Artificial Intelligence Model GUI Testing

Please provide feedback on this study/this slidedeck via Slack

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Background and context

The context and the method

The context

We wanted to learn more about the critical pain points our users experience when using the InstructLab GUI and decide on recommendations to remedy them.

# Research method

Phase 1 (or "first-level") of this study involves understanding our users, how they expect to use InstructLab, and what they expect to be able to do in the UI. This phase also entails providing the participants with mockups of the current UI and asking them follow up questions about what they expect to be able to do, how to approach asking for help, and general usability questions.
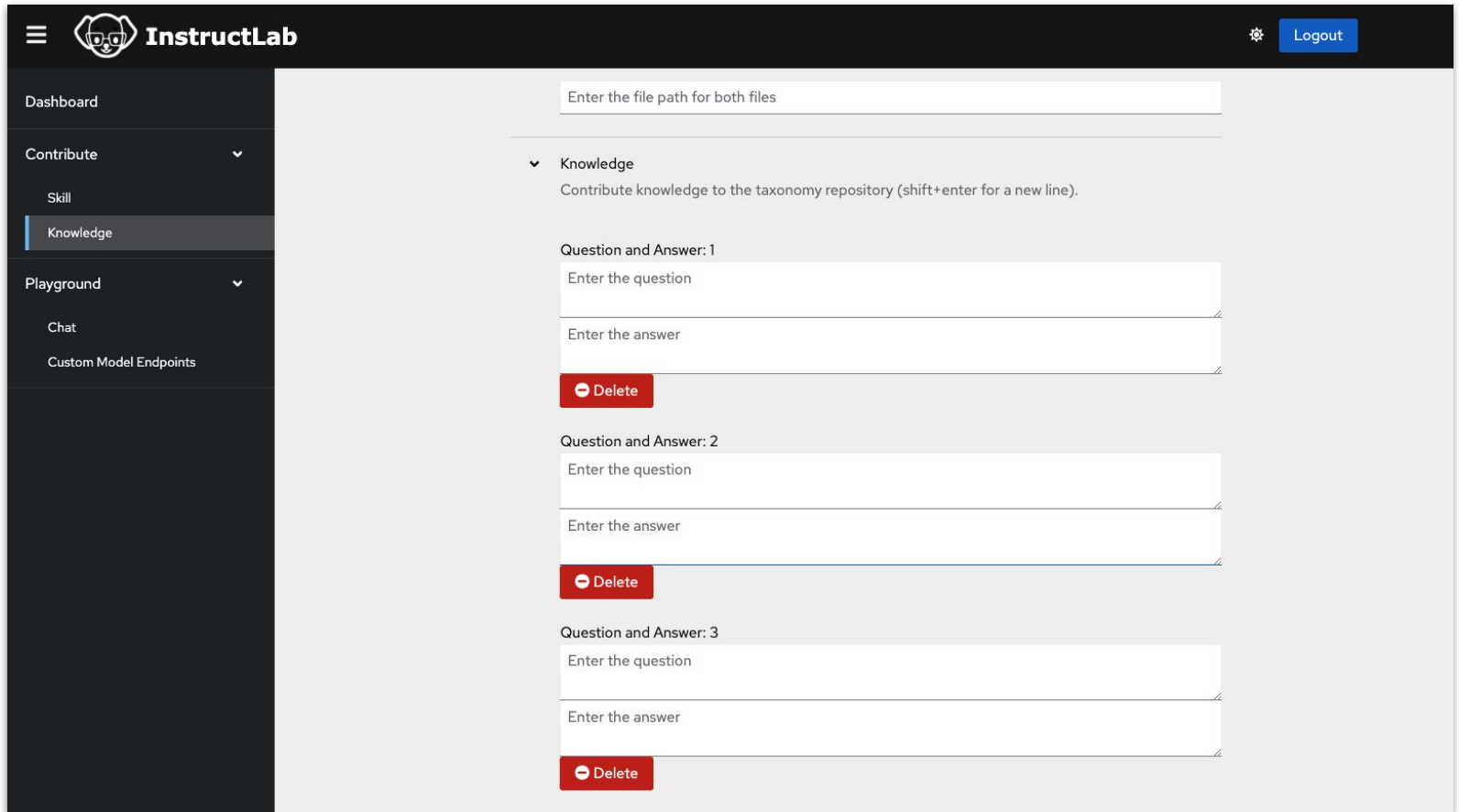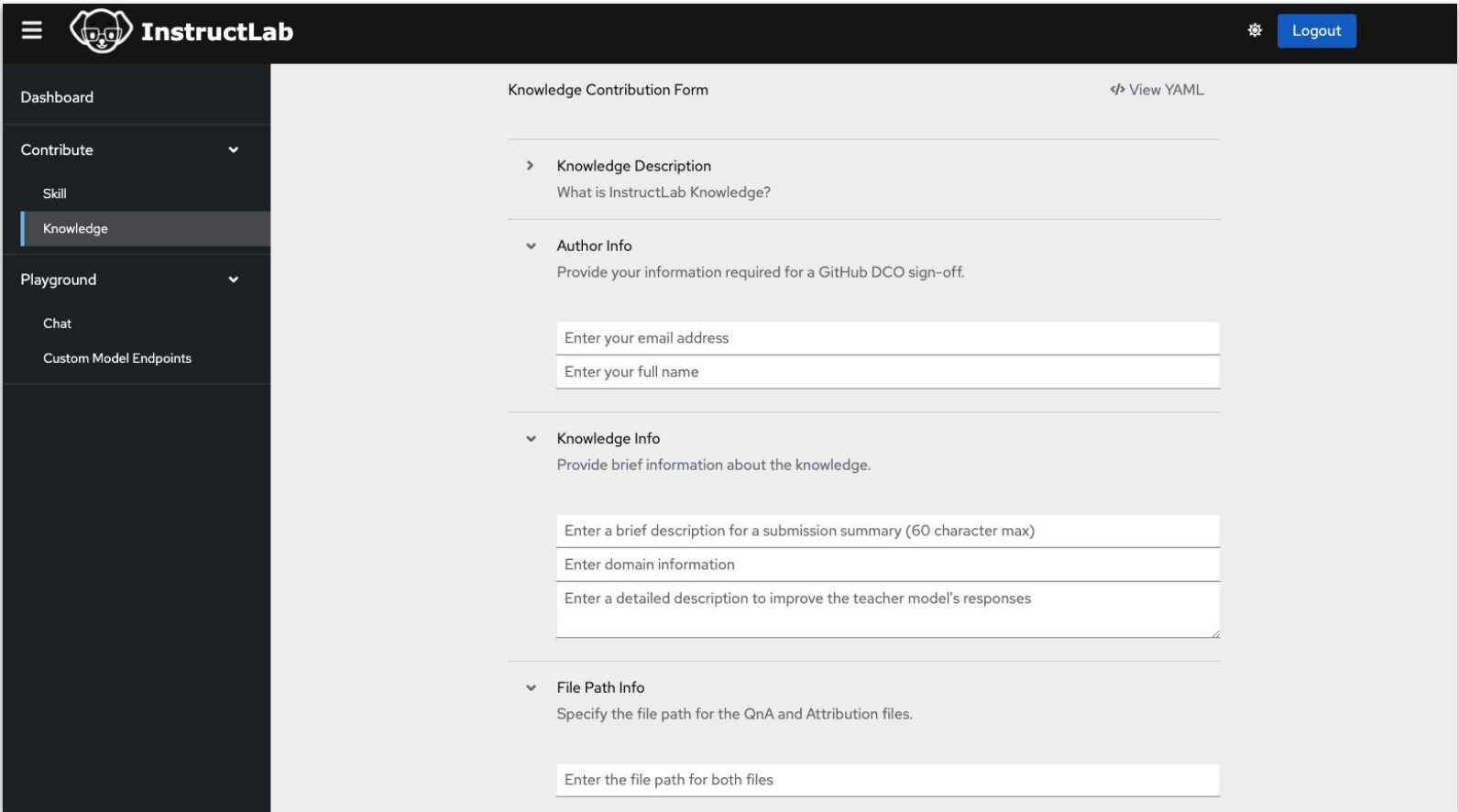
Study research questions

