ANURAG RANKJA
USER EXPERIENCE DESIGNER

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Enhancing UX through Expert Review & Key Heuristics

70% ▲

Repositioning the 'Join Session' CTA to a more prominent location is projected to improve its discoverability by ~70%, based on reduced navigation steps and improved visual hierarchy.

Legend

✔	Positive Aspects

17% ▼

By removing just 2 clicks from the class join flow, the improved design prevents ~500 unnecessary page loads per day, saving an estimated 0.5 kWh of server power daily and Eliminating one unnecessary page load per user reduces total server requests by an estimated ~17%.

9% ▼

Placing the 'Join Session' button directly beside the subject name can reduce the average session-joining time by ~9%, improving flow efficiency for returning users.

P3	Identified Problem
Major Problem ← P0 — P1 — P2 → Minor Problem	
	Recommendation

My role

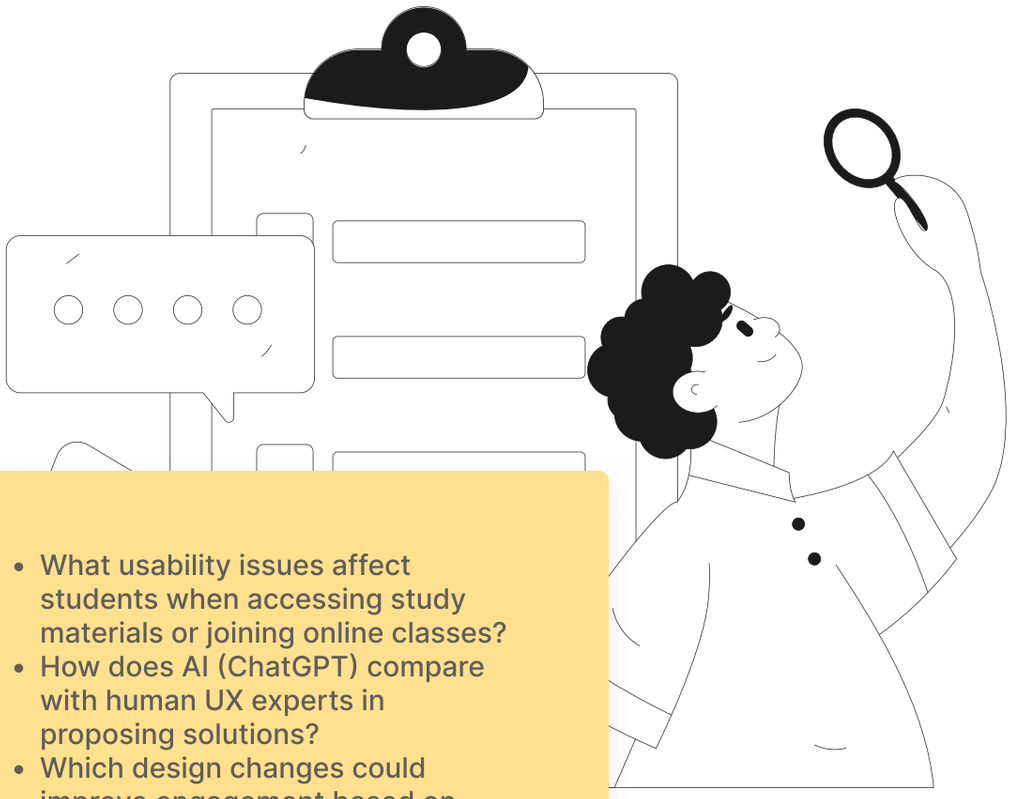
- I contributed as an Expert UX Evaluator and Data Synthesizer for enhancing UX for of the Blackboard Ultra platform.
- I conducted cognitive walkthroughs, identified heuristic violations, and rated severity using a weighted scoring system.
- I proposed user-centered design solutions tailored for international student needs.
- I also evaluated AI-generated responses, compared them with expert inputs, to form actionable UX improvements.

Project goal

This project focused on evaluating the usability of Blackboard Ultra, specifically the 'Course Content' and 'Class Session' interfaces used by PFH students. We analyzed user interactions using a combination of expert reviews, AI-supported solutions, and behavioral data insights.

