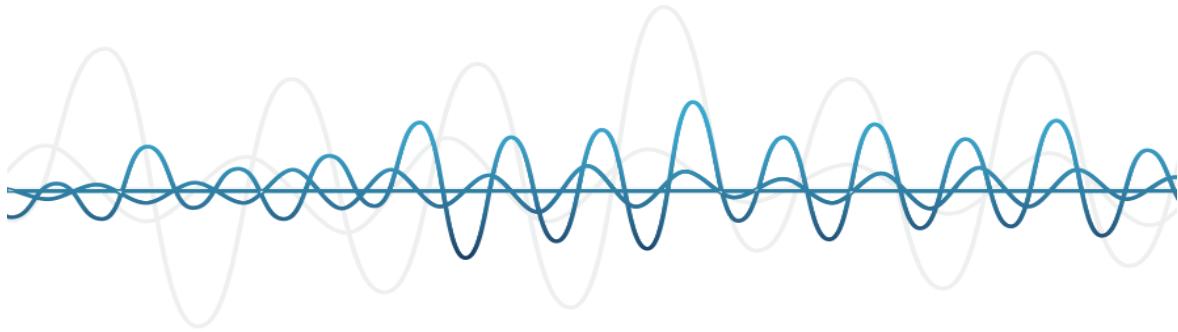


MusicHub

A Social Media Platform for Music



Scenario Summary

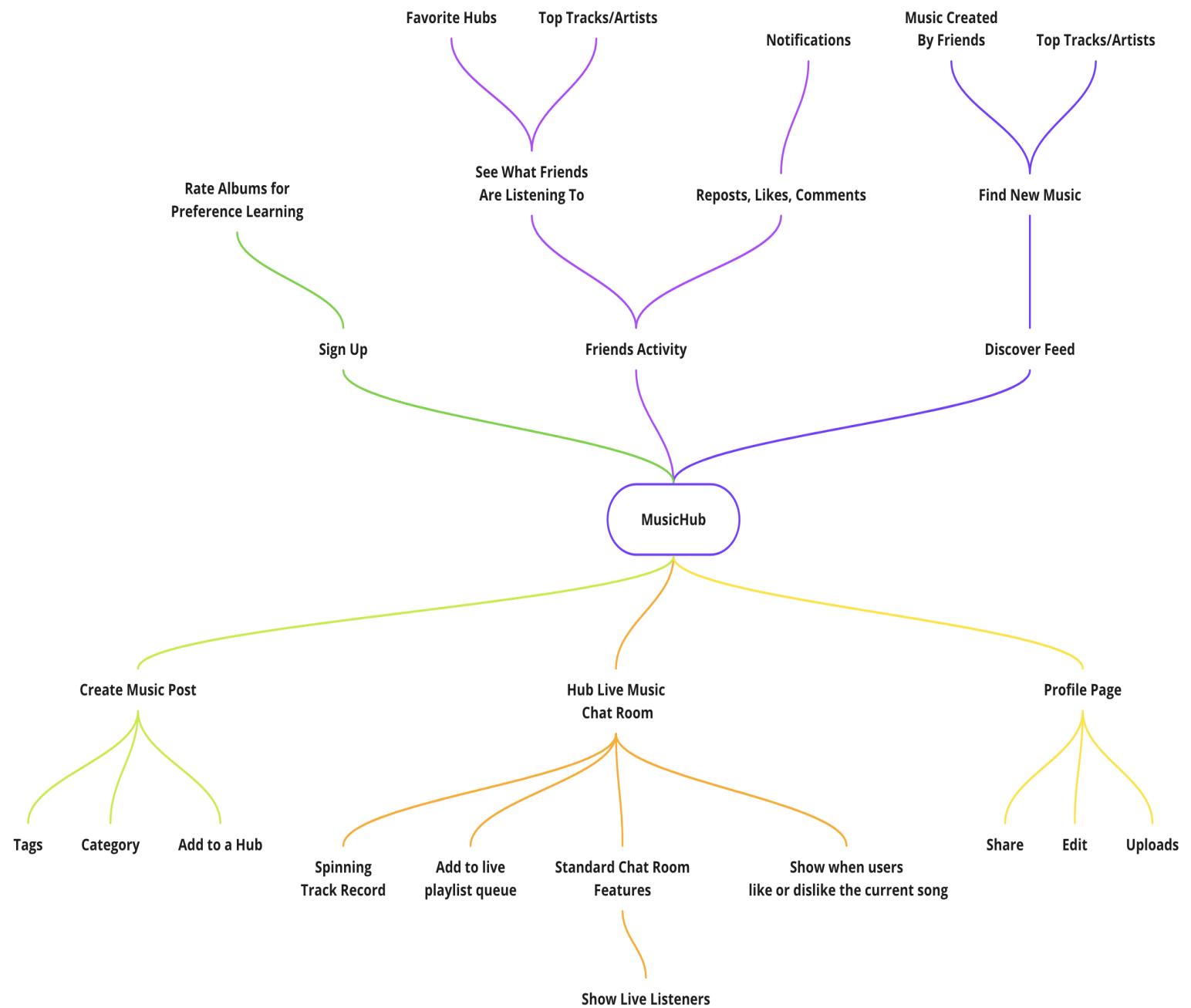
MusicHub is a social media application centered around listening to music together. On this platform, users will be able to discover, discuss and share music created by the community as well as major artists around the world.