We wanted to answer the following questions

- How do participants envision using InstructLab?
- What do they think the interface needs to look like?
- What do they like best/find easiest to use/think was most useful? Why?
- What do they like least/find hardest to use/think was least useful? Why?
- What can be improved or added to the InstructLab UI?
- Gain feedback about the support documentation and learning resources experience


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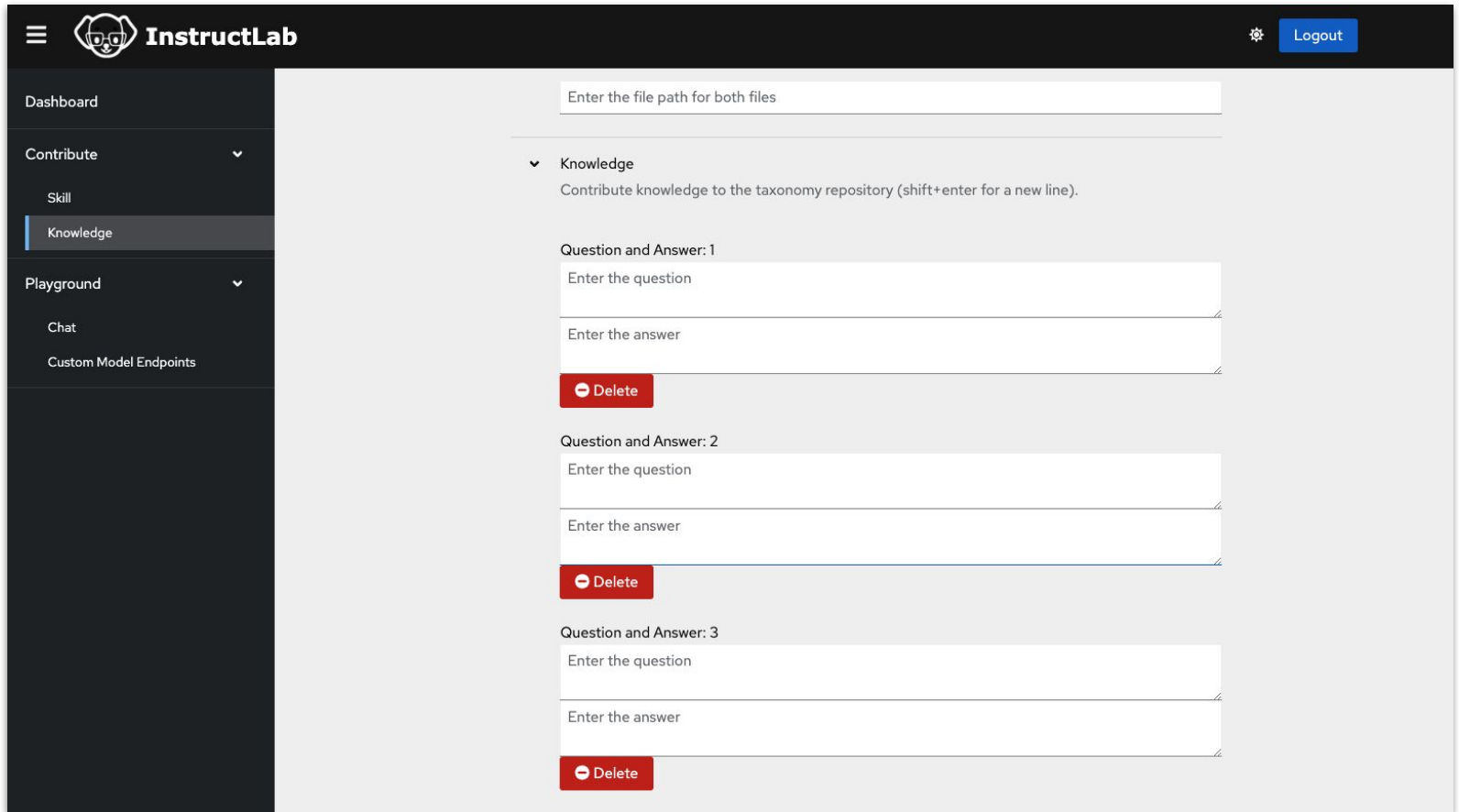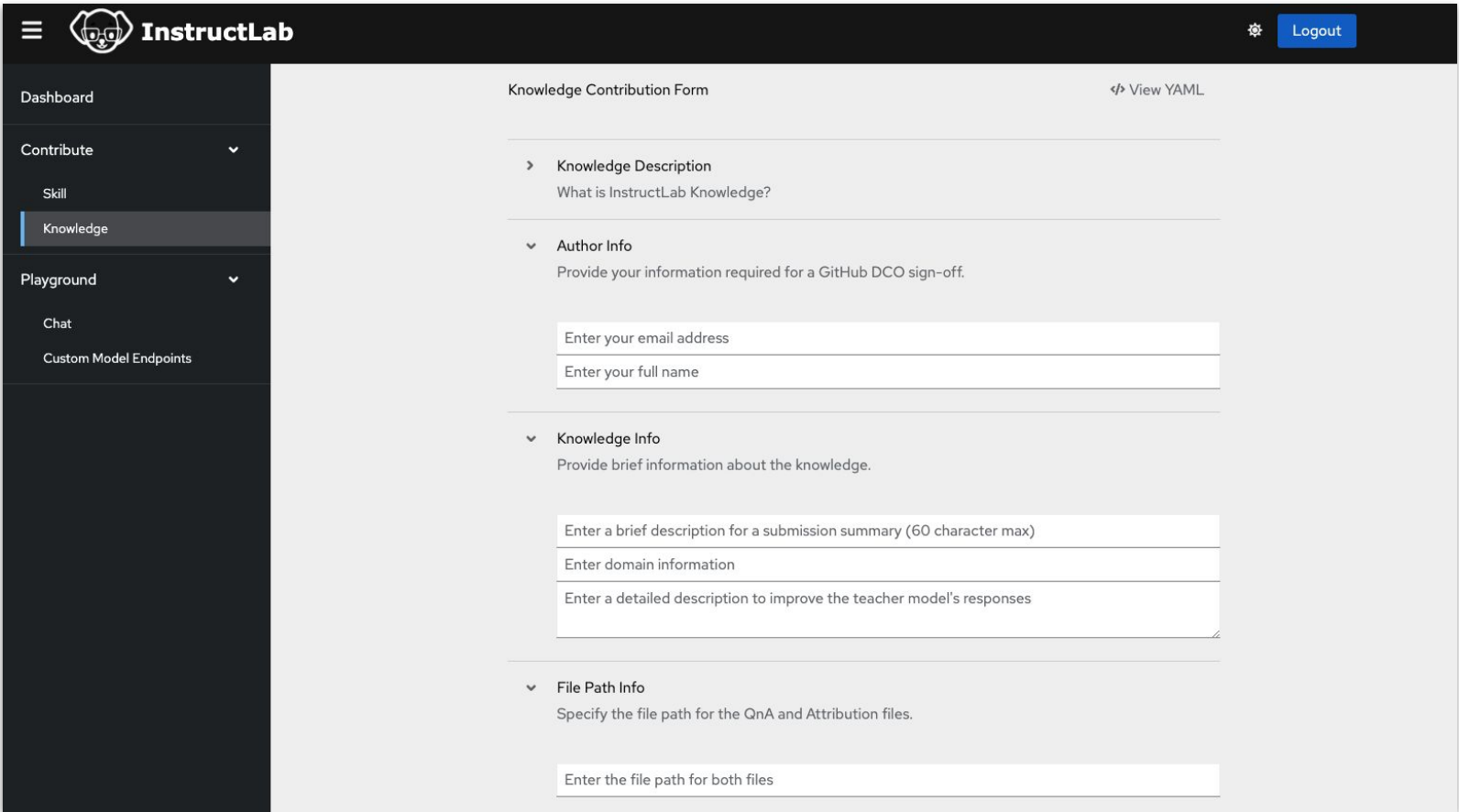
We wanted to accomplish

- Understand how participants anticipate using this UI in their day-to-day workflow
- Establish differences in knowledge and past AI experiences between technical and non-technical users of InstructLab, as well as how to cater to the needs of both of these groups
- Identify what participants expect to see when interacting with InstructLab UI
- Determine what aspects of the interface are most confusing to participants and how *they* envision these confusing aspects to be remedied

We did NOT intend to accomplish

- Redesigning the entire InstructLab interface, including design aesthetics like colors, font, layout, etc
- Test a user's ability to add an API endpoint or a skill contribution

