

Group Heuristic Evaluation of lecturely

Problem Statement

Lecturely is a web-based tool that synchronizes lecture watching and discussion with friends and classmates remotely.

Violations Found

1. [H1 Visibility of System Status] / Severity: 3 / Found by: A C

For the invites on the classes page, there is no indication about if the invite was accepted or not by recipients. Users may be confused about the status of the invite, how many people have accepted, and if that event is actually going to happen or not.

Fix: Display how many invite recipients have accepted, declined, or not responded to the invite

2. [H1 Visibility of System Status] / Severity: 2 / Found by: A

When watching the lecture, there is no bar showing where the users are in the lecture. Users may be confused about their status within the lecture, like how far they are into the video or how much time they have left to watch.

Fix: Add a progress bar showing where users are in the lecture (like most video platforms)

3. [H1 Visibility of System Status] / Severity: 4 / A B C D

After accepting an invite, there is no confirmation except that the invite disappears (This also might present a problem when you have responded to all invites, because your inbox just becomes a blank page). I assume this is the same for declining an invite, which makes it difficult for the user to differentiate whichever choice they have selected after the fact.

Fix: This may also alleviate the [H3] violation directly above, but perhaps you can grey out an invitation if the user declines (so that they might still be able to go back and change it) or change the state of the decline and accept buttons to make it clear which has been selected, by disabling the one that has been chosen or greying it out. You could also add a confirmation message if the user accepts the invitation.

4. [H1 Visibility of system status] / Severity: 3 / Found by: B

Accepted lectures don't seem to show up in my *classes* tab. I imagine that all accepted invitations should also be visible on your *classes* tab.

Fix: Classes tab reflects all classes (including accepted invitations).

5. [H1 Visibility of system status] / Severity: 2 / Found by: B

Classes are pre-filled when signing up but the user isn't told where this information is extracted from. This leads to transparency and privacy concerns.

Fix: Either don't pre-fill classes or be more transparent about where this information is pulled from.

6. [H1 Visibility of system status] / Severity: 3 / Found by: A D

The "My classes" page lacks enough context and is instead given to the user right after the sign up page. They don't know what the purpose of adding their classes is, and are not sure if their signup is completed or not. This is exacerbated by the shift in background color which makes it seem like some error happened.

Fix: Provide a roadmap / series of steps that the users have to do to set up their account and give them more context on why they need to add their classes. Make it overlaid on the home page, rather than on a black background.

7. [H2 Match between system and the real world] / Severity: 1 / Found by: D

"Schedule" implies it is at a certain time (likely in the future) whereas the videos look like I can press play and start them now, which isn't the case for a scheduled watch party

Fix: Change the icon to be a screenshot without the play button or some other illustration of the class name/content.

8. [H2 Match between system and the real world] / Severity: 1 / Found by: B

"Solution here" sounds like I can click on this section and the solution will appear. I think the wording here is unintuitive (and there is no frame where I can see a solution accepted so I'm still not sure what it looks like for a solution to be accepted).

Fix: Change the wording for "Solution here" to something more actionable like "Propose your solution here..." or something along those lines. Furthermore, add a frame after a student has submitted a solution such that the user can fully complete the task that you all proposed.

9. [H2 Match between system and the real world] / Severity: 2 / Found by: A C

The "my classes" page asks the users to enter a "Class Code". Users may not know or understand what a class code is in this context and where to get it from, like it is the numbers of the class title or a code needed to be able to join that certain class on this platform.

Fix: Show an example of what you mean by class code (like "e.g. CS 377E) or change this terminology to be clearer

10. [H2 Match between system and the real world] / Severity: 1 / Found by: B C

The language on the homepage for the upcoming lecture parties is just upcoming, which isn't typically how calendar events are denoted.

Fix: Rename it 'Upcoming lecturelies/Upcoming Lectures' or something to that effect, so users know these are upcoming events, or upcoming [somethings].

11. [H2 Match between system and the real world] / Severity: 2 / Found by: C D

The way to send and edit invitations is to navigate to the 'classes' tab, which I would expect to be more a list of my classes, rather than the space I should navigate to in order to create invitations and see

scheduled events.

Fix: Since sending and viewing invitations are the core functionality of this page, it might be better to add a field or text that signifies it is a calendar, e.g. 'my lecturely calendar'. Then you can use a Google calendar like UI or functionality that contains class schedules embedded in it so user's understand they can directly create invitations from this page.

