

Transformative Student Engagement Monitoring system



Team : Sowmya Sree Vadi, Sai Pranavi Reddy Patlolla, Shriya Garlapati.



Problem Statement

1. **Challenge in Traditional Education:**
Difficulty in sustaining student engagement in a dynamic learning landscape.
2. **Changing Student Expectations:**
Students today seek active participation, personalized learning experiences, and a sense of community within their educational journey.
3. **Limitations of Current Metrics:**
Traditional methods for monitoring engagement rely on manual, time-consuming metrics like attendance and grades.
One-dimensional metrics lack depth to identify disengaged students and tailor interventions effectively.
4. **Issues with Analyzing Data:**
Existing solutions for analyzing engagement data lack clarity and comprehensiveness.
Educators struggle to understand correlations and trends in student behavior across courses and demographics.
5. **Communication Challenges:**
Traditional communication channels contribute to a passive learning environment.

Persona

PERSONA: Karthik

NAME


Karthik

INNOVATION

100 %

TYPE

Idealist



Demographic

Male

35 years

India

Teacher

Goals

Empower students with knowledge and critical thinking skills.
Aim for students to leave with valuable skills and a passion for learning.

Quote

In the classroom, I aspire to be the catalyst that ignites the flame of knowledge, inspiring students to not only learn but to embrace the joy of discovery. Education is not just about imparting information; it's a journey of empowerment, fostering critical thinking, and nurturing the seeds of lifelong curiosity.

Background

Discovered a passion for teaching early on, driven by a desire to make a positive impact on students' lives.
Developed strong mentorship skills, providing guidance and support to students navigating academic and personal challenges.

Skills

Communication

0255075100

Problem solving

0255075100

Motivations

Driven by a deep desire to witness students succeed academically and personally.
Believes in the transformative power of education to shape lives.
Sees teaching as a way to make a lasting impact on society through the students.
Motivated by the opportunity to contribute to the development of future generations.

Challenges

Adapting teaching methods to ensure inclusivity and effectiveness for all students.
Balancing time constraints for lesson planning, grading, and administrative tasks.
Managing a diverse student population with varying needs and backgrounds.


UXPRESSIA

This persona was built in uxpressia.com


Persona

PERSONA: Kaitlyn

NAME
Kaitlyn

MARKET SIZE
 **25 %**


TYPE
Idealist




Goals

To be associated with the process of the organization that gives me scope to uplift my knowledge, my skills in the Software Industry.
I would like to be a part of a team that dynamicaly works towards the growth of the individual and the organization.

Demographic

 Female years

 Georgia

Single

Software Engineer


Quote


The most disastrous thing that you can ever learn is your first programming language.


Background


Certified in Android app development.

Skills









IT development


Software





Android


social Networking


Technology

Brands and influencers

Previous experience

1.5 years of experience as a Developer in creating programs based on specific requirements using Python. Involved in preparing user interface design and developing user experience for product-based websites. Worked with multiple production cases and solved issues within SLA.

Persona

PERSONA: Sarah

NAME

Sarah

MARKET SIZE



75 %

TYPE

Artisan



Quote

“With each stroke, I paint the canvas of my choices—choosing the path of artistic mastery, emotional expression, and impactful storytelling. My journey is a deliberate dance between innovation and uniqueness, a commitment to creating art that resonates and sparks change. In the gallery of life, my choices are the brushstrokes that define the masterpiece of my artistic destiny.”

Demographic

Female 29 years

Newyork

Married

Artist

Previous experience

Engaged in collaborative projects with fellow artists during and after formal education.

Participated in joint exhibitions and artistic endeavors.

Received recognition and awards for outstanding contributions to the art community.

Channels

Google

Instagram

YouTube

Twitter

Skills

Adaptability



Creative innovation



Technical proficiency



Goals

Commitment to continual refinement of skills

Conveying deep emotions and storytelling through art.