Team

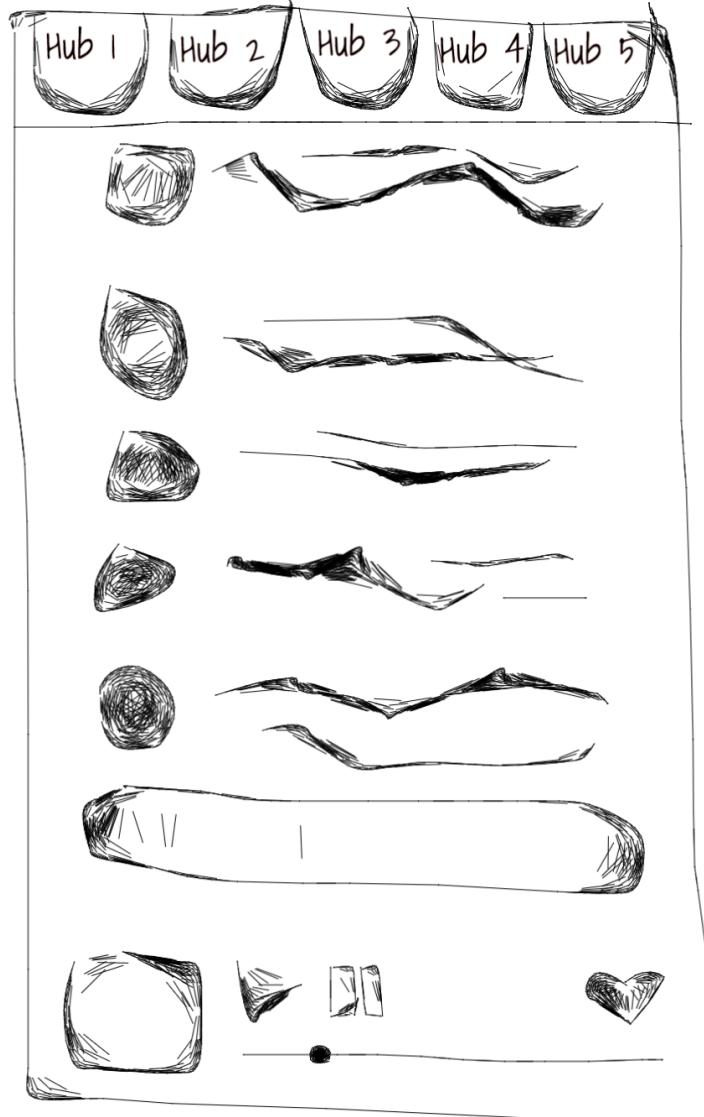
Arjun Tyagi
Bryan Snyder
Ziyu Song

Documentation has been edited to highlight design work created and completed by Arjun Tyagi.

Ideation Artifacts: Created By Arjun Tyagi



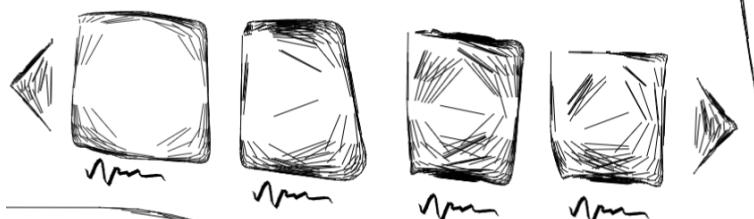
Live Music Chat Room



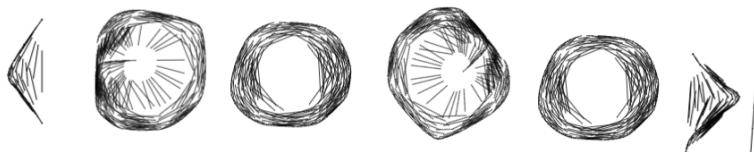
Arjun Tyagi

Discover Feed

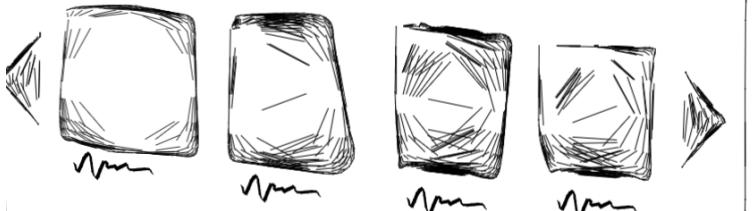
Top Tracks This Week



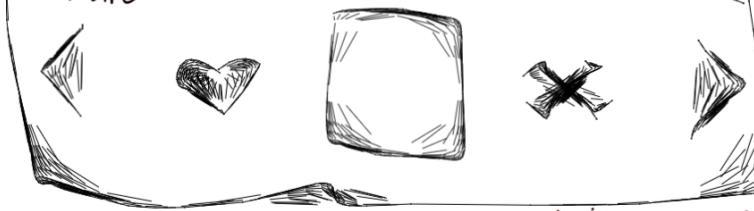
Popular Hubs



Friends Recent Listens



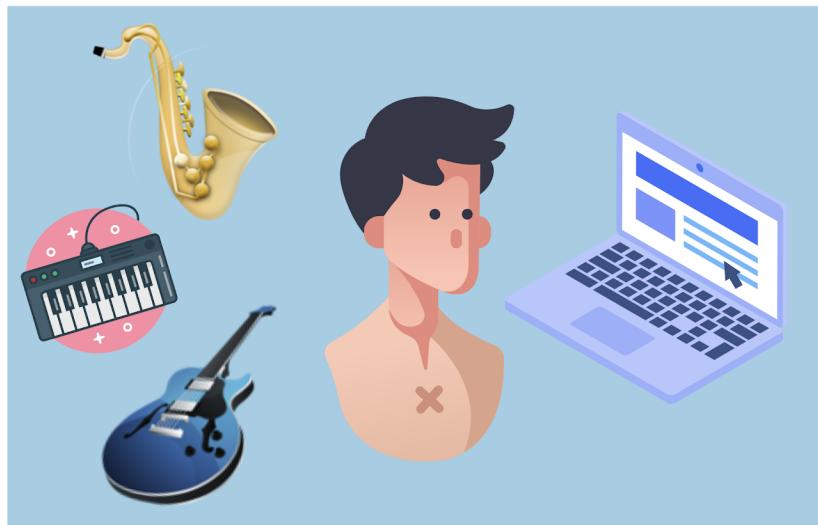
Rate



Arjun Tyagi

Storyboard: Live Music Chat Room

Created By Arjun Tyagi

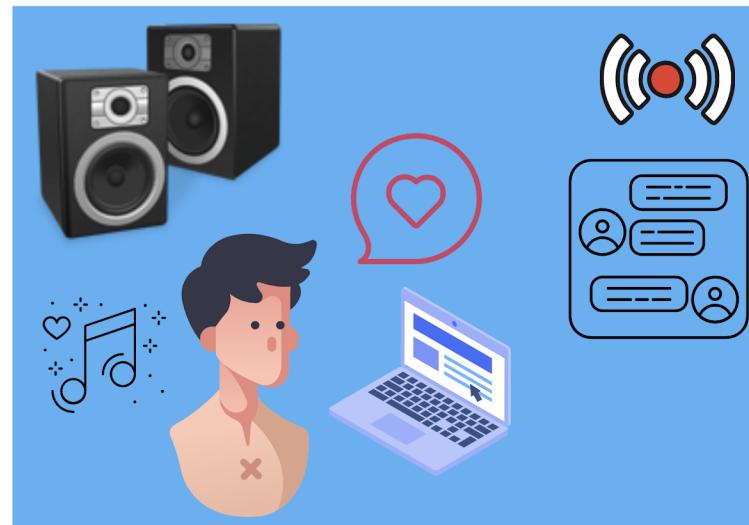


Tony enjoys listening to Jazz music. Since most of Tony's friends don't share his music taste, he rarely gets to talk about Jazz. While searching online, Tony finds MusicHub.

Script

Tony creates an account for MusicHub and starts browsing various hubs for his favorite music genres.

