

Team 3: 404 Users Not Found

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Our Designs

We decided to move forward with the ideas of Onboarding Portal, Visible Progress Bar, and Chat Mapping Interface because we felt like they each solved niche recurring problems observed within socially sensitive situations by providing clear expectations and communication tools. These designs all aimed to minimize the impact of miscommunication and assumptions in socially sensitive situations, each using their own drastically different methodologies.

For the Onboarding Portal, we actually decided to combine two ideas from our original brainstorming session. These two ideas being a new employee/intern portal for companies, and a problems/concerns portal for organizations. The idea behind the problems/concerns portal for organizations was a place where employees, students, etc. could post problems or concerns that they encounter, and other employees or students could give feedback and vote on these problems so that managers/organization owners could see what problems people are most concerned about. We decided the Onboarding Portal was the more viable idea to move forward with due to the fact that we had a clearer idea of how this design could be implemented, but we agreed that certain aspects of the problems/concerns portal could also be implemented within this idea.

For the Visible Progress Bar, we immediately knew this would be one of our three designs due to the fact that it is a physical artifact and nothing else even remotely similar exists. We wanted at least one of our ideas to be a physical artifact, because prototyping and designing a physical artifact presents unique challenges and a different design experience. We also had another physical artifact design as well. This idea was an ambient light object for roommates/partners, where colors are used to indicate statuses such as “we need to talk”, “not ready to talk yet”, and “let’s revisit this”, all without physical contact or conversation. We thought it was a good direction but could lead to confrontation and was not applicable to different situations. We decided that the Visible Progress Bar was a more viable and unique idea that would be useful in many different scenarios and situations.

For the Chat Mapping Interface, we derived this idea from a previous one that we were originally going to move forward with. Our original idea was an overlay to assist users in writing messages, almost like Grammarly, but instead of analyzing grammar, it would analyze the wording of a message and how it may be interpreted by the receiving end. As we thought about this idea, we decided to diverge from a focus of analyzing and assisting with messages because it would be hard to assume intent and emotions. Instead we focused more on increasing understanding, coherence, and minimizing misunderstanding through organization. This led to the idea of a Chat Mapping Interface that would organize chats into a clean, comprehensible layout. We felt that this idea was better overall than the sensitive messaging assistant when considering existing approaches to writing aids.

Design 1: Onboarding Portal

For many companies, current employees and new employees the process of onboarding is somewhat dreaded. In this period the new employee or intern must learn how the company functions and how to actually do their job day to day. They are thrown into a new environment without much understanding of what they should be doing day to day and what success is in their day to day. Two of our group members have experienced this onboarding process and felt it to be difficult, especially at the beginning. For this reason our team decided to design this Onboarding Portal UI. The idea is that there is a place for a new employee to feel more competent about their place in the company, find resources and contacts of people that can help them and express concerns and issues that they have day to day to in order to streamline this process and settle the stress from all sides.

New Employee Pages:

Resources Page

Below is the Resources page of the site. It is a place where the new employees can go in order to first address their issues. Here they can type into the search bar wherever issues they are having and find resources related to that issue. If there are any documents related to this issue the user can download them in order to get helpful information on that specific issue. If the document does not help or there are not any documents to solve the issue there is also contact information on this page for anyone that works in this field and can help to solve the issue. Below you can see that for the wifi issue Mark is the IT specialist whose information can be found through pressing the contact info button. Also, a recent search can be selected from the right that will automatically search whatever the search was.

The screenshot shows the Onboard platform interface. At the top, there's a navigation bar with tabs: 'Concerns' (blue), 'Resources' (blue), and 'Expectations' (green). Below the navigation is a search bar with the query 'wifi issues' and a 'Search' button. The main content area is titled 'Search Results for: WiFi Issues'. It contains two sections: 'Resources' and 'Subject Matter Experts'. The 'Resources' section features a PDF document titled 'Wi-Fi Troubleshooting Guide..pdf' with a description: 'Step-by-step guide to diagnose and fix common Wi-Fi connection problems.' A 'Download PDF' button is next to it. The 'Subject Matter Experts' section shows a profile for 'Mark' (IT Specialist) with a photo, contact info ('Contact Info' button), and a note: 'Need help with Wi-Fi problems? Feel free to reach out to me for support.' To the right, there's a sidebar titled 'Recent Searches' with items like 'Software shortcuts', 'Client call tips', and 'Report formatting'. The background has a light blue gradient.

When contact info is pressed the below window shows up for help. The x or close can be pressed to close this out.

This screenshot shows a modal window for 'Mark' (IT Specialist) over the previous search results page. The modal has a close button in the top right corner. Inside, it displays Mark's photo, name, title, email ('mark.smith@company.com'), and a brief description: 'Manages and troubleshoots IT systems and network issues, ensuring stable connectivity and smooth technology performance across the organization.' Below this is a 'Close' button. To the right of the modal, the 'Recent Searches' sidebar is visible. At the bottom right of the page, there's a 'ChatGPT' watermark.

Concerns Page:

The next important page is the concerns and issues page. This is where users post their concerns and issues around their work. In this page the user can submit a concern that can be read by their boss or co-workers for them to begin to resolve the issue. The messages from these fellow employees from when they submitted the last status change also shows up on the right side of the screen. When a new concern is added its title is added under concern with the date it was submitted on and the status begins as unassigned.

The screenshot displays the 'Onboard' application interface. At the top, there is a navigation bar with three tabs: 'Concerns' (selected), 'Resources', and 'Expectations'. Below the navigation bar, the main content area is titled 'Current Concerns' and contains a table listing four concerns. The table columns are 'Concern', 'Date Submitted', 'Status', and 'Assigned To'. The concerns listed are:

Concern	Date Submitted	Status	Assigned To
Struggling with the new software system	April 10, 2024	Being Addressed	Alex
Unclear about project priorities	April 8, 2024	In Progress	Sarah
Having trouble with report formatting	April 5, 2024	Resolved	Mike
Unsure how to handle client calls	March 30, 2024	Unassigned	—

Below the table, there is a button labeled '+ Add a New Concern'. A modal window is open, prompting the user to enter a 'Concern Title' (with a placeholder 'Title') and a 'Describe your concern' (with a placeholder 'Write your concern here...'). At the bottom of the modal is a blue 'Submit Concern' button.

On the right side of the screen, there is a sidebar titled 'Recent Advice & Comments' containing three messages from other users:

- Alex:** "Don't worry, we'll go through the software together step by step!"
- Sarah:** "I'll clarify the project tasks with you tomorrow."
- Mike:** "I uploaded a report template to the resources tab, check it out!"

Expectations Page:

Below is the final page. This page will show the expectations for the employee. The employee can see what assignments and tasks are coming soon. The employee can also type in a task, select its urgency and assign it a due date. When they press add task, the task will be added on the left to their calendar with its urgency level. At the top is also a message to the new employee to show them they are on good track, this could be different depending on how on track they are.

The screenshot shows the 'Onboard' application interface. At the top, there are three tabs: 'Concerns' (disabled), 'Resources' (disabled), and 'Expectations' (selected). A green banner at the top center says 'YOU ARE ON TRACK!' with a checkmark icon. Below the banner, there are three sections: 'Today', 'This Week', and 'This Month'. Each section has a table with columns for Date and Task. The 'Today' section shows 'Nothing scheduled'. The 'This Week' section shows two tasks: 'Urgent client meeting' (Urgent) on Tuesday and 'Start the quarterly report' on Thursday. The 'This Month' section shows two tasks: 'Shadow senior project manager' (Important) and 'Attend team training session' (Standard) both on March 20th. To the right of the sections is an 'Add Task' form with fields for Task, Urgency (dropdown menu), Due Date (MM/DD/YYYY calendar), and a blue 'Add Task' button.