Embracing experimentation and unconventional approaches.

Building a supportive artistic community.

Background

Developed a distinctive artistic style as a result of the dual dance between structured education and personal experimentation.

The unique signature on the canvas reflects the evolution of the artist's identity.

UXPRESSIA

This persona was built in uxpressia.com

Interview

Question asked....

1. What do you think should be kept track of for better engagement?
2. Do you have any problems with how present classroom interaction works?
3. Should it be accessible to both students & Professors?
4. Do you think customization is needed for better learning experience?

Interview

1. How do you currently measure or assess your own level of engagement in your studies?
2. What role do you think technology plays in facilitating student engagement in the classroom?
3. How do you feel about traditional assessment methods (e.g., exams, quizzes, essays) in terms of measuring your understanding and engagement with the material?
4. Can you describe any experiences where you've felt disconnected or disengaged from your peers or educators? What do you think could have been done differently to improve the situation?

We worked to accommodate the interviewees in many ways...

- Virtual Interviews: Recognizing the potential barriers to in-person interviews, we offered virtual interview options.
- Providing Materials in Advance: In some cases, we provided interview questions or materials in advance to allow participants time to review and prepare their responses, ensuring a more productive and thoughtful discussion during the interview.
- Ensuring Confidentiality and Privacy: We assured participants of the confidentiality and privacy of their responses, emphasizing that their insights would be anonymized and used solely for research purposes.
- Respecting Cultural Norms: We respected cultural norms and preferences during the interview process, such as addressing participants by their preferred titles and respecting their personal space and boundaries.

Needfinding Methods

- **Need Exploration Interview:** We have used this interview method to gain deeper insights about the project. In here we kept the discussion open ended instead of asking direct questions. It helped us to keep the conversation interesting and get insights about the project through their experience.
- **Virtual Interviews:** Recognizing the potential barriers to in-person interviews, we offered virtual interview options.
- **Survey:** We have structured few questions which are very specific to our project to understand the user perspective. Based on the response we have asked a sequence of question to get them part of the process.

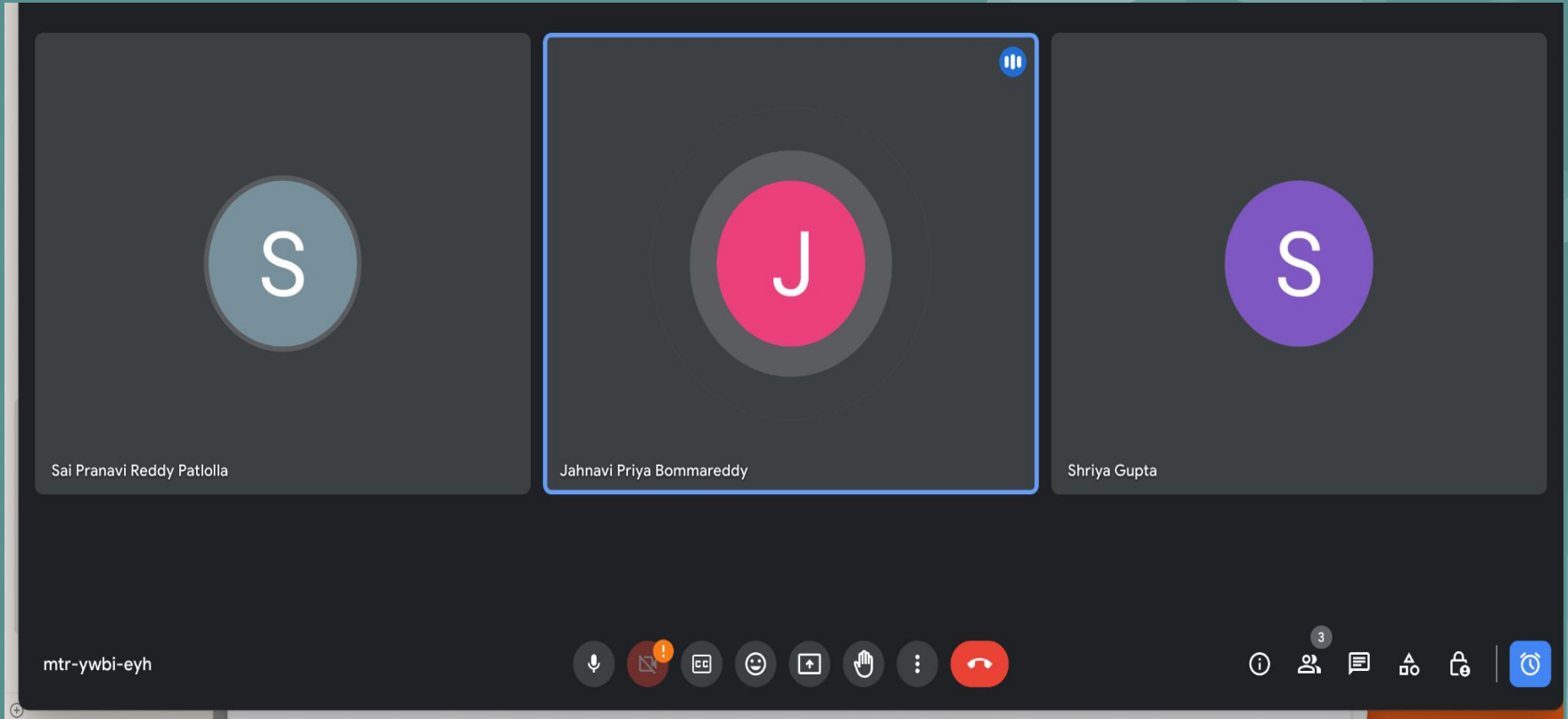
Additional Methods

- a. **Data Analysis:** Once the interview is done, we analyzed the collected insights and tried to correlate them to model of our project. Along with it we have categorized them based on the importance of the points discussed.
- b. **Walk in the shoes of the subject:** While doing the interview we have tried to be ourselves in their shoes and tried to understand their point of view. It helped us in understanding their insights and concerns more clearly.

Results:

- They have said that tracking their involvement in class discussions and activities to determine their degree of engagement should be present.
- The primary issue they had with the classroom teaching methods now in use was the absence of interpersonal interaction.
- They believe that there is lack of accessibility and that students find it difficult to understand concepts when they have little access to them.
- Some others found it impossible to take running notes throughout the presentation, which caused them to lose focus. Their main complaint is that they haven't been in contact with the professor because of scheduling conflicts.

Virtual Interviews



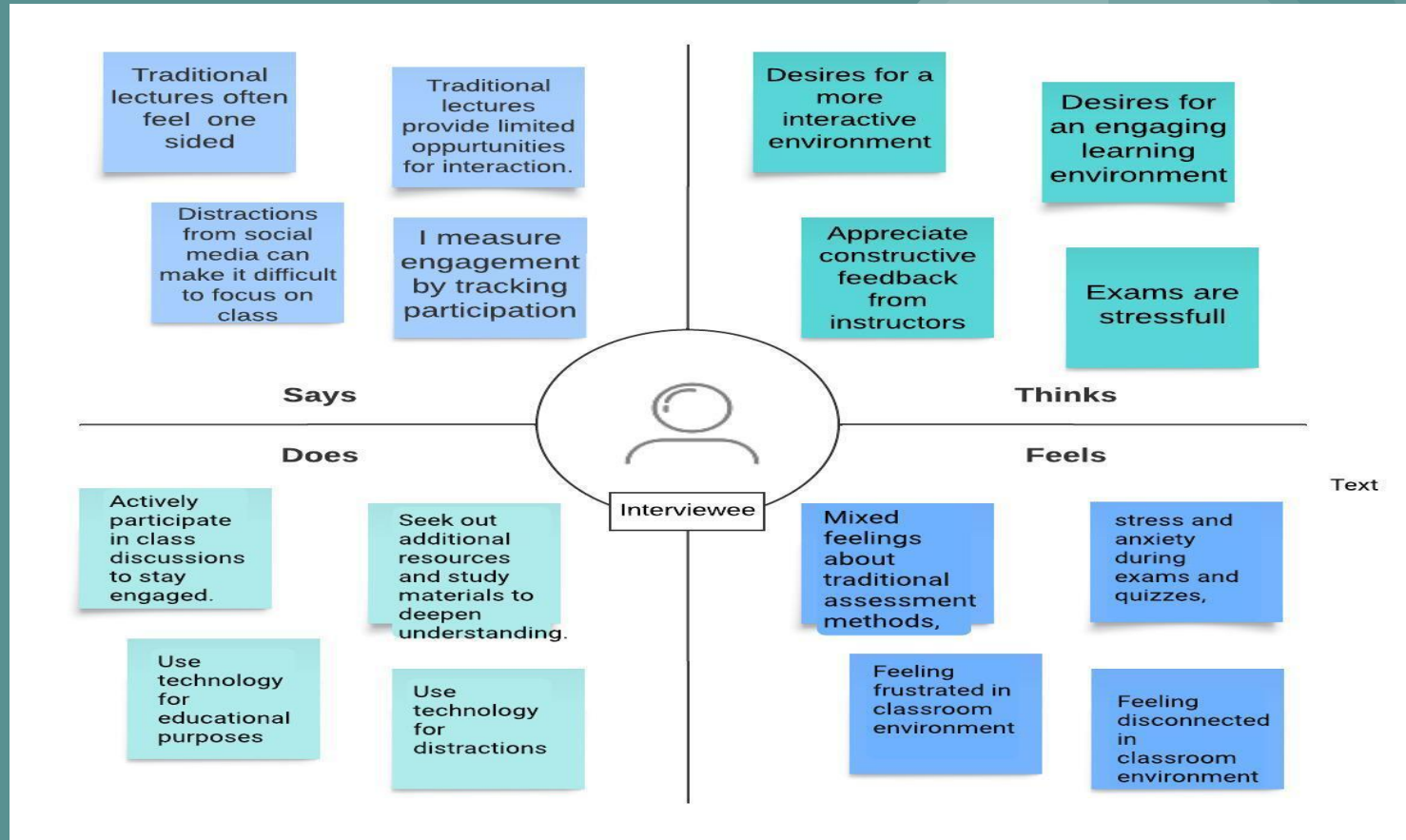
Quotes:

- A respondent mentioned, "There is a scheduling conflict between the professor's office hours and the students' class schedule."
 - She mentioned that she found it difficult to contact professors with questions or concerns about the course announcements.
- Others said "It would be great if there is a remainder of deadlines or an option to set reminder"
 - Having a reminder will help them plan and finish the assignment before the deadline is the intention behind the statement.

Learnings:

- After interviewing different set of people the one thing that interested our team is that, the students are ready to adapt to newer interactive tools which will help them improve in the field of study.
- They have shown immense interest in talking about their needs from the app and also discussed about the main problems they are facing with the existing system.
- By using the need exploration needfinding method we had fun and intriguing discussions with the interviewee's. It enlightened us that there is lot that we can learn by just observing people around us and having a good conversation.

Empathy map



Tensions, Contradictions and Surprises in the Interview

Tension between Accessibility and Privacy:

- a. There's a recognized need for accessibility to professors alongside the importance of maintaining privacy in note-taking, illustrating the delicate balance between fostering communication and respecting autonomy.

Contradiction in Accessibility Expectations:

- a. Desire for improved accessibility to educators conflicts with the acknowledgment of limited availability, reflecting a common challenge for students seeking support.

Surprise in Customization Preference:

- a. Emphasis on customization in learning experiences suggests a potential misalignment between current educational offerings and students' preferences, emphasizing the need for adaptable learning tools.

Tension between Tracking Engagement and Autonomy:

- a. Advocacy for tracking engagement clashes with the desire to preserve student autonomy in the learning process, necessitating careful consideration of assessment methods.

Contradiction in Professor Accessibility:

- a. Despite recognizing the lack of accessibility to educators, suggestions to limit access for privacy reasons highlight the complexity of balancing communication and privacy in educational settings.

Inferences

- **Importance of Balance:**
 - Need to balance accessibility to professors with the importance of privacy in student learning processes.
- **Need for Flexible Solutions:**
 - Growing demand for customizable learning experiences suggests a need for more adaptable educational systems.
- **Challenges of Accessibility:**
 - Contradictions in accessibility expectations highlight challenges students face in accessing support from educators.
- **Role of Technology:**
 - Questions about integrating customizable features and digital tools into educational platforms to enhance engagement, accessibility, and privacy.
- **Impact on Learning Outcomes:**
 - Exploration of alternative assessment methods that prioritize both accountability and autonomy to improve learning outcomes.

Needs:

1. **Improved Accessibility:** There is a clear need for improved accessibility to professors for support and guidance. Students expressed frustration with limited professor availability, indicating a desire for easier access to seek help when needed.
2. **Customizable Learning Tools:** Students emphasized the importance of customization in their learning experience. There is a need for educational platforms and tools that offer customizable features to cater to diverse learning preferences and needs.
3. **Balanced Approach to Tracking Engagement:** While students see value in tracking engagement through assignments and grades, there is a need to balance this with the preservation of student autonomy in the learning process. Alternative assessment methods that promote engagement while respecting autonomy may be beneficial.

Insights:

- **Complexity of Accessibility:** The tensions and contradictions surrounding accessibility highlight the complex nature of accessibility in educational settings. It's not merely about physical access but also about the availability of support and resources when needed.
- **Preference for Personalization:** Students' emphasis on customization suggests a growing preference for personalized learning experiences. This insight underscores the importance of adapting educational approaches to meet individual student needs and preferences.
- **Nuanced Perspective on Engagement:** The tensions between tracking engagement and preserving autonomy reveal a nuanced perspective on assessment and accountability. Students value feedback and accountability but also prioritize autonomy and self-directed learning.

Existing System Analysis

- The college's ELC (Learning Commons) serves as our existing system, encompassing online learning platforms, traditional classrooms, assessment methods, and communication tools.
- This centralized hub aims to provide students with access to a variety of learning resources

Strengths of the Existing System:

- The ELC boasts an established infrastructure, offering centralized access to a wealth of online learning materials.
- Students benefit from the flexibility and convenience of accessing educational resources at their own pace.

Challenges in the Existing System:

- Interviews with students and educators highlighted challenges such as limited interactivity within the ELC, passive communication channels, and a perceived lack of personalized learning experiences.
- Quotes from interviews underscore these challenges, illustrating the need for improvement.

Application of Design Principles:

- Applying design principles, we assessed the user-friendliness of the ELC. We considered factors such as navigation, accessibility, and adaptability.
- Our evaluation aimed to understand how well the ELC caters to the diverse needs and expectations of our student body.

Existing System Analysis

User Experience Evaluation:

- Our evaluation of the user experience within the ELC considered elements like user interface design and overall user satisfaction.
- Insights from interviews provided valuable feedback on the ease of use and effectiveness of the ELC.

Incorporating Needfinding Insights:

- Needfinding insights revealed alignment and dissonance with the ELC's current structure.
- Specific user needs emerged, including a desire for more interactive content, personalized learning paths, and improved communication tools.

Opportunities for Improvement:

- Opportunities for improvement include incorporating interactive features, developing personalized learning modules, and enhancing communication tools within the ELC.
- Addressing these opportunities holds the potential to significantly elevate student engagement.

Existing System Analysis

Key Takeaways:

- In conclusion, our analysis of the ELC highlighted both strengths and weaknesses.
- Recognizing the need for enhancements, we aim to better align the ELC with the evolving expectations of students in a dynamic learning landscape.

Implications for Future Design:

- Insights gained from the analysis will inform the design of our proposed solution.
- Specific areas for improvement were identified, laying the foundation for a more engaging and effective learning environment.

Transition to Proposed Solution:

- Transitioning to the next part of our presentation, we will introduce a transformative solution that addresses the identified challenges and aligns with the evolving needs of both students and educators.

Summary

Engagement Tracking and Accessibility:

- Tracking engagement through assignments/activities and grades is important for better engagement.
- Lack of accessibility, particularly difficulty in accessing professors due to limited availability, is a significant concern.

Customization for Effective Learning:

- Customization, such as personalized reminders and deadlines, helps students work effectively and concentrate on tasks.

Balancing Accessibility and Privacy:

- While accessibility to professors is crucial, there's a need to balance it with student privacy, particularly regarding note-taking.

Nuanced Perspectives on Accessibility:

- Students recognize the importance of accessibility to professors but also emphasize the need for privacy in their learning processes.

Surprise in Customization Preference:

- Emphasis on customization suggests a potential gap between current educational offerings and students' preferences for personalized tools and resources.

Tension between Tracking Engagement and Autonomy:

- While tracking engagement is valued for accountability, there's tension with preserving student autonomy in the learning process.

Complexity of Professor Accessibility:

- Contradictions in expectations highlight challenges in accessing professors while also respecting student privacy.

Learnings from the Needfinding activities

Completing the needfinding activities has provided us with valuable insights into our project. By engaging in open-ended discussions, virtual interviews, and structured surveys, we were able to gain a deep understanding of our users' needs and perspectives. This process allowed us to walk in the shoes of our subjects, empathizing with their experiences and gaining clarity on their insights and concerns.

Through data analysis, we correlated the collected insights with our project model, categorizing them based on their importance. This helped us prioritize areas of alignment and identify opportunities for innovation and improvement. By validating assumptions and iteratively designing our solutions, we ensured that our project remained user-centric and grounded in the realities of our target users.

Overall, completing the needfinding activities has reinforced the importance of understanding user needs, identifying opportunities, and building empathy. It has informed our decision-making process, guiding us towards creating solutions that truly address the challenges and preferences of our users. Moving forward, we will continue to leverage these learnings to drive the success and impact of our project.

Learnings from the existing system Analysis

User Experience Evaluation:

- Evaluation focused on user interface design and overall user satisfaction within the ELC.
- Insights from interviews provided valuable feedback on ease of use and effectiveness.

Incorporating Needfinding Insights:

- Needfinding insights revealed alignment and dissonance with the ELC's current structure.
- Specific user needs emerged, including a desire for more interactive content, personalized learning paths, and improved communication tools.

Opportunities for Improvement:

- Opportunities include incorporating interactive features, developing personalized learning modules, and enhancing communication tools.
- Addressing these opportunities could significantly elevate student engagement and satisfaction with the ELC.

Interview 1:

Interviewer: Sowmya Sree Vaddi and Sai Pranavi Reddy Patlolla;

Interviewee: Sophia Ungureanu

What do you think should be kept track of for better engagement?

Response: Sophia feels that engagement in class assignments/activities and grades should be primarily kept track of.

Do you have any problems with how present classroom interaction works?

Response: She feels like there is a lack of accessibility. She also feels like it is very hard to get access of the professor as the availability of professor is very limited.

Should it be accessible to both students & Professors?

Response: She feels like there should only few things that can be accessible by the professors. They should be some privacy given to the students on how they are taking their notes.

Do you think customization is needed for better learning experience?

Response: According to her customization helps her to work effectively. It helps her to concentrate on the work and get them done on time. She suggested that there should be a sent reminders regarding deadlines and should be able to set up reminders.

Interview 2:

Interviewer: Sowmya Sree Vaddi and Shriya Garlapati;

Interviewee: Jahnvi Priya Bommareddy

How do you currently measure or assess your own level of engagement in your studies?

Response: She mentioned that she gauges her level of engagement by tracking her participation in class discussions and activities.

What role do you think technology plays in facilitating student engagement in the classroom?

Response: She feels that having access to wealth of resources and and interactive learning tools helps in student engagement.

How do you feel about traditional assessment methods (e.g., exams, quizzes, essays) in terms of measuring your understanding and engagement with the material?

Response: She expressed mixed feelings about traditional assessment methods. While exams, quizzes, and essays provide a structured way to evaluate understanding, she feels they may not always accurately measure her engagement with the material.

Can you describe any experiences where you've felt disconnected or disengaged from your peers or educators? What do you think could have been done differently to improve the situation?

Response: She recalled an experience in a large lecture-style class where she felt disconnected from both her peers and the instructor. With minimal interaction and little opportunity for questions or discussion, she struggled to stay engaged with the material.

To improve the situation, she suggested implementing smaller group discussions or interactive activities within the lecture format. This would provide opportunities for peer interaction and active engagement with the material.

Interview 3:

Interviewer: Sowmya Sree Vaddi and Sai Pranavi Reddy Patlolla;

Interviewee: Ashwin Pillai

What do you think should be kept track of for better engagement?

Response: He feels like the collaborative notes that is being taken should be kept track by the professor and should have the access to make corrections to it. He feels that class engagement should also be kept track of with the help of in class activities as such.

Do you have any problems with how present classroom interaction works?

Response: He feels like in class activities are a great form to keep the engagement in the class, but there are few students who are unable to speak up in the class. Thus he suggests that the class activities should be anonymous. In that case they will be free to share their view and will have the freedom to share their doubts to the professor in the class.

Do you think customization is needed for better learning experience?

Response: He feels that customization helps him take the notes more efficiently and quickly. It will help them in being time efficient.

Do you feel there is lack of communication between students and professor?

Response: He faced conflict in communicating with the professor due to conflict of time schedule. He expressed his distress in unable to clarify his doubts just because of that. He suggested that if there is a chat box or like where students can discuss or clarify their doubts will be hugely helpful.

Interview 4:

Interviewer: Shriya Garlapati and Sai Pranavi Reddy Patlolla;

Interviewee: Ashwin Pillai

How do you feel about traditional assessment methods in terms of measuring your understanding and engagement with the material?

Response: In her opinion the traditional methods lack engagement between students. She expressed that traditional method burdens her and thus unable to understand the topics clearly.

What is your take on the assignments/homework's format or how they are being conducted?

Response: In her opinion there should be different methods applied based on the level of the homework. If it is broad homework then it should be given in groups at least thus they can get an understanding of the project.

Do you feel there is a need of collaborative note making platform?

Response: She felt it will help them be more time efficient and helps her in understanding the topics more clearly. It will be like a handbook of the course and can be referred when in doubt.

Interview 5:

Interviewer: Shriya Garlapati and Sai Pranavi Reddy Patlolla;

Interviewee: Harsha Veena

Can you describe any experiences where you've felt disconnected or disengaged from your peers or educators?

Response: It was somewhat difficult to take notes and maintain pace of the class because some of the teachers spoke quite quickly. He believed that under such circumstances, as well as when there is not enough time to fully comprehend the material being presented, he becomes disconnected. He believes it will be very beneficial if there is advance notice of the subjects that will be covered in the next lesson.

Should it be accessible to both students & Professors?

Response: He believed that in order to close the distance between them, both parties should be made accessible. They will be better able to grasp one another's work flow and stay on schedule with the lesson.