Study details

Method
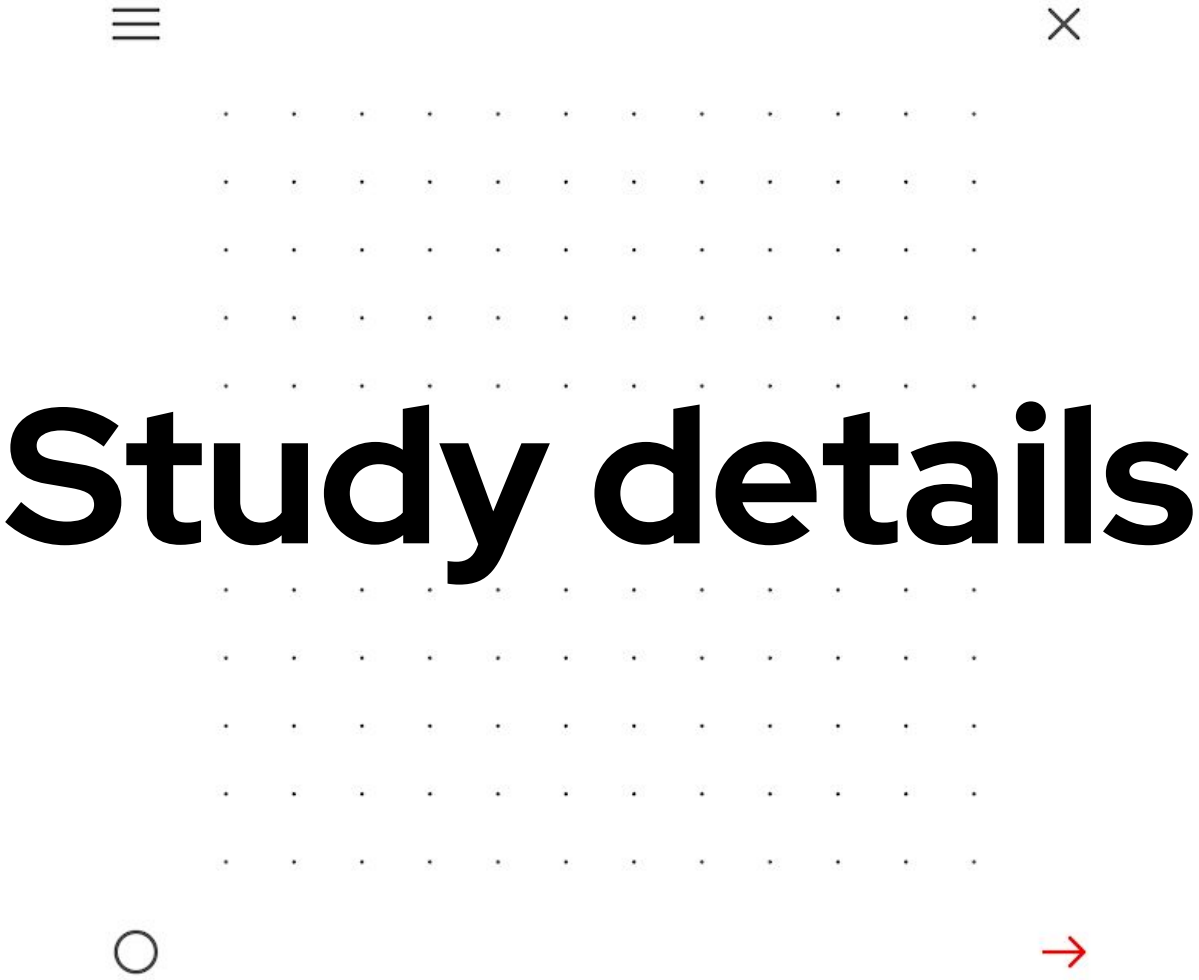
To answer our research questions, we chose to conduct

5 interviews and GUI mockup tests

** We originally planned to conduct 6 feedback sessions, however we found that there was an abundance of quality data after 5 sessions and decided not to pursue additional sessions due to time constraints.

Participant requirements included:

- Did not have previous experience with the InstructLab GUI
- Any level of familiarity with InstructLab, serving LLMs, and AI

Who did we talk to?

5 participants total

- **4 participants** from Red Hat
- **1 participant** from IBM

We had **2 assumed primary user types** for this study: Technical Users, and Non-Technical Users. As part of the interview process, we asked a number of questions to confirm if each user actually was part of the assumed user segment, and we were able to successfully determine **3 non-technical users** and **2 technical users**.

	Job title	Company	Product space	Technical Level (with InstructLab)	Has/has not experimented with the InstructLab CLI
P1	Senior UX Designer	Red Hat	OpenShift AI	Non-technical	Has not
P2	AI Engineer	IBM	Watsonx	Technical	Has
P3	Software Engineer	Red Hat	InstructLab	Technical	Has
P4	Software Engineer Intern	Red Hat	Open Education Project	Non-technical	Has
P5	Software Engineer Intern	Red Hat	OpenShift Observability	Non-technical	Has not

Timeline

We had **3 weeks** to conduct the first phase of this research initiative on the InstructLab UI (due to the end date of Yahav's internship)

Dates	Objectives
Jul 17, 2024 - Jul 23, 2024	Identify the participants and research method for this study
Jul 23, 2024	Meet with stakeholders to finalize plan and kickoff
Jul 24, 2024 - Jul 26, 2024	Recruitment
Jul 29, 2024 - Aug 7, 2024	Conduct interviews usability tests Goal: 6 participants Simultaneously process research and generate actionable insights
Aug 8, 2024	Stakeholder research readout
Aug 9, 2024	Close project

Findings summary

Executive summary

The InstructLab UI has some intuitive components, though the current overall UI is overwhelming, frustrating, and confusing to users

Overall, the InstructLab UI had several features that participants found intuitive, including the need to write questions and answers and upload documents as a part of the knowledge contribution process. Although, many participants struggled with understanding other fields, including attribution information, file path information, and more. Several participants also found that the UI lacked confirmation messages, was overwhelming at times, and includes confusing wording in the placeholder text that prevents the participant from successfully contributing knowledge.