12. [H2 Match between system and the real world] / Severity: 1 / Found by: B C D

Add question is unusual language for sending a question in a chat, and as inconsistent with your adjacent bar 'Type a message'

Fix: Change the 'Add question' prompt to 'Ask a question' so the language parallels the other text boxes in the screen and is more consistent with user expectations. This might also allow you to clarify some of the ambiguity from the previous bullet point. You can also add groups to the prompts e.g. 'Message Pau and Enzo' vs. 'Ask a question to CS145' so it's clear to who the information is going to in each case.

13. [H2 Match between system and the real world] / Severity: 4 / Found by: D

The play button doesn't play the lecture but instead leads to a page with questions. This is very confusing, since the questions should be at the end.

Solution: Pick a different way of demonstrating the question answering functionality of this prototype and ensure that the user knows the lecture is done.

14. [H3 User Control & Freedom] / Severity: 2 / Found by: A B D

All sidebar tabs (like "home," "inbox," "classes," and "bookmarks") are not clickable at all times and can only be clicked on when the user is at specific pages. Users thus do not have enough control and freedom to navigate throughout the web app since they are forced down a Fixed path and sequence of actions, negatively impacting the user experience.

Fix: Make all tabs in the sidebar functional on all pages

15. [H3 User Control & Freedom] / Severity: 3 / Found by: A B C D

There is no way to go back to prior pages from any pages in the web app. For instance, after a user clicks on an invite in my classes to start watching the lecture, there is no way for the user to easily go back to the list of lectures if they clicked on the wrong lecture; specifically, they have to click on the sidebar and navigate back to the main page of the classes tab. Users will feel a lack of control and freedom since they cannot go back to prior pages from these ones and navigate freely.

Fix: Allow users to go back and connect these pages within the overall web app hierarchy

16. [H3 User Control & Freedom] / Severity: 2 / Found by: C

After adding classes through the onboarding process, there doesn't appear to be a way to modify the class list.

Fix: In the classes tab, include an edit icon in the upper right hand corner to signal that this list is modifiable.

17. [H3 User Control & Freedom] / Severity: 2 / Found by: B C

Would like to see a feature which allows users to be able to browse the web app without necessarily exiting the lecture room or allow them to easily navigate back to the lecture room without having to parse through each of their classes.

Fix: Have a “currently watching” tab and/or minimize the lecture in a small window as a user browses.

18. [H3 User Control & Freedom] / Severity: 2 / Found by: C

On the ‘My Classes’ page, there is a mechanism to add a class but no mechanism to remove a class before clicking continue.

Fix: Add a small [x] in the corner of each class listed in case users added it by mistake or want to clear the class from their lecturely dashboard.

19. [H3 User Control & Freedom] / Severity: 3 / Found by: A C D

There doesn’t appear to be an option to exit the lecture party early, or to go back to another invitation after you’ve opened the video player.

Fix: Add a back button or [x] in the corner of the screen so user’s can leave.

20. [H3 User Control & Freedom] / Severity: 1 / Found by: C

Invitations to view a lecture are accompanied by a blue modal with the option to accept and an [x] in the right hand corner. It’s not entirely clear whether clicking the [x] clears the invitation notification for you to revisit at a later time or rejects the invitation. (It appears this has been done in the inbox page but not the pending part)

Fix: Include clear accept and reject buttons.

21. [H3 User Control & Freedom] / Severity: 4 / Found by: A B C D

If a user accidentally declines an invitation, or if they end up having free time in that block of their schedule later on, there isn’t a way to revisit the invitation after you have clicked either accept or decline.

Fix: Include ‘past invitations’ underneath the current ones, structuring it similar to an email inbox so you can see ‘invitations’ you have responded to, but can still access should you change your mind.

22. [H4 Consistency & Standards] / Severity: 2 / Found by: A

The interface calls the sidebar tab “inbox,” but this tab only contains invitations and not emails or messages. Thus, the terminology between “inbox” and “invites” should be clarified. Users may be confused by the use of the term “inbox” and will not necessarily look there to see their invites or notifications.

Fix: Rename the sidebar tab from “inbox” to “invitations”

23. [H4 Consistency & Standards] / Severity: 1 / Found by: B

Sometimes it shows that I am David (home page) and sometimes it shows that I am Pau (on the lecture page). This error would likely only apply to the prototype but one should be consistent across all prototype pages. I'd also like to see my login or signup information being filled out so I know which user I am when I enter the flow.

