

# **HCI PROJECT**

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## **Description of the digital UI product Chosen**

The product chosen by the team for the course is Discord. Discord is a digital communication platform that combines the idea of forming communities where people can interact with each other via chat, voice channels, video conferencing, and media sharing all into one application. Discord was initially solely used by gaming communities as it provided them with very effective solutions for audio channels. With Discord being a browser-based platform, the gamers did not have to download any software and could join a call with just a click. This seamless method made it very popular in the gaming world.

However, since the past half a decade, it has become one of the mainstream platforms for social groups, academic communities, networking, classrooms, and whatnot. Discord is much more than just a chat app, with the option to create private servers, it acts as a virtual hangout place for friends, where they can hop on the voice channels in servers, to play games, watch movies, interact with discord bots and many more. Teachers and clubs adopt it, share resources, schedule events, whereas large community servers act as a networking site, where thousands of members can share their ideas in dedicated channels while moderators use roles and permissions to keep things running smoothly. Discord is available on desktop, web, and mobile, making it highly accessible across devices.

## **HCI Methods**

### **Heuristic Evaluation**

Heuristic Evaluation (Figures 1-10 in the Appendix) is a usability inspection method where evaluators assess a product's interface using a predefined set of usability principles. One of the most widely used frameworks is Jakob Nielsen's 10 Usability Heuristics, which help identify issues related to navigation, visual clarity, consistency, error prevention, and overall user experience. This method is effective because it does not require recruiting participants or running formal user studies, making it fast, cost-efficient, and particularly valuable during early stages of design.

Heuristic evaluation is especially useful because it allows teams to uncover both strengths and weaknesses in a system without depending on direct user feedback. It helps identify structural issues such as unclear conceptual models, excessive cognitive load, poor visibility, or confusing

navigation patterns before they become deeply embedded into the design. Finding these problems early allows teams to refine system flows and create more intuitive user experiences before moving on to high-fidelity prototypes or usability testing.

In our team, we conducted the heuristic evaluation through a structured set of steps:

- **Defining the evaluation goal.**  
Our objective was to examine the user experience of the Discord application for our personas, focusing on key workflows such as navigation, communication, notifications, and academic coordination.
- **Selecting the heuristics.**  
We used Nielsen's 10 usability heuristics as the framework for identifying both major usability problems and areas where the system aligns with good design principles.
- **Conducting the evaluation.**  
Each team member individually reviewed different areas of Discord—including the server bar, settings layout, group vs. server structures, announcement visibility, and role management—documenting evidence, severity ratings, and potential solutions.
- **Team discussion and synthesis.**  
We met as a group to consolidate overlapping issues, compare observations, and finalize a complete list of ten heuristic findings. These represent the most critical usability themes that emerged from our analysis and cover all ten Nielsen heuristics.

Below is a summary of the ten heuristic evaluation findings from our analysis:

1. **Cluttered Left Server Bar**  
The server bar lacks text labels and forces users to rely on memorization of icons, increasing cognitive load and violating Recognition Rather Than Recall.
2. **Unnecessary Notifications**  
Discord's default notification settings overwhelm users with constant pings, violating User Control and Freedom unless users manually adjust them.
3. **Overly Complicated Settings Menu**  
Deeply nested and technical settings break the Match Between System and the Real World, making configuration challenging for non-technical users.
4. **Confusion Between Group Chats and Servers**  
Overlapping functionalities between groups and servers violate Consistency and Standards, creating confusion during onboarding.
5. **Buried Messages and Poor Searchability**  
Important information quickly gets lost in active channels, violating Visibility of System Status and making retrieval difficult.

6. **Distraction from Non-Academic Servers**

The blending of gaming and academic servers creates distractions and violates User Control and Freedom without dedicated focus-management tools.

7. **Difficulty Assigning Roles in Large Classes**

The manual and error-prone process for assigning roles violates Error Prevention, especially in large academic servers with many similar usernames.

8. **Buried Announcements in Active Channels**

Critical updates frequently become hidden in busy channels, violating Visibility of System Status and leading to missed information.

9. **Accidental Message Deletion Risk**

Closely spaced message actions increase the likelihood of unintended deletion, violating Error Prevention by making destructive actions too easy to trigger.

10. **Unclear Permission Error Messages**

Brief “You don’t have permission” banners fail to explain why an action cannot be completed, violating Help Users Recognize, Diagnose, and Recover from Errors.

## Competitive Analysis

Competitive Analysis is a fundamental research strategy that is used to systematically evaluate if the design of the product is better or worse than the competitors and also discover the relative strengths and weaknesses of the competitors. Competitive analysis begins with designers identifying the direct and indirect competitors of the product in the market, followed by analyzing the strengths and weaknesses of these competitor products with a focus on the user experience. The comparison of different competitors is done on a holistic level, and includes various aspects such as usability, user flows, visual elements.

This method is particularly useful in helping the designers discover the market gaps, and the unfulfilled user needs that the competitors lack. They can use this knowledge to incorporate those features into their design. With Competitive Analysis, the designers can also gain insights into how the users feel about the competitors, which will help them to identify what to avoid and what to include in their own product. This also provides them with clear and data backed evidence for the design decisions, and helps them generate new ideas and insights to solve the existing UX problems and create a more intuitive customer experience.

While performing the competitive analysis, we selected about 4 competitors of Discord, them being WhatsApp, Telegram, Slack, Facebook Messenger. For all these products, we read the user reviews, the product reviews for various aspects like Ease of Use, Privacy, Costs Involved, Voice and Video Integration, etc. We found these reviews from various sources on the internet, the primary being [getapp.com](https://getapp.com). Using GetApp allowed consistent evaluation of multiple competitors under identical criteria. Second, we included additional competitors based on past experiences of team members who had used these platforms for work, study, or community projects. This ensured the analysis reflected both quantitative data and lived user perspectives. We tabulated our findings in Figure 11. We also scored the competitors as shown in Figure 12. After data

collection and gathering, we also visualized the results in the form of a radar chart which has been shown in Figure 13. We also visualized the results in the form of a row chart for better understanding of the quantitative data as shown in Figure 14. c.

## Surveys

A survey collects structured responses from users through fixed questions. It gives you direct feedback in a simple and organized format. It works well when you need quick data from many people. Surveys help you measure behavior, preferences, and ease of use with clear numbers. They also help you compare user groups and spot patterns. They reduce cost and time because users answer at their convenience. We used a survey built and shared through Google Forms, available at <https://forms.gle/CXtN5u3WyNL9DMjv5>, to understand how people interact with Discord.

The survey questions shown in Figures 15 through 20 cover usage frequency, primary tasks, age range, and years of experience. These items help identify who the users are and how familiar they are with Discord. The survey includes questions on navigation ease, feature discoverability, and overload from servers and channels. These questions focus on core usability factors described in the survey lecture, such as clarity, perceived difficulty, and pain point identification. The survey also includes items on the most used features, device preference, and the hardest parts of the interface. These address task flow and areas where users slow down. Additional questions measure voice chat quality, text communication effectiveness, Nitro impact, and the use of video calls or screen sharing. The final open response item asks users to describe the most useful communication feature. This structure follows the lecture guidance on grouping related items, writing clear questions, and collecting both numerical and short text data.

The responses in Figures 21 through 26 show clear patterns. Most respondents are in the 20 to 29 age range and have used Discord for one to three years. Navigation scores are mostly between three and five, which shows that users find Discord easy to move through. Text channels and voice channels are the most used features. Several respondents report occasional overload from servers and channels. Most prefer the desktop app and do not use Nitro. Voice chat quality receives strong ratings, while text features receive neutral ratings. Open responses highlight that voice channels feel convenient for quick communication and that clear channel organization helps users complete tasks faster.

## Interviews

The fundamental principle of HCI is the user-centered design that aims at the designing of systems that are effective, efficient and user-satisfying. In order to create a great user experience, you need to know in-depth the people who you are designing for. The user interviews are one of the tools that we can employ in this process. User interviews are a qualitative and exploratory

research approach that is utilized during the design early-phase. These interviews will give a chance to interrogate users, and, consequently, which enable the designers to acquire insight into their experiences, feelings, and wants regarding a particular product or service.

The main aim of the interviews is to get deep and contextual insights into what people do and why they do it, what their pain points are, and what their goals are in a way that cannot be quantified by other methods that use quantitative data. In addition to constraining the responses of users like surveys, interviews enable the participants to elaborate freely and reveal some unexpected patterns. Thus they help the designers to dive deeper into the minds of the users and identify the loop holes and gaps in the existing product more profoundly than any other methodology. The interviews in a way also help to foster empathy towards the users, helping them to develop and create more human centered solutions. It also gives the most direct feedback from the users which help them to validate their ideas before investing the developmental resources to bring those ideas to a reality.

In our interview sessions, we team members collectively decided upon the interview questions, and then we individually conducted the interviews with our classmates to know their views on Discord. We noted down all the information that the interviewees gave us and combined this information for analysis. The main challenge we faced during conducting the interviews was to get the interviewees to speak more, and give descriptive answers rather than one word or one sentence answers. We have attached the interview questions in Figure 33. The responses of the interviewees has been given in Figure 17.

## Affinity Notes / Diagrams

Affinity notes help you break complex user feedback into small, clear pieces. They prevent you from mixing interpretation with raw observations. Each note captures one action, problem, need, or quote. This keeps the evidence visible and ensures that design ideas stay grounded in what users said. Affinity notes support good design practice because they make patterns easier to see and create a clear path from data to insight.

Affinity notes helped us turn every interview into focused observations. In class, we first sat in groups and read each interview out loud. One person acted as the reporter and retold the interview, while another acted as the note taker. This matched the interpretation workflow in the lecture slides, where the goal is to capture important issues, user actions, problems, opportunities, and quotes as short notes. The interview questions listed in the appendix guided this process. These questions asked users how they started using Discord, how often they use it, which servers they engage with, and how intuitive they find the interface. The questions also asked about the mobile app, notification settings, challenges, and desired features. Each response to these questions was written as a single yellow note. Yellow notes held only one idea, which kept the raw data separate from our interpretations. The lecture slides explain that this step is

meant to record events, problems, cultural influences, and impactful statements before any grouping occurs.

After creating the full set of yellow notes, we built the affinity diagram. We placed the yellow notes on the board and looked for natural groups. When a cluster of yellow notes described a shared theme, we placed a blue note above them. Blue notes summarized the pattern that connected the yellow notes in that group. Once the blue groups formed, we added red notes. Red notes represented broader issues that appeared across several blue clusters, such as confusion with mobile navigation or difficulty managing notifications. At the top, we added a single green note. The green note held the highest level insight that explained the entire cluster. This color hierarchy reflects the process shown in the affinity diagram lecture, where raw data moves upward into themes, issues, and final insights.

Figures 27 through 30 in the appendix show the full set of affinity notes taken from our interviews. Figures 31 and 32 show how these notes were arranged into the final affinity diagram. Yellow notes form the base layer, blue notes mark the shared themes, red notes identify larger issues, and the green notes summarize the main insights. This process gave us a clear view of where Discord supports user tasks and where users face friction. It also created a strong foundation for design decisions because every theme and issue came directly from real user data.

## Story Boarding

Storyboarding is an HCI method intended to help understand users' wants through visual aids. The goal of this method is to reveal the goal, frustration, and how the user interacts with a system. Storyboarding helps focus on the user experience. In our labs, we focused on the obstacles users encountered and how the system supported or failed them when using the application.

After consolidating our data from affinity diagrams, we found that a few key patterns emerged. The different goals we found when improving Discord were managing notifications, stopping users from joining calls unintentionally, fixing audio issues, and helping users make Discord bots. Our use of “Yes, and” helped us create a lot of new brainstorming ideas that could be implemented to help improve Discord. For example, making it easier for new users to create introductory bots through tutorials could be very helpful. Especially if the user just wanted to experiment with this feature. This idea is shown in Figure 33. Additionally, another great idea that came from brainstorming ideas on ways to improve the notification settings was adding modes. Things like a study and gaming mode could help suppress notifications from some servers while allowing users to see what is important to them at any given time.

The ideas above were just a few ways that storyboarding could help improve Discord for more users. This hci method helped transform our research insights into clear, visual narrative that

highlights where Discord has some challenges with regards to the user experience. This method clarified the emotional and practical impact of each issue and guided us toward more targeted design opportunities. Ultimately, storyboarding strengthened our understanding of user needs and provided direction for future design solutions.

## Prototyping

Prototyping is basically creating a small sample of a product or the proposed design idea in order to get feedback from the users and clients before moving onto the development phase. Prototyping is done as a part of the iterative design process, and is useful as it keeps the users constantly in the loop while designing a product. This helps in identifying the loop holes, and helps the designers understand the design from the user's point of view. Prototype represents the manifestation of the design process and acts as a bridge between the abstract concepts and the tangible user experience. There can be two major types of prototypes- low fidelity prototypes and high fidelity prototypes. These are categorized on the basis of how close they resemble the realistic design and interface. The low fidelity prototypes usually include the paper prototypes, which are simple hand drawn sketches of the system, that represent the workflow of the system. The high fidelity prototypes on the other hand are very close to the real interface and are designed using specialized tools.