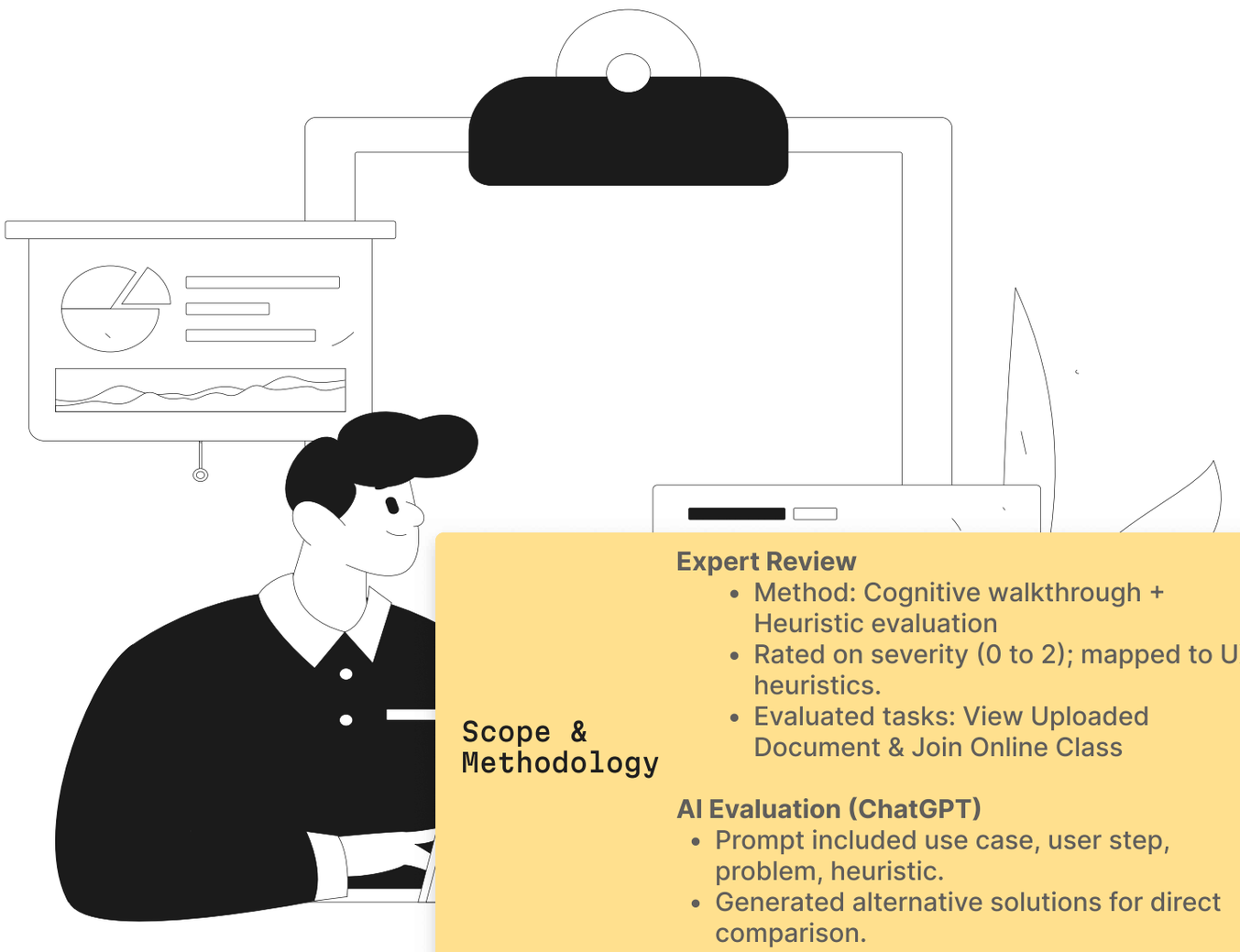
Constraints

No direct user testing, International students as the main users



Research Objectives & Questions

- What usability issues affect students when accessing study materials or joining online classes?
- How does AI (ChatGPT) compare with human UX experts in proposing solutions?
- Which design changes could improve engagement based on behavior data patterns?



Scope & Methodology

Expert Review

- Method: Cognitive walkthrough + Heuristic evaluation
- Rated on severity (0 to 2); mapped to UX heuristics.
- Evaluated tasks: View Uploaded Document & Join Online Class

AI Evaluation (ChatGPT)

- Prompt included use case, user step, problem, heuristic.
- Generated alternative solutions for direct comparison.