Fix: Pick an example user and stick with that user identity.

24. [H4 Consistency & Standards] / Severity: 1 / Found by: D

The E40M text and Accept buttons are the same color on the inbox, which can be confusing since one is a button and the other isn't.

Fix: Make class colors different than those used throughout for buttons.

25. [H4 Consistency & Standards] / Severity: 1 / Found by: A

When the lecture starts playing, the user's profile picture moves from top right corner to bottom left corner. This inconsistency may be confusing to users who have grown used to finding their profile picture (and associated actions) in the top right corner where it is in the rest of the web application.

Fix: Keep the profile picture in the same place like the top right corner throughout the web app

26. [H4 Consistency & Standards] / Severity: 2 / Found by: B

I agree to terms and conditions is pre-checked. This may lead to [unintended legal consequences](#). I believe that having this box pre-checked does not follow conventions.

Fix: default to terms and conditions being unchecked on the sign-page and link terms and conditions.

27. [H4 Consistency & Standards] / Severity: 1 / Found by: B

I see a notification for two invitations in my inbox but I only see one invite on my home screen under *pending invites*, making me question the consistency of information between the two pages. This can lead to issues such as not being able to weigh all invitations before deciding which invite to join if two invitations overlap.

Fix: Expand the pending invites section or have it just be a quick access link to the invites tab.

28. [H4 Consistency & Standards] / Severity: 1 / Found by: A C

The sign up form doesn't need a username, but the login form needs a username. Thus, this inconsistency can lead to a lot of problems like the new user not being able to log in after signing up because they don't have a username.

Fix: Add a username input field to the sign up form.

29. [H4 Consistency & Standards] / Severity: 1 / Found by: B C D

The onboarding process for Lecturely starts off with the 'Sign Up' button raised and filled in red. This makes it appear as though the button has already been clicked, which is misleading (see the 'log in' button). The login button also does not appear clickable.

Fix: Reserve that visual as a temporary indicator of clicking on the button, rather than the permanent UI of the 'Sign Up' button, or to define the red and raised style as standard for all your buttons.

30. [H4 Consistency & Standards] / Severity: 3 / Found by: C

After signing up for an account and entering the 'my classes' page, there appears to be two ways of adding a class, by entering the class code or clicking add class. I'm also not clear what class code refers to, whether it's a five digit code found in axess or the name of the class.

Fix: I'm not entirely sure whether add class is actionable, I assume that you meant for it to be clicked after entering the class code in the box, but if so I would standardize the UI for clickable items across the app, to either make only 'Add class' a button or make 'Enter Class Code' look less like the buttons across the app and more like a text field. If class code is just 'CS377E', you could also provide that as an example in the prompt for your text field. TLDR; standardize the UI of text fields and buttons so it is clear when users are presented with both on the same page.

31. [H4 Consistency & Standards] / Severity: 1 / Found by: B C

On the 'my classes page' the added classes appear to be buttons. I'm not sure if clicking on them should lead to any new pages or actions, or if the classes are just a static list.

Fix: It appears that you might be leaning towards using the raised, filled visual for your actionable buttons. If so, I would recommend picking a single color (e.g. for Sign up it was a salmon and here it is white) so that users are not forced to re identify buttons on each page.

32. [H5 Error Prevention] / Severity: 3 / Found by: A

Currently, it seems like there will be no restrictions on choosing the date for the invite to friends. However, when selecting a date for the invitation, if users can choose a date that is in the past, this could cause a lot of errors and confuse the users and their friends.

Fix: When sending invites, do not allow users to select dates that are in the past

33. [H5 Error Prevention] / Severity: 3 / Found by: A

From the interface in the "inbox" tab, it seems like users can accept invitations, even if the invite event date is in the past. This can lead to a lot of errors if users accept an invite to an event that already happened, so it would be better to prevent this error.

Fix: Do not show invites in the inbox if the event date has already passed

34. [H6 Recognition not Recall] / Severity: 4 / Found by: A B C D

After a user submits a question to the checkpoint, there is no way to check what questions are on the checkpoint. Thus, users have to remember which questions they already submitted, so they don't submit the same question again.