Recommendations

Based on feedback from this mockup testing, we recommend improvements to both the design of the interface (including placeholder texts and button structure) as well as the structure of the interface (including what needs to be filled out, in what order, and how it is all presented). These recommendations are supported by pain points identified throughout the patterns in our data, and they will all be established in this report.

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*I think I would've really appreciated **if I could just add the knowledge documents**, **be done with it** and then get to the **question answer part** and **be excited** about like, okay, so now what's gonna happen next?*

——

P2 (AI engineer from IBM)

General findings and recommendations

Mockup testing results

Summary: **The current interface is subpar and many participants faced points of confusion while testing the mockup**

Users were able to successfully identify what to do in this portion of the interface (without confusion or doubt) <u>57% of the time.</u>

P #	Author Info	Knowledge Info	File Path Info	Knowledge	Document Info	Attribution Info	Individual success rate
1	Pass	Fail	Fail	Pass	Fail	Fail	2/6 (33%)
2	Pass	Fail	Pass	Pass	Pass	Fail	4/6 (67%)
3	Pass	Fail	Pass	Pass	Pass	Pass	5/6 (83%)
4	Fail	Fail	Pass	Pass	Pass	Fail	3/6 (50%)
5	Pass	Fail	Fail	Pass	Pass	Fail	3/6 (50%)

Technical user validated → (row 2)

Technical user validated → (row 3)

Total passed	4/5	0/5	3/5	5/5	4/5	1/5

We will first take a look at these sections of the interface since quantitative data shows that these are areas of pain points for our users

General findings and recommendations

0/5

Knowledge Info

- All participants were confused by "domain information"
  - How specific/general does this have to be?
  - Is there a drop down or list of options available for this?
- Some participants expressed confusion with the "detailed description to improve the teacher model's responses"
  - What specifically do I have to enter here?
  - How do you tell a model to perform better?
  - Are there any examples of how this has been done in the past?

General findings and recommendations

3/5

File Path Info

- Participants without previous Github knowledge were confused about where to find this file path
- *Many were not able to identify the difference between the "File Path" and the uploaded documents*
  - Is having both the file path and the document info sections necessary?
  - Will a file path still be prompted when InstructLab is used in a proprietary space?
  - Will the file still need to come from Github?

General findings and recommendations

1/5

Attribution Info

- Participants were generally very confused on different input text fields:
  - Where to find the link or the license to the work?
  - What is document revision information?
  - *Why does this not get automatically populated once I upload a document?*
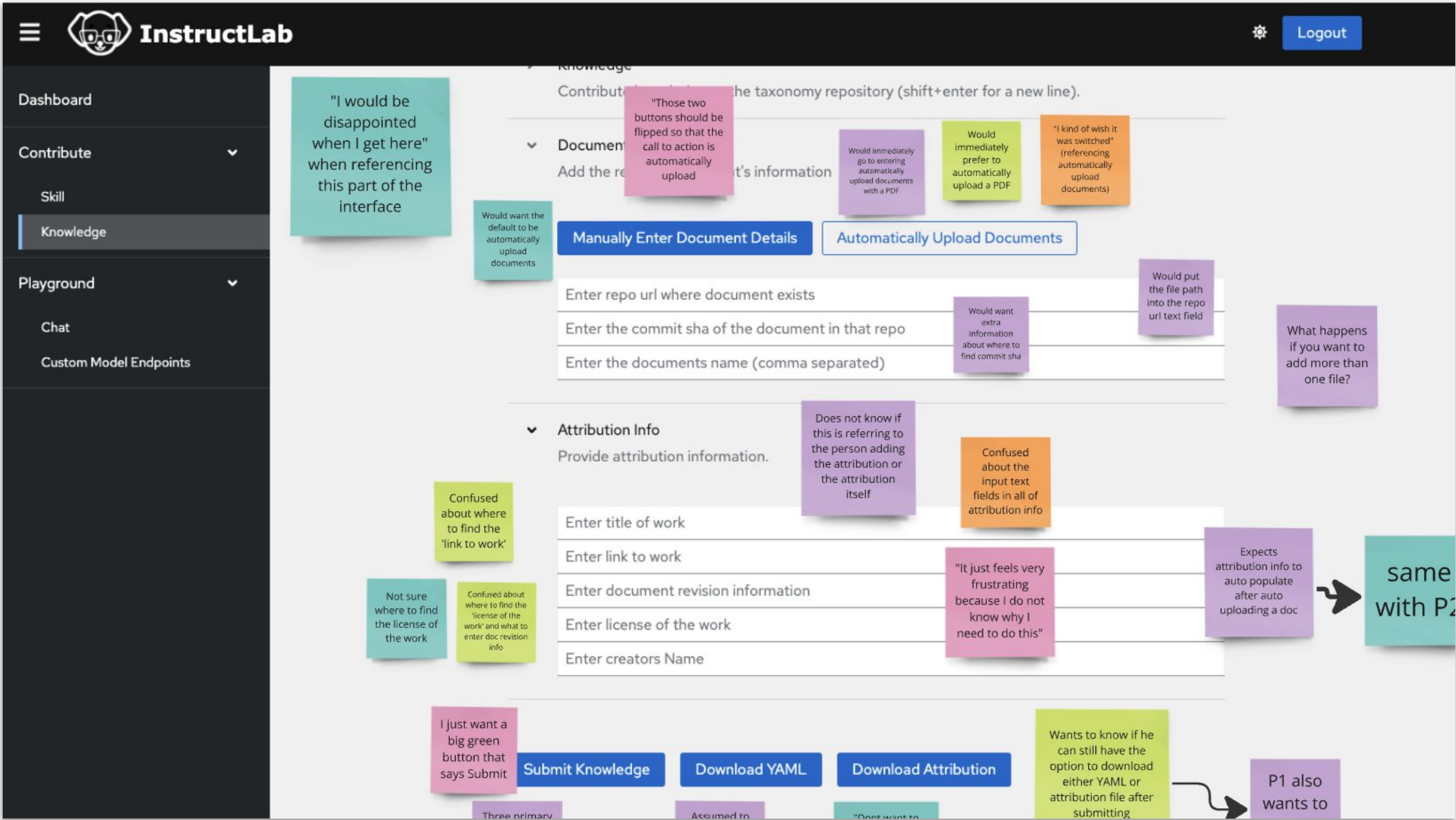
General findings and recommendations