Action

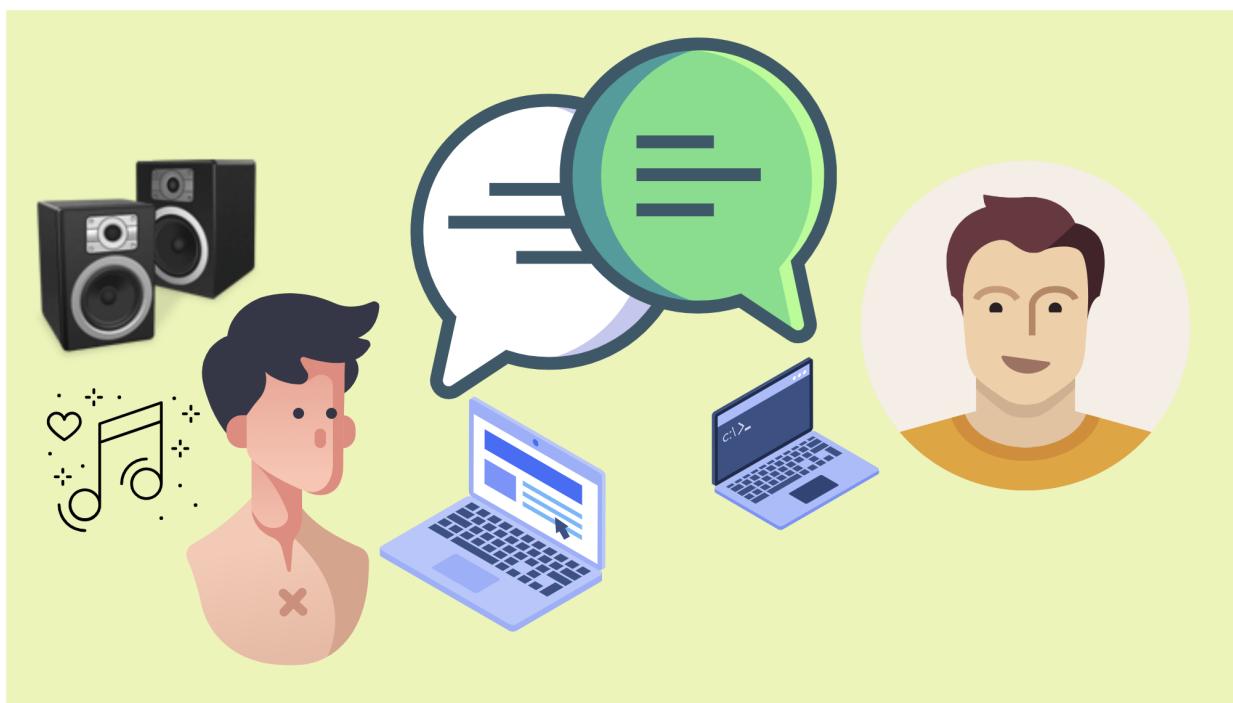


Tony finds a hub for live Jazz music and is entertained with how lively and interactive the chat room feels.

Script

Tony presses the heart button to let everyone in the hub know that he likes the current song.

Action



As Tony spends more time in the Jazz Hub, he becomes a part of this new community and gains friends. Talking to people all over the world has helped expand his taste in music.

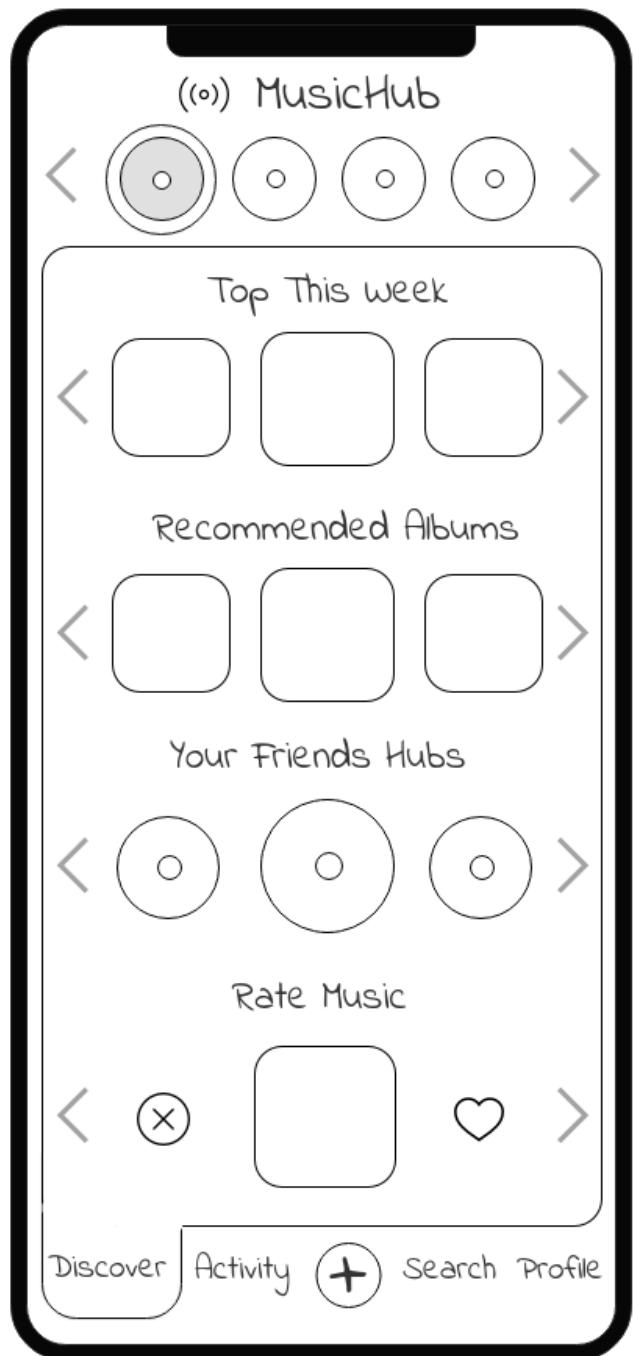
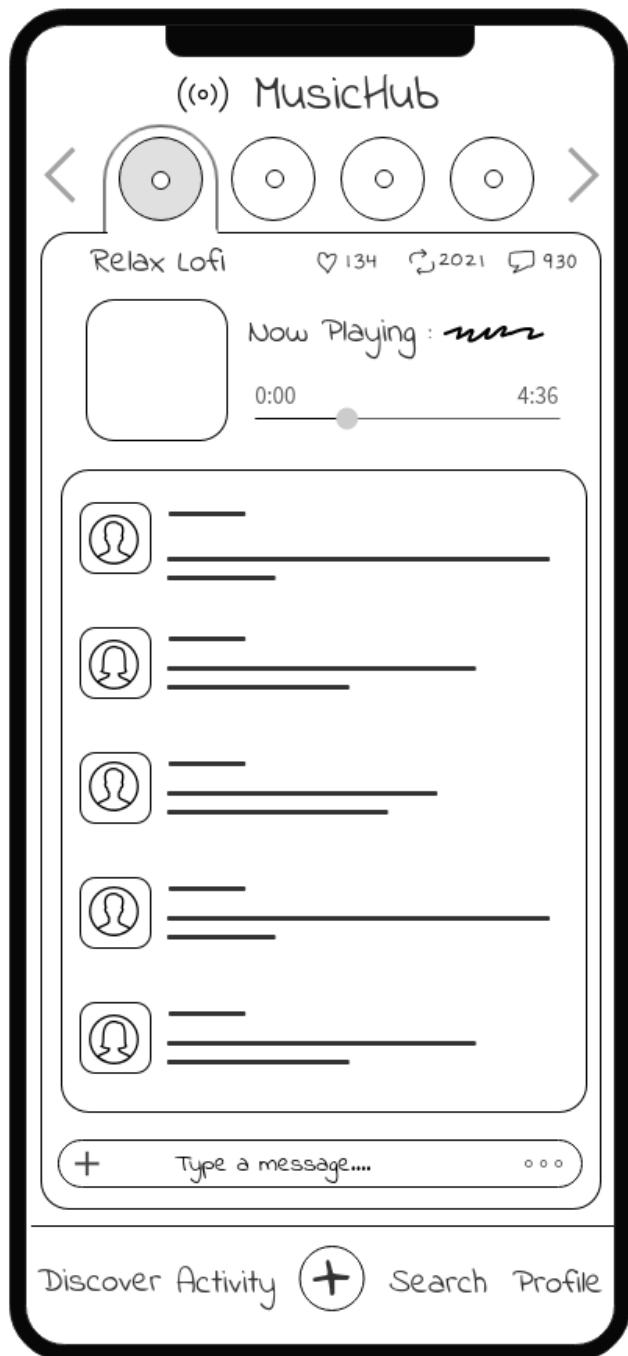
Script