Prototyping allows the designers to test the feasibility and the usability of the idea before moving on to the development. They help the developers to develop a user friendly system. By gaining the insights early on, they ensure minimal time and resources are wasted. Prototyping helps to gain feedback on the current design situation. It can get costly to fix mistakes at later stages of development.

We carried out prototyping based on the data that we collected from the affinity diagrams. The affinity diagrams helped a lot to identify the key issues, and gaps that the users are facing. The affinity diagrams also helped us to identify some design ideas, and we have selected two out of those as design recommendations. The prototypes for those design recommendations have been shown in Figure 37, 38 and 39.

## Description of the Data Collected

Our team collected data using several HCI methods, and each one contributed a different perspective on how people use Discord. The heuristic evaluation gave us structured observations about good and bad interface features, especially related to navigation, notifications, permissions, and media sharing. The competitive analysis provided comparative data by examining Discord alongside other platforms like Slack, WhatsApp, Telegram, and Facebook Messenger. This helped us understand where Discord performs well and where it falls short.

We also gathered survey responses from different user groups using a Google Form. This provided both qualitative comments and numerical ratings about ease of navigation, preferred

features, usage frequency, and overall comfort with Discord. Interviews gave us deeper insight into user frustrations, expectations, and real examples of problems they encounter. Many interviewees mentioned issues with mobile navigation, notification settings, and difficulty finding information. We organized these findings using affinity diagrams, which helped group common themes such as navigation issues, search difficulties, and confusion around settings. Contextual design work and personas also contributed background information about the types of users we focused on, such as students, professors, gamers, and casual users. Together, all these data points created a well rounded understanding of Discord's usability.

## Results from Data Analysis

The data analysis revealed several repeating issues across users. One of the biggest patterns was that many features are hard to find, especially on the mobile app. Users struggled with hidden menus, confusing icons, and long lists of channels. The heuristic evaluation repeatedly showed problems with discoverability, clarity of icons, and inconsistent feedback in areas like permissions, notifications, and audio controls.

Survey results supported this. Many users said Discord was only moderately easy to navigate, and several felt overwhelmed by server layouts or menu complexity. Text channels and private messages were the most used features, which highlighted how important clear navigation is. Interview responses added more detail. Users mentioned poor notification behavior, difficulty finding DMs, confusing differences between group chats and servers, and issues with large servers having too many channels. They also noted that audio and streaming problems often happen without clear system feedback.

The affinity diagram made it easier to identify the main categories of problems, such as navigation, search, permissions, and notifications. We also saw strong positive patterns like easy voice channel access, smooth screen sharing, and simple profile editing. The competitive analysis showed that Discord is feature rich, but that complexity contributes to many usability challenges. Other apps were easier to navigate but lacked Discord's tools for large communities. Overall, the data showed that Discord supports many use cases effectively, but its interface often overwhelms new or casual users. These insights helped define the key areas that need redesign or simplification.

## New Design Recommendations

For Discord, based on our interactions with the interviewees, and the data collected we have identified two design idea recommendations.

1. Summarize Unread Messages Feature - From the data collected, a lot of users are annoyed by the constant notifications that they receive from N number of servers and channels. Sometimes these messages are not even useful, and the desktop/mobile keeps

buzzing with these unnecessary messages. The users have tried turning off the notifications for the servers, but then they fear that they might miss out on some important announcements, and messages. The design idea proposed by us is designed to solve this problem. It provides a solution to one of the most annoying aspects of the active servers that is noise. So, basically we are proposing adding a button at the top bar of each channel labelled as “Summarize Unread Msgs”. On clicking that button, instantly you will get a scrollable pop-up that has three options to either copy the summary, mark the messages as read, and to close the pop-up. The pop up would contain a categorized breakdown of the conversations. This filters out the noise and highlights the important messages as well. The prototypes for this design recommendation are shown in Figure 33, 34, and they have been created using Figma.

2. Sent/received check marks - Another common issue from our data was Discord’s clutter. We noticed that the visibility of the system given to the user was nonexistent when directly messaging other users. This can sometimes cause confusion about whether the recipient received and understood the specific message. In some cases, this could cause users to directly message someone again and increase clutter. Therefore, we propose adding check marks to indicate when the user's message was sent and whether it was read. If it were read, the user would see blue check marks. An example wireframe is shown in Figure 39. The image shows how all the messages except for the last one were read by the recipient.

## Description of the heuristic evaluation conducted for the design recommendation and the results

The heuristic evaluation for our new feature enhancement focused on the Summarize Unread Messages design. We evaluated this feature using the Visibility of System Status heuristic because the goal of the design is to show users a clear and immediate summary of unread content without scrolling through long conversations. This heuristic guided us in checking whether the summary button is visible, whether the pop up provides clear feedback, and whether users understand the state of their unread messages. We also reviewed aspects related to Recognition rather than Recall to ensure that the feature does not require users to remember where functions are hidden.

The heuristic evaluation showed that the feature improves information clarity and reduces confusion about unread messages. It gives users control over when they want to view a summary and avoids adding new notifications. These observations helped us refine the placement of the button and the layout of the summary pop up during our prototyping work. Figures 31 and 32 show the affinity structure that informed this design, and the related heuristic evaluation table is included in the Appendix.

The heuristic evaluation for our new feature enhancement focused on the **Read Information for Messages** design. We evaluated this feature primarily using the **Visibility of System Status** heuristic because the goal of the design is to clearly show users whether their messages were sent, delivered, and read by other members in the channel. This heuristic helped us examine how effectively the tick indicators communicate message status, whether the color and number of ticks are immediately understandable, and whether the “Read details” option gives meaningful and timely feedback about who has viewed the message. We also considered aspects of **Recognition rather than Recall**, ensuring that users do not need to memorize what each indicator means or search through hidden menus to find message-read information.

The heuristic evaluation showed that the feature improves transparency in communication and reduces uncertainty about whether a message has been seen. It allows users to decide whether to follow up or wait, which supports smoother interactions within group chats. These findings also helped us adjust the placement of the indicators and refine the “Read details” pop up during our design process so that the feature remains clear without adding unnecessary complexity to the interface. Figures 40, and 41 are related to our early sketches and evaluation notes appear in the Appendix.

### Your role in the team, your contribution to the team

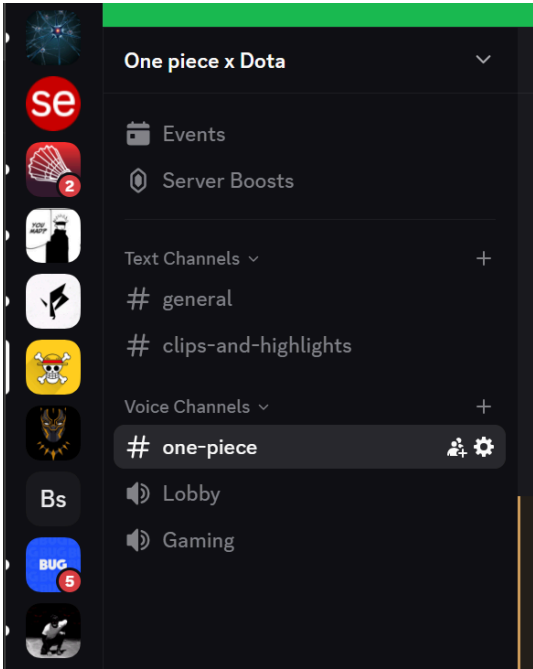
I contributed to all major phases of the project. I helped in selecting the product. I helped in planning, creating, and refining the survey questions. I conducted interviews and recorded detailed affinity notes during the interpretation sessions. I assisted in building the affinity diagram and identifying themes that shaped our design decisions. I worked on the heuristic evaluation by reviewing Discord’s interface and documenting evidence, explanations, and severity ratings. I also contributed to the new design idea and wrote the UAR for the Summarize Unread Messages feature. I supported the team by organizing information, preparing figures, and helping maintain consistency across the report.

### Reflection of the knowledge and skills you earned throughout the course.

This course was different from our usual courses. This was the first time we learnt about how requirements are gathered, all other courses focus on generating the solution given a problem but this course taught how to identify the problems, which really opened up a new perspective on how to approach problems. This project taught me how to apply HCI methods in a structured way. I learned how surveys, interviews, and affinity notes reveal different layers of user behavior. I gained experience in turning raw comments into clear themes that guide design choices. The heuristic evaluation improved my ability to evaluate an interface using recognized principles. The project strengthened my understanding of user centered design and helped me see how each method contributes to a complete analysis. I also learned how to justify design decisions with data and how to work with a team to build a comprehensive final solution.

# Appendix

## 1. Heuristic Evaluation

<b>No. 1 - HE1</b>	Problem/Good Aspect Good Aspect
<b>Name:</b> Intuitive Voice Channel Setup	
<b>Evidence:</b> Heuristic: Recognition rather than recall Interface aspect: The “+” icon for creating channels clearly distinguishes between “Text” and “Voice,” using intuitive icons (microphone and message bubble).  A screenshot of a Discord server interface. The server name is 'One piece x Dota'. The interface is dark-themed. On the left is a sidebar with server icons and a search bar. The main area shows a list of channels: 'Events', 'Server Boosts', 'Text Channels' (with a '+' icon), '# general', '# clips-and-highlights', 'Voice Channels' (with a '+' icon), '# one-piece' (with a microphone icon and a settings gear icon), 'Lobby', and 'Gaming'.	
<b>Explanation:</b> The interface meets the heuristic by allowing users to recognize options through visuals rather than memorizing terms. Both novice and expert gamers can easily identify where to create or join a voice channel.	
<b>Severity or Benefit:</b>  <i>Rating:</i> NA (Good Aspect)  <b>Justification (Frequency, Impact, Persistence, Weights):</b>	

<p><b>Frequency:</b> Very common, since nearly all users create or use channels.</p> <p><b>Impact:</b> High benefit — it speeds up setup and reduces confusion.</p> <p><b>Persistence:</b> Persistent benefit across versions and devices.</p> <p><b>How I weighted the factors:</b> Positive impact and consistent benefit justify categorizing it as a good aspect.</p>
<p><b>Possible solution and/or Trade-offs:</b></p> <p>Maintain current icon design; add hover tooltips for accessibility.</p> <p><b>Trade-off:</b> Slight UI clutter for expert users, but accessibility gains outweigh it.</p>
<p><b>Relationship:</b></p> <p>N/A</p>

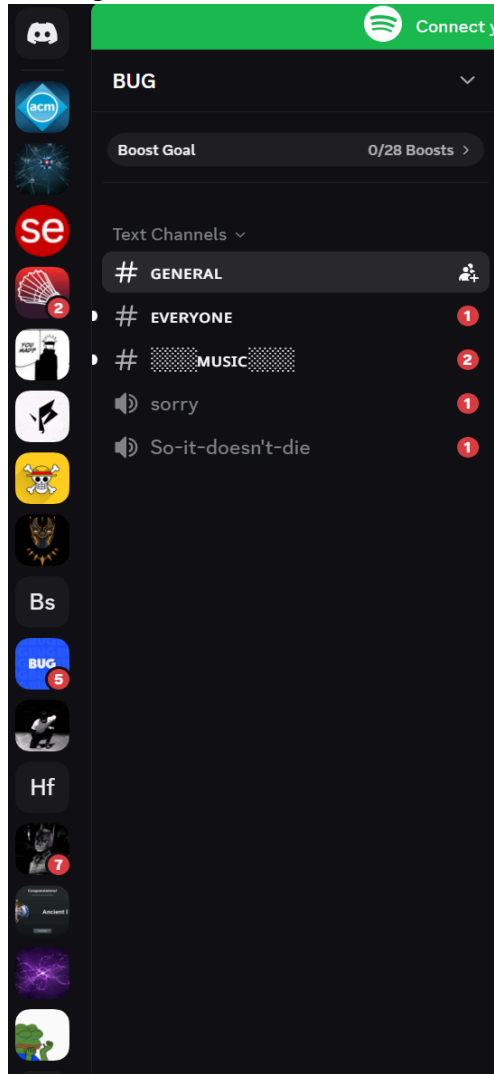
Figure 1

<p><b>No. 2 - HE2</b></p>	<p>Problem/Good Aspect Problem</p>
<p><b>Name:</b> Overcrowded Server Layout</p>	

**Evidence:**

Heuristic: Aesthetic and minimalist design

Interface aspect: Newly created servers often contain multiple default text and voice channels, creating visual clutter in the sidebar.



**Explanation:**

This violates the heuristic since excessive default channels overwhelm users, especially first-time admins. Gamers must scroll frequently to locate relevant channels, slowing coordination during matches.

