



COMMUNIPREP

“Master your interviews with our storytelling guide to land your dream job.”

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Project Name and Value Proposition

CommuniPrep

“Master your interviews with our storytelling guide to land your dream job.”

Problem/Solution Overview:

Many students struggle to communicate their qualifications effectively during job interviews, despite having strong skills. This challenge arises from a gap between their academic knowledge and their ability to express it professionally. A simple storytelling framework, combined with body language and communication tips, helps students structure their answers clearly, boost confidence, and improve presentation skills, ensuring they convey their abilities and succeed in interviews.

Needfinding

Domain

Improving communication skills for students preparing for job interviews

Why did we choose this domain?

We chose this solution through a collaborative process that analyzed the challenges faced by job candidates, especially university students, during interviews. By conducting interviews and gathering insights from HR professionals, we identified key areas needing improvement. After evaluating various ideas, we decided that creating a storytelling framework would be the most effective approach. This framework guides users in structuring their answers clearly and concisely, enabling them to connect their experiences directly to the job role they are pursuing. It also includes cues for body language and communication tips, helping users to maintain eye contact, adopt confident posture, and express emotions appropriately. This structured approach not only boosts users' confidence in self-expression but also empowers them to effectively showcase their skills and experiences. Additionally, storytelling serves as a powerful communication tool, engaging listeners and improving information retention.

Interviews

Participants

A total of five participants were interviewed.

Immediate Users:

- Nima (male, master's student at the University of Turin)
- Nima Sadeghzadeh (male, PhD student at the University of Auckland)

Extreme Users:

- Peter (male, Polito student with job experience)
- Elisa (female, ex-student transitioned into the workforce)

Domain Expert:

- Antonio (HR professional at OGR)

Methodology and execution

Recruitment:

Participants were recruited through various channels, including university networks and professional networks (e.g., LinkedIn).

Locations:

- Peter: University
- Nima: Dormitory
- Elisa: Online (Google Meet)
- Antonio: Office at OGR
- Nima Sadeghzadeh: Online (Zoom)

Materials:

- Camera and voice recorder
- Online platforms (Google Meet, Zoom)

Questions (Immediate User):

1. What challenges do you face when preparing for job interviews, especially related to communication?
2. What drives you, what drives your motivation to improve your communication skills for interviews?
3. Could you tell me three things you think you do well in your interview preparation?
4. Could you share what tools resources or strategies, for example workshops online tools or career counselors you currently use to improve your interview skills and how they have been helpful for you?
5. On a scale from 1 to 10 how effective have these resources been for you in improving your communication skills where 1 is not effective at all and 10 is extremely effective?
6. Which three Communication skills do you find the most difficult during interviews? And why do you think these specific skills are challenging for you?
7. How do you handle unexpected or challenging questions during interviews?

8. What kind of feedback do you find most helpful? (I mean personalized feedback or in detail feedback or immediate feedback.)
9. What features would you expect from an AI powered interview coach simulator?
10. How do you manage your stress and anxiety during interview preparation?
11. What additional support or resources would you like to see from your university?
12. How do you plan to continue developing your communication skills after you graduate?
13. If you could change one thing about how you approach interview preparation, what would it be?

Questions (Extreme User):

1. I would like to ask you about what challenges you face when preparing for job interviews, especially related to communication?
2. Could you tell me what drives your motivation to improve your communication skills for interviews?
3. Could you tell me three things you think you do well in your interview preparation?
4. Could you share what tools or resources or strategies, for example, workshops, online tools or career counselors you currently use to improve your interview skills and how they have been helpful for you?
5. On a scale from 1 to 10, how effective have these resources been for you to improve your communication skills, where 1 is not effective at all and 10 is extremely effective?
6. Could you tell me which three communication skills do you find the most difficult during interviews? And why do you think these specific skills are challenging for you?
7. How do you handle unexpected or challenging questions during interviews?
8. What kind of feedback do you find most helpful? For example, personalized feedback or in detail or immediate feedback?
9. What features would you expect from an AI-powered interview coach simulator? For example, feedback on tone or body language or timing, or something like that.
10. How do you manage stress or anxiety during interview preparation?
11. What additional support or resources would you like to see from your university?
12. How do you plan to continue developing your communication skills after you graduate?
13. Looking back, how have your communication skills changed since you first started preparing for job interviews?
14. If you could change one thing about how you approach interview preparation, what would it be?
15. In what areas do you see exciting resources or tools better helping students improve their communication skills?
16. How do you think technology or other digital tools could help students improve their communication skills if you know any specific applications?
17. How do you think non-verbal communications like eye contact or posture could influence the outcome of an interview?
18. What do you think about how crucial communication skills are in comparison to technical or job specific skills in the hiring decisions?
19. If I forgot to cover something or missed any important thing that you would like to discuss, what else should I have asked about?

Questions (Domain Expert):

1. What communication challenges do you often observe in candidates during interviews, particularly among university students?
2. Based on your experience, what communication skills do employers prioritize when evaluating job candidates?
3. How do you assess a candidate's ability to communicate effectively during an interview (e.g., body language, articulation, confidence)?
4. Could you tell me three common communication difficulties you notice in university graduates during interviews?
5. What resources do you typically recommend to students or job candidates to help them improve their communication skills before an interview?
6. How do you think non-verbal communication (e.g., eye contact, posture) influences the outcome of an interview?
7. How crucial are communication skills in comparison to technical or job-specific skills in the hiring decisions?
8. Could you tell me three good pieces of advice you usually give to candidates who struggle with interview anxiety, and how does it impact their communication?
9. In what areas do you see existing resources or tools better to help students improve their communication skills for interviews?
10. How do you think technology, like AI or other digital tools, could help students improve their communication skills in preparation for interviews?
11. What kind of feedback do you think would be most useful for candidates to improve their communication skills for future interviews?
12. How do you evaluate communication skills when candidates are from diverse linguistic or cultural backgrounds?

Results

Interview 1

Interviewee	Nima (Immediate User)
Age	24 years old
Gender	Male
Recruitment Method	through university networks and peer referrals
Key Observations	<ul style="list-style-type: none">- Limited interview experience led to minimal perceived challenges in communication.- Perfectionist attitude, emphasizing the desire to be well-prepared for interviews.- Acknowledged issues with body language and focus, especially when distracted.
Team Member Roles:	Mahsa: Interviewer Roshanak: Observer
Location of Interview	Conducted at Nima's dormitory
Materials Used:	Camera and voice recorder
Consent	<u>Consent form</u>

Questions and Summary of Answers:

1. What challenges do you face when preparing for job interviews, especially related to communication?

- Nima said that he hasn't faced many challenges due to limited experience but noted that language barriers could be an issue if the interviewer speaks a language, they are not fluent in.

2. What drives you, what drives your motivation to improve your communication skills for interviews?

- Nima said he likes to prepare himself for all possible scenarios, so he doesn't feel stressed during the interview.

3. Could you tell me three things you think you do well in your interview preparation?

- Nima said he is good at creating friendly conversations, but due to his lack of experience, he was unable to think of additional strengths.

4. Could you share what tools resources or strategies, for example workshops online tools or career counselors you currently use to improve your interview skills and how they have been helpful for you?

- Nima said he uses practice websites to prepare for technical questions and review fundamental concepts in their field

5. On a scale from 1 to 10 how effective have these resources been for you in improving your communication skills where 1 is not effective at all and 10 is extremely effective?

- He gave them a score of 7.5 out of 10, stating that these resources are of moderate effectiveness.

6. Which three Communication skills do you find the most difficult during interviews? And why do you think these specific skills are challenging for you?

- Staying focused when others use distracting body language, using body language effectively to explain concepts, maintaining focus during complex questions, sometimes requiring clarification or repetition.

7. How do you handle unexpected or challenging questions during interviews?

- He said he would ask follow-up questions to clarify unfamiliar topics.

8. What kind of feedback do you find most helpful? I mean personalized feedback or in detail feedback or immediate feedback?

- Nima prefers immediate feedback on tone or attitude to address potential misunderstandings early. Afterward, he finds personalized, job-specific feedback helpful, but they believe detailed feedback is unrealistic in short interactions.

9. What features would you expect from an AI powered interview coach simulator?

- Nima said that an AI-powered tool could assist with tone, timing, and voice analysis.

10. How do you manage your stress and anxiety during interview preparation?

- Nima manages this by practicing, using feedback, and improving their preparation over time.

11. What additional support or resources would you like to see from your university?

- Nima said he would like the university to offer classes on communication skills, body language workshops, and more student clubs or gatherings to foster practice opportunities.

12. How do you plan to continue developing your communication skills after you graduate?

- Nima plans to participate in internships to gain industry experience and continue practicing and using feedback to improve.

13. If you could change one thing about how you approach interview preparation, what would it be?

- Nima would focus on networking, asking employed professionals and classmates for advice, and leveraging AI tools and online forums for sample questions and insights.

Interview 2

Interviewee	Nima Sadeghzadeh (Immediate User)
Age	28 years old
Gender	Male
Recruitment Method	through university networks and peer referrals
Key Observations	<ul style="list-style-type: none">- Challenges in clarity and conciseness during interviews, particularly as a non-native English speaker.- Preparation strategies include conducting research, practicing mock interviews, and seeking personalized feedback.
Team Member Roles:	Leila: Interviewer Giuseppe: Observer
Location of Interview	Conducted online via Zoom
Materials Used:	Camera, voice recorder, and Zoom app
Consent	Consent form

Questions and Summary of Answers:

1. What challenges do you face when preparing for job interviews, specifically related to communication?

- he said that as a non-native English speaker, it is challenging to be clear and concise. He sometimes uses filler words like "um" or "uh," which can negatively impact his chances.

2. Could you tell me three things you think you do well in your interview preparation?

- He conducts research about the role and company, takes mock interviews to practice, and practice speaking in front of a mirror to control his unintentional laughter during serious situations.

3. Could you share what tools, resources, or strategies (e.g., workshops, online tools, career counselors) you currently use to improve your interview skills? (and how have they been helpful to you?)

- He uses online and in-person mock interviews, watch videos about interviews, and finds short presentations by university counselors helpful for general guidance on what interviewers look for.

4. On a scale from 1 to 10, how effective have these resources been for you in improving your communication skills? (where 1 is 'Not effective at all' and 10 is 'Extremely effective'?)

- He rated the effectiveness of these resources as a 5, explaining that while he provides general guidance, they don't address the specifics that vary between interviews.

5. Which three communication skills do you find the most difficult during interviews, and why do you think these specific skills are challenging for you?

- Managing nervousness, especially under time pressure, and to effectively summarize past experiences is challenging for him.

6. How do you handle unexpected or challenging questions during interviews?

- he pauses to think, try to relate the question to their previous skills, and ask for clarification when needed.

7. What kind of feedback do you find most helpful? (personalized, detailed, immediate)

- he said that personalized feedback at the end of an interview is most helpful, as it provides detailed information on how to improve for future interviews.

8. What features would you expect from an AI-powered interview coach simulator?

(feedback on tone, body language, timing)

- He said that an AI-powered simulator could simulate real interviewers, provide feedback on tone and timing, and company websites for relevant questions.

9. How do you manage stress or anxiety during interview preparation?

- He practices breathing exercises and rehearses possible questions to reduce stress and anxiety.

10. What additional support or resources would you like to see from your university?

- He prefers personalized mock interviews and more networking events to gain insight and connect with employers.

11. How do you plan to continue developing your communication skills after you graduate?

- He plans to improve communication skills through interactions at their workplace, participating in events related to communication skills if needed.

12. What drives your motivation to improve your communication skills for interviews?

- He said that the need to secure a job opportunity after an interview is their primary motivation.

13. Looking back, how have your communication skills changed since you first started preparing for job interviews?

- He said that his confidence has improved through the mock interviews. He is now focused on addressing questions directly.

14. If you could change one thing about how you approach interview preparation, what would it be?

- He said that he would focus on practicing responses to difficult and unexpected questions and learning how to relate their answers to their skills and experiences.

Interview 3

Interviewee	Peter (Extreme User)
Age	24 years old
Gender	Male
Recruitment Method	through university networks
Key Observations	<ul style="list-style-type: none">- Displayed confidence in communication.- Focused on technical and job-specific preparation.- Emphasized the conversational nature of interviews.
Team Member Roles:	Mahsa: Interviewer Roshanak: Observer
Location of Interview	Conducted at the university
Materials Used:	Camera and voice recorder
Consent	Consent form

Questions and Summary of Answers:

1. What challenges do you face when preparing for job interviews, especially related to communication?

- Peter said that challenges are generally related to industry-specific expertise, requiring knowledge about the industry.

2. Could you tell me what drives your motivation to improve your communication skills for interviews?

- Peter said that improving communication skills helps better articulate ideas and thoughts.

3. Could you tell me three things you think you do well in your interview preparation?

- Peter said that he researches the company and its industry, then analyzes the job description and connects it to his CV or previous experiences, and refreshes his technical skills, as many questions in his field are technical.

4. Could you share what tools or resources or strategies, for example, workshops, online tools or career counselors you currently use to improve your interview skills and how they have been helpful for you?

- Peter said that he doesn't rely on specific tools or resources. Instead, he found practicing by attending actual interviews to be the most helpful strategy.

5. On a scale from 1 to 10, how effective have these resources been for you to improve your communication skills, where 1 is not effective at all and 10 is extremely effective?

- Peter rated it as an 8. He explained that practicing through real interviews has been the most effective way to improve, as it offers a real-world learning experience.

6. Could you tell me which three communication skills do you find the most difficult during interviews? And why do you think these specific skills are challenging for you?

- Peter said that technical jargon or terminology is the most challenging skill, especially when transitioning between industries (e.g., from academia to software engineering).

7. How do you handle unexpected or challenging questions during interviews?

- Peter said he will ask clarifying questions to better understand what the interviewer is looking for.

8. What kind of feedback do you find most helpful? For example, personalized feedback or in detail or immediate feedback?

- Peter said that detailed and personalized feedback is the most helpful, whether he is accepted or rejected, as it provides room for improvement. Immediate feedback is less preferred because interviewers often need time to deliberate.

9. What features would you expect from an AI-powered interview coach simulator? For example, feedback on tone or body language or timing, or something like that.

- Peter expects personalized features that address each user's weak points, such as language, tone, or managing anxiety.

10. How do you manage stress or anxiety during interview preparation?

- Peter manages stress by treating it as a conversation rather than a formal question-and-answer session.

11. What additional support or resources would you like to see from your university?

- Peter said mock interviews would be the most helpful resource, as he simulates real-life interview scenarios.

12. How do you plan to continue developing your communication skills after you graduate?

- Peter plans to continue developing their skills by interacting with team members at work, socializing, and talking to people in general.

13. Looking back, how have your communication skills changed since you first started preparing for job interviews?

- Peter said his skills have improved significantly over time, mainly through practice, conducting interviews, and working in teams.

14. If you could change one thing about how you approach interview preparation, what would it be?

- Peter would focus more on technical aspects and connecting their skills to the job description, rather than spending too much time on general industry research.

15. In what areas do you see exciting resources or tools better helping students improve their communication skills?

- Peter said that mock interviews, either in person or online, with real-time feedback on tonality, language, and body language, would be exciting and helpful tools.

16. How do you think technology or other digital tools could help students improve their communication skills if you know any specific applications?

- Peter said that technology could use tools like computer vision for analyzing body language and collecting data on speech and language. This data could then provide personalized feedback within a mock interview context.

17. How do you think non-verbal communications like eye contact or posture could influence the outcome of an interview?

- Peter said that good body language helps make the interview feel more like a natural conversation, which can reduce stress and anxiety. It also leaves a positive impression on the interviewer.

18. What do you think about how crucial communication skills are in comparison to technical or job specific skills in the hiring decisions?

- Peter said that both are important. However, communication skills are often considered a baseline expectation, while technical skills are more heavily emphasized in hiring decisions.

19. If I forgot to cover something or missed any important thing that you would like to discuss, what else should I have asked about?

- He said all relevant aspects of interview preparation and communication skills were covered and had no additional suggestions.

Interview 4

Interviewee	Elisa (Extreme User)
Age	28 years old
Gender	Female
Recruitment Method	through a network of friends and acquaintances
Key Observations	<ul style="list-style-type: none"> - Faced challenges in preparing authentic responses to common interview questions without sounding mechanical. - Managed anxiety by reframing interviews as mutual evaluations rather than stressful exams. - Adopted a relaxed mindset toward interviews.
Team Member Roles:	<ul style="list-style-type: none"> - Giuseppe: Interviewer - Leila: Observer
Location of Interview	Conducted online via Google Meet
Materials Used:	Camera, voice recorder, and Google Meet
Consent	Consent form

Questions and Summary of Answers:

Questions for her as a HR:

1. What communication challenges do you often observe in candidates during interviews, particularly among university students?

- Elisa said that university students often struggle with managing anxiety, using informal language, and have difficulty expressing their experiences and skills coherently. They also tend to give indirect answers and frequently use fillers.

2. Based on your experience, what communication skills do employers (chi assume) prioritize when evaluating job candidates?

- Elisa said that employers value clear, confident communication, the ability to articulate thoughts concisely, adaptability in communication styles, active listening, and asking relevant questions.

3. How do you assess a candidate's ability to communicate effectively during an interview (e.g., body language, articulation, confidence)?

- Elisa said that body language (posture, eye contact) and confidence in responses are key indicators. Presentation, including how candidates manage anxiety through non-verbal cues like handshakes and posture, also plays a role.

4. How do you think non-verbal communication (e.g., eye contact, posture) influences the outcome of an interview?

- Elisa said that non-verbal communication has a significant impact. Positive signals, such as good eye contact and a relaxed posture, convey confidence and professionalism. Conversely, negative cues like closed posture, shifty eyes, or fidgeting may indicate insecurity or disinterest.

5. What resources do you recommend to students or job candidates to help them prepare for their interviews?

- Elisa said that candidates should research the company, understand the job description, practice relevant skills.

6. How crucial are communication skills in comparison to technical or job-specific skills in the hiring decisions?

- Elisa believes communication skills are as crucial as, or sometimes more important than, technical skills. Employers often prefer candidates with strong communication skills, as they are seen as more adaptable and capable of teamwork or client interaction.

7. Could you tell me three good pieces of advice you usually give to candidates who struggle with interview anxiety, and how does it impact their communication?

- practice with simulations, use deep breathing techniques, and view the interview as a mutual evaluation process.

8. How do you think technology, like digital tools, could help students improve their communication skills in preparation for an interview?

- Elisa said that apps like Pramp Interview, video recordings for self-analysis, and tools like Coach AI to analyze body language are valuable for interview preparation.

9. What kind of feedback do you think would be most useful for candidates to improve their communication skills for future interviews?

- Elisa said that constructive feedback should highlight both strengths and areas for improvement. Specific feedback on tone, eye contact, and clear answer structuring, combined with practical tips, is essential.

Question for her as an ex-student that now works:

1. What were the main challenges you faced while preparing for job interviews?

- Elisa said that it was challenging to prepare answers to the most common questions without coming across as too 'mechanical' or rehearsed.

2. Can you share three aspects of your interview preparation that you felt you handled well, especially regarding communication?

- she customized answers for each role, maintained confident body language, and managed anxiety effectively by taking her time to respond thoughtfully.

3. How did you manage stress or anxiety during the interview preparation process?

- She said that viewing the interview as a two-way evaluation rather than an exam helped reduce stress.

4. How did you handle unexpected or difficult questions during your interviews?

- She took a moment to think, repeated or rephrased the question if needed, and organized her thoughts to avoid rushed or unclear answers.

5. What tools, resources, or strategies (e.g., workshops, online platforms, career advisors) did you use to prepare for an interview?

- Elisa said she researched the company and its values, reviewed technical skills, and prepared using LinkedIn and company websites.

6. How effective, on a scale of 1 to 10 (1 is ‘Not effective at all’ and 10 is ‘Extremely effective’) did you find these resources in improving your communication for interviews?

- She didn't use specific tools for communication improvement, so she said they were not effective.

7. Let's talk about AI assistants (for example ChatGPT, Alexa, Siri or Google Assistant), what features do you find most beneficial for your conversation with it? (e.g. something that makes you feel comfortable talking with it)

- Elisa said that quick responses, non-judgmental interaction, and clear, organized answers make AI assistants useful. She appreciates their ability to act like a personal coach, providing targeted advice.

Interview 5

Interviewee	Antonio (Domain Expert)
Age	30 years old
Gender	Male
Recruitment Method	through LinkedIn network
Key Observations	<ul style="list-style-type: none">- Emphasis on the importance of effective self-presentation.- Balancing verbal and non-verbal communication.- Significance of practice in improving interview skills.- Interviews as two-way conversations.
Team Member Roles:	Giuseppe: Interviewer Leila: Observer
Location of Interview	Conducted at his office at OGR
Materials Used:	Camera and voice recorder
Consent	Consent form

Questions and Summary of Answers:

1. What communication challenges do you often observe in candidates during interviews, particularly among university students?

- Antonio observed that university students struggle with effectively marketing themselves. They often focus on academic projects and fail to present soft skills or work-related experiences.