Date	Task
Today	Nothing scheduled

Date	Task
Tue	Urgent client meeting (Urgent)
Thu	Start the quarterly report

Date	Task
03/20	Shadow senior project manager (Important)
03/20	Attend team training session (Standard)

Add Task

Task:

Urgency:

Due Date:

Admin Pages:

Admin Home Page

The admin pages (which would be current other employees or the boss of the new employee) would have a page that they open up to where they can view all of their new employees and this would be where they go to their specific pages. This would also be where this stakeholder could add another employee. This page gives some information on the employee such as their name, email, job, number of unaddressed concerns to make it easier on the boss so that he does not have to go into each employee's page and check individually, their current status and most importantly the way to open their onboard portal. Once open is pressed their onboard portal would be opened for that employee.

Admin Onboard

Name	Email	Job Title	Unaddressed Concerns	Date Created	Status
Johnny	johnny.smith@email.com	Marketing Coordinator	3	April 5, 2024	On Track Open
Sarah	sarah.jones@email.com	Project Manager	5	March 28, 2024	Slightly Behind Open
Mike	mike.davis@email.com	Software Engineer	1	March 20, 2024	Way Behind Open
Lisa	lisa.white@email.com	HR Specialist	0	April 10, 2024	No Tasks Open
David	david.miller@email.com	Sales Associate	2	April 2, 2024	On Track Open

Add a New Employee

Name	Email	Job Title
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="button" value="Add Employee"/>		

Admin Pages Inside Employees Portal:

Below the admin is in one of their employees portal. This is evident by the name change on the top which is now the user's name then Onboard so the boss or co-worker with admin access can easily tell whose site it is. In order to leave this employees portal Other Employee can be pressed to go back to the admin Home.

Admin Concerns Page:

The admin concerns page is almost identical to the normal concerns page but it would have the ability to adjust status of concerns, assign concerns and add new comments.

The screenshot shows the 'Johnny's Onboard' admin interface. At the top, there are tabs for 'Concerns' (which is active), 'Resources', 'Expectations', and 'Other Employee'. Below the tabs, there's a section titled 'Current Concerns' with a table showing five entries:

Concern	Date Submitted	Status	Assigned To
Struggling with the new software system	April 10, 2024	Being Addressed	Alex
Unclear about project priorities	April 8, 2024	-- Select --	Sarah
Having trouble with report formatting	April 5, 2024	Being Addressed	Mike
Unsure how to handle client calls	March 30, 2024	In Progress	-- Select --
Resolved	March 30, 2024	Resolved	On Hold

On the right side, there's a 'Recent Advice & Comments' section with three messages from Alex, Sarah, and Mike. Below that is a 'Add a New Comment' form with a text input and a 'Submit Concern' button.

Admin Resources Page:

The admin resources page similarly would be almost identical to the resources page for the new employees but employees could be added and documents can be added. These resources would be added to all employees' resources.

The screenshot shows the 'Johnny's Onboard' admin resources page. At the top, there are tabs for 'Concerns', 'Resources' (which is selected), and 'Expectations'. A search bar contains the query 'wifi issues' with a 'Search' button. The main content area displays 'Search Results for: WiFi Issues'.

Resources: A document titled 'Wi-Fi Troubleshooting Guide..pdf' is listed, described as a 'Step-by-step guide to diagnose and fix common Wi-Fi connection problems.' A 'Download PDF' button is available.

Subject Matter Experts: A card for 'Mark' (IT Specialist) is shown, featuring a photo, title, and a note: 'Need help with Wi-Fi problems? Feel free to reach out to me for support.' A 'Contact Info' button is present.

Add Employee: A form with fields for Name, Position, Email Address, and Job Description, along with an 'Add Employee' button.

Add Document: A section with a file upload interface, including a plus icon, a 'Document Name' input field, and an 'Upload' button.

Admin Expectations Page:

This again is very similar to the expectations page for the new employee but in this page all tasks can be completely edited. The admin would simply have to press the pencil at the end of the row and would be able to edit the whole row. The below shows if every pencil has been selected to edit.

The screenshot shows a web-based application interface for managing tasks. At the top, the title "Johnnys Onboard" is displayed, followed by a blue button labeled "Other Employee". Below the title, there are three navigation tabs: "Concerns", "Resources", and "Expectations", with "Expectations" being the active tab. A green banner at the top of the main content area says "YOU ARE ON TRACK!" with a checkmark icon.

The main content is organized into three sections: "Today", "This Week", and "This Month".

- Today:** Shows one task: "Nothing scheduled".
- This Week:** Shows two tasks: "Urgent client meeting" (due Tuesday) and "Start the quarterly report" (due Thursday). Each task has dropdown menus for "Urgency" and "Due Date" and a pencil icon for editing.
- This Month:** Shows two tasks: "Shadow senior project manager" (due 03/20) and "Attend team training session" (due 03/20). Each task has dropdown menus for "Importance" and "Due Date" and a pencil icon for editing.

To the right of the task lists is a sidebar titled "Add Task" containing input fields for "Task", "Urgency" (with a dropdown menu showing "Select"), and "Due Date" (with a date picker). A blue "Add Task" button is located at the bottom of this sidebar.

Self Check Section

1. Fundamental Differences

- a. Context of use - This design is used specifically for companies in the onboarding phase for a new worker while the other two are meant to be used in an every day environment.
- b. Interaction model and system behavior - This design is set up largely at the beginning and slowly added to, making the database and information storage in the backend super important. Our physical device is changeable completely at any moment and UI just creates separate output based on every individual message input so setting it up at the beginning with backend data is not necessary for these two.

2. Weaknesses and Assumptions

- a. This design assumes that the company who is dealing with the product is willing to invest the time into setting up the system or already has a large amount of helpful data stored.
- b. This design assumes that the new employee needs help in the process of getting used to the new job. That they are not already competent in the company.
- c. This design assumes that the user knows what tasks they will have to complete and when they will have to complete them by.
- d. My design assumes that the people that show up as experts on the resource page would be willing to help the user reach out to them.
- e. This design assumes that the user knows how urgent each task would be when they create it.
- f. This design assumes that the user would be able to notice that they can press on the recent searches and the contact information in the expectations tab.
- g. This design assumes that the user has access to email or some way of contacting the resource “experts”.
- h. This design assumes that the user has access to a laptop at work and would be able to check it and use it throughout the day.
- i. This design assumes that any admin will not harm the system and can be trusted.
- j. The only way to add resources by the current design is by opening up an employees account in admin and going to their resources page, this could add confusion of if the resources are added to just their resources or to all resources.

3. Strengths

- a. This design fortunately would be able to be interacted with by any new employee stakeholders at any company with employees that have access to a laptop and would be helped by this service.
- b. It is able to deal with ones that work in all different departments and places of work just as long as the company sets up the system well.
- c. The admin page can be used by bosses and co-workers.

- d. Unaddressed Concerns and the Status on the Admin Home page would allow the admin to know what employees are having the greatest issue and what employees are the most behind, respectively, just by looking at the table.
 - e. For new employees it is easy to become fearful that you are behind but the expectation page having a message at the top to express if a worker is behind is helpful for enforcement and accountability, it is also easy to see because of its color contrast.
 - f. The design only has 3 pages for a new employee that are fairly straight forward enhancing the user experience
 - g. The color design is very calming and simple but intuitive.
4. Interaction Flow Differences
 - a. This design is one that would be interacted with throughout the day. There could be updates to the information, like their concerns being interacted with and their tasks being added to. The other two designs would be ones that the user sets up and deals with on their own. If they do not make a change there would be no change to the information on their account.
 - b. This design has multiple pages that are built into the website, each page has its own function and they all are meant to work together. One of the other designs has no online interface and the other design has just one functionality. This functionality makes it so multiple tabs can be added by the user to check different chats. So mine has multiple set pages and one has no pages and the other has an addable amount of pages.
 5. Informed by Milestone 1
 - a. In milestone one we found that communication is one of the most common reasons why socially sensitive situations occur. Therefore, we decided that something that helps with communication would be particularly helpful. Two of our group members also have experienced how painful onboarding can be and how many socially sensitive situations it can create. For example, from our milestone one we found that people often struggle to share feedback with most any social pressure. This is especially true for people in new situations. For this reason we thought that a place to express concerns would be particularly helpful. Similarly, problems often arise when expectations are not communicated between parties, for this reason we decided to create the expectations page, where they can be clearly communicated. Finally, when no communication is required and people can simply work on their own, socially sensitive situations will almost never occur because only one party is present. Therefore, we made the resources page where a new employee can find helpful resources to explore without the need of another person.