Persona

Anuka Shama

24 y/o Göttingen

Occupation

Full-time university student
Part-time working student

Education

BA Psychology
2nd semester UX program at PFH

Skill level

Technical	Moderated
Learning Style	Straightforward

Experience

University Systems	BBUltra, Outlook
Work tools	Figma, Adobe Suite
Digital	WhatsApp, Instagram

Favorite Way of Interactions

Notification	Through email
Platform reference	Mobile-friendly
Interactivity	Minimal cognitive load

Goals / Piorities

Short-term

- Open and download materials easily
- Prepare for exams and submit assignments on time
- Balance job and studies

Long-term

- Graduate with good grades
- Build professional skills through part-time work experience
- Become UX designer in the future

Strength

Adaptable, Tech Savvy, Self-confident, Curious, Empathic

Expert Review Findings

Use Case #1

Anuka wants to view a document for the 'Human-Computer Interaction' course uploaded by Professor. She received an email notification about the upload and needs to locate and view the document through the platform

🔎 Key Observations

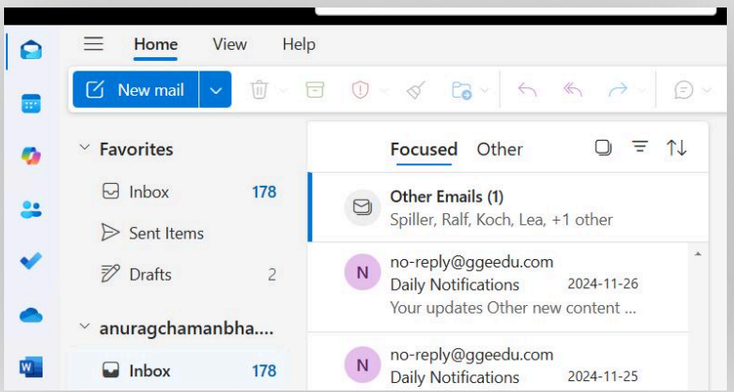
- Email Subject Line Lacks Context: “Daily Notification” doesn’t tell the user which course the email is about.
- Sender Identity Confusing: The sender name isn't human-friendly or clearly associated with the university or platform.
- Hidden Document Metadata: No clear indication of who uploaded the document or when.

🧠 Cognitive Barrier

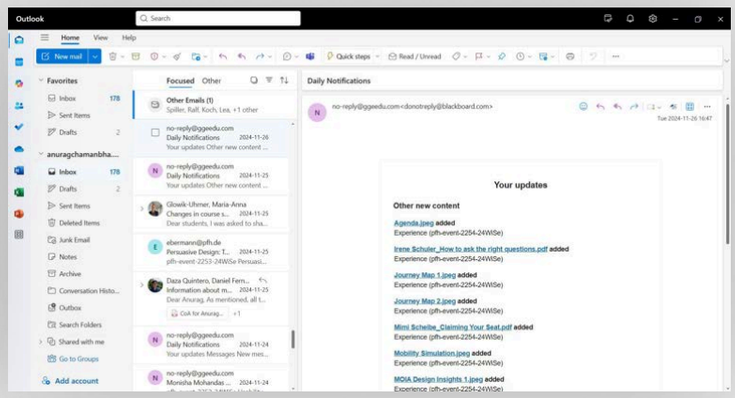
- International students unfamiliar with university systems or English-dominant environments were unable to understand vague system messages and missed important resources due to poor email clarity and login UX.

🚩 Heuristic Violations

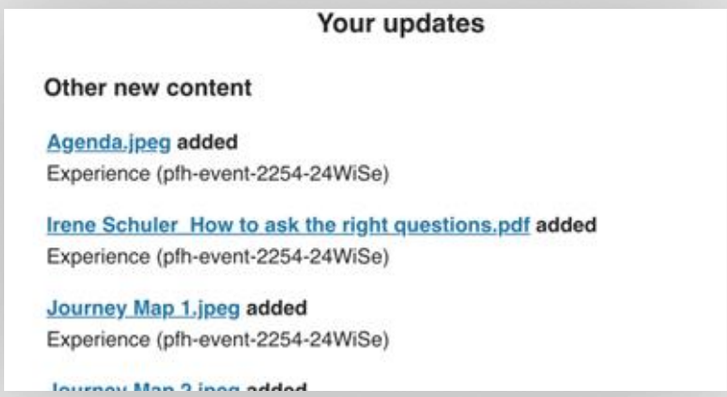
- Self-descriptiveness
- Conformity with user expectations
- User engagement & feedback



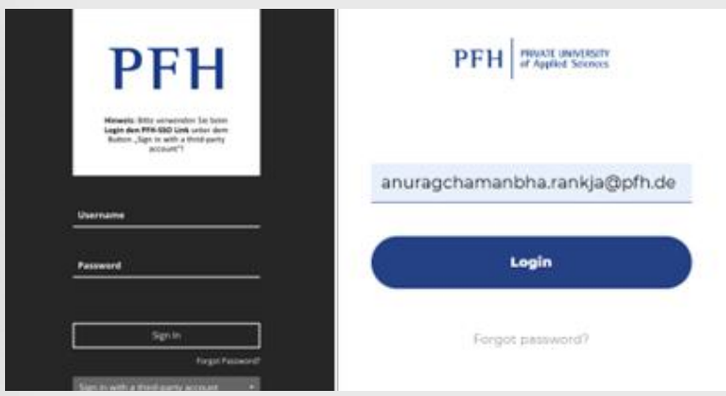
1. Receive notification
(Lack of course name & visibility)



2. Open the email
(Lack of course name, couldn’t enter the course)



3. Click the link button
(Document’s name not accurate, no upload person)

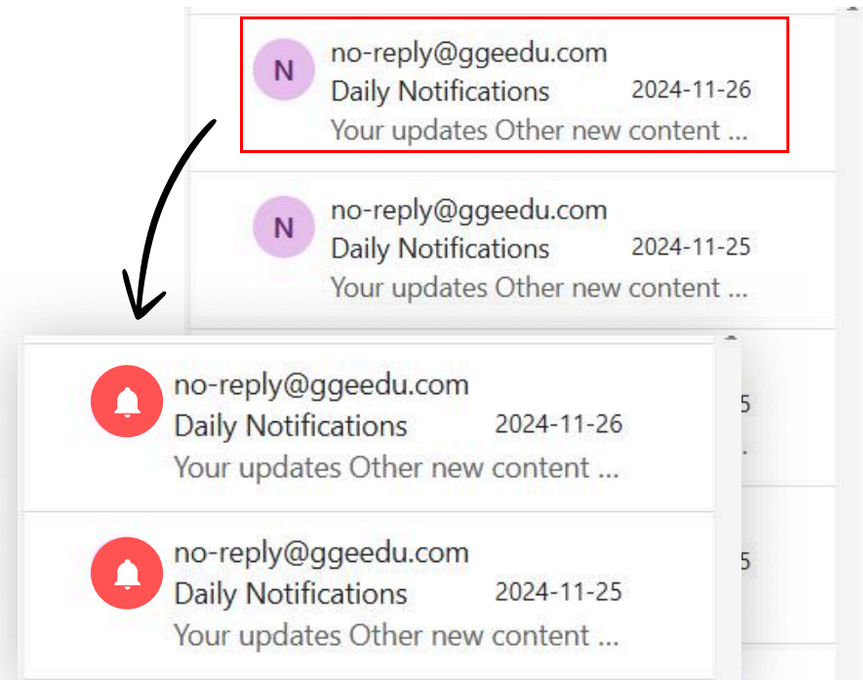


4. Log In
(Lack of course name & visibility)

5. View the Document
(Document's name not accurate)

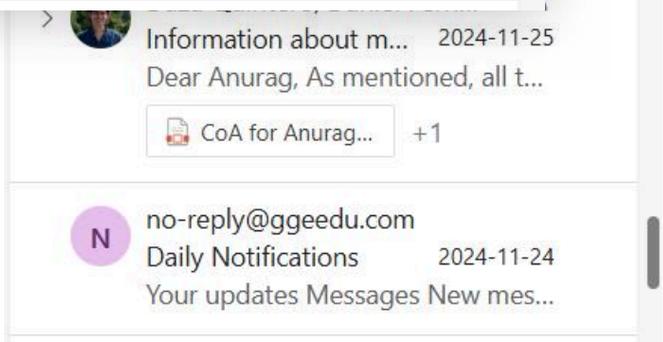
Recommendations

Use case 1 – Step 1: Receive Notification



✓	Positive Aspects
Real-time email update	

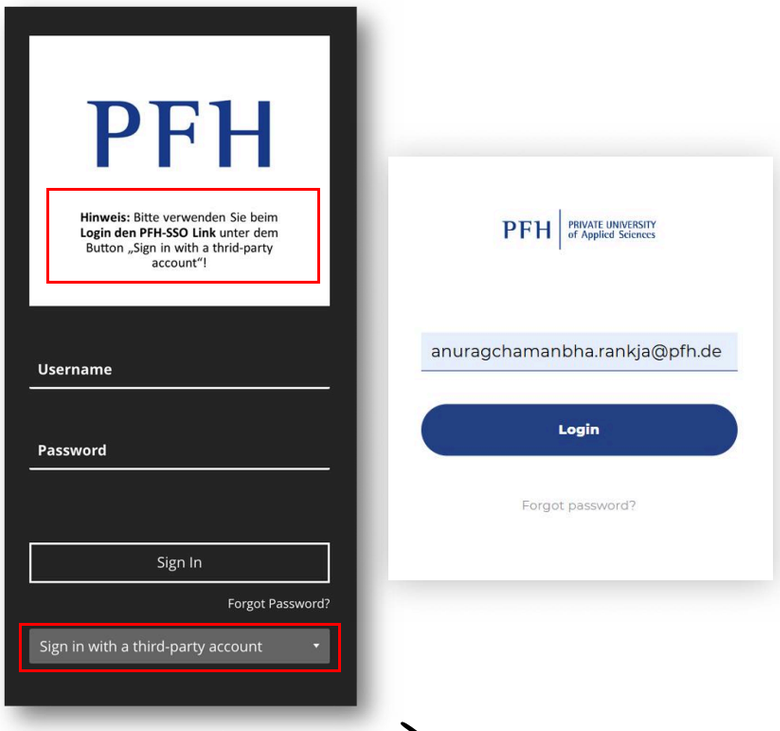
P2	Problem (Self-descriptiveness)
- The email's title doesn't clearly reference the course's name - The email lacks visibility in the inbox	

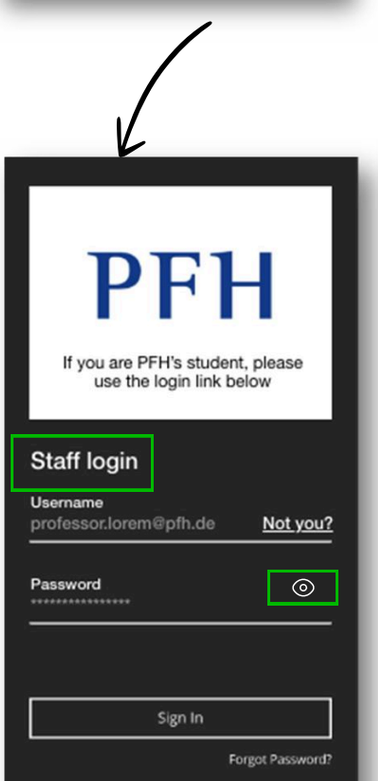


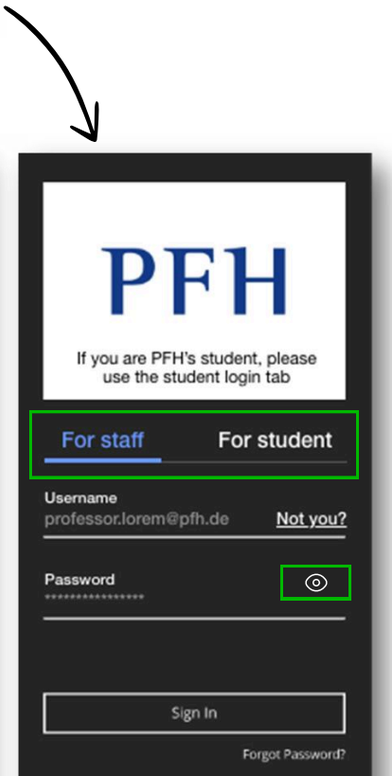
	Recommendation

- Use a precise and relevant email title
- Distinct 'New document' and 'New message' in the title of the email, instead of 'Daily notification'
- Show the person who uploaded
- Add more visible avatar for the sender
- Rename the sender's mail to be more friendly

Use case 1 – Step 4: Login







	Positive Aspects

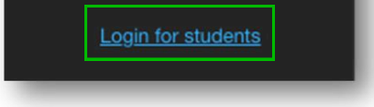
High security and have learnability

P2	Problem (Self-descriptiveness)

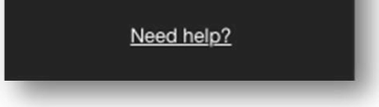
- The PFH-SSO login option is not clearly named or easy to locate.
- Instruction is in German
- Doesn't have see 'password button'
- Have to go through 2 login portals + authentication

	Recommendation

- Remove drop-down list
- Rewrite Ux for header & buttons
- Option for biometric login
- Button to see my own password
- Reduce 2 login pages → 1 login + authentication



Option 1: Link button



Option 2: Tab

Expert Review Findings

Use Case #2

Anuka is late for the "Digital UX" online class scheduled at 2:00 PM because her earlier project status meeting at her working student job, which began at 1:00 PM, extended beyond its expected duration by 20 minutes

🔎 Key Observations

- The "Join Session" button was hard to find; buried mid-page.
- No real-time indicator of active session.
- Users didn't know how long a session had already been running.
- Lack of clarity on whether the button had been clicked or the session had started.

🧠 Cognitive Barrier

- Students were unsure if a session was live, where to join, and whether they were late—resulting in confusion and missed classes.

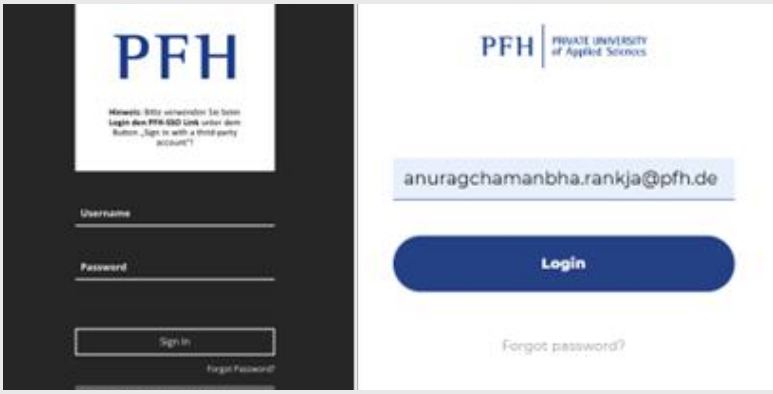
🚩 Heuristic Violations

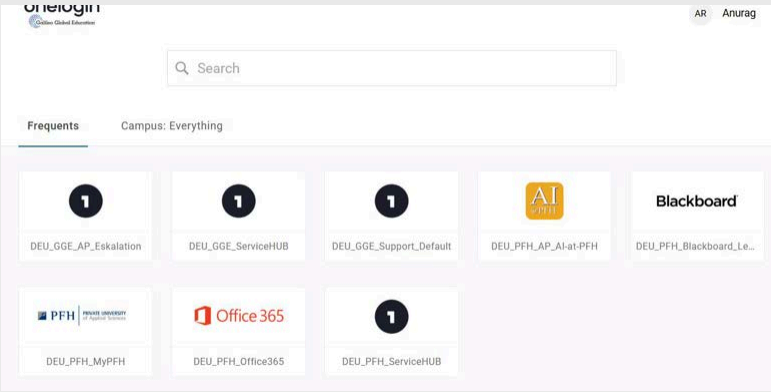
- Visibility of system status
- Match between system and real-world
- Self-descriptiveness

Dear, colleague I have to go early my lecture has already started

1. Meeting Overruns
(No notification of the class has started)

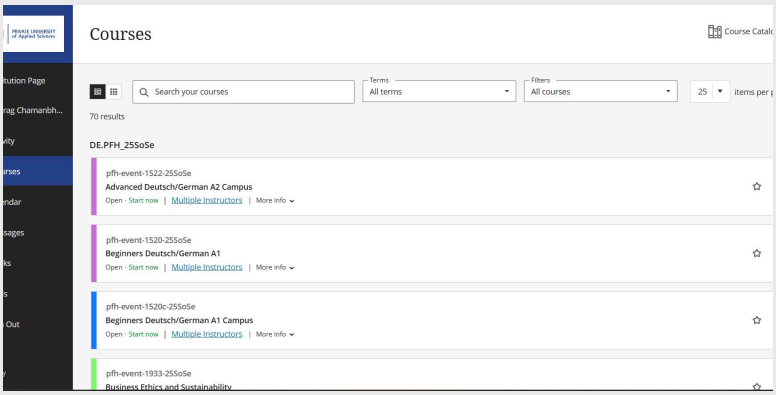
2. Decision to Prioritize
(Has to switch between devices)

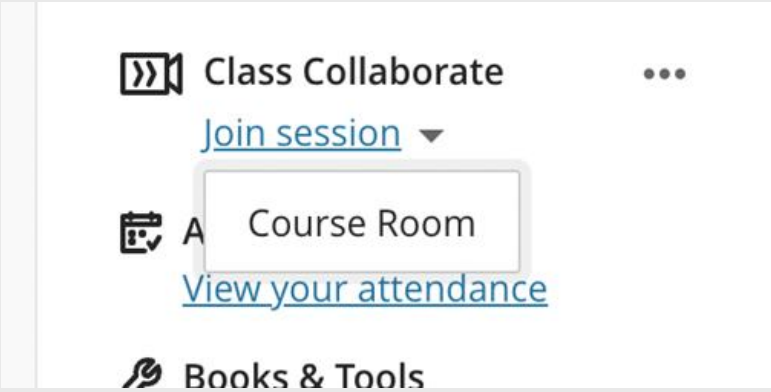




3. Log In
(2 logins, visibility of the button, only German instruction)

4. Choose Action To The BBU
(Cards are not named and clustered effectively)



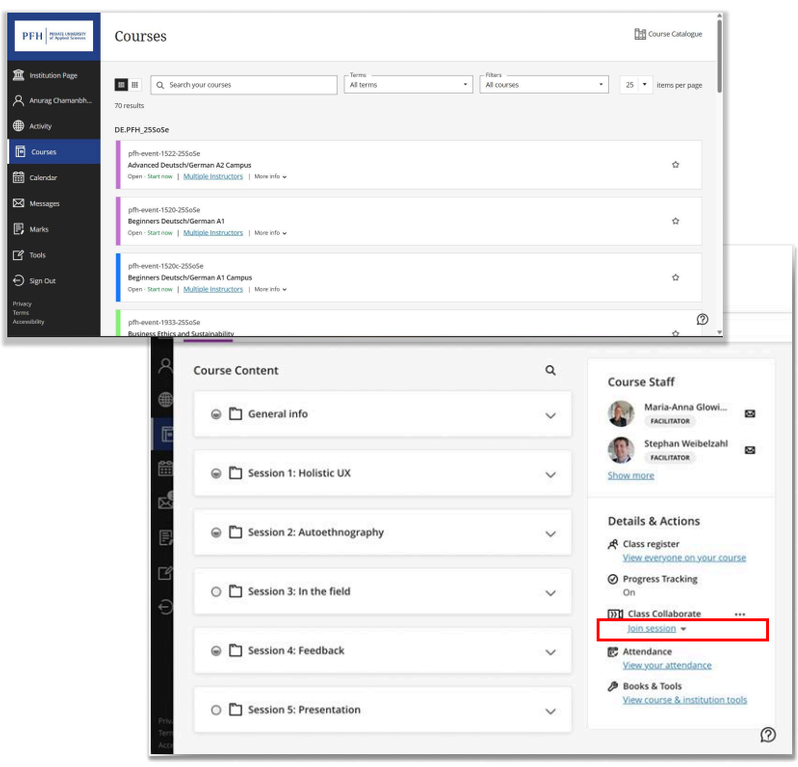


5. Navigate to the course
(Courses are not clustered and named effectively)

6. Join online session
(The 'Join session' button is not visible and lack of information for user)

Recommendations

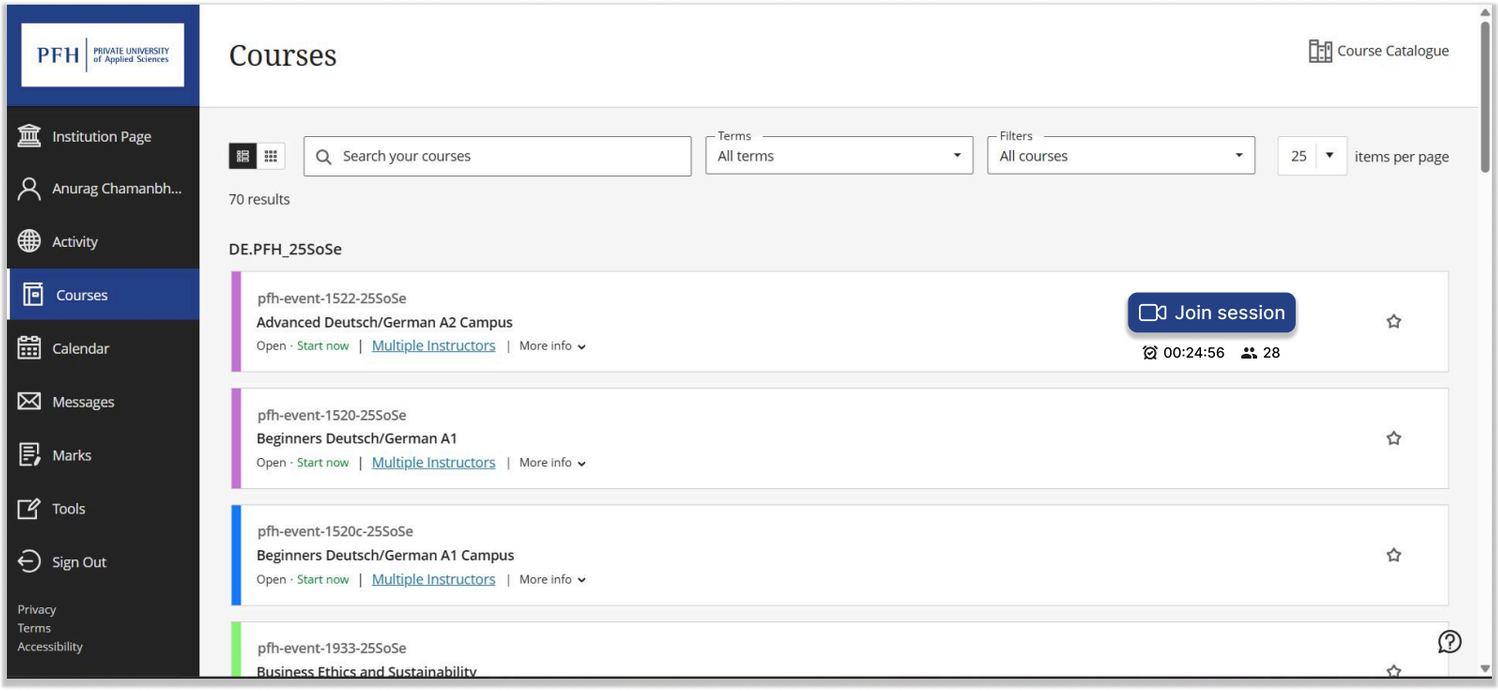
Use case 2 – Step 6: Join online session



✅	Positive Aspects
Have glowing effect for the online class	

P2	Problem (Self-descriptiveness)
- The button is not visible and outside of the view - Don't show how many people are in the class already - Don't show which course are having session - Many actions before can enter the session	

➡	Recommendation
- Place the "Join Session" button prominently at the top of the course page. - Show attending participant number - Add more visibility highlight the active session	



AI vs Expert Insights

AI Suggestions:

- Rename vague links (e.g., “Document123.pdf”) with explicit labels.
- Add session reminder integrations (e.g., via email or calendar).
- Provide breadcrumb-style navigation to return to course pages.

Comparison

Criteria	Expert Review	AI Evaluation
Context Awareness	High – specific to PFH & user base	Medium – general platform-agnostic advice
Innovation	High – biometric login, email clarity	High – automation and scalability ideas
Personalizationt	Strong understanding of user mindset	Lacks emotional/contextual depth

Summary

- This case study presents a “expert review” of the Blackboard platform, focusing on two core user journeys: viewing uploaded course documents and joining live online sessions. The analysis was conducted through expert reviews based on cognitive walkthroughs and heuristic principles, supported by AI-generated design suggestions and a framework for behavioral data integration.

- Key issues identified included poor visibility of login options, confusing terminology, and low discoverability of critical actions like joining sessions. ChatGPT was used to generate parallel design recommendations, which were compared against expert insights for alignment and feasibility.

My learnings

- **I learned that not all user steps should be removed**
  While reducing friction is a UX priority, I realized that certain steps—especially in login workflows—are necessary for security (e.g., multi-factor authentication). This helped me balance usability with system protection and data privacy.

- **I observed how inconsistent domain structures increase cognitive load**
  Navigating between platforms like *my.pfh.de* and *servicehub.pfh.de* created confusion. This experience deepened my understanding of context switching and how fragmented domains violate users' mental models.

- **I recognized the impact of poor UX writing on task clarity**
  Labels like “My Studies” were misleading, leading users to expect more than was delivered. This highlighted for me the importance of clear labeling, self-descriptiveness, and aligning system language with user expectations.

- **I noticed how hidden actions reduce discoverability and usability**
  Key actions, such as “Join Session,” were buried in the interface. This violated Fitts’s Law and reduced task efficiency, reinforcing for me the importance of button placement and visual hierarchy in digital product design.

- **I connected UX design decisions with system performance and sustainability**
  I hadn’t previously considered how excessive navigation and repeated logins increase server load and energy usage. This project made me aware that sustainable UX isn’t just about users—it’s also about optimizing system calls and infrastructure efficiency.

- **I understood the risk of product names not matching user mental models**
  The term “myPFH” suggests a unified platform, but students had to switch to Blackboard for course materials and sessions. Discussing this with peers showed me how branding and naming deeply affect navigation logic and trust in the system.

- **I realized UX affects both user behavior and technical system stability**
  Clear structure, consistent labeling, and simplified flows not only support user success but also enhance back-end performance and reduce unnecessary interactions. This reinforced my belief that good UX benefits both the human and machine sides of the system.