2. Based on your experience, what communication skills do employers prioritize when evaluating job candidates?

- Antonio highlighted the ability to present oneself clearly, articulate experiences confidently, and provide relevant information tailored to the company's needs.

3. How do you assess a candidate's ability to communicate effectively during an interview (e.g., body language, articulation, confidence)?

- Antonio evaluates communication through body language, speaking pace, and gestures. He also places significant importance on written communication, particularly the structure and quality of the CV.

4. Could you tell me three common communication difficulties you notice in university graduates during interviews?

- Antonio mentioned that graduates often lack work experience and struggle to relate academic achievements to company needs. They also fail to emphasize their soft skills effectively.

5. What resources do you typically recommend to students or job candidates to help them improve their communication skills before an interview?

- Antonio recommended consistent practice as the most effective way to improve. He also suggested reading books, learning from others' experiences, and using tools like LaTeX to enhance CV presentation.

6. How do you think non-verbal communication (e.g., eye contact, posture) influences the outcome of an interview?

- Antonio emphasized that non-verbal cues like eye contact and confident posture are critical in conveying self-assurance and professionalism.

7. How crucial are communication skills in comparison to technical or job-specific skills in the hiring decisions?

- Antonio rated communication skills as more important than technical skills, giving them a 10/10 in significance. He believes communication is key both during the hiring process and for long-term success in a company.

8. Could you tell me three good pieces of advice you usually give to candidates who struggle with interview anxiety, and how does it impact their communication?

- Antonio advised candidates to: Believe in themselves and be honest, Practice extensively, Listen to feedback and use it to improve.

9. In what areas do you see existing resources or tools better helping students improve their communication skills for interviews?

- Antonio stressed that while books and tools can help, direct practice and learning from feedback are the most valuable resources.

10. How do you think technology, like AI or other digital tools, could help students improve their communication skills in preparation for interviews?

- Antonio expressed caution, suggesting AI can assist in structuring CVs or identifying interview questions but warned against using AI to craft responses, as it could hinder authenticity.

11. What kind of feedback do you think would be most useful for candidates to improve their communication skills for future interviews?

- Antonio advised conducting numerous interviews, listening to feedback, and consistently refining one's skills.

12. How do you evaluate communication skills when candidates are from diverse linguistic or cultural backgrounds?

- Antonio values English proficiency for global communication and Italian for local interactions. He also emphasized evaluating candidates' ambition and motivation to contribute to the company.

KEY QUOTES:

“I conduct research about the roles and the company, take mock interviews, and practice in front of the mirror.” — Nima Sadeghzadeh

“We can collect a lot of data and analyze it and then give direct feedback... on things like body language or voice.” — Peter

“The first thing that I evaluate during a hiring is how the candidate is able to present himself. So, how are his marketing skills to sell himself to me and to present all his experience” Antonio

“I would like to prepare for every scenario... I basically want to be expecting everything and not get surprised in the interview” — Nima

“I'd practice responses to difficult questions... and link them to my previous experiences.” — Nima Sadeghzadeh

“Doing a lot of interviews is the only way to understand how an interview works and how to behave better in the next interview” — Antonio

“University students often struggle with anxiety management and tend to use informal or overly colloquial language. Many of them find it difficult to clearly express their experience and skills in a coherent and organized manner.” — Elisa

“The best way to practice for an interview is by going and doing interviews. It’s like learning on the job, but for interviews.”— Peter

“I feel that it's more important with teamwork also, because then we'll have to be working with other team members and departments.”— Peter

“I would like to have immediate feedback, they can give me personalized feedback after that” — Nima

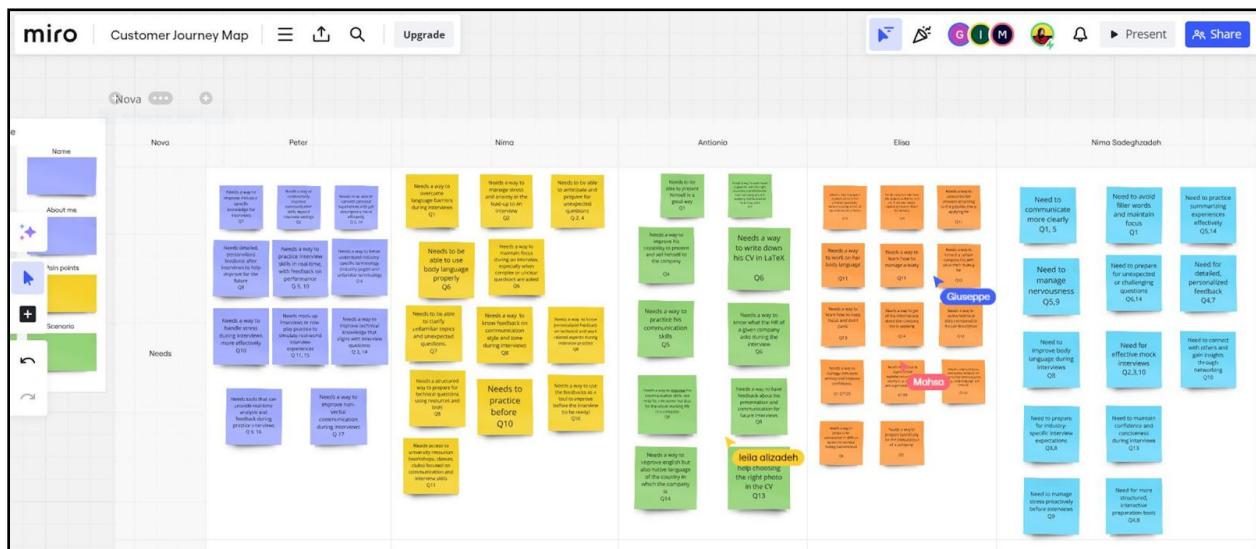
“Employers look for candidates who can communicate clearly and confidently, articulate their thoughts, and adapt their communication styles to the interlocutor.”— Elisa

“I recommend practicing with simulations... deep breathing to relax... remember the interview is also a neutral evaluation.”— Elisa

Synthesis

Brainstorming Process

We start by analyzing the results of the interviews, extracting and listing all the user needs that emerged during the interviews. Each need was linked to the corresponding interview and specific responses using the **Miro** collaborative digital tool. We then prioritized these needs by identifying those that were mentioned most frequently in interviews or were particularly insightful. Finally, we narrowed them down to 4 deep user needs.



List of user needs

Needs a way to improve industry-specific knowledge for interviews
Q1

Needs a way to continuously improve communication skills beyond interview settings
Q2

Needs to be able to connect personal experiences with job descriptions more efficiently
Q 3, 14

Needs detailed, personalized feedback after interviews to help improve for the future
Q8

Needs a way to practice interview skills in real-time, with feedback on performance
Q 5, 10

Needs a way to better understand industry-specific terminology (industry jargon and unfamiliar terminology
Q 6

Needs a way to handle stress during interviews more effectively
Q10

Needs mock-up interviews or role-play practice to simulate real-world interview experiences
Q 11, 15

Needs a way to improve technical knowledge that aligns with interview questions
Q 3, 14

Needs tools that can provide real-time analysis and feedback during practice interviews
Q 9, 16

Needs a way to improve non-verbal communication during interviews
Q 17

Needs a way to overcome language barriers during interviews
Q1

Needs a way to manage stress and anxiety in the lead-up to an interview
Q2

Needs to be able to anticipate and prepare for unexpected questions
Q 2, 4

Needs to be able to use body language properly
Q6

Needs a way to maintain focus during an interview, especially when complex or unclear questions are asked
Q6

Needs a way to know personalized feedback on technical and work related aspects during interview practice
Q8

Needs to be able to clarify unfamiliar topics and unexpected questions.
Q7

Needs a way to know feedback on communication style and tone during interviews
Q8

Needs access to university resources (workshops, classes, clubs) focused on communication and interview skills
Q11

Needs a structured way to prepare for technical questions using resources and tools
Q8

Needs to practice before
Q10

Needs a way to use the feedbacks as a tool to improve before the interview (to be ready)
Q10

Needs to be able to present himself in a good way
Q1

Needs a way to write down a good CV, with the right structure and different for each company you are applying and focused on what they want
Q3

Needs a way to improve his capability to present and sell himself to the company
Q4

Needs a way to write down his CV in LaTeX
Q6

Needs a way to practice his communication skills
Q5

Needs a way to know what the HR of a given company asks during the interview
Q6

Needs a way to improve his communication skills, not only for interviews but also for the whole working life in a company
Q8

Needs a way to have feedback about his presentation and communication for future interviews
Q9

Needs a way to improve english but also native language of the country in which the company is
Q14

Needs a way to help choosing the right photo in the CV
Q13

Needs a way to prepare answers to the most common questions, without coming across as too mechanical or banal

Q10

Needs a way to make sure she appears authentic and not if she was simply repeating answers learnt by memory

Q10

Needs a way to customize her answers according to the position she is applying for

Q11

Needs a way to work on her body language

Q11

Needs a way to learn how to manage anxiety

Q11

Needs a way to know if a certain company fits with what she's looking for

Q12

Needs a way to learn how to keep focus and don't panic

Q13

Needs a way to get all the informations about the company she is applying

Q14

Needs a way to review technical skills mentioned in the job description

Q14

Needs a way to manage interview anxiety and improve confidence.

Q1 Q7 Q3

Needs to be able to express their experiences and skills clearly in a coherent and organized manner

Q1 Q9

Needs a way to prepare for unexpected or difficult questions without feeling overwhelmed

Q9

Needs a way to practice and receive feedback on non-verbal communication (e.g., body language, eye contact).

Q3 Q4

Needs a way to prepare specifically for the expectations of a company

Q5

Need to communicate more clearly
Q1, 5

Need to avoid filler words and maintain focus
Q1

Need to practice summarizing experiences effectively
Q5,14

Need to manage nervousness
Q5,9

Need to prepare for unexpected or challenging questions
Q6,14

Need for detailed, personalized feedback
Q4,7

Need to improve body language during interviews
Q8

Need for effective mock interviews
Q2,3,10

Need to connect with others and gain insights through networking
Q10

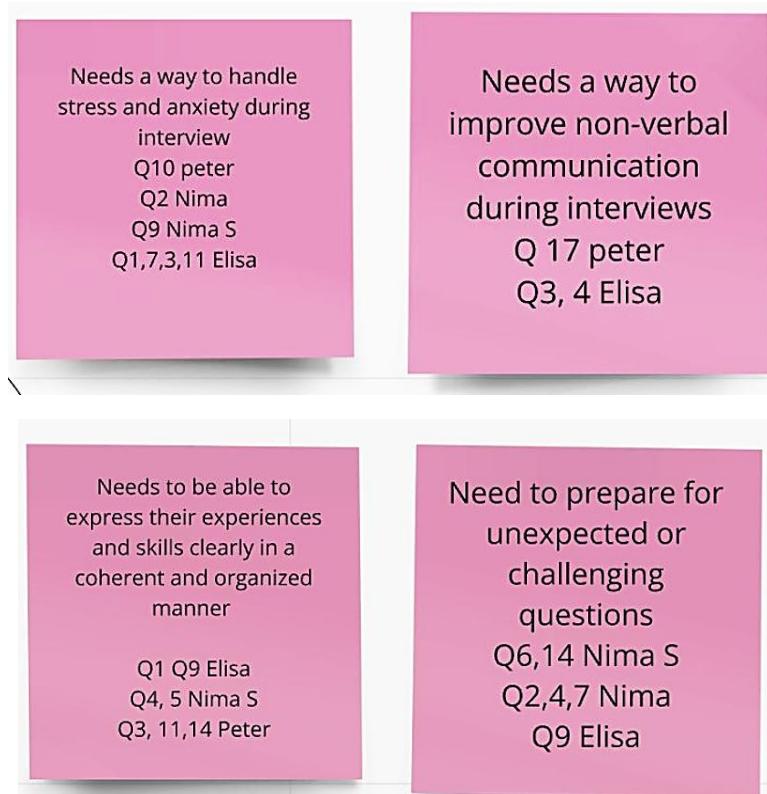
Need to prepare for industry-specific interview expectations
Q3,8

Need to maintain confidence and conciseness during interviews
Q13

Need for more structured, interactive preparation tools
Q4,8

Need to manage stress proactively before interviews
Q9

Deep user needs



Why did we select them?

We selected these four deep user needs because they directly address key challenges that candidates face during interviews. They focus on managing stress and anxiety, improving non-verbal communication, expressing experiences and skills clearly, and preparing for unexpected questions that were frequently mentioned in interviews. These needs provide actionable insights for improving interview performance.

Solutions

Solutions for each deep user need

User need: Needs a way to handle stress and anxiety during interview

Solutions:

- Host pre-interview relaxation workshops, where users learn stress-reduction techniques to implement right before their interviews.
- Creating a mental rehearsal system

- Mock interviews, focusing on creating a supportive environment that reduces anxiety and normalizes interview stress
- Offer guided meditation sessions specifically designed for interviewees
- Set up peer support systems, where users can discuss their interview anxieties with others who have similar experiences and share effective coping mechanisms before big interviews.

User need: Needs a way to improve non-verbal communication during interviews

Solutions:

- Engage users in role-play scenarios
- Partner with communication experts to create interview simulations
- Host interactive workshops
- Create a feedback loop using video recordings
- Design stress-free practice by some mini games

User need: Needs to be able to express their experiences and skills clearly in a coherent and organized manner

Solutions:

- Create a storytelling guide that helps users structure their answers by describing situations, their tasks, actions taken, and the results, making it easier to connect their experiences to the job role.
- Create mock interview sessions where users are asked to present past achievements
- Design peer-review exercises where users listen to each other's experience
- Users practice summarizing experiences into short, clear stories that others can easily understand and engage with.
- Users write down their skills and experiences, then reorganize them into a clear, logical narrative that they can use in interviews.

User need: Need to prepare for unexpected or challenging questions

Solutions:

- Create randomized interview scenarios where participants face unpredictable questions, and afterward, they debrief with a mentor or peer on how to improve their responses.
- Organize sessions, where participants practice fielding difficult, off-the-wall questions in a timed environment, and receive feedback on adaptability.
- Facilitate sessions where users share examples of challenging interview questions they've encountered and brainstorm ways to tackle them together.
- Create mock interview
- Offer personalized coaching sessions with career counselors

Top solution

Create a storytelling guide that helps users structure their answers by describing situations, their tasks, actions taken, and the results, making it easier to connect their experiences to the job role.

How and why did we choose this solution?

By conducting interviews and gathering insights from students and HR professional, we identified critical areas that needed improvement in job interview preparation. After evaluating various ideas, we decided that creating a storytelling educational framework would be the most effective approach. This framework guides users in structuring their responses with clarity and precision, aligning their experiences directly to the job role they are pursuing. In addition to verbal communication, the framework provides guidance on non-verbal cues including body language and communication tips, helping users express emotions appropriately to enhance their overall presentation.

Tasks and Storyboard

Tasks

Simple: Select the desired job role and conduct a simulated job interview to improve personal responses and behavior.

Moderate: Personalize the interview according to the user's preferences, adjusting the questions and difficulty level for a more engaging experience.

Complex: Provide sample questions from past experiences in real interviews.

Why did we choose them? Why are they important for our target population?

The simple task provides an accessible starting point by simulating basic interviews to help users unfamiliar with interviews improve their responses. The moderate task adds personalization to enhance engagement, allowing customization to better align with specific job roles or skill levels, making practice sessions more relevant and supporting progressive learning. And the complex task provides real-world questions to prepare users for actual interviews by exposing them to diverse and practical scenarios.

Storyboard



Why did we choose it? And Which are its strengths and weaknesses, and how well it achieves the identified tasks and user need?

The storyboard reflects the user's need for a way to prepare before a job interview, practice and review their mistakes to arrive at the interview with the best possible attitude. Moreover, the storyboard focuses on addressing how users improve both answers and body language, which are essential aspects for interview preparation. This approach supports users in building confidence and refining their communication skills, which aligns with the need for an educational tool in interview preparation. On the other hand, a weakness of these storyboards can be the inability to provide detailed system functionality. For example, while a storyboard shows the user information about the desired job role, it does not explain how the system will set up the interview simulation and how the user will receive real-time feedback during the interview.

Low-fidelity Prototypes

Modalities exploration

The modalities that we considered:

1. Desktop Application with mouse and camera
2. Virtual Reality (VR)
3. Voice Assistant (voice-only Interface)
4. Mobile Application with touch and camera

The two selected modalities:

- ✓ Desktop Application with mouse and camera
- ✓ Mobile Application with touch and camera

Why we select desktop Application modality?

The desktop application is designed to leverage the advantages of a larger screen, offering an optimal environment for displaying detailed feedback and enhancing user experience. With a spacious interface, users can comfortably view their live video feed, interview questions, and give real-time feedback simultaneously, without feeling overwhelmed. The dropdown menu for job role selection is intuitive and streamlined, allowing users to easily begin a tailored interview session.

This setup is particularly well-suited for delivering comprehensive feedback, as the larger screen ensures all elements, such as feedback tips, video frames, and instructions are visible at a glance. The desktop camera plays a crucial role by capturing high-quality video for accurate analysis of the user's body language, including posture, facial expressions, and eye contact. This enables the application to provide precise and actionable insights that help users refine their interview performance.

Additionally, the desktop application fosters a professional simulation of real-life interview scenarios, as users are seated in a familiar and formal environment. This enhances the realism of the experience, helping users to better prepare for actual interviews. By combining the functionality of a large screen with the precision of video-based feedback, the desktop application is an indispensable tool for comprehensive interview preparation.

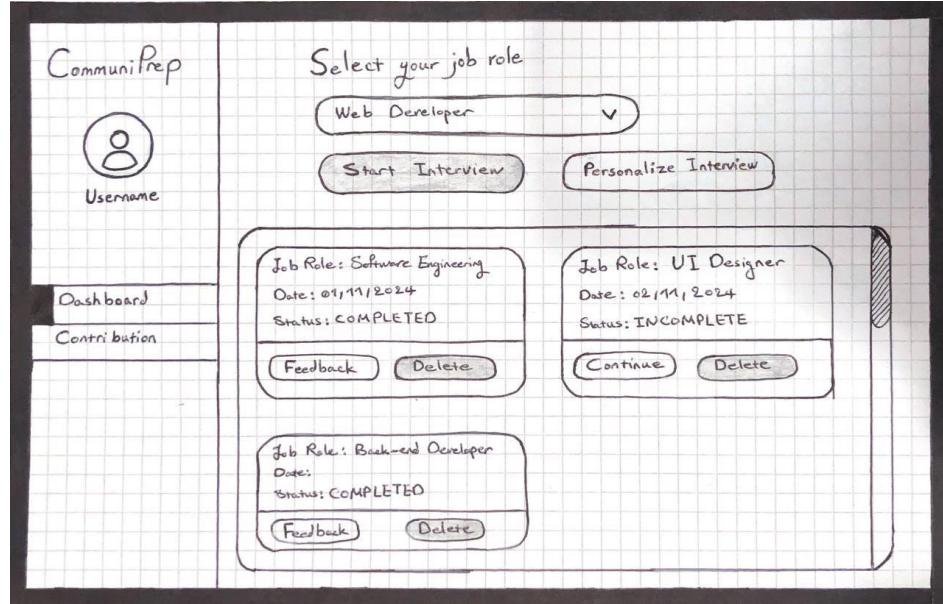
Why we select mobile Application modality?

The mobile application is designed to cater to users seeking flexibility, simplicity, and intuitive interactions. Its compact and portable nature allows users to engage with the interview simulation from anywhere, at any time, making it especially convenient for users with busy schedules or those who prefer to on-the-go learning. Feedback in the mobile application is thoughtfully presented through visually engaging cues such as icons, color-coded indicators, and concise pop-up messages. These features ensure that users receive actionable feedback on their responses without overwhelming the screen or the user. The touch-based interface further simplifies interactions, enabling seamless navigation and effortless input through taps and gestures. With mobile access, users can easily revisit their interview performance and feedback whenever needed, facilitating continuous learning and improvement. The app is also ideal for quick practice sessions, as it eliminates the need for setup and allows users to start and stop interviews with ease. Incorporating a mobile camera adds an extra dimension of functionality, enabling the app to analyze users' body language, facial expressions, and posture during interviews. Despite the smaller screen size, the application ensures that all essential elements, questions, feedback, and user performance data are displayed clearly and effectively. Overall, the mobile application strikes a perfect balance between portability and functionality, making it a highly practical tool for users looking to prepare for interviews in a flexible and efficient manner.