Tony frequently starts conversations and adds tracks recommendations to the live music queue/playlist.

Action

Mobile Wireframes: Live Chat Room & Discover Screens

Created By Arjun Tyagi



Web Wireframe: Live Chat Room & Discover

Created By Arjun Tyagi

The wireframe illustrates a web application interface for a music hub. At the top, a header bar includes a back/forward button, a search bar, and navigation links for "Discover", "Activity", "Profile", and "Post+". A "MusicHub" logo is on the left.

The main content area features a sidebar on the left with categories: "Relax Lofi", "Chill-Hop", "Study Beats", "EDM", and "+ Create Hub". To the right of the sidebar is a list of users, each represented by a profile icon and a horizontal bar indicating their current activity level. On the far right, two boxes are displayed: "LIVE LISTENERS" showing a grid of user icons and "PLAYLIST:" showing a list of tracks.

At the bottom center, a message input field says "Type a message...." with a send button. Below it, a media player shows "Now Playing: nrr nrr" with a volume slider, and track statistics: 134 likes, 2021 plays, and 930 shares. The total duration is 4:36.

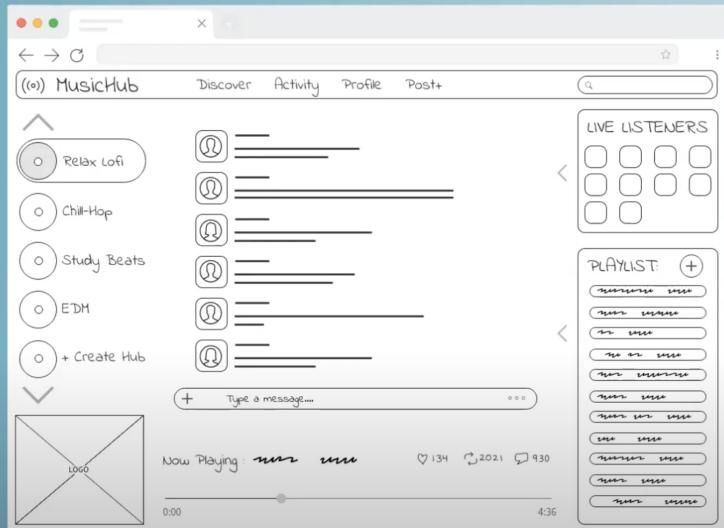
A large, semi-transparent triangular logo is positioned at the bottom left.

Wireframe Cognitive Walkthrough Sessions

Video Link:

<https://uci.yuja.com/V/Video?v=2609890&node=9361816&a=547916213&autoplay=1>

Scenario: You are in the Relax Lofi Hub and love listening to Lofi music while working. A song that's playing catches your attention.



Task 2: Favorite the currently playing song and repost it.

Evaluator Name: Omitted

	Will the user know what to do at this step?:	If the user does the right thing, will they know that they did the right thing and are making progress toward the goal?	Notes
Live Chat Room Web Interface			
Task 1: Write a message in the chat about how much you like the song.	Yes	Yes	
Task 2: Favorite the currently playing song and repost it.	Yes	Yes	Confused about where currently playing song is
Task 3: Add a new song to the live playlist queue for the hub.	yes	Yes	
Task 4: Switch to the EDM Hub.	Yes	Yes	
Discover Page Mobile Interface			
Task 5: Browse through the carousel for Recommended Albums	Yes	Yes	
Task 6: Rate a song to improve your suggestions. If you don't want to rate the song, how will you skip it?	Yes	No. They weren't sure what it meant to skip a song when rating it. They were confused with skipping a song versus disliking it.	Thought skipping a song was the x button
Profile Page Mobile Interface			

Task 7: Find the most recent song you have uploaded and edit the post.	Yes	Yes	
Task 8: Find the most recent song you have uploaded and find the comments section.	Yes	Yes	

Feedback:

1. Likes the comments at center of screen. Rate music was not easy to interact with the first time. There were confusing icons.
2. Nice to have a message at the center, main page looks good. Make "Like" and "Repost" buttons bigger might be better. "Rate Music" section is not easy to see at the first time, and what does the "x" button mean.

