Al: Heuristic Evaluation

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Background & Top-Level Results

About this Research

Background

The product managers from the Adaptive Learn team originally wanted to obtain user feedback on several AI-related concepts that are launching at a conference (AI Assistant, Knowledge Check, and AI Personalized Learning). However, due to time constraints, this was not feasible. Instead, it was decided to conduct a rapid expert review and heuristic evaluation, followed by the creation of a report addressing key issues. The objective of this research is to highlight the tenets and traps the experiences are violating and to provide recommendations for improvements.

Research Questions

- 1. Which tenets and traps are being violated in the three experiences Knowledge Check, Al Assistant, and Al Personalized Learning Plans?
- 2. How do these traps impact the user experience?
- 3. What are the considerations and/or changes that should be made ahead of the product launch and beyond?

Method

 One researcher reviewed the Al concepts and conducted a heuristic evaluation using Tenets and Traps.

Other Relevant Research

What is a Heuristic Evaluation?

When prompted for a "definition of a heuristic evaluation" ChatGPT generated the following:

A heuristic evaluation is a usability inspection method where an expert(s) assesses a user interface based on established principles, known as heuristics. These heuristics serve as general guidelines or best practices for usability, allowing evaluators to identify potential usability issues in the design.

OpenAI. (2024). ChatGPT (40 mini)

The heuristics used for this evaluation are UT Tenets and Traps.

- Tenets describe general attributes of good interface design.
- Traps describe common design problems that degrade this goodness. Reduce Traps and the user experience improves.



Heuristic Evaluation Severity Scale

Sev 1	 This issue will <u>block</u> users from continuing or present a nearly impossible task as part of the core experience. These are core experience blockers and include: Participants cannot perform the core interactions such as changing the channels in a tv watching experience. Participant is unable to create a clip using a clip capture program.
Sev 2	This issue will prevent users from using a <u>key component</u> of the core experience or accomplishing an important task. These are component experience blockers and include: Participants having difficulty navigating the guide menu in a tv watching experience. Participants having difficulty editing a captured clip or sharing the clip with friends.
Sev 3	This issue will

Key Findings

- 1. The majority of Severity 1 issues will likely prevent users from performing essential actions, such as editing and saving their personalized learning plans, saving chat history in Al Assistant, and copying responses provided by Al Assistant.
- 2. Throughout Al Assistant, there are missed opportunities to clearly communicate its value proposition to users this includes: what Al Assistant is, how it can help them achieve their learning goals, and the unique benefits it offers compared to other resources. Strengthening this messaging could enhance user engagement and encourage users to fully utilize Al Assistant's features.
- 3. Several of the experiences in Al Assistant, Knowledge Check, and the Al Personalized Learning Plan are affected by the traps: Information Overload and Poor Grouping.

 Pages often present too many CTAs, where a single, focused CTA would be more effective. In cases with multiple CTAs, there's a lack of clear hierarchy, making it difficult for users to understand which action to prioritize.
- 4. A number of inconsistent appearances, inviting dead ends, and irreversible actions are present throughout the products, creating a choppy and fragmented user experience. These issues may require users to take extra steps to work around them, potentially leading to task abandonment and weakening trust in the brand.

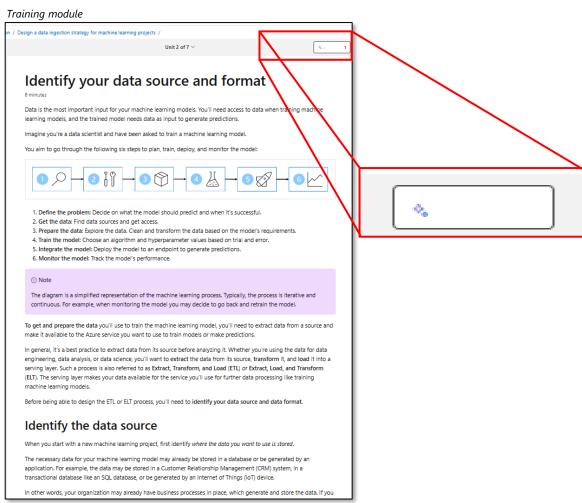
Detailed Findings: Al Assistant

Due to the abundance of content on the page, combined with the small size of the Al Assistant button, users might overlook it, which could result in missed learning opportunities

- Location and size of the Al Assistant button and font violates the Understandable tenet and the Effectively Invisible Element trap preventing users from interacting with the feature.
- The smaller font size of the Al Assistant button, compared to the module body text, may make it less noticeable and cause it to blend into the page.