Design 2: Visible Progress Bar

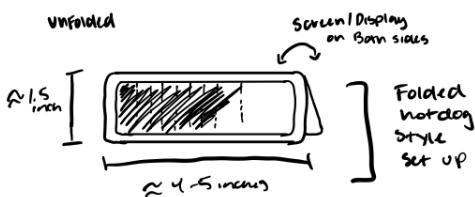
Our Visible Progress Bar is a physical, everyday carry, double-sided display that can show others and/or the user a visible indicator of progress, communication, and productivity. This allows users to decide how and what they want to display to others without the pressures of directly communicating these preferences, in addition to providing the user with complete control over how they decide to use the tool, and where to display it. For others this means, if the user displays this on the go or in a fixed location, they can glance and view information that would help them better understand someone else's unique situation without immediately jumping to conclusions.

Progress Bar

Folded



- Each Bar is task / event / Assignment (whatever you decide)



Display:



- main function : Show Progress Bar on Both sides; this shows user progress & anyone else progress

- Benefit quick + visible status communication
- Segmented Bars show progress checkpoints



Timer Possible for Productivity

③



- Display Name or Contact - approachability feature

NOTES :

- Shouldn't Be Flashing or colorful might be distracting over helpful
- e INK display ²

IT Should Expand from fold (like foldable phones expanding displays)

Half



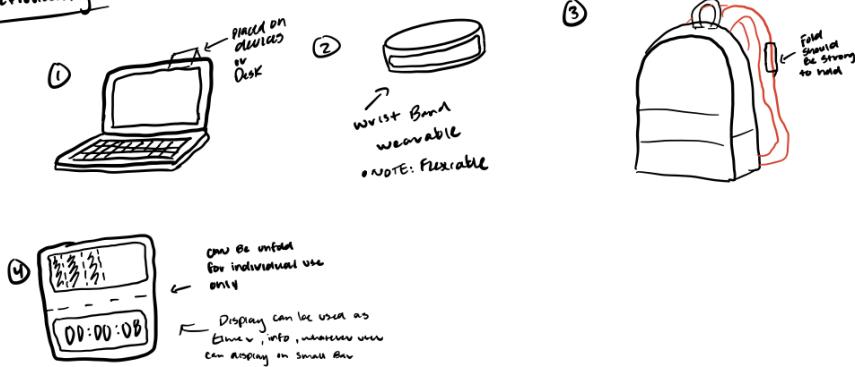
Full



↳ This is for single user functionality! Productivity measurable Progress / time track

Foldable slim design means user can put this anywhere they choose, clothes, display hotdog, around wrist or something else

Functionality:



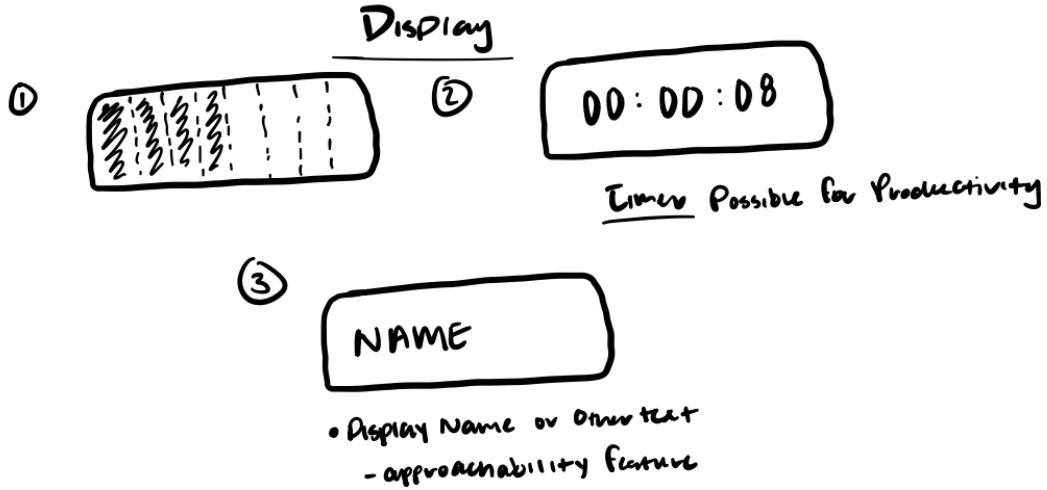
Helps track progress in a non invasive way like showing full schedule would, displays to others so they get an understanding where you are at / it may could help without direct communication (aka no assumptions), immediate feedback, gives user freedom to choose where to put, when to use, what show but not in a distracting way (e.g. ink reasoning plus own accountability)

Possible Points of Failure:

- People without planners
- Impulsive/spontaneous occurrences
- Progress measurement?
 - Ideally should be defined by user but this assumes user knows what progress is?

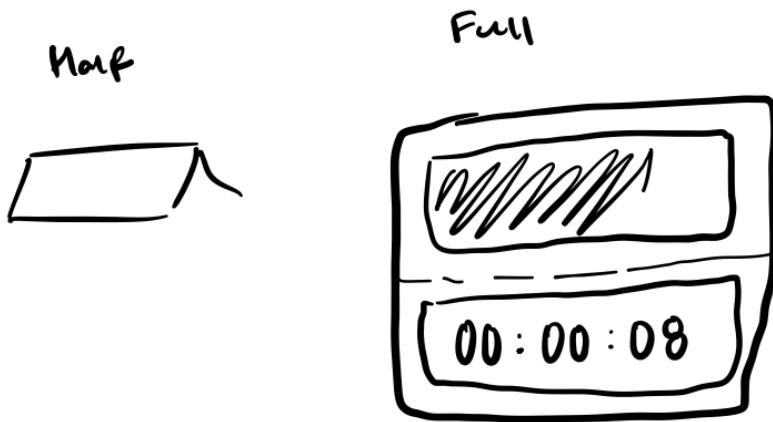
Consideration:

- Customizable display
 - Timers
 - Name tag
 - etc...
 - User can change what is displayed based on needs (different modes)
- Magnetic / Stick to most surfaces
- Squishy button like (Squishy Button) Apple Pencil Pro for interaction w/ display