Evaluator Name: Omitted

	Will the user know what to do at this step?:	If the user does the right thing, will they know that they did the right thing and are making progress toward the goal?	Notes
Live Chat Room Web Interface			
Task 1: Write a message in the chat about how much you like the song.	Yes	Yes	
Task 2: Favorite the currently playing song and repost it.	Yes	Yes	
Task 3: Add a new song to the live playlist queue for the hub.	Yes	Yes	
Task 4: Switch to the EDM Hub.	Yes	Yes	

Discover Page Mobile Interface			
Task 5: Browse through the carousel for Recommended Albums	Yes	Yes	
Task 6: Rate a song to improve your suggestions. If you don't want to rate the song, how will you skip it?	Yes	Yes	Understood that the X is if you don't like the song, and the heart is to like the song. If you don't want to rate the song, click on right arrow to skip.
Profile Page Mobile Interface			
Task 7: Find the most recent song you have uploaded and edit the post.	Yes	Yes	
Task 8: Find the most recent song you have uploaded and find the comments section.	Yes	Yes	

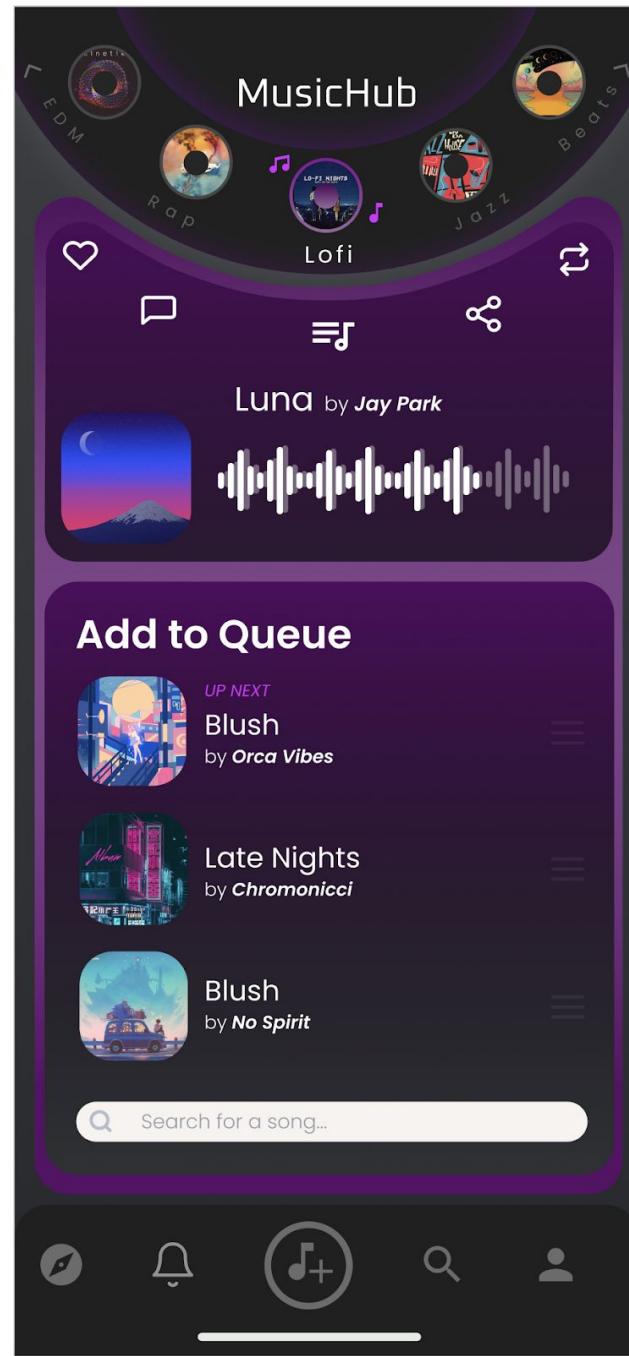
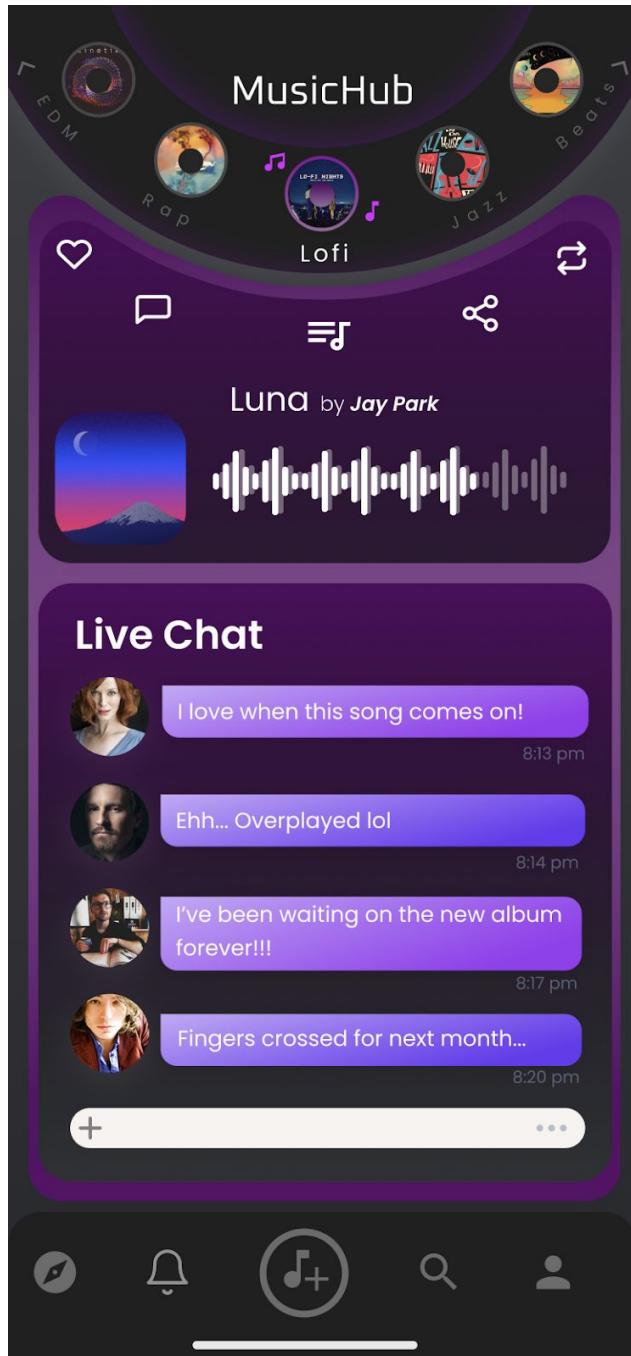
Feedback:

1. Likes the app idea. Interface is nice, but there's a lot to take in at first. Arrows next to the playlist and live listeners on the web interface weren't clear but the idea is cool.
2. Interface looks right, at first there's so many things to see in the web version, curious what do the arrows do besides the "live listeners" and "playlist" sections. Like the Friends feature in Discover and the profile. Curious what the profile looks like if there's not uploaded videos.

