

The International
Coaching Federation

Artificial Intelligence Coaching Framework and Standards

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1. Overview

1.1 Foreword

Coaching helps individuals improve their performance and achieve their potential, as well as improving their workplaces (Athanasopoulou & Dopson, 2018). As with many other domains, the advent of Artificial Intelligence (AI) offers new opportunities (Jarrahi, 2018; Mikalef & Gupta, 2021). In 2024, AI has been used in conjunction with, or as an adjunct to human-to-human coaching for several years (Graßmann & Schermuly, 2020; Malafronte & Loufrani-Fedida, 2023; Terblanche et al., 2022).

This blended approach can provide the best of both worlds where coaches can offload tedious coaching activities such as delivering assessments, scheduling appointments or sending reminders to journal. As a result, AI used well allows coaches to invest more in the high value work of complex, transformational coaching in the human-to-human domain. AI also offers the opportunity for fully automated Coaching Services, provided entirely by AI, with the potential to greatly expand the number of people who can benefit from a Coaching Service.

AI technologies allows coaches to find ways to move deeper into organizations such as working with managers and leaders to enhance their coaching skills, provide additional learning opportunities for students and trainees, or assist organizations in building a coaching culture. Because AI makes coaching vastly more affordable, it can make coaching accessible to more people across the globe, enhancing the societal impact of coaching especially in the developing world. As coaching becomes accessible to more people, awareness grows and potentially increases the size of the market dramatically.

But, as with other deployments of AI, there are also risks such as bias that can threaten coaching (Akter et al., 2021). Coaching requires disclosure of personal information about individuals, which can be sensitive. Clients invest emotionally in coaching relationships and those relationships become a significant element of their professional life. While in some ways the potential risks that might arise are comparable to other areas of AI, the best risk mitigation methods will be determined by the specifics of the coaching context to be effective.

AI coaching standards can benefit coaching system providers to help them know what is required to produce a high quality system. These AI standards can also sensitize AI system developers about the need for safeguards in a wide range of important areas. These include conscientious treatment of client and coach data, engineering coaching science into AI systems, minimizing bias, and making clear distinctions between coaching and therapy.

We also hope that development of these AI coaching standards helps consumers make better buying decisions with the peace of mind that comes with knowing that the particular AI coaching technology has passed one or more levels of proficiency and ethical evaluation.

The ICF AI Coaching Standards have been developed for a broad audience:

- Coaches who want to use technology responsibly
- Coaching clients
- Organizations purchasing coaching
- Coaching supervisors

- Software developers (Providers)
- Coach training organizations
- Broader public

In the next section 2, we introduce the overarching framework that provides guidance to those wishing to develop AI Coaching Systems. The details of the ICF AI Coaching Standard appears in section 3. The standard gathers the core requirements for a basic AI Coaching System, and a more advanced system. The ICF believes that a common standard will help to encourage the use of scientific and engineering practices while also providing clarity for potential clients, coaches, and organizations looking to procure an AI Coaching System, enabling them to make their selection with confidence. Two additional documents enhance this standards work:

- The International Coaching Federation (ICF) Artificial Intelligence (AI) Coaching Framework and Standards: Examples, and
- The International Coaching Federation (ICF) Artificial Intelligence (AI) Coaching Framework and Standards: Questions Stakeholders Should Ask.

These additional documents provide valuable information that will enhance understanding of this framework and standards document.

1.2 Working Group Members

In April 2021, the International Coaching Federation (ICF) convened a small working group, the Artificial Intelligence Coaching Standards Working Group, with expertise in technology, coaching, and standards development. The working group consisted of:

- Matt Barney ([XLNC](#) and [TruMind.ai](#))
- Joel DiGirolamo ([International Coaching Federation](#))
- David Drake ([The Moment Institute](#))
- Olivier Malafronte ([Université Côte d'Azur](#) and [Rypple.ai](#))
- Harry Novic ([Rocky.ai](#))
- Jonathan Reitz ([FLUXIFY](#))
- Nicky Terblanche ([University of Stellenbosch Business School](#) and [coachvici.com](#))

The working group, and an external expert on professional standard setting finalized these standards in 2024.

1.3 Introduction

We initially developed a set of AI Coaching Capabilities Assessment Guidelines according to our vision of AI coaching, which involves automating part of the interactive coaching process. We are also aware that AI can be used to support the analytics involved in tracking and measuring coaching activities (e.g., number of coaching sessions, length of coaching sessions, participants' speaking time, revenue generated, number of goals created, etc.).

In harmony with the ICF Updated Core Competencies, AI coaching interactions are designed for reflection, learning, and making choices that best align with client needs, goals, experiences, and values. AI coaching may also include input from the AI Coaching System or other support facilitating client decision-making and action. In this way, AI coaching can be seen as a resource in support of learning, development, and performance that can be used by individuals, teams, and organizations independently or in conjunction with human-to-human coaching activities.

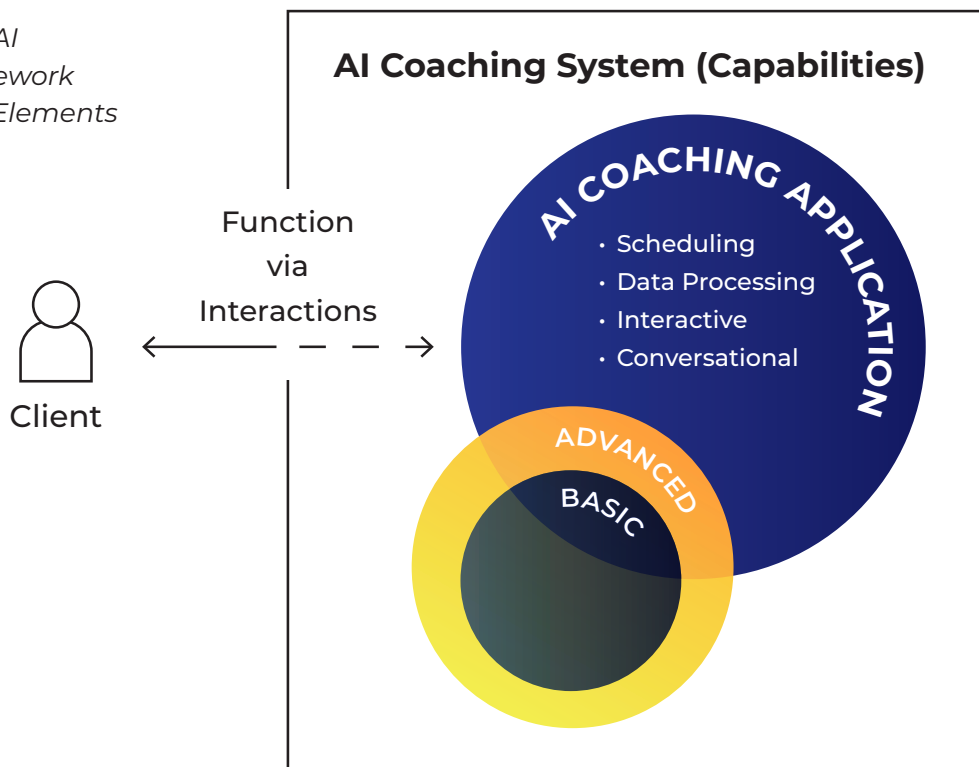
We believe that information and insights about the potential of emerging AI coaching technologies are important for practitioners, professional bodies, researchers, and organizations. Of particular interest to the Working Group is how these technologies can best augment human coaches to reduce risks and create positive outcomes for clients, organizations, and society. We see our role as supporting and guiding the coaching profession and practitioners as they make decisions about the uses of AI coaching technologies as well as doing the same for providers who are developing AI Coaching Systems for the coaching profession.

1.4 Glossary of Terms

The following terms, when used in the standard and capitalized, are defined as stated below. Figure 1 shows the relationship of some of these elements relative to other elements in the framework.

Figure 1

Relationship of AI Coaching Framework and Standards Elements



¹ <https://coachingfederation.org/core-competencies>

Table 1*Glossary of Terms*

Term	Definition
Advanced Requirement	Advanced is a higher level Standard provided by the ICF, for an AI Coaching System. It builds upon, and includes all of the requirements within, the ICF Basic Standard.
AI Coaching Application	The AI Coaching Application is the software package of the AI Coaching System that interacts with the User to provide specific Function in a specific Context. An example of an AI Coaching Application is a coaching chatbot. A Requirement may or may not be applicable to the AI Coaching Application since it may be applicable only at the System level.
AI Coaching Application Type	An AI Coaching Application may assist a coach in Scheduling or Data Processing, or may provide a Coaching Service in an Interactive or Conversational manner. See section 2.1.2 below for more detail about each type.
AI Coaching System	The AI Coaching System is the entity which provides the Function to the Client. The AI Coaching System includes the AI Coaching Application and any supporting documentation, functionality, and/or processes which exist outside of the Application but are utilized in the delivery of the Coaching Services, its management, and security. Since it is defined that the AI Coaching Application resides within the System, all Requirements apply to the System and they may or may not be applicable to the AI Coaching Application.
Basic Requirement	Basic is a Standard constituting a set of minimal, normative requirements, provided by the ICF, for an effective AI Coaching System.
Capabilities	The Capabilities of the AI Coaching System are features such as the ability to converse, or the ability to notify, that enable the Interactions and through which Content is delivered. An AI Coaching System generally provides some Function by utilizing a set of Capabilities.
Client	The Client is the User who interacts with the AI Coaching System for a specific Function.
Coach	The Coach is a human (User) or group of humans who provide Coaching Services to the Client, potentially through, or in partnership with the AI Coaching System.
Coaching	ICF defines coaching as “partnering with clients in a thought-provoking and creative process that inspires them to maximize their personal and professional potential” ¹ .

Term	Definition
Coaching Expert	A Coaching Expert is a suitably knowledgeable, qualified and experienced person or group of persons, who are able to provide professional advice on coaching science and technology. A Coaching Expert may also be considered a Subject Matter Expert (SME).
Coaching Service	Individuals or organizations may offer human or blended Coaching Services to individual Clients or organizations. These services may include one-to-one coaching, team or group coaching, professional development resources, and assessments that may be combined with one or more forms of AI.
Content	The Content is the text, images, or other forms of media which the Client receives through Interactions with the AI Coaching System as part of the Coaching Services.
Context	The conditions or circumstances in which the AI Coaching System is used.
Formal Studies	Formal Studies are peer-reviewed or unpublished scientific research that is designed and executed using well-established scientific methods to ensure that coaching (human or AI) are effective. They include formal measurement and methods to gain confidence in causal inference about the AI causing improvements in coaching clients (e.g. experiments, quasi-experiments, instrumental regression).
Function	The Function is to be delivered by the AI Coaching System and offers content, information, stimuli, guidance, and other interactions that the Client receives or experiences through interaction with the AI Coaching System. An example of a Function is interactive coaching through reflective dialog. A Function frequently utilizes a set of Capabilities.
ICF AI Coaching Standards	The standards section of this document, Section 3.
ICF AI Coaching Standards Element	The individual Standards, or Requirements are part of a standards Elements within the Framework. Each Element may have just a Basic Requirement or both a Basic and Advanced Requirement. Each element will also list which Application Types it is applicable to and what type of Requirement it is. Each Element has a designation of a letter followed by two numbers, indicating which Set the Element is in and which Domain that Set is located in. For example, the first Element in the Ethics Set is A.1.1.
ICF AI Coaching Standards Element Domain	Each ICF AI Coaching Standards Element Set is located within a Domain, labeled A through F. Domains A-D follow the ICF Core Competency Domain labeling.
ICF AI Coaching Standards Element Sets	Each Element is located within a Set. Sets one through eight (1-8) follow the ICF Core Competency numbering.

Term	Definition
ICF AI Coaching Standards Framework	The structure or outline within which AI Coaching Standards are placed, consisting of Elements that are in groupings (Sets) and the Sets are grouped into Domains.
Interactions	Interactions are the set methods by which the AI Coach and the Client communicate, such as notifications, prompts, or conversations.
Language Expert	A Language Expert is a suitably qualified and experienced person or group of persons who is able to provide expert advice on use of language in one or more human languages with regards to its intelligibility for a given region or group of language users (e.g. linguist, translator).
Provider	The Provider develops or procures software and offers the AI Coaching System to the market.
Requirement	An ICF AI Coaching Standard, or Requirement for a System describes behavior or functionality necessary for a Provider to deliver in order to say they meet that standard. The words Standard and Requirement are used interchangeably in this document.
Requirement Type	A Requirement may be about the AI Coaching Application or System content, functionality, actions, or validation.
Standard	See Requirement.
Use Case	A Use Case is a potential scenario in which, through Interactions with the System, the Client moves towards a desired outcome.
User	A User is any individual or organization who acquires or accesses the AI Coaching System for use in a specific AI Coaching Application. The User may be a Client, Coach, or organization.

1.5 Abbreviations

AI	Artificial Intelligence
ICF	International Coaching Federation

1.6 Conformance and Certification

Providers are expected to either self-certify their AI Coaching System or work with a third-party organization to do so. The ICF AI Coaching Standard does not take an 'all-or-nothing' approach and Providers are free to specify which elements of the Standard they meet.

2. The ICF AI Coaching Standard Framework

2.1 Understanding the ICF AI Coaching Standard Framework

The first eight Standard Sets fit within the ICF Core Competencies structure. Those that follow, Standard Sets 9-13 are extended from the core ICF framework with additional details relevant for the field of software applications and AI in the use of coaching.

Domain	Standard Sets
(A) Foundation	1. AI Ethics* 2. Embodies a Coaching Mindset
(B) Co-Creating the Relationship	3. Establishes and Maintains Agreements 4. Cultivates Trust and Safety 5. Maintains Presence
(C) Communicating Effectively	6. Listens Actively 7. Evokes Awareness
(D) Cultivating Learning and Growth	8. Facilitates Client Growth 9. Reinforces Client Growth*
(E) Assurance and Testing*	10. Coaching Reliability Measures* 11. System Useability*
(F) Technical Factors*	12. Security and Privacy* 13. Resilience and Accessibility*

* Indicates areas that have been added beyond the ICF Core Competencies.

2.1.1 Standards (Requirement) Types

Within each Set there are different types of standards. For standards associated with Domains A-D, most of the requirements relate to either content, functionality, or actions. For capability domains E and F, there are validation requirements as well as content and functionality requirements.

The ICF AI Coaching Standard (Section 3) places requirements into the following types:

1. Content. Content means material that the organization developing the AI Coaching System must create and make accessible to the client. Content can be any form of media, including text, images, audio, video, and graphics. Some content is about the system itself, for example, how the AI Coaching System works or how user data will be managed and protected. This content could be accessible within the application, on a website, or through other means. Other content is part of the Coaching Service and will generally be accessible within the application, such as questions that the AI Coaching Application may ask of the Client.

Content may be order dependent. For example, important notices relating to privacy policies or the limitations of the coaching system should be shared with the client before the provision of any Coaching Services, so they can make an informed decision whether to continue, and will be less likely to be surprised or disappointed by the System. Where content order is important, it will be indicated within the Standard.

Evidence of meeting content requirements can be a display of the content being accessed in the System.

2. Functionality. Functionality means specific abilities that the system must have, such as being able to store client goals or analyze specific types of inputs in order to make a determination that can affect some action that may be taken at a later date.

Evidence of meeting functionality requirements can be a video recording of a tour of the functionality requirement being used. This may not always be possible, for example where the functionality is not visible. In these instances validation evidence may be used.

3. Actions. Actions are specific tasks that the system must do, such as notifying the user or recording specific types of information. Some actions are time- or order-specific. For example, an action such as 'notify' may need to occur before the client begins a certain activity. This would be an order-dependent action. An example of a time-dependent action would be a 'check-in' that the system may make periodically with the client, perhaps weekly.

4. Validation. Validation involves demonstrating that a system achieves its objectives. It can include evidence that an AI system meets a certain quality standard, or helps the client systematically achieve one or more goals. When these properties or the relevant quality threshold is measurable, then the best course may be a test, where the system is tested to see if the object does in fact have the stated property or meet the given threshold. For example, ensuring a system is available most of the time can be tested by looking at the collective downtime for the system.

Other types of validation include expert review, where a relevant expert will assess an object within the system to determine if it is of sufficient quality. This could be a Coaching Expert validating that the content being used in the system is appropriate or a Language Expert validating that the language used in the content is appropriate and suitable for the target audience.

Some validation is required prior to or while the system is being developed, such as a review of the content. Other validation needs to happen after the system is in operation, such as validating client satisfaction and the efficacy of the system intervention with clients.

The Standard in Section 3 provides a summary of which Requirements are of which type.

2.1.2 Application types

As coaches have used new digital technologies, a plethora of different types of new coaching tools have emerged. Roughly these can be placed in four key groups. Note that these are not clear distinctions, with some tools straddling the line between different groups. However, in general, the first two: scheduling and data processing, are coach assisting tools. They primarily support a coach in their provision of a human or blended Coaching Service. The latter two, interactive and conversational are different in that they are providing Coaching Services to the client directly. This may still be in support of a human coach, or it may be as a standalone service.

This Framework, and the associated Standard, focus primarily on the latter two categories of application—interactive and conversational. This is because, as well as being coaching-specific, unlike some of the assistive technologies, they have two distinct qualities that make them potentially higher risk, and potentially more impactful. The first is that by providing a Coaching Service, rather than, say, a scheduling service, they are likely to be processing more sensitive data and engaging with the client on more sensitive topics. As such, their ability to impact the client, positively or negatively, increases. This means that greater consideration must be taken to ensure a minimum level of quality. The second difference is that they may be providing a Coaching Service independently of a human coach. This means there is the potential for them to reach vastly more clients, unrestrained by the natural limit on the availability of human coaches. This potential for large scale means a lot more people may be affected, and, again, necessitates the need for minimum standards.

Coach Assisting Applications

1. Scheduling: Applications which assist with time-related activities such as meeting planning, following up with clients, and other reminders. Examples are a weekly activity report sent by email or weekly reminders sent through a mobile application. While these applications are not necessarily specific to coaching, they may utilize AI.

2. Data Processing: Analysis tools which process data that is accessible in a given environment (e.g. emails, calendars, feedback) or that is provided (e.g. post-review feedback, ratings, evaluations, attendees' speaking time) and generate relevant outputs or measurements that can provide information for the coaching process. These outputs then require a coach or other entity to use them in order to be impactful. Examples are sentiment measurement, FAQ (Frequently Asked Questions) generation, scoring systems based on individual assessments, and coaching or training commitment based on individual logins.

Coaching Service Applications

3. Interactive: Interactive applications are those in which the AI interacts directly with clients who provide input such as feedback, ratings, planning elements (dates or hours), and conversational elements. These interactions can nudge clients and shape their behavior. As such they can be considered to be providing Coaching Services. An interactive application can also be a conversational application. Examples are habit-building quizzes made through a mobile application and email prompts relating to a specific goal or topic.

4. Conversational: These AI applications can identify, interpret, make inferences, or learn from provided data to help users achieve their objectives through written text, spoken language, or video as part of a Coaching Service. Examples are coaching chatbots, voicebots or avatars providing coaching conversations with individuals or groups.

The interactive and conversational application types overlap significantly in that they both involve provision of Coaching Services. They have comparable risk, and as such many of the required best practices stated in the Standard apply equally to both.

2.1.3 Using the AI Coaching Standard Framework

The ICF AI Coaching Framework and Standard aims to support organizations developing AI Coaching Systems by providing guidance on best practices and highlighting important considerations. The primary goal for the ICF AI Coaching Framework and Standard is to inform and help organizations navigate potential challenges in developing AI coaching tools.

The standard covers each of the six domains and within those each of the thirteen capabilities (Standard Sets) introduced in 2.1 above. For each capability it provides a brief introduction, an overview of the key properties and why they matter, advice and FAQs targeted at relevant potential practitioner groups, and information on potential artifacts that may be generally helpful, and/or necessary to evidence conformance with the associated requirements. It also includes a high level summary of the maturity stages for each capability. Maturity levels aim to help organizations both understand where they are currently, and then to break down the steps they need to follow in order to ensure the quality of the AI coaching system.

The Standard was designed to be useful to many parties, including:

- Developers of AI Coaching Systems so that they know what is important to all interested parties, including the Users, Coaches, and Purchasers of Coaching Services,
- Purchasers and Coaches, so that they understand parameters upon which to compare and evaluate different AI Coaching Systems, including capabilities, ethics, and data privacy, and
- Clients so that they may develop an understanding of an AI Coaching System and will provide an expectation of the parameters involved so that they may express any concerns to the Provider or precautions they may feel they need to take.

2.2 The AI Coaching Standard Framework

2.2.1 A. Foundation: Introduction & Overview

The foundation elements relate to ethics and the coaching mindset. These two aspects are crucial to ensuring that the right values are embedded in all design decisions and core functionality of the system.

2.2.1.1 A.1 Foundation: AI Ethics

AI driven services create new ethical considerations and risks. Especially at this point in time, when AI assisted services and AI services are still fairly novel, there is the need to introduce and explain key properties of these systems. It's also important that decisions made by these systems are transparent and actions are taken to minimize the transfer of existing human biases into the AI systems and prevent new biases from emerging. Overall, AI coaching applications should be designed in alignment with codes of conduct that ensure an automated system is able to respond to situations in an ethical way that supports and complements the ICF Code of Ethics.

2.2.1.2 A.2: Foundation: Embodies a Coaching Mindset

A coaching mindset is one that is open, curious, flexible, and client-centered. These are human attributes, and the AI coaching platform should mimic these characteristics.

2.2.2 B. Co-Creating the Relationship: Introduction & Overview

Research has established the importance of a coaching relationship. Many elements combine together to create the depth of relationship necessary for a client to feel safe in the coaching relationship. While the development of a coaching agreement may be relatively simple with AI, a depth of presence and creation of a trusting and safe relationship may be more difficult.

2.2.2.1 B.3: Co-Creating the Relationship: Establishes & Maintains Agreements

In AI coaching, as in human coaching, the software's success depends on the client's engagement and commitment to the coaching goals, and process. To foster this, the AI Coaching System collaborates with the client and stakeholders to establish clear agreements for the coaching engagement and each session. Key elements include ensuring the client understands the interaction's purpose and outcomes, obtaining explicit consent for each intervention with an opt-out option for client control and ownership, and proceeding to the next stage only with the client's readiness and explicit permission, maintaining their continued buy-in throughout the process.

2.2.2.2 B.4 Co-Creating the Relationship: Cultivates Trust and Safety

In AI coaching, establishing a safe and supportive environment is important. This involves several key strategies: firstly, fostering trust through transparency about the AI's design and ownership; secondly, promoting inclusive dialogue and responsiveness to feedback; thirdly, differentiating between universal and domain-specific coaching aspects, ensuring clients understand the AI's applicability to their areas of interest; fourthly, providing access to human experts when issues exceed the AI's scope; and finally, prioritizing client safety, especially in mental health matters, by offering guidance and connections to other relevant services.

2.2.2.3 B.5 Co-Creating the Relationship: Maintains Presence

In AI coaching, the system should maintain a stance similar to a human that is open and flexible. Firstly, the AI should not be overly anthropomorphized or misleading in presentation to avoid unsettling the client. Its tone should be straightforward and clear. Secondly, enhancing user experience by allowing clients to review their previous inputs may improve their engagement and reflection. The more accessible this feature is, the better. Thirdly, akin to human coaches who assess and respond to a client's emotional state, AI coaching applications, when capable, should use these insights to adjust their interactions accordingly wherever allowed by law. This can deepen the client-coach relationship, prevent conflict or disengagement, and support the client's development in their "Goldilocks Zone" (not too hard or easy but just right). These principles help in making AI coaching more effective and client-centric.

2.2.3 C. Communicating Effectively: Introduction & Overview

Effective communication in an AI coaching system involves emulating the app doing active listening to fully understand the client and then use that to evoke client awareness through diverse methods such as personalized assessments, reflective questioning, and scenario simulations, coupled with detailed feedback and progress tracking. These tools collectively aid in uncovering clients' strengths, weaknesses, and behavioral patterns, facilitating deeper self-discovery and goal-oriented growth for the client.

2.2.3.1 C.6 Communicating Effectively: Listens Actively

In AI coaching, active listening involves understanding both the spoken and unspoken aspects of client communication, contextualizing their words for meaningful interactions. The AI system should base interventions on this contextual awareness, considering past interactions and the client's current state, while clearly explaining its actions and rationale. Additionally, it should offer timely, context-specific feedback to support client growth, enhancing understanding and facilitating actionable insights.

2.2.3.2 C.7 Communicating Effectively: Evokes Awareness

An AI coaching application can enhance client self-awareness and insight using various techniques like powerful questioning, metaphors, and analogies. It should offer a range of context-specific stimuli, such as open questions and moments of silence, to resonate with the client and foster self-realization. Additionally, the system should encourage big-picture thinking by presenting alternative perspectives and linking insights, aiding clients in understanding the interrelation of ideas and their broader implications.

2.2.4 D Cultivating Learning and Growth: Introduction & Overview

Cultivating learning and growth is the core of coaching and can be broken into two components; facilitating client growth, and reinforcing client growth.

2.2.4.1 D.8 Cultivating Learning and Growth: Facilitates Client Growth

An AI coaching application should effectively help clients convert insights into actionable goals while fostering client independence. Key functionalities include assisting in setting, tracking, and adjusting SMART goals, facilitating storytelling and meaning-making, and supporting clients in re-evaluating their goals as circumstances change. Additionally, the system should aid in clarifying problems, generating alternative solutions, and considering the consequences of different choices, ensuring a comprehensive and adaptive coaching experience.

2.2.4.2 D.9 Cultivating Learning and Growth: Reinforces Client Growth

An AI coaching application should employ methods that reinforce and guide clients towards their desired outcomes and future behaviors. This includes tracking and validating progress to inform decision-making and motivate clients, as well as helping them stay on track toward their goals. The system should provide timely reminders and reinforce insights to maintain focus and momentum. Additionally, it's important for the AI to help clients translate learning into actionable steps and celebrate their successes to sustain growth. The capability to track progress through milestones and assess overall advancement is also key, ensuring a structured and supportive coaching journey.

2.2.5 E Assurance and Testing: Introduction & Overview

Quality assurance and testing are crucial to ensure that the system is effective and achieves its intended objectives. The earlier sections A-D focuses on the kinds of content, capabilities, and behaviors of the systems. This section instead looks at what can be done to validate that the AI system performs effectively. This section is split into two, the first subsection (E.10) looks at validation and testing that can be applied to the coaching content, capabilities, and behaviors. The second section (E.11) looks at testing that ensures technical aspects of the system operate as intended.

2.2.5.1 E.10 Assurance and Testing: Coaching Reliability Measures

For an AI coaching application to be reliable and effective, it is crucial to quantitatively demonstrate system reliability. This includes collecting evidence of effectiveness, which can range from client feedback to formal experiments, and potentially comparing it to the efficacy of human coaches. The responsible organization should verify that the system's capabilities and operations are as claimed, ensuring accuracy, transparency and reliability. Before launch, testing with a sizable group is necessary to identify bugs and gather insights for improvement. The quality of the data driving the AI models is critical, requiring thorough quality assurance tests to avoid biases and ensure utility. Incorporating expert guidance, such as a coaching committee, can enhance the product's quality and trustworthiness. Finally, ensuring that the system's responses are contextually appropriate is vital for maintaining client engagement and meeting their needs effectively.

2.2.5.2 E.11 Assurance and Testing: System Usability

An effective AI Coaching System should be user-friendly and not overly complex, with content that is easily understandable. Integration with relevant platforms and robust accessibility are also key for user convenience. To ensure usability, developers should gather and publish evidence on user satisfaction. Systems should be intuitive, minimizing the need for extensive training or onboarding, and should explain their core functionalities in plain language, avoiding technical jargon. Content should be tailored to various audiences, considering cultural sensitivities and language differences, and ensuring it is free from controversial or discriminatory elements. Accessibility can be enhanced by offering multiple access points, like websites or apps, and building integrations with key channels or developing APIs. Finally, system performance, including response times, is crucial for user satisfaction, and should be optimized through architectural decisions and regular assessments.

2.2.6 F. Technical Factors: Introduction & Overview

While not specific to coaching per se, certain requirements are necessary for any consumer product storing personal and potentially sensitive information. AI Coaching Systems should meet minimum security and privacy requirements.

2.2.6.1 F.12 F. Technical Factors: Security and Privacy

In AI coaching applications, data security hinges on the CIA triad: confidentiality (preventing unauthorized data access), integrity (protecting data from unauthorized alteration), and availability (ensuring system access for authorized users). Key security measures include encrypting data at rest and in transit, following industry standards like NIST guidelines, validating user credentials with strong authentication processes, and safeguarding backend systems. Additionally, ensuring system availability with minimal service interruptions and conducting thorough reliability and bug testing prior to launch are crucial for maintaining user trust and satisfaction.

Data privacy is crucial for AI coaching applications, requiring adherence to varying data protection laws across jurisdictions. These applications should minimize personal data, using methods like pseudonymization and data binning, and ensure users are informed about how their data is used, including sharing with third parties and data protection measures. Consent for data processing is essential, and system providers must be aware of the storage and management of data, legal requirements in target markets, and the integration with key user channels and backend systems for optimal performance. For buyers and users, awareness of legal frameworks like GDPR and understanding security and privacy aspects of the AI coaching application are vital. Organizations should develop clear security and data minimization policies, and consider creating user-friendly content about security and privacy practices.

2.2.6.2 F.13 Technical Factors: Resilience and Accessibility

In AI coaching systems, ensuring resilience and accessibility, in line with the Americans with Disabilities Act of 1991, is crucial. These systems must incorporate adaptive technologies and design principles that cater to a wide range of disabilities, including visual, auditory, motor, and cognitive impairments, ensuring equal access and usability for all users. This involves implementing features like screen readers, voice recognition, and user-friendly interfaces with sufficient contrast and navigability, alongside regular testing and updates to maintain system robustness and accommodate evolving accessibility needs.

2.3 Notices & Disclaimers

All systems should encourage users to seek expert human guidance for complex personal or professional issues, even if non-medical. Despite efforts to ensure the accuracy and reliability of its algorithms, AI system recommendations and insights may not fully be able to address each individual's unique context. Additionally, while each system should be designed with a commitment to inclusivity and non-discrimination, AI system designers should clarify to users that most AI has inherent limitations in completely eliminating biases. Engineers are encouraged to continuously work towards minimizing these biases in the system functionality.

2.4 Overview of the Standard

The ICF has established these standards to guide developers in creating responsible AI coaching applications and help clients identify systems that adhere to these best practices, ensuring both expanded access and the mitigation of systemic risks.

The requirements in the ICF Standard are divided into thirteen Standard Sets which are grouped into six Domains:

- | | | |
|----------------------------------|-----------------------------------|----------------------------|
| (A) Foundation | (C) Communicating Effectively | (E) Assurance and testing* |
| (B) Co-creating the Relationship | (D) Cultivating Learning & Growth | (F) Security and Privacy* |

The first four Domains reflect the ICF Core Competency Framework as used for human coaches. The same principles have been applied here, although resulting in different criteria. Domains E and F are novel and respond to AI and application specific considerations.

Within each Domain requirements are grouped based on the type of requirement. The types vary between some of the Domains. For example, many of the requirements found in A-D relate to content, functionality, or an action that is required in the AI Coaching System. Whereas in Domain E many of the requirements relate to validation and testing measures. Different properties are required for different types of requirement, and different types of evidence would be sought to prove the requirement has been met. For example, content requirements can be evidenced by producing a copy of the content, while testing and validation requirements can be evidenced through test results.

The table shown here is intended to help those developing AI coaching applications to find requirements more easily by type in order to inform product development planning.

Table of requirements by type



Type	Requirements
Content	A.1.2, A.1.3, A.1.5 B.4.1, B.4.3, B.4.5 C.6.2 C.7.1, C.7.2 E.11.2 F.13.2
Functionality	B.3.3 B.4.4, B.4.5 B.5.2, B.5.3 C.6.1, C.6.2, C.6.3 C.7.3, C.7.4 D.8.1, D.8.2, D.8.3, D.8.6 D.9.1, D.9.5, D.9.6 E.10.1, E.10.3, E.10.5 E.11.2, E.11.6 F.12.1, F.12.2
Action	A.1.1, A.1.2, A.1.3, A.1.5 B.3.1, B.3.2 C.6.1, C.6.3 C.7.2, C.7.3 D.8.4, D.8.5, D.8.7 D.9.2, D.9.3, D.9.4, D.9.5 F.13.2, F.13.3
Validation	B.3.3 E.10.1, E.10.2, E.10.4, E.10.5, E.10.6, E.10.7 E.11.1, E.11.2, E.11.3, E.11.4, E.11.5 F.12.3

2.5 Guidance on using the standard

This Standard relates to an AI Coaching System. It is the System that conforms or does not conform with the Standard.

This Standard is best understood in the context of the framework to which it is appended. The framework provides useful additional information to help an organization develop a System. However, the framework does not include any separate normative requirements for the Standard. As such the Standard (Section 3) can be used as a standalone document.

2.5.1 Buyers & Users

For organizational buyers, you need to understand how coaching fits into your safeguarding policy, the goals you have from your coaching system, and how the AI coaching system aligns with these policies and objectives.

2.5.2 Provider

At a minimum, the organization developing the AI system should have:

- A plain English explanation of the core functionality of the system
- Details on the data privacy and compliance requirements
- A store of relevant research and literature that forms the evidentiary basis for the methods and content used by the application

ICF also recommends providers to have a coaching advisory committee or board to monitor and ensure the effectiveness of coaching investments.

3. The ICF Artificial Intelligence Coaching Standards

Each requirement is part of a standard specification Element within the Framework. Each element may have just a Basic Requirement or both a Basic and Advanced Requirement. If a Provider wishes to claim meeting an Advanced Requirement, they must also meet the Basic Requirement for that Element. Each Element also lists the relevant use cases called “Application Types” and describes what type of Requirement it is. Elements are designated by a letter followed by two numbers, indicating which Set the Element is in and which Domain that Set is located in. For example, the first Element in the Ethics Set is A.1.1.

The framework used to specify the four requirement types that are applicable to four types of AI include:

- Requirement Types: Content, Functionality, Actions, and Validation
- Applicable to: Scheduling, Data Processing, Interactive, Conversational

3.1.A.1: Foundation: AI Ethics

Coaching is a partnership that requires buy-in from the client to be effective. To ensure the client is engaged and committed to the partnership and their goals, they need to be a part of decision making, feel safe and have trust in the coach and the process, and feel that the coach is present and working to understand and support them. The AI Coaching System partners with the client and relevant stakeholders to create clear agreements about the coaching relationship, process, plans, and goals. They establish agreements for the overall coaching engagement as well as those for each coaching session. There are three key elements of establishing and maintaining agreements:

Element A.1.1: AI Disclosure: The user should know when they’re interacting with an algorithm and not a person. People behave differently when they think they’re speaking to a human, and being deceived can damage trust and cause concern for the user. Providing a clear indication of when the user is interacting with an algorithm can help avoid this, for example, by use of an icon or a name that indicates the entity is not human.

- Requirement Type: Action
- Applicable to: Interactive, Conversational
- Requirement (Basic): The System shall indicate to the Client that it is not human prior to the provision of Coaching Services to the Client.
- Requirement (Advanced): The System shall indicate to the Client that it is not human at least once during each interactive or conversational session.

Element A.1.2: System Limits: The User should understand the limits of the system. Setting expectations is important to ensure that the system is not used inappropriately, or that a User fails to seek alternative options believing their needs can be met with the system, if this is unrealistic. In order to set expectations a Provider must first assess what the relevant limitations are, and then think about how and when this information may be presented to the User.

- Requirement Type: Content, Action

- Applicable to: Interactive, Conversational
- Requirement (Basic): The System shall state relevant limits of its capabilities prior to the provision of Coaching Services to the Client.
- Requirement (Advanced): The System shall state relevant limits of its capabilities throughout various use cases when relevant.

Element A.1.3: Algorithm Transparency: The AI Coaching Application should be transparent about how the underlying algorithms work. Thought should be given to what level of description is most valuable. A full technical breakdown will be incomprehensible to most audiences, but highlighting the kinds of methods used, and the underlying logic being utilized can help boost trust.

- Requirement Type: Content
- Applicable to: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): Provider shall make publicly available documentation on the types of algorithms used and their basic functionality. The Provider is not required to release confidential or proprietary information to meet this requirement.

Element A.1.4: Action Explainability: Where the AI has made a meaningful decision, the AI coaching application should support a user who wants to understand why specifically that decision was made. AI explainability can be complex but there are tools that can be deployed that may help. For example, sometimes a useful way of helping explain a decision is to explain what other decisions could have been made, and what would need to have been different for another option to be selected by the AI.

- Requirement Type: Content
- Applicable to: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): Provider shall make publicly available documentation on the general ways in which decisions are made by the AI Coaching System. Provider is not required to release confidential or proprietary information to meet this requirement.
- Requirement (Advanced): Provider shall make publicly available documentation on the categories and methods used for decisions in each category made by the AI Coaching System. Provider is not required to release confidential or proprietary information to meet this requirement.

Element A.1.5: Bias: AI systems, being trained on real world data often use atheoretical methods that are hard to explain and can perpetuate existing biases and prejudices. They can also suffer from new kinds of bias such as sampling bias, where the training data isn't representative of the real world. Biases can also arise from design decisions; optimizing for one outcome over another can result in bias. Whenever deploying AI systems it is important to think carefully about how the system might be biased and how the impacts of these biases can be mitigated. Organizations developing AI coaching applications should check their data and models for bias and take appropriate steps, such as correcting for bias where possible, or using quality assurance methods to eliminate bias from affecting users. As a last resort, systems should alert users to potential or actual bias where appropriate.

- Requirement Type: Content, Action
- Applicable to: Scheduling, Data Processing, Interactive, Conversational

- Requirement (Basic): The System shall notify the Client of any potential biases in the Application and provide sources for any evidence used to ascertain that these biases may exist.
- Requirement (Advanced): Quality assurance methods that guarantee biases to be rare or non-existent.

Element A.1.6: Data Transparency: All parties involved in AI coaching are concerned about where and how their data is stored, as well as who will have access to it.

- Requirement Type: Content, Action
- Applicable to: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): The Provider shall supply documentation identifying who within the Provider organization will have access to coach and client data as well as provisions for User access.
- Requirement (Advanced): The Provider shall have publicly available documentation identifying all parties who may have access to coach and client data and where the data will be stored.

Element A.1.7: Consent to AI Coaching: It is important to clients that they understand when the coaching process has started.

- Requirement Type: Content, Action
- Applicable to: Interactive, Conversational
- Requirement (Basic): The System shall require the Client to agree to the AI coaching, stating that a human will not be involved.

3.2.A.2: Foundation: Embodies a Coaching Mindset

Coaching, whether delivered by an AI or human, is characterized by certain foundational principles and types of interaction that shape how a coaching session and relationship should operate. It is important that these coaching elements are embodied in the AI Coaching System.

Element A.2.1: Coaching Approach: The AI Coaching System should follow an open, flexible approach that may share observations and insights, without following a rigid protocol or algorithm. This approach should have the potential to create new learning or performance support for the client.

- Requirement Type: Content, Action
- Applicable to: Interactive, Conversational
- Requirement (Basic): The AI Coaching System is mostly non-directive and generally supports a coaching mindset and approach to partnering with the client. If clients compared AI Coaching System responses, they may find some similarities.
- Requirement (Advanced): The AI Coaching System exhibits direction only when science suggests additional supports are most appropriate and AI responds in a fluid, graceful and dynamic manner, helping the client realize their goals. Clients comparing AI Coaching System responses will find little similarity in responses.

3.3.B.3: Co-Creating the Relationship: Establishes and Maintains Agreements

It is important that the System acts in partnership with the client and relevant stakeholders to create clear agreements about the coaching relationship, process, plans, and goals. An effective coaching relationship requires buy-in from the client, both within each coaching session and for each agreed action, and to the wider relationship and longer term goals.

Element B.3.1: Service Information and Benefits

The System should provide clear and comprehensive information about the services offered and the potential benefits to ensure informed client decisions.

- Requirement Type: Behavior
- Applicable to: Interactive, Conversational
- Requirement (Basic): The System shall inform the Client of the services it is able to offer and the potential benefits prior to the provision of Coaching Services to the Client.

Element B.3.2: Client Opt-in for Services

It is vital for the System to secure explicit consent from the Client before initiating Coaching Services, upholding the principle of informed choice.

- Requirement Type: Action
- Applicable to: Interactive, Conversational
- Requirement (Basic): The System shall ask the Client to opt in to the service prior to the provision of Coaching Services to the Clients

Element B.3.3: Assent for New Use Cases

For maintaining a respectful and informed coaching environment, the Application must seek the Client's assent before introducing new Use Cases during the coaching process.

- Requirement Type: Validation
- Applicable to: Interactive, Conversational
- Requirement (Basic): The Application shall require assent from the Client before progressing to a new Use Case for the majority of new Use Cases.

3.4.B.4: Co-creating the Relationship: Cultivates Trust and Safety

Coaching should take place in a safe, supportive environment that allows the client to share freely. It is important for the System to maintain a relationship of mutual respect and trust.

Element B.4.1: Information on AI Design and Intent

The System should provide comprehensive information about its creators, scientific foundations, ownership, and research supporting its design to enhance transparency, trust and user understanding.

- Requirement Type: Content

- Applicable to: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): The System shall provide the Client with information on the creators, theoretical bases, ownership, and research supporting the design of the AI in the Application.

Element B.4.2: Inclusive Dialogue and Responsiveness

In the coaching process, fostering an inclusive dialogue between the client and specialists is crucial. The System must be designed to facilitate open, respectful, and understanding communication, enabling a space where the client feels heard and valued. Additionally, the System's ability to react appropriately to support and feedback is essential for adapting to the client's evolving needs and maintaining an effective coaching relationship.

- Requirement Type: Communication, Responsiveness
- Applicable to: Interactive, Conversational
- Requirement (Basic): The System shall facilitate an inclusive dialogue between the Client and specialists, ensuring that all interactions are respectful, culturally sensitive, and client-centered. The System must also demonstrate the ability to respond effectively to the Client's support needs and feedback.

Element B.4.3: Domain Specificity Information

The System should clearly inform the Client about its domain specificity and the utility within that domain to set accurate expectations and effective usage.

- Requirement Type: Content
- Applicable to: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): The System shall inform the Client whether or not it is domain specific, with an explanation of its utility within that domain.

Element B.4.4: Access to Human Coach

Ensuring the Client has the option to engage with a human coach, the System should provide a mechanism for this interaction.

- Requirement Type: Functionality
- Applicable to: Interactive, Conversational
- Requirement (Basic): Basic instructions on finding a human coach
- Requirement (Advanced): The System shall provide a way for the Client to access a Coach via scheduling or on-demand.

Element B.4.5: Mental Health Risk Indicators

The System should actively search for potential indicators of mental health risks in clients, and communicate its limitations in handling such situations.

- Requirement Type: Functionality and Content
- Applicable to: Interactive, Conversational
- Requirement (Basic): The System shall warn that it is not meant for mental health, and provide information about how they can access help if needed.

- Requirement (Advanced): The System shall search for potential indicators of mental health risk from the Client. If indicators are identified, then the Application shall communicate the limits of its capabilities and the Service.

3.5.B.5: Co-Creating the Relationship: Maintains Presence

To ensure effective client engagement, a coaching system needs to be work towards ensuring the client remains focused with a sense of presence. This can be achieved by employing a style that is open, flexible, grounded, and confident.

Element B.5.1: Avoiding Deception Overview

To avoid confusion and any “uncanny valley” effect (Ciechanowski, et al., 2018), the AI coaching application should not be overly anthropomorphised, or presented in a deceptive or misleading way. The application should maintain a balance in its tone and presentation to ensure clarity and comfort for the client.

Element B.5.1.1: Clear Representation of AI Nature

The System shall explicitly indicate its artificial nature to the Client, avoiding any ambiguity about its non-human status.

- Requirement Type: Content & Action
- Applicable to: Interactive, Conversational
- Requirement (Basic): The System shall clearly state its AI-driven nature in its user interface and interactions.
- Requirement (Advanced): The System shall include periodic reminders of its artificial nature in ongoing interactions, ensuring continuous clarity and preventing misconceptions.

Element B.5.1.2: Tone and Presentation

The System’s tone and presentation shall be designed to be professional, straightforward, and devoid of excessive human-like attributes that could mislead or unsettle the Client.

- Requirement Type: Content, Actions
- Applicable to: Interactive, Conversational
- Requirement (Basic): The System shall employ a neutral and professional tone in its communications and interface design.
- Requirement (Advanced): The System shall incorporate feedback mechanisms to continuously evaluate and adjust its tone and presentation based on client preferences and feedback, ensuring comfort and clarity.

Element B.5.2: Client Input Review and Modification

The System should empower clients by allowing them to review and modify their inputs. This functionality respects the client’s autonomy and supports a more personalized and accurate coaching experience.

- Requirement Type: Functionality
- Applicable to: Interactive, Conversational
- Requirement (Basic): The System shall allow Clients to review and change their inputs.

Element B.5.3: Emotional State Assessments and Responses

Where allowed by law, regular assessment of the Client's emotional state is crucial for effective coaching. The System should have the capability to make these assessments and respond in a manner that is empathetic and appropriate to the Client's emotional needs.

- Requirement Type: Functionality
- Applicable to: Interactive, Conversational
- Requirement (Basic): The System shall make periodic assessments of the Client's emotional state and respond appropriately most of the time.
- Requirement (Advanced): The System shall use the emotion assessments to improve its ability to support client's goals in their Vygotsky zone of proximal development.

3.6.C.6 Communicating Effectively: Listens Actively

Active listening is critical in coaching to fully understand and support the client's self-expression. It involves not only hearing what the client is saying but also paying attention to what is not being said, to grasp the full context of the client's communication.

Element C.6.1: Responsive Interaction Based on Client Input

The Application must adapt its responses during interactions, taking into account previous inputs from the Client. This demonstrates active listening and a personalized coaching approach.

- Requirement Type: Functionality, Action
- Applicable to: Interactive, Conversational
- Requirement (Basic): During Interactions, the Application shall alter its responses based on prior Client inputs.
- Requirement (Advanced): Prior interactions change the AI system's coaching to adjust to the client's Vygotsky zone as it changes.

Element C.6.2: Explanatory Information for Questions

To aid understanding and clarity, the System should provide explanatory information for most of the questions it asks. This helps in ensuring the Client fully understands the context and purpose of the questions.

- Requirement Type: Content, Functionality
- Applicable to: Interactive, Conversational
- Requirement (Basic): The System shall provide explanatory information for most questions.
- Requirement (Advanced): The System shall provide or reference advanced developmental resources (e.g. training, mentoring, books, videos, journal articles, performance support tools) to compliment the coaching it is providing.

Element C.6.3: Regular Feedback to Client

Regular feedback is a crucial aspect of effective coaching. The Application should provide the Client with frequent feedback, aiding in their development and understanding of the coaching process.

- Requirement Type: Functionality & Action

- Applicable to: Interactive, Conversational
- Requirement (Basic): The Application shall provide the Client with regular feedback at defined periods.
- Requirement (Advanced): The Application shall provide proactive praise that is accurate, honest, and pleasantly surprising to the client to keep them motivated to practice, in addition to regular AI feedback when sensible given the client's goals.

3.7.C.7: Communicating Effectively: Evokes Awareness

Facilitating self-awareness in clients is a common coaching goal. A coach, whether human or an AI system, can evoke this awareness and facilitate client insight and learning through various tools and techniques such as powerful questioning, feedback, metaphor, or analogy.

Element C.7.1: Use of Diverse Questioning Techniques

In its interactions, the Application should employ a mix of open and closed questions, along with the use of metaphors, analogies, and strategic pauses to stimulate thinking and self-reflection in the Client.

- Requirement Type: Content & Action
- Applicable to: Interactive, Conversational
- Requirement (Basic): In Interactions with the Client, the Application shall use both open and closed questions, and metaphor, analogy, and/or pauses.
- Requirement (Advanced): AI system dynamically adjusts questions to each client's unique Vygotsky zone, as it changes, for optimal support.

Element C.7.2: Strategic Use of Metaphor, Silence, and Analogy

Using metaphor, silence, or analogy selectively can be powerful in coaching conversations. The Application should incorporate these elements appropriately to enhance client insight.

- Requirement Type: Behavior & Content
- Applicable to: Interactive, Conversational
- Requirement (Basic): In Interactions with the Client, the Application shall use metaphor, silence, or analogy some of the time.
- Requirement (Advanced): User can customize the AI's ontology, persona and/or example types in scope.

Element C.7.3: Directive and Nondirective Interaction Balance

The AI Application should provide a balance of directive and nondirective interactions, allowing the Client to explore their thoughts and feelings while also receiving guidance when necessary.

- Requirement Type: Functionality & Action
- Applicable to: Interactive, Conversational
- Requirement (Basic): The Application shall provide the Client with both directive and nondirective Interactions.

Element C.7.4: Offering Alternative Perspectives

Offering alternative perspectives is another aspect of effective coaching. The Application should have the functionality to present different viewpoints to the Client, aiding in broadening their understanding and awareness.

- Requirement Type: Functionality
- Applicable to: Interactive, Conversational
- Requirement (Basic): The Application shall offer the Client alternative perspectives.

3.8.D.8: Cultivating Learning and Growth: Facilitates Client Growth

Coaching is a collaborative process aimed at facilitating client growth by transforming insights and learning into actionable goals, while respecting and promoting client autonomy.

Element D.8.1: Goal Setting and Progress Monitoring

The Application shall empower the Client to set clear goals and track their progress, fostering a sense of achievement and direction.

- Requirement Type: Functionality
- Applicable to: Interactive, Conversational
- Requirement (Basic): The Application shall provide functionalities for goal setting and progress tracking.
- Requirement (Advanced): The Application shall integrate advanced goal tracking features, offering predictive insights and adaptive goal recommendations based on Client progress

Element D.8.2: Contextual Understanding through Client Sharing

For effective coaching, the Application must facilitate an environment where Clients can share personal insights, enabling the Application to better understand and respond to their unique context.

- Requirement Type: Functionality
- Applicable to: Interactive, Conversational
- Requirement (Basic): The Application shall include conversational features to gather and comprehend Client information for contextual assessment.
- Requirement (Advanced): The Application shall utilize language AI (e.g. Large Language Models (LLMs)) to derive deeper insights from Client conversations, enhancing contextual understanding.

Element D.8.3: Exploration of Adjusted or Alternative Goals

Clients often evolve in their thinking. The Application should accommodate this by allowing Clients to explore and redefine their goals.

- Requirement Type: Functionality
- Applicable to: Interactive, Conversational
- Requirement (Basic): The Application shall enable Clients to explore and set alternative goals.
- Requirement (Advanced): The Application shall employ intelligent algorithms to suggest personalized, alternative goals based on Client's evolving preferences and known achievements.

Element D.8.4: Validation of Goals

Ensuring goals are realistic and achievable is crucial. The Application should engage in validating the feasibility and challenge level of Client goals.

- Requirement Type: Action
- Applicable to: Interactive, Conversational
- Requirement (Basic): The Application shall assess and validate goal difficulty and feasibility, guiding Clients in creating SMART goals.
- Requirement (Advanced): The Application shall implement advanced analytics to provide a detailed assessment of goal difficulty and attainability, including potential obstacles and success probabilities.

Element D.8.5: Problem Clarification

Clarifying the Client's challenges is a fundamental step in coaching. The Application should actively assist in defining and understanding the Client's problems.

- Requirement Type: Action
- Applicable to: Interactive, Conversational
- Requirement (Basic): The Application shall aid in clarifying the Client's problem.
- Requirement (Advanced): The Application shall use advanced diagnostic tools to clarify, and, when more than one exist, to also prioritize Client problems based on their impact and urgency.

Element D.8.6: Generation of Alternative Solutions

The Application should foster creative thinking by enabling Clients to generate and consider various solutions to their challenges.

- Requirement Type: Functionality
- Applicable to: Interactive, Conversational
- Requirement (Basic): The Application shall facilitate the generation of alternative solutions by the Client.
- Requirement (Advanced): The Application shall incorporate creative problem-solving frameworks to enhance the quality and diversity of solutions generated by Clients.

Element D.8.7: Consideration of Solution Consequences

It is important for Clients to understand the potential outcomes of their chosen solutions. The Application should prompt such considerations.

- Requirement Type: Action
- Applicable to: Interactive, Conversational
- Requirement (Basic): The Application shall encourage Clients to contemplate the consequences of their solutions.
- Requirement (Advanced): The Application shall provide a sophisticated analysis of potential outcomes, including probabilistic and long-term impacts of the chosen solutions.

3.9.D.9: Cultivating Learning and Growth: Reinforces Client Growth

Effective AI coaching uses methods that reinforce and facilitate desired future behavior or outcomes, essential for sustained client growth.

Element D.9.1: Self-Assessment and Growth Tracking

The Application shall offer capabilities for the Client to conduct manual or automated self-assessments, enabling them to track their growth over time.

- Requirement Type: Functionality
- Applicable to: Data Processing, Interactive, Conversational
- Requirement (Basic): The Application shall provide functionalities for self-assessment and growth tracking.
- Requirement (Advanced): The Application shall include unobtrusive analytics for comprehensive growth tracking, offering insights and recommendations for further development.

Element D.9.2: Goal Commitment Notification

At the time of goal setting, the Application shall remind the Client of their prior commitments to work towards their goals, fostering a sense of accountability.

- Requirement Type: Action
- Applicable to: Interactive, Conversational
- Requirement (Basic): The Application shall notify Clients of their accountability during goal setting.
- Requirement (Advanced): The Application shall provide personalized motivational messages and strategies to maintain commitment to working toward goals.

Element D.9.3: Regular Practice Reminders

The Application shall regularly prompt the Client with reminders to encourage ongoing application and reflection, including providing reinforcement between coaching steps or sessions with a human coach.

- Requirement Type: Behavior
- Applicable to: Data Processing, Interactive, Conversational
- Requirement (Basic): The Application shall regularly prompt Clients with growth reminders.
- Requirement (Advanced): The Application shall customize these reminders based on Client progress and preferences, ensuring effective and timely reinforcement.

Element D.9.4: Insight to Action Prompting

The Application shall encourage Clients to identify actionable steps derived from their insights, aiding in the practical application of their learnings.

- Requirement Type: Action
- Applicable to: Data Processing, Interactive, Conversational
- Requirement (Basic): The Application shall prompt Clients to convert insights into actions.
- Requirement (Advanced): The Application shall use intelligent algorithms to suggest specific, actionable steps tailored to the Client's unique proficiency level.

Element D.9.5: Recognition of Client Progress

Celebrating progress is crucial in coaching. The Application should acknowledge and celebrate the Client's successes and milestones.

- Requirement Type: Functionality and Action
- Applicable to: Interactive, Conversational
- Requirement (Basic): The Application shall note and celebrate Client progress.
- Requirement (Advanced): The Application shall include an advanced recognition system that celebrates milestones in a personalized and engaging manner.

Element D.9.6: Evaluation of Client Achievements

Assessing and validating Client achievements is important for sustained growth. The Application should have capabilities to evaluate these milestones.

- Requirement Type: Functionality
- Applicable to: Data Processing, Interactive, Conversational
- Requirement (Basic): The Application shall evaluate some Client achievements.
- Requirement (Advanced): The Application shall implement a comprehensive measurement system to provide in-depth analysis and feedback on Client achievements, facilitating deeper understanding and learning.

3.10.E.10: Assurance and Testing: Coaching Reliability Measures

The use of metrics is crucial for expressing the reliability and expected behavior of the system, ensuring its efficacy and reliability.

Element E.10.1: Client Feedback Collection on System Efficacy

The Organization shall systematically gather feedback from Clients regarding the efficacy of the System.

- Requirement Type: Functionality & Validation
- Applicable to: Feedback-oriented, Evaluative
- Requirement (Basic): The Organization shall collect qualitative feedback on System efficacy.
- Requirement (Advanced): The Organization shall implement a comprehensive measurement system, including regular surveys and interactive feedback mechanisms, to gather in-depth insights on efficacy.

Element E.10.2: Validation of System Capabilities

The System shall only claim functionalities it possesses. The Organization must conduct Formal Studies to validate the System's claims about its capabilities and benefits.

- Requirement Type: Validation
- Applicable to: All 4: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): The Organization shall carry out basic validation studies for claims made by the System.

- Requirement (Advanced): The Organization shall conduct extensive, rigorous studies involving diverse client groups to validate and support the System's claims.

Element E.10.3: Accuracy and Bias Monitoring

The System shall continuously assess its accuracy, results, precision, and any biases in its application.

- Requirement Type: Functionality
- Applicable to: Data Processing, Interactive, Conversational
- Requirement (Basic): The System shall monitor basic performance metrics including accuracy and bias.
- Requirement (Advanced): The System shall employ advanced analytical tools to evaluate and minimize biases, ensuring precision and fairness in its operations.

Element E.10.4: System Testing with Diverse Clients

The Organization shall test the System with a diverse group of Clients, ensuring broad applicability and reliability.

- Requirement Type: Validation
- Applicable to: All 4: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): The Organization shall test the System with a sufficiently large and diverse group of Clients to ensure reasonable reliability.
- Requirement (Advanced): The Organization shall conduct extensive testing with a diverse and larger group of Clients to ensure reliability across different demographics and contexts.

Element E.10.5: Training Data Monitoring and Quality Tests

Regular monitoring and quality assessment of the training data used by the Application is essential for maintaining System integrity.

- Requirement Type: Functionality & Validation
- Applicable to: Data Processing, Interactive, Conversational
- Requirement (Basic): The System shall monitor and occasionally test the quality of its training data and rules.
- Requirement (Advanced): The System shall implement continuous and automated quality checks and updates to the training data, ensuring ongoing relevance and accuracy.

Element E.10.6: System Design Review by Coaching Experts

The design of the System shall be supervised and periodically reviewed by qualified coaching experts.

- Requirement Type: Validation
- Applicable to: Interactive, Conversational
- Requirement (Basic): The design shall be reviewed by at least one coaching expert.
- Requirement (Advanced): The design shall undergo regular reviews by a diverse panel of coaching experts, ensuring adherence to the latest industry standards and best practices.

Element E10.7: Client Context Understanding and Appropriate Responses

The Application shall demonstrate understanding of the Client's context and needs in its responses, ensuring they are never inappropriate.

- Requirement Type: Validation
- Applicable to: Interactive Conversational
- Requirement (Basic): The Application shall show basic understanding of Client context and avoid offensive replies.
- Requirement (Advanced): The Application shall employ advanced contextual algorithms to tailor responses to individual Client needs, ensuring high relevance and sensitivity.

3.11.E.11: Assurance and Testing: System Usability

In developing AI systems for human interaction, particularly on sensitive topics, adherence to ethical principles and AI codes of conduct is paramount, aligning with the ICF Code of Ethics.

Element E.11.1: User Experience and Technology Adoption Research

The Organization shall conduct research to understand how users experience the usability and technology adoption aspects of the System.

- Requirement Type: Validation
- Applicable to: All 4: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): The Organization shall perform basic usability studies.
- Requirement (Advanced): The Organization shall provide evidence of comprehensive, ongoing research incorporating a wide range of global user demographics to continuously improve usability and technology adoption.

Element E.11.2: Accessibility and Instructional Support

The primary functionalities of the Application shall be intuitive for Clients without prior instruction, with additional help available for further guidance.

- Requirement Type: Functionality, Content, & Validation
- Applicable to: All 4: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): The Application shall ensure basic functionality is easily accessible, and understandable (e.g. FAQ).
- Requirement (Advanced): The Application shall include advanced, interactive tutorials and help options, catering to varying levels of user proficiency.

Element E.11.3: Disclosure of Basic System Functionality

The System shall clearly disclose its basic functionalities in user-friendly language, understandable to individuals with a reading level of nine years of education or less.

- Requirement Type: Validation
- Applicable to: Interactive, Conversational
- Requirement (Basic): The System shall use clear, simple language for basic functionality disclosure.

- Requirement (Advanced): The System shall employ language optimization tools to ensure clarity and accessibility, including translations for non-native speakers.

Element E.11.4: Content Management by Language Experts

All content in the System shall be managed and curated by qualified Language Experts.

- Requirement Type: Validation
- Applicable to: Interactive, Conversational
- Requirement (Basic): Language Experts shall oversee content creation.
- Requirement (Advanced): The System shall involve a diverse panel of Language Experts for content management, ensuring linguistic accuracy, cultural sensitivity, and relevance across different regions.

Element E.11.5: Non-Discriminatory Content

All content within the System shall be non-discriminatory and inclusive.

- Requirement Type: Validation
- Applicable to: Data Processing, Interactive, Conversational
- Requirement (Basic): The System shall ensure content is non-discriminatory.
- Requirement (Advanced): The System shall implement advanced screening tools to detect and eliminate any biases or discriminatory language, ensuring inclusivity.

Element E.11.6: Platform Availability

The Application shall be accessible on at least one platform, ensuring basic user access.

- Requirement Type: Functionality
- Applicable to: All 4: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): The Application shall be available on one platform.
- Requirement (Advanced): The Application shall be optimized for multi-platform accessibility, including desktop, mobile, and other relevant platforms to maximize user reach.

3.12.F.12: Technical Factors: Security and Privacy

The protection of personal and sensitive client information is critical, necessitating robust privacy and security controls in the system.

Element F.12.1: Data Encryption for Storage and Transmission

The System shall implement encryption for all data during storage and transmission to ensure confidentiality and security.

- Requirement Type: Functionality
- Applicable to: All 4: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): The System shall use standard encryption protocols for data storage and transmission.

- Requirement (Advanced): The System shall use advanced encryption technologies, including end-to-end encryption and regularly updated security protocols to protect against emerging threats.

Element F.12.2: Secure Sign-On Process

Users shall access the Application through a secure authentication process to safeguard against unauthorized access.

- Requirement Type: Functionality
- Applicable to: All 4: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): The System shall require a standard secure sign-on process.
- Requirement (Advanced): The System shall integrate advanced user authentication methods, such as two-factor authentication or biometric verification, for enhanced security.

Element F.12.3: System Availability

The System shall be available to Users for the majority of the time, ensuring reliable access.

- Requirement Type: Validation
- Applicable to: All 4: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): The System shall ensure basic availability to Users most of the time.
- Requirement (Advanced): The System shall aim for near-continuous availability, employing advanced server management and failover strategies to minimize downtime and maintain consistent user access.

3.13.F.13: Technical Factors: Resilience and Accessibility Overview

In order to be useful, a system has to be accessible. Availability is the property of a system being ready to carry out a task when needed, such as a client trying to log in and access a Coaching Service.

Ensuring the system's accessibility and readiness to perform tasks, such as facilitating client log-in and access to coaching services, is vital for its effectiveness.

Element F.13.1: Data Management Disclosure to Clients

The System shall inform Clients about data management practices, specifically regarding security and confidentiality, before providing Coaching Services.

- Requirement Type: Content & Action
- Applicable to: All 4: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): The System shall provide basic information on data management practices to Clients.
- Requirement (Advanced): The System shall offer a detailed, easily understandable guide on data management practices, including security and confidentiality protocols, with examples and FAQs to enhance Client understanding and trust.

Element F13.2: Consent for Data Processing

The System shall obtain explicit consent from the Client for any data processing activities.

- Requirement Type: Action
- Applicable to: All 4: Scheduling, Data Processing, Interactive, Conversational
- Requirement (Basic): The System shall collect basic consent for data processing from the Client.
- Requirement (Advanced): The System shall implement an interactive consent process, clearly outlining the scope, purpose, and extent of data processing, and providing Clients with granular control over their data.

4. References

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