Fix: Allow users to see the current list of questions in the checkpoint

35. [H6 Recognition not Recall] / Severity: 3 / Found by: A

When viewing the lecture, there is no way to see the event/invite details like the people who were invited and how long the event will last. Thus, users are expected to remember these details from the previous page, but they might not remember and want to check who hasn't shown up or how long they have left in the watch party.

Fix: Display the event/invite details on the lecture viewing page

36. [H6 Recognition rather than Recall] / Severity: 4 / Found by: A B C D

When viewing all invitations, and choosing whether or not to accept them, you are presented with the time and date, however there is no display of your schedule to accompany these invitations. As a result, you will have to navigate back and forth between your schedule and these invitations in order to decide whether to accept a given one.

Fix: Embed invitations in a calendar like format, or reintroduce the calendar from the homepage so that you can cross reference your availability with the invitations.

37. [H7 Flexibility & Efficiency of Use] / Severity: 2 / Found by: A B

Currently, users have to send individual invites for each event or lecture they want to watch. For advanced users who have a routine time and group for watching lectures, this procedure is not efficient and flexible.

Fix: Add functionality so users can set a recurring event/invite

38. [H7 Flexibility & Efficiency of Use] / Severity: 2 / Found by: B C D

Pending invitations contain relevant fields (i.e. the name, class, and lecture) but miss the time and date of the invitation event. I'm also unclear whether the name of the person inviting you is the most essential information in this invitation, but it appears to be so given its font size and weight.

Fix: Because this modal is an invitation, "class & lecture" can be visually identified as event titles in calendars are, with the time and date listed underneath as a secondary field. Shown below is an example from which you might draw inspiration. (You can also modify the importance of the name in the way that this invitation does, by displaying it but not above the actual lecture and time).

39. [H7 Flexibility and Efficiency of Use] / Severity: 1 / Found by: A B

If a user has a lot of invitations they want to accept or perhaps a person whom they want to watch all lectures of a class with, it might be a tedious process to have to manually accept/invite for each lecture.

Fix: it'd be nice to have an accelerator for "accept all" or "invite all" such that a user doesn't have to do each step separately.

40. [H7 Flexibility & Efficiency of Use] / Severity: 3 / Found by: C

Pending invitations contain the date and time of the event but not how long it will last, which makes it difficult to accept or decline if you have, say, an hour and not an hour and a half block in your schedule at that time.

Fix: Include the entire duration of the event in the event invite. It also might be useful to convert the time

of the invitation to whatever the user's time zone is, in case they aren't in P.S.T. so they don't have to do those manual conversions.

41. [H7 Flexibility and Efficiency of Use] / Severity: 1 / Found by: C

The chat box occupies a lot of real estate on the screen, even when it is not actively being used, pushing the faces of the people you're watching the lecture with to the uppermost corner of the screen. It's difficult to move your eyes from the center of the lecture to the upper corner since they aren't aligned and while the chat isn't being used the blank grey box is mostly cluttering.

Fix: Make the chat minimizable and align the video conference call with the lecture video so it's less cognitively straining to go from center to corner.

42. [H7 Flexibility and Efficiency of Use] / Severity: 1 / Found by: B C

It appears as though the user's own video will be shown in the bottom right hand corner of the screen, but otherwise it is difficult to identify it as being your screen. Since it appears as though mute and stop video functionality will have to be done from that box, it might be good to have more identifying features so that the user can access their own video and make modifications quickly.

Fix: Outline my video in a different color, place it in the top left, make it smaller (when not hovering) or bigger (when hovering) than the other videos. As a side note, I'm not sure what the mute button with Pau's name next to the label that says 'Me' means, but I would remove dual sets of names and have it say either one or the other (it might be a mistake).

43. [H7 Flexibility and Efficiency of Use] / Severity: 2 / Found by: C

It seems like users might be messaging only singular people within the chat, which could start to clutter the messaging visual if people are using it to communicate with single people as opposed to the group.

Fix: If you anticipate this to be a frequently used feature, add a private message option in the text field.

44. [H8 Aesthetic and minimalist design] / Severity: 2 / Found by: D

The confirmation message for a question is unnecessary - it doesn't provide information about the question itself.

Fix: Make a less invasive or more informative way of telling them their question was sent.

45. [H8 Aesthetics & Minimal Design] / Severity: 2 / Found by: A C D

The aesthetics of the my classes page is a departure from both the first screen of the onboarding and the final home screen we are taken to, in terms of the blue background and the typography (you use the same font for your logo that you do for the label 'my classes' versus the font that you use for other titles in the home screen)

Fix: I would pick a standard color for the onboarding screens, and use the font you have in your home screen to signal page titles rather than the one you use for your logo.

46. [H8 Aesthetics & Minimal Design] / Severity: 3 / Found by: C

The home screen that is currently shown seems optimized to fit only three upcoming events and 1 - 2

pending invitations at most. There is a calendar off to the right, which contains arrows to navigate back and forth, which I'm not entirely clear is useful given the space it takes up (it seems to clutter, even if there is functionality meant to appear later on). If you have more than a few upcoming events, or a few pending invitations, you may have to use horizontal scroll (which on desktop is unintuitive).

Fix: Given the vast amount of space that's empty and the large volume of information you have to display here, I would suggest moving the date shown by the calendar to a simple text 'November 4th' underneath the 'Hi David' greeting, and exploring ways of displaying more than a few invitations/events that may not involve a horizontal scroll. I would also left-align all the elements (the Hey there, David, Pending invitations, and Upcoming) so it feels more organized.

47. [H10 Help and documentation] / Severity: 3 / Found by: A B C D

I have quite a few questions on the lecture page about features I don't find intuitive and can't find answers for on the page. Thus, I think there could be more help and documentation surrounding the page.

- Is the class not synchronous? If it is, then why can I pause and play and what happens when I pause and play? Does this affect others watching the lecture?
- When someone speaks, how does that interfere with the lecture volume?
- How do I mute or unmute myself?

Fix: Add a quick tutorial or a help section.

Summary of Violations

Category	# Viol. (sev 0)	# Viol. (sev 1)	# Viol. (sev 2)	# Viol. (sev 3)	# Viol. (sev 4)	# Viol. (total)
H1: Visibility of Status	0	0	2	3	1	6
H2: Match Sys & World	0	4	2	0	1	7
H3: User Control	0	1	4	2	1	8
H4: Consistency	0	7	2	1	0	10
H5: Error Prevention	0	0	0	2	0	2
H6: Recognition not Recall	0	0	0	1	2	3
H7: Efficiency of Use	0	3	3	1	0	7
H8: Minimalist Design	0	0	2	1	0	3
H9: Help Users with Errors	0	0	0	0	0	0
H10: Documentation	0	0	0	1	0	1
Total Violations by Severity	0	15	15	12	5	47
Note: check your answer for the green box by making sure the sum of the last column is equal to the sum of the last row (not including the green box)						

Evaluation Statistics

ex) If Evaluator A found 1 of the 4 total severity 1 violations, they would put down 25%

Severity / Evaluator	Evaluator A	Evaluator B	Evaluator C	Evaluator D
sev. 0	100%	0%	0%	0%
sev. 1	20%	53%	53%	20%
sev. 2	40%	33%	53%	33%
sev. 3	67%	25%	58%	33%
sev. 4	80%	80%	80%	100%
total (sev. 3 & 4)	71%	41%	64%	53%
total (all severity levels)	45%	30%	57%	37%

***Note that the bottom rows are *not* calculated by adding the numbers above it.**

General Recommendations

Go back into the UX: I think the app has a stronger reliance on UX than most other applications, since there are several logical and complicated flows the user has to go through to access core functionalities. It might be helpful to do a UX storyboarding/redesign of some key features to decide what order to present information in, and what nuanced features users might want. It would be good to clarify middle steps in task flows, like providing non-invasive confirmation messages, and preserving information that users may want to revisit.

Revisit the organization of the classes page: I think the classes pages could be organized in a more effective manner based on date to make it more clear when the different invites are instead of just a list of lectures and invites.

Revisit the checkpoint feature: The checkpoint question feature is very valuable and should be built out more, like how answers are submitted, how solutions are shown, and how all this information will be stored for later access.

Provide a visual of the user's schedules: I think multiple pages would benefit (scheduling-wise) from having the calendar visible, and it would make it much easier to use. I also believe that your next round of usability testing should provide users more options on where to click / how to go about doing the tasks, so that you can see and analyze their mistakes. The checkpoint question interface lacks visibility and does not give users control on editing/retracting their own questions which is super important to them feeling comfortable using the app.