High Fidelity Prototypes

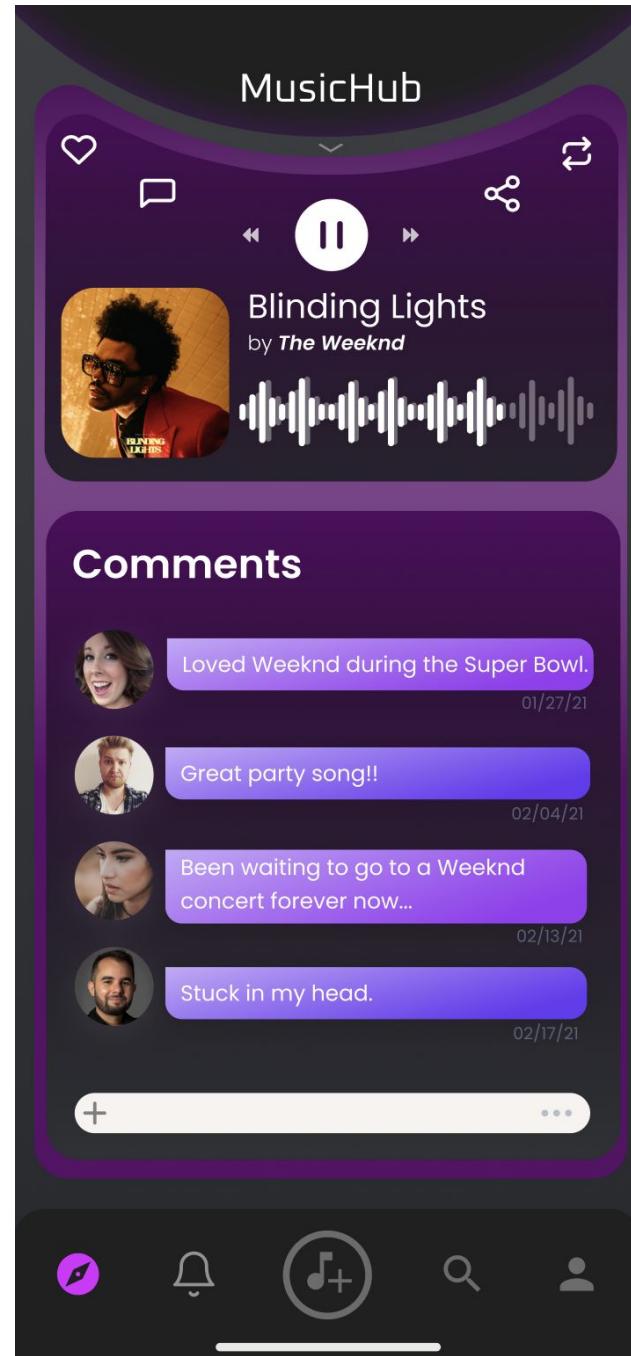
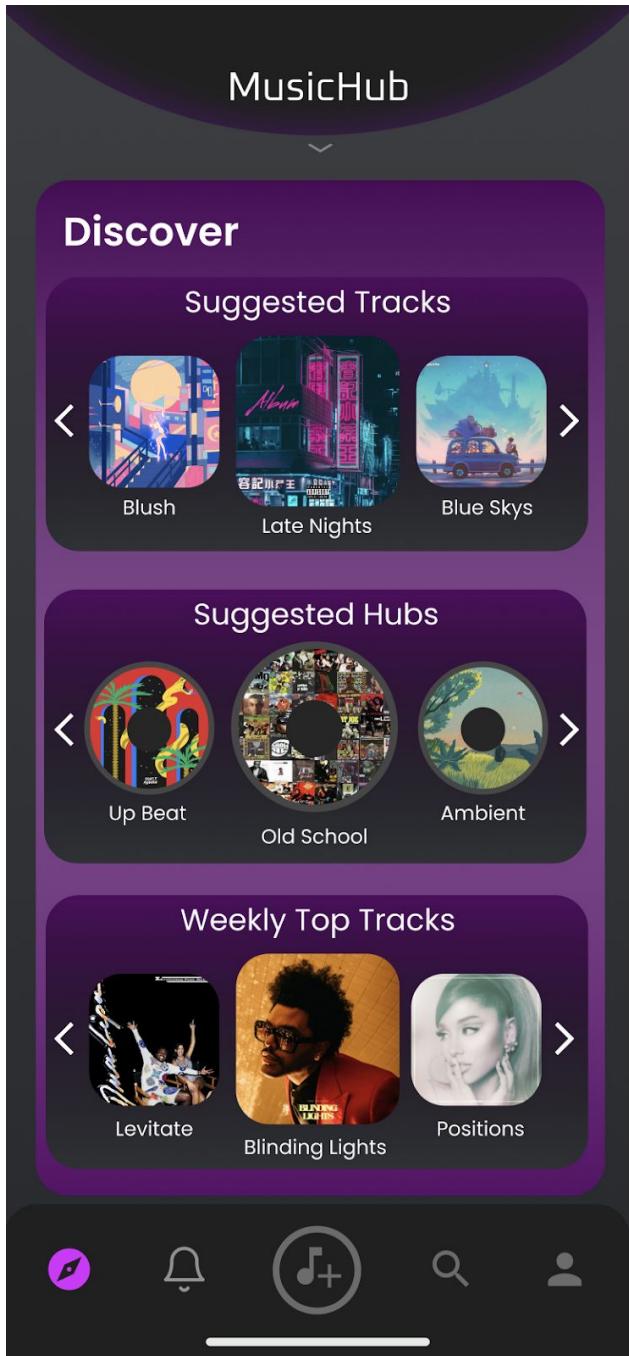
Mobile Mockup: Hub Chat Room