Considerations

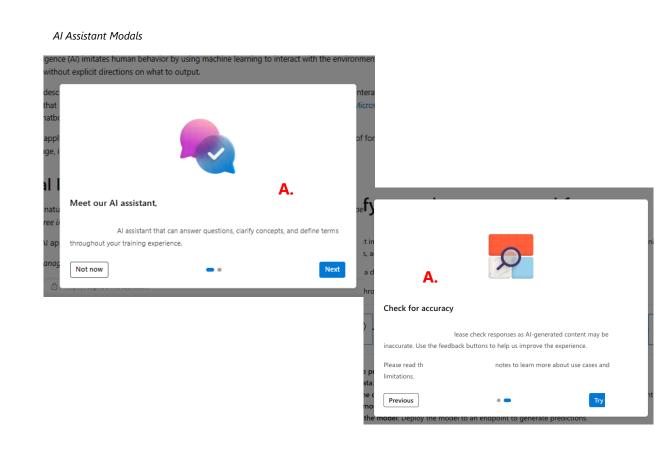
 Consider exploring designs that enhance the button's visibility and size, making it easier for users to notice despite the amount of content on the page.



The AI Assistant modals do not effectively convey a compelling value proposition that explains why users should engage with this feature or how it enhances their overall experience

- The modals [A] introducing users to Al Assistant lack a clear value proposition, failing to fully convey what it is, how it relates to creating or generating personalized learning plans, and the benefits of using it. This issue violates Understandable tenet and Uncomprehended Elements trap.
- This lack of a value proposition and the confusion surrounding Al Assistant have been consistently documented in prior studies.
- In these studies, users have expressed a desire for a dedicated Al splash page or a guided tour, along with more comprehensive content and information

- Consider incorporating a value proposition that explains how Al Assistant adds value to the user experience.
- Consider conducting research to identify the most effective ways to communicate the value proposition, such as through ToolTips, brief text, a tour, or other methods.



The AI Assistant icon is not consistently branded in the modals, which could make it difficult for users to remember and locate this feature in the future

- Failing to use the sparkle icon in the modals to help users associate it with AI Assistant AI violates the Habituating principle and falls into the Inconsistent Appearance trap.
- This inconsistent usage also violates the Understandable tenet and triggers the Memory Challenge trap. Without regular use of the icon, the AI Assistant brand may become harder for users to recall, potentially impacting customer retention.
- In the previous research, users reported needing strong value propositions and/or branding that introduces Al Assistant along with the sparkle icon to ensure understanding of new phrasing, terminology, and icons.

- Consider adding the sparkle icon to the modals to maintain consistency and help users recognize its meaning without having to recall it each time they encounter it.
- Repeat: Consider incorporating a value proposition that explains how Al Assistant adds value to the user experience.

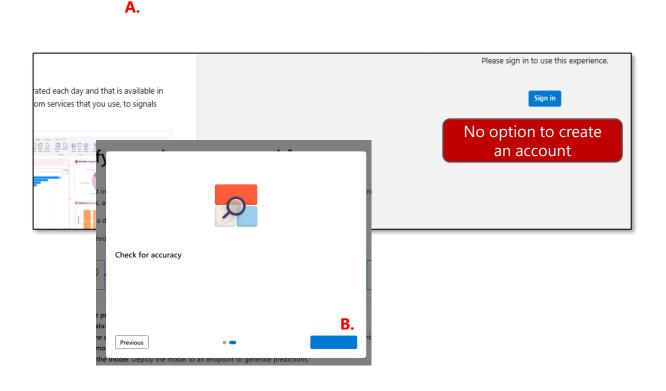
The AI Assistant sidecar does not include an option to create an account, which can prevent users who have not set up an account from accessing and using the AI Assistant feature

Al Assistant Prompt Sidecar

- The lack of an option to create an account violates the Understandable tenet and triggers the Inviting Dead End and Invisible Element traps as clicking on AI Assistant [A] or Try AI Assistant [B] from the modal appears promising but may leave users confused and frustrated as it is not clear if new users are supported or how they should start.
- The inability to create an account directly violates the Efficient tenet and falls into the Unnecessary Step trap, as users must find an alternative way to create a account, potentially taking them away from the page. This could result in task abandonment or reduced engagement with the feature.

Considerations

• Consider adding an account creation option for users.