**Severity or Benefit:**

*Rating:* 3 – Major usability problem

**Justification (Frequency, Impact, Persistence, Weights):**

<p><b>Frequency:</b> Frequent; most servers include unnecessary channels.  <b>Impact:</b> Moderate-to-high; reduces efficiency and focus.  <b>Persistence:</b> Persistent until channels are manually organized.  <b>How I weighted the factors:</b> High persistence and moderate impact justify a major rating.</p>
<p><b>Possible solution and/or Trade-offs:</b></p> <p>Introduce an option to “auto-collapse unused channels” or “minimal server view.”  <b>Trade-off:</b> Could hide important channels unless configured properly.</p>
<p><b>Relationships:</b></p> <p>N/A</p>

Figure 2

No. 3 - HE3	Problem/Good Aspect Problem
<b>Name:</b> Confusing Role Permissions for New Admins	
<p><b>Evidence:</b></p> <p>Heuristic: Match between system and the real world  Interface aspect: The permissions editor uses technical terms like “Manage Roles” and “Administrator,” which are unclear to new users.</p>	
<p><b>Explanation:</b></p> <p>This violates the heuristic by relying on internal jargon rather than plain language.  Non-technical users struggle to assign correct permissions, leading to privacy or control issues.</p>	
<p><b>Severity or Benefit:</b></p> <p><i>Rating:</i> 3 – Major usability problem</p> <p><b>Justification (Frequency, Impact, Persistence, Weights):</b></p> <p><b>Frequency:</b> Common among first-time server creators.  <b>Impact:</b> High; misconfiguration can cause major security problems.  <b>Persistence:</b> Repeats until the user learns through trial and error.  <b>How I weighted the factors:</b> High impact and persistence make this a major problem.</p>	
<b>Relationships:</b>	

N/A
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Figure 3

<b>No. 4 - HE5</b>	Problem/Good Aspect Problem
<b>Name:</b> Lack of Stream Quality Notification	
<b>Evidence:</b>  Heuristic: Visibility of system status Interface aspect: When a live stream lags or drops frames, Discord often provides no real-time alert to the streamer.	
<b>Explanation:</b>  Violates heuristic since users lack awareness of performance issues. Streamers may continue broadcasting under poor conditions, frustrating viewers.	
<b>Severity or Benefit:</b>  <i>Rating:</i> 4 – Usability catastrophe  <b>Justification (Frequency, Impact, Persistence, Weights):</b>  <b>Frequency:</b> Occasional but unpredictable. <b>Impact:</b> High; disrupts core streaming function. <b>Persistence:</b> Persistent until stream is manually restarted. <b>How I weighted the factors:</b> Despite low frequency, high impact and persistence justify a “catastrophe” rating.	
<b>Possible solution and/or Trade-offs:</b>  Add a visible status indicator (green/yellow/red) for stream health. <b>Trade-off:</b> Minor on-screen clutter during streaming.	
<b>Relationships:</b>  N/A	

Figure 4

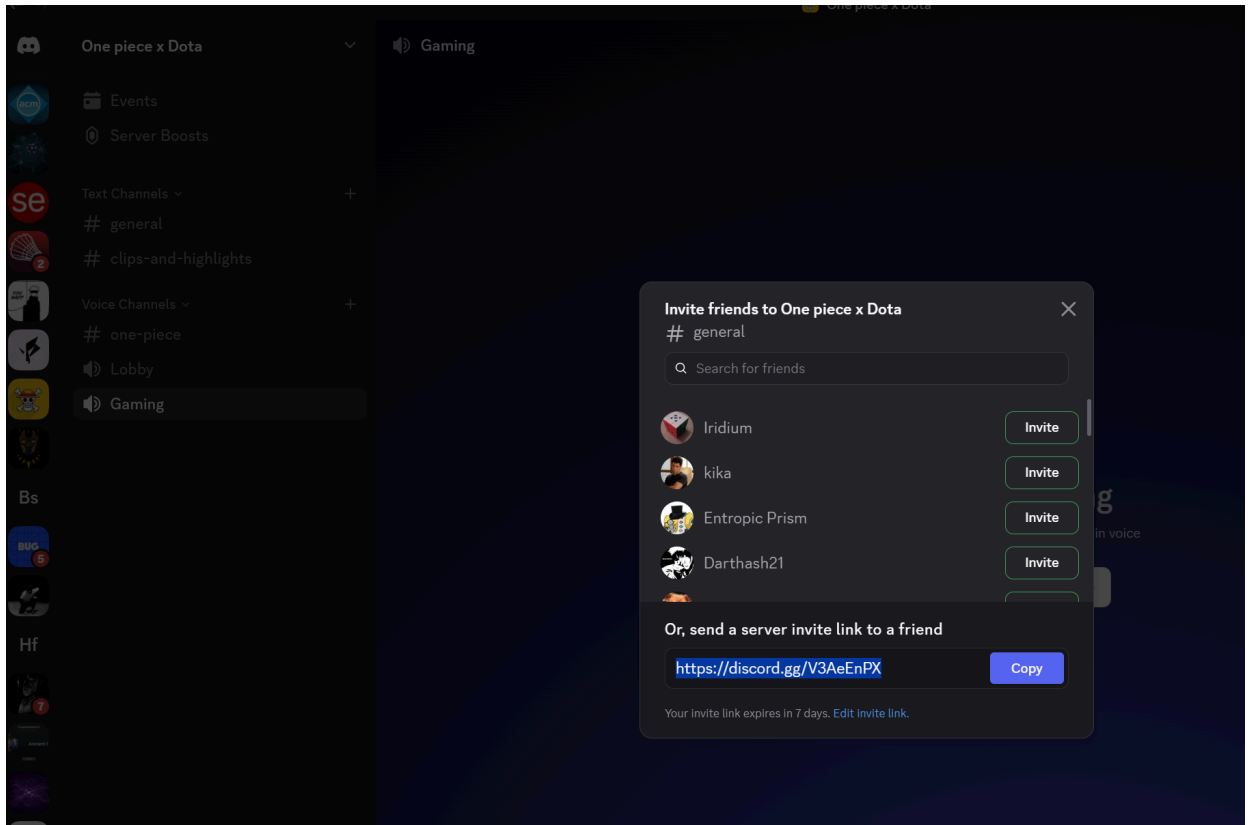
<b>No. 5 - HE6</b>	Problem/Good Aspect Problem
<b>Name:</b> Inconsistent Audio Settings During Streaming	
<b>Evidence:</b>  Heuristic: Consistency and standards Interface aspect: Audio input/output settings differ between Discord and system sound controls. Terms like “Voice Activity” and “Push to Talk” can confuse users.	
<b>Explanation:</b>  Violates heuristic by using inconsistent terminology and UI layouts across settings menus. Users may choose the wrong device, causing audio issues mid-stream.	
<b>Severity or Benefit:</b>  <i>Rating:</i> 3 – Major usability problem  <b>Justification (Frequency, Impact, Persistence, Weights):</b>  <b>Frequency:</b> Moderate; appears whenever devices change. <b>Impact:</b> High; breaks communication flow. <b>Persistence:</b> Recurring until corrected manually. <b>How I weighted the factors:</b> Recurrence and high disruption justify a major severity rating.	
<b>Possible solution and/or Trade-offs:</b>  Align terminology with OS settings and offer auto-detect suggestions. <b>Trade-off:</b> May require deeper system integration.	
<b>Relationships:</b>  N/A	

Figure 5

<b>No. 6 - HE7</b>	Problem/Good Aspect Good Aspect
<b>Name:</b> Simple Invite Link Process	
<b>Evidence:</b>	

Heuristic: Flexibility and efficiency of use

Interface aspect: Users can join servers by simply clicking a shared invite link, skipping complex registration.



**Explanation:**

Meets heuristic by minimizing entry barriers for casual users. The one-click process is efficient and enhances shareability.

**Severity or Benefit:**

**Rating:** NA (Good Aspect)

**Justification (Frequency, Impact, Persistence, Weights):**

**Frequency:** Frequent across new members.

**Impact:** High benefit — improves onboarding speed.

**Persistence:** Continuous; remains simple across versions.

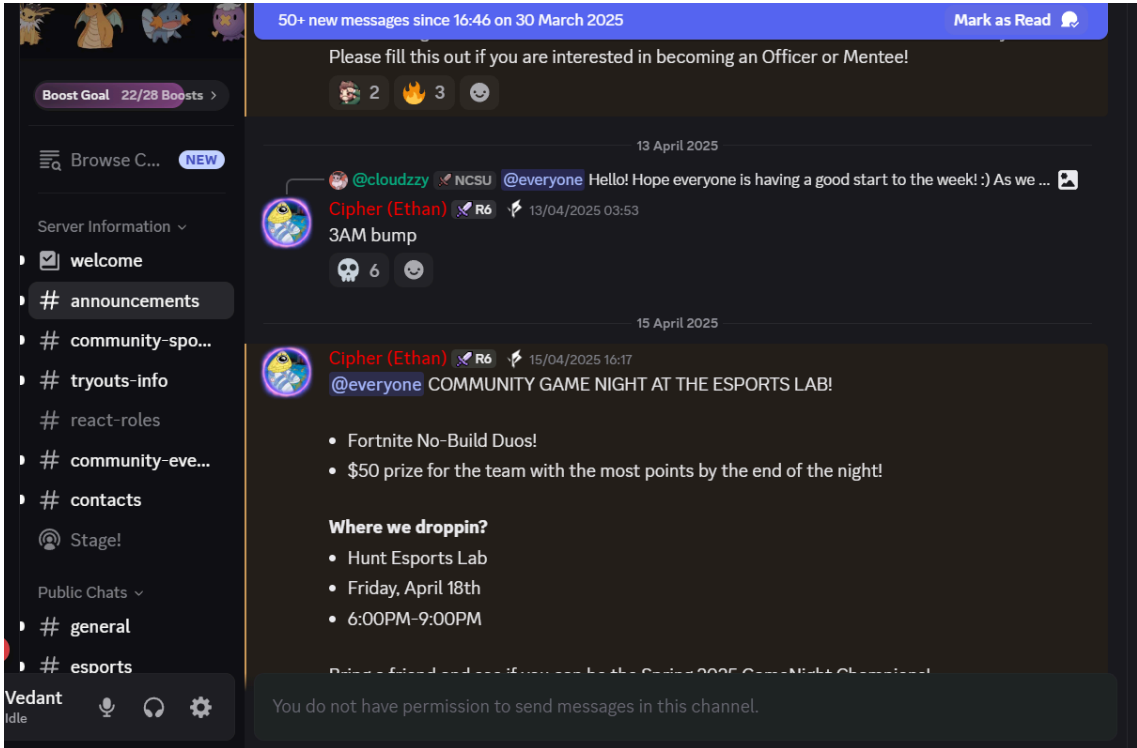
**How I weighted the factors:** Strong positive effect across all user types.

<p><b>Relationships:</b></p> <p>N/A</p>
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Figure 6

<b>No. 7 - HE8</b>	Problem/Good Aspect Problem
<b>Name:</b> Confusing Server Orientation for New Users	
<b>Evidence:</b>	
<p>Heuristic: Help and documentation</p> <p>Interface aspect: After joining a new server, users see many channels but no guidance on where to start or post.</p>	
<b>Explanation:</b>	
<p>Violates heuristic as the interface lacks onboarding help. Casual users may not know the difference between “general,” “rules,” and topic-specific channels.</p>	
<b>Severity or Benefit:</b>	
<i>Rating:</i> 2 – Minor usability problem	
<b>Justification (Frequency, Impact, Persistence, Weights):</b>	
<p><b>Frequency:</b> High; affects most new users.</p> <p><b>Impact:</b> Moderate; easy to overcome but causes initial confusion.</p> <p><b>Persistence:</b> Reduces after a few uses.</p> <p><b>How I weighted the factors:</b> High frequency but low persistence yields minor severity.</p>	
<b>Possible solution and/or Trade-offs:</b>	
<p>Add an automatic welcome pop-up explaining key channels.</p> <p><b>Trade-off:</b> Could slightly annoy experienced users.</p>	
<b>Relationships:</b>	
N/A	

Figure 7

<p><b>No. 8 - HE22 (VP32)</b></p>	<p><b>Problem/ Good Aspect:</b></p> <p>Good Aspect</p>
<p><b>Name:</b> Configuration of Channel Specific Permissions</p>	
<p><b>Evidence:</b></p>	
<p>Heuristic: User Control and Freedom  Interface Aspect: The system allows the administrator (Dr.Singh) to override server-wide permissions for any role on a per-channel basis.  Below is a screenshot of such feature( a sample image)</p>	
 <p>The screenshot shows a Discord server interface. On the left is a sidebar with a 'Boost Goal' of 22/28 Boosts, a search bar, and a list of channels including #welcome, #announcements, #community-spo..., #tryouts-info, #react-roles, #community-eve..., #contacts, #general, and #esports. The main chat area shows a message from CIPHER (Ethan) with a '3AM bump' and a '3AM bump' message from CIPHER (Ethan) with a 'COMMUNITY GAME NIGHT AT THE ESPORTS LAB!' announcement. The announcement lists 'Fortnite No-Build Duos!', '\$50 prize for the team with the most points by the end of the night!', and 'Where we droppin?' with locations 'Hunt Esports Lab', 'Friday, April 18th', and '6:00PM-9:00PM'. At the bottom, a message says 'You do not have permission to send messages in this channel.'</p>	
<p><b>Explanation:</b></p>	
<p>This provides users with precise control over their environment. Dr. Singh can allow students to chat freely in one channel while restricting them in another. This is achieved without creating complex new roles, giving her the freedom to structure her server exactly as needed.</p>	
<p><b>Severity or Benefit:</b></p>	
<p><b>Rating:</b> NA (Good Aspect)</p>	
<p><b>Justification (Frequency, Impact, Persistence, Weights):</b></p>	

<p><b>Frequency:</b> Common for any moderated server  <b>Impact:</b> Highly Beneficial Feature  <b>Persistence:</b> Persistent Positive Usability.</p>
<p><b>Possible solution and/or Trade-offs:</b>  The current implementation is robust and effective.</p>
<p><b>Relationships:</b>  Relates to HE3- Confusing Role Permissions. While general role permissions can be confusing, this feature of being able to specify them per channel is a powerful strength.</p>

Figure 8

<p><b>No. 9 - HE24 (ARK26)</b></p>	<p><b>Problem/ Good Aspect:</b>  Problem</p>
<p><b>Name:</b> Accidental Message Deletion Risk</p>	
<p><b>Evidence:</b>   Heuristic: Error Prevention  When users attempt to delete a message, the confirmation prompt uses small text and places the “Delete” button close to the cancel option. In mobile view, the delete confirmation appears at the bottom, making it easy to mis-tap.</p>	
<p><b>Explanation:</b>   Because Discord often groups multiple message actions (edit, reply, thread, delete) in one compact menu, users may accidentally hit “Delete” instead of the intended option, losing information permanently. This violates the Error Prevention heuristic by making destructive actions too easy to trigger.</p>	
<p><b>Severity or Benefit:</b>   <i>Rating:</i> 2 – Moderate Problem   <b>Justification (Frequency, Impact, Persistence, Weights):</b>   <b>Frequency:</b> Occasional, especially on mobile or for fast-moving users.  <b>Impact:</b> Medium, potentially high if important messages are lost.  <b>Persistence:</b> Continues unless UI spacing and prompts improve.</p>	

<p><b>Possible solution and/or Trade-offs:</b> Add a larger, more prominent confirmation dialog with clearer warnings (e.g., “This action cannot be undone”), reposition destructive actions away from commonly used actions, or offer an undo option for a few seconds.</p>
<p><b>Relationships:</b> Related to User Control &amp; Freedom, as users need a way to reverse unintended actions..</p>

Figure 9

<p><b>No. 10 - HE25 (ARK26)</b></p>	<p><b>Problem/ Good Aspect:</b>  Problem</p>
<p><b>Name:</b> Unclear Permission Error Messages</p>	
<p><b>Evidence:</b>  <b>Heuristic Covered:</b> Help Users Recognize, Diagnose, and Recover from Errors <b>Evidence:</b> When users try to perform actions they lack permissions for—such as streaming, posting in locked channels, or creating threads—Discord only displays a short banner saying “You don’t have permission to do that.” It does not explain why or what to do next.</p>	
<p><b>Explanation:</b>  The system does not provide steps to resolve the problem, leaving users confused about whether the issue is a server setting, a role limitation, or a technical restriction. This violates the heuristic because the user receives no diagnostic guidance</p>	
<p><b>Severity or Benefit:</b>  <i>Rating:</i> 3 – Major Problem  <b>Justification (Frequency, Impact, Persistence, Weights):</b>  <b>Frequency:</b> Common in academic servers where permissions vary by role. <b>Impact:</b> High - users cannot complete tasks and may repeatedly try the same action. <b>Persistence:</b> Will recur for every user with unclear role permissions.</p>	
<p><b>Possible solution and/or Trade-offs:</b> Show contextual help such as: “You need the [Role Name] role to perform this action.” Provide clickable suggestions like “View Server Roles” or “Request Access.”</p>	

**Relationships:**

Related to Match Between System & Real World - permission language should be more understandable.

Figure 10

## 2. Competitive Analysis

	<b>Ease of Use</b>	<b>Customization</b>	<b>Voice &amp; Video Integration</b>	<b>Privacy &amp; Security</b>	<b>Subscription Cost</b>
Discord	Moderate: Lots of features. However, it could overwhelm new users	High: Lots of customizations( profile picture changes, roles, varied permissions)	Excellent: built-in voice, video, and screen sharing	Good: Encrypted voice	Free + Nitro
Slack	Easy: Used by professional teams	Moderate: Customizable channels, workflows, and themes	Fair: Integrates with other services like Microsoft Teams	Excellent: Enterprise grade encryption. Using TLS and AES-256.	Free (limited for full access)
Telegram	Easy: Used by many different users.	Moderate: Stickers, themes, bots, and channels	Good: Group voice and video calling	Excellent: End-to-end encryption	Free
WhatsApp	Easy: Used by many different users	Low: Basic profiles and stickers	Good: Allows for group voice and video calling	Excellent: End-to-end encryption	Free
Facebook	Easy: Used by many different users	Moderate: Chat themes, nicknames, and reactions	Good: Integrated voice and video	Moderate: Encrypted by Meta	Free

Figure 11

O	A	B	C	D	E	F
1	Evaluation Criteria	Discord	WhatsApp	Telegram	FB Messenger	Slack
2	Usability & Navigation	8.5	9	7	8	7
3	Event Communication	9	7	7.5	6	6
4	Moderation Experience	9	3	5	2.5	5
5	Community Engagement Support	9	6	7.5	5.5	5.5
6	Customization & Identity	8.5	2.5	6	3	4
7	Overall Persona Satisfaction	9	7.5	7	6	6.5

Figure 12



Figure 13

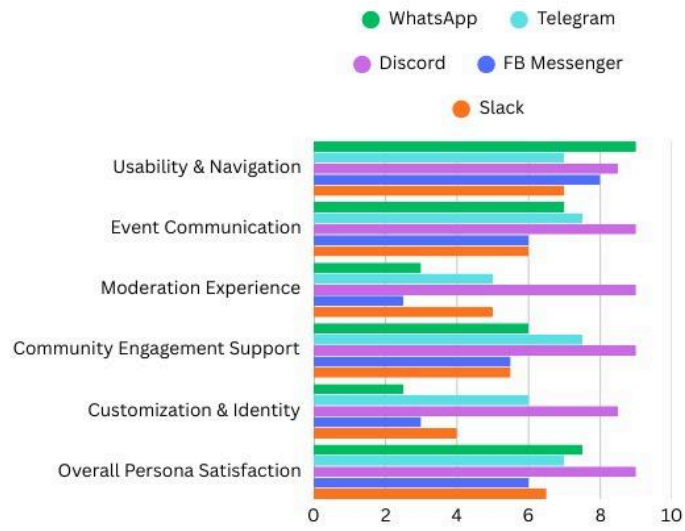


Figure 14

### 3. Surveys

# Discord Usability and User Experience

**Discord** is a free communication app that combines text chat, voice calls, video, and community spaces. Users join or create servers which are organized groups with multiple channels for different topics or activities. It is used for everything from gaming and study groups to professional collaboration, offering tools for chatting, screen sharing, and community moderation.

## Goal:

The goal of this survey is to assess the overall usability experience with Discord, and focus on how easily users can navigate the platform, discover and use its features, and communicate and collaborate with the people. Insights from this study will provide a deeper understanding of how well Discord supports its diverse user base and will highlight opportunities for improving its design to enhance usability and user satisfaction.

**Disclaimer:** I am not an employee of Discord, nor am I affiliated with any Discord employees. This study is entirely unofficial and is for academic purposes only.

*\* Indicates required question*

---

1. Have you used Discord before? \*

*Mark only one oval.*

- Yes    *Skip to question 2*
- No    *Skip to section 2 (Thank You for Your Time)*

## Thank You for Your Time

We appreciate your participation. Since this survey is focused on Discord users, there are no further questions for you. Your response has been recorded.

## Discord Usage and Use Cases

Figure 15

2. How often do you use discord?

Mark only one oval.

- Daily
- A few times a week
- A few times a month
- Rarely

3. What do you primarily use Discord for? (Select all that apply.)

Check all that apply.

- Gaming
- School
- Work
- Socializing
- Other: \_\_\_\_\_

4. On a scale of 1-5, how easy did you find discord to navigate?

Mark only one oval.

1   2   3   4   5

---

Very      Very easy

---

Figure 16

5. What is your age range?

*Mark only one oval.*

- 13 - 19
- 20 - 29
- 30 - 39
- 40 - 49
- 50 - 59
- 60 - 69
- 70+

6. For how long have you used Discord?

*Mark only one oval.*

- <6 months
- 6 months - 1 year
- 1 - 3 years
- 3 - 5 years
- 5+ years

7. Which Discord feature do you use the most?

*Mark only one oval.*

- Text Channels
- Private 1-to-1 messages
- Group messages
- Voice Channels

**Navigation and Discoverability**

---

Figure 17

8. On a scale of 1-5, how easy it is for you to find the features that you need in Discord( e.g: Joining channels, adjusting settings, etc.,) \*

Mark only one oval.

1 2 3 4 5

Very      Very Easy

9. Do you feel overwhelmed by the layout of servers, channels, or menus \*

Mark only one oval.

- Yes, often
- Sometimes
- Rarely
- Never

10. Which part of Discord's interface do you find the hardest to navigate, and why?

---

### Discord Nitro

11. Which do you use more?

Mark only one oval.

- Discord Mobile App
- Discord Desktop

Figure 18

12. Do you have a discord nitro subscription?

*Mark only one oval.*

Yes

No

13. To what extent does Discord Nitro affect your overall satisfaction with Discord

*Mark only one oval.*

Greatly decreases satisfaction

Slightly decreases satisfaction

No effect

Slightly increases satisfaction

Greatly increases satisfaction

**Communication Features & Feedback**

14. On a scale of 1–5, how would you rate the quality of Discord’s voice chat?

*Mark only one oval.*

1   2   3   4   5

Very      Excellent

Figure 19

15. How effective do you find Discord's text-based features (messaging, reactions, file sharing) for communication?

*Mark only one oval.*

- Very effective
- Somewhat effective
- Neutral
- Somewhat ineffective
- Very ineffective

16. How often do you use video calls or screen sharing on Discord?

*Mark only one oval.*

- Frequently
- Occasionally
- Rarely
- Never

17. What communication feature do you find the most useful, and why?

---

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Google Forms

Figure 20

Timestamp	Have you used Discord before?	How often do you use discord?	What do you primarily use Discord for? (Select all th
9/25/2025 23:19:20	Yes	A few times a week	School, Work
9/26/2025 19:32:39	Yes	Daily	Gaming, School, Socializing
9/29/2025 20:56:33	Yes	A few times a week	School, Socializing
11/28/2025 19:41:11	Yes	Daily	Gaming, School, Work, Socializing
11/28/2025 19:47:42	Yes	A few times a week	School
11/28/2025 19:48:29	Yes	A few times a week	Gaming, School
11/28/2025 20:22:11	Yes	A few times a week	School, Socializing
11/28/2025 20:57:45	Yes	Rarely	Gaming, School

Figure 21

On a scale of 1-5, how easy did you find discord to	What is your age range?	For how long have you used Discord?
4	20 - 29	1 - 3 years
4	20 - 29	1 - 3 years
5	20 - 29	3 - 5 years
4	20 - 29	1 - 3 years
4	20 - 29	3 - 5 years
4	20 - 29	5+ years
3	20 - 29	3 - 5 years
4	20 - 29	6 months - 1 year

Figure 22

Which Discord feature do you use the most?	On a scale of 1-5, how easy it is for you to find the f	Do you feel overwhelmed by the layout of servers, c
Voice Channels	3	Yes, often
Text Channels	3	Sometimes
Voice Channels	4	Rarely
Text Channels	3	Sometimes
Group messages	5	Rarely
Voice Channels	3	Sometimes
Text Channels	2	Yes, often
Voice Channels	4	Rarely

Figure 23

Which part of Discord's interface do you find the ha	Which do you use more?	Do you have a discord nitro subscription?
Changing profile settings	Discord Desktop	No
	Discord Desktop	No
	Discord Mobile App	No
different channels and joining in for calls and group	Discord Desktop	No
	Discord Mobile App	No
Getting used to the text channels and understandin	Discord Desktop	No
Channels	Discord Desktop	No
	Discord Mobile App	No

Figure 24

To what extent does Discord Nitro affect your over:	On a scale of 1–5, how would you rate the quality o	How effective do you find Discord's text-based feat
No effect	3	Very effective
	5	Somewhat effective
No effect	4	Very effective
	5	Very effective
No effect	3	Neutral
No effect	5	Neutral
No effect	3	Neutral
	4	Neutral

Figure 25

How often do you use video calls or screen sharing		What communication feature do you find the most	
Occasionally			
Rarely			
Occasionally			
Rarely			
Rarely			
Frequently		The voice channel feature seems the most conveni	
Rarely		Channels inside a server , each channel is related to	
Rarely			

Figure 26

#### 4. Interviews

Questions:

Introduction:

1. Can you tell me a bit about yourself and how you first started using Discord?
2. How often do you use Discord, and what do you mainly use it for?
3. How many servers are you currently part of, and which ones do you engage with the most?

Questions about the user experience:

4. How intuitive do you find Discord's interface like navigating menu, settings, etc?
5. What do you think is the best/worst part of Discord Mobile App?
6. How easy or difficult is it to manage your notifications, roles, or permissions?
7. Describe the challenges you faced while using Discord, if any.
8. What specific feature do you want to be implemented in Discord?

Responses -

Here are the answers to the questions asked in the interviews

Interviewee 1-

1. They are a grad student pursuing masters in Computer Science, and started using discord because of a volunteering group.
2. A few times a week, and now mostly for academics and college clubs.

3. Part of about 10 servers, but inactive in most of them, and regularly checks about 3
4. Talking about intuitiveness, they find Discord Desktop app to be more intuitive than mobile app, because mobile app is cluttered and things are hidden in menus.
5. Nothing good about the mobile app, they find mobile apps to be very cluttered.
6. Very tricky to understand notification settings, they did not know how to modify them until now. Roles and permissions are pretty straightforward though.
7. The major challenge was to figure out notification settings, and find their way around things.
8. They believe nitro is used by none, so can be removed.

#### Interviewee 2-

1. They are a grad student pursuing masters in Computer Science, and started using discord in their freshman year for socializing with their friends.
2. A few times a week, and use them mostly for academic purposes and college clubs now.
3. Part of about 25 servers, but now mostly active in only about 5 of them
4. They believe desktop app is good for user experience, and are very intuitive.
5. For Mobile App searching servers is good, but searching members, menus are hidden away.
6. They found Roles a bit tricky. Configuring roles, and if not clearly explained, they can be mysterious. Fairly easy to figure out notification settings.
7. Finding DMs on Mobile App is quite difficult. They hate scrolling through hundreds of unread messages.
8. Having more free things in the shop.

#### Interviewee 3 -

1. Master's student; started using Discord during COVID to "chill with friends," play games, and hang out in voice channels.
2. Uses Discord daily; originally for entertainment, but now also uses it for course-related discussions and checking announcements.
3. Participates in dedicated course channels and creates group servers for project teams; subdivides these into resources, discussion, and casual chat channels.
4. Finds the UI informal and friendly (less "corporate" than Slack); initially found the structure confusing but found it smooth after self-learning.
5. Best feature: Voice channels and screen sharing, which are used heavily. Worst feature: Initial confusion with understanding how servers, channels, and voice features work.
6. Organization relies on manual discipline rather than built-in tools; did not report specific issues with roles or permissions once familiar.

7. Faced initial confusion when first installing the app, specifically finding it unclear how the server/channel structure worked.
8. Suggests adding a "points or progress" system for gaming and integrating quizzes or lightweight grading tools for academic courses.

#### Interviewee 4 -

1. Started using Discord during the 2020 COVID lockdown to chill with friends and play games; later transitioned to academic use during B.Tech and currently for a Master's degree in the U.S.
2. Uses the platform daily for both gaming and course discussions; joins official course servers, participates in lab Q&A, and collaborates on team projects.
3. Engages with professor-managed course servers and private project groups; values the "unlimited group size" to accommodate entire classes.
4. Finds the platform easy to use once familiar, though initially found the server and channel structure confusing to figure out.
5. Best feature: The "all-in-one" nature (text, voice, files) and screen sharing capabilities. Worst feature: The inability to see "read receipts" and the overwhelming volume of messages in large groups.
6. Struggles to manage notifications efficiently in large servers; specifically finds it difficult to limit or filter notifications when groups have hundreds of members.
7. Major challenges are the frustration caused by not knowing if messages have been viewed (no "seen" feature) and being overwhelmed by notifications.
8. Wants a "Seen" feature to check message readership and better notification controls (such as muting by category or specific member) for large groups.

#### Interviewee 5

1. Grad student in Computer Science; started using Discord through a volunteering group.
2. Uses it a few times a week for academics and college clubs.
3. Part of around 10 servers; actively checks about 3.
4. Desktop app is intuitive; mobile app is cluttered and hides options.
5. Nothing good about the mobile app; it feels cluttered.
6. Notification settings were tricky; roles and permissions are straightforward.
7. Had difficulty with notification settings and navigating the app.
8. Thinks Nitro is not used by anyone and could be removed.

#### Interviewee 6

1. Grad student in Computer Science; started using Discord in freshman year to socialize with friends.
2. Uses it a few times a week for academics and college clubs.
3. Part of around 25 servers; active in about 5.
4. Desktop app is intuitive; mobile app hides menus, member search is hard.
5. Best: Server search is good. Worst: Finding DMs and navigating hidden menus.
6. Roles can be tricky; notification settings are easy to figure out.
7. Struggles with finding DMs and scrolling through hundreds of unread messages.
8. Wants more free things available in the shop.

#### Interviewee 7

1. Grad student in Computer Science; started using Discord through a volunteering group.
2. Uses it a few times a week, mainly for academics and clubs.
3. Part of around 10 servers; regularly checks only 3.
4. Desktop app is intuitive; mobile app is cluttered with hidden menus.
5. Believes nothing is good about the mobile app; it feels cluttered.
6. Notification settings were confusing; roles and permissions were simple.
7. Major challenges were learning notification settings and navigation.
8. Thinks Nitro is unnecessary and could be removed.

#### Interviewee 8

1. Grad student in Computer Science; started using Discord in freshman year for socializing.
2. Uses it a few times a week for academics and college activities.
3. Part of around 25 servers; active in about 5.
4. Desktop app is intuitive; mobile app makes menus and member search difficult.
5. Best: Server search works well. Worst: Finding DMs and scrolling through unread messages.
6. Roles are tricky; notification settings are easy.
7. Difficulties finding DMs and dealing with too many unread messages.
8. Wants more free items in the shop.

#### Interviewee 9

1. Graduate student; has been using Discord for more than 2 years. I started using it for class information, group project formation, and connecting with friends.
2. Uses Discord once every two days for about 1–5 minutes. Mainly for class updates, group project discussions, and casual chats.
3. Part of around 15 servers; actively uses only one (project team server).
4. Finds the interface intuitive overall, but notes that Discord has too many hidden functions. Actions like leaving or deleting a server require going multiple levels deep.
5. Best: Notifications are clear and easy to notice. Worst: Too many buried features, making simple actions harder to access.
6. Notifications are easy to interpret; roles and permissions are straightforward.
7. Desktop version is less reliable than the web version. Overloaded servers with too many unnecessary channels can overwhelm users.
8. Suggests Discord add more appealing emoji/sticker features and introduce new content that benefits users while generating revenue.

#### Interviewee 10

1. Has been using Discord since 2014; originally used it to get gaming information and coordinate co-op gameplay.
2. Uses Discord daily for gaming notifications, voice chat, and screen sharing; also used it for academic courses.
3. Has created servers before; mainly uses gaming servers and voice channels.
4. Finds Discord intuitive overall, but academic use was unpleasant because many classmates were unfamiliar with the platform.
5. Best: Works well for gaming and screen sharing. Worst: Frequent audio quality issues and unreliable notifications.
6. Notification issues persist despite correct settings; sometimes does not receive notifications at all. Roles are manageable.
7. Academic servers felt too formal, and many students preferred platforms like Piazza or Ed Discussion.
8. Wants Discord to provide more descriptive and detailed error messages.

## 5. Affinity Notes

### **Affinity Notes – Discord User Interviews:**

#### **VP01**

**VP01-01** They started using Discord around five years ago.

**VP01-02** They first joined the platform through a volunteering event community.

**VP01-03** After that initial experience, they continued using Discord regularly.

**VP01-04** They are now active members of more than ten servers.

**VP01-05** They initially used Discord for the volunteering event but later transitioned to using it for social interactions.

**VP01-06** They now also use Discord for academic purposes.

**VP01-07** They prefer the desktop version over the mobile app.

**VP01-08** They find the mobile app cluttered, with too many options and limited screen space.

**VP01-09** They were not aware of how to modify notification settings initially.

**VP01-10** They discovered how to adjust notifications through trial and error.

**VP01-11** They prefer not to receive Discord notifications on their phone.

**VP01-12** They are confused about the Nitro feature and unsure of its purpose.

**VP01-13** They find it difficult to locate direct messages (DMs) on the mobile app.

#### **VP02**

**VP02-14** They started using Discord about five to six years ago, at the beginning of college.

**VP02-15** They began using Discord mainly due to social pressure from peers.

**VP02-16** They now primarily use Discord for academic purposes, unlike before.

**VP02-17** Many of their friends have since stopped using Discord.

**VP02-18** They are not part of any large or active tech communities.

**VP02-19** Although they belong to around twenty-five servers, they regularly check only four or five.

**VP02-20** They find the desktop version reliable and easy to use.

**VP02-21** They find searching on the mobile app difficult and describe its menus as complex and confusing.

**VP02-22** They found it easy to understand and configure notification settings.

**VP02-23** They found understanding and managing server roles somewhat tricky.

**VP02-24** They find direct messages (DMs) poorly visible or hidden in the mobile app.

**VP02-25** They expect more free content in the store and wish that game bots and features were not locked behind the Nitro subscription.

Figure 27

## **ARK01**

**ARK01-26** They have been using Discord for more than two years, mostly for academic and casual interactions.

**ARK01-27** They use it to exchange class information, form group projects, and stay connected with friends.

**ARK01-28** They are part of around fifteen servers but are active mainly in one course-related project server.

**ARK01-29** They check Discord once every two days, typically for one to five minutes.

**ARK01-30** They find Discord intuitive to use, with important sections like servers and chat pages clearly highlighted.

**ARK01-31** They feel that Discord includes too many functions, making it difficult to perform simple actions like leaving or deleting a server.

**ARK01-32** They appreciate the notification system — the dot indicators make it immediately clear which servers need attention.

**ARK01-33** They find the web version smoother and more stable compared to the desktop version.

**ARK01-34** They like how Discord integrates voice channels and text chat within the same interface.

**ARK01-35** They believe Discord's design feels energetic and appealing, especially for younger audiences and gamers.

**ARK01-36** They gave an example of a well-structured course server managed by a professor, with organized channels for homework, project coordination, and student questions.

**ARK01-37** They believe good moderation involves posting only relevant information and using sub-channels to avoid overwhelming users.

**ARK01-38** They think Discord could improve by offering new visual elements, such as purchasable emojis, to increase engagement and revenue potential.

## **VK01**

**VK01-39** They started using Discord initially for a university course.

**VK01-40** They began using it for project and assignment discussions and now also participate in university club conversations.

**VK01-41** They appreciate Discord's partial anonymity since it does not require linking a phone number.

**VK01-42** They like the user interface on the desktop version but find the mobile app confusing to navigate.

**VK01-43** They find managing notifications simple and convenient.

**VK01-44** They have experienced occasional audio stuttering issues during voice chats.

**VK01-45** They find the process of creating new servers somewhat confusing.

**VK01-46** They note that the phone does not ring when receiving a call on Discord.

Figure 28

- VK01-47** They prefer having fewer channels within servers to reduce clutter and complexity.
- VK01-48** They want an easier way to switch quickly between different servers and channels.
- VK01-49** They suggest that most notifications should be turned off by default to avoid overload.
- VK01-50** They find navigating through servers straightforward but locating specific channels can still be confusing.

## **ARK02**

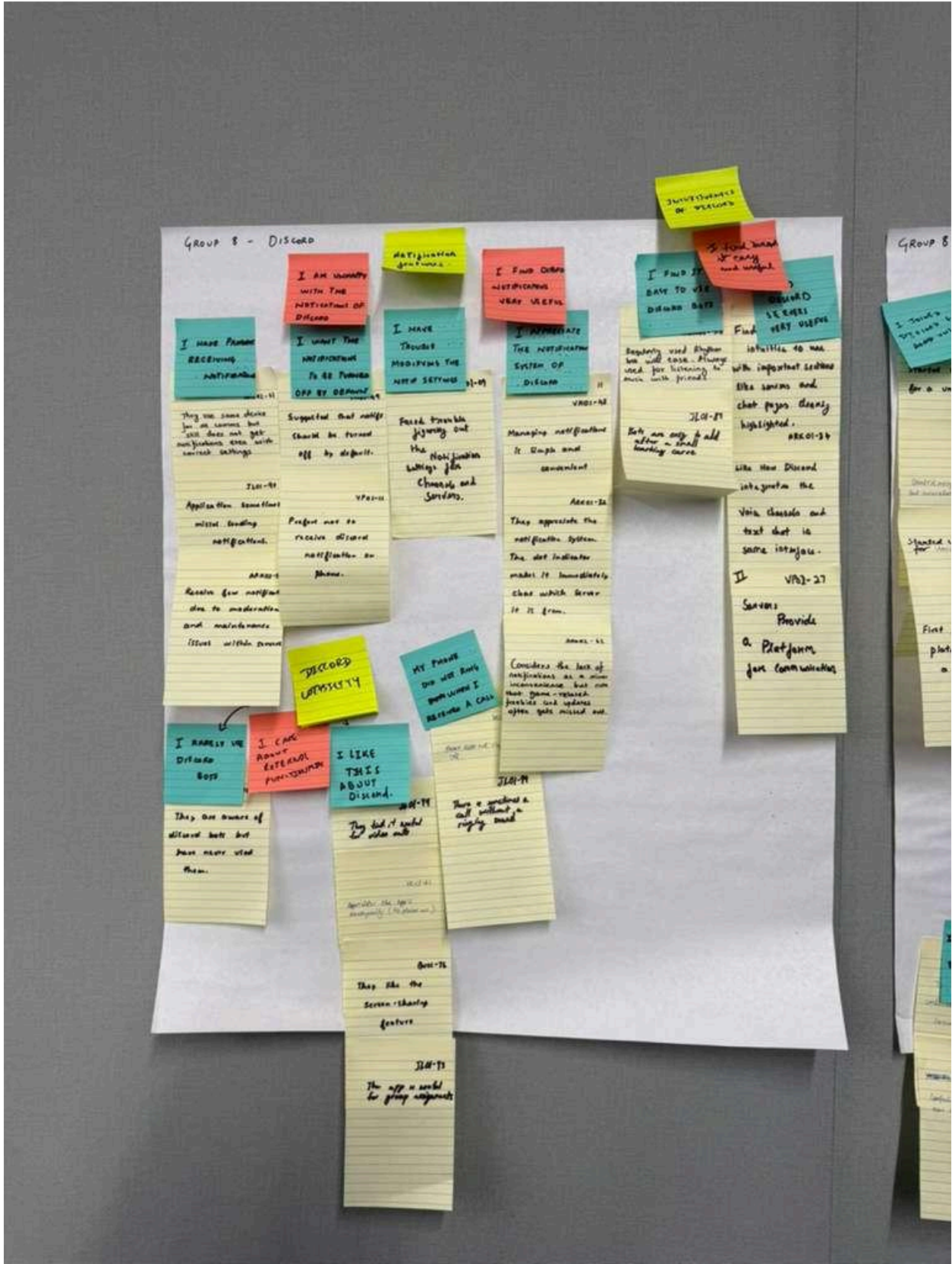
- ARK02-51** They use Discord very frequently and depend on it to stay updated on games and receive notifications.
- ARK02-52** They primarily use Discord to play co-op games with friends based in India.
- ARK02-53** They have used Discord for academic purposes such as Neural Networks and Software Engineering classes but did not find the experience enjoyable.
- ARK02-54** They receive few notifications, often due to moderation and maintenance issues within servers.
- ARK02-55** They previously created a personal server but rarely made use of it.
- ARK02-56** They experimented with adding a music bot, mainly for voice chat and screen-sharing sessions.
- ARK02-57** They regularly used the Rhythm bot to play music during group calls.
- ARK02-58** They find Discord easy and intuitive to use, considering it a daily part of life since 2014.
- ARK02-59** They report that poor network conditions frequently affect audio and microphone quality during calls.
- ARK02-60** They experience recurring audio disruptions, often accompanied by warnings like "your audio quality is very bad."
- ARK02-61** They use the same device for all communication but still do not receive notifications, even with the correct settings configured.
- ARK02-62** They consider the lack of notifications a minor inconvenience but note that game-related freebies and updates often get missed as a result.
- ARK02-63** They observe that many gaming communities already have their own forums for sharing updates, making Discord less essential for such discussions.
- ARK02-64** They participated in an academic server meant to encourage casual student conversation but found it still felt formal and uninviting.
- ARK02-65** They noted that several students were unfamiliar with Discord, which reduced engagement in the academic setting.
- ARK02-66** They believe that platforms like Piazza or Ed Discussion are better suited for academic collaboration due to their structured features for coursework and Q&A.
- ARK02-67** They find Discord overall intuitive and user-friendly, although certain features remain underused in academic contexts.
- ARK02-68** They wish Discord offered clearer and more descriptive error messages to improve troubleshooting and the overall user experience.

## **BV01**

Figure 29

- BV01-69** They started using Discord during the COVID-19 pandemic to socialize and play games.
- BV01-70** They now also use Discord in the U.S. for academic purposes.
- BV01-71** Over time, they have grown to enjoy the platform and now use it for both academic and entertainment purposes, including watching movies.
- BV01-72** They create channels for course project teams to collaborate effectively.
- BV01-73** They like Discord because of its versatile functionality.
- BV01-74** They find the user interface informal and friendly compared to Slack.
- BV01-75** They feel that Discord has a more casual, less corporate environment.
- BV01-76** They particularly like the screen-sharing feature.
- BV01-77** They are aware of Discord bots but have never used them personally.
- BV01-78** They acknowledge a slight learning curve for new users.
- BV01-79** They suggest adding a progress-tracking system within channels to monitor gaming achievements among members.
- BV01-80** They propose integrating quiz options within channels to make discussions more interactive.

Figure 30



GROUP 8 - DISCORD

**I HATE BEING RECEIVING NOTIFICATION**

They are some device for an example but still does not get notifications even with correct settings

2101-01

Application sometimes miss the sending notification.

2101-01

Receive few notification due to moderation and maintenance issues within server

**I AM UNHAPPY WITH THE NOTIFICATION OF DISCORD**

**I WANT THE NOTIFICATION TO BE TURNED OFF BY DEFAULT**

Suggested that notification should be turned off by default.

2101-01

Prefer not to receive discord notification on phone.

**NOTIFICATION PROBLEMS**

**I HAVE TROUBLE MODIFYING THE NOTIF. SETTINGS**

Faced trouble figuring out the Notification settings for Channels and Servers.

21-01

**I FIND DISCORD NOTIFICATION VERY USEFUL**

**I APPRECIATE THE NOTIFICATION SYSTEM OF DISCORD**

Managing notification is simple and convenient

2101-02

This appreciate the notification system. The dot indicator makes it immediately clear which server it is from.

2101-02

**JUSTIFICATION OF DESIGN**

**I FIND IT BAVE TO USE DISCORD BOTS**

Regularly used Botman but will ease always used for listening to music with friends.

2101-01

Bot are easy to add after a small learning curve.

**I FIND THAT DISCORD SERVERS VERY USEFUL**

**DISCORD SERVERS VERY USEFUL**

Find it difficult to deal with important servers like servers and chat pages clearly highlighted.

2101-01

like how Discord integrate the voice channels and text chat in same interface.

2101-01

Provide a Platform for communication.

**DISCORD ACTIVITY**

**MY PHONE DID NOT RING WHEN I RECEIVE A CALL**

Considers the lack of notifications as a minor inconvenience but not that game-relevant. Features such as updates often gets missed out.

**I RARELY USE DISCORD BOTS**

They are aware of discord bots but have never used them.

**I CAN REMOVE EXTERNAL PERMISSIONS**

**I LIKE THIS ABOUT DISCORD.**

They like the screen sharing feature

2101-01

The app is useful for group assignments

There is sometimes a call without a ringing sound

2101-01

GROUP 8

**I FIND IT VERY USEFUL**

for a v...

Figure 31



## 6. Storyboarding

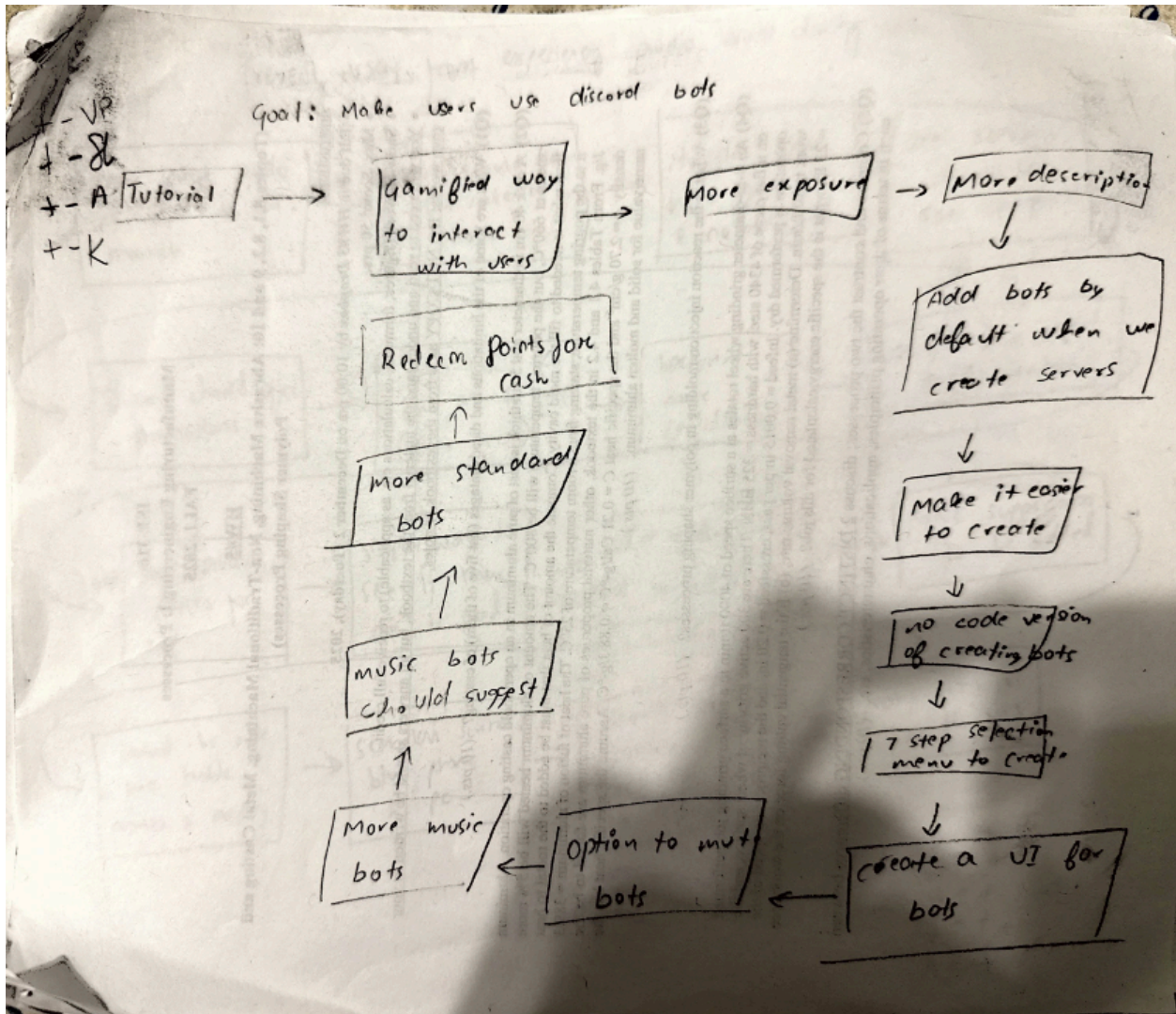
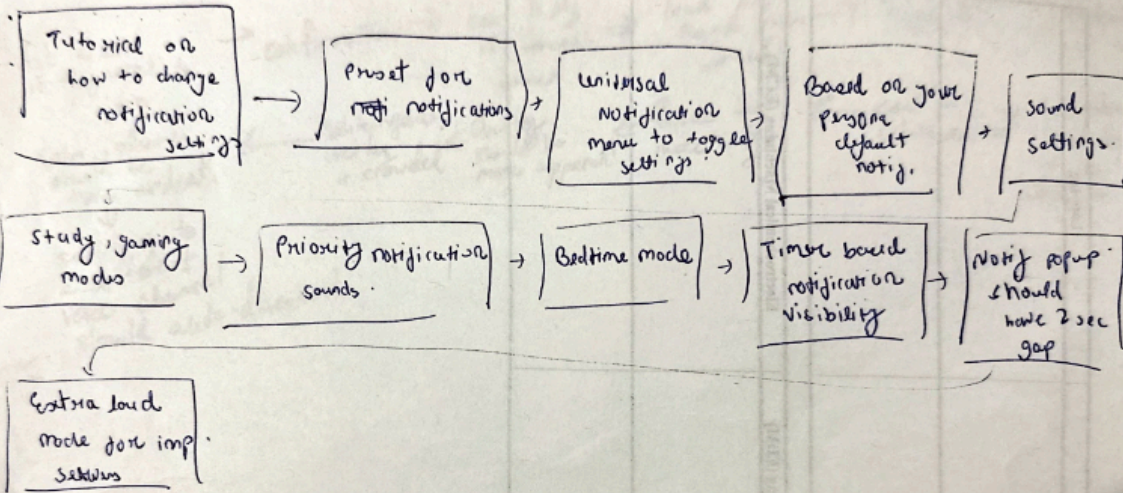


Figure 33

Give users a good way to change notification settings.



V P - +  
K - +  
A - +  
B - +  
J - +

Figure 34

Prevent users from experiencing audio issues during calls.

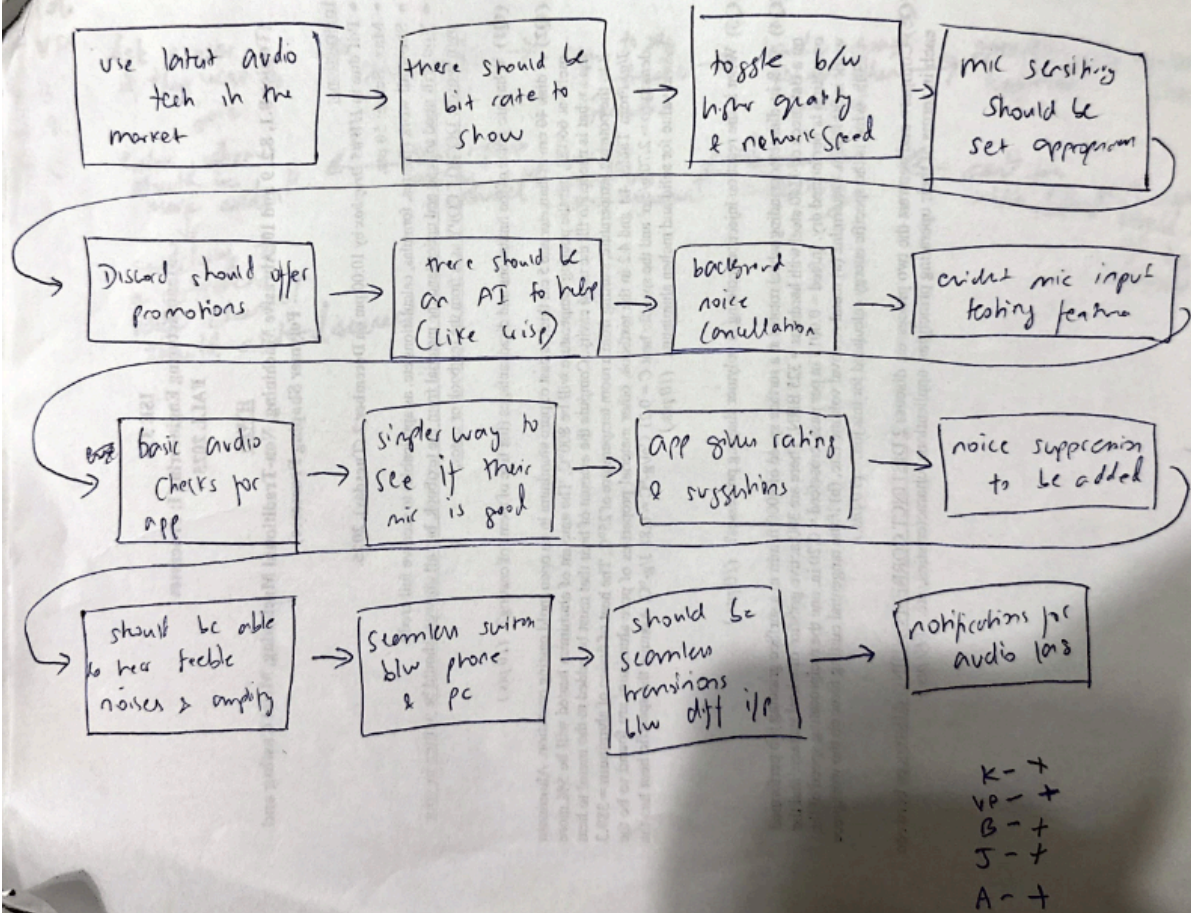


Figure 35

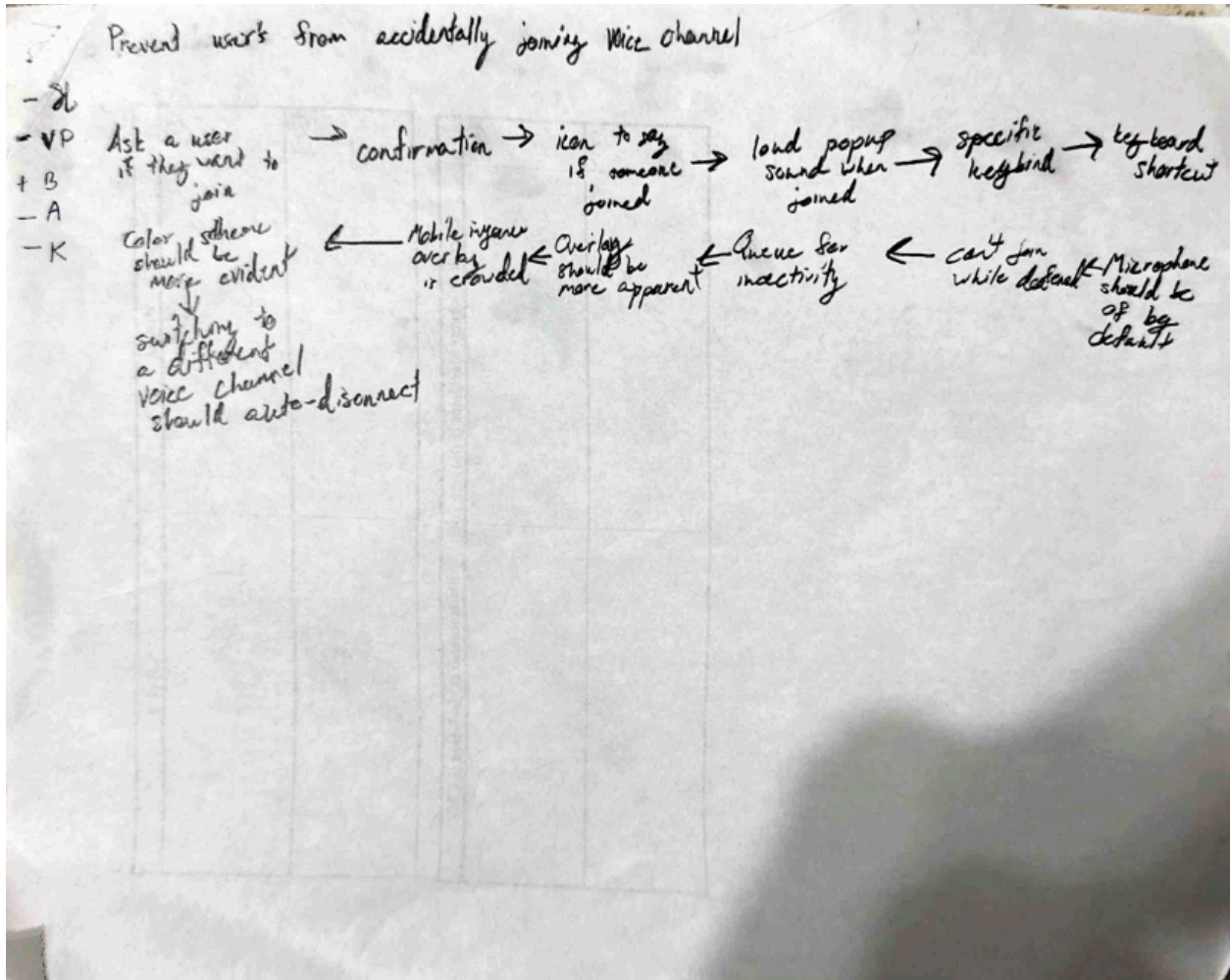


Figure 36

## 7. Prototypes

Prototypes for Design Recommendation 1: Smart Summarization

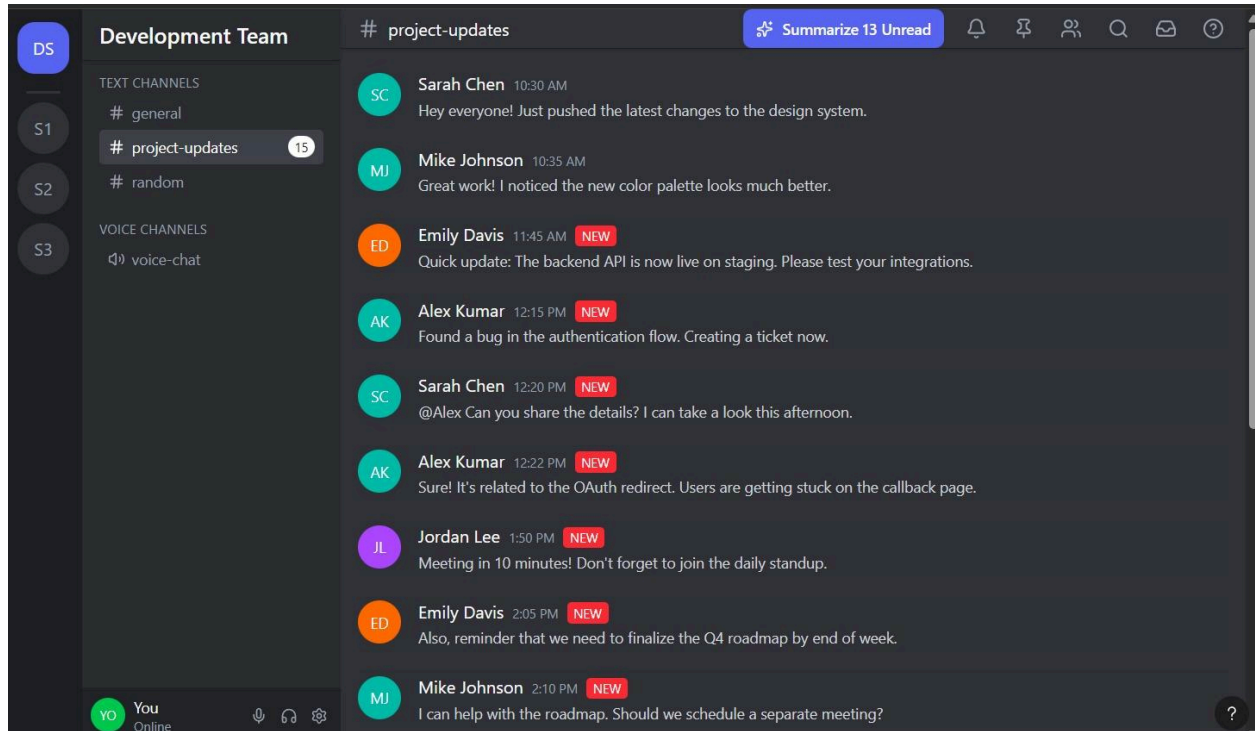


Figure 37

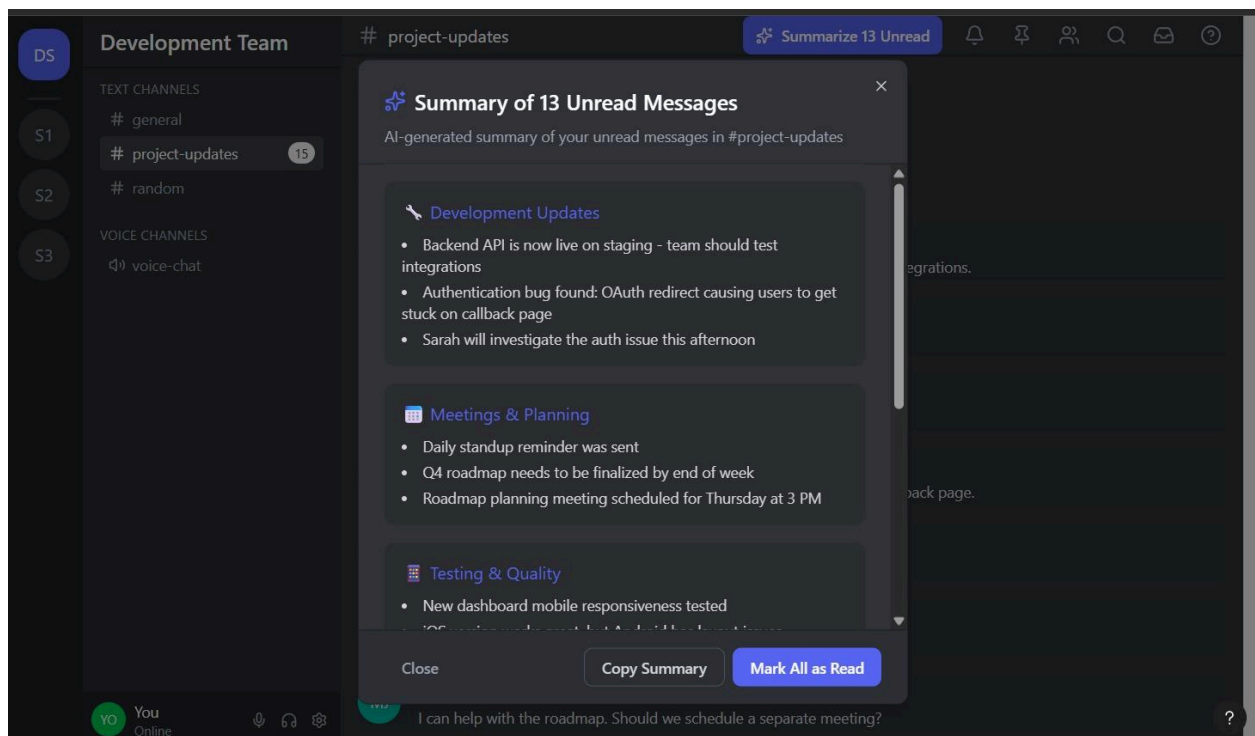


Figure 38

Wireframe for Design Recommendation 2:

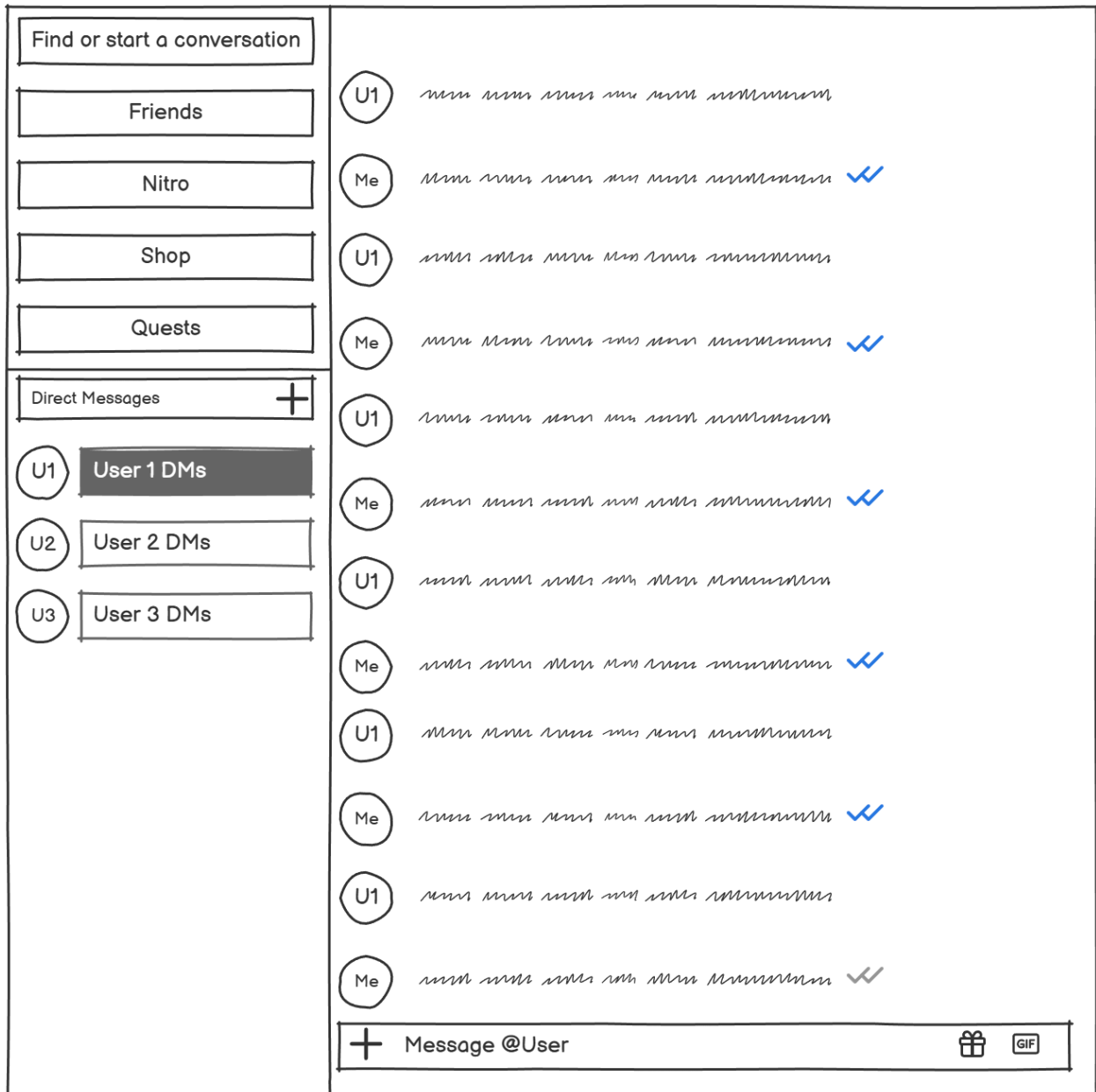
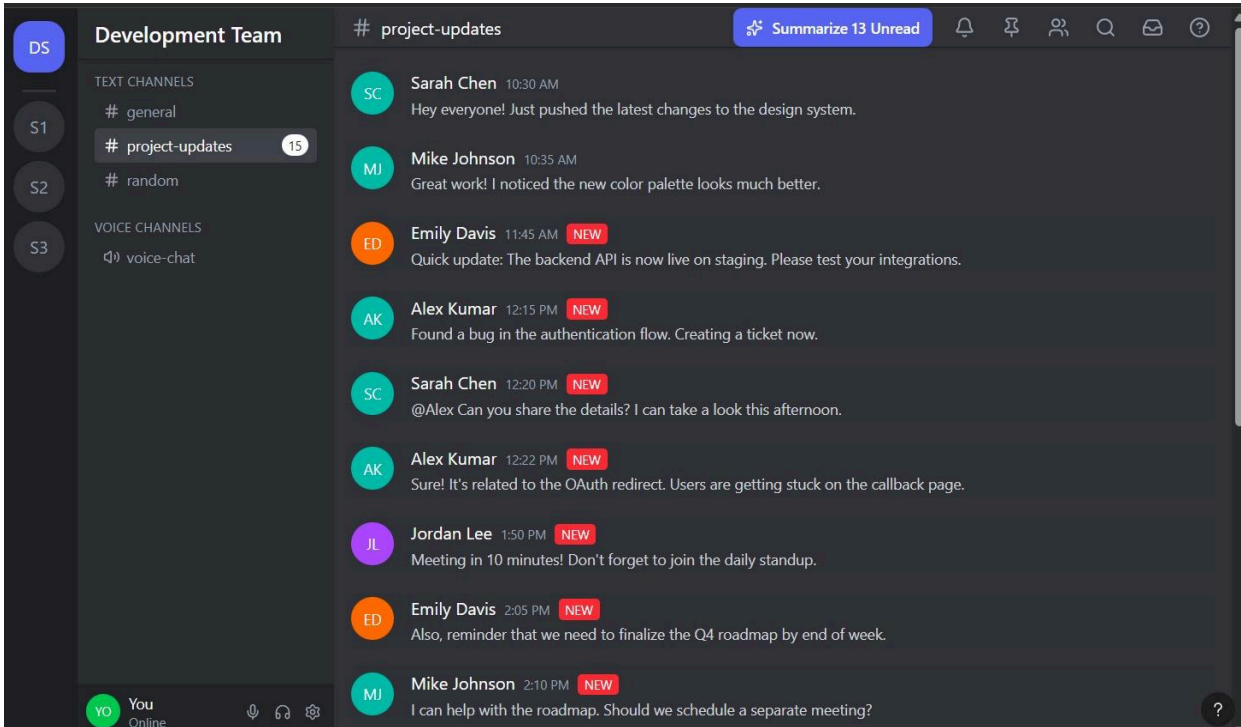
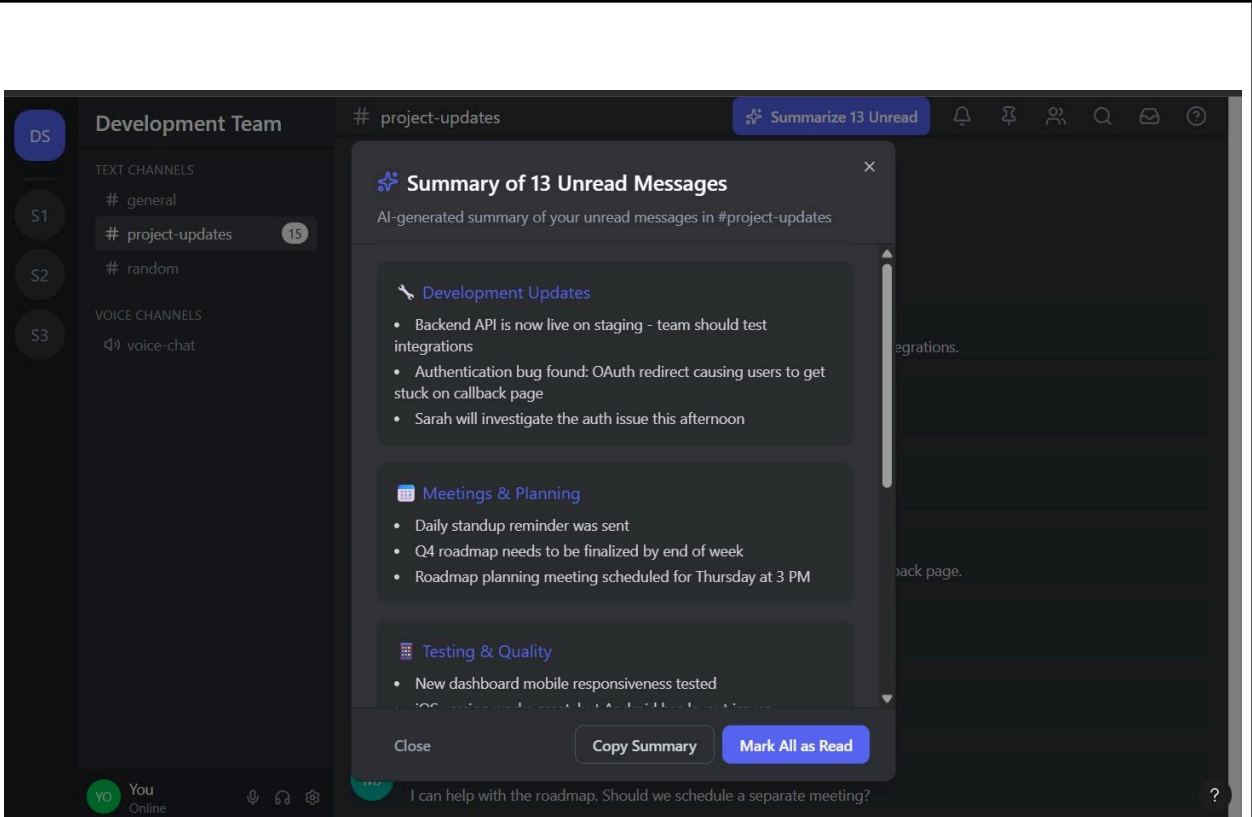


Figure 39

## 8. Heuristic Evaluation for new design

<b>No. 1 - HE1</b>	Problem/Good Aspect Good Aspect
<b>Name:</b> Provide a clear summary of unread messages.	
<b>Evidence:</b> Heuristic: Visibility of System Status Interface aspect: A new “Summarize Unread Msgs” button appears at the top of each channel. When the user selects this button, a pop up opens that shows a single summary of all unread messages in that channel.	
	



**Explanation:**

Users need a simple and predictable way to see key updates without scrolling through long conversations. The “Summarize Unread Msgs” button gives fast access to a categorized summary that highlights priority content and hides noise. This feature supports quick decision making by offering three clear actions: copy the summary, mark messages as read, or close the window.

**Severity or Benefit:**

**Rating:** 4 out of 4.

**Justification (Frequency, Impact, Persistence, Weights):**

**Frequency:** High. Many users in both surveys and interviews mentioned clutter, large message volumes, and difficulty keeping up with channels. This situation occurs frequently in active servers.

**Impact:** High. It improves message processing, reduces stress, and supports faster task completion. It improves user trust in the platform, since important messages become easier to locate.

<p><b>Persistence:</b> High. The overload issue occurs daily and persists as long as users stay in active servers. It does not resolve over time.</p> <p><b>How I weighted the factors:</b> Frequency, impact, and persistence were weighted equally. Each factor appeared repeatedly in both qualitative and quantitative data. The combination of high scores across all three factors supports the 4 out of 4 rating.</p>
<p><b>Possible solution and/or Trade-offs:</b></p> <p>Add a “Summarize Unread Msgs” button to the top of each channel. When the user selects the button, show a pop up that provides a short summary of all unread messages. The summary should group messages into clear categories and offer actions to copy the summary, mark messages as read, or close the window.</p> <p><b>Trade-off:</b> The feature may reduce the need for users to scroll through the full conversation, but it adds a new element to the channel header. Some users may ignore the summary if they prefer to read messages in order. The summary pop up must be designed carefully so that it does not cover important content or cause visual clutter..</p>
<p><b>Relationship:</b></p> <p>N/A</p>

Figure 40

No. 2 - HE2	Problem/Good Aspect Good Aspect
<b>Name:</b> Provide read information for messages	
<p><b>Evidence:</b></p> <p>Heuristic: Visibility of System Status</p> <p>Interface aspect: A tick indicator appears at the corner of a chat message a user sends. There is a single grey tick if the message is sent, two grey ticks if all the members of the channel received the message, and two blue ticks if all the members read the message. There is also a new menu option for a chat message called ‘read details’ that mentions all the members that read the message.</p>	



**Explanation:**

Users need a way to know how many members of a channel their message has been read by. And they would also want to know which specific members have read it so far. This information can be useful for them to decide on how to proceed with the chat. The read indicator and the 'read details' menu option would give them comprehensive details in this regard. This way they would not have to wait for a long time anticipating a reply, if the message is read and if there is no response, the user can do a follow up.

<p><b>Severity or Benefit:</b></p> <p><i>Rating:</i> 4 out of 4.</p> <p><b>Justification (Frequency, Impact, Persistence, Weights):</b></p> <p><b>Frequency:</b> High. The users will tend to use this feature every time they send a message.</p> <p><b>Impact:</b> High. It changes the way the users interact with the channel and with the other members. It changes the way the conversation flows in the channel and how the user proceeds to move forward. It prevents users from waiting for replies and makes chats faster.</p> <p><b>Persistence:</b> High. The new information and lack of wait time will effect constantly, and it will always exists whenever users use channels in discord and send messages.</p> <p><b>How I weighted the factors:</b> Frequency, impact, and persistence were weighted equally. Each factor appeared repeatedly in both qualitative and quantitative data. The combination of high scores across all three factors supports the 4 out of 4 rating.</p>
<p><b>Possible solution and/or Trade-offs:</b></p> <p>Add a read indicator and a ‘read details’ menu option that gives comprehensive details about who received and who read the message.</p> <p><b>Trade-off:</b> The feature provides more details to the message sender but it could add more elements to the UI, making it less simple. More menu items could make the user experience complex and make the UI seem more cluttered.</p>
<p><b>Relationship:</b></p> <p>N/A</p>

Figure 41