

Project description
for the discovery
phase

"The Forge"

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1. basic idea

The **Zukunftsschmiede** is an AI-supported learning and development platform specially designed for tax firms in German-speaking countries. The aim is to create a completely new learning experience that is both emotionally appealing and sets new standards in terms of didactics and technology.

At the center of the platform is the AI avatar **Coach Klaus** - an empathetic, emotionally intelligent companion who guides users through their individual learning journey. He not only takes on the classic tasks of a learning coach, but also acts as a:

- **Emotional driving force:** motivating, rousing, strengthening
- **narrative guide:** it introduces each module, reminds you of previous content and establishes connections
- **Reflective partner:** he picks up on past progress, helps with self-assessment and provides targeted support in the event of uncertainties
- **Reliable contact person:** capable of dialog, understands language (voice input) and not only responds to questions, but also acts proactively
- **Remembering coach:** instead of a rigid chatbot, Coach Klaus has memory and history skills - he builds relationships and "knows" his users

The entire learning environment is embedded in a **sports metaphor** - visually, linguistically and structurally. This is not used as a show, but serves to **convey values and attitudes** such as discipline, team spirit, training, fairness and growth. Terms such as *match day, league, points, badges* and *coaching* are deliberately chosen and used consistently.

The platform thus positions itself not only as a source of knowledge, but also as a continuous companion for cultural, professional and personal progress - emotional, professional and future-oriented.

2. technical details

The Forge of the Future's technical architecture is **developed** entirely **in-house** and consistently tailored to the specific requirements of the project. The aim is to create a platform that is not only functionally impressive, but also delivers an exceptional **user experience design** - visually, performatively and in terms of AI interaction. The solution is **unique** in this form **in the education and law firm sector**.

Hosting & Infrastructure

The platform follows a **two-part hosting concept** with a clear separation of functionalities and data protection requirements:

- **Hetzner (Germany/Europe)**
 - middleware
 - Platform architecture (frontend & backend)
 - Database for session memory (MongoDB)
 - All interactions with personal user data
 - GDPR & AI Act compliant
- **AWS Frankfurt (only for media processing)**
 - D-ID Avatar Rendering (video output)
 - ElevenLabs Text-to-Speech & Speech-to-Text
 - No storage of personal data, only temporary processing

Artificial intelligence

- **AI model:**
 - Only **Aleph Alpha (model variant: World)** is used
 - This model **cannot be replaced** and forms the strategic core of the coach
 - Main reasons: Quality of language, explainability, auditability, EU proximity, AI Act conformity
- **Prompt engine & AI control:**
 - Development of an own **prompt engine** for ongoing control, further development and evaluation of the AI dialogs
 - Complete control and customizability of all roles, functions and didactics
 - A **meaningful dashboard** is required that:
 - All user interactions with the AI Coach are logged in an auditable manner
 - Enables evaluations of response quality, interaction duration and behavior
 - Adaptive optimizations supported by the editorial team

Platform & Middleware

- **Platform:**
 - Completely self-developed solution (no standard LMS)
 - Design, architecture and UI/UX follow the vision of an emotionally tangible, ultra-modern learning world
 - Focus on wow effect for users, strong narrative guidance and immersive interaction
- **middleware:**
 - acts as the central "nervous system" of the platform
 - controls AI communication, timing, states, feedback cycles and role logic
 - Central requirements:
 - **Highest performance & minimum latency** in communication with Aleph Alpha
 - **High interface conformity** with third-party tools (e.g. Make.com, LMS editor, CRM)
 - Securing processes via a robust, traceable layer system

Security & Compliance

- Full implementation of **data protection by design & by default**
- **Encryption** of sensitive data at rest and in transit
- **Role and authorization system** with clear access levels (users, editors, admin)
- **Planned penetration test** by external security company before go-live
- **AI-Act-compliant logging & monitoring** of AI interactions

Interfaces & integrations

- Integration with **Make.com** to automate processes (e.g. feedback cycles, CRM triggers, reminders)
- Connection to **Pipedrive CRM** for client management, lead tracking and accompanying communication
- Future optional interfaces to **DATEV** (e.g. process data synchronization or digitization status)
- All interfaces are **REST-compliant**, documented and modularly expandable

Role model & data structure

Role model (extended):

- **Apprentices (law firm team)**
 - use the platform as participants
 - get access to match days, Coach Klaus, microlearnings, tactic checks, feedback cycles
- **Coach Klaus (AI avatar)**
 - Central communicative interface for motivation, reflection, explanation, process feedback
- **Editorial department**
 - Maintains content, further develops modules, adapts role behavior and dialog logic
 - Access to prompt engine, quality assurance and AI dashboard
- **Internal coaches / employees (e.g. client support, learning support)**
 - receive access to assigned law firms
 - can view learning status, progress, confidence scores and process feedback
 - carry out the **tactics check** with the law firms
 - No technical admin rights, only operational support
- **Administrator: Management (GF-only)**
 - has access to all platform levels
 - Can manage users and internal roles
 - Access to platform statistics, system status, audit dashboards

3. adaptive decision engine

The **Adaptive Decision Engine** is the emotionally intelligent heart of the future forge.

It enables dynamic, personalized learning control and orchestrates both the individual learning journey and the behavior of the AI coach, **Coach Klaus**. Its decisions are based on a combination of user behavior, interactions, evaluation results, confidence scores and stored context information from the session memory.

Core function 1: Adaptive learning path control

The engine continuously analyzes the user's learning performance, progress and interaction behavior and automatically adapts the structure of the learning journey:

- **High-flyers** receive
 - challenging additional tasks
 - in-depth reflection questions
 - Optional practical impulses to deepen your knowledge
- **Insecure or weakening users** receive:
 - targeted repetition or support sequences
 - Simplified explanation paths
 - structured feedback to strengthen self-efficacy and clarity
- **Individual reminders** are activated if learning steps are omitted or anomalies are registered (e.g. interruption, termination, unusually long processing times)

These decisions are context-sensitive - not generalized. The basis for this is:

- Results from exercises & interactions
- Confidence score (explained in point 4)
- History & cache from the session memory
- Evaluation of the **tactics check**, which records the firm's learning needs at the start of the game
- Error analyses (e.g. systematic misunderstandings vs. simple careless mistakes)

Core function 2: Managing the coach role

Coach Klaus does not act statically in the learning journey, but in a **customizable variety of roles** that are dynamically controlled by the Adaptive Decision Engine.

Possible roles include:

- **Motivating** (activating, encouraging, appreciative)
- **Compassionate** (encouraging, understanding, reassuring)
- **Driving** (goal-oriented, demanding, awakening)

- **Reflective** (questioning, explaining, understanding)

The decision as to which role Coach Klaus currently assumes is based on:

- Current confidence score (high, medium, low)
- Patterns of results and progress
- Mood signals from voice input or interactions
- Context information from past modules

Coach Klaus comes across as **human, dynamic and genuine** - not like a generic chatbot, but like a real coach with a feel for timing, tonality and needs.

Architecture and implementation details of the Adaptive Decision Engine

1. input and output structure of the engine

Typical inputs:

- user_id, kanzlei_id, modul_id
- conf_score, last_result, error_type
- session_memory_context, tactic_check_result, progress_state

Possible outputs:

- coach_role (e.g. motivating, reflective)
 - learning_path_modifier (e.g. activate repetition, unlock bonus)
 - reminder_trigger (type and time)
 - reason_trace (traceability in the audit dashboard)
-

2. fallback strategies for incomplete data

If entries are missing or inconsistent (e.g. missing confidence score, session memory empty):

- **Activate default behavior:**
 - Coach role = *motivating*
 - Default module path
 - No reminder trigger
- Fallback decisions are **documented** and logged in **the reason trace**.

3. controllability & rule changes by the editorial team

- Configurable rule matrix (e.g. via JSON / Rule Editor)
 - Editor can flexibly set threshold values and coach reactions, e.g:
 - CS < 0.6 → Coach = compassionate
 - CS > 0.9 → Activate additional task
 - Trigger repeated error → Explanation by Klaus
-

4. triggers for decisions (trigger points)

The ADE is specifically triggered by clearly defined system events:

- Module completion
 - Start of a new matchday
 - Evaluation of a tactics check
 - Inactivity recorded by the system (e.g. after 72 hours)
 - Certain speech signals in dialog ("I don't understand that", "That's too fast")
-

5. logging & explainability ("reason trace")

Every decision made by the engine is documented in a comprehensible manner.

Example:

json

Copy Edit

```
{  
  "event": "role_switch",  
  "from": "motivating",  
  "to": "reflective",  
  "trigger": "confidence_score_drop",  
  "reasoning": "CS of 0.8 → 0.5 after module 3, 2 incorrect answers, long response time",  
  "timestamp": "2025-06-20T12:34:56"  
}
```

This data is essential for:

- AI Act-compliant auditability
 - Comprehensibility for learners
 - Quality optimization & A/B testing
-

6 Outlook: Hybrid strategy for decision-making authority

At the start, the ADE **is rule-based**, with the option of further developing these rules using an ML model (e.g. decision trees or reinforcement learning). The engine remains auditable and explainable, but will become **dynamically adaptive** in the future through user interactions.

4. confidence score

The **Confidence Score** is an AI-generated measure of learners' **subjectively perceived confidence**. The aim is to recognize the emotional situation - in particular uncertainty, excessive demands or self-doubt - **automatically and without user input**. The score serves as an **empathic amplifier**, not as an evaluation or control mechanism.

Function & posture

- The Confidence Score is **not a filter** that blocks content or rates users.
 - Instead, it automatically recognizes **whether support or a challenge** is appropriate.
 - The AI is **never instructive or dismissive** - Coach Klaus is not a head teacher, but an empathetic companion who thinks and feels with you.
-

Calculation logic (automatic, middleware-controlled)

Dynamic score calculation based on weighted events:

Signal type	Examples	Weighting
Error behavior	Wrong answers, systematic errors in reasoning	high
Demand behavior	Frequency and type of queries	medium
Usage signals	Interruptions, repetitions, pauses	medium
Voice patterns (voice input)	Uncertainty formulations ("I'm not sure...")	high
Speed & reaction	Prolonged hesitation, frantic clicking	low

→ All factors are included in a score between **0% (very uncertain)** and **100% (maximum certainty)**.

→ The score is **updated continuously**, e.g. at the end of a module, after certain coach dialogs or for behavioral patterns.

Storage & history

- The score is saved **user-specifically for each module** in the **session memory**
- Histories are visible in the **trainer dashboard** and in the **admin dashboard**
- Learners themselves **do not** see the score **directly**, but experience its effect in the behavior of Coach Klaus

Integration & impact

With a low score:

- Coach Klaus becomes compassionate, explains more, offers repetitions
- Reminders are activated (e.g. for terminations)
- Complexity of content is reduced or increased where necessary

With a high score:

- Coach Klaus is **encouraging, demanding, dynamic**
- Unlocking bonus content or challenge tasks
- In-depth reflection impulses ("You seem very confident - do you want to apply your knowledge?")

This differentiation makes Coach Klaus **not only helpful in cases of uncertainty**, but also an **active driver of development with a high level of competence**.

Visualization & Dashboards

- Progression curves per user:in and law firm
 - Heatmaps for team atmosphere & individual development
 - Alert systems (e.g. permanently low score → Schedule learning support)
-

Unique didactic feature

The Confidence Score enables the AI **not only to impart knowledge, but also to demonstrate a genuine emotional presence** - through coordinated reactions to behavior, mood and situation. This form of empathic AI interaction is unique in the world and turns the Forge of the Future into a **learning environment with attitude, flair and impact**.

5. process Intelligent Engine

The **Process Intelligent Engine (PIE)** is the analysis and application system of the Zukunftsschmiede for the **evaluation and further development of real law firm processes**. It forms the central link between the knowledge acquired from the modules and its actual implementation in the day-to-day work of the law firm - an essential building block for sustainable practice transfer.

The engine can analyze both **freely described processes** (text or speech) and **uploaded documents** (e.g. PDFs, DOCX, scans) and returns a **qualitative evaluation as well as concrete suggestions for improvement** - individually, context-sensitive and didactically linked back.

Function & application logic

The PIE processes two types of input:

1. **Voice or text input** by users
 - e.g. spontaneous description of a current process
 - via voice input or text input within a match day
 2. **File uploads of process documents**
 - e.g. structured process descriptions, internal manuals, protocols
 - incl. pre-processing through text extraction (OCR, if necessary)
-

Semantic analysis with Aleph Alpha

The complete semantic analysis is performed by the **Aleph Alpha World model**. It recognizes content-related connections, logical sequences, role distributions, media transitions and semantic breaks - even with unstructured input.

The **prompt engine** structures the input in such a way that Aleph Alpha:

- the individual **process steps** identified
- Roles, media types, responsibilities extracted
- recognizes typical weaknesses or redundancies
- compares with the **knowledge learned from the modules**
- and **context-based recommendations** formulated

Semantic analysis is always carried out **on Hetzner servers in compliance with the GDPR** - no personal process data is stored or processed externally.

Two phases of the engine

Conceptually, the engine consists of two modules:

1. Analysis module

- recognizes, structures and abstracts the described process
- Goal: standardized internal JSON data structure

2. Assessment module

- compares the results with learning content, modules and best practices
- provides a qualitative assessment and targeted, module-based suggestions for improvement

Sample output (internal format):

json

CopyEdit

{

 "steps": [

 {"id": 1, "action": "print invoice", "actor": "employee", "medium": "paper"},

 {"id": 2, "action": "File invoice", "actor": "Employee", "medium": "Folder"}

],

 "issues": ["media discontinuity recognized", "lack of automation"],

 "recommendations": [

 "Use of a digital invoice run (see module 4)",

 "Introduction of structured responsibilities in the handover process"

],

 "evaluation": "optimizable",

 "confidence": 92

}

Integration with Coach Klaus

Coach Klaus is directly involved in the process evaluation:

- He actively asks for a description of the process ("Tell me how you are doing it right now...")
- He explains the evaluation in natural language
- It motivates concrete improvements
- It refers to suitable modules for in-depth study
- He can ask questions if information is missing

The collaboration doesn't feel technical, but **like a coaching conversation with real relevance.**

Role in the learning journey & as an add-on

- The PIE is fully integrated into the learning journey
 - e.g. as a reflection task at the end of a match day
 - for application review after central learning modules
- The engine **can also be booked as an optional add-on at any time**
 - for process reflection in everyday office life
 - for quality assurance of internal processes
 - for individual support during change processes

Visibility & dashboards

- Results flow into the **trainer dashboard**
 - The course of several processes of a law firm can be displayed
 - Coach Klaus accesses previous assessments in the dialog
 - Later, a **benchmark function** within the law firm is possible (no comparison between law firms)
-

Differentiation from classic tools

The PIE is **not a modeling or diagramming software**. It requires no knowledge of BPMN, no tools and no standardization.

Instead:

- she understands **free language and real practical logic**
 - evaluates contextually, not schematically
 - is fully linked to the **learning content and didactics of the Zukunftsschmiede**
 - works with an **empathic AI**, not with rigid evaluation rules
-

The Process Intelligent Engine is a tool that goes far beyond traditional analysis: **it combines learning with reality, dialog with depth and process understanding with concrete impact.**

6. didactic idea

The Zukunftsschmiede follows a consistently well thought-out blended learning approach that combines digital learning methods, adaptive AI support and realistic application to create a holistic learning journey.

The didactic goal is to address behavior, understanding and change simultaneously - not to impart isolated knowledge. The entire learning environment follows an intelligent interlocking of emotionality, structure and adaptivity.



Didactic foundation: 8 core principles

1. Learning Analytics

- Analysis of interaction, progress, uncertainties and behavior
- Basis for adaptive learning paths and AI-supported control

2. Social learning

- Exchange within the law firm teams (e.g. during the tactics check)
- Interactive community environment with comment function, peer feedback and best practice collections
- Regular community calls for collegial reflection, moderated by the Zukunftsschmiede team or external guests

3. Adaptive Learning

- Learning paths and tonality adapt dynamically to learning behavior and confidence score
- Controlled by Coach Klaus and the Adaptive Decision Engine

4. Gamification & storytelling

- Progress becomes visible through points, badges and motivating transitions
- Narrative framing by Coach Klaus and the learning journey of the Erxleben law firm

5. Learning in the flow of work

- Content is short, relevant and directly applicable to everyday law firm work
- Process Intelligent Engine ensures transfer to actual work processes

6. Learning Experience Design (LXD)

- The learning process is visually appealing, motivating and intuitively guided
- Design and user guidance aim for clarity, engagement and recognizability

7. Narrative didactics

- The entire learning journey is told along the fictitious, realistic Erxleben law firm

- Delivered as a "telenovela light" - with real roles, developmental steps and suspense
- Video sequences serve as emotional transitions and structure the modules narratively

8. Microlearning

- Each learning unit lasts approx. 5-10 minutes
 - A game day consists of several short, focused knowledge impulses
 - Microlearnings are modular, repeatable and geared towards specific actions
-

⌚ Structure & role logic

The Zukunftsschmiede consists of 12 modules, each module comprising 10 match days.

Learners are assigned to one of three leagues via the initial tactics check:

- █ Starting league - entry-level league with high development needs
- █ Taktgeberliga - Intermediate level with structural potential
- █ Playmaker league - Advanced law firms with exemplary character

The league allocation works:

- differentiating content and tasks
- Steering the coach role
- varying on repetition, consolidation and feedback strategies

It is not a ranking system, but a learning-oriented role logic for optimal support.

🏅 Sport as a central metaphor

The Zukunftsschmiede consciously uses the language and attitude of sport:

- Orientation through terms such as *match day, coach, league, tactics check*
- Teaching values such as discipline, team spirit, perseverance, attitude
- Structure and identification through recognizable sporting mechanisms
- Emotionalization not through show, but through meaning, clarity and belonging

7th platform details

7.1 General structure & technology stack

The platform of the Zukunftsschmiede is developed entirely in-house and tailored precisely to the specific requirements of the project. It consists of several highly integrated core components that together enable a unique learning experience:



Learning Management System (LMS)

The entire LMS is not a third-party module, but is designed as an individualized in-house development. It includes, among other things:

- Video-based learning units (integration of own formats + transition videos from the Erxleben law firm)
 - Live coaching functionalities with team interactions, possibly Zoom integration
 - Quiz formats with error classification (for use in the Confidence Score)
 - PIE integration: Users can submit their own processes and have them evaluated
 - Interaction modules such as:
 - Assignment formats
 - digital boards with pins, e.g. for reflection or brainstorming within game days
-



AI integration

The entire AI functionality is based on a modular connected system consisting of:

- Coach Klaus as central avatar
 - Speech via ElevenLabs (Text-to-Speech / Speech-to-Text)
 - Avatar visualization via D-ID
 - Adaptive Decision Engine, Confidence Score and Process Intelligent Engine
 - All interact dynamically with the LMS, user behavior and progress
 - Prompt engine for controlling, developing and monitoring AI responses
-

Front-end structure & content quantity

The platform comprises a complex and dynamically controlled interface with around 400 individual pages, divided into:

- 360 main pages:
 - 3 leagues × 12 modules × 10 match days
- Additionally:
 - Onboarding routes, overview pages, dashboards, community area, store, admin areas, etc.

The front-end technology (e.g. React, Next.js) is proposed and coordinated by Renesis Tech as the project progresses. The focus here is on performance, maintainability and interface capability.

Store & payment function

The platform includes a fully integrated online store for booking, among other things:

- Additional modules (e.g. PIE submissions)
- Add-ons (e.g. external coach, special analyses)
- Proof of further training, certificates or upgrades

The store must enable a fully automated payment connection (e.g. Stripe, PayPal) and access control to activated content.

Database

MongoDB is used as the central database - especially for:

- Session Memory
 - Progress data, score histories, tactics check results
 - Learning interactions & adaptive control logics
-

Multilingualism

For future multilingualism (e.g. DACH, EN, FR), DeepL API is connected as an automated translation instance.

 **Backend & Middleware**

The backend is developed entirely in-house and takes over the central control of all content, roles, modules and AI functions of the platform. It manages:

- **Learning paths, module activations and league assignments**
- **User roles including internal coaches and admins**
- **Access to session data, tactics check results and scores**
- **Control of the prompt engine and the AI-based coach logics**
- **Reporting and analysis functions for trainer and admin dashboards**

The middleware is the central nervous system of the platform. It takes over:

- **Session memory handling via MongoDB**
- **Interface communication with Aleph Alpha, D-ID, ElevenLabs and DeepL**
- **Performance optimization for real-time interactions with Coach Klaus**
- **Auditable logging functions for all AI dialogs (AI Act-compliant)**
- **Control of adaptive logics such as Confidence Score, ADE and PIE**

7.2 Hosting & infrastructure

The Forge of the Future's infrastructure follows a deliberately two-tier hosting concept in order to meet the highest requirements in terms of data protection and auditability as well as performance and AI functionality. It is operated entirely in Europe - with a clear separation between the core platform and AI/Avatar services.

◇ Hetzner (Germany / EU-DSGVO)

Hetzner takes over the hosting of all data protection-sensitive platform components:

- Middleware
- Backend logic incl. session control and user management
- LMS system with learning modules, playing fields, leagues and role control
- MongoDB-based session memory
- Admin and trainer dashboards incl. reporting & analytics
- Control logic for Prompt Engine, ADE, PIE and Confidence Score
- Online store and payment processing (except payment service provider API itself)

► Advantages: GDPR compliance, data center in Germany, high transparency, auditable environment for AI Act

◇ AWS Frankfurt (separate & targeted)

AWS Frankfurt is also used for highly specialized AI components - exclusively for compute-intensive AV elements:

- D-ID (video avatar rendering for Coach Klaus)
- ElevenLabs (Text-to-Speech / Speech-to-Text)
- Audio/video pre-processing for smooth voice interactions

► Advantages: GPU-optimized environment, German server region, enterprise SLA through existing D-ID package

Communication structure & separation

- The systems at AWS work decoupled, are connected via their own middleware and only process temporary, dialog-related content (no personal permanent logging).
 - All personal data remains with Hetzner.
 - AI prompts are orchestrated, classified and documented centrally via the middleware (Prompt Engine & Logging Layer).
 - An additional GDPR-compliant audit layer is planned for all Aleph Alpha API calls (see AI section).
-

Scaling & reliability

- Horizontal scaling of the platform is planned via containerization (e.g. Docker).
- Separation of staging/test environments and production instance
- Automated backups and monitoring tools are defined by Renesis.
- Optional: Setting up a redundancy cluster at Hetzner for failover

Simultaneous user load & content delivery

For the planned parallel access of many offices (e.g. for weekly match days), a technically clean load distribution is essential. The following measures are part of the infrastructure planning:

- Load distribution via load balancer (Hetzner Cloud Load Balancing or nginx-based)
- Containerization (Docker / Kubernetes optional) for horizontal scaling
- Optimization of video delivery via a European CDN (e.g. Bunny.net or Cloudflare CDN - GDPR-compliant configuration)
- Caching strategies for non-personalized page sections, e.g. start pages, league overviews
- High-performance processing of AI interactions via asynchronous response pipelines in the middleware

The actual dimensioning (e.g. max. simultaneous sessions, peak load planning) is tested in the technical MVP staging.

7.3 Roles and rights concept

The Zukunftsschmiede platform is based on a clearly defined, role-based authorization concept. The aim is to ensure transparency, controllability and data security - with a maximum focus on the respective user perspective.

1. law firm account (learner main user)

Each participating law firm receives a central account through which all learning progress, tasks and interactions are managed. The platform is designed for teamwork within the law firm, not for individuals.

Rights:

- Access to all booked modules & match days (according to league affiliation)
 - Continuous interaction with Coach Klaus, based on the saved session context (session memory)
 - Implementation of all learning formats: Videos, quizzes, interactions, PIE
 - Insight into own progress, successes, league development
 - Participation in community calls & forums
 - Submission of processes for the PIE assessment
 - Control of internal learning priorities via dashboard
-

2nd internal trainer (Zukunftsschmiede team)

This role is based internally and is used for accompanying learning analysis and office support.

Rights:

- Access to learning levels, ADE history, Confidence Score & PIE activities of individual law firms
- Analysis of performance in modules, leagues, tactics checks
- Implementation and evaluation of the tactics check for each law firm
- Feedback to law firms (e.g. on frequent errors or need for coaching)
- Possibility to place learning impulses or targeted recommendations
- No intervention in learning content or AI systems - purely observational & advisory

3. editorial office / content team

This role is responsible for content maintenance, updates and didactic development.

Rights:

- **Management of module content, learning formats and microlearnings**
 - **Maintaining and updating text, image and video content**
 - **Editing and correction of quiz questions, assignments, boards etc.**
 - **NO access to user or law firm data**
 - **NO access to AI prompts or technical logic**
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4. management (admin role)

This role retains complete control over the system on the operator side.

Rights:

- **Access to all evaluations, user statistics and system metrics**
 - **Insight into prompt engine, audit logs, ADE decisions and confidence development**
 - **Control of role assignments, booking status, payment and store functionalities**
 - **Control over league assignments, tactical logic and module distribution**
 - **Full access to middleware & technical configuration (via dev team)**
 - **Audit function for the traceability of AI decisions (AI Act)**
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5th AI dashboard (system role for prompt monitoring and model control)

This role is anchored on the technical system side and is used for the operational monitoring and further development of the AI backend.

Rights:

- **Monitoring of all AI response processes (prompt/response logging)**
- **Access to the Prompt Engine for ongoing optimization and auditing**
- **Interface to the session memory and the role behavior of Coach Klaus**
- **Control of the model connection (e.g. Aleph Alpha Logging Layer)**
- **Audit logging in accordance with the AI Act - fully traceable**

8. user journey

8.1 Getting started & onboarding - experience module and tactics check

Entry into the future forge does not begin digitally, but emotionally:

The experience module and the tactics check lay the foundation for the personalized learning journey - individual, activating and deeply anchored in the law firm context.

Step 1: Booking & Start

- **The law firm books the tactics check directly via the integrated online store.**
- **She is then immediately redirected to a start page on which an emotionally activating welcome video is shown.**
- **Directly below this is the integration of a digital calendar tool (e.g. Cal.com), which the law firm can use to book its individual appointments.**

Step 2: Appointment confirmation & preparation phase

- **After successfully booking an appointment, the law firm receives an automatic e-mail with:**
 - **Confirmation of appointment**
 - **Announcement of a first "training session" in preparation**
 - **Access to a questionnaire to be completed before the appointment**
- **This first training phase is used for reflection and provides the system (and trainer) with the first individual data points - visible in the trainer dashboard.**

Step 3: Initial contact with Coach Klaus

- **After the end of the preparation, Coach Klaus speaks for the first time in a short video:**
 - **Welcome and thanks**
 - **First emotional connection to the AI character**
 - **Activation and anticipation of the upcoming tactics check**

Step 4: Emotional impulse (7 days before the appointment)

- One week before the appointment, the law firm receives a physical package in the mail with a gimmick that gets them in the mood for the tactics check and further emotionalizes the experience.
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Step 5: Tactics check on site

- The tactics check takes place physically in the office with a trainer from Zukunftsschmiede.
- The coach is involved at the start of the tactics check via the coach interface (video message, greeting).
- The trainer then takes the lead through the survey - with the following components per module:
 - 5-10 structured questions
 - Standardized rating scale (1 = poor to 6 = very good)
 - Free field "Information for the coach" for personal assessment by the coach
- All data is stored in the session memory and forms a central basis for subsequent individualization by the Adaptive Decision Engine and Coach Klaus.

Step 6: Evaluation & league classification

- A visual evaluation of the tactics check is carried out at the end:
 - Animated dartboard per module as a symbolic representation of the results
 - League assignment per module (starting league, pace-setting league, playmaker league)
 - Coach Klaus moderates the results and gives motivating closing words

8.2 Procedure of a match day

A game day at the Zukunftsschmiede is not a linear learning unit, but a guided team experience based on reflection, interaction and emotional activation - embedded in a clear didactic architecture.

Learning together as a team

- The firm goes through the match day together as a team, not as individuals.
- Approximately two days of play are recommended per week, with a planned duration of 45-60 minutes each.
- There are no compulsory dates, but there are clear recommendations for the ideal learning rhythm.

Role of Coach Klaus

- Coach Klaus is not primarily a provider of knowledge, but an emotional and adaptive companion:
 - Welcomes the team at the beginning
 - Gives motivating impulses and activates willingness to learn
 - Reflects on past match days
 - Available in case of uncertainty or queries (voice-based)
 - Farewell at the end with an outlook
- In some modules, it is only included at the beginning and at the end, in others it appears depending on the situation - depending on the topic, requirements or user behavior.

Learning architecture: 5+ 1 phases

The content of each match day is structured according to a fixed didactic grid - with varying weighting depending on the module:

1. Attunement (intro by coach, context, activation)
 2. Knowledge impulse (e.g. video, narrative input, animated explanations)
 3. Processing (quizzes, assignments, reflection questions, interactions)
 4. Transfer application (e.g. PIE submission or practical reflection)
 5. Conclusion & motivation (incl. league feedback or mini-challenge)
+1: Resilience & regeneration (impulses for emotional strengthening and stress prevention - can be flexibly integrated per match day)  Learning formats & interactions
- The microlearnings are made up of different formats:
 - Videos (story elements, interviews, input)
 - Quiz formats with error detection
 - Interactive elements (e.g. digital boards with pins, assignments)
 - Reflection tasks & language interaction with Coach Klaus
 - Process work via PIE - individual and law firm-specific

Question contingent

- A predefined quota of questions is provided for each game day in order to clearly structure the scope and depth and to control the processing time.

8.3 Support from Coach Klaus in everyday life

Coach Klaus is not just a chatbot, but the emotional and motivational heart of the platform. He does not primarily support the law firms in terms of content, but provides orientation, activation and emotional stability in the learning process - empathetically, proactively and reminding.

Role and impact

- **Coach Klaus is always present - but never intrusive.**
He gets in touch specifically when it is beneficial to the learning process:
 - **at the start of a match day (welcome, context, activation)**
 - **to reflect on past match days (emotional & adaptive)**
 - **at the end of a match day (summary, league impulse, motivation)**
- **His communication is characterized by:**
 - **emotional intelligence**
 - **situational tonality (e.g. constructive in case of uncertainty, demanding in case of idleness)**
 - **continuous memory (via session memory)**

Communication formats

- **Voice-controlled (input and output): Coach Klaus can be spoken to and listened to**
- **Multimodal: integrated as animated avatar via D-ID with natural voice (ElevenLabs)**
- **Reactive & proactive: He can answer questions, but also give impulses himself - e.g:**
 - **Memories of the next match day**
 - **Motivating interjections during a strong performance**
 - **Hints for overlooked tasks**
 - **Feedback on progress, tactics check or league development**

Adaptive behavior via ADE and Confidence Score

- **Coach Klaus' reaction is fully controlled by the Adaptive Decision Engine (ADE) and the Confidence Score:**
 - **With high security → motivating, challenging**

- **In case of uncertainty → constructive, relieving**
- **In case of backlog or inactivity → activating, empathic**
- **Coach Klaus always remains supportive - he doesn't block content, doesn't devalue and never lectures.**

Context memory through session memory

- **Coach Klaus remembers:**
 - **past questions & topics**
 - **Strengths & weaknesses of the law firm**
 - **Feedback from the tactics check**
 - **Motivation phases & emotional reactions**
- **This creates a trusting, continuous relationship - Coach Klaus is not interchangeable, but a constant companion over many months.**

8.4 Community & social interaction

The Zukunftsschmiede is not only a platform for digital learning, but also a place for collective development, exchange at eye level and mutual inspiration. Learning does not take place in a quiet room - but in a community of committed law firms that want to develop together.

Exchange via the platform

- Each law firm has access to a community area that offers various interaction options:
 - Thematic discussion rooms
 - Comments on specific match days or issues
 - anonymous exchange formats (e.g. "How do you deal with...?")
 - Highlight walls for particularly creative solutions or learning progress
- Coach Klaus is also occasionally involved in the community area - e.g. with announcements, challenges or inspiring contributions.

Regular community calls

- Moderated live calls are held regularly (e.g. via Zoom or directly integrated into the platform):
 - Exchange on current topics of the match days
 - Presentation of good practice examples
 - Reflection on common learning hurdles
 - Q&A sessions with the editorial team or external guests
- These calls are voluntary, but are integrated into the learning journey and announced on the platform.

Peer learning & mutual impulses

- The platform specifically promotes peer learning - e.g. through:
 - Mini-Challenges
 - Rankings and comparisons (on an anonymized level)
 - playful tasks in which law firms learn from each other
- Particularly good or creative solutions from individual law firms can be highlighted on the platform and made visible to others as inspiration.

8.5 Closing, feedback and league change

Each day of play does not simply end - it is consciously completed, reflected upon and placed in the wider learning context. The focus is not on control, but on recognition, orientation and motivation. Coach Klaus also plays a central role here as a moderator, motivator and feedback provider.

Reflection and feedback

- **At the end of a match day, the learning progress is made visible:**
 - Short reflection questions for self-assessment and team assessment
 - Evaluation of quiz results & interactions, if applicable
 - Presentation of the current learning path
- Coach Klaus summarizes the match day sensitively and gives an outlook on the next steps.
He also refers to previous learning processes and any known weaknesses.

League development & visibility

- The results of the matchday are incorporated into the league logic (starting league, pace-setting league, playmaker league).
- The progress is displayed visually animated - e.g:
 - by score, progress bar or symbol animation
 - through "league tickers" similar to sports tables
 - through reward elements (e.g. badges, virtual trophies)
- A league change does not take place automatically, but is redetermined module by module on the basis of the tactics check. Nevertheless, it is made visible in the meantime where you currently stand.

Emotional final dramaturgy

- Special achievements or milestones (e.g. 10 match days completed, first PIE successfully submitted, high confidence level) are actively recognized.
- Coach Klaus expresses this in a motivating way - e.g. with:
 - personalized messages
 - Praise videos
 - Recommendations for additional challenges
- The aim is not only to provide feedback, but also to emotionally activate commitment for the next match day.

8.6 Learning module editing & update logic

The Zukunftsschmiede is not a static learning platform, but a living system that continues to develop, incorporates new content and is editorially managed.

Editorial control at content level is necessary for sustainable implementation - combined with clear technical requirements.

Editing & content maintenance

- The editorial work is carried out internally by Zukunftsschmiede and is the responsibility of an experienced didactics team (e.g. Sascha Erxleben & team).
- Content such as videos, texts, tasks and interactive elements are maintained centrally via an editorial backend.
- The editorial team can:
 - Update existing content per match day or module
 - Add new game days or modules
 - Individualize or activate content for individual law firms

Update strategy & version management

- All learning content should be able to be versioned - incl:
 - Publication date
 - History of changes
 - Roll-back function if required
- It is possible to schedule update times, e.g. for:
 - Turn of the year (tax law)
 - Series of topics (e.g. "Future law firm 2027")
 - New learning units or special editions

Selective rollout system

- Content can be activated for specific law firms - e.g:
 - New topics for "Playmaker League"
 - Exclusive add-ons for law firms with PIE booking
 - Bonus content on completion of training

- The visibility of content is regulated by central control - on the basis of:
 - League affiliation
 - Module completion
 - booked additional offers

8.7 Dealing with breaks, interruptions and returns

The Zukunftsschmiede is deliberately designed to remain effective even when used irregularly. Many law firms do not work in a linear fashion - vacations, waves of illness, workloads or team changes lead to breaks. Therefore, an adaptive re-entry logic is needed that does not punish interruptions, but accompanies them with empathy.

Flexible use without constraints

- There are no mandatory participation times or suspensions on match days.
- Progress is maintained even after a break of several weeks.
- Users can interrupt and rejoin at any time without losing any of the learning content.

Reminder & reactivation impulses

- After certain periods of inactivity (e.g. 7, 14, 30 days), Coach Klaus sends empathic reminders:
 - "I've missed you. Are you ready for the next match day?"
 - "Your team got off to a strong start - let's build on that!"
- These impulses are formulated according to the situation, are based on the previous level of learning and specifically address emotional attachment.

Re-entry with context

- When re-entering the firm:
 - a brief summary of progress to date
 - Notes on outstanding content
 - If necessary, a motivating coach impulse for the "comeback"
- The Confidence Score is not negatively affected by longer breaks - the focus is on the joy of learning, not assessment.

Trainer dashboard: Inactivity recognizable

- You can see this in the trainer dashboard:
 - Since when a law firm is inactive
 - whether match days were last completed or canceled
 - whether Coach Klaus has reacted automatically
- This allows trainers to act proactively without being controlling.

10. design & UX mission statement

The design of the Zukunftsschmiede is the central pillar of the entire project - not just a surface, but an emotional stage, didactic resonance chamber and storytelling engine. The aim is to create a completely unique, immersive world that has nothing in common with traditional learning platforms, Moodle templates or one-pager aesthetics.

Goal: "wow effect" with every entry

- The user should feel like they are part of a special game every time they log in - a journey that is visually, emotionally and dramaturgically captivating.
- The visuals are not based on educational tools, but on experience designs from gaming, sports broadcasts, tactical visualizations and high-quality motion design.
- The user interface is not rigid, but lively, animated and reactive - without being overloaded.

Visual metaphor: The world of sport

- The platform is designed entirely in the language of sport - from the tactics board to the league change, from the match day to the coaching zone.
- It's not about show, but about values, attitude and recognition:
 - Team spirit
 - Goal orientation
 - Tactics
 - Fairness
 - Development

Storytelling & dramaturgy

- The story of the Erxleben law firm runs like a red thread through the modules - as a telenovela light, integrated via videos, dialog scenes and impulses.
- Coach Klaus is not just an avatar, but an emotional anchor point who becomes part of the story graphically, mimically and vocally.
- The transitions between the learning phases are fluid, animated and embedded in the storytelling - no static click paths.

Stylistics & Interface

- The design world makes targeted use of the colors and shapes of the forge of the future:
 - Blue, Orange, Beige, Forest Green
 - Modern typography with strong reader guidance
 - minimalist icons, harmonious animations
- Graphic elements (e.g. pins, boards, playing fields, cups) are specially designed or generated - no stock graphics, no standard components.
- The surfaces appear "handmade", but digitally high-quality - aesthetic, structured and emotionally charged.

User experience & usability

- Despite the world of experience, the platform remains intuitive to use - even for less digital users.
- The information architecture follows clear patterns - e.g. match day → Entry → Learning phase → Transfer → Feedback → League.
- All content is responsive to end devices, barrier-free and with high usability in the team context (e.g. visibility of roles, progress, etc.)

The Zukunftsschmiede is not just a digital learning platform - it is an ambitious European flagship project in the field of AI-supported education. It combines the highest technical standards with a consistently human-centered design, clearly positioning itself as a pioneer in the European education market.

Vision & market position

The platform sees itself as a model project for a new generation of digital learning in SMEs.

It offers:

- **an empathetic learning journey supported by AI,**
- **an immersive user experience beyond classic LMS systems,**
- **and a didactic architecture that not only imparts knowledge, but also changes behavior.**

The aim is to be able to adapt the platform for other sectors and countries in a second step.

Partnerships & eligibility

The project is strategically positioned and is already supported by:

- **7 German tax consultant associations,**
- **the umbrella organization DStV,**
- **DATEV as a corporate partner,**
- **as well as various players in the area of SME promotion and education policy.**

Targeted communication as a socially relevant innovation project is an integral part of the market launch.

Data protection, security & regulation

The entire operation is GDPR-compliant on servers in the EU (Hetzner and AWS Frankfurt).

Further measures:

- **AI model exclusively Aleph Alpha (World) with maximum transparency and auditability**
- **Full compliance with the AI Act (role logic, transparency, traceability)**
- **Data anonymization & pseudonymization at database level**
- **No use of third-party services with US data processing outside AWS Frankfurt**

Scalability & white label option

The technical architecture is designed for scaling right from the start:

- Multi-client capable structure
- Technical basis for white label solutions (e.g. for associations, academies, larger law firm networks)
- Possibility of language adaptation (DeepL-API is prepared)
- Expansion with additional leagues, modules and match days possible without any problems

Data & evaluation (admin dashboard)

The complete evaluability of all platform activities is a prerequisite for operational management, performance monitoring and external billing.

The admin dashboard for management will therefore include the following functions:

- Unique views per video / interaction
- Module progress and drop-offs
- Matchday attendances & closing odds
- Use of Coach Klaus (incl. intensity of interaction)
- Insight into confidence scores and their progression
- Evaluations per law firm / trainer / module
- Filter by league, role, period, module
- Automated reports & export functions
- Click-based billing bases for external experts (e.g. video views)

This data forms the basis for internal quality assurance and external communication with funding partners, investors and multipliers.