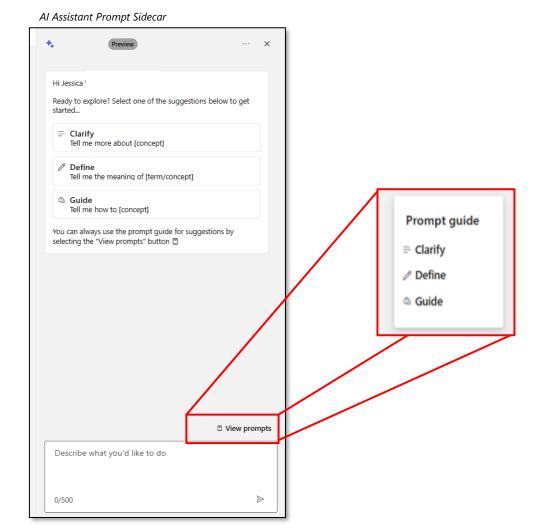


The prompt guide repeats the AI Assistant suggestions, potentially causing users to spend unnecessary time and effort distinguishing between the two menus

• The duplication of the two Al Assistant menu prompts violates the Habituating tenet and falls into the Gratuitous Redundancy trap, potentially frustrating users as they must determine whether the two menu items perform different actions.

Considerations

• Consider removing one of these menus to make it easier for users to engage with.



Conflicting instructions—such as directing users to select a prompt while also asking them to describe an action—can create uncertainty about how the product functions

- The different instructions violates the Understandable tenet and Uncomprehended Elements and Forced syntax traps as not only are the directions confusing, but it also might be forcing users to do things in a way that isn't natural to them or match their mental models.
- Users may not be aware that they can formulate their own inquiries without relying on prompts. This lack of awareness might lead to reduced interaction with AI Assistant if they don't realize they can generate their own unique questions.

- Consider revising the instructions to clearly explain to users how they can utilize AI Assistant.
- Consider conducting research to explore how users prefer to engage with Al. For example, do they prefer to use prompts initially or create their own inquiries first, followed by prompts?



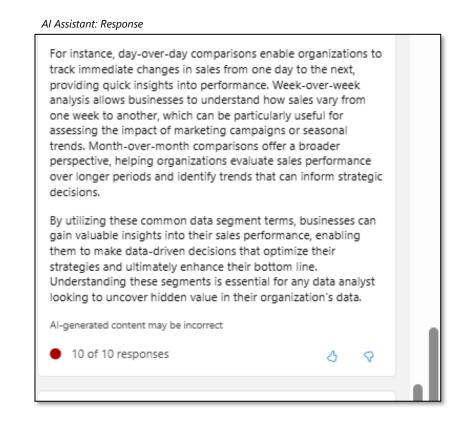
FINDING 7: Sev 3

The AI Assistant responses do not have a copy button/function which may lead users to abandon the site in favor of other AI products that offer this feature

- The lack of a copy button/function to easily copy a response violates the Understandable tenet and triggers the Invisible element trap causing user frustration as they may expect this feature to be available to them.
- The absence of a copy function violates the Efficient tenet and triggers the Unnecessary Step trap, requiring users to resort to workarounds like manually highlighting and copying the text.

Considerations

 Consider adding a copy button/function for responses, similar to what other Als offers.



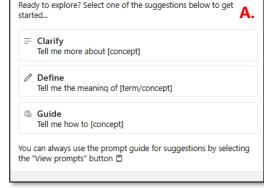
When a user clicks the AI Assistant button, the directions to 'Select one of the suggestions' still doesn't clearly explain what AI Assistant is or why it adds value to a user's experience

- The lack of meaning or value proposition for Al Assistant violates the Understandable tenet and Uncomprehended Elements trap.
- Again, the absence of a clear value proposition [A] and the confusion surrounding Al Assistant have been consistently documented in prior studies.
- In the Adaptive Learning research, a near term recommendation was to "Create value proposition content and surface it early in the workflow."

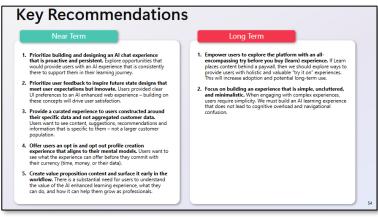
Considerations

• Consider adding a value proposition to teach users what Al Assistant is and how it can help them grow.

Al Assistant Prompt Sidecar Ready to explore? Select one of the sugg



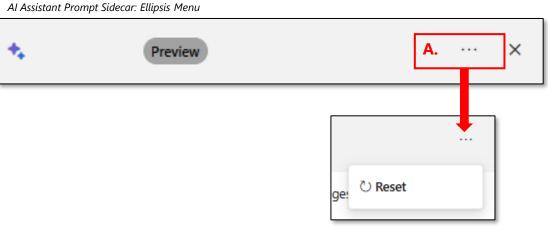
Adaptive Learning: Hybrid Discovery



Users have no easily visible way to reset their inquiries, which may cause user frustration and lead to task abandonment

- The location and size of the ellipsis menu [A] violates the Understandable tenet and the Effectively Invisible Element trap as users may struggle to see / find this menu.
- If users are unable to find the menu, this issue also violates the Forgiving tenet and the Irreversible Action trap as users may feel there is no option to undo or reset their queries within the dialog box.