Created By Arjun Tyagi

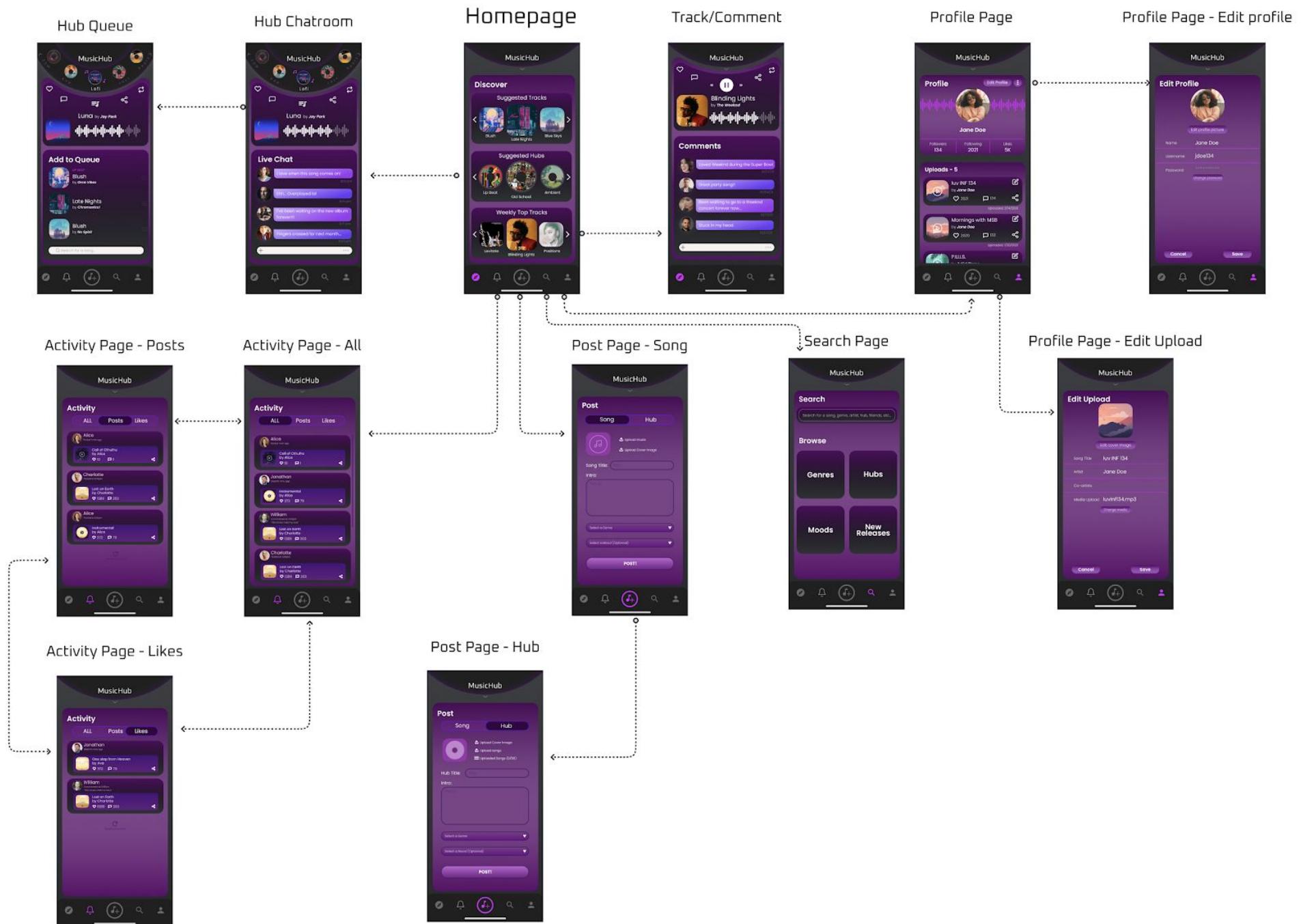


Mobile Mockup: Discover Pages

Created By Arjun Tyagi



User Flow Diagram (Mobile)



Web Mockup: Hub Chat Page Created By Arjun Tyagi

MusicHub Discover Activity Profile Post + Search

Hubs

- EDM
- Beats
- Lofi
- Jazz
- Rap

Create +

Lofi Chat

-  I love when this song comes on! 8:13 pm
-  Eh... Overplayed lol 8:14 pm
-  I've been waiting on the new album forever!!! 8:17 pm
-  Fingers crossed for next month... 8:20 pm
-  They played a track from the new album at their last concert. It was wild. 8:23 pm

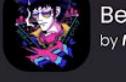
+ ...

 **Midnight Blues**
by *Luna Lush*

1:32 3:20

 **Blush**
by *Orca Vibes*

Add to Live Queue

-  **Blush**
by *Orca Vibes*
-  **Late Nights**
by *Chromonicci*
-  **Blush**
by *No Spirit*
-  **Cloudy Luke**
by *Space Cowboy*
-  **Moon Tunes**
by *Deborah Han*
-  **Bebop**
by *No Spirit*