Almost all participants expressed confusion in the last step

- Last three buttons are all primary, so it made participants question:
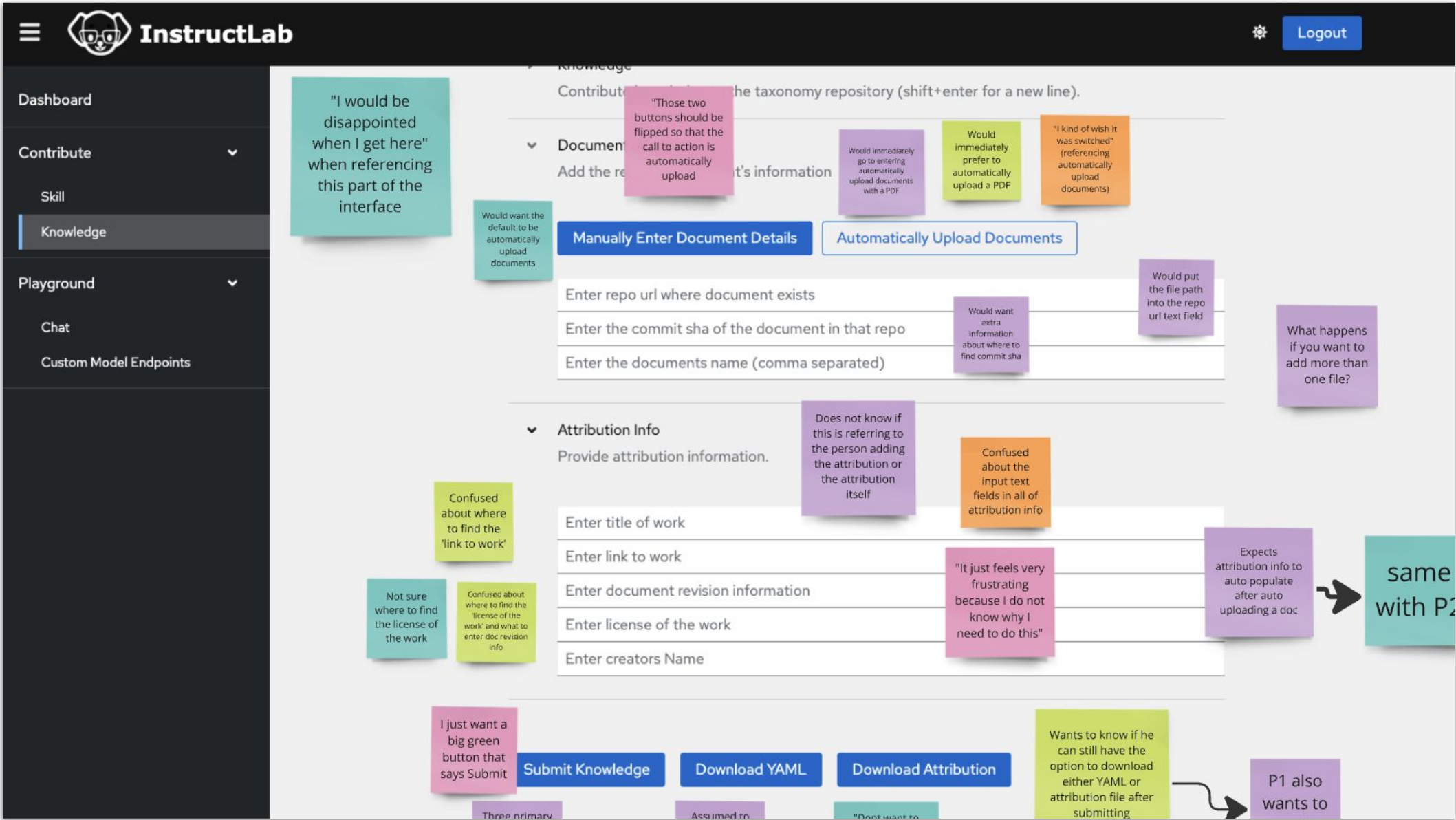   - Can I download the YAML or Attribution files after I submit?
    - Am I supposed to download these before I submit?
    - Is downloading these files *as important* as submitting the knowledge?
    - How will I know if my knowledge is submitted successfully?

Pain points and recommendations

| Pain point	Severity or urgency	Recommendation
Users were not sure how specific/vague the domain information should be	**High**	Add a question mark in a bubble icon next to the text field to explain what is expected, giving an example of what domain information could look like Implement a dropdown feature that includes examples of domain information Add a character limit so that users know how much needs to be said here
Users were not sure what type of information to enter in order to improve the teacher model's responses	**High**	Add a question mark in a bubble icon next to the text field to explain what is intended to be done here as well as an example of what this text could look like Add a character limit so that users know how much needs to be said here
Users felt hesitant when deciding what the final step of this interface is because of the three primary buttons: Submit Knowledge, Download YAML, and Download Attribution	**High**	Make Download YAML and Download Attribution secondary buttons OR only prompt them after a user has submitted that knowledge Create a confirmation message to be presented after successfully submitting knowledge (this message should prompt them to do the next step → test their InstructLab to see if it learned what it was given successfully)
Users struggled with knowing what information to enter in Attribution info	**High**	Implement a feature that auto-populates this section (though still allowing for changes) when a document is automatically uploaded to the UI Implement question mark in a bubble for these (if this section is still even needed!)
Users found it difficult to identify where the file path info would be coming from and if it would relevant to files not coming from Github	**High**	Similar to the above, adding a question mark in a bubble icon could help here. Create a UI that helps find the file path by connecting to the user's Github Although, maybe UI designer should ask: why do we even need this section? Maybe this is something that could be at the end when uploading a document? Or not added at all?

But wait! That's not all...

Even though there were higher success rates in the other portions of the interface, **that does not mean they should be ignored!**

Additional recommendations

Document Info

- *Every participant defaulted* to using "Automatically Upload Documents" over "Manually Enter Document Details" because they felt that this feature would help increase their efficiency
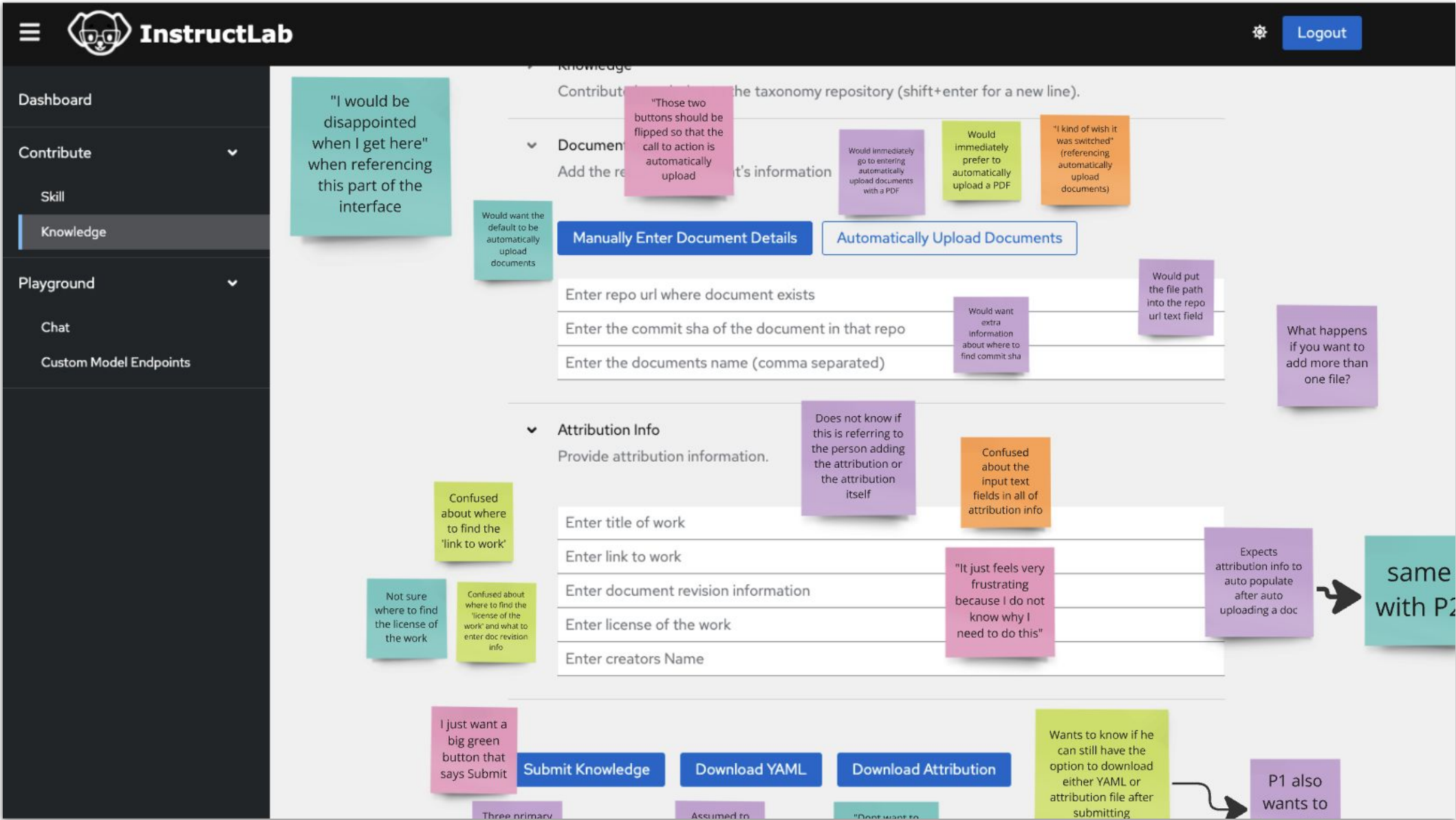
Additional recommendations

Overwhelming Q&A section

- Though they were able to identify what to do here...
  - Several participants expressed feeling overwhelmed from seeing all of the questions at once
  - Many participants did not know that a knowledge contribution needs a minimum of 3 questions
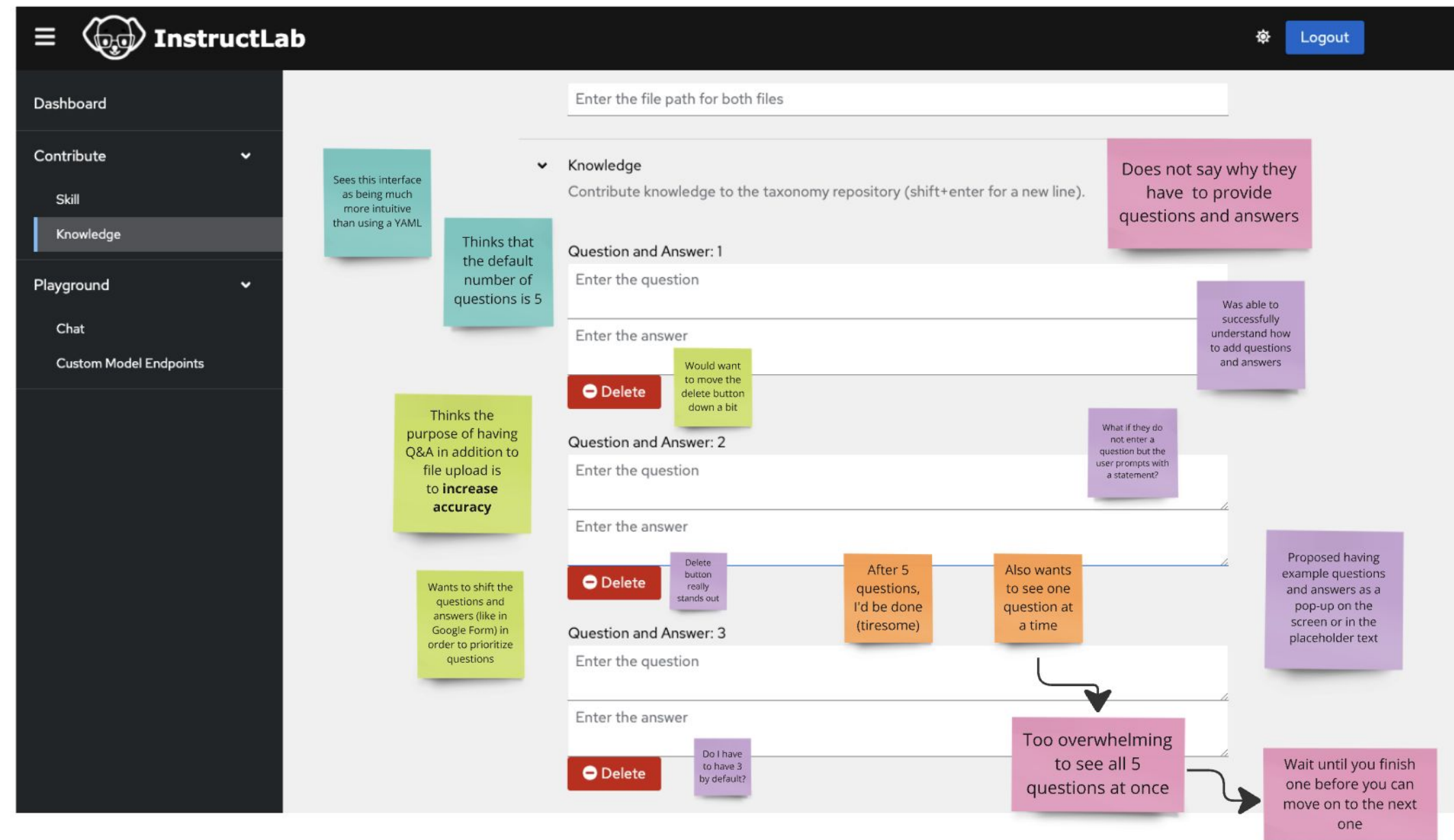 - Some participants expressed dislike towards the "Delete" button, saying that it stands out too much

Additional recommendations

General lack of satisfaction/affirmation

- All participants expressed that the interface does not give them any satisfaction or affirmation
  - Do not know if they successfully submitted knowledge
  - Do not know if they have entered the right information in any given text field
  - Do not know if their answers or questions are 'good enough'
  - Do not know what past contributions have been made from this interface

Pain points and recommendations

Pain point	Severity or urgency	Recommendation
Users do not know what past contributions have been made to their company's InstructLab model via this interface	**Medium**	Add a page to the interface with past contributions (Missy is already working on this)
Users were overwhelmed by the Q&A section	**Medium**	Build in a UI that will decrease this overwhelming feeling– many suggested a carousel style for the questions Create a less dominant delete button and place it to the right of the text fields
Users were unsure of how many questions and answers to include	**Medium**	Include in the Knowledge subtitle that a minimum of 3 is necessary
Users do not know if they have entered the right information to the text fields	**Low**	Have an auto-confirmation after clicking a "Save" button to every section that indicates whether the info entered is valid
Users defaulted to automatically uploading documents over manually	**Low**	Flip these two buttons, making "Automatically Upload Documents" the default

Action items summary

To do's

Do now

Address **high** severity/urgency recommendations

- Domain information
- Improve the teacher model's responses
- File path info
- Attribution info
- Submitting knowledge

Do next

Address **medium and low** severity/urgency recommendations

- Document info preferences
- Overwhelming Q&A section
- General lack of satisfaction/affirmation

Do later

Conduct **more research** on the UI as we refine it

- Ongoing AI discovery interviews (occurring in another project on the RHEL AI UXD team)
- Moderated usability testing on the UI after it is built out more

Thank you

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