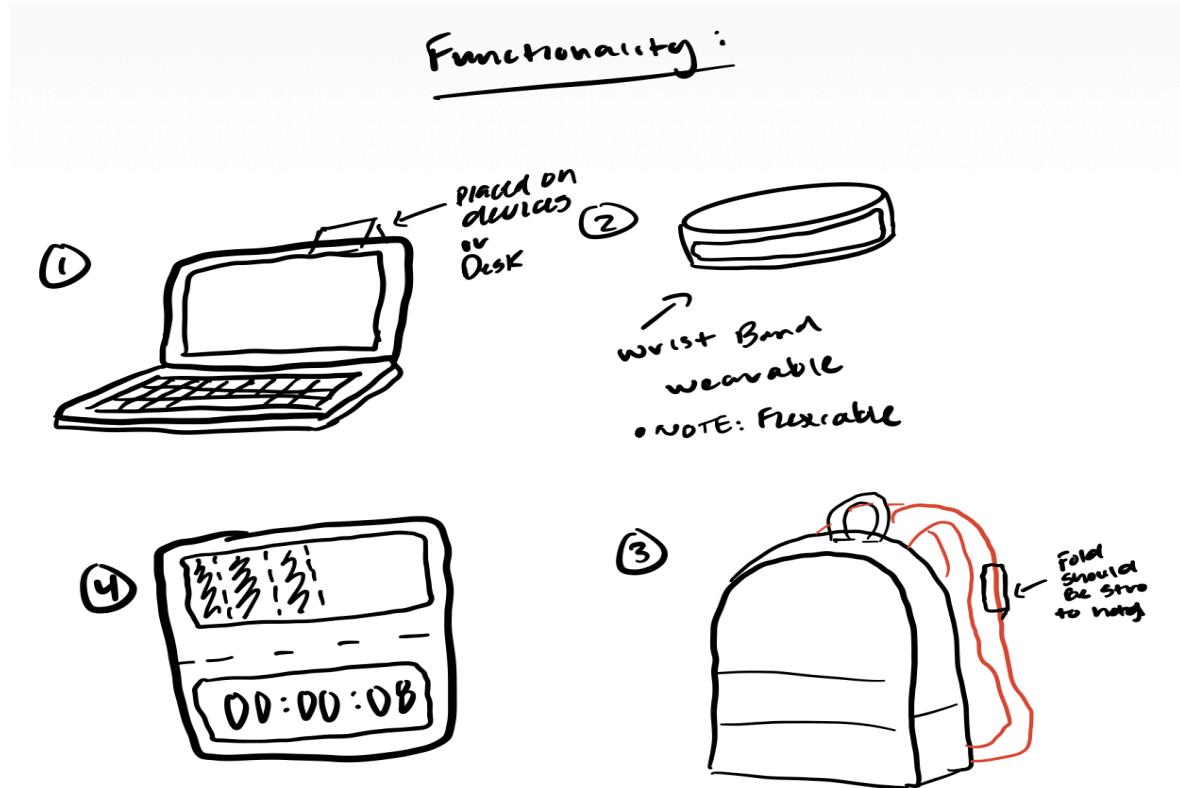


The display would ideally be something low attention (like an e-ink display) grabbing but visible enough for secondary users to glance and comprehend. This was done to address the assumptions that could lead to sensitive situations like interrupting or imposing on someone's individual goal, while also providing the opportunity for the user to invite or discourage interaction directly by displaying their name or some other text.

Expand from fold



The customizable display coupled with its foldable action allows the device to be used as a productivity tool in multiple environments with different options like a timer, personal progress bar, or notification display. If being used unfolded, the user has two displays to work with and if the device can stick/attach to different surfaces (we are not too sure on the technical feasibility of this), it would allow the user to place this practically anywhere they wish.



It is small enough to be attached via the clamping fold action, or stuck to any surface when unfolded. If the screen is flexible enough to allow a wristband like attachment, users can wear or loop the device anywhere they desire. The display would be small and visible enough to be viewed by others but not distracting enough to be a possible beacon that could indirectly lead to unwanted attention.

Self Check Section

Design choice informed by findings from Milestone 1:

This design and choice for the interaction stemmed from peer feedback and our own uncertainty about how we could define and accommodate for the different types of sensitive situations users would find themselves in. Through observations of users' needs during social situations we identified that many of the sensitive situations arise from assumptions and miscommunication made between people, so we looked towards mitigating assumptions without direct communication by having a non-invasive way for a user to display information about themselves. Feedback and observations regarding how a design would allow and expect users to easily and comfortably use this tool in a sensitive situation were also considered. By removing the separate action of having to use the tool within a situation and instead focusing on its everyday usability it addresses the action of when to use the tool indirectly by being something users find useful for productivity. Productivity was another aspect we identified as a possible cause of a socially sensitive situation, as many are unsure of individual progress or struggle to display it, leading to possible misunderstandings or assumptions.

How does the interaction flow differ from the other designs?

- **Interaction Modality:**
 - This is a **Physical Artifact**, compared to the other two web and interface designs.
- **Context and Environment of use:**
 - Compared to the other designs this is a stand alone device intended for users to take **on-the-go** and be able to use in a **fixed location**. A user can display to others information in a **public** setting, while also using it as a productivity tool in a **private/individual** application.
- **User time and attention demand:**
 - This differs from the other two with its multiple applications in different environments, when being used to display information it requires little time for users to **glance** and determine information based on what is displayed. When being used in individual applications such as a **focused environment** it can be used to provide measures of productivity by letting the users set a timer, progress bar, or scheduled events.
- **Input and output mechanism:**
 - This design's physical difference from the other two, relies on users to physically manipulate and customize displays via interactions with buttons/controls on the displays.
 - Where this does become similar to other designs is its **output mechanism**, which is displaying information via a screen.
 - Due to the feasibility of possibly pursuing this for a semester project we didn't try to explore the full extent of **input mechanisms** but did consider how buttons would need to be used to change the screen locally (by the user) over updating via a separate interface.
 - We leaned towards the local option since it gave more control to the users while also seeming simpler to prototype with just buttons changing the display options.
- **Interaction Model and System Behavior:**
 - This design's reliance on **physical interaction** via sensory feedback are also notable differences, but pose concerns regarding the long term usability and integration in society. Our considerations to use haptic feedback stemmed from our efforts to combat assumptions in user vision and motor ability, this was a major concern given that physical ability and vision degrade with age.
 - This design is also completely **user driven**, this was done intentionally to address the need for support in sensitive situations without being something users would actively and awkwardly pull out and use.
 - Being user driven also allowed us to address concerns and questions about how we would define what progress meant for different users by deferring responsibility to users. So it becomes an **active and ambient support** tool based on how the user decides.

What assumptions does this design make about the user and their situation?

- **Primary users:**
 - Assumes users have visibility, motor skills, and cognitive abilities to use and comprehend displays of the device.
 - Assumes primary users have preconceived measures of progress or have some sort of plan that can be measured.
 - Assumes the user has scheduled and accounted for unexpected or spontaneous events that occur throughout someone's days within measures of progress.
- **Secondary users:**
 - Assumes users have visibility, and cognitive ability to view and comprehend displays of the device.
- **Tertiary users:**
 - In specific use cases, where this tool can be used to manage, measure and coordinate progress within a group, corporate, or educational environment, it assumes administrative users have the ability to clearly define measures of progress to be used and understood by many.

Design 3: Chat Mapping Interface

The Chat Mapping Interface allows users to view traditional chat logs as an interactive branching map of topics and subtopics. Instead of scrolling through long, chronological messages, users can now explore conversations by expanding nodes to see how discussions are structured. Branch nodes provide high level summaries and details on how active the conversation is, while leaf nodes allow users to see the key decisions that were made and view the exact supporting messages tied to the specific topic. This helps users quickly revisit complex conversations, clarify what was decided, and better understand context in socially sensitive discussions.

Detailed Narrative:

To illustrate how the Chat Mapping Interface would be used in practice, consider a group of developers who have been discussing issues related to their application over the course of a month. Their group chat includes conversations about authentication errors, API response formats, UI adjustments, and deployment concerns. These discussions will occur across multiple threads at different times, and it can become difficult to quickly identify what was decided, which issues are still unresolved, and where specific explanations were originally mentioned. Now if one of the developers wants to respond to a new authentication related bug, they can open the Chat Mapping interface to review the previous discussions. Rather than scrolling through the full message history, they can just select the Map View to see how the conversation is organized into major topics and subtopics. Their main goal here is to quickly understand what decisions were made about authentication and locate the exact messages that support decisions before drafting a response.

Scenario: A developer is reviewing the conversation from their desktop in a focused setting before sending a follow-up message, allowing them to take the time to explore the discussion structure.

The developer would first begin by opening the Map View where they are presented with a horizontal branching structure that organizes the group chat into major discussion themes (**Figure 1.1 & 1.2**). At this stage, only the root node “Dev Team” and first level categories are visible, including Authentication Questions, API Clarifications, UI & Frontend Adjustments, Deployment & Environment Issues, Meeting & Coordination, and General Conversation.

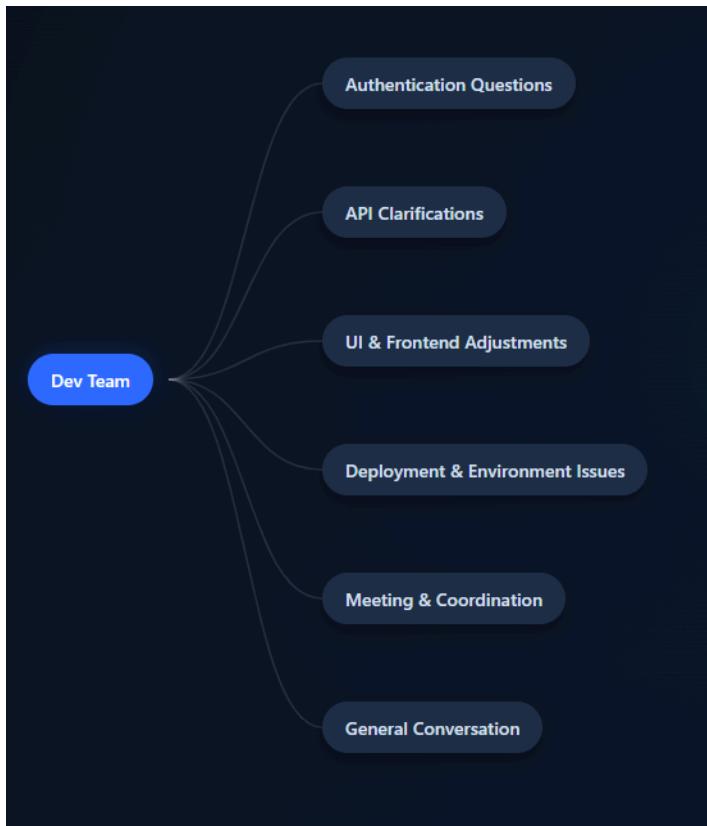


Figure 1.1

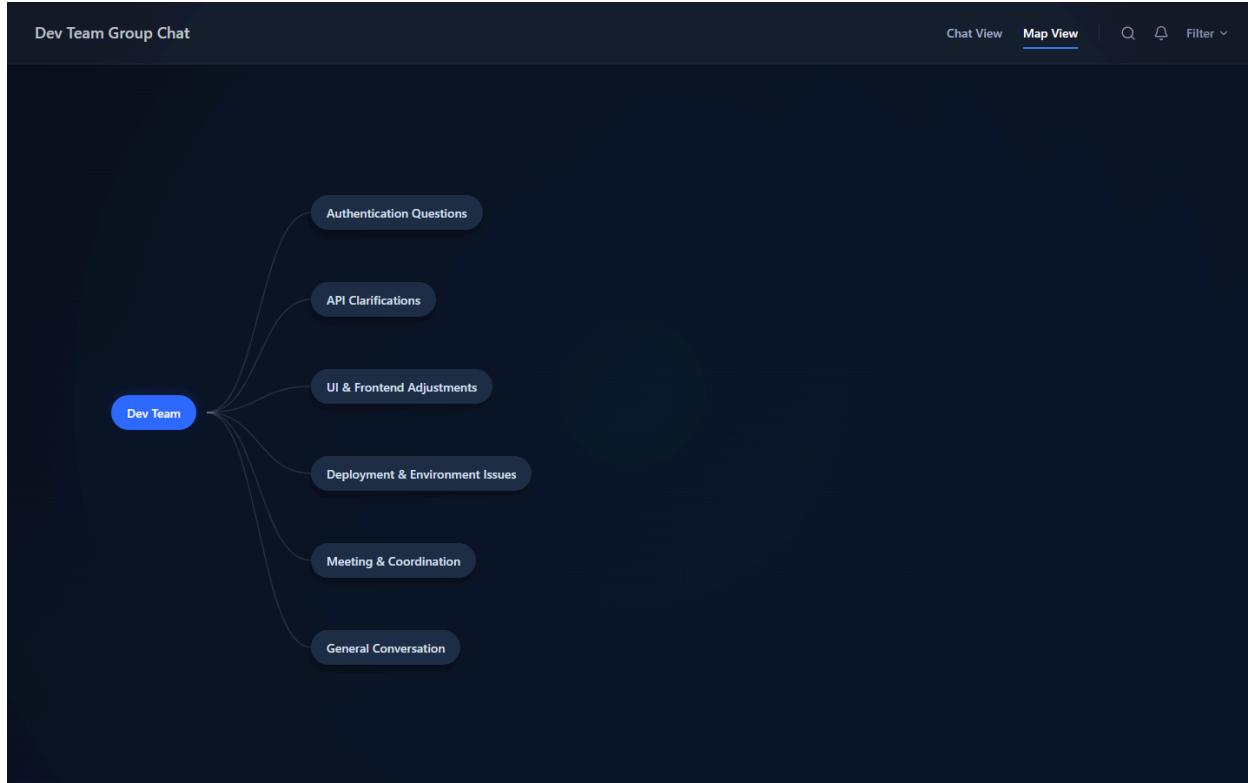


Figure 1.2

No subtopics are expanded yet. This allows the user to quickly scan the main areas of the discussion without being overwhelmed by the details. Additional layers of conversation are only revealed when a node is selected.

After scanning the top level categories, the developer can select "Authentication Questions" to revisit a recent authentication issue that was discussed in their group chat. When this branch node is clicked, its related subtopics expand, including "401 Errors from Frontend", "Refresh Token Not Triggering", and "Logout Behavior Inconsistency." (**Figure 2.1 & 2.2**) The rest of the top level categories will remain visible but collapsed in order to keep the interface structured and focused.

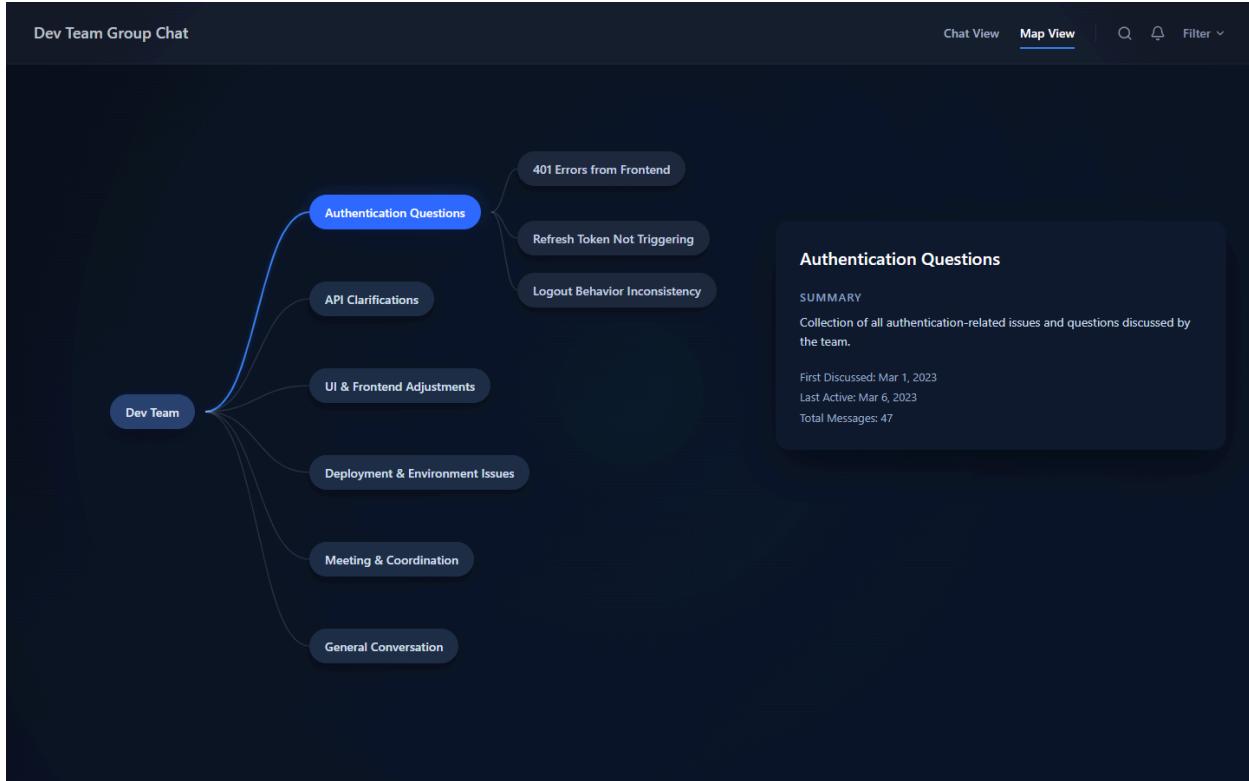


Figure 2.1



Figure 2.2

Since “Authentication Questions” is a branch node rather than a leaf node, the right hand panel displays a high level summary of the topic, along with metadata such as the first and last discussed dates, and the total number of related messages. (**Figure 2.3**) This level does not yet display specific decisions or supporting messages. The idea of the branch nodes is to provide overviews, while detailed information is provided for deeper levels of the map.

The screenshot shows a dark-themed software interface with a central summary card. The title of the card is "Authentication Questions". Below the title is a section titled "SUMMARY" in blue text. The summary text reads: "Collection of all authentication-related issues and questions discussed by the team." At the bottom of the card, there are three pieces of metadata: "First Discussed: Mar 1, 2023", "Last Active: Mar 6, 2023", and "Total Messages: 47".

Figure 2.3

Next, the developer wants to narrow down the focus, so they select “Refresh Token Not Triggering” which is a leaf node within the Authentication Questions branch. (**Figure 3.1 & 3.2**) This node will reveal more detailed information in the right hand panel, so instead of just showing high level activity metadata, the system now displays a summary of the issue along with the key decisions that were made during the decision. (**Figure 3.3**)

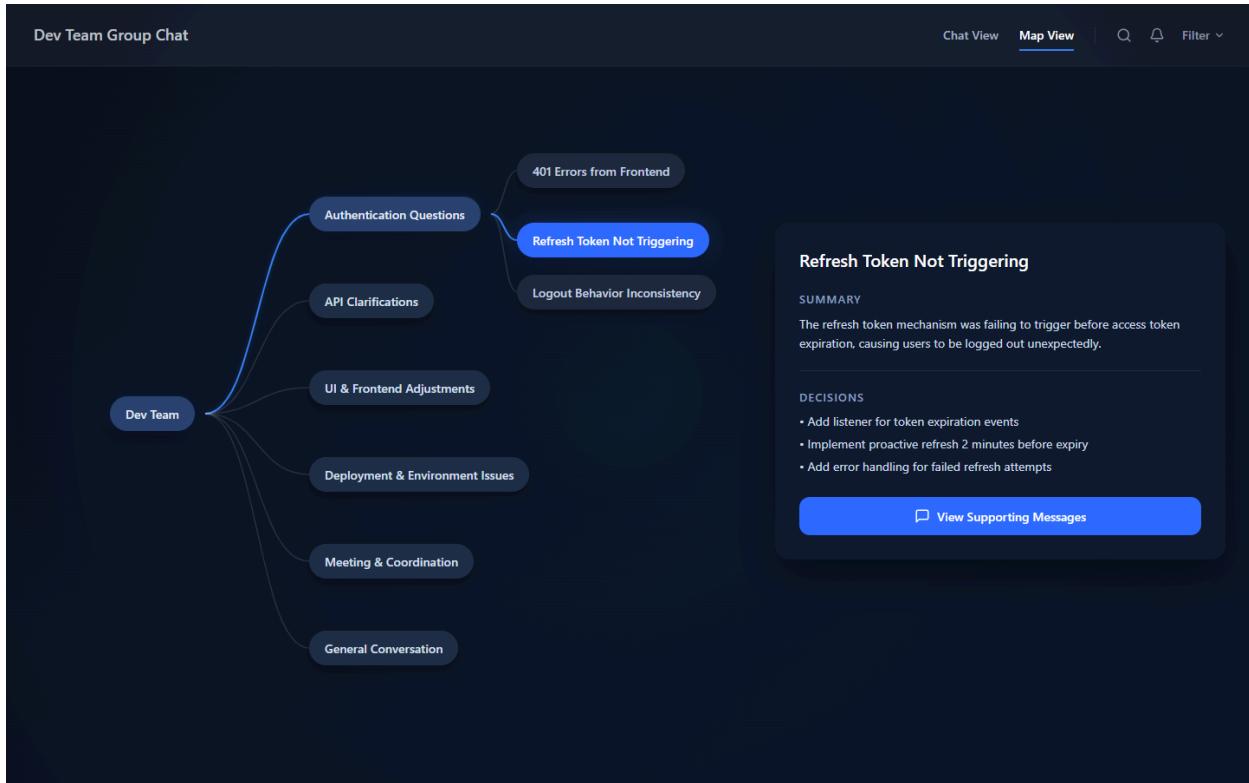


Figure 3.1

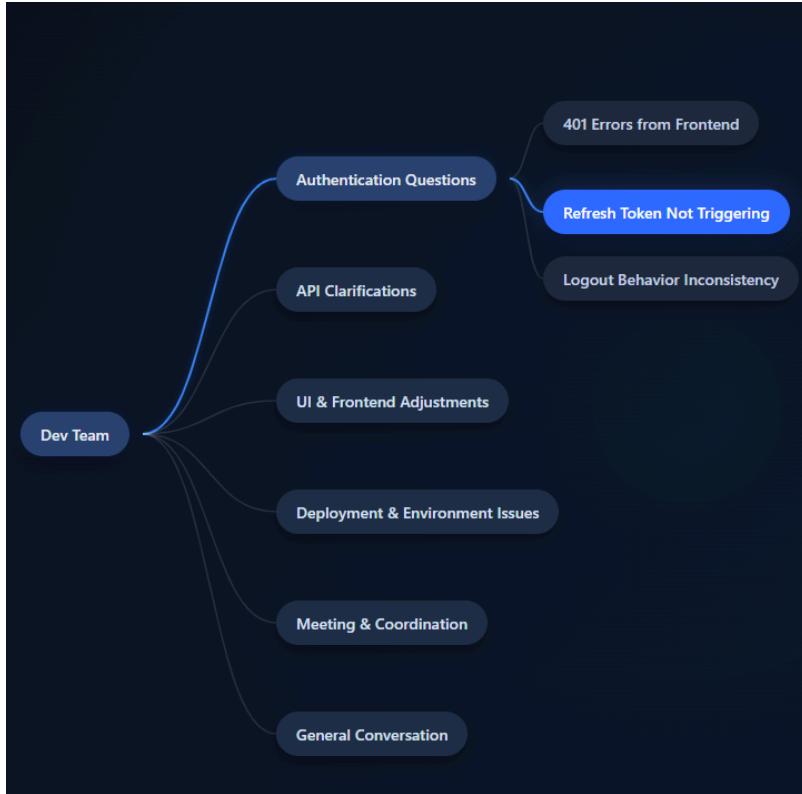


Figure 3.2

Refresh Token Not Triggering

SUMMARY

The refresh token mechanism was failing to trigger before access token expiration, causing users to be logged out unexpectedly.

DECISIONS

- Add listener for token expiration events
- Implement proactive refresh 2 minutes before expiry
- Add error handling for failed refresh attempts

[View Supporting Messages](#)

Figure 3.3

Since this is a leaf node that represents a specific discussion thread rather than a broad topic category, a “View Supporting Messages” button is also available. This allows the user to access the exact chat messages associated with this issue. (**Figure 3.4**) At this level, the interface provides more of the concrete details that help the developer verify what was said and what actions were agreed upon.



Figure 3.4

Continuing down the expanded path, the developer can select the “401 Errors from Frontend” branch which then expands the tree further, showing a summary and metadata as discussed before. (**Figure 4**) The developer can then select the “Access Token Expiration Timing” leaf node and view the summary, key decisions, and supporting messages relating to that thread. (**Figure 5.1 & 5.2**)

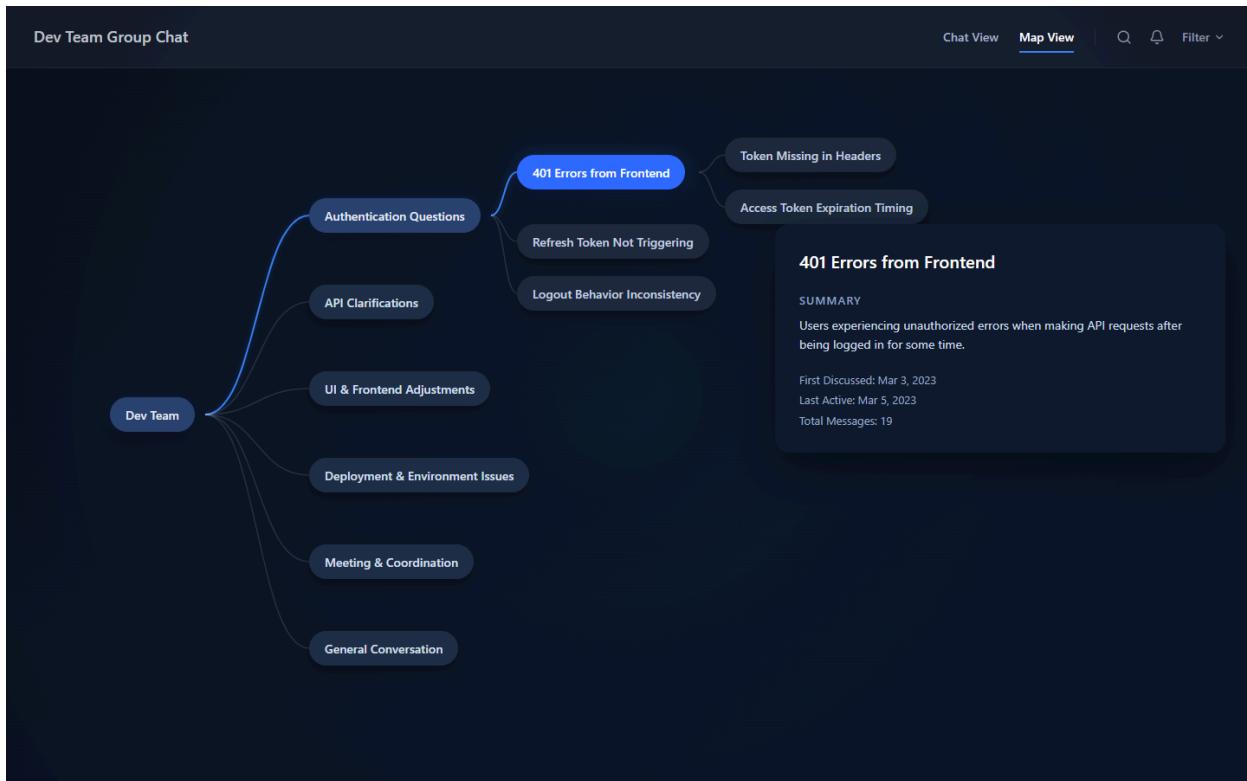


Figure 4

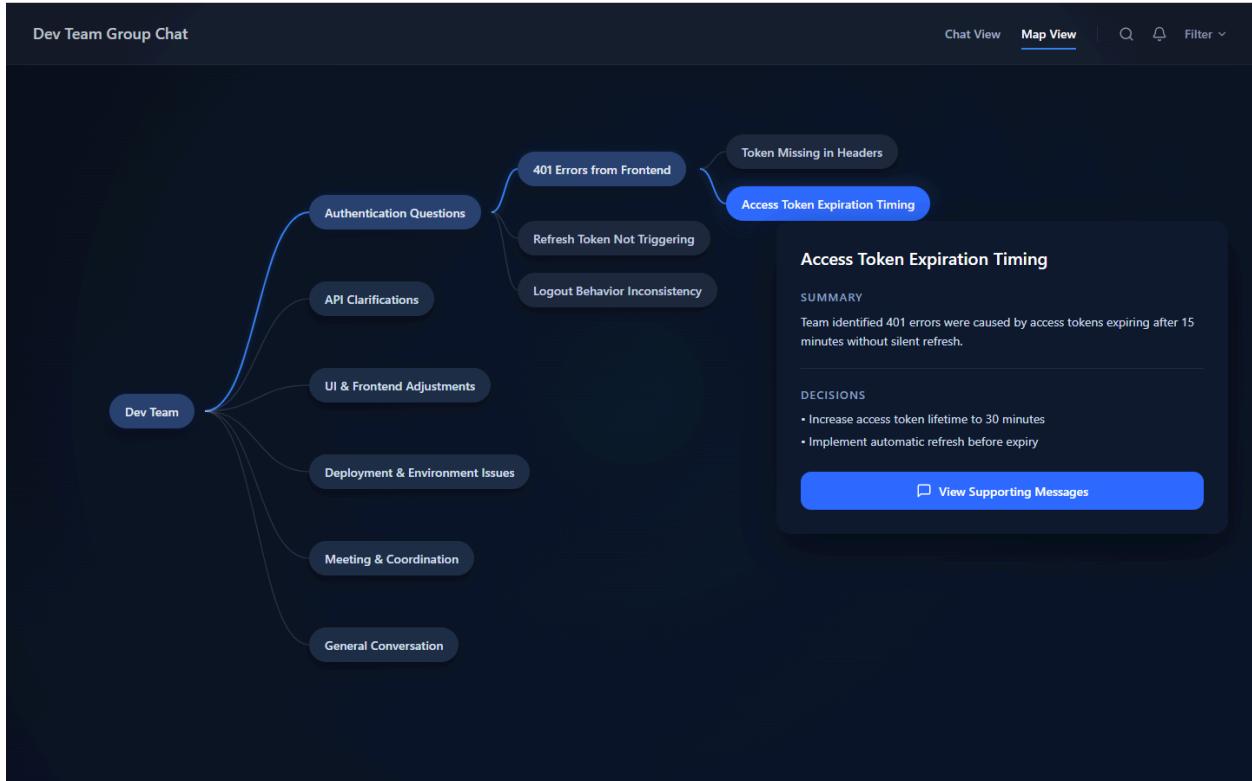


Figure 5.1

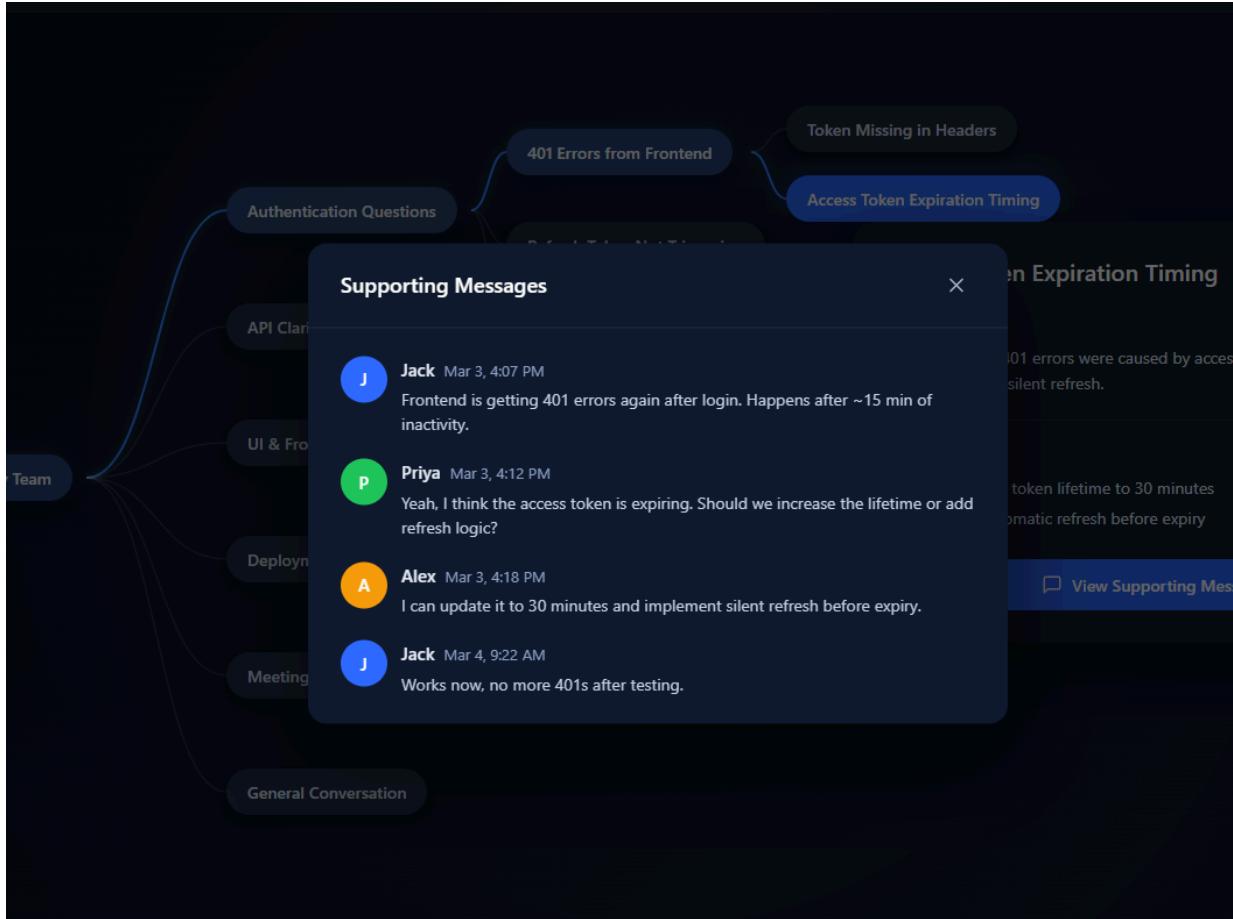


Figure 5.2

At this point, the developer has reached the specific issues they were looking for and can clearly see what decisions were made regarding token expiration timing, and refresh tokens not triggering. By navigating through the structured map rather than scrolling through the entire chat history, they are able to quickly confirm prior agreements and prepare an informed follow up response. This reduces the risk of misremembering details and lowers the cognitive effort required to revisit complex discussions.

Self Check Section:**What makes this design fundamentally different from the other two?**

- **Interaction Modality:** This design is a desktop application that serves as a digital visualization tool that restructures existing conversations into an interactive topic map. In contrast, the Visible Progress Bar is a physical artifact intended for public display, while the Onboarding Portal is a structured, multi-page websystem designed for workplace coordination.
- **User Time and Attention Demands:** The Chat Mapping interface assumes that users are in a focused environment and have the time to review past discussions. It supports deeper engagement rather than quick glance interactions such as the Visible Progress Bar, and the Onboarding Portal is intended for continuous task management throughout the workday.
- **Interaction Model and System Behavior:** This design allows users to explore conversations in a non-linear manner by expanding branches and selecting leaf nodes to move from broad topics to specific decisions and supporting messages. Instead of following a fixed sequence of pages, users choose their own path through the discussion based on what they are looking for. In comparison, the Onboarding Portal follows a more structured page by page workflow, and the Visible Progress Bar is designed to display information rather than support the exploration of information.
- **Context and Environment of Use:** This interface is intended for use in a focused environment, such as at a desktop before responding to a message. The Visible Progress Bar is designed to function in public or mobile settings, and the Onboarding Portal is used within a formal workplace onboarding context over an extended period of time.

What assumptions does this design make about the user and their situation?

- The user is in a focused environment like working at a desktop or laptop where they can dedicate time to reviewing past conversations
- The user has enough time to reflect before taking action, rather than needing a quick interaction
- The user is comfortable navigating a hierarchical structure and expanding branches to explore deeper levels of a discussion
- The user can stay focused long enough to interpret summaries, decisions, and supporting messages
- The user's primary goal is to clarify what was previously discussed, confirm decisions, and locate evidence
- The conversation being reviewed is complex enough to benefit from structured organization rather than a simple chronological chat log.

How does the interaction flow differ from other designs?

- Initiation: In the Chat Mapping Interface, the user has to intentionally open the Map View with the goal of reviewing a past conversation. In contrast, the Onboarding Portal is accessed as part of an ongoing workflow, and the Visible Progress Bar functions continuously without a formal start point.
- Performing the task: The user navigates a hierarchical structure by expanding branch nodes and selecting leaf nodes to move from high level topics to specific details and decisions with supporting messages. The Onboarding Portal relies on moving between defined pages with specific functions, while the Visible Progress Bar involves simple physical adjustments and glanceable interpretations rather than the structured exploration that the Chat Mapping Interface offers.
- Completion: The task is completed once the user has clarified their understanding of a topic previously discussed by reviewing the decisions and supporting evidence provided. In contrast, tasks in the Onboarding portal are completed when concerns or assignments are updated, and interaction with the Visible Progress Bar ends once information is displayed.

How is this design informed by findings from Milestone 1?

In Milestone 1, we found that users often struggle to navigate sensitive conversations because they lack time and structure to reflect before responding. Our analysis showed that coordination in these situations requires multiple steps like preparation, communication, and evaluation. We also found that many existing communication tools prioritize speed and efficiency, which can create pressure to quickly respond and increase the likelihood of misunderstandings. Because of these findings, our design emphasized the need for structure and reflection before users take action. The Chat Mapping Interface addresses this by allowing users to take a step back from a live conversation and review it in an organized fashion. By breaking down discussions into themes and subtopics and by providing access to supporting messages, the design helps users clarify decisions and reduce the risk of misinterpreting details.

Strengths:

- Helps support reflection and preparation
 - The interface allows the user to take a step back and review discussions before responding
- Reduce cognitive load
 - Users don't need to scroll through long chronological chat logs to find important information, since conversations will be organized into major themes and subtopics.
- Improves Clarity
 - Including summaries, key decisions, and supporting messages for evidence helps reduce the risk of misinterpreting and forgetting details.

- Non-linear exploration
 - Users can navigate directly to a topic that's on their mind, instead of having to follow a chronological sequence of chats
- Organizes complex discussions
 - The hierarchical structure works well for long discussions since users are given more structure to their conversations

Weaknesses:

- Requires focus
 - The interface assumes that users have the time and focus to explore a structured visualization
- Less effective for short conversations
 - In short conversations, a full mapping interface might feel unnecessary
- Not appropriate for live conflict/discussions
 - The design is meant for reflection, so it may not be helpful during fast moving moments
- Categorization must be accurate and understandable to the user
 - The map is only useful if the content of the discussions are grouped correctly into topics and subtopics. Poor organization could lead to reduced clarity.