Active

- 
- 
- 
- 
- 

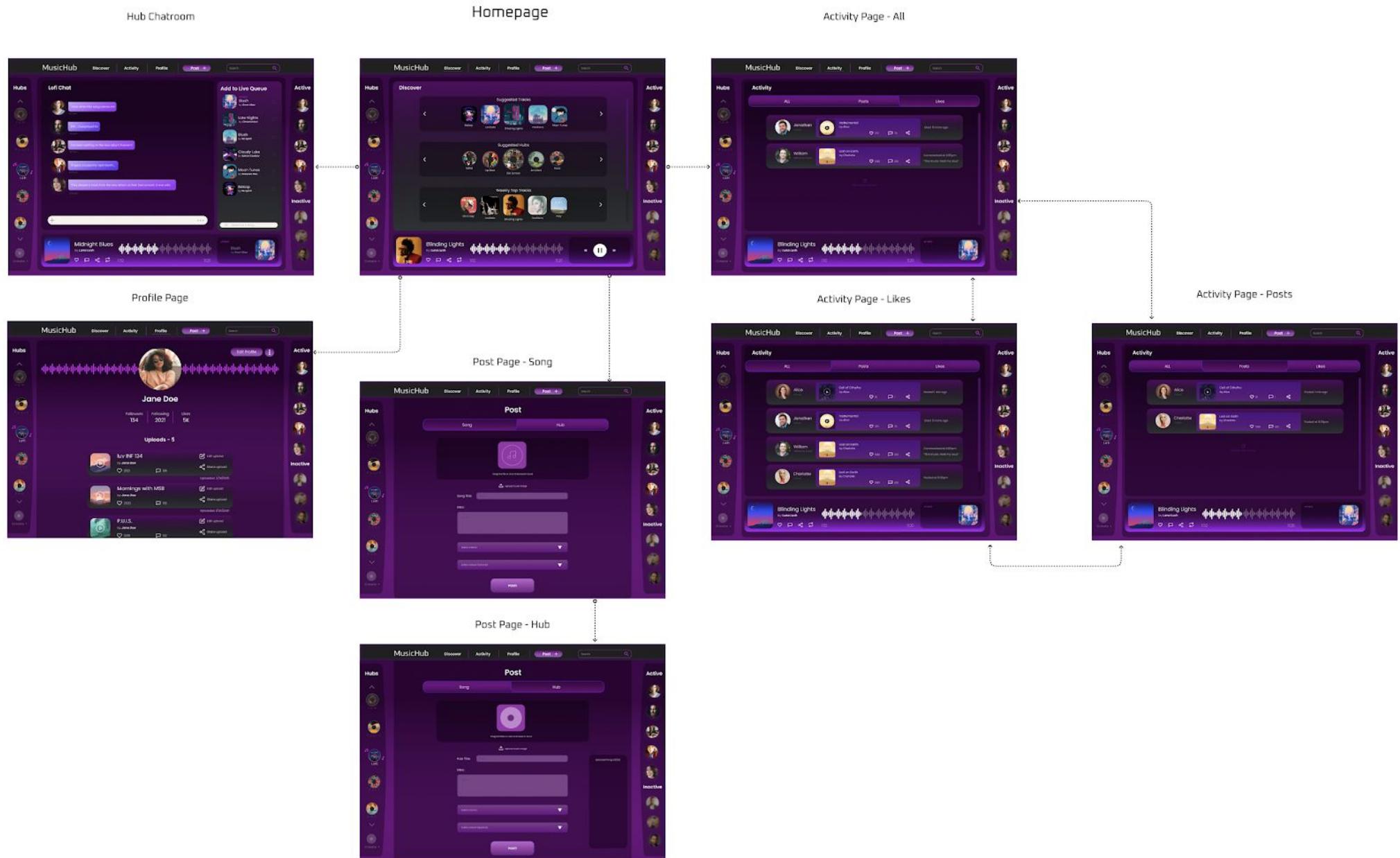
Inactive

- 
- 
- 

Web Mockup:Discover Page **Created By Arjun Tyagi**

The screenshot shows the MusicHub app's main interface. At the top, there's a navigation bar with tabs for 'Discover' (which is selected), 'Activity', 'Profile', and 'Post +'. To the right of the tabs is a search bar with a magnifying glass icon. On the far left, there's a vertical sidebar titled 'Hubs' containing icons for various music genres: Cinetix (EDM), Beats, Lo-Fi Nights (Lofi), Jazz, and Rap. Below these are arrows pointing up and down, and a 'Create +' button. The main content area is titled 'Discover' and features three sections: 'Suggested Tracks' (with tracks like Bebop, Levitate, Blinding Lights, Positions, and Moon Tunes), 'Suggested Hubs' (with hubs like Metal, Up Beat, Old School, Ambient, and Rock), and 'Weekly Top Tracks' (with tracks like Go Crazy, Levitate, Blinding Lights, Positions, and Holy). At the bottom, a player is playing 'Blinding Lights' by Luna Lush, showing the song title, artist, a waveform visualization, the current time (1:32), the duration (3:20), and standard playback controls (back, play/pause, forward).

User Flow Diagram (Web)



Functional Prototypes

Overview of Functional Prototype for Mobile:

[Link to live prototype for MusicHub Mobile version](#)

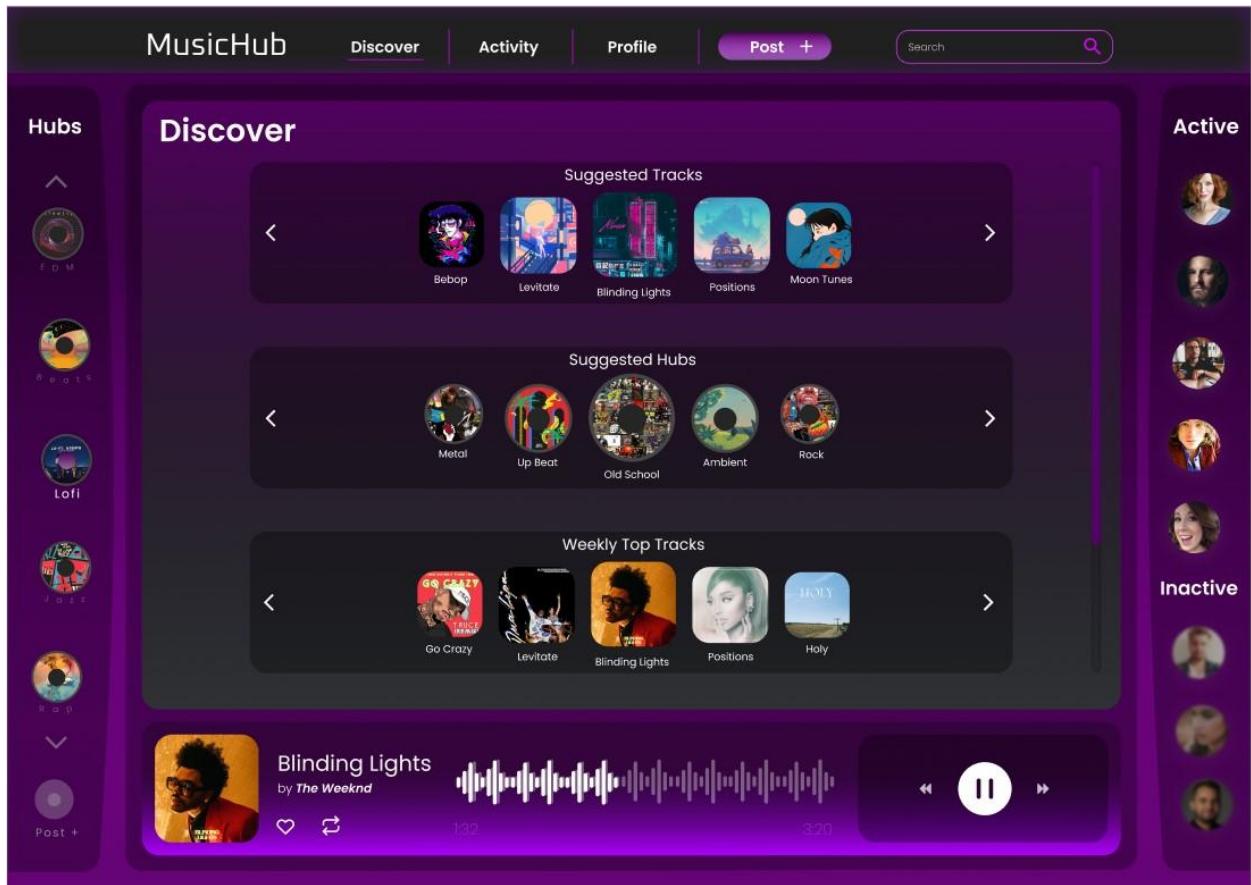


This is the Hub chatroom and the discover page for the mobile version of MusicHub. The Hub chatroom page can be found by selecting and joining a hub using the hub scroll wheel at the top of the application or by selecting a hub within the Discover page. Within a hub, a user has access to see what song is currently

playing in the hub, as well as the ability to like, repost, and see the queue for the hub. In the chatroom within the Lofi hub, users can write comments and chat with other people in the hub about the song or music playing. In the Discover page, users can browse through tracks or hubs.

Overview of Functional Prototype for Web:

[Link to live prototype for MusicHub Web version](#)



This is the homepage for MusicHub on the web version. The homepage consists of the Discover page which is where users can find and discover tracks and hubs. While the core of this page focuses on the "discover" features, due to the web version having more real estate to add features, it also includes a music controller at the bottom which shows what song is currently playing. On the left is a hub wheel that users can browse through to find and enter hubs. On the left includes a friends list that shows any active or inactive friends.

Usability Testing

Test Plan

Participant Demographics:

Participant	Age	Experience	Preferred Platform	Recruiter	Date/Time
P1	22	Intermediate	iOS, Google Chrome, MacOS	Bryan	3/10/21 9:00pm
P2	23	Beginner	Android, Google Chrome, Windows	Bryan	3/10/21 7:30pm
P3	50	Intermediate	iOS, MacOS, Chrome	Arjun	3/11/21 8:00pm
P4	27	Beginner	iOS, MacOS, Windows	Ziyu	3/12/21 3:00pm

Tasks:

Task 1:

Description: The hub chat room shows the current hub you're in at the top as well as the current song that is playing in the hub. For this task, like and repost the currently playing song.

Goal: