

AI-Supported Interview Training for Young People with Disabilities: The ELVIR Virtual Trainer

Young people with disabilities often face barriers when preparing for job interviews, particularly due to limited opportunities for repeated practice and individualized guidance. Recent advances in generative artificial intelligence and large language models offer new possibilities for creating conversational training environments that complement traditional employability programs. This paper presents ELVIR (Virtual Job Interview Trainer), an artificial intelligence-based platform designed to support interview preparation for young people participating in employment inclusion programs. The system was developed in collaboration with specialists from Teletón Chile and integrates conversational AI, virtual avatars, configurable interview scenarios, and session recording capabilities to provide simulated job interview experiences. Users can select different occupational profiles and interview difficulty levels, allowing the platform to support a variety of training needs and preparation contexts. The contribution of this work is the design and implementation of a virtual interview training platform specifically oriented toward employment inclusion. The paper describes the motivation for the system, its architecture, implementation, and current deployment within a pilot program conducted with participants from Teletón Chile. In addition, the paper discusses the opportunities and challenges associated with the use of conversational AI to support interview training in disability inclusion contexts.

Keywords: *disability inclusion, employment inclusion, artificial intelligence, conversational agents, job interview training.*

Introduction

The labor inclusion of people with disabilities remains a global challenge due to its scale and the persistent inequalities affecting access to employment opportunities. According to the World Health Organization, approximately 16% of the world's population lives with some form of disability [1]. Several studies have shown that this population experiences lower labor market participation rates and greater difficulties accessing employment opportunities compared to individuals without disabilities [2], [3]. These disparities not only limit economic autonomy but also negatively affect well-being, social participation, and quality of life [4], [5].

This situation is also evident in Chile. According to the Third National Study on Disability and Dependency, approximately 17.6% of the adult population lives with some degree of disability. A significant proportion of this group remains excluded from the formal labor market, highlighting the persistence of barriers that hinder access to employment and effective participation in recruitment and selection processes. Although several public policies have been implemented in recent years to promote labor inclusion, people with disabilities

1 continue to face challenges associated with both structural factors and the
2 requirements imposed by recruitment procedures.

3 Among the different stages of personnel selection, the job interview
4 constitutes one of the most important steps for obtaining employment. However,
5 for many young people with disabilities, this situation can represent a
6 challenging experience due to factors such as anxiety, lack of confidence,
7 difficulties regulating emotions in evaluative contexts, and limited prior
8 experience participating in interviews. As a result, some candidates may
9 encounter difficulties communicating their competencies, knowledge, and
10 capabilities effectively, creating a gap between their interview performance and
11 their actual potential to perform successfully in a work environment.

12 In Chile, this challenge has been identified by Teletón, an institution that
13 develops rehabilitation and social inclusion programs for children and young
14 people with disabilities. As part of its employability initiatives, professionals
15 work to strengthen the skills required for labor market participation, including
16 preparation for job interviews. One of the strategies commonly employed
17 involves simulated interviews in which specialists assume the role of
18 interviewers and recreate scenarios similar to those encountered in real
19 recruitment processes. These activities allow participants to practice responses,
20 increase confidence, become familiar with different types of questions, and
21 develop communication skills within a controlled environment.

22 Nevertheless, the implementation of simulated interviews depends on the
23 availability of specialists and the amount of time they can dedicate to each
24 participant. Consequently, opportunities for practice are often limited and
25 difficult to repeat with sufficient frequency to support continuous training,
26 particularly when programs seek to serve an increasing number of young people.

27 At the same time, recent advances in generative artificial intelligence have
28 enabled the development of large language models capable of maintaining
29 natural and context-aware conversations with users [19], [20]. These systems can
30 formulate questions, interpret responses, adapt dialogue according to the
31 interaction, and provide performance-related feedback [21]. Such capabilities
32 are particularly relevant for recreating conversational learning experiences,
33 including those associated with job interview preparation.

34 The possibility of employing artificial intelligence as a virtual interviewer
35 creates new opportunities to complement the work performed by specialists. A
36 virtual interviewer can generate training scenarios that are available at any time,
37 represent different interviewer profiles, adjust the level of difficulty of interview
38 questions, and provide individualized feedback aimed at developing
39 employability skills. In this way, training opportunities can be expanded while
40 supporting a more systematic preparation process before candidates participate
41 in real recruitment procedures.

42 Although several artificial intelligence-based interview training systems
43 have been reported in the literature, including Conversate and SimInterview,
44 which use large language models to support interview practice through
45 conversational interaction and adaptive feedback [22], [23], relatively few have
46 been designed specifically to support employment inclusion programs for young

1 people with disabilities. Existing examples include AllyChat, developed for
2 individuals with intellectual disabilities, and Virtual AIVantage, aimed at
3 supporting underrepresented groups through virtual reality–based interview
4 preparation [24], [25]. Furthermore, there is limited evidence regarding the
5 integration of conversational artificial intelligence into structured employability
6 training processes conducted by rehabilitation and inclusion organizations,
7 particularly in real-world inclusion programs [26], [27].

8 To address this need, ELVIR (Virtual Job Interview Trainer) was developed
9 as an artificial intelligence–based platform designed to support job interview
10 preparation for young people with disabilities participating in employment
11 inclusion programs at Teletón. ELVIR allows users to select different
12 occupational scenarios and participate in simulated interviews conducted by
13 virtual interviewers with different interaction styles and difficulty levels. The
14 platform is currently being deployed in a pilot initiative involving participants
15 from Teletón Chile employment inclusion programs.

16 The objective of this paper is to present the design, architecture, and
17 implementation of ELVIR as an artificial intelligence application intended to
18 support employment inclusion processes. Rather than evaluating employment
19 outcomes, this work focuses on describing the motivation, conceptual design,
20 system architecture, and implementation of the platform, as well as its current
21 deployment in a real-world pilot context. The paper also discusses the
22 opportunities and challenges associated with the use of conversational artificial
23 intelligence for job interview training among young people with disabilities.

24 The remainder of this paper is organized as follows. Section 2 presents a
25 review of the relevant literature on artificial intelligence–based interview
26 training systems. Section 3 describes the architecture, design decisions, and
27 implementation of ELVIR. Section 4 presents the current results of the platform
28 deployment and the functionalities implemented in the system. Section 5
29 discusses the implications, opportunities, and limitations of the proposed
30 approach. Finally, Section 6 presents the conclusions and future lines of work.

31 32 33 **Literature Review**

34
35 Recent advances in large language models have driven the development of
36 platforms capable of simulating job interviews through conversational
37 interaction. Current evidence shows that these systems employ artificial
38 intelligence to formulate questions, analyze responses, and generate training
39 experiences adapted to different learning contexts [22–24].

40 One of the most common capabilities reported in the literature is the
41 dynamic generation of interview scenarios. Conversate, developed by Daryanto
42 et al. [22], implements interactive simulations in which the system assumes the
43 role of an interviewer and conducts a conversation focused on interview practice.
44 SimInterview, proposed by Nguyen et al. [23], uses large language models to
45 generate interviews adapted to different professional and educational contexts.
46 These studies demonstrate that conversational artificial intelligence enables the

1 creation of more flexible training experiences than traditional systems based on
2 predefined question sets.

3 Another recurring feature is the incorporation of feedback mechanisms.
4 Conversate includes a post-interview stage intended to promote user reflection
5 through conversational interaction [22]. Other systems generate automated
6 evaluations based on the content of user responses and provide recommendations
7 for improvement [24,25]. Reported findings suggest that this type of feedback
8 can contribute to the development of communication skills and improve
9 preparation for future interviews.

10 The literature also shows a transition toward multimodal assessment
11 approaches. In addition to textual analysis, some proposals incorporate
12 information derived from speech, confidence indicators during verbal
13 interaction, and non-verbal signals to complement performance evaluation [25].
14 These approaches seek to provide a more comprehensive assessment of the
15 elements typically considered during real job interviews.

16 Several studies have also highlighted the value of repeated practice under
17 multiple scenarios. Systems based on large language models can generate
18 interviews with different levels of complexity, interviewer profiles, and
19 occupational contexts, expanding training opportunities without requiring the
20 continuous participation of human specialists [23,26]. This capability is
21 consistently identified as one of the main advantages of conversational artificial
22 intelligence for interview preparation.

23 Alongside applications designed for the general population, recent work has
24 begun to focus on specific user groups. AllyChat, developed by Garcia-Pi et al.
25 [27], employs a virtual reality conversational agent to support individuals with
26 intellectual disabilities. Virtual AIVantage, presented by Ajri et al. [28], focuses
27 on interview preparation for professionals from groups underrepresented in
28 computing disciplines. Similarly, Yarlagadda et al. [29] describe an artificial
29 intelligence-based interface designed to improve the accessibility of interview
30 training for military veterans. These initiatives illustrate a growing interest in
31 adapting conversational artificial intelligence to contexts where additional
32 barriers to employment exist.

33 Overall, the reviewed literature suggests that conversational simulation,
34 repeated practice, and personalized feedback represent the principal
35 contributions of artificial intelligence to job interview preparation. However,
36 several limitations remain. These include the potential presence of algorithmic
37 bias, the need to adapt systems to different sociocultural contexts, and the limited
38 evidence regarding their impact on actual employment outcomes [30].
39 Furthermore, applications specifically designed for people with disabilities
40 remain relatively scarce when compared with those developed for students,
41 graduates, or professionals in training.

42 An additional limitation identified in the literature is that most existing
43 systems are designed as standalone interview practice tools and are rarely
44 integrated into structured employment inclusion programs supported by
45 rehabilitation or social inclusion organizations. Consequently, there remains an
46 opportunity to explore how conversational artificial intelligence can be

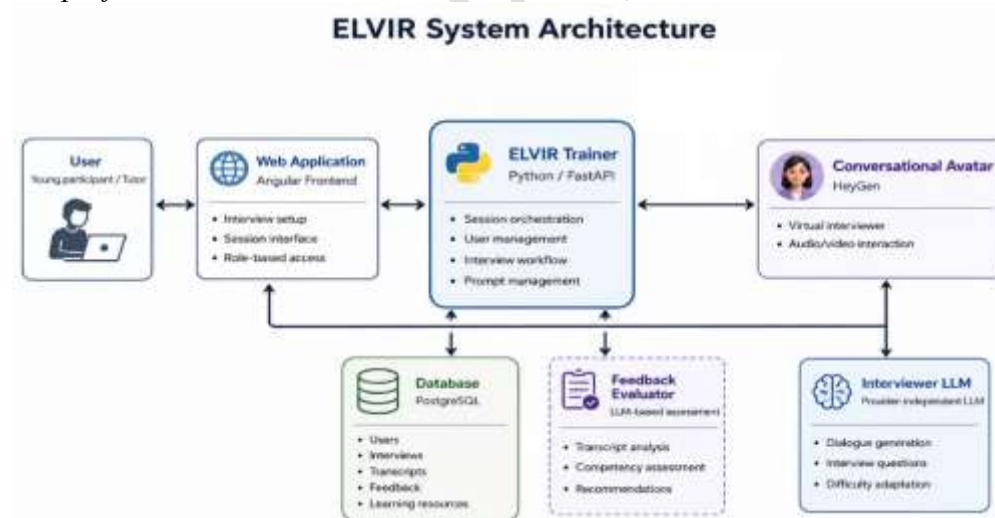
1 incorporated into employability training environments that complement the
2 work of specialists while providing greater opportunities for practice and
3 preparation.

4 It is within this context that ELVIR was developed. The platform seeks to
5 support job interview preparation for young people participating in employment
6 inclusion programs at Teletón by combining conversational artificial
7 intelligence, configurable training scenarios, and specialist-supported training
8 processes within a single environment.

11 System Architecture and Implementation

13 ELVIR was designed as a conversational artificial intelligence platform
14 intended to support job interview preparation for young people participating in
15 employment inclusion programs. The system architecture comprises
16 components responsible for user interaction, interview management, dialogue
17 generation through large language models, data storage, and performance
18 assessment. Figure 1 presents the overall architecture of the platform and the
19 relationships among its main components.

21 **Figure 1.** *ELVIR architecture composed of modules for interview management,*
22 *avatar-based interaction, large language model-driven dialogue generation,*
23 *and performance assessment*



26 User Roles

28 ELVIR was designed around three user roles: trainees, tutors, and
29 administrators. Trainees correspond to participants enrolled in employment
30 inclusion programs and use the platform to conduct simulated interviews, review
31 previous sessions, and access supporting materials. Tutors are responsible for
32 monitoring participant progress and reviewing information generated during

1 training sessions. Administrators manage user accounts and platform
2 configurations.

3 These roles were defined in collaboration with employment inclusion
4 professionals from Teletón to represent the different stakeholders involved in
5 interview preparation processes. This structure enables the separation of training,
6 monitoring, and administrative activities within a single platform.

7

8 *Web Application*

9

10 The user interface was implemented using Angular 20 following a Single Page
11 Application architecture. The web application provides access to the
12 functionalities available to trainees, tutors, and administrators, including
13 interview configuration, session review, and access to training resources.
14 Communication with backend services is performed through REST interfaces,
15 allowing the presentation layer to remain independent from the business logic
16 implemented within ELVIR.

17

18 *ELVIR Trainer*

19

20 The core component of the platform is ELVIR Trainer, implemented using
21 Python and FastAPI. This module concentrates the business logic of the system
22 and coordinates interview execution, communication with the conversational
23 avatar, database access, and interaction with the large language models used
24 during training sessions. In addition, it is responsible for constructing the
25 parameters that define each interview and managing the information generated
26 during the interaction.

27 Before an interview begins, ELVIR Trainer requires the configuration of a
28 set of parameters that determine the behavior of the virtual interviewer. In the
29 current version, users select both the occupational profile and the interview
30 difficulty level. These parameters are subsequently incorporated into the
31 instructions sent to the language model responsible for generating the interview
32 dialogue.

33 The platform currently supports four occupational profiles selected in
34 collaboration with employment inclusion professionals from Teletón. These
35 profiles correspond to operator, customer service representative, administrative
36 assistant, and technical-professional positions. Each profile includes a specific
37 description that is incorporated into the prompt construction process, enabling
38 the virtual interviewer to generate questions aligned with the characteristics of
39 the selected role.

40 To accommodate different training objectives, four levels of interview
41 difficulty were defined. The first level focuses on emotional regulation and
42 confidence building through supportive and low-pressure interactions. The
43 second level represents a conventional interview similar to those commonly
44 encountered during recruitment processes. The third level is designed for
45 participants who may require additional structure during communication,
46 encouraging concise and focused responses through more specific questioning.

1 The fourth level represents a demanding interview scenario in which the virtual
2 interviewer adopts a less supportive style and introduces challenging or
3 potentially uncomfortable questions that may arise during real recruitment
4 situations.

5 Interview generation is based on dynamically constructed prompts. These
6 prompts combine information related to the selected occupational profile, the
7 desired difficulty level, and the overall objectives of the training session. The
8 resulting instructions define the role of the interviewer, the occupational context,
9 the expected interaction style, and a set of behavioral constraints intended to
10 preserve conversational consistency throughout the interview.

11 Once the interview has been configured, ELVIR Trainer generates the
12 corresponding prompt and establishes communication with the external services
13 responsible for dialogue generation and avatar representation. During the
14 session, the module maintains the conversational context, records all
15 interactions, and stores the generated information for subsequent review and
16 analysis. This architecture decouples the training logic from the underlying
17 artificial intelligence services, facilitating the future incorporation of new
18 language models and evaluation mechanisms.

19 20 *Data Management*

21
22 ELVIR uses PostgreSQL to store information generated throughout the
23 training process. The database maintains records related to platform users,
24 interview sessions, conversation transcripts, and feedback generated during
25 training activities. These data support the monitoring process conducted by
26 tutors while also providing the foundation for future analytical and evaluation
27 functionalities.

28 29 *Conversational Avatar*

30
31 The audiovisual representation of the virtual interviewer is implemented
32 using HeyGen LiveAvatar technology. This component integrates conversational
33 capabilities, speech synthesis, and facial animation to support real-time
34 interaction with users. Within the ELVIR architecture, the avatar receives the
35 interview configuration generated by ELVIR Trainer and manages the
36 audiovisual interaction throughout the session.

37

1 *Large Language Model–Based Evaluation Module*

2
3 ELVIR incorporates an evaluation module that is currently under
4 development. The purpose of this component is to analyze interview transcripts
5 and provide automated feedback regarding participant performance. The module
6 employs a large language model together with evaluation prompts designed to
7 assess competencies relevant to job interview situations.

8 The evaluation process focuses on identifying strengths, areas for
9 improvement, and recommendations derived from participant responses during
10 the interview. The generated assessments are stored within the platform and are
11 intended to support both participant self-reflection and tutor-led follow-up
12 activities.

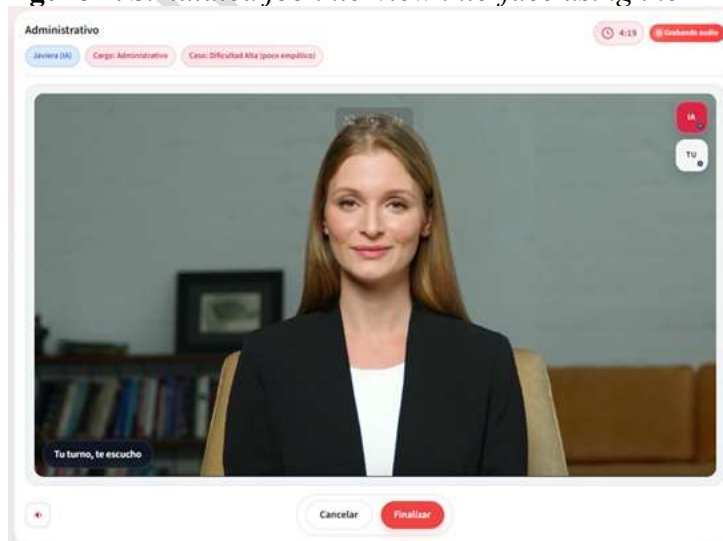
13 14 15 **Results**

16 17 *Implementation of the Virtual Interview Environment*

18
19 One of the main outcomes of this work was the implementation of a virtual
20 interviewer capable of conducting simulated job interviews through real-time
21 conversational interaction. The interface integrates an audiovisual avatar, voice-
22 based communication, and dynamic question generation based on the interview
23 configuration selected for each training session.

24 Figure 2 presents the interface used during the execution of a simulated
25 interview. During platform testing, the system was able to maintain
26 conversational context, generate questions associated with the selected
27 occupational profile, and formulate follow-up questions based on participant
28 responses. These capabilities allow the interview to evolve dynamically rather
29 than following a predefined sequence of questions.

30
31 **Figure 2.** *Simulated job interview interface using the ELVIR virtual interviewer*



32
33 *Source: Authors.*

1 To illustrate the conversational behavior of the platform, the following
 2 excerpt corresponds to a simulated interview conducted for an administrative
 3 position.

4
 5 *Interviewer: Tell me about an experience that you consider relevant for this*
 6 *administrative position.*

7 *Participant: I completed an internship.*

8 *Interviewer: Could you tell me more about that internship? What tasks did you*
 9 *perform and what did you learn from the experience?*

10 *Participant: I registered information and helped respond to user inquiries.*

11 *Interviewer: What type of information did you register? Did you use any specific*
 12 *system or software tools?*

13 *Participant: I used Excel spreadsheets to enter user information.*

14 *Interviewer: I understand. Based on that experience, what skills do you think you*
 15 *could contribute to this position?*

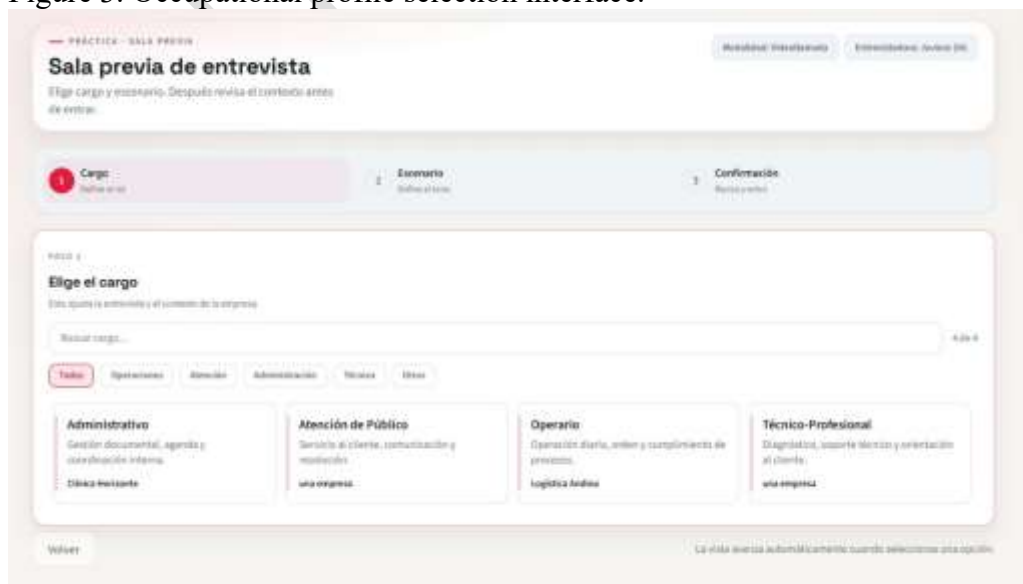
16
 17 This example illustrates how the system adapts the conversation according
 18 to participant responses, requesting additional information when necessary to
 19 achieve the objectives of the interview.

20
 21 *Configuration of Training Scenarios*

22
 23 The platform supports the configuration of different training scenarios through
 24 the selection of both an occupational profile and an interview difficulty level. The
 25 current implementation includes operator, customer service, administrative, and
 26 technical-professional profiles, together with four levels of interview difficulty
 27 defined in collaboration with employment inclusion specialists.

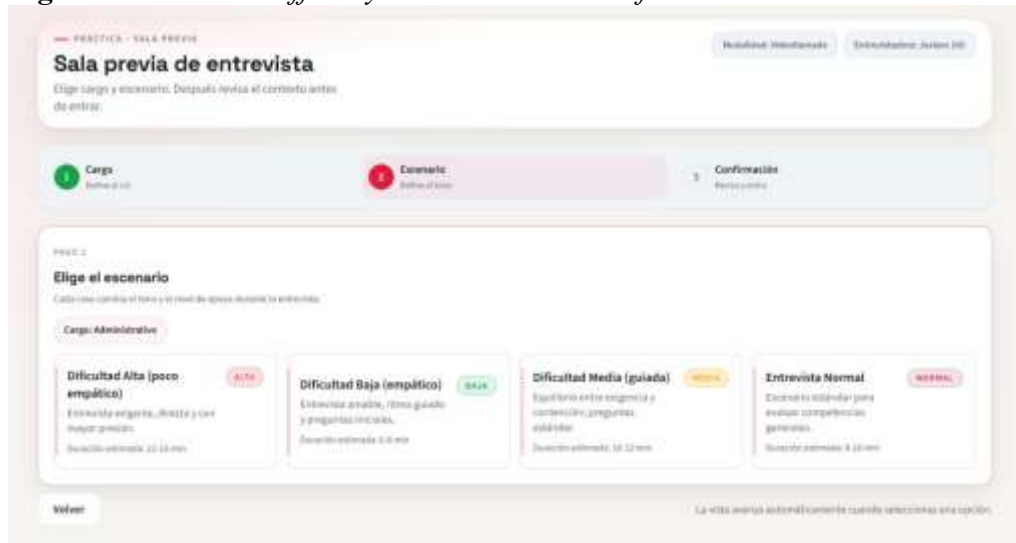
28 The selected configuration determines the expected behavior of the virtual
 29 interviewer and the occupational context within which the interview is conducted.

30
 31 Figure 3. Occupational profile selection interface.



32
 33

Source: Authors

1 **Figure 4.** *Interview difficulty level selection interface*

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3 Source: Authors.

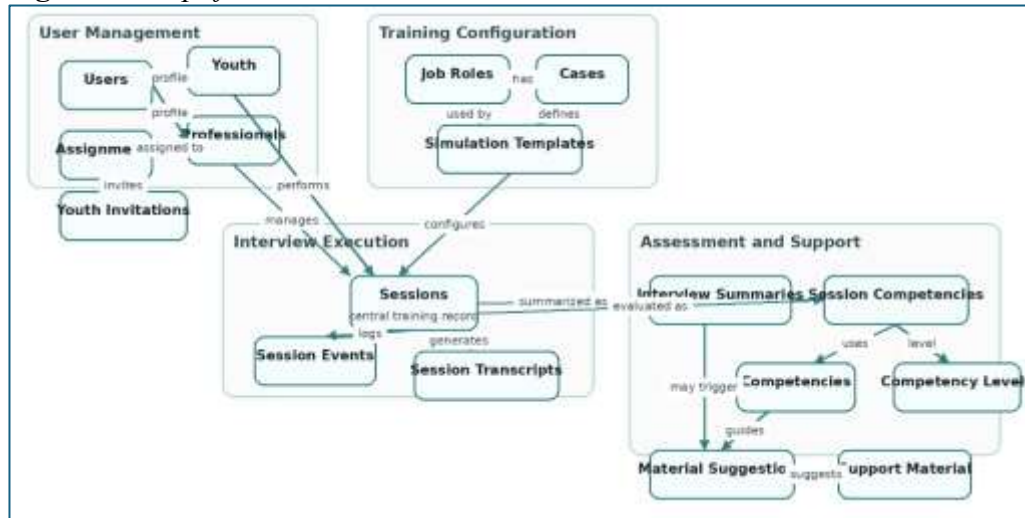
4
5 This approach enables the same conversational architecture to support
6 different training objectives and levels of preparation while maintaining a
7 consistent user experience.

8
9 *Data Model and Information Management*

10
11 A relevant outcome of the implementation process was the development of
12 a data model capable of supporting the complete interview training lifecycle.
13 Beyond storing user information, the platform was designed to manage interview
14 sessions, conversation transcripts, competency assessments, training materials,
15 and tutor follow-up activities within a unified information structure. The model
16 was also conceived to support future scalability requirements, enabling the
17 incorporation of additional training scenarios, assessment mechanisms, and
18 recommendation services without requiring substantial modifications to the
19 underlying architecture.

20 Figure 5 presents a simplified view of the main entities and relationships
21 implemented in ELVIR. The model is centered around interview sessions, which
22 act as the primary element connecting participants, professionals, interview
23 configurations, generated transcripts, competency evaluations, and supporting
24 learning resources.

25
26
27

1 **Figure 5.** *Simplified ELVIR data model*

2
3 Source: Authors.

4
5 The information model was designed to support both training and
6 monitoring activities. Interview sessions store the conversational exchanges
7 generated during each interaction, while transcript and summary entities
8 maintain records that can be reviewed by participants and tutors. In addition,
9 competency-related entities provide the foundation for future assessment
10 capabilities, allowing interview performance to be associated with predefined
11 competency categories and proficiency levels. This information can facilitate
12 longitudinal monitoring of participant progress and support data-driven
13 decision-making during employability training processes.

14 The model also incorporates support material and recommendation entities
15 that enable future integration between interview outcomes and personalized
16 learning resources. This structure was included to facilitate the progressive
17 evolution of the platform as additional assessment and recommendation
18 functionalities become available. Furthermore, the separation of training,
19 assessment, and recommendation components contributes to maintaining
20 modularity and flexibility within the overall system design.

21 22 *Interview Recording and Monitoring*

23
24 The platform records the information generated during each training
25 session, including interview configurations and conversation transcripts. These
26 records can subsequently be reviewed by both participants and tutors, allowing
27 previous interviews to be revisited and supporting continuity throughout the
28 training process.

29 The information collected during each session also provides the foundation
30 for future analytical capabilities, including automated evaluation and personalized
31 feedback mechanisms currently under development. By maintaining a complete
32 record of participant interactions, the platform creates a longitudinal training
33 history that may support future monitoring and assessment activities.

Pilot Deployment

The current version of ELVIR has been deployed within a pilot initiative conducted in collaboration with employment inclusion programs at Teletón Chile. The objective of this deployment is to validate the operation of the platform in a real-world environment and to collect information that may guide future functional improvements and user-centered evaluation activities.

The pilot constitutes an important stage in the development of the platform because it enables the observation of how participants interact with conversational artificial intelligence within an employability training context. In addition, it provides opportunities to identify usability issues, refine interview configurations, and improve the overall training experience offered by the system.

At the time of writing, the pilot remains in progress and the large language model-based evaluation module continues to be developed and integrated into the platform. Consequently, this paper focuses on the design and implementation of the system rather than on the assessment of its effectiveness or impact on employment outcomes.

Discussion

Complementing Traditional Employability Training

ELVIR was not designed to replace the work performed by employment inclusion professionals but rather to complement existing training activities by increasing opportunities for practice. The continuous availability of the platform enables participants to engage in simulated interviews with a frequency that is difficult to achieve through face-to-face sessions alone. This capability may facilitate repeated exposure to interview situations and increase familiarity with different occupational contexts and interview styles.

The proposed approach aligns with the growing use of conversational artificial intelligence as a support tool in educational and training environments. Within employment inclusion programs, such technologies may contribute to extending learning opportunities beyond the time constraints typically associated with specialist-led interventions.

Adaptation to Different Training Needs

One of the distinguishing characteristics of ELVIR is the incorporation of interview difficulty levels defined in collaboration with professionals from Teletón. This design allows the behavior of the virtual interviewer to be adapted to different training objectives, ranging from confidence-building and emotional regulation scenarios to more demanding interview situations.

The ability to parameterize interviewer behavior represents an advantage of large language model-based systems when compared with more rigid

1 approaches based on predefined interview scripts. By modifying the interaction
2 style while maintaining the overall interview objectives, the platform can
3 support a broader range of participant needs and training contexts.

4 *Challenges and Limitations*

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6
7 Despite the capabilities demonstrated during development and initial
8 deployment, several challenges remain. The quality and consistency of the
9 interaction depend on both the underlying language models and the prompts used
10 to guide their behavior. As a result, maintaining stable and predictable interview
11 experiences continues to require careful prompt design and system monitoring.

12 Another important challenge relates to automated performance assessment.
13 Evaluating interview responses involves subjective dimensions associated with
14 communication skills, self-presentation, contextual appropriateness, and non-
15 verbal behavior. Although large language models offer promising opportunities
16 for automated feedback generation, the validity and reliability of such
17 assessments require further investigation.

18 A further limitation of the present work is that the pilot deployment remains
19 ongoing. Consequently, it is not yet possible to determine the impact of the
20 platform on interview performance, employability skills, or employment
21 outcomes. The current contribution should therefore be understood as the design
22 and implementation of a conversational artificial intelligence platform rather
23 than as an effectiveness study.

24 *Future Work*

25
26
27 Future developments will focus on the completion and validation of the
28 automated evaluation module, the assessment of user experience among
29 participants and tutors, and the study of the platform's role as a support tool
30 within employment inclusion programs. Additional work will also explore the
31 incorporation of new occupational scenarios and the development of
32 personalization mechanisms adapted to individual training needs.

33 34 **Conclusions**

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36
37 This paper presented ELVIR, a conversational artificial intelligence
38 platform designed to support job interview training for young people
39 participating in employment inclusion programs. The proposed solution
40 integrates a virtual interviewer capable of generating dynamic interactions
41 across multiple occupational scenarios and interview difficulty levels.

42 The main contribution of this work lies in the design and implementation of
43 a training environment that combines large language models, conversational
44 avatars, configurable interview scenarios, and session management
45 functionalities within a single platform. Through this approach, ELVIR seeks to

1 expand opportunities for interview practice while complementing the work
2 performed by employment inclusion professionals.

3 At the time of writing, the platform is being deployed within a pilot initiative
4 conducted in collaboration with Teletón Chile. Future work will focus on
5 evaluating the user experience, validating the automated assessment module, and
6 studying the potential contribution of conversational artificial intelligence to
7 employability training and disability inclusion programs.

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