Paper prototypes

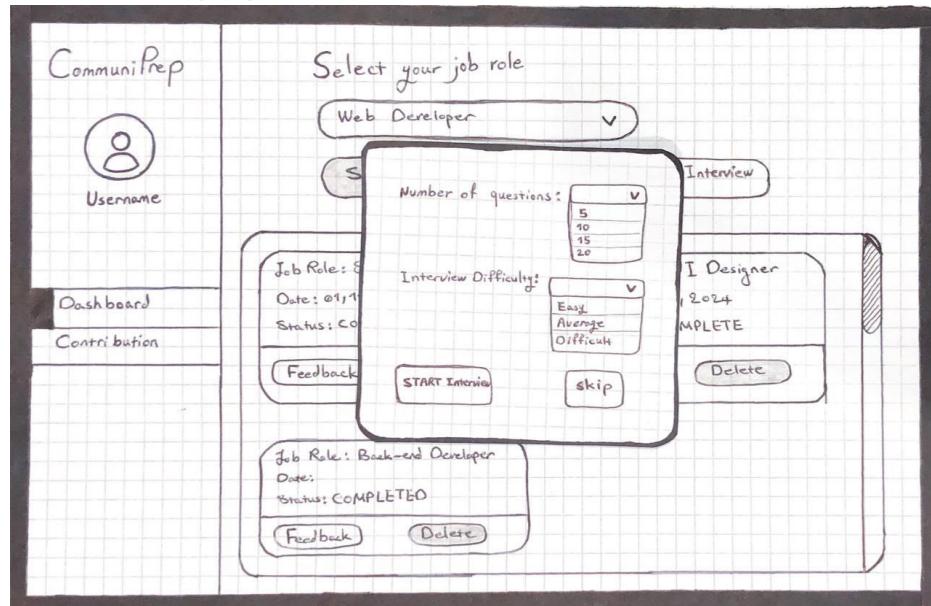
Paper prototype #1: Desktop

Page 1: Dashboard Overview



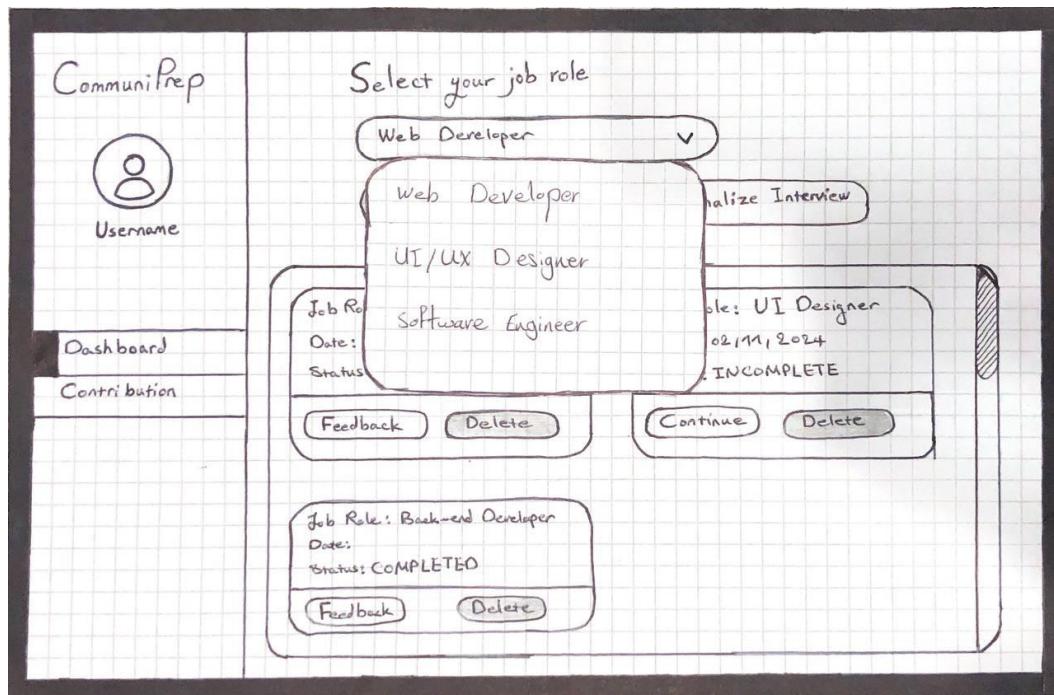
- Caption: "The dashboard includes options to select a job role, start a new interview, personalize settings, and view or manage past interview records."

Page 2: Personalization Pop-Up



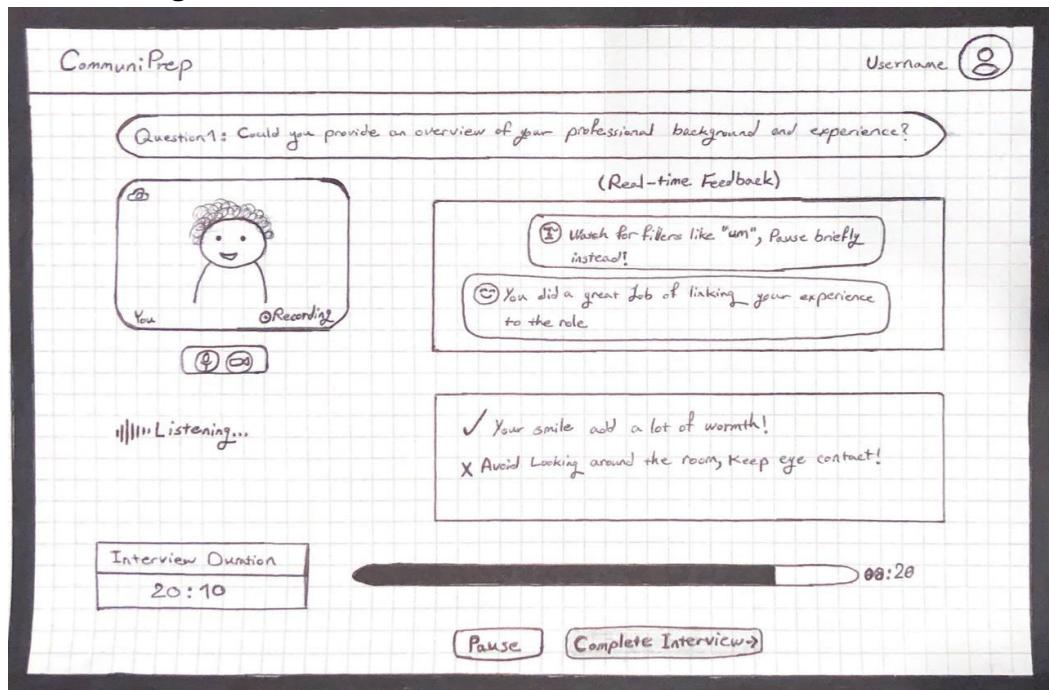
- Caption: "A pop-up allows users to customize the interview by selecting the number of questions and difficulty level before starting the interview."

Page 3: Job Role Selection



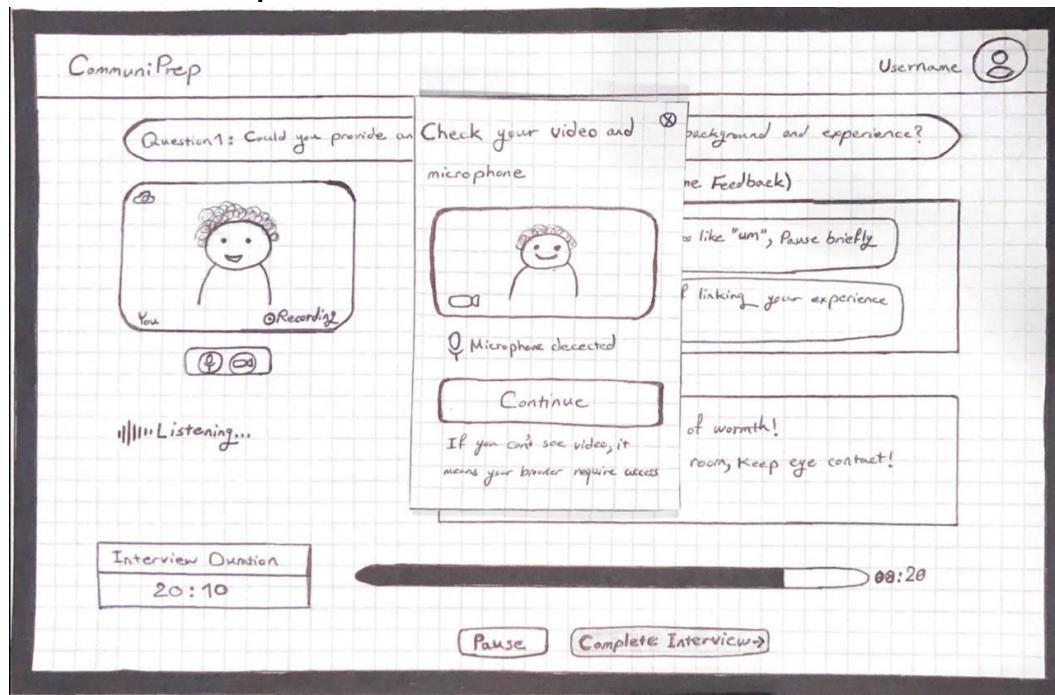
- Caption: "Dropdown menu for selecting a specific job role to tailor the interview content to the user's needs."

Page 4: Interview Page with Real-Time Feedback



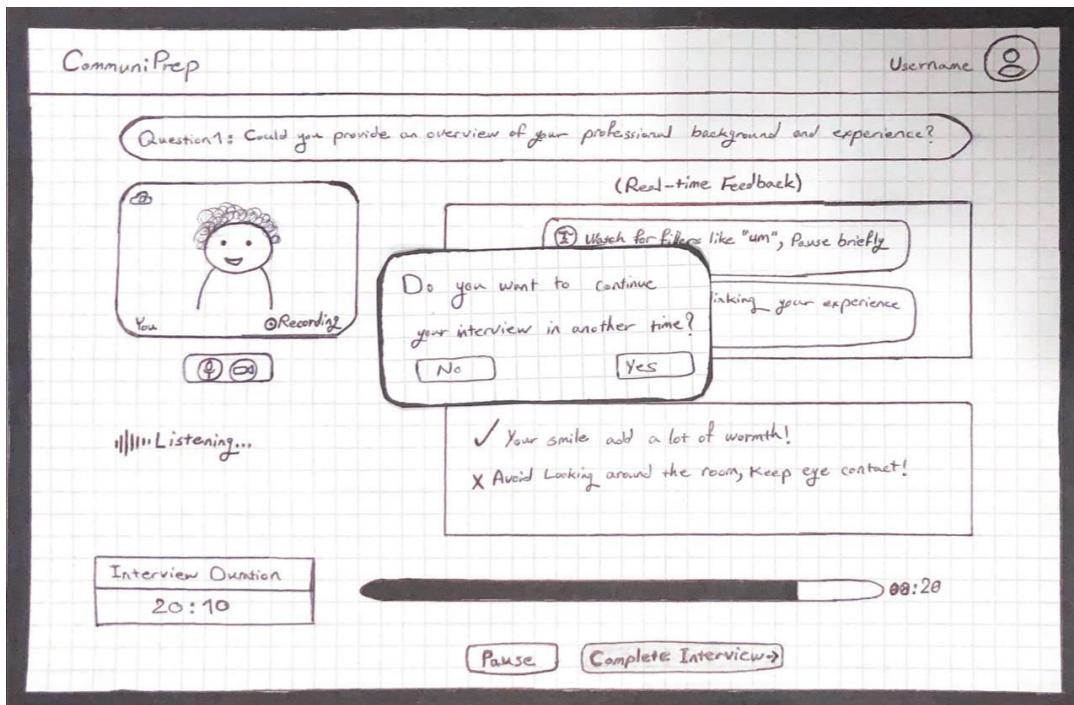
- Caption: "During the interview, users can view the question, their live video, and real-time feedback on verbal and non-verbal communication."

Page 5: Camera and Microphone Check



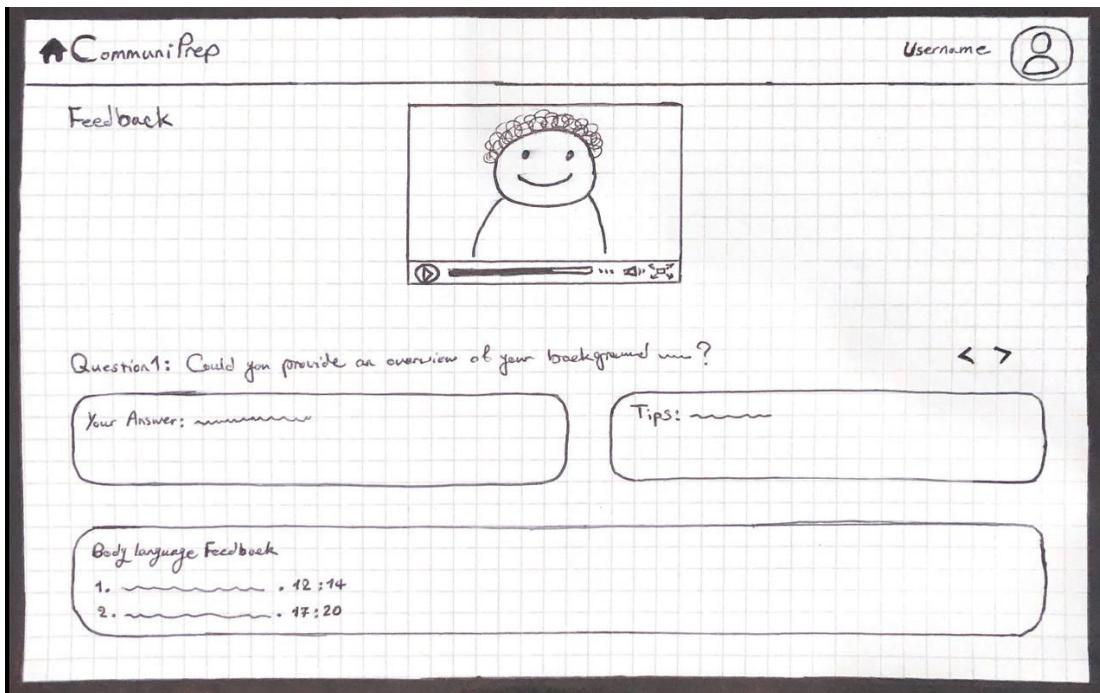
- Caption: "A prompt ensures that the camera and microphone are working properly before starting the interview."

Page 6: Pause Interview Modal



- Caption: "A modal window allows users to pause the interview and resume it at a later time, providing flexibility."

Page 7: Feedback Page



- Caption: "The feedback page displays the user's answers, tips for improvement, and body language feedback after completing an interview."

Page 8: Contribution Page for Custom Questions

Question	Answer	Action
What --- ?	It is --- .	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
How --- ?	doing --- .	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
When --- ?	in the --- .	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Which --- ?	The --- .	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

- Caption: "The contribution page lets users add custom interview questions along with optional answers, duration, and difficulty level."

Page 9: Job Role Dropdown in Contribution

The wireframe shows a mobile application interface. On the left, there's a sidebar with 'CommuniPrep' at the top, followed by a user icon and 'Username'. Below the sidebar are 'Dashboard' and 'Contribution' buttons. The main content area starts with a text input field labeled 'Tell us about a recent job interview:' followed by a 'Select Job Role' dropdown menu. The dropdown contains three options: 'web Developer', 'UI/UX Designer', and 'Software Engineer'. Below the dropdown is a 'Difficulty' slider set to 'Very Easy'. An 'ADD' button is located above a table. The table has columns for 'Question', 'Answer', and 'Action'. It contains four rows of placeholder data: 'What --- ?' (Answer: It is ---), 'How --- ?' (Answer: doing ---), 'When --- ?' (Answer: in the ---), and 'Which --- ?' (Answer: The ---). Each row has 'Edit' and 'Delete' buttons.

- Caption: "Dropdown menu for selecting a job role to associate with the custom questions being added."

Page 10: Difficulty Selection in Contribution

This wireframe continues the mobile application interface. The sidebar remains the same with 'CommuniPrep', user icon, and 'Username'. The main content area includes a 'Select Job Role' dropdown with a checked item and a question 'Q: what was one of the questions they asked you?'. Below it is an answer input field 'A: How did you respond? (optional)'. A 'Duration' input field shows '02:00'. A 'Difficulty' slider is set to 'Very Easy'. An 'ADD' button is present above a table. The table has columns for 'Question', 'Answer', and 'Action'. It contains four rows of placeholder data: 'What --- ?' (Answer: in the ---), 'How --- ?' (Answer: The ---), 'When --- ?' (Answer: The ---), and 'Which --- ?' (Answer: The ---). Each row has 'Edit' and 'Delete' buttons.

- Caption: "Users can select the difficulty level of their custom questions (Easy, Average, or Difficult)."

Page 11: Submission Confirmation

The wireframe shows a mobile application interface. On the left, there's a sidebar with 'CommuniPrep' at the top, followed by a user icon and 'Username'. Below that are 'Dashboard' and 'Contribution' buttons. The main content area has a title 'Tell us about a recent job interview:' and a 'Select Job Role' dropdown with a checkmark. Below it is a question 'Q: What was one of the questions they asked you?' and an optional answer 'A: How did you respond? (optional)'. A confirmation message box is overlaid, stating 'Questions submitted successfully' with an 'OK' button. At the bottom, there's a table with columns 'Question', 'Answer', and 'Action' (with 'Edit' and 'Delete' buttons). The table contains four rows of sample data.

Question	Answer	Action
What --- ?	It is --- .	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
How --- ?	doing ---	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
When --- ?	in the ---	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
Which --- ?	The ---	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

- Caption: "A confirmation message is displayed after successfully submitting custom questions to the system."

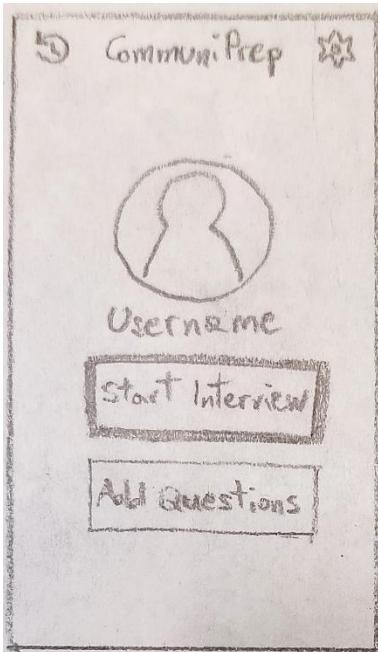
Page 12: Modify Questions Option

This wireframe is similar to the previous one but includes a 'Duration' field (02:00) and a 'Difficulty' field (marked with a checkmark). A 'Modify' button is highlighted with an oval. The rest of the interface is identical to the first page, including the sidebar, the main form fields, and the confirmation message box.

- Caption: "The contribution page includes a 'Modify' option for users to edit previously submitted questions."

Paper prototype #2: Mobile

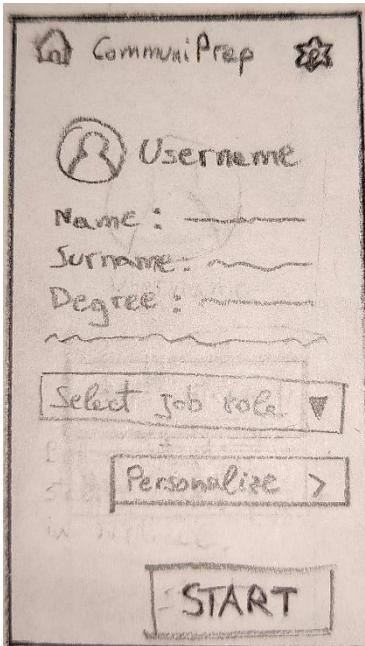
Page 1: Home Page



Caption:

"The home page allows users to start an interview or add custom questions directly from the main screen."

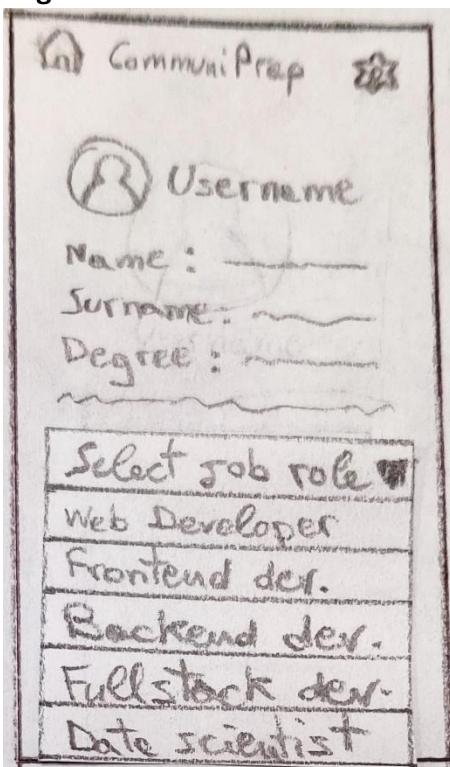
Page 2: Personalization Screen



Caption:

"The personalization screen includes fields for the user's name, surname, degree, job role selection, and the option to personalize the interview."

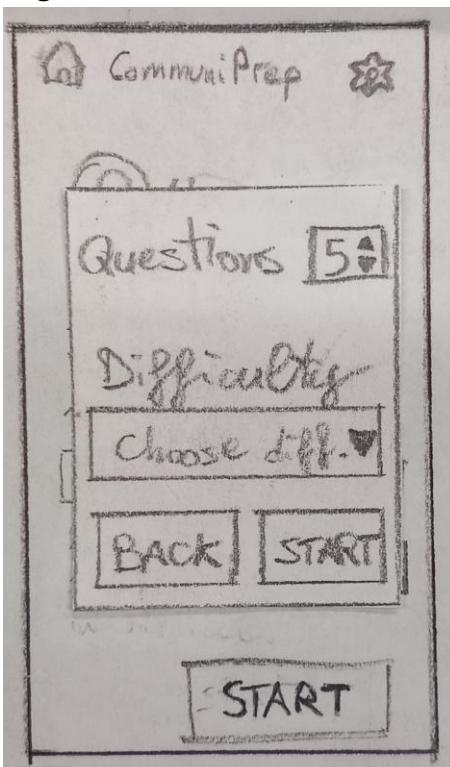
Page 3: Job Role Selection



Caption:

"Drop down menu for selecting the desired job role to customize the interview content."

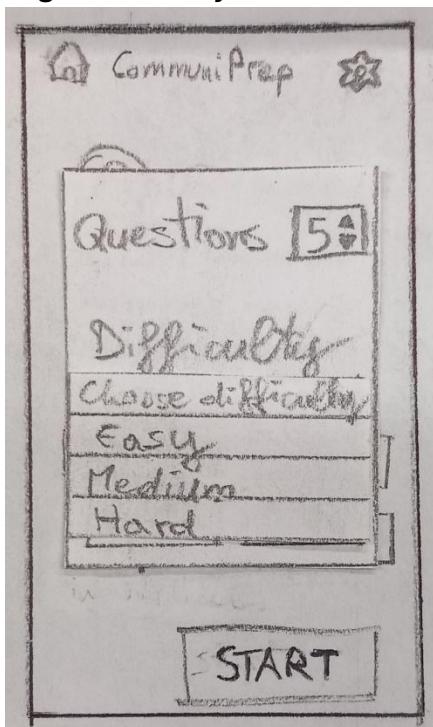
Page 4: Interview Customization Options



Caption:

"Customization options for setting the number of questions and choosing the difficulty level before starting the interview."

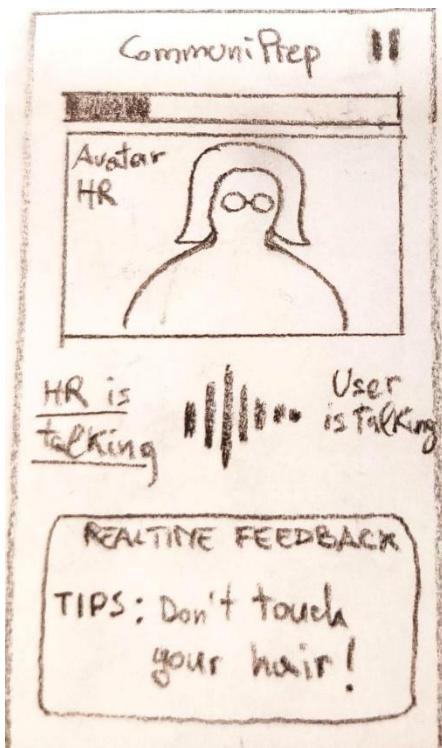
Page 5: Difficulty Level Selection



Caption:

"Dropdown menu for selecting the difficulty level of the interview, such as Easy, Medium, or Hard."

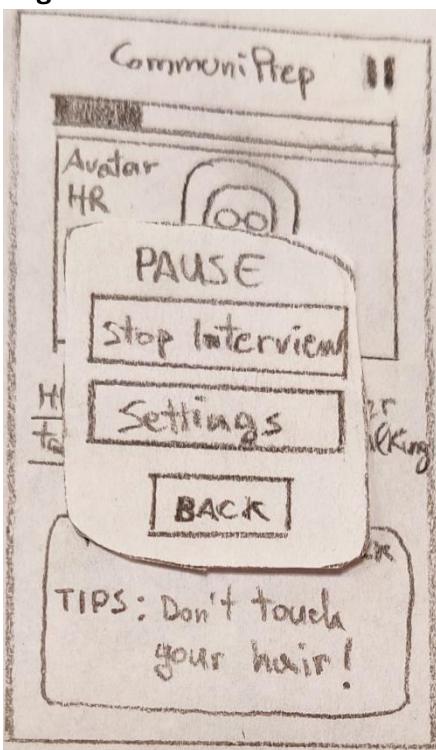
Page 6: Interview Page with Real-Time Feedback



Caption:

"The interview screen displays the avatar/HR, conversation progress indicators, and real-time feedback tips to guide the user."

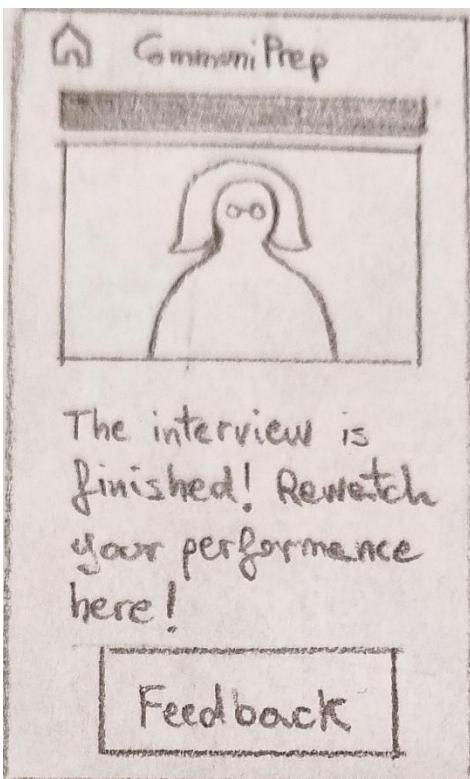
Page 7: Pause Menu



Caption:

"Pause menu options include pausing the interview, stopping it, adjusting settings, or returning to the previous screen."

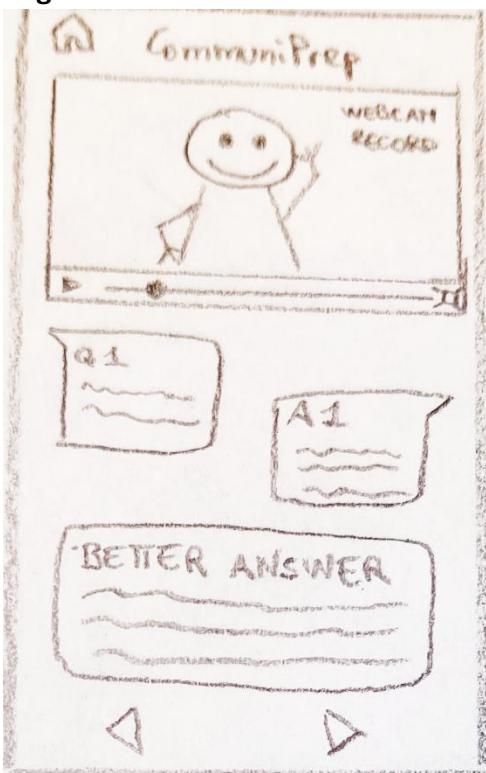
Page 8: Interview Completion Screen



Caption:

"The interview completion screen informs users that the interview is finished and provides an option to view performance feedback."

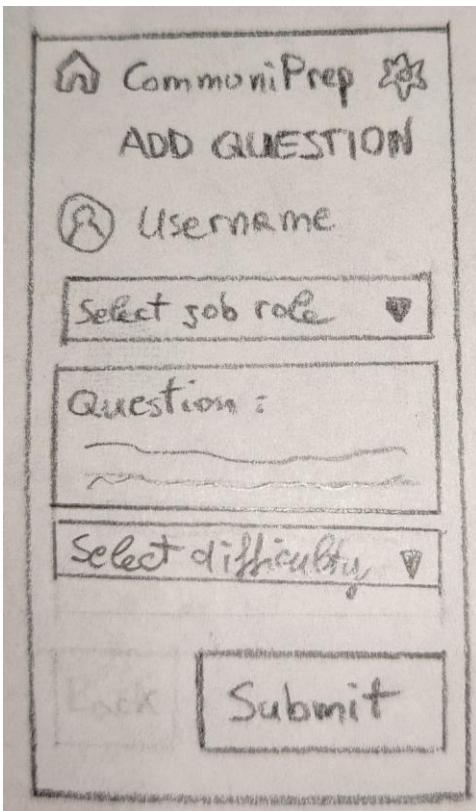
Page 9: Feedback Review



Caption:

"The feedback review page displays a video recording of the interview, along with question-specific feedback and suggestions for improvement."

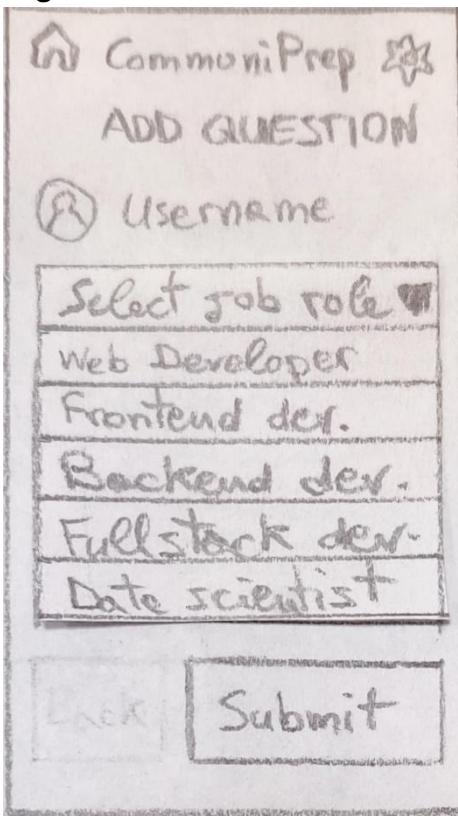
Page 10: Add Question Page



Caption:

"Page for adding custom questions, where users can select a job role, input a question, and set its difficulty level."

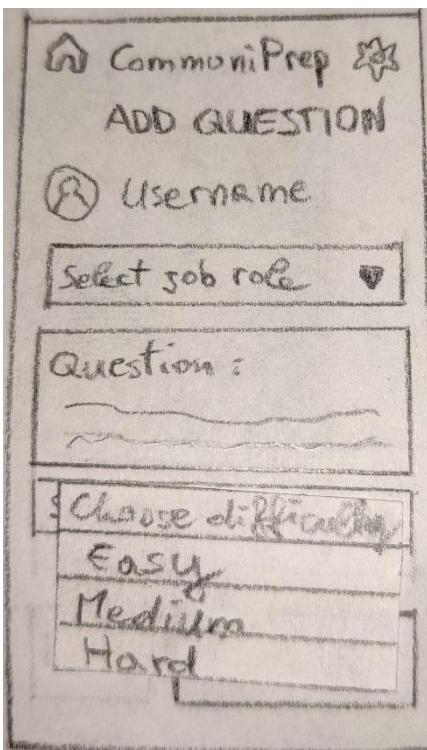
Page 11: Job Role Selection in Add Question



Caption:

"Dropdown menu for selecting a job role when adding a new custom question."

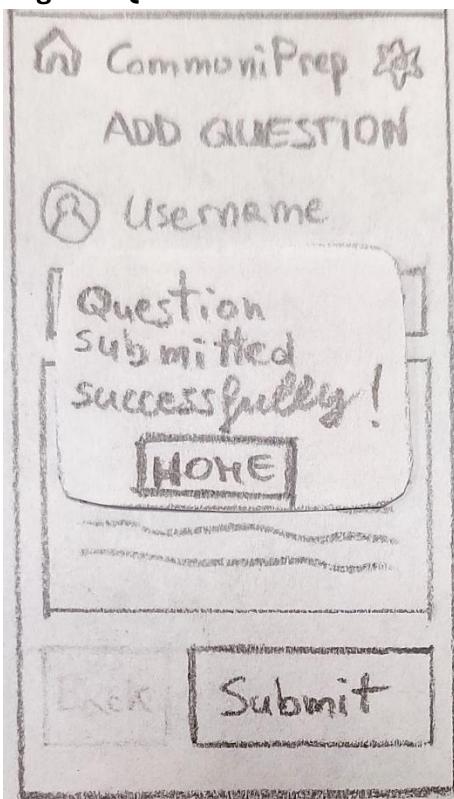
Page 12: Difficulty Level Selection in Add Question



Caption:

"Dropdown menu for selecting the difficulty level of a custom question (Easy, Medium, or Hard)."

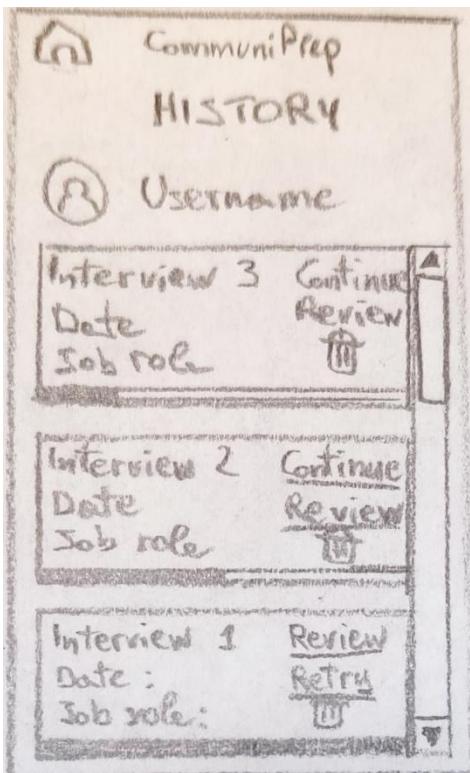
Page 13: Question Submission Confirmation



Caption:

"Confirmation message indicating successful submission of a custom question, with an option to return to the home page."

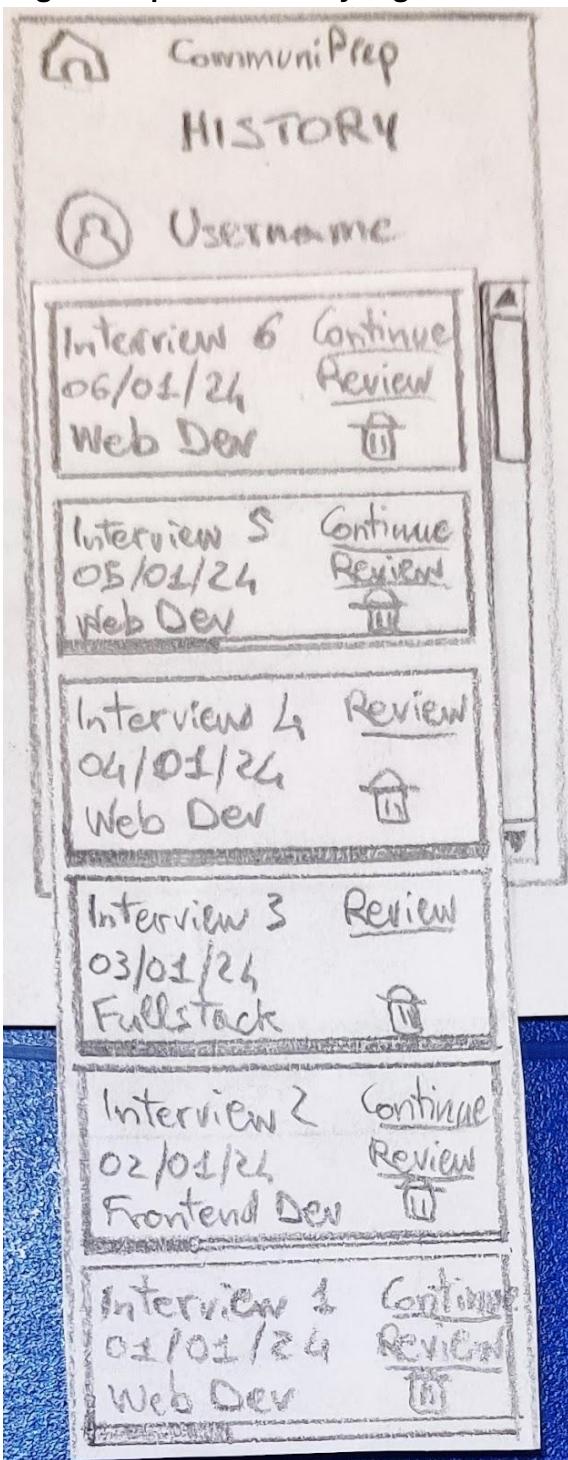
Page 14: History Page



Caption:

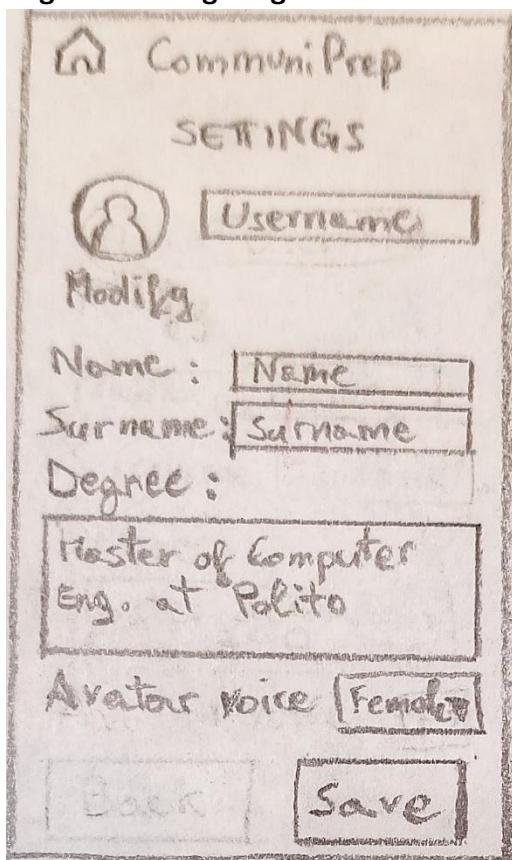
"The history page displays previous interviews, along with options to continue, review, or retry them."

Page 15: Expanded History Page



Caption: "An extended view of the history page, showing additional interviews with their associated details and options for managing them."

Page 16: Settings Page



Caption:

"Settings page where users can update their personal information, adjust the avatar voice, and save changes."

Connecting to the Storyboard and Three Tasks for Desktop Prototype

How it connects to the Storyboard:

- The **dashboard** introduces the user to the platform, allowing them to select a job role, personalize their interview, or review past interview records, corresponding to the entry point in the storyboard.
- The **interview screen** facilitates a simulated interview experience, complete with real-time feedback on verbal and non-verbal behavior, aligning with the storyboard's depiction of the interactive interview phase.
- The **feedback page** provides detailed post-interview insights, guiding users in refining their skills and completing the reflection phase depicted in the storyboard.

How it connects to the Project Goal:

The desktop prototype supports the project's goal of enhancing interview preparation by providing detailed real-time feedback on body posture, facial expressions, and verbal responses. Its realistic setup simulates a professional interview environment, while customizable features allow users to tailor sessions to specific roles, difficulty levels, and personal experiences, ensuring a relevant and engaging learning experience.

How it connects the Three Tasks:

- **Simple Task:**

The dashboard enables users to easily select a job role and begin an interview. The simulation interface offers a clear layout, showing the live video feed, the current question, and real-time feedback side-by-side for ease of use.

- **Moderate Task:**

The personalization pop-up allows users to adjust the number of questions and difficulty level, ensuring the interview matches their preferences and needs. The desktop interface's spacious design ensures all customization options are visible and easily accessible.

- **Complex Task:**

The contribution page enables users to input custom questions from their past interview experiences, categorizing them by job role and difficulty. This feature enriches the system's question database, making the simulation more diverse and practical.

Effectiveness of Desktop Modality:

- **Large Screen:** The spacious screen layout displays multiple elements (e.g., real-time feedback, video feed, and instructions) simultaneously, enhancing the user's ability to process information without switching between screens.
- **Camera Integration:** The desktop camera captures high-quality video for analyzing non-verbal cues like posture and facial expressions, providing accurate and actionable feedback.
- **Mouse Input:** Users can easily navigate the interface, select job roles, and adjust settings with precise clicks, making interactions intuitive and efficient.
- **Real-Time Feedback:** Detailed, real-time feedback is displayed alongside the live video feed, offering users immediate insights into their performance.

Connecting to the Storyboard and Three Tasks for Mobile Prototype

How it connects to the Storyboard:

The mobile prototype follows the storyboard by enabling users to select a job role, conduct their interview experience, and review feedback on their performance. The prototype mirrors the flow illustrated in the storyboard with simple touch-based interactions for role selection, customizable settings, and real-time feedback. Visual cues like pop-ups and icons streamline navigation and provide clarity, ensuring the storyboard's intent is well-executed in the mobile interface.

How it connects to the Project Goal:

The project aims to assist users in improving their interview performance through practice and actionable feedback. The mobile prototype supports this goal by offering a portable, user-friendly platform that allows users to prepare for interviews on the go. Its focus on simplicity and visual clarity ensures that users can engage with the tool effortlessly, even in short, frequent sessions.

How it connects the Three Tasks:

1) Simple Task:

The mobile prototype simplifies this task with a dropdown menu and touch-based navigation. It ensures users can quickly choose a role and begin practicing.

2) Moderate Task:

The prototype includes an intuitive settings page where users can adjust the difficulty level and choose specific question categories. The touch interface, combined with visual indicators, ensures users can personalize the experience with minimal effort.

3) Complex Task:

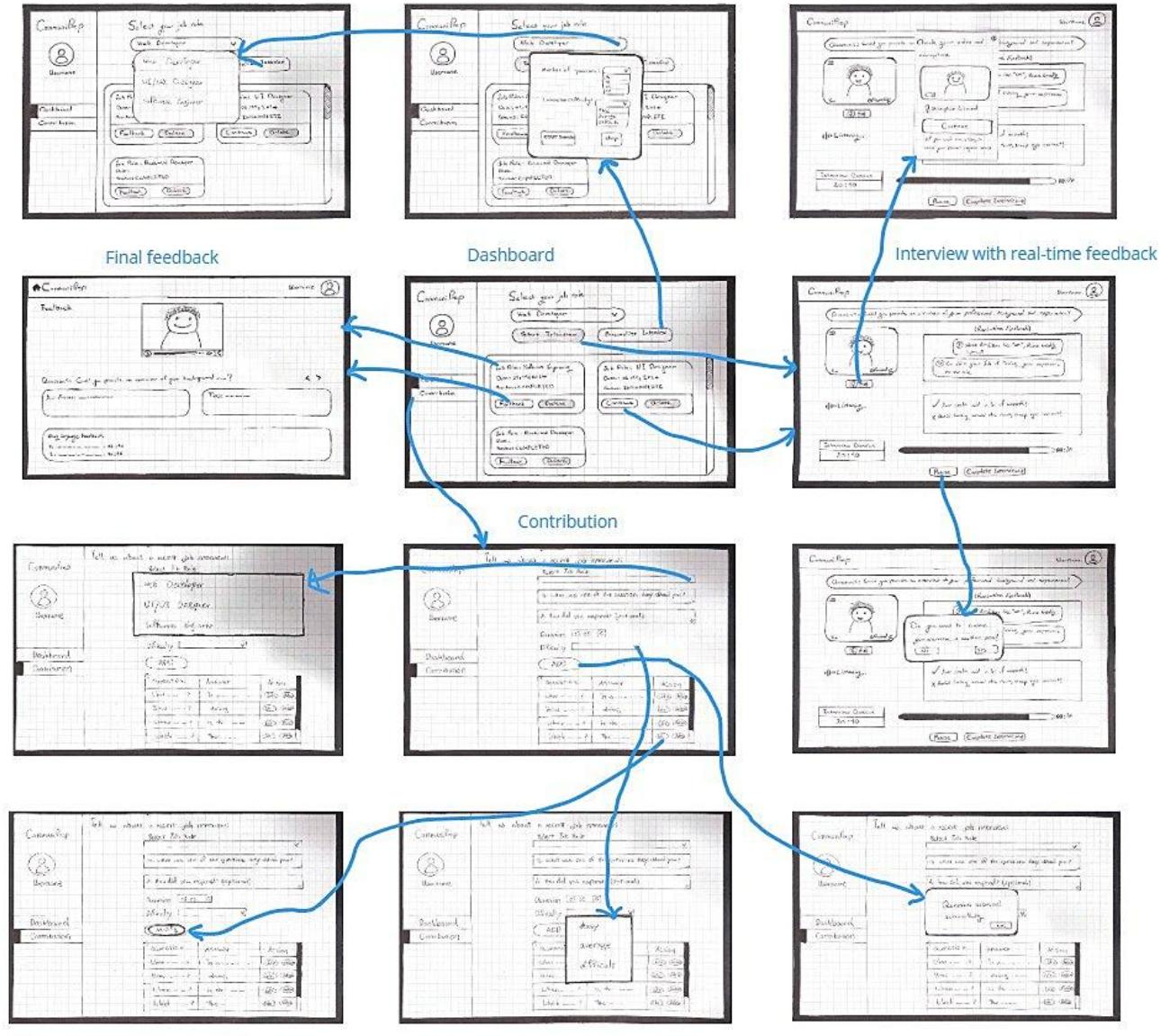
The sample question submission screen allows users to add their own interview questions from past experiences, which enriches the app's interview simulation content. This feature supports the user in customizing the simulation, making it more reflective of real-life situations they've encountered.

Effectiveness of Desktop Modality:

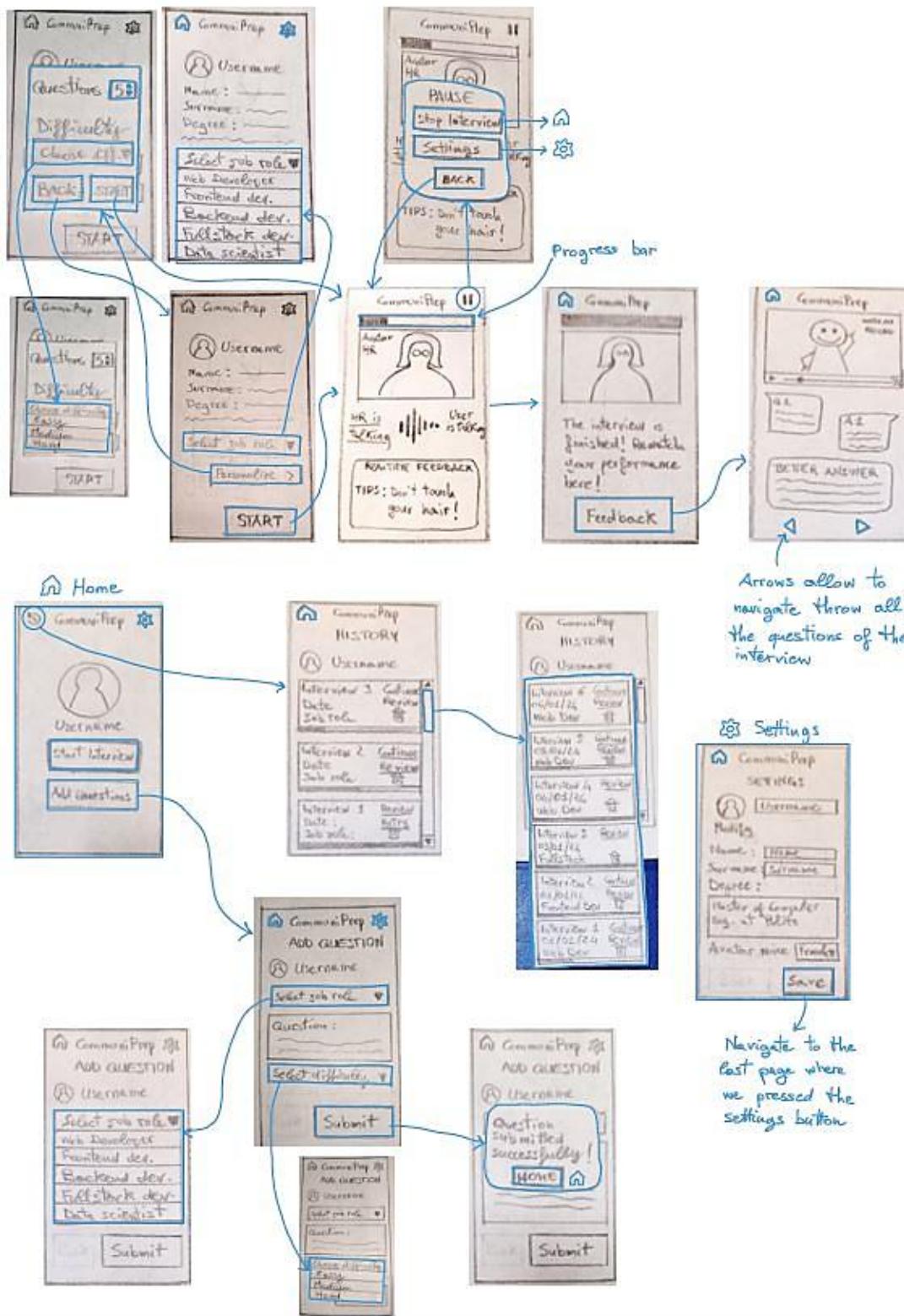
- **Touch Interaction:** Large buttons, swipe gestures, and tap-friendly design make the mobile prototype accessible and easy to use.
- **Visual Cues:** Icons, pop-up notifications, and color-coded feedback enhance clarity and usability.
- **Portability:** The mobile platform enables users to practice interviews anytime, making preparation more convenient.
- **Real-Time Feedback:** Feedback is presented through a combination of brief text, icons, and color codes, ensuring users can quickly grasp their strengths and areas for improvement.

High-Level flow of the Desktop Prototype

The user selects a job role, begins the interview, and receives real-time feedback.



High-Level flow of the Mobile Prototype



Heuristic Evaluations

i. What we did as a group to prepare and execute the heuristic evaluation on our prototype: how did it go? What happened during the evaluation?

As a group, we conducted heuristic evaluations of our prototypes to identify usability issues and areas for improvement. We received 5 evaluations for each prototype (10 in total).

During evaluation sessions, one team member acted as the “computer,” manipulating the prototype components, while another served as the “facilitator.” The facilitator welcomed the evaluator, explained the structure, and provided the necessary context, including the project’s goal and three tasks (e.g., selecting a job role, customizing an interview, and reviewing feedback), and any relevant user scenarios. Evaluators then interacted with the prototype under realistic scenarios, while the “computer” ensured task execution.

ii. The heuristic evaluations that we received for our prototypes:

Evaluators highlighted several areas for improvement, summarizing evaluation results from the evaluators:

For Desktop prototype:

- Several evaluators noted the lack of a cohesive visual hierarchy, leading to a cluttered interface. Grouping related actions more effectively and using distinct styling for critical functions were suggested to reduce cognitive load.
- The prototype lacked sufficient flexibility and customization options. Features such as filtering and sorting of saved interviews were missing, making it more difficult for users to manage their interview history.
- The interface required more consistent navigation and labeling. For instance, evaluators found the "Start Interview" and "Personalize Interview" buttons confusing, suggesting they should be merged into a single workflow.
- Evaluators emphasized the importance of adding error prevention, such as confirmation dialogs for actions like starting or deleting interviews.
- Several evaluators recommended improving the system's visibility by allowing users to view real-time feedback at their discretion.

For Mobile prototype:

- Evaluators pointed out the lack of clear system feedback, such as confirmation for actions like starting or deleting interviews.
- Issues with navigation included the absence of a back button on some pages and enhancing navigation by adding descriptive text to icons and ensuring consistent terminology throughout the app.
- It was recommended that filters and search field be added to pages such as History.
- Evaluators recommended adding tutorials or contextual tips to ease the learning.

iii. list of the violations for both our prototypes, with duplicates merged:

list of the violations for Desktop prototype

Accepted violations:

ID	Heuristic	Where	What	Why	Severity	Notes
1	H8	Dashboard - Starting a new interview	The dropdown for job roles and the buttons together are intended to start a new interview but are not visually emphasized, titled, or grouped distinctly from the interview records section.	This makes the page visually cluttered and the layout unintuitive.	3	We will move the history part in another page and add the filters under the job role selection
2	H7	Dashboard – Interview records.	Users cannot sort or filter the interview records by status, job role, or date.	Lack of filtering and searching option makes navigation and record management difficult for user as the list grows.	3	We will do it in history page
3	H6	Dashboard – Interview records.	Completed and incomplete interviews are difficult to differentiate visually.	Users need to distinguish interviews at a glance without scanning for the "Status" field, and recalling what status means. This will also slow down recognition.	3	Add filters
4	H4	Dashboard – Interview records.	Mixing completed and uncompleted interviews in one list.	This approach violates the expectation of grouping similar items together. A lack of organization increases cognitive	3	We added filtering

				load and decreases usability.		
5	H5	Dashboard – “Delete” button.	The "Delete" button lacks a confirmation step or undo functionality.	Deleting an interview is irreversible, and users could unintentionally remove records. Adding a confirmation dialog (e.g., "Are you sure you want to delete this interview?") or an undo option would mitigate potential errors.	3	Add a popup for confirmation
6	H2	Dashboard – “Feedback” button on cards.	The term "Feedback" does not accurately represent the range of actions available through this button.	Using the term "Feedback" might lead users to expect only feedbacks and comments, not a review of their recorded performance. This misalignment between the system's language and user expectations could cause confusion. "Review" would better align with users' mental model and action of button.	2	
7	H10	Dashboard – Interview cards	There is no guidance or explanation for what the "Feedback" or "Continue" buttons do.	New users may not immediately understand the purpose of these actions, especially "Feedback," without clicking or experimenting. A brief tooltip or contextual help would improve usability.	1	
8	H4	Interview Page –	The icons used for	Using different icon sets breaks	2	

		Real-time feedback frames	positive and negative feedbacks are inconsistent in two sections (smiley/sad faces and ticks/crosses.)	consistency, making the interface harder to interpret at a glance.		
9	H6	Interview Page – Real-time feedback frames	The feedback frames lack distinct titles, making it unclear which section provides verbal feedback and which provides non-verbal feedback.	Without clear titles, users are forced to recall the meaning of each feedback section, increasing cognitive load. Providing descriptive titles allows users to recognize the sections instantly, improving clarity and usability.	3	We will label them and also color differently
10	H3	Interview page - Real-time feedback frames	There is no option to hide real-time feedback during the interview.	Not all users may want real-time feedback visible during the interview. For some, it could cause distraction or stress, while others may prefer reviewing it post-interview. Providing an option to hide the feedback temporarily would enhance user freedom and overall satisfaction.	3	We will implement a switch/toggle button
11	H3	Interview Page – Question Progression .	Users cannot control or extend the allocated time for each question. Questions move automatically, even if the	This lack of control can frustrate users and lead to incomplete answers, as they are unable to adjust pacing to suit their needs. Adding controls to adjust timer and a “Next”	4	We will add a NEXT button without intrerrupting the user while he is answering

			user is still responding.	button would grant users more freedom.		
12	H4	Interview page - Modal window message after clicking "Pause."	The message in the modal ("Do you want to continue your interview at another time?") is unclear and could confuse users, as it doesn't explain what "continue" or "pause" actually means in the context of the interview.	The wording is ambiguous and could cause confusion about what exactly will happen when users click "Yes" or "No." Clear, action -based language (e.g. "Do you want to pause your interview and continue later?" Add a note like: "If you pause, you can find the interview in the 'History' section and resume it at any time.") can help users make more informed choices and avoid mistakes.	2	
13	H4	Interview page - Modal window buttons after clicking "Pause."	The buttons labeled "Yes" and "No" do not clearly convey the intended actions.	The user may not understand which button will actually pause the interview and which will keep it running. Clear, action-based language, such as "Pause and Exit" and "Continue Interview", can help users make more informed choices.	3	Yes -> Confirm No -> Close/Cancel
14	H3	Interview page - "Complete Interview" button	The button duplicates the functionality of the pause button (followed by "Yes" in the modal) and lacks clarity about whether	Having two options that essentially perform the same or similar actions creates inconsistency and confuses users.	4	We will solve this

			progress is saved or resumed.			
15	H5	Interview page - "Complete Interview" button.	The button does not include a warning or confirmation dialog to prevent accidental use.	Users could unintentionally click the button, ending the interview before completion.	3	We will solve this
16	H2	Interview page - "Complete Interview" button.	The "Complete Interview" button's labeling confuses user since it exits the interview whether completed or not.	In real-world contexts, completing a task would imply finishing it. "Exit Interview" would better align with the functionality of the button.	2	
17	H1	Feedback Page – Question Number Display.	Users can see the current question number but not the total number of questions.	Users cannot track their progress through the feedback or understand how many questions remain. Displaying the total number of questions provides a clear status update.	3	
18	H2	Contribution page - "Duration" field in the form.	The term "Duration" lacks clarity.	Interviewees typically do not track the time they take to answer a question. If it refers to estimated answering time, this should be explicitly stated through a clearer label or tooltip.	3	
19	H8	Contribution page - Table.	Long questions or answers may become	The truncated text forces users to recall or guess the full	3	

			truncated, making it difficult for users to access full information at a glance.	content, increasing cognitive load.		
20	H6	Contribution page - Table	The table only displays part of the data captured in the form (Job Role, Duration, and Difficulty are missing).	Users must recall the missing data every time they check table.	3	
21	H7	Contribution page - Table.	The table lacks search, filter, or sorting options	Without these features, users must scroll through long lists to find specific entries, which reduces efficiency, especially for larger datasets.	3	
22	H8	Contribution page - after performing "Modify" or "Delete."	There is no confirmation or feedback after user actions.	Users might mistakenly press "Modify" or "Delete" button.	3	
23	H1	Contribution page - after performing "Modify" or "Delete."	There is no feedback after user actions.	Users might be uncertain if their actions were successful.	2	
24	H4	Contribution page – Buttons' style.	Button styles and capitalization are inconsistent (e.g., "ADD" vs. "Edit").	Inconsistent styling and labeling reduce the perceived polish of the interface. Use a consistent style guide for buttons.	1	
25	H2	Contribution page – "Answer" field.	Users are required to provide answers to	Users expect their contributions to have a meaningful purpose. Since the	3	

			questions, but it is unclear how the system uses this data.	system focuses on providing feedback for communication skills, actions, and body language rather than correcting answers, the purpose of collecting answers is unclear. - If answers are meaningful: Provide clarity, such as a tooltip or label (e.g., "Your answers help the system create more realistic interview scenarios"). - If answers are not used: Remove or redesign the feature.		
26	HN	Contribution page – Table section.	Previously added questions and answers are displayed, but their purpose is unclear.	Consider the goal of contribution task. It should be clarified whether these data are useful for user's reference or it is merely for reinforcing system's database. - If displaying data has a purpose: Add explicit titles, labels, or tooltips to clarify its role (e.g., "Your Contributions – Edit, Delete, or Track Previously Added Questions"). - If displaying data is unnecessary: Consider removing the display, as it could clutter the interface and violate the Aesthetic and	3	

				Minimalist Design principle.		
27	H5	The "Start Interview" button.	There is no default placeholder or indication to prompt the user to select a job role (e.g., "Please select a job role"). The button can be clicked even if no job role is selected.	Not having a placeholder could lead to confusion or errors if users try to proceed without making a selection. It's better to leave the default value to "empty" or "none" which disables the button.	3	Just write Select a Job Role as a placeholder + show error message when this field is not selected
28	H6	Job role selection section	There is no filter functionality to quickly select the job role.	Users might need to scroll through a lot of job roles manually to select the desired job role. A filter would improve efficiency and usability.	3	We will do it with bootstrap
29	H3	The "Skip" button on the personalization screen	The "Skip" button is unnecessary, and its purpose is unclear	The ambiguous labeling of "Skip" can cause confusion about its purpose, it's better to be replaced by a "Back" button or "Close" button icon.	3	it is not unnecessary maybe we should change the text. We changed it, we don't have the popup now
30	H4	The "Number of questions" and "Interview Difficulty" section on the personalization screen	The beginning of "Interview Difficulty" is starting with capital letters but the other section like "Number of questions" is not like this.	Inconsistent formatting breaks established patterns, potentially confusing users and reducing the perceived polish of the interface. Consistent button labels enhance familiarity and trust in the design.	2	

31	H3	The Pause button	There is no delete option to exit the interview early without completing and saving it. The "Pause" button is present, but the user wants to do a do-over interview from the beginning.	Users should have the freedom to cancel or stop the interview at any time, and unclear controls may result in hesitation or unintended actions.	3	We can put a button in the history to redo the whole interview with the same questions
32	H1	The feedback page	There is no visible title or indicator showing which job interview this feedback is related to	If users perform multiple mock interviews for different roles, they might confuse the feedback sessions without clear labeling, causing frustration and inefficiency.	4	We will add the job role
33	H4	Difficulty section of the contribution	The difficulty levels ("Easy," "Average," "Difficult") are inconsistently capitalized compared to the dropdown menu on the first page. On this page, they are all lowercase.	Inconsistent capitalization reduces design consistency and professionalism. Maintaining uniform styling for dropdown options would improve the user experience.	2	
34	H6	Question and answer table	There is no preview or search option to check if a similar question is already in the table before	Users might unknowingly add duplicate questions, leading to clutter and inefficiency. A search or duplicate-checking feature would improve usability.	3	

			adding a new one.			
35	H7	Contribution page	Users cannot sort questions in the table or group them by topics, difficulty, or other criteria.	The fixed order reduces flexibility for organizing questions efficiently. Adding drag-and-drop reordering or grouping options would enhance the experience.	3	
36	H3	Simulation	The user is forced to receive real-time feedback and cannot choose whether to view it during or at the end of the interview.	Some users may prefer to review feedback at the end of the simulation, and forcing real-time feedback may disrupt their experience, especially if they're trying to focus on the interview itself.	3	We will implement a switch button to show/not show for both the questions and the body language
37	H5	Homepage and Personalize Interview	If a simulation is started without selecting a "job role," no error message appears.	Without specifying a relevant job role, the simulation could be irrelevant or poorly targeted. The absence of an error message allows users to make this critical mistake without any warning, leading to confusion or incomplete results.	2	
38	H2	Contribution page	When modifying a question, it would be more appropriate to have a "Save" button rather than "Modify" or "Add"	The terms "Modify" and "Add" might confuse users, as they don't clearly indicate that the changes are being saved. A "Save" button would make the process more intuitive and user-friendly.	2	

39	H3	Contribution (Add Question page and Edit page)	There is no "Cancel" option on the Add and Edit pages if the user decides not to make any changes.	If the user starts editing or adding a question but changes their mind, they have no easy way to exit without saving, leading to frustration and an inefficient workflow.	2	
40	H3	Homepage	When pressing "Delete," there should be a confirmation window asking "Are you sure"	Without a confirmation prompt, users could accidentally delete something important, leading to irreversible mistakes or data loss.	3	
41	H9	Contribution (Add Question page)	There is no error message when submitting the "Add Question" page without selecting any options	Without clear error feedback, the user is left uncertain about what went wrong or why the submission failed, making it difficult to identify the specific mistake and correcting it, which can lead to frustration and inefficiency.	2	
42	H8	Contribution page (Add and Edit Question)	The "duration" field is displayed when adding or editing questions, but its purpose and relevance are unclear, leading to confusion about its value within the application.	Including unnecessary or unclear information, such as the "duration" field, adds complexity to the page and distracts the user from the essential task, reducing the overall clarity and efficiency of the interface.	1	
43	H1	In the interview page	There is no indication of how many questions are	The user has no way to tell how many questions there will be if they just started	3	Added number of questions already done

		(simple task)	left, or in total.	the interview without personalizing it.		(e.g., 5/10) to indicate remaining questions.
44	H2	In the interview page	There is no interviewer.	In a real interview, there is an interviewer: the user can see their verbal and non-verbal communication and react differently.	3	Add a container with an avatar/HR. Keep the user's camera on the screen with a toggle button to show/not show.
45	H2	In the popup to personalize the interview	The skip button goes back to the homepage instead of going forward.	The word "skip" gives a sense of going forward, but here the "skip" button makes the user go back.	2	
46	H3	In the popup to personalize the interview	The number of questions is only choosable between a set of predefined options (e.g., it is not possible to do an interview with 7 questions).	The user does not have fine control over the length of the interview.	2	
47	H3	In the contribution page	Every time the page loads, the table is empty (i.e., all questions inserted in previous sessions are not present).	When the user closes the session, they lose control over the questions they had inserted before.	3	
48	H4	In the top-left corner of all pages	All pages have the "CommuniPrep" logo in the	The same component has inconsistent behavior across	3	Keep the sidebar on every page and use a

			top-left corner, but it does nothing except on the interview feedback page, where it links to the homepage.	different pages. Additionally, it is a standard that the logo in the top-left corner brings you to the homepage.		hamburger menu for responsiveness (except on the interview page).
49	H4	Across the interview page, feedback page, and contribution page	Different pages do not share a consistent way to leave them.	To leave the interview page, users use buttons at the bottom; to leave the feedback page, they click the top-left corner; and to leave the contribution page, they use the menu on the left.	3	Solved with the hamburger menu.
50	H7	In the interview page	The question to answer is in a small card on the edge of the screen, less visible than other elements.	It took me a while to see it, which lowered my efficiency in using the app.	3	Consider a different color, wider card, or bigger font.
51	H9	In the popup that appears before starting an interview	There is no way to tell if the microphone is working; the system only detects its presence.	The user has no way to recognize the “microphone not working” problem.	2	
52	HN	In the interview page	There are buttons to disable the microphone and camera.	Since the purpose of the app is to give suggestions on verbal and non-verbal communication, disabling the mic and camera makes the app meaningless.	2	

53	H1	Dashboard - Interview records	The section that presents previous interview records lacks a title, making it unclear what the frame represents.	Users cannot immediately identify the purpose of this section without an appropriate title (e.g., History, or Interview Records), leading to confusion about its content or function.	2	We will do it in history page
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Rejected violations:

Heuristic	Where	What	Why	Severity	Notes
H2	Dashboard - Job role dropdown.	The purpose of the job role dropdown, located at the top of interview records, is unclear. It's uncertain whether the dropdown is meant to filter interview records, influence the new interview, or both.	The placement of the dropdown creates a false association with the list of records, which doesn't align with users' mental models. Users may mistakenly believe it filters the records.	2	We fixed this problem by separating the history part
H4	Dashboard – “Start Interview” and “Personalize Interview” buttons.	There are two options (buttons) for ultimately the same function (starting a new interview).	Although "Start Interview" is an immediate action and "Personalize Interview" is a preparatory step, but at the end both leads to starting a new interview. This creates inconsistency and confusion. Users may think they are two different workflows rather than two paths	3	We fixed it by showing the filters under job role selections (with a toggle button)

			leading to the same goal.		
H8	Dashboard – “Start Interview” and “Personalize Interview” buttons.	Having two separate buttons for what is ultimately one task (starting an interview). Why: This approach adds unnecessary complexity to the interface and increases cognitive load by forcing users to decide between options that are closely related.	This approach adds unnecessary complexity to the interface and increases cognitive load by forcing users to decide between options that are closely related. A more streamlined design would combine these actions into a single “Start Interview” button. After clicking, users could choose whether to personalize the interview (or leave it as default) through a secondary modal or step.	2	We fixed it by showing the filters under job role selections (with a toggle button)
H3	Popup window for Personalize Interview.	The popup window lacks a clear close option (e.g., an 'X' in the corner). The Skip button is present, but users may expect a standard way to close popups.	Users should have the freedom to exit the popup using conventional controls without performing specific actions.	2	We fixed it by showing the filters under job role selections (with a toggle button)
HN	Interview Page – Fixed Duration and Question Numbers.	Both the duration and the number of questions are fixed and do not adapt based on user performance, speed, or needs.	This design decision is rigid and does not align with a responsive and realistic interview simulation.	3	Number of questions is asked to the user before starting the interview

H7	Feedback Page – Arrows (“”) for switching between questions	Users can switch between questions using only the arrows.	For users who want to jump to a specific question, this approach is slow and tedious.	3	This is the better way to do it
H8	Contribution page layout.	There is no clear distinction between the form used for adding new records and the table displaying previously added records.	This lack of distinction creates visual clutter and may confuse users about where to focus. Group these sections more clearly using headings, or spacing.	3	There is! The table below will show all the previous questions insert by the user
H1	Contribution page - Table.	The table does not show all fields that were captured in the form (Job Role, Duration, and Difficulty are missing.)	Users need to see the complete data they have entered to feel confident that all fields are being stored and displayed correctly.	3	Same as last one
H3	Dashboard Delete button	There is no trash bin for deleted interviews. Once deleted, the data is permanently lost.	Users may accidentally delete important interviews and need a way to recover them. Providing an temporary trash bin would give users more control.	4	We don't need to store them in a trash bin to recover them
H10	Top right corner	There is no support or contact with us section for further help the users	Without support, new users might take longer to understand or in some case not understand the functionality of the interface.	2	It's not needed

H4	The "START Interview" button on the personalization screen	The capitalization of "START Interview" is inconsistent between pages. On the first page, it is written as "Start Interview" with only the "S" capitalized, whereas here, "START" is in all caps.	Inconsistent formatting breaks established patterns, potentially confusing users and reducing the perceived polish of the interface. Consistent button labels enhance familiarity and trust in the design.	2	We changed it, we don't have the popup now
H3	Question delivery mechanism (Read or Display)	There is no option repeating the question with new answer.	Users might prefer one method over the other based on their learning or comfort preferences. For example, some users may find reading less stressful, while others may benefit from hearing the question for a more realistic experience.	4	In the real interview is it possible to answer the question again
H5	The transcript feature (missing editing option)	There is no feature to allow users to edit the transcript for potential AI errors before completing the interview.	AI transcription tools are prone to mistakes. Without editing options, users could end up with inaccurate records, limiting the usefulness of the feature.	4	We will assume the AI transcription is always right, because it has also autocorrection, so the user cannot edit the AI feedback, just read
H6	The feedback section on	The real-time feedback uses text like "linking your experience to the	Feedback should visually or interactively link to specific	3	It was a sample feedback

	the interview screen	role," but users may forget what specific actions or phrases triggered this feedback after moving on.	actions or moments to reduce reliance on memory and aid learning.		
H3	The microphone and video detection screen	There is no option to select which camera or microphone to use in case the user has multiple devices connected.	Users need control over the hardware they want to use. Lack of selection can lead to frustration if the system defaults to an unintended device.	3	Not related to the app, the app uses default microphone used in the computer and the user can change it from computer settings
H7	The microphone and video detection screen	There is no option to add a feature like blurring the video background for privacy or to minimize distractions.	Adding background blur improves usability and efficiency, especially for users in non-ideal environments. It also offers flexibility for different user needs.	3	It's difficult to do
H5	The feedback page layout	There is no confirmation when clicking on the navigation arrows (<, >). Users might accidentally move to another question's feedback without realizing they left the current one.	Accidental navigation can lead to confusion or frustration, especially if users lose track of their place in the feedback. Adding a confirmation or clear indication of navigation would prevent this error.	3	We don't need confirmation for these buttons >This section is for reading/reviewing

H10	Start Simulation page	On the "Start Simulation" page, there is no indication that the user will be recorded during the simulation, nor is explicit consent requested.	Users may be unaware that their actions are being recorded, leading to potential privacy concerns or legal issues if they haven't been properly informed.	1	We have it
H4	Contribution page	The title in "Contribution" invites users to talk about a recent job interview, but they can only enter one question at a time.	The title creates an expectation that users can contribute multiple questions related to their interview, but the interface limits them to a single question, which is confusing and inconsistent with user expectations.	2	We have already the possibility to insert more than one question
H7	Contribution page	To enter all the questions from a job interview, the user must submit each question separately and confirm with "OK" after each submission.	This repetitive process is time-consuming and inefficient, as users must manually submit each question and confirm it, which disrupts the flow and increases the time required to complete the task.	3	We have already the possibility to insert more than one question after click on ADD button
H4	Feedback page	During the interview, it says "Real-time feedback," but in the feedback tips section, there is no consistency with this statement.	The discrepancy between the two sections may cause confusion, as users may expect to see	3	It's not a "real-time feedback" in feedback page, we have real-time feedback in simulation

			real-time feedback in the tips, but instead, the feedback is delayed or inconsistent.		
H4	In the interview page	The verbal and non-verbal suggestions have totally different styles.	There is no consistency across the two boxes.	3	Yes, they look different so the user can differentiate them at first look.
H4	In the menu section under the dashboard option	The section “contribution” might not be clear to what it is referring to	It’s not clear what the section is referring to at first sight. It should have a more familiar naming for the user or be more specific.	3	The “Contribution” is clear and refers to the main purpose of the section.
H2	Feedback Page – timestamps inside “Body Language Feedback.”	Timestamps are listed as plain text without being clickable.	Users expect timestamps to be clickable. It is a common convention in video-based systems. Making them interactive would align the design with user expectations and improves usability.	1	It’s hard to do

list of the violations for Mobile prototype

ID	Heuristic	Where	What	Why	Severity
1	H1 Visibility of System Status	Interview Info, Fine Interview, Interview pages	There is no clear page title indicating the function of the page. It is unclear whether I am in the interview page or the review page.	Without clear page titles, users may become confused about their current location, reducing navigation efficiency.	2
2	H8 Aesthetic and Minimalist Design	Throughout the application (Start Interview pages)	My username, photo, name, surname, and degree are repeated on each page even though I have already entered them.	Redundant information forces users to process unnecessary data, increasing cognitive load and reducing navigation efficiency.	2
3	H3 User Control and Freedom	Starting an interview	There is no confirmation popup before starting a new interview, leading to accidental initiation.	Accidental actions force users to complete or undo the interview unnecessarily, reducing control.	3
4	H3 User Control and Freedom	Settings page	There is no "Back" button, forcing users to click "Save" (even if no changes are made) or "Home" to return.	The lack of a straightforward navigation option limits user freedom, requiring unnecessary actions.	3
5	H1 Visibility of System Status	Interview page	The progress bar is unclear and would benefit from	A clear progress indicator enhances user understanding	1

			showing a percentage of progress.	of their advancement, reducing confusion and frustration.	
6	H6 Recognition rather than Recall	History page	Clicking on an interview in the History list removes previously displayed information, such as the interview name, job role, and date.	Losing context forces users to recall details that should be visible, disrupting their workflow.	3
7	H4 Consistency and Standards	Interview vs. review feedback	Feedback during the interview focuses on body language, while the review provides tips on improving answers.	Inconsistent feedback creates confusion about priorities for improvement, reducing coherence and usability.	3
8	H6 Recognition rather than Recall	Personalization step (before starting interview)	Difficulty level and other personalized settings are not visible after the interview starts.	Users lose track of preferences, forcing them to recall important details that should be accessible.	3
9	H3 User Control and Freedom	Adding questions	No option to review, edit, or delete submitted questions.	Users have limited control over their content, leading to frustration or wasted time when mistakes occur.	3
10	H7 Flexibility and Efficiency of Use	Personalization popup	The "Personalize" button is clickable	Allowing premature interaction with the	3

			before selecting a job role.	"Personalize" button causes confusion about proper setup, reducing efficiency.	
11	H3 User Control and Freedom	History page	No search or filter option for finding specific interviews in the History list.	Manual scrolling becomes inefficient as the history list grows, increasing effort and time required to locate specific entries.	3
12	H4 Consistency and Standards	"Add Questions" in home page vs. "Add Question" page	The home page suggests adding multiple questions, but the "Add Question" page allows only one at a time.	Conflicting expectations about the number of questions that can be submitted create confusion and inefficiency.	2
13	H7 Flexibility and Efficiency of Use	Adding multiple questions	Users must submit each question individually, repeating the process.	Repetitive actions slow down the process for users needing to add several questions, reducing efficiency.	3
14	H7 Flexibility and Efficiency of Use	Selecting job role	No search or filter for job roles, and irrelevant suggestions are displayed.	Finding the correct job role becomes cumbersome, especially when there are many options, causing frustration and wasted time.	2
15	H2 Match between	Interview pause popup	The "Back" button should be labeled	A misleading label may cause users to	2

	System and the Real World		"Resume Interview" instead, to avoid confusion.	unintentionally leave the interview, reducing usability.	
16	H5 Error Prevention	Add Question page	No system prevents adding irrelevant or nonsensical questions.	Allowing irrelevant content reduces the quality of submissions and increases error likelihood.	3
17	H3 User Control and Freedom	Retry interview	Users cannot retry an interview until it is completed.	Restricting retries reduces flexibility and makes it harder to correct mistakes during the process.	3
18	H9 Help users recognize, diagnose, and recover from errors	Add Question page	No error message when submitting invalid or nonsensical questions.	Lack of feedback leaves users uncertain about their input, allowing irrelevant or incomplete data to be submitted without warning.	2
19	H4 Consistency and Standards	Interview History, Interview Pages	"Feedback" and "Review" buttons lead to the same page but use different terms.	Inconsistent terminology creates confusion about actions, reducing clarity and usability.	1
20	H1: Visibility of System Status	Feedback Page (Simple Task)	No indication of which question is being reviewed or how many were asked during the interview.	Users cannot know which question is analyzed or how many were asked.	3
21	H1: Visibility of System Status	History Page	No indication of status for	The "Continue" button alone doesn't provide	2

			incomplete interviews.	enough feedback on progress or remaining steps.	
22	H2: Match Between System and the Real World	Profile Page	The user may not understand the role being applied in the selection component.	Lack of clear labeling on the selection component makes it hard to understand available options.	2
23	H3: User Control and Freedom	Feedback Page (After Selecting Review)	No option to return to past interviews; no "back" button.	The user loses time trying to go back to the list of interviews.	2
24	H3: User Control and Freedom	Add Questions Page (Complex Task)	No possibility to see previous questions inserted.	The user cannot review or modify mistakes, which causes frustration.	3
25	H4: Consistency and Standards	Settings Page	The user may not find the AI settings like voice configuration in the settings page.	Users expect profile settings and system configuration (like AI voice) to be in separate sections.	3
26	H4: Consistency and Standards	History Page	Buttons like "Continue" and "Review" have text labels, but the trash bin icon is unlabeled.	The unlabeled trash bin icon confuses users about its function.	2
27	H4: Consistency and Standards	Personalize Review Page	Two buttons labeled "Start" — one for "Start Interview" and another simply labeled "Start" in the personalize page.	Users may expect both "Start" buttons to perform the same action, leading to confusion.	2

28	H4: Consistency and Standards	Pause Modal (When Clicking Stop During Interview)	The "Back" button and "Stop Interview" button.	Users may not understand whether the "Back" button goes back or closes the modal.	2
29	H5: Error Prevention	Personalized Interview Page (Moderate Task)	A field allowing an unlimited number of questions to be entered.	Users may input too many questions, causing performance issues or overwhelming themselves.	2
30	H6: Recognition Rather Than Recall	Interview Page	No current question is displayed on the page.	The user may not remember the question they're answering, causing confusion.	2
31	H10: Help and Documentation	Add Questions Page (Complex Task)	The label "Level of Question" lacks explanation or tooltips.	Users may not understand the setting and select incorrectly.	2
32	H1 Visibility of System Status	Job Role Selection Screen	No clear indication of whether the selection was successfully saved or not.	Users may feel uncertain if their choice is confirmed.	3
32	H3 User Control and Freedom	Job Role Selection Screen	No 'Back' or 'Edit' option to undo or correct accidental selections or submissions.	Users who make mistakes, such as selecting the wrong job role, must restart the process.	3
33	H5 Error Prevention	Job Role Selection Screen	Submitting a job role does not prompt a confirmation message.	Without confirmation, users may proceed with incorrect or incomplete	3

				inputs, potentially restarting tasks.	
34	H5 Error Prevention	Settings Screen	No clear indication of whether the changed fields were successfully saved or not.	Users may continue the interview with the wrong confidentialities.	3
35	H1 Visibility of System Status	History Screen	No clear indication of whether the deletion of the interview was successfully saved or not.	Users may feel uncertain if their choice is confirmed.	2
36	H2 Match Between System and the Real World	Feedback Record Screen	Navigation icons ('<' and '>') lack accompanying text like 'Next Question.'	Users may not immediately understand the purpose of these icons, as they could represent navigation or other actions.	3
36	H8 Aesthetic and Minimalist Design	Real-Time Feedback Screen	Overcrowding of icons and sentences may overwhelm users.	It detracts from focusing on key feedback points.	3
37	H10 Help and Documentation	Entire Interface	No visible help section or onboarding guidance for new users.	Users unfamiliar with the app's workflow may struggle to understand how to perform tasks like submitting questions.	2
38	H2 Match Between System and the Real World	During the Interview Process	Terms like "HR" are used without explanation, and the user's role is unclear.	This could confuse first-time users, especially if they don't understand the roles.	3

39	H7 Flexibility and Efficiency of Use	During the Interview Process	No way to skip a question during the interview.	Experienced users might want to skip questions or jump ahead, which isn't possible.	2
40	H9 Help Users Recognize, Diagnose, and Recover from Errors	During the Interview Process	Users might not realize their responses are incomplete or incorrect.	The AI could prompt for clarification or more detail during interactions.	3
41	H4 Consistency and Standards	Before Starting the Interview	The "Personalize" button is unclear about whether it applies only to the current or all interviews.	The unclear button could confuse users about its purpose.	2
42	H5 Error Prevention	Before Starting the Interview	No confirmation messages before starting an interview.	Could lead to accidental mistakes, such as starting an interview by mistake.	3
43	H8 Aesthetic and Minimalist Design	Settings Page	The settings page feels overcrowded.	Too much information on a small screen could overwhelm users.	2
44	Non-Heuristic Issue	Feedback Section After the Interview	Feedback is too simple and lacks detailed suggestions for improvement.	Users need more specific feedback to know how to improve.	2
45	H4: Consistency and Standards	Interview Page	Ambiguity of the Pause button	The pause button and stop button in the modal have similar functions, and the lack of a	3

				confirm button might confuse the user.	
46	H4: Consistency and Standards	History Page	'Settings' button disappears	The settings button disappearing breaks consistency and makes it harder for users to predict where the settings will be.	2
47	H4: Consistency and Standards	History Page	Retry button appears inconsistently	The presence of a retry button is inconsistent, which may confuse the user.	2
48	H4: Consistency and Standards	Settings Page	Modify button ambiguity	It is unclear if the modify button is for changing the profile picture or other profile fields.	3

Selection

Selected Prototype: Desktop

We chose to select the desktop version of our application because it is more similar to a real environment. We wanted to make the user feel like in a call with an HR, so sitting in front of a PC is more realistic for this purpose.

Moreover, the bigger screen of a desktop allows users to put more information all at once. So, the user, at the same moment, can see a big container with the avatar/HR, receive accurate feedback either about their answers to the questions and about their body language and gestures, and lastly they can also see themselves in another container to have a reference of how they behaves during the interview.

List of Features moved from Mobile Prototype to Desktop Prototype:

1. Icon for Conversation Indicator:

Description: A dynamic icon will be added to indicate who is currently speaking, whether it is the user or the HR representative. This feature helps users easily identify the flow of conversation during the simulation.

Implementation Plan: The icon will be placed below the live video and will visually indicate the active speaker. This feature will be implemented using animations and color changes. When the user speaks, the text "User is talking" will light up, and the icon will pulse. Similarly, when the HR speaks, the text "HR is talking" will light up, and the icon will pulse.

2. Video Container for Avatar/HR Representation:

Description: A video container will be added to display the HR representative talking to the user and asking questions during the interview simulation.

Implementation Plan: The video container will be placed in the top corner of the screen to simulate a face-to-face interview environment. The HR avatar will mimic a real-life interviewer's behavior.

Medium to High-Fidelity Prototype

Tool Used for Creating Medium-Fidelity Prototype Screens

We used **Figma** to create the two screens of the medium-fidelity prototype. Figma was chosen for its intuitive interface, collaborative features, and robust design tools, which allowed us to create detailed, interactive prototypes that align with the project goals and user experience requirements.

**Why and how these two screens are the most significant ones, and
Which are the fixed violations (level 3-4) in both screens?**

Our Two Selected Screens and why they are the most significant ones:

- Home Page:** This page is significant because it serves as the first interaction point for the user, it allows users to select a job role, personalize the interview preferences, and navigate to other sections of the application, such as past interviews and contribution pages.
- Interview Page:** This page is the core functionality of the application, where users simulate an interview, answer questions, and receive real-time feedback on verbal and non-verbal communication. This is the most critical part of the app for helping users improve their performance. Its design and functionality directly impact on the user's ability to engage with the interview simulation effectively and receive meaningful feedback.

Fixed Violations (Level 3-4)

1. Home Page:

H1: Visibility of System Status

Violation: No clear indication if a user starts an interview without selecting a job role, leading to confusion.

Fix: Added a confirmation prompt that ensures users select a job role before proceeding. This keeps users informed about system status and prevents errors.

H3: User Control and Freedom

Violation: Users might click on "Personalize Interview" or "Start Interview" without understanding the flow or making the correct selections.

Fix: Updated buttons and labels for clarity and added a safeguard to ensure users select a job role. A toggle showing filters directly on the home page, giving users freedom to personalize their experience or skip unnecessary steps.

H5: Error Prevention

Violation: No system feedback prevents users from starting an interview without selecting a job role.

Fix: Implemented validation checks and a clear error message that stops users from proceeding without selecting. This aligns with the heuristic of preventing errors rather than letting them happen and addressing them later.

H6: Recognition Rather Than Recall

Violation: Users had to manually scroll through job roles, making it difficult to quickly find their desired role.

Fix: Implemented a searchable dropdown for job roles.

H8: Aesthetic and Minimalist Design

Violation: The home page was cluttered, with history and filters for new interviews on the same screen.

Fix: Moved history to a separate page and simplified the design. Filters are displayed on the history page.

2. Interview Page:

H1: Visibility of System Status

Violation: The progress bar was unclear and didn't convey the number of questions completed or remaining.

Fix: Replaced the progress bar with a numerical indicator (e.g., "5/10 questions completed"), providing users with clear status updates.

H3: User Control and Freedom

Violation: Users were forced to see real-time feedback, which could be distracting or stressful for some.

Fix: Added a toggle button to let users hide or show real-time feedback, giving them more control over their experience.

H4: Consistency and Standards

Violation: Feedback icons (e.g., for verbal and non-verbal cues) were inconsistent in style and lacked clear labels.

Fix: Standardized the icons and added labels such as "Verbal Feedback" and "Non-Verbal Feedback."

H6: Recognition Rather Than Recall

Violation: Users had to remember personalized settings like job role and difficulty during the interview.

Fix: Displayed the job role, difficulty level, and other settings during the interview.

H9: Help Users Recognize, Diagnose, and Recover from Errors

Violation: There was no clear indication of microphone or camera issues during the interview setup.

Fix: Added visual indicators to show whether the microphone and camera are functioning properly.

Link to the mid-fi prototype

[Link](#) (Figma)

Plans for the High-Fidelity Prototype

We planned to implement new features to solve usability issues and enhance user experience. We focused on resolving all reported major heuristic violations with severity levels 3 and 4 in the high-fidelity prototype. Each issue carefully analyzed, and appropriate solutions implemented to align with usability principles. Any violations with severity levels 1 and 2 that are simple also fixed to enhance usability.

Based on the heuristic evaluations we received; we have identified a set of new features to be added across the application. These features address both existing usability gaps and enhance functionality. The features for each section are as follows:

Entire Application:

- Add a "History" tab to the sidebar to improve navigation and access to past interviews. (1, 53)
- Show a hamburger menu icon that opens a sidebar on every page (except of interview simulation page) (48, 49)
- Make buttons consistent among pages (49)

Home Page:

- Replace the personalized pop-up with directly accessible filters under the job role selection section, complemented by a toggle button. (1, 2, 29, 45)
- Change the input type for number of questions from a dropdown to an input type number. (46)
- Make the job roles searchable by name. (28)
- Display an error message if the user starts an interview without selecting a job role. (5, 27, 37)

Interview Page:

- Show the interviewer (44)
- Add labels for feedback containers, distinguishing between feedback on answers and feedback on body language. (9)
- Use consistent icons for verbal and non-verbal feedback. (8)
- Remove the progress bar and replace it with a display showing the remaining number of questions. (42, 43)
- Update button text for clarity and improved user guidance: Pause interview, Exit, Next Question. (11, 14, 16, 31)
- Add appropriate messages for the modals and related buttons. (12, 13, 15)
- Display the selected job role's title during the interview. (37)
- Add toggle button to show/not show the real-time feedback. (10, 36)
- Make the card of the question more visible. (50)
- Add visualization to indicate whether the mic and video are working, both in the setting up pop-up shown before starting and during the interview. (51)
- Remove the possibility of disabling the microphone or camera (because we need it) (52)

Feedback Page:

- Show the number of answered questions (e.g., 5/10). (17)
- Display detailed information, including the selected job role, date, difficulty level, duration, and total questions. (32)

Contribution Page:

- Remove the "Answer" field. (25, 26)
- Add search and filter functionality for questions. (21, 34, 35)
- Show in the table also previous inserted questions. (47)
- Show all the fields in the table and provide modals for editing and viewing questions. (19, 20)

- Add confirmation pop-up for addition, modification and deletion of questions. (22, 41)
- Set a duration for each question. (18)
- Update the text of the "Modify" button to "Save." (38)
- Display a info icon indicating that the questions will be used in interviews. (25)
- Make labels consistent. (24, 30, 33)

History Page:

- Add filters and search field. (3, 4)
- Provide confirmation pop-up for the "Delete" button. (40)
- Change the "Feedback" button text to "Review." (6)
- Add a "Help" button for user assistance. (7)

High-fidelity Prototype

Tools, frameworks and libraries

Desktop Application:

We chose a JavaScript-based environment. On the server side, we utilized web technologies such as Node.js with the Express.js library for efficient server-side programming, along with SQLite as a lightweight, file-based database. On the client side, we chose the React framework for building user interfaces, complemented by Bootstrap and React-Bootstrap, which enable the rapid development of a responsive UI.

User Camera & Microphone: HTML5 WebRTC (specifically the getUserMedia() function) API

Why selected?

We needed an API which allows us to start a real time stream from the user webcam, with the aim of starting and stopping the stream whenever it's needed (e.g. if the user hits the Pause button, the stream should interrupt), but also to allow the "AI" (if it was a real application) to analyze the stream to give real time feedback on the user's Body Language. This API is also more suitable for handling the video using MediaRecorder API.

Video Recording: HTML5 MediaRecorder API

Why selected?

It's the most suitable way to record the video stream received from the user webcam and store it in a variable of type blob, allowing also to select the video format (e.g. mp4), so it's ready to be sent to the server for permanent memorization.

HR / Avatar video: Pre-recorded Video of an AI generated Avatar + <video> component (HTML5) to render it.

Why selected?

We wanted to make the users feel like they are talking with a real person. It has 2 modes: speaking, when it is “reading” the answer, and listening, when it is “listening” to the user’s answer.

Speech-to-Text: HTML5 Web Speech API

Why selected?

1. *To trigger verbal feedbacks: when a word said from the user matches a word contained in the server, the related feedback appears on the screen.*
2. *To transcript the answer provided by the users: they can see it from the Feedback page and better understand why the system gave them a precise feedback*

Text-to-Speech: HTML5 Web Speech API

Why selected?

It has been used to make the HR / Avatar speak, it reads the questions out loud to better simulate the interaction with the users and let them act like they are answering to a real person.

Link to Code

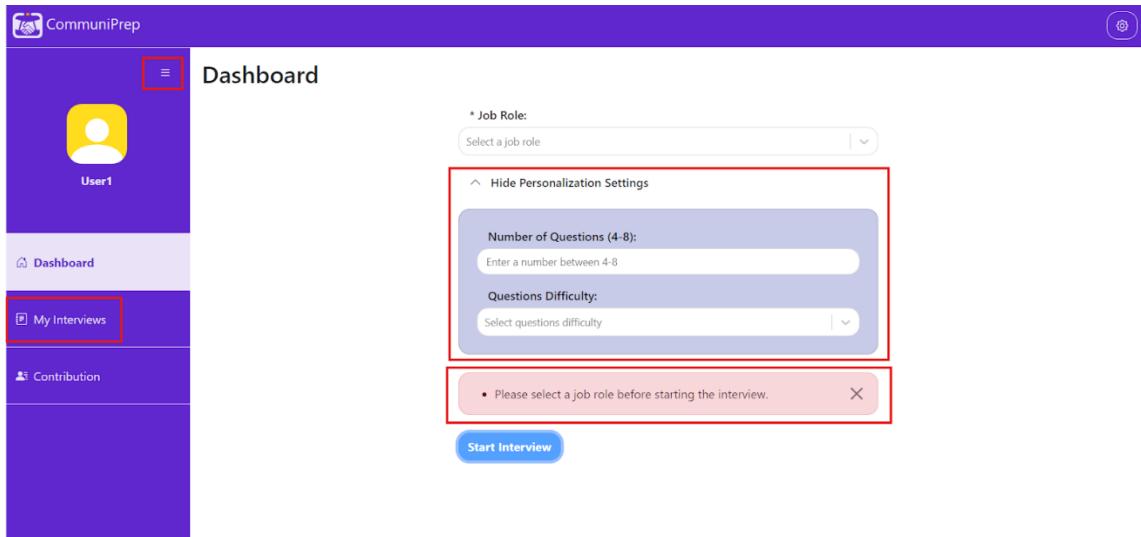
[Communiprep \(GitHub\)](#)

Design choices and changes [not included in Medium to High-fidelity]

- Maintained consistency of colors and widths, between different pages, on Modals, Buttons, Containers, Forms and Alerts to respect visual design laws.
- Displayed the difficulty level, job role and number of questions of the current interview in the interview page, to be consistent with the choices the user made in the Interview Personalization section.
- Display the difficulty level of each question on the interview page
- Added Review button in My Interviews page to go directly to Feedback page and see the results of an interview, even if the interview is not finished, to let the user see the feedback without the need of completing that interview.

Most Significant screens of the prototype

1. Home Page



This serves as the starting point for users.

Users can select a job role and immediately start a new interview.

Direct access to interview history and the contribution page.

Fixes Implemented (From Violations)

- Collapsible sidebar
- Error for job role selection
- Separated History Section: Now under “My Interviews”.
- Now personalization settings opens in the same page instead of on a modal.

Task Alignment

Simple Task – Users can select a job role and start an interview directly from this page.

Moderate Task – Users can adjust difficulty and number of questions for a tailored interview experience.

2. Interview Page (Real-Time Feedback)

The screenshot shows the CommuniPrep interview simulation screen. At the top, it displays 'Job Role: Software Engineers', 'Question Complexity: Mix', and 'Number of questions: 4'. A progress bar indicates 'Question 3 / 4' with a green 'New' badge. The main area features a video feed of an HR representative, with a red box highlighting the text 'HR is listening...'. Below the video, a message from 'You' says 'Camera is hidden, but recording is still going'. To the right, there are two feedback sections: 'Verbal Feedback' and 'Body Language Feedback', each with a 'Hide Feedback' button. The 'Verbal Feedback' section lists several violations and successes, while the 'Body Language Feedback' section lists successes and one violation. At the bottom, there are buttons for 'Interview Duration: 04:30', 'Pause Interview', and 'Next Question'.

The core simulation screen, where users practice answering interview questions.

Displays real-time verbal and non-verbal feedback in separate sections.

Includes an avatar (HR representative) for a more realistic interview experience.

Track the total number of questions, the number of successfully answered questions, and the current question in progress.

Fixes Implemented (From Violations)

- Separated verbal and non-verbal feedback for better clarity.
- Added Toggle to Hide/Show Feedback: Gives users more control.
- Enlarged Question Text Box: Improves readability.
- Added interviewer
- Remove the progress bar and replace it with a display showing the remaining number of questions
- Added labels for feedback containers, distinguishing between feedback on answers and feedback on body language.
- Updated button text for clarity and improved user guidance: Pause interview, Next Question
- Displayed the selected job role's title during the interview.

Task Alignment

Simple Task – This screen allows users to conduct a simulated job interview and receive feedback.

3. Contribution Page (Adding Questions)

The screenshot shows the 'Contributions' page of the CommuniPrep application. On the left, there's a sidebar with a user profile icon for 'User1' and links for 'Dashboard', 'My Interviews', and 'Contribution'. The main area has a title 'Contributions' with a help tooltip: 'Tell us about a recent job interview! We leverage your experience, and the questions will be designed for use during the interview simulations.' Below this are fields for 'Job Role' (dropdown), 'Difficulty' (dropdown), 'Question' (text area with placeholder 'What was one of the questions they asked you?'), and 'Duration: (minutes : seconds)' (input field set to '01 : 00'). A success message 'Question added successfully' is displayed in a green box. At the bottom is a blue 'Add question' button.

The screenshot shows the 'List of All Questions' page. The sidebar is identical to the previous screenshot. The main area shows a success message 'Question added successfully' and an 'Add question' button. Below is a search/filter bar with 'Search Questions:', 'Filter by Job Role:' (dropdown), and 'Filter by Difficulty:' (dropdown). A large table lists several interview questions with columns for 'Question', 'Job Role', 'Difficulty', 'Duration', and 'Action' (with icons for edit, delete, and other actions). The table rows are:

Question	Job Role	Difficulty	Duration	Action
Tell me about a time you worked on a challenging software project.	Software Engineer	Easy	01:13	
How does a web application handle user authentication securely?	Software Engineer	Hard	01:30	
What is the difference between synchronous and asynchronous programming?	Software Engineer	Easy	01:10	
How does a hash table work?	Software Engineer	Easy	00:30	
What is the difference between OOP and C#?	Software Engineer	Medium	01:05	

Allows users to input and modify interview questions based on their experiences.

Organized into tabs for Job Role, Difficulty, Duration, and Question Content.

Users can edit previous questions or add new ones using a dedicated Add Button.

Fixes Implemented (From Violations)

- Added also previous inserted questions to the table
- Displayed all the fields of the questions on the table (job role, difficulty, duration)
- Added confirmation pop-up for addition of questions
- Display a message indicating that the questions will be used in interviews
- Added filter and search buttons
- Changed label for ADD button

Task Alignment

Complex Task – Users can add interview questions based on past experiences.

Standards and Constraints of the Target Device

Our primary target device is a desktop computer with a webcam and microphone. This aligns with our goal of simulating real-world job interviews, where users are typically seated in front of a PC in a formal setting.

Screen Size & Resolution Adaptation: The application was designed to fit common desktop resolutions, ensuring clear visibility of interview feedback, video streaming, and real-time interactions.

Hardware Requirements: The app requires a camera and microphone for real-time analysis, ensuring compatibility with modern browsers (Chrome, Firefox, Edge), which support WebRTC API and MediaRecorder API.

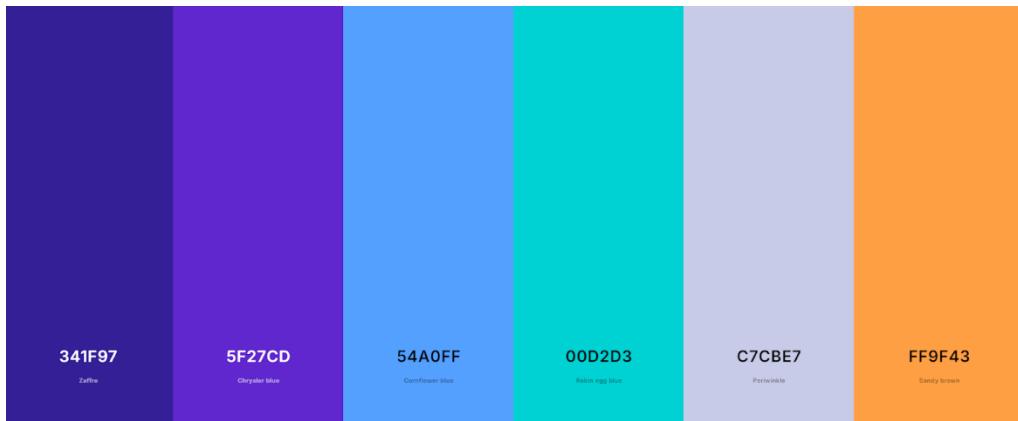
Security Measures: We ensured to implement user consent prompts before accessing the camera and microphone.

Adopted Visual Design

Color Scheme & Branding

Purple and Yellow Color Palette: We selected complementary colors as primary, for a visually appealing yet professional look.

Shades & Contrast: Different shades were used for backgrounds, buttons, and highlights to ensure readability and clarity.



- **#341F97:** Modal Headers
- **#5F27CD:** Navbar / Sidebar
- **#54A0FF:** Confirmation (Start interview, Add question, Save, ...) / End Interview Buttons
- **#00D2D3:** Continue / Next Question Buttons
- **#C7CBE7:** Feedback containers
- **#FF9F43:** Review / Pause Buttons

Typography & Readability

We used default bootstrap font-family (--bs-font-sans-serif: system-ui, -apple-system, "Segoe UI", Roboto, "Helvetica Neue", "Noto Sans", "Liberation Sans", Arial, sans-serif;) for better compatibility and digital readability.

Consistent Font Sizes & Hierarchy: Maintained uniformity across headers, body text, and buttons to improve UI clarity.

Layout & Structure

Grid-Based Layout: Ensures structured, non-cluttered content arrangement.

Sidebar: it guarantees a clear navigation, allowing Users to quickly access the Homepage (along with Personalization options), Interviews History, Contribution Page.

UI Consistency & Minimalism

Reusable UI Components: Buttons, modals, and form fields were kept consistent across all sections.

Intuitive Icons & Labels: Used familiar symbols for settings, feedback, and navigation.

User Control & Customization

Filters & Sorting Options: Users can organize past interviews efficiently and search on contribution.

Personalization Features: Users can customize interview settings (difficulty, job role, number of questions) before starting a session.

Feedback & Notifications

Real-Time Feedback Display: Organized into adjacent columns for clear differentiation between verbal and non-verbal insights.

Error Prevention Messages: Clear alerts and tooltips notify users when they miss essential selections (e.g., starting an interview without choosing a job role or filling up a form without selecting all the required fields).

Hard-Coded Components

Verbal Feedback

Current Implementation: The prototype provides pre-defined verbal feedback responses based on common interview mistakes (e.g., clarity, conciseness, tone).

⚠ Limitation: The system does not yet analyze user speech dynamically; responses are pre-defined and selected based on keywords detected in user input.

Body Language Feedback

Current Implementation: The system provides pre-programmed feedback based on simulated scenarios (e.g., “Maintain eye contact,” “Avoid excessive hand movements”).

⚠ Limitation: Real-time body language tracking is triggered from a timer and not fully functional yet. In the future, we aim to integrate AI-based motion analysis to dynamically assess user behavior via computer vision techniques.

Generation of Questions

Current Implementation: The prototype includes a pre-stored question bank based on common interview scenarios across different industries. Users can also add their own questions and edit past entries.

⚠ Limitation: The question generation is static, with two general questions at the beginning of the interview and technical ones from the third onwards, and we currently do not have AI-generated dynamic questions. Future updates will include ML-powered question adaptation based on user responses and difficulty level.

HR Video

Current Implementation: The HR avatar is currently a pre-recorded video, synchronized with interview questions for a semi-realistic experience.

⚠ Limitation: The system does not yet support AI-driven avatar interactions. Future improvements will include real-time AI avatars capable of responding dynamically to user input.

Pre-Stored Data

Question Bank: Includes pre-written questions categorized by job role, difficulty, and duration.

Verbal Feedback Responses: A set of pre-stored feedback messages based on expected answers.

Body Language Tips: A collection of pre-determined non-verbal communication guidelines.

HR Videos: Fixed video recordings to simulate interview scenarios.

User's questions: it contains a set of 10 pre-inserted questions to fill the user's table, with a typing error in one of them, for usability testing purposes.

Usability testing

Preparation and run

Description of the Test Session

The work was divided into two groups of two team members each. Each group conducted 3 sessions in parallel, we had 6 sessions in total. In each session, one team member acted as Facilitator, while the other acted as the Observer.

Before starting the test, each participant was asked to sign a consent form. The facilitator then explained the purpose of the test. To ensure comfort and familiarity, participants were given some time to explore the application before starting the tasks.

For the location, sessions took place in a public study room, a dormitory, or at home.

We set screen and voice recording software to capture participant's interactions with the interface and their flow of thoughts.

During the testing process, the facilitator read the script and guided the participant, while the observer recorded the session and wrote down some notes on participants' interactions with the application. For this purpose, we added some checkboxes and white spaces in the protocol to help us take appropriate notes and notice some particular behavior.

Participants

Our target users were university students who need to prepare for job interviews and need to improve their communication skills. These students had basic to intermediate level of interview skills and some of them had some prior experience. None of them were required to have technical skills.

Tasks

We created a list of 9 tasks for participants to perform on the application, described as follows:

1. Task: You recently received a job offer for a Software Engineer position, and you want to be prepared. Try to do an Interview Simulation and answer the first question.

Success criteria: User starts the Interview Simulation with the “Software Engineer” job role and reaches the second question.

Methodology: Think-aloud

(We could better notice how well the user could understand the design for the simple task.)

Task metrics: Critical errors rate: (absolute)

(We wanted to count how many errors the users could make on this step because it's the main functionality and it should be the easiest part of the application)

Errors:

Minor issue:

- User starts Simulation but with wrong job role.

Major issue:

- User can't start Simulation
- User can't reach second question

Notes: With this task we wanted to test if the user was able to start the Interview (our simple task) and navigate through it

2. Task: While answering the second question, you appear nervous as you frequently touch your hair and use filler words. Monitor the feedback provided and refine your response with better words and more confident language.

You can use these words:

for FILLER WORDS: “Probably”, “Basically”, “Stuff”, “Like”

for BETTER WORDS: “Achieved”, “Resolved”, “Managed”, “Learned”, “Supported”

Success criteria: User receives appropriate feedback for both verbal and non-verbal answers.

Methodology: Cooperative

(We thought the user could have needed our help to make the feedbacks appear.)

Task metrics: SEQ scale (1-7)

(In SEQ we asked some questions about the usefulness of some particular elements of the interface, during the interview session (are they useful or they could be distracting while trying to answer the question from the HR?)

Errors: -

Notes: For this task, we wanted to understand better some points:

- Is the user able to trigger feedback?
- What are their thoughts on real-time feedback and seeing themselves in the video capturing?

3. Task: Try to complete the interview and see your final results.

Success criteria: User completes the Interview Simulation and lands on Feedback Page.

Methodology: None

(No need for a defined methodology)

Task metrics: Success rate (100% - no issue, 70% - non-critical issue, 30% - critical issue, 0% failure)

(How much the user understood how to complete the interview (perfectly, quite enough, not so much, not at all)

Errors:

Minor issue:

- User completes interview but without landing on Feedback Page (Saves answer through Pause menu then goes to Home)

Major issue:

- User leaves interview without saving last question

Notes:

We wanted to know if the user was able to comprehend the flow of the simulation:

Start interview | Conduct interview | See your results

4. Task: You want to try another simulation with more than 4 questions and with a more advanced level. Find a way to customize your Interview.

Success criteria: User finds personalization settings and changes the default value for the number of questions and level of difficulty.

Methodology: Think-aloud

(We could better notice how well the user could understand the design for the moderate task.)

Task metrics: Success rate (100%: no issues, 70%: 1 minor issue, 60%: 2 minor issues, 40%: 1 major issues, 30%: 2 major issues, 0%: failure)

(Which are the most common mistakes a user makes while trying to personalize the interview?)

Errors:

Minor issues:

- User finds personalization but doesn't change number of questions
- User finds personalization but doesn't change difficulty

Major issues:

- User doesn't find personalization
- User finds and change personalization but doesn't start the interview

Notes: We wanted to know if the user can understand how to personalize a session (moderate task) and also to take notes about which mistakes are more common among the users.

5. Task: During the interview session, you realize your PC battery is low, and you may not be able to finish all the questions. Try to find a way to not lose your progress, before leaving.

Success criteria: User successfully saves progress and exits from the simulation.

Methodology: None

(No need for a defined methodology)

Task metrics: Task success (Yes/No)

(Is the user able to save progress and leave from the session or not?)

Errors: -

Notes: We wanted to know if the Pause menu is effective enough and to take some notes on what the users prefer to do on it while trying to leave the simulation without completing (Go to Feedback or Go to Home?)

6. Task: You left an interview without answering all the questions. Find that interview and complete it from where you left off.

Success criteria: The user finds the in-progress interview and completes it.

Methodology: Cooperative

(We thought the user could have had some problems finding which interview to continue)

Task metrics: Task success (Yes/No)

(We only wanted to know if the user was able to find the “Complete” button from MyInterviews page)

Errors: -

Notes: We wanted to know if the user was able to find the history of his/her past interviews from MyInterviews Page and understand the use of filtering or sorting features to easily find the one they're looking for

7. Task: Check the results from one of your previous interviews.

Success criteria: User successfully accesses the feedback session from My Interview Page.

Methodology: None

(No particular methodology is needed)

Task metrics: Time on Task

(Amount of time it takes for the user to find the Review button)

Errors: -

Notes: Is the user able to understand how to see feedback from a past interview?

8. Task: You recently had a real job interview, and you want to share your experience with other people. Find out a way to provide one of the questions to the system.

Success criteria: User successfully adds a new question to the system

Methodology: Think aloud

(We could better notice how well the user could understand the design for our complex task)

Task metrics: Task success (Yes / No)

(It measures if the user is able to add a new question to the system, or not)

Errors: -

Notes: We wanted to test if the user was able to find the Contribution page and to understand how he/she can add a question to the system.

9. Task: You found out one of the questions that you added before has some grammatical errors and you want to update it.

Success criteria: User successfully updates the question with a different text

Methodology: Cooperative

(We thought user could have some troubles finding the right question to be updated)

Task metrics: Task success (Yes / No)

(Is the user able to understand how the table works and how to edit a question, yes or no?)

Errors: -

Notes: We wanted to test how effective the table of questions added and the buttons inside of it.

Materials

By the following links, you can access the usability testing protocol, consent forms, SUS questionnaires, and all Tasks with SEQ:

- [Usability testing protocol](#)
- [All consent forms](#)
- [All SUS questionnaires](#)
- [All Tasks + SEQ](#)

Results

Task #1 results:

We evaluated how many minor/major errors users made on this step since it is the main functionality and should be the easiest part of the application.

	User 1 MICHELE	User 2 MINA	User 3 NEGAR	User 4 GHAZAL	User 5 VITO	User 6 MARYAM
Number of errors	2	0	0	0	0	0

Task #2 results:

In the post-task SEQ, we asked the following questions to assess the usefulness of some elements during the interview session:

- 1) *How useful did you find seeing yourself on the webcam? (Scales:1 (Very Useless) – 7 (Very Useful))*
- 2) *How useful did you find seeing feedback in real-time? (Scales:1 (Very Useless) – 7 (Very Useful))*
- 3) *Overall, this task was: (Scales:1 (Very difficult) – 7 (Very easy))*

	User 1 MICHELE	User 2 MINA	User 3 NEGAR	User 4 GHAZAL	User 5 VITO	User 6 MARYAM	Average
Question 1	2	5	7	5	7	7	5.5
Question 2	2	7	3	6	7	5	5
Question 3	3	6	6	4	5	6	5

Task #3 results:

The task success percentage for each user is:

(100% - no issue, 70% - non-critical issue, 30% - critical issue, 0% failure)

	User 1 <i>MICHELE</i>	User 2 <i>MINA</i>	User 3 <i>NEGAR</i>	User 4 <i>GHAZAL</i>	User 5 <i>VITO</i>	User 6 <i>MARYAM</i>
Success rate	100%	100%	100%	100%	100%	100%

Task #4 results:

The task success percentage for each user is:

(100%: no issues, 70%: 1 minor issue, 60%: 2 minor issues, 40%: 1 major issues, 30%: 2 major issues, 0%: failure)

	User 1 <i>MICHELE</i>	User 2 <i>MINA</i>	User 3 <i>NEGAR</i>	User 4 <i>GHAZAL</i>	User 5 <i>VITO</i>	User 6 <i>MARYAM</i>
Success rate	100%	40%	70%	0%	70%	100%

Task #5 results:

We evaluated task success in absolute terms (Yes/No) whether the user could save their progress successfully and leave from the session.

	User 1 <i>MICHELE</i>	User 2 <i>MINA</i>	User 3 <i>NEGAR</i>	User 4 <i>GHAZAL</i>	User 5 <i>VITO</i>	User 6 <i>MARYAM</i>
Success	Yes	Yes	Yes	Yes	Yes	Yes

Task #6 results:

We evaluated task success in absolute terms (Yes/No) whether the user was able to find the "Complete" button on the My Interviews page.

	User 1 <i>MICHELE</i>	User 2 <i>MINA</i>	User 3 <i>NEGAR</i>	User 4 <i>GHAZAL</i>	User 5 <i>VITO</i>	User 6 <i>MARYAM</i>
Success	Yes	Yes	No	Yes	Yes	Yes

Task #7 results:

We evaluated the amount of time (in seconds) it takes for each user to find the Review button. The task was simple, and all users were able to complete it in a short time.

	User 1 MICHELE	User 2 MINA	User 3 NEGAR	User 4 GHAZAL	User 5 VITO	User 6 MARYAM
Time (sec)	5	15	8	10	10	15

Task #8 results:

We evaluated task success in absolute terms (Yes/No) whether the user was able to add a new question to the system.

	User 1 MICHELE	User 2 MINA	User 3 NEGAR	User 4 GHAZAL	User 5 VITO	User 6 MARYAM
Success	Yes	Yes	Yes	Yes	Yes	Yes

Task #9 results:

We evaluated task success in absolute terms (Yes/No) whether the user was able to understand how the table works and how to edit a question.

	User 1 MICHELE	User 2 MINA	User 3 NEGAR	User 4 GHAZAL	User 5 VITO	User 6 MARYAM
Success	Yes	Yes	Yes	Yes	No	Yes

SUS results

The SUS questions are as follows:

1. I think that I would like to use this system frequently.
2. I found the system unnecessarily complex.
3. I thought the system was easy to use.
4. I think that I would need the support of a technical person to be able to use this system.
5. I found the various functions in this system were well integrated.
6. I thought there was too much inconsistency in this system.
7. I would imagine that most people would learn to use this system very quickly.
8. I found the system very cumbersome to use.
9. I felt very confident using the system.
10. I needed to learn a lot of things before I could get going with this system.

	User 1 MICHELE	User 2 MINA	User 3 NEGAR	User 4 GHAZAL	User 5 VITO	User 6 MARYAM
Question 1	1	4	4	4	5	5
Question 2	1	1	1	2	1	2
Question 3	5	4	5	4	5	4
Question 4	1	1	1	2	1	2
Question 5	4	4	4	3	5	3
Question 6	1	2	1	2	1	2
Question 7	5	4	5	5	5	5
Question 8	1	2	1	1	1	1
Question 9	4	4	5	5	5	4
Question 10	1	2	1	1	1	1
Final Score	85	80	95	82,5	100	82,5

Average: **87,5**

The average score is **87,5**, which is an excellent result, well above the typical score of 68, Showing that most users had a positive experience.

Photos of Usability Testing Process



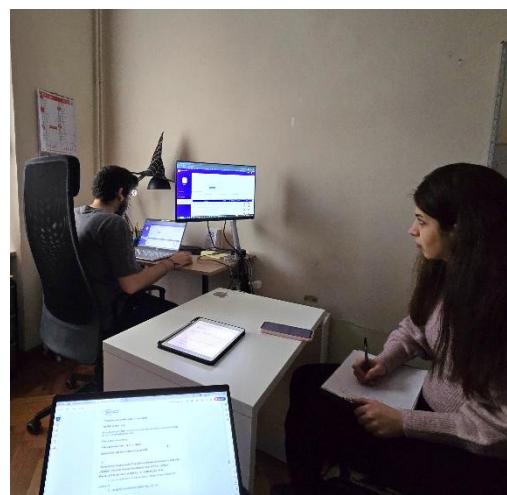
User: Maryam



User: Ghazal



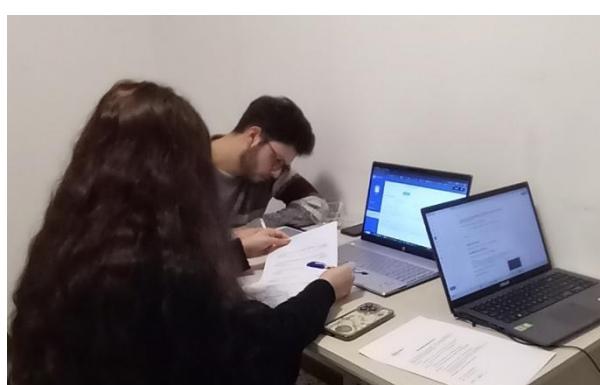
User: Negar



User: Michele



User: Vito



User: Mina

Discoveries from Testing Process

- Most users found it easy to complete the interview simulation, receive real-time feedback, and review their results afterward, which aligns with the main goal of our application. This indicates that the core features provide an effective user experience.
- However, during our usability testing sessions, we identified some minor and major issues. For instance, one user struggled to initiate the simulation so we discovered we could have a more noticeable starting button for our application.
- Some users also struggled to find where to change the number of questions and difficulty level for a personalized experience, indicating that customizing interview settings needs better instructions or tooltips.
- Real-time feedback was a strong point of the prototype. Most users found it particularly helpful, especially the body language analysis, based on observations and SEQ questionnaire results.
- Most users liked the ability to click on a specific timestamp (e.g., 02':37"), to view tips at that exact moment in their video, allowing them to review their performance while having contextual feedback.
- Once users landed on the Feedback Page after completing their interview, many found it unclear how to navigate to the main dashboard, start a new session, or access other sections of the application. This confusion was primarily due to the menu items being unnoticeable, making it difficult for users to locate key navigation options easily.
- Two users, also, suggested adding a section that provides alternative possible answers alongside their responses for better learning progress.
- On the feedback page, one user suggested a functionality to track their learning progress by measuring their performance on the interview as a percentage, something like a progress bar that tells you how good your overall performance was.
- Another suggestion was to have a temporary trash feature, where to store deleted interviews for a few more days, allowing the user to restore one of them if needed, before losing them permanently.
- For the interview page, someone else gave us the idea of adding a section where users can upload their personal notes or slides. This would allow them to read these materials during the interview session when speaking with the HR. This could be a useful feature to consider adding to our prototype in the future.

Overall, most users found the system straightforward and user-friendly, as indicated by their SUS scores.

Potential changes

FIXES:

- In Home page: **Make the "Start Interview" button bigger** → One user couldn't find how to start the interview.
- In Home page: **Rename "Dashboard" to "Home"** → Users find "Home" more intuitive for accessing the main page.
- In Home page: **Redesign the interview customization panel** → one user found modifying the number of questions and difficulty level confusing.
- In Feedback page: **Add a "Back to Home" button** → Some users struggled to understand that they needed to use the sidebar menu to return to Home or other pages.
- In contributions page: **Disable the "Save" button after saving changes** → All users clicked the button more than once because they expected it to be disabled, or the modal would have closed after saving.

POTENTIAL FUTURE CHANGES:

- In MyInterviews page: **Add difficulty level info to past interview cards add the possibility to filter them by difficulty level** → One user tried to find an interview based on its difficulty.
- In Interview page: **Feature to add notes to be read during the interview simulation** → one user suggested that it would be useful to have a section where to upload some documents, to help the user to express the answers in a better way.
- In feedback page: **Add a progress bar to show how good it was the user's interview performance** → one user told us it would be useful to have a progress bar to know if the interview went good or bad.
- In Interview page: **Implement a temporary trash to store deleted interviews for a certain amount of time** → one user told us that she would like to restore a deleted interview from a trash that stores them for a certain number of days.
- **Implement a short tutorial or guided walkthrough for first-time users** → Some users struggled with navigation and understanding key features. A brief introductory guide would enhance usability

Conclusions

Understanding the Overall Process

We followed a structured design process that emphasized user-centered development, including:

Needfinding & User Research: Conducting interviews helped us identify the biggest pain points students face in job interviews.

Ideation & Brainstorming: We explored multiple solutions before narrowing down the most effective features.

Prototyping (Low → Medium → High Fidelity): Step-by-step refinements allowed us to translate abstract ideas into tangible user experiences.

Heuristic Evaluations & Usability Testing: Conducting formal evaluations helped us detect usability flaws and refine our interface based on feedback.

Final Adjustments & Implementation: Our high-fidelity prototype incorporated key fixes and design enhancements based on testing insights.

The iterative nature of prototyping and testing significantly improves usability. Even minor design tweaks based on user feedback drastically enhance the user experience.

Lessons from Our Lab Theme: Education with AI

Our lab focused on leveraging AI to improve learning experiences, and we explored:

The role of AI in personalized learning: Our system integrates verbal feedback, body language analysis, and adaptive questioning to create an interactive learning environment.

Balancing automation with user control: While AI can offer real-time feedback, we learned that users should have control over customization settings (e.g., toggling real-time feedback show/hide).

The challenge of simulating human interactions: AI-driven HR avatars should feel natural and responsive, which remains a technical challenge for future iterations.

AI-enhanced education systems must balance automation with usability, ensuring that users feel engaged and supported, rather than overwhelmed.

Lessons from Our Own Project

Importance of User Research: Early user interviews shaped our final features, reinforcing the importance of listening to real users before making design decisions.

Real-time Feedback is Complex: Providing instant AI-driven feedback on verbal and non-verbal communication is a major technical challenge that requires further development.

Usability Testing is Essential: Initial assumptions do not always match user expectations, making iterative testing and adjustments crucial.

Customization Matters: Users appreciate control over difficulty, job roles, and question selection, improving engagement with the system.

Group feedback:

We worked equally and ensured a fair division of tasks. The team initially separated the work by assigning each member a specific page of the application. Once individual sections were completed, we divided further into two sub-groups:

Two members focused on Web App Development: Implementing UI/UX, database handling, and API integration.

Two members worked on Report Writing & Documentation: Compiling findings, writing usability test results, and structuring the final report.

Usability Testing was equally divided: Each team member contributed to conducting and analyzing user tests to ensure a balanced workload.

Throughout the process, we continuously reviewed each other's work, provided constructive feedback, and suggested necessary improvements to ensure a high-quality final product. This collaborative approach helped us maintain consistency and quality across both the application and the documentation.

Positive Aspects of Collaboration

Our collaboration was highly effective due to continuous feedback, structured task division, and iterative design improvements. We ensured equal contribution by assigning each member specific tasks, later dividing them into two sub-team, one focused on web app development and the other on report writing. Regular peer reviews and usability testing helped us identify and address design flaws early, preventing last-minute rework.

By embracing prototyping, creative problem-solving, and real-world user testing, we developed a more intuitive and user-friendly system. Utilizing GitHub for version control and issue tracking streamlined our workflow, ensuring efficiency and consistency. This experience reinforced the importance of user-centered design, structured teamwork, and adaptability, making it a valuable learning opportunity for all team members.

Challenges Faced and How We Solved Them

Throughout our project, we encountered several challenges, but by working collaboratively and adapting our approach, we effectively resolved them.

Coordinating Changes Across Different Sections

Since different team members worked on different parts of the application, ensuring consistency in design, functionality, and user experience was challenging.

Solution: We conducted joint review sessions, where we tested, discussed, and aligned design choices across all sections before finalizing changes.

Balancing Development and Documentation

Managing both the technical implementation and comprehensive documentation was time-consuming, especially with tight deadlines.

Solution: We split into two sub-groups, one focused on coding and UI/UX, the other on report and documentation ensuring equal workload distribution.

Scheduling and Conducting Usability Testing

Finding the time to test the system with external users while keeping up with development was a logistical challenge.

Solution: We divided testing responsibilities, ensuring each team member contributed to planning, conducting, and analyzing usability tests, making the process more manageable.

Overcoming Preconceived Assumptions About User Behavior

Initially, we assumed that some design elements were intuitive and easy to use, but usability testing revealed issues that we had overlooked.

Solution: We actively incorporated feedback, simplified UI components, and provided clearer instructions and labels to improve user experience.

Managing Real-Time Feedback Complexity

Integrating verbal and non-verbal feedback in real-time was technically challenging, requiring a balance between usability and responsiveness.

Solution: Instead of full AI-driven analysis, we implemented structured, pre-programmed feedback and introduced a toggle feature to let users enable or disable real-time suggestions.