

GROUP 2025

Conversate: Supporting Reflective Learning in Interview Practice Through Interactive Simulation and Dialogic Feedback

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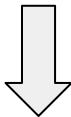


Introduction

Job Interview Practice

Research has shown that mock interviews can prepare candidates better (Huss et al., 2017).

However, not all individuals have access to career counselors for mock interview settings.

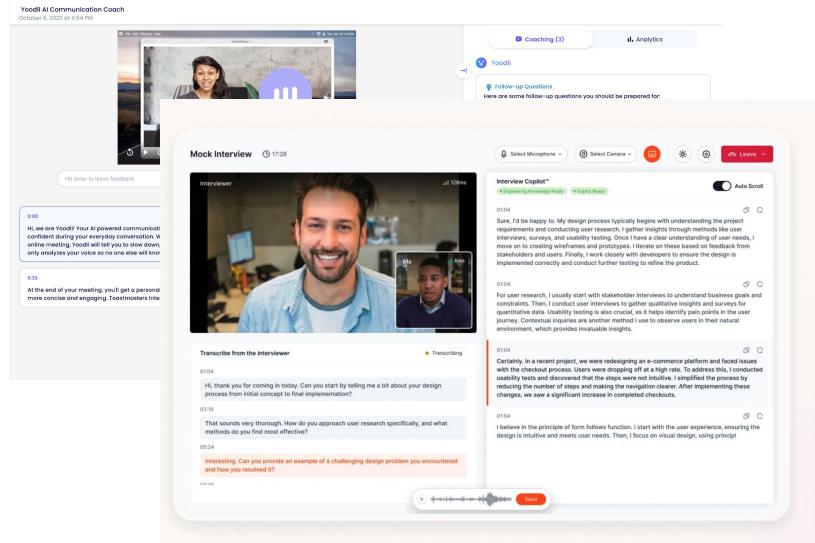


To address this challenge, both industry and academia have begun to explore the potential of AI to facilitate interview practice

Introduction

Trends in Leveraging LLM for Interview Practice

Tech companies have developed LLM-based interview practice systems to support interview simulations and provide feedback



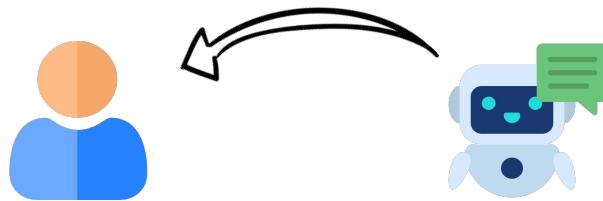
(e.g., Yoodli, FinalRoundAI)

"However, there is limited study on how users interact with or perceive LLM-based interview preparation."

Introduction

Limitation of Current Interview Practice Tools

Additionally, the common limitation of commercially available AI-based interview practice systems is that their feedback is unidirectional

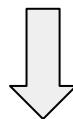


However, researchers argue that **feedback should actively involve the user in the learning process** rather than just delivering assessments (Boud, 2015)

Introduction

Better Way to Provide Feedback

For feedback to be effective, the **feedback loop must be closed**, meaning that feedback is not only provided but also understood, and acted upon by the learners (Boud, 2015)

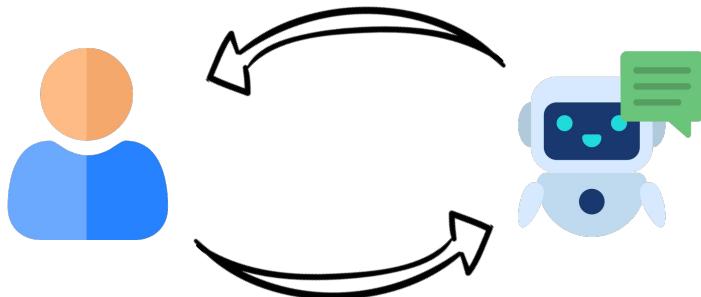


One way to achieve this is through a
“Dialogic Feedback”

Background

Dialogic Feedback

“Dialogic feedback is learning about and from feedback that takes place through dialogue, and involves students in interpretational meaning making about the feedback” (Steen et al., 2017)



Background

Dialogic Feedback

Four potentialities for learning (Steen et al., 2017)

Emotional and relational support

Facilitating a supportive learning environment using empathetic language is important

Maintenance of the dialogue

Engaging in a dialogue and ensuring the continuation of the feedback dialogue

Opportunities to express themselves

Allowing learners to articulate their thoughts and reflect on their understandings within the dialogue

Contribution to individual growth

Providing feedback and bringing in new knowledge as learners express themselves to support individual growth

Implementing Dialogic Feedback

1. **Emotional and relational support:** The LLM is prompted to acknowledge the user's answer in a supportive manner by offering constructive feedback
2. **Maintenance of the dialogue:** Upon receiving feedback, users can ask additional questions to deepen their understanding. The AI will then further engage by responding to the user, thereby maintaining a continuous dialogue with the user.
3. **Opportunities for users to express themselves:** During the dialogic feedback process, we added a revision feature for users to revise their answers by clicking the record button and revising their responses post-feedback.
4. **Contribution to individual growth:** After users revise their answers, the LLM will provide feedback again, and users can continue revising repeatedly.

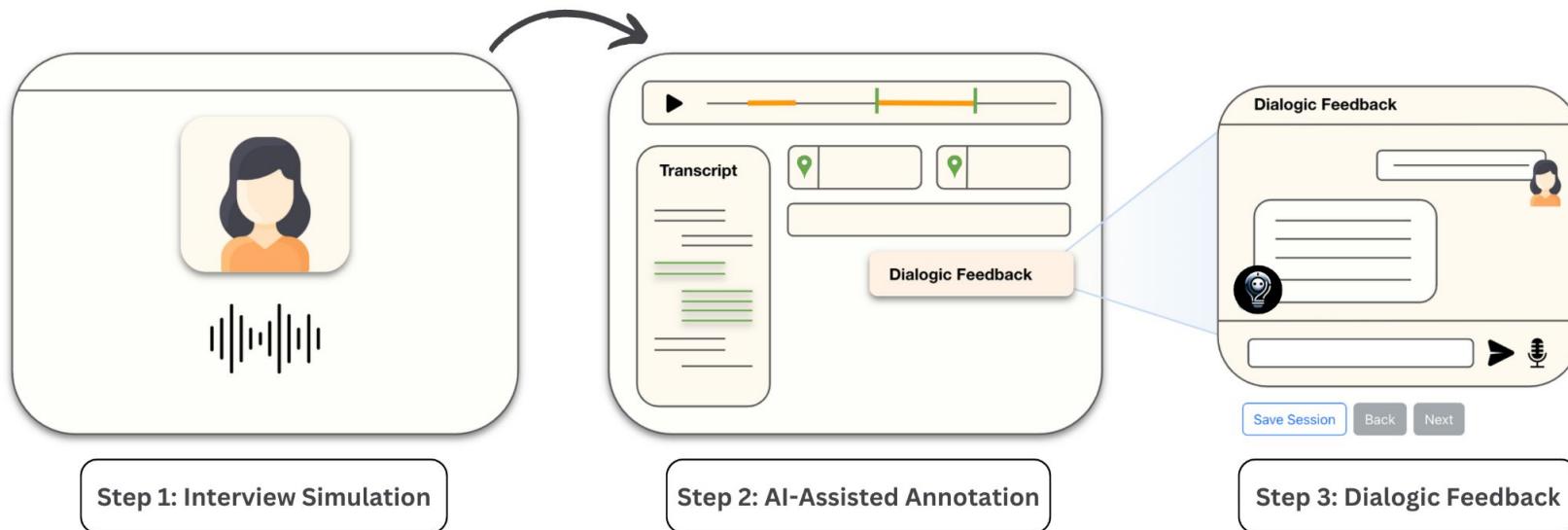
Background

Reflective Learning

- Definition of reflection: “activity in which people recapture their experience, think about it, mull it over and evaluate it” (Boud et al., 2013)
- 3 key components for supporting reflections (Slovak et al., 2017):
 - Explicit: reconstructing an experience for learning
 - Social: providing a supportive learning environment
 - Personal: relies on learners’ motivation to actively learn

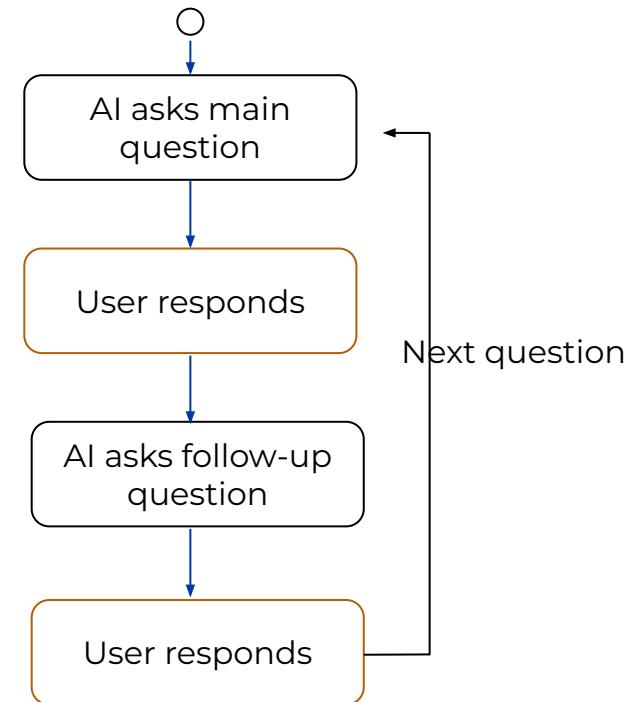
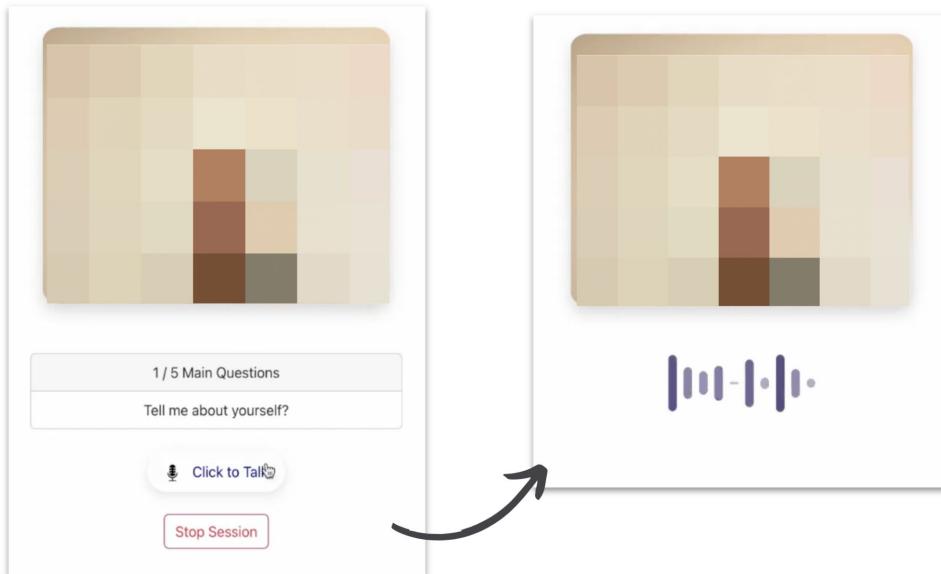
Conversate: AI-Mediated Interview Practice

An interactive web-based application that leverages LLMs to facilitate reflective learning through interactive interview simulation, AI-assisted annotation, and dialogic feedback for job interview practice.



System Components

1. Interview Simulation



System Components

2. AI-Assisted Annotation

Generated transcript

The screenshot shows a user interface for AI-assisted annotation. On the left, a transcript of a conversation is displayed with timestamps. On the right, annotation tools and AI-generated feedback are shown.

Generated transcript:

- user:** engineer focusing on backend 00:00:16 engineering where I built some backend APIs there.
- user:** And I'm currently looking forward 00:00:22 to work as a software engineer at your company because
- user:** I'm passionate in coding and 00:00:26 building softwares.
- user:** So I'm looking forward to it. 00:00:30
- user:** Thank you. 00:00:32

Annotated transcript:

- assistant:** That's great to hear! Your 00:00:39 experience with backend engineering and building APIs sounds impressive. Can you provide an example of a particularly challenging project you worked on and how you overcame the obstacles?
- user:** One challenging project that I've 00:00:53 worked on was building a linear board feature for our app.

Annotation Tools:

- A timeline at the top with a yellow segment indicating the **AI-Highlighted Area of Improvement**.
- Two specific timestamps are highlighted: 00:00:39 and 00:01:06, labeled as **User selected timestamps**.
- A text box in the center states: "I am not providing enough detail from my example".
- Buttons for **Open Feedback Chat Window**, **Save Session**, **Back**, and **Next**.

Annotations:

- A button labeled **Unshow Suggested Moments** is located at the top right of the timeline.
- A callout box points to the self-reflection text with the label **Self-reflection**.

AI-Highlighted
Area of
Improvement

User selected
timestamps

Self-reflection

System Components

3. Dialogic Feedback

The screenshot shows a conversational interface with the following components:

- Header:** A progress bar at the top indicates the session is at 00:00 / 01:24. To the right is a button labeled "Unshow Suggested Moments".
- User Input:** A list of user messages on the left:
 - "user: engineer focusing on backend 00:00:16 engineering where I built some backend APIs there."
 - "user: And I'm currently looking forward 00:00:22 to work as a software engineer at your company because"
 - "user: I'm passionate in coding and 00:00:26 building softwares."
 - "user: So I'm looking forward to it. 00:00:30"
 - "user: Thank you. 00:00:32"
- AI Response:** A yellow box containing the AI's response:

assistant: That's great to hear! Your experience with backend engineering and building APIs sounds impressive. Can you provide an example of a particularly challenging project you worked on and how you overcame the obstacles?
- Annotation:** A section titled "Annotation" with two timestamp markers:
 - A yellow marker at 00:00:39 with the text "I am not providing enough detail from my example".
 - A yellow marker at 00:01:06.
- Feedback Chat Window:** A dashed blue box highlights the "Open Feedback Chat Window" button, which is being clicked by a cursor. Below it are "Save Session", "Back", and "Next" buttons.
- User Response:** A yellow box containing the user's response:

user: One challenging project that I've 00:00:53 worked on was building a linear board feature for our app.

System Components

3. Dialogic Feedback

The screenshot shows a conversational interface with a timeline at the top. The timeline has a play button, a progress bar from 00:00 to 01:24, and a button to 'Unshow Suggested Moments'.

User Session:

- user:** engineer focusing on backend 00:00:16
engineering where I built some backend APIs there.
- user:** And I'm currently looking forward 00:00:22
to work as a software engineer at your company because
- user:** I'm passionate in coding and 00:00:26
building softwares.
- user:** So I'm looking forward to it. 00:00:30
- user:** Thank you. 00:00:32

assistant: That's great to hear! Your experience with backend engineering and building APIs sounds impressive. Can you provide an example of a particularly challenging project you worked on and how you overcame the obstacles? 00:00:39

user: One challenging project that I've 00:00:53
worked on was building a leaderboard feature for our app.

Annotation:

- 00:00:39: I am not providing enough details on my example
- 00:01:06: How to improve this part?

Ask Feedback:

Indeed, your response could use more detail. Let's use the STAR method to enhance it:

Situation: Start by setting the scene. What was the context of the project? Why was the leaderboard feature needed?

Task: What was your specific role or responsibility in this project?

Action: Describe the actions you took to address the task. What specific steps did you take to build the linear board feature?

Result: Finally, share the outcome of your actions. What was the impact of the feature you built? How did it benefit the app or the users?

Type your question here! Send Microphone icon

Save Session Back Next

System Components

3. Dialogic Feedback

The diagram illustrates a three-step process of dialogic feedback:

- Step 1:** The user interface displays a message from the LLM: "Do you want to try saying this part again in a better way? I can give you feedback again based on that". A blue circle labeled "1" is positioned next to the user input field.
- Step 2:** The user types a response: "during the time my company decide to build a leaderboard feature for our app and during that time I was back in engineer where I need to build it back and part and I need to ensure on the scalability and it needs to be accessible in real time so first I have to decide what kind of technology that I have to use and after thinking and discussing with my teammates I finally decide to use elasticsearch to make to make sure it is real time and scalable and then finally I do love the app and the feature was successfully deployed and it was beneficial for the company as it increased the revenue by 100%". A blue circle labeled "2" is positioned next to the user input field.
- Step 3:** The user receives feedback from the LLM: "Great job! You've effectively used the STAR method in your response:". The LLM also provides a situation, task, action, and result for the user's response. A blue circle labeled "3" is positioned next to the user input field.

User Interface Components:

- Time indicators: 00:00:39 and 00:01:06.
- Message: "I am not providing enough details on my example".
- Section: "Ask Feedback".
- Text area: "Indeed, your response could use more detail. Let's use the STAR method to enhance it:".
- Text area: "Situation: Start by setting the scene. What was the context of the project? Why was the leaderboard feature needed?".
- Text area: "Task: What was your specific role or responsibility in this project?".
- Text area: "Action: Describe the actions you took to address the task. What specific steps did you take to build the linear board feature?".
- Text area: "Result: Finally, share the outcome of your actions. What was the impact of the feature you built? How did it benefit the app or the users?".
- Text area: "Type your question here!".
- Buttons: "Send" and "Microphone".
- Buttons: "Save Session", "Back", and "Next".

LLM Responses:

- Response 1: "Do you want to try saying this part again in a better way? I can give you feedback again based on that".
- Response 2: "during the time my company decide to build a leaderboard feature for our app and during that time I was back in engineer where I need to build it back and part and I need to ensure on the scalability and it needs to be accessible in real time so first I have to decide what kind of technology that I have to use and after thinking and discussing with my teammates I finally decide to use elasticsearch to make to make sure it is real time and scalable and then finally I do love the app and the feature was successfully deployed and it was beneficial for the company as it increased the revenue by 100%".
- Response 3: "Great job! You've effectively used the STAR method in your response:".
Situation: Working as a software engineer, your team decided to build a leaderboard feature to increase app revenue.
Task: As a backend engineer, you were responsible for building a scalable, real-time accessible leaderboard feature.
Action: You discussed with your teammates about the tools to use, and decided on Elasticsearch, which you successfully implemented.
Result: The leaderboard feature was successful and increased the app's revenue by 100%.

Feedback Summary: This response is detailed and clearly demonstrates your problem-solving skills and impact on the project. Well done!

System Components

3. Dialogic Feedback

The diagram illustrates the System Components for Dialogic Feedback, showing three main components connected by arrows:

- 1. User Interface for Asking Feedback:** This component contains a timestamp (00:00:39), a message ("I am not providing enough details on my example"), and a "Ask Feedback" section. The "Ask Feedback" section includes a "How to improve this part?" button and a response: "Indeed, your response could use more detail. Let's use the STAR method to enhance it:" followed by four bullet points: **Situation:** Start by setting the scene. What was the context of the project? Why was the leaderboard feature needed? **Task:** What was your specific role or responsibility in this project? **Action:** Describe the actions you took to address the task. What specific steps did you take to build the linear board feature? **Result:** Finally, share the outcome of your actions. What was the impact of the feature you built? How did it benefit the app or the users? Below this is a "Type your question here!" input field, a "Send" button, and a microphone icon.
- 2. Central Knowledge Base/AI System:** This component contains a timestamp (00:01:06) and a message: "Do you want to try saying this part again in a better way? I can give you feedback again based on that". It also contains a large text block: "during the time my company decide to build a leaderboard feature for our app and during that time I was back in engineer where I need to build it back and part and I need to ensure on the scalability and it needs to be accessible in real time so first I have to decide what kind of technology that I have to use and after thinking and discussing with my teammates I finally decide to use elasticsearch to make to make sure it is real time and scalable and then finally I do love the app and the feature was successfully deployed and it was beneficial for the company as it increased the revenue by 100%". Below this is a "Type your question here!" input field, a "Send" button, and a microphone icon.
- 3. User Interface for Receiving and Responding to Feedback:** This component contains a timestamp (00:01:06) and a message: "Great job! You've effectively used the STAR method in your response:". It also contains a large text block: "Situation: Working as a software engineer, your team decided to build a leaderboard feature to increase app revenue. Task: As a backend engineer, you were responsible for building a scalable, real-time accessible leaderboard feature. Action: You discussed with your teammates about the tools to use, and decided on Elasticsearch, which you successfully implemented. Result: The leaderboard feature was successful and increased the app's revenue by 100%. This response is detailed and clearly demonstrates your problem-solving skills and impact on the project. Well done!". Below this is a "Type your question here!" input field, a "Send" button, and a microphone icon.

System Components

3. Dialogic Feedback

The diagram illustrates the three components of dialogic feedback:

- 1. Ask Feedback:** A user interface for asking for feedback. It includes a timer (00:00:39), a microphone icon, and a text input field ("I am not providing enough details on my example"). Below it is a "Ask Feedback" button and a "How to improve this part?" button. A blue circle with the number 1 is positioned to the left of the interface.
- 2. Provide Feedback:** A user interface for providing feedback. It shows a timer (00:01:06), a microphone icon, and a text input field ("Type your question here!"). A "Send" button and a microphone icon are to the right. A large text box contains a story about building a leaderboard feature. A blue circle with the number 2 is positioned above the interface. A curved arrow points from the "Ask Feedback" interface to the "Provide Feedback" interface.
- 3. Reflect on Feedback:** A user interface for reflecting on feedback. It features a dashed blue border around the "Provide Feedback" interface. Inside, a "Great job!" message is displayed, followed by a story about a software engineer's experience with Elasticsearch. A blue circle with the number 3 is positioned below the reflection area. A curved arrow points from the "Provide Feedback" interface to the "Reflect on Feedback" interface.

Ask Feedback:

- 00:00:39
- I am not providing enough details on my example
- Ask Feedback
- How to improve this part?
- Indeed, your response could use more detail. Let's use the STAR method to enhance it:
- Situation:** Start by setting the scene. What was the context of the project? Why was the leaderboard feature needed?
- Task:** What was your specific role or responsibility in this project?
- Action:** Describe the actions you took to address the task. What specific steps did you take to build the linear board feature?
- Result:** Finally, share the outcome of your actions. What was the impact of the feature you built? How did it benefit the app or the users?
- Type your question here!
- Send
- Microphone icon
- Save Session
- Back
- Next

Provide Feedback:

- 00:01:06
- Type your question here!
- Send
- Microphone icon

Reflection:

- Great job! You've effectively used the STAR method in your response:
- Situation:** Working as a software engineer, your team decided to build a leaderboard feature to increase app revenue.
- Task:** As a backend engineer, you were responsible for building a scalable, real-time accessible leaderboard feature.
- Action:** You discussed with your teammates about the tools to use, and decided on Elasticsearch, which you successfully implemented.
- Result:** The leaderboard feature was successful and increased the app's revenue by 100%.
- Type your question here!
- Send
- Microphone icon

System Components

3. Dialogic Feedback

The diagram illustrates a three-step dialogic feedback process:

- User Input (Step 1):** The user types "I am not providing enough details on my example" and sends it. A callout bubble "1" indicates the user's question.
- AI Response (Step 2):** The AI provides feedback: "Indeed, your response could use more detail. Let's use the STAR method to enhance it:" followed by a detailed story about building a leaderboard feature. A callout bubble "2" indicates the AI's response.
- User Input (Step 3):** The user types "Type your question here!" and sends it. A callout bubble "3" indicates the user's question.

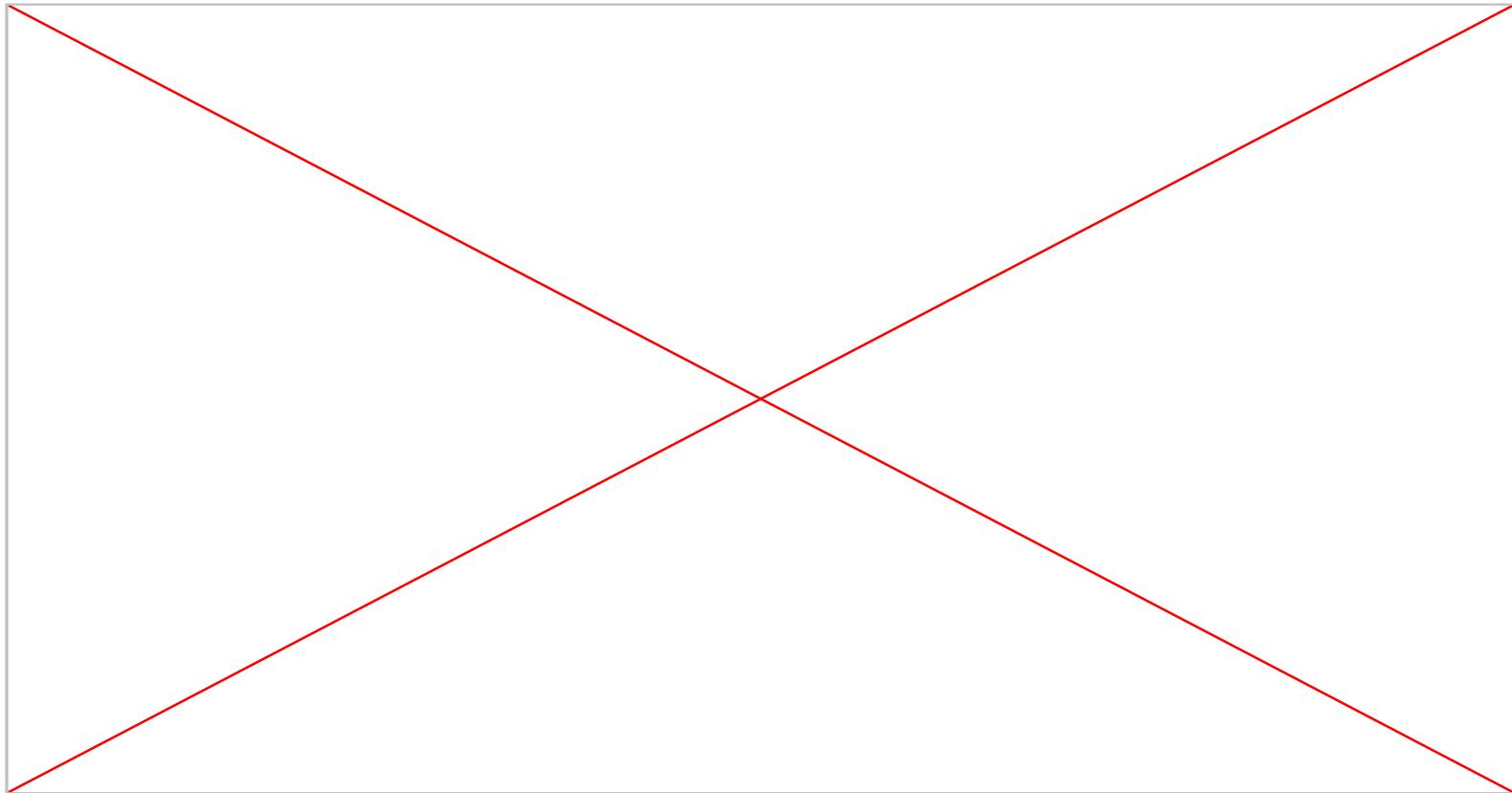
User Interface Elements:

- Time indicators: 00:00:39 and 00:01:06.
- Microphone icons.
- "Ask Feedback" button.
- "How to improve this part?" button.
- "Send" and microphone icons in the input fields.
- "Save Session", "Back", and "Next" buttons at the bottom.

AI Generated Content:

- Situation:** Start by setting the scene. What was the context of the project? Why was the leaderboard feature needed?
Task: What was your specific role or responsibility in this project?
Action: Describe the actions you took to address the task. What specific steps did you take to build the linear board feature?
Result: Finally, share the outcome of your actions. What was the impact of the feature you built? How did it benefit the app or the users?
- Situation:** Working as a software engineer, your team decided to build a leaderboard feature to increase app revenue.
Task: As a backend engineer, you were responsible for building a scalable, real-time accessible leaderboard feature.
Action: You discussed with your teammates about the tools to use, and decided on Elasticsearch, which you successfully implemented.
Result: The leaderboard feature was successful and increased the app's revenue by 100%.

System Demo



User Study

- Method: Semi-structured interview after using the tool (qualitative evaluation). Exploring users perception towards LLM-based interview practice.
- 19 participants (college students, professional workers, unemployed)

Findings

Key Findings: Benefits

Perceived Benefits of Interview Simulation With AI (Feature 1)

- Fostering Improvement Through Repeated Practice in a Low-Stakes Environment
 - *Perceived AI as a “non-judgmental machine.” (P7)*

Key Findings: Benefits

Perceived Benefits of Interview Simulation With AI (Feature 1)

- Fostering Improvement Through Repeated Practice in a Low-Stakes Environment
- Perception of AI as a More Professional Interviewer Than Peers

"Sometimes I feel like with friends, it can be a little bit more casual, and this kind of [AI] simulates a more serious environment. I actually prefer this a little bit more. [...] this experience itself was, I think, a good practice for interviews." - P10

Important factor: The AI asks very detailed follow-up questions (P5)

Key Findings: Benefits

Perceived Benefits of Interview Simulation With AI

- Fostering Improvement Through Repeated Practice in a Low-Stakes Environment
- Perception of AI as a More Professional Interviewer Than Peers
- Contextually Relevant Follow-up Questions Encourage Deeper Thinking

Main question

Hi, nice to meet you. I'm the Hiring Manager for the Project Manager position. Can you please tell me about yourself?

[...] my background is in account management and customer success. So I did that for a couple of years and then eventually during the pandemic made the transition to [...] supporting some large and small scale clients in the pharmaceutical and healthcare lines of business.[...]

Follow-up question

It's great to hear about your background in account management and customer success as well as your experience in the pharmaceutical and healthcare industries. How do you think these experiences have equipped you to excel in a project management role?

Thank you so much for those questions. [...] First, I'll start off with my experiences ...

Key Findings: Benefits

2. Perceived Benefits of AI-Assisted Annotation

- Reducing Cognitive Burden by Prioritizing Focus Areas.
- Mitigating Excessive Self-Criticism.

Key Findings: Benefits

2. Perceived Benefits of AI-Assisted Annotation

- Reducing Cognitive Burden by Prioritizing Focus Areas.
- Mitigating Excessive Self-Criticism.

"I agree with the AI's suggestions about the areas I would need to practice more. [...] Honestly, I probably would have marked more [weak] areas for me. So I think [the AI] is being generous." - P12

However receiving extensive highlighted areas could potentially discourage

"If [the AI] says the whole thing was bad, then there's going to be less motivation [for me] to click on every single thing and improve upon it again [...] Even though I think that the whole point is to improve. It is humbling cause we all want to be perfect the first time around [...] I think it needs to have that balance there" - P14

Key Findings: Benefits

Perceived Benefits of Dialogic Feedback (Feature 3)

- Promotes Personalized and Continuous Learning
 - Allowed user to "continue to ask questions [to] keep advancing your response." (P17)
 - "Usually, I have small little blocks in my brain that [lead to] weird questions. The AI is good at answering those in dialogue rather than when you get generalized feedback." (P6)

Key Findings: Benefits

Perceived Benefits of Dialogic Feedback (Feature 3)

- Promotes Personalized, Continuous Learning
- Helps Users Learn Without Feeling Judged
 - *Engaging in dialogue with the AI "Felt less like being evaluated and more like helping you grow." (P8)*

Key Findings: Benefits

Perceived Benefits of Dialogic Feedback (Feature 3)

- Promotes Personalized, Continuous Learning
- Helps Users Learn Without Feeling Judged
- Enables Users to Express Disagreement

AI Agent

User

Could you give me example how to answer this better?

AI Agent Response:

Here's a more structured response using the STAR method:

- **Situation:** In my previous role as a developer, I was often faced with tight deadlines and complex problems.
- **Task:** My task was to deliver high-quality solutions within the given timeframe.
- **Action:** I leveraged my ability to learn quickly and adapt to different situations. I stayed focused and persevered, even when faced with challenging concepts.
- **Result:** As a result, I was able to consistently meet deadlines and deliver effective solutions, which I believe is a testament to my greatest strength: perseverance.

Remember, it's important to provide specific examples to back up your claims. This will make your response more credible and impactful.

User Question:

The question is about my greatest strength. Should I be using the star method for that?

AI Agent Response:

My apologies for the confusion. You're correct, the STAR method is typically used for behavioral interview questions, not for questions about personal attributes like strengths.

Here's a more appropriate response: "My greatest strength is my ability to persevere and adapt to any situation. This is"

Key Findings: Challenges

Perceived Challenges in Using AI for Interview Simulation (Feature 1)

- Low-Stakes Environment May Not Fully Reflect Real Interviews
 - Why: "*the AI is always positive or receptive to every answer*" (P19)
 - Suggestion:
 - Adding variability to the AI interviewer's tone
 - Human-AI collaboration

"Maybe there can be a sort of like option where instead of the bot speaking out the question. I can show this [tool] to my friend, and he would act as the interview [...] and follow the script on a screen." - P19

Key Findings: Challenges

Perceived Challenges in Using LLM-Based Dialogic Feedback (Feature 3)

- Sycophantic Behavior in LLM During Dialogic Feedback
 - The AI tends to agree with the user whenever the user expresses disagreement

"I thought that it makes sense for you to just say [if] I disagree. But then it just kind of ended up agreeing with me.[...] But it's a good option. " - P14

Key Findings: Challenges

Perceived Challenges in Using LLM-Based Dialogic Feedback (Feature 3)

- Sycophantic Behavior in LLM During Dialogic Feedback
- Never-Ending Revision May Trigger Self-Frustration.

"I feel disappointed sometimes when I know that I've not quite improved. However, I feel happy because at least I've got a [feedback], because if I'm not really doing well, that's the truth, and I need to improve. [...] But sometimes I'm so annoyed with myself, not the AI but myself. Maybe because I didn't get something right, or I didn't improve as much as I wished to." - P2

This behavior may cause a shift from learning the core concepts to simply seeking AI approval (P10).

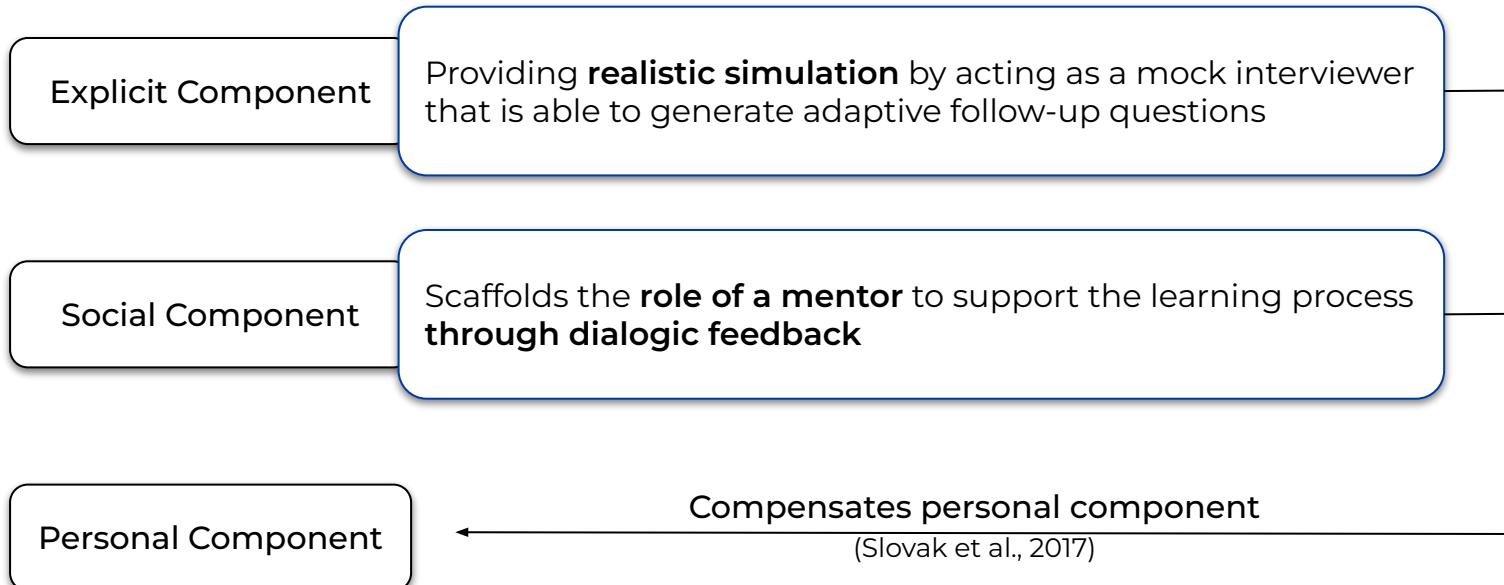


Discussion

Discussion

The Role of LLM in Supporting Reflective Learning in Interview Practice

3 key components for supporting reflections (Slovak et al., 2017):



Discussion

Leveraging LLMs for Dialogic Feedback



Benefits:

- Promoting personalized and continuous learning
- Reduces the feelings of judgment



potentially increase the acceptance and internalization of the feedback (Winstone et al., 2017)



Challenges:

Sycophantic behaviour of LLM



Implication:

A shift towards more dynamic and human-like interactions between users and AI systems, especially in a learning context

Discussion

Reshaping Learners as Active Agents in Human-AI Collaborative Learning

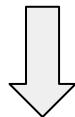
Learners are not merely recipients of information but active agents who actively seek information for learning (Boud, 2015)



Our study provides examples that positioning humans as active agents can potentially support the learning process



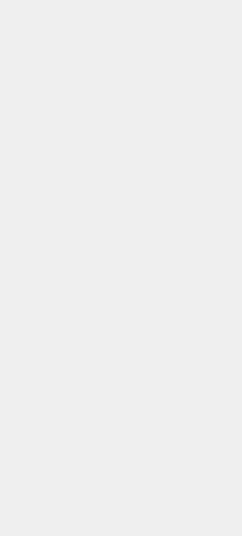
Challenge: maintaining the learner's motivation to engage consistently in the process can be challenging



Future work: How to find the balance between having learners as active agents and when the AI should take a more proactive role in engaging the learners in the process?

Other Future Works

- Technical evaluation of the LLM output and feedback in interview practice
- Longitudinal study to measure the efficacy of LLM-based interview practice
- Integrating LLM-based practice alongside conventional interview preparation



Thank You

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