- Consider creating designs to enlarge the ellipsis menu to help users navigate to it more quickly.
- Consider exploring designs to move the reset option out of the ellipsis menu and make it visible directly within the dialog box.

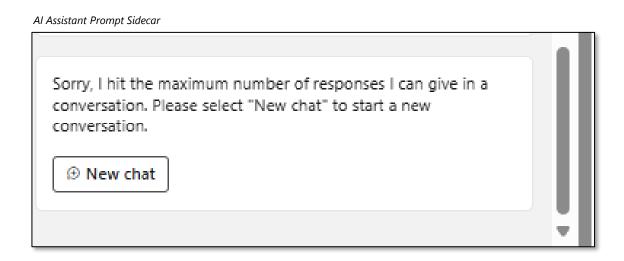


When a user reaches 10 turns and starts a 'New chat,' previous chats disappear with no way to retrieve them, potentially causing dissatisfaction and reluctance to continue using the feature

- The inability to see view previous chats or have a way to save them violates the Forgiving tenet and triggers the Irreversible Action trap.
- Without being able to save their chats, it causes users to repeat their work which violates the Efficiency tenet and Unnecessary steps trap.
- This lack of retrieval also violates the Protective tenet, and the users fall into the Data Loss trap as their previous chats simply disappear. This may lead to negative emotions, poor brand image, or task abandonment
- Recently users in a previous study expressed wanting to learn from their past engagements and be able to view this history in an easy to find location.

Considerations

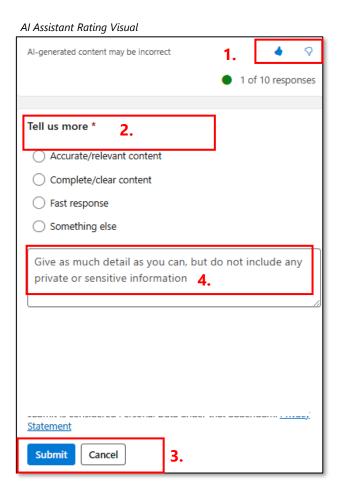
• Consider enabling users to save their chat history or have the system automatically save it for later retrieval.



The additional steps after clicking thumbs up or down may discourage users from giving feedback, as it could feel excessive for those who want to provide quick input and move on

- The multiple steps [1, 2, 3, 4] to submit feedback may feel excessive for users wanting to give quick input. This conflicts with the Efficient tenet, falling into the Unnecessary Steps trap, which, while not preventing feedback, could be time-consuming and lead to task abandonment.
- The steps after clicking thumbs up/down are inconsistent across the site. In the Q&A forum, one vote suffices, while in Q&A documentation, more steps are needed. This inconsistency may confuse users expecting uniform voting throughout the platform, violating the Habituating tenet and triggering the Inconsistent Appearance trap.
- All of the additional text and information provided takes a long time to read through for users who may only want to give a thumbs-up or down rating [5]. This violates the Efficient tenet and Information Overload trap.

- If detailed feedback is needed, consider replacing the thumbs up/down with a label like 'Provide Feedback' to indicate a more involved process.
- If detailed feedback isn't necessary, consider using only a thumbs up/down rating with an optional 'Tell Us More' option.
- Consider making all thumbs up/down voting consistent across platforms.
- Consider collaborating with design to visually condense the text, using options like a dropdown or additional link.

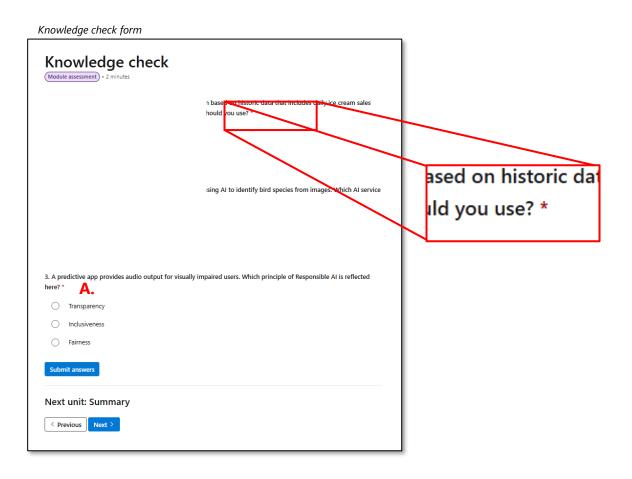


Detailed Findings: Knowledge Check

The asterisk next to each question may confuse users, as it usually indicates a required response in most UIs, yet users can skip the unit, making the asterisk meaningless

 While the asterisks [A] do not prevent users from completing the Knowledge Check, they violate the Habituating tenet and trigger the Inconsistent Appearance trap. Users expect to answer each question marked with an asterisk, possibly creating confusion when this isn't required.

- If these questions are required for the system to work, do not allow users to proceed until answers are provided.
- If the questions are not required, consider removing the asterisks from the Knowledge Checks to alleviate any user confusion.

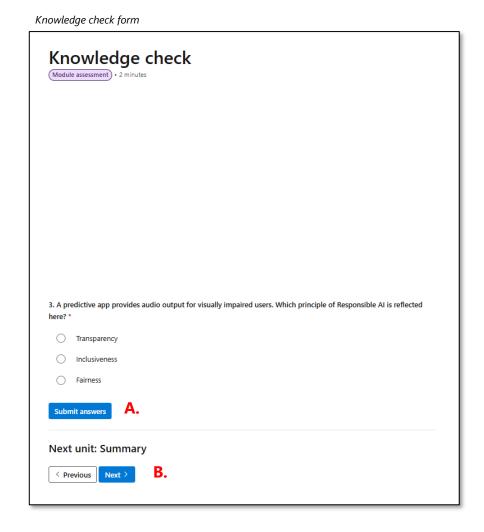


The main goal of this page is for users to submit their answer, but two CTA buttons could result in confusion and decision paralysis as users may struggle to decide what to do first

- Having multiple buttons[A] [B] on this page when only one is needed violates several tenets and traps. The core issue is the Poor Groupings trap (Understandable tenet); placing two blue buttons close together can make it challenging for users, particularly those with limited visual acuity or on mobile devices, to select the correct option.
- Additional traps include Unnecessary Steps (Efficient tenet) and Distractions (Understandable tenet). Having two options instead of one can distract users, and the 'Next' button is unnecessary since the primary goal is simply to submit answers.

Considerations

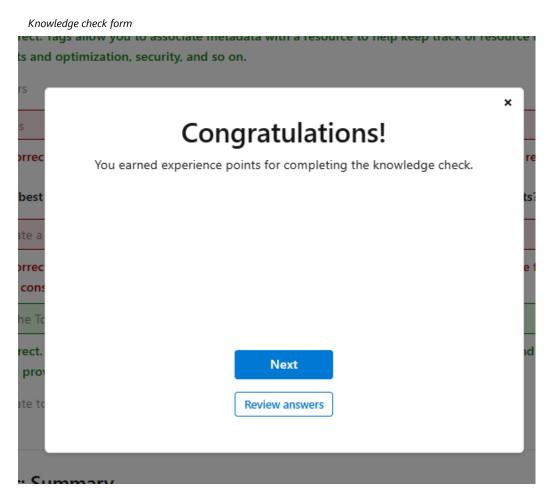
• Consider moving the 'Next Unit: Summary' button to the following page, allowing users to focus solely on submitting their answers.



Earning points for completing a 'knowledge check', even without answering all questions correctly, could make the platform's standards seem lower and potentially harm its reputation

- While This screen doesn't block task completion, but it violates the Efficient tenet and falls into the Bad Predictions trap, as it may leave users confused about why they're seeing it, especially if they didn't answer all assessment questions correctly.
- Another issue with the UI is Poor Grouping, of the CTA buttons as some users may find it challenging to determine what action they should take next.

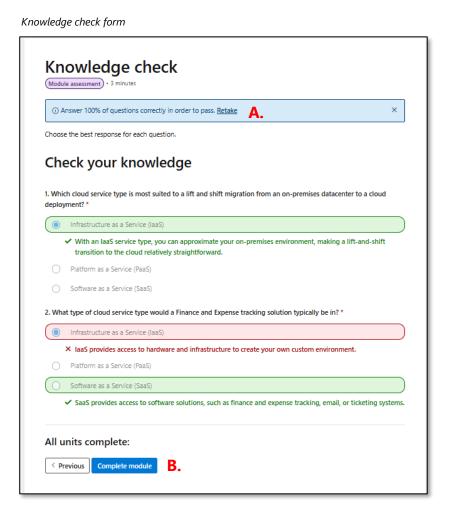
- Consider removing this page until the module is completed and all answers are accurate.
- Consider removing this page entirely, as the user already receive an achievement award at the end of the module.



Offering two CTAs ('Retake' link &'Complete Module' button) creates unnecessary decision-making, potentially slowing down the user's progress and adding cognitive load

- Having two call-to-actions on this page when only one is needed violates several tenets and traps. The core issue is the Poor Groupings trap (Understandable tenet); having a link [A] to 'Retake' the assessment and a button [B] to 'Complete module' may confuse users as they might be unsure of what to do next.
- Additional traps include Unnecessary Steps (Efficient tenet) and Distractions (Understandable tenet). Having two options instead of one can distract users, and the 'Complete module' button is unnecessary since the primary goal is to retake the assessment.
- This page also falls into the Information Overload trap, as the extra text beneath the answers—especially those marked as correct diminishes the site's visual appeal and may make it harder for users to follow.

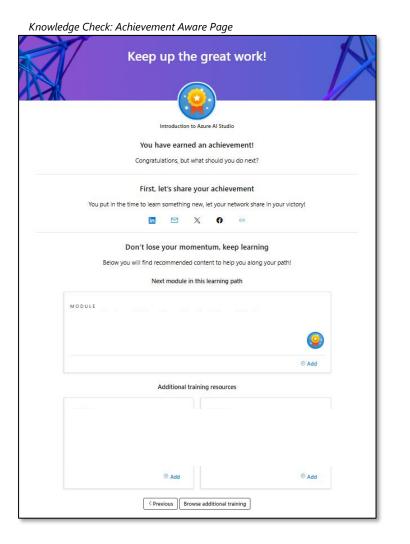
- If the goal is to allow users to complete the module without passing the assessment, consider removing the option to retake the assessment.
- If the goal is for users to pass the assessment with a perfect score, remove the options to 'Complete the module' or go back to 'Previous' sections.



Awarding achievements regardless of assessment results may undermine user trust and hinder accurate self-assessment

- Users receive an achievement award even if they haven't passed the
 assessment, which violates the Understandable tenet and Feedback
 Failure trap. This can lead to confusion, as users may question why
 they received the award and be unsure of its purpose.
- Additional UI issues include Poor Grouping and Information
 Overload, making it unclear what users should do next—whether to
 share, continue to the next module, or browse additional trainings.
 Too many CTAs without clear hierarchy can lead to decision paralysis
 and dilute the main takeaway or action on the page.
- The Inviting Dead End and Invisible Element traps are also present, as users who may want to save this achievement lack an option to do so.

- Consider awarding achievements only to users who have passed their assessments and completed the module.
- Consider redesigning the page to clarify its purpose and guide users on next steps, such as sharing, saving, or moving to the next module.
- Consider research to understand users' expectations for this achievement, how they see its benefits, and what actions they want to take next.

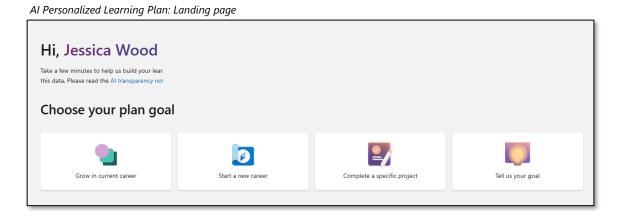


Detailed Findings: Al Personalized Learning Plans

The landing page lacks a compelling value proposition & distinctive AI branding which may result in users not wanting to engage with it

- The lack of a value proposition for the AI Personalized Learning violates the Understandable tenet and Uncomprehended Elements trap as users may not understand the benefits of the personalized learning plan, making it harder for them to see its relevance or feel motivated to engage with it.
- Repeat: This absence of a clear value proposition has been consistently documented in prior studies.
- Repeat: The absence of the sparkle icon, which would help users associate it with AI, violates the Habituating tenet and falls into the Inconsistent Appearance trap.

- Consider collaborating with the content strategy team to develop clear, impactful language that explains how the AI-personalized learning plan benefits users and enhances their experience.
- Consider designs that incorporate the AI sparkle icon to help users become familiar with recognizing it as a symbol for AI.

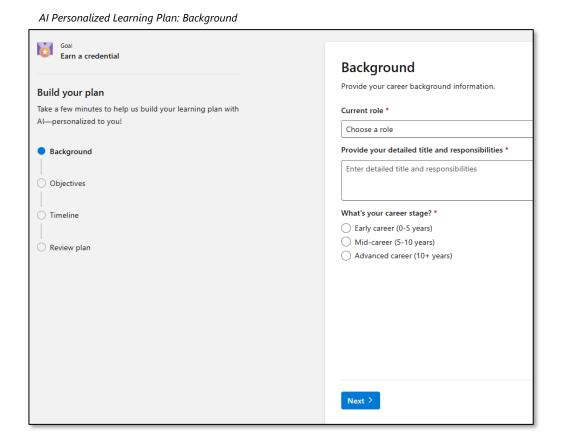


After selecting a plan from the homepage, users can only return via the browser's back button, which may be frustrating for users if they want to change their starting goal/plan

Users need a clear option to return to the previous/home page easily.
 Without it, the design violates the Forgiving tenet and falls into the Irreversible Action trap, which may result in users feeling stuck or frustrated.

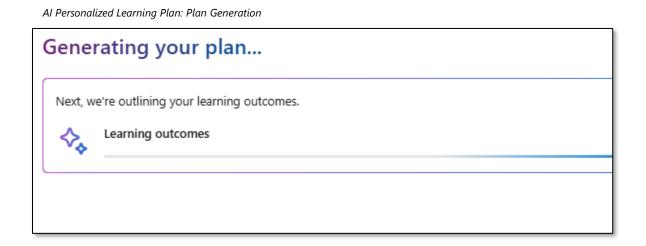
Considerations

• Consider designs that provide users with an easy way to return to the homepage without relying on the browser's back button.



The system takes over a minute to generate a personalized plan, which could frustrate users who expect a faster process based on their experiences with other AI systems

- The system can take over a minute to generate a plan, violating the Responsive tenet and triggering the Slow or No Response trap.
- Users may expect the AI personalized learning plan to work as quickly as other forms of AI e.g., ChatGPT. This may be even more frustrating for those who did not provide a lot of detail or background information.



Considerations

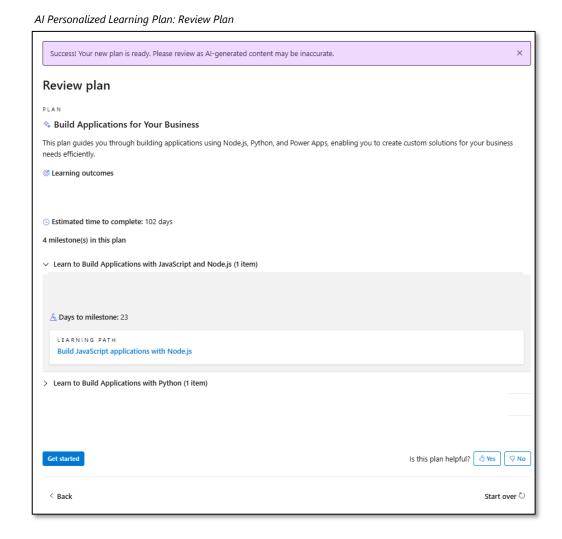
• Consider collaborating with the content strategy team to develop language that includes time-based updates, helping users know what to expect throughout the process.

On the 'Review Plan' page, there is no direct way to edit the plan (e.g., timeline, objectives) if the user is dissatisfied with the results, which could lead to frustration and task abandonment

- The lack of an option to directly edit the plan violates the Understandable tenet and triggers the Inviting Dead End and Invisible Element traps and may cause users leave the page.
- This inability of being able to edit also violates the Efficient tenet and falls into the Unnecessary Step trap, as users must find an alternative way to edit their plan –which in this case means clicking the 'Back' button multiple times or clicking on 'Starting over'.
- Being able to edit the plan after results have been generated was documented with users in two previous.

Considerations

 Consider allowing users to edit their plan directly from the 'Review plan' page.

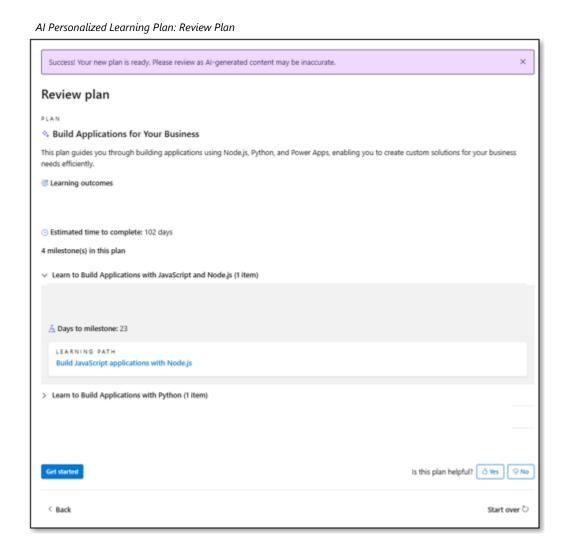


The 'Review Plan' page lacks a straightforward option to save the plan results, which may frustrate users, especially if they're not ready to start immediately

- The absence of a save option violates the Understandable tenet, creating Inviting Dead End and Invisible Element traps, which may leave users feeling stuck.
- The lack of a save option also violates the Efficient tenet and creates an Unnecessary Step trap, forcing users to find another way to save their plan—such as copying and pasting it into a separate document.

Considerations

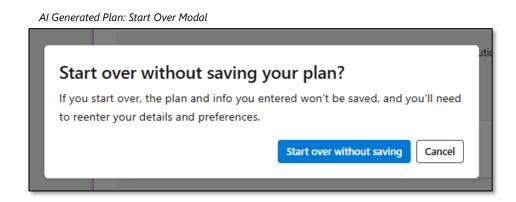
 Consider allowing users to save their plan directly from the 'Review plan' page.



Upon clicking 'Start over' users are prompted to save their plan, but no Save CTA is available resulting in confusion and lost moments of navigation

- Repeat: The absence of a save option violates the Understandable tenet, creating Inviting Dead end and Invisible Element traps, which may leave users feeling stuck and frustrated.
- Repeat: The lack of a save option also violates the Efficient tenet and creates an Unnecessary Step trap, forcing users to find another way to save their plan or they may choose to abandon the task all together.
- In the Adapted Learning study, users indicated that they expect to save plans if they have an account but do not anticipate this option if they do not have an account.

- Repeat: Consider allowing users to save their plan directly from the 'Review plan' page.
- Consider adding a Save option to this modal.



Key Recommendations & Next Steps

Key Recommendations

- 1. Prioritize resolving Al Assistant Severity 1 issues, as these are blockers preventing users from fully utilizing the product:
 - Enhance the Al Assistant button's visibility and size
 - Add an account creation option on Al Assistant
 - Within the Al Assistant side car, enlarge the ellipsis menu or move the reset option out of the ellipsis menu and make it visible directly within the dialog box
 - Enable users to save their chat history
- 2. Prioritize resolving AI Personalized Learning Plans Severity 1 issues, as these are preventing users from fully utilizing the product:
 - Ensure users can edit their plan details e.g., timelines, objectives directly from the 'Review plan' page.
 - Allow users to save their plan details directly from the 'Review plan' page

- 3. Collaborate with the content strategy team to explore a compelling value proposition that clearly explains what Al Assistant is, helping users connect it with the Al experience.
- **4. Update the navigation/logic on pages with asterisks** to ensure users cannot proceed without completing required information.

Next Steps

- 1. Conduct usability testing on all three components Al Assistant, Al Personalized Learning Plans, and Knowledge Checks with developers and other user groups to uncover additional usability issues that may not emerge in a heuristic evaluation.
- 2. Consider collaborating with the content strategy team to run A/B tests on different value propositions to determine which resonates best with users.
- **3. Consider conducting additional research** into what developers, students, and AI startup founders would want to do with AI Assistant.
- 4. Consider conducting a deep dive into what developers, students, and Al startup founders envision for an assessment, including its format and functionality, to effectively evaluate their knowledge.

Appendix

Tenets and Traps



Bugs

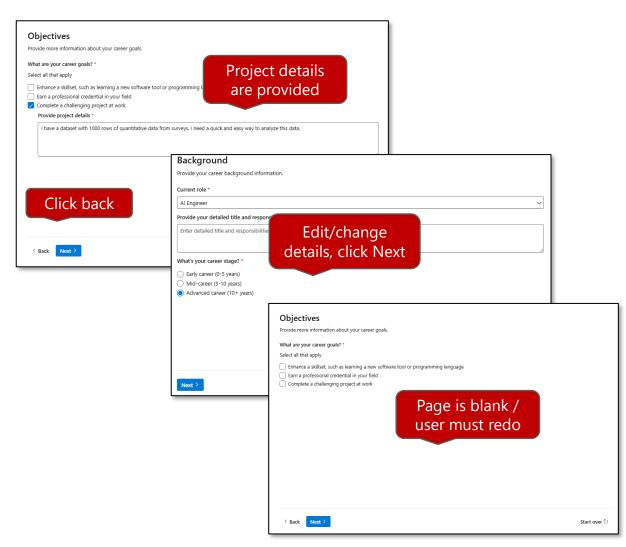


The 'Objective' page resets if the user returns to 'Background' and then clicks 'Next'; this is frustrating as the user must redo all their work

- This issue violates the Protective tenet and Data Loss trap, the Efficient tenet and Unnecessary Step trap, and the Understandable tenet and Memory Challenge trap.
- First, users lose their data when they return to the Background page, requiring them to re-enter their information—if they can remember what they wrote—upon going back to the Objective page.
- These traps may lead users to abandon the page, as redoing their work might feel like an unnecessary use of time. This process may also not align with user expectations.

Considerations

• Consider updating the process to ensure users don't lose their data when navigating back to a previous page.





FINDING 24: Sev 3

The question text, 'What did you like about the plan,' doesn't align with a 'No' rating, as users would likely want to explain why they didn't like the plan

- While this screen does not prevent users from providing feedback, it violates the Understandable tenet, falling into the Bad predictions trap, as well as the Efficient tenet and Feedback failure trap.
- Users may expect to explain why they didn't like the plan [A] or found it unhelpful. However, after selecting "No" on the previous page, this modal instead asks the opposite: "What did you like about the plan?" This could lead to confusion and even task abandonment, as users might assume the rating system is malfunctioning or that the site is only interested in collecting positive feedback.

Considerations

 Update the follow up questions to align with the rating the user provides.

