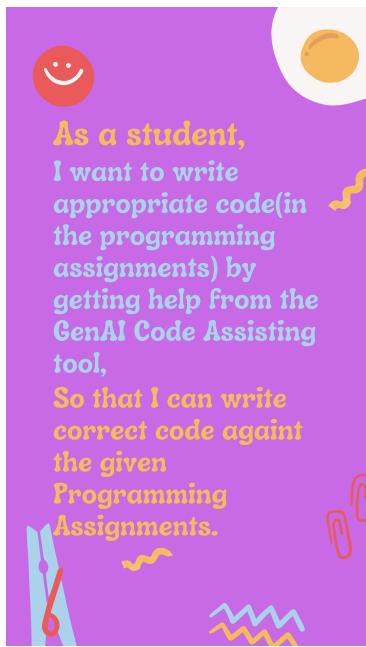
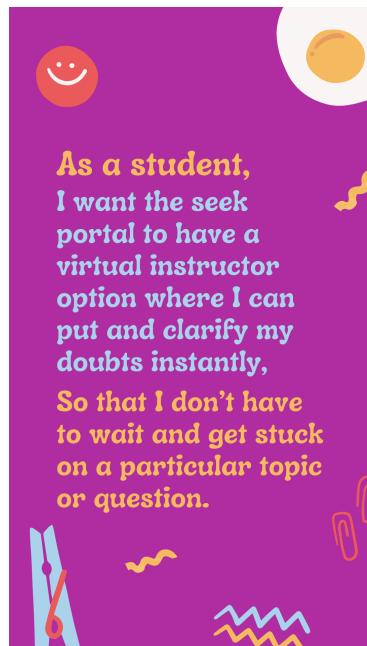
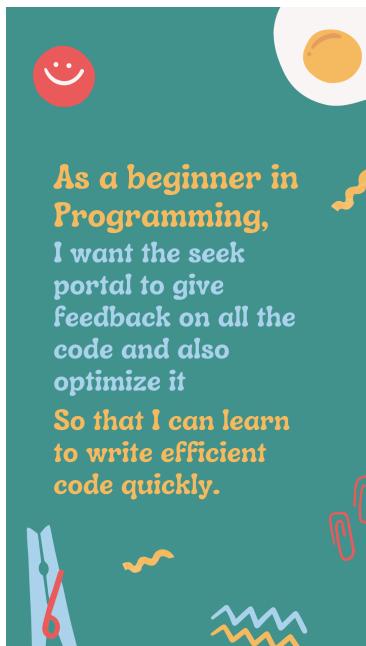
## Requirement Gathering Techniques

1. **Personal Interviews** - Our team has interacted with a few peers of our BS Degree Programme. We asked them about the difficulties they face while using the seek portal and what features involving Generative AI will make their learning experience better and more engaging / interactive.
2. **Naturalistic Observations** - As we are students of the BS Degree Programme we have observed each other and our fellow peers through the years and can identify what ways they use GenAI to improve their learning journey and overall experience.
3. **Documentations and Research Papers** - We have gone through some research papers on the advancement of Large Language Models and GenAI and understood their capabilities. This will also help us shape the adequate list of features required in our application to satisfy most of our user requirements.



# User Stories

## Students - Primary Users



## Instructors - Secondary Users



## Admins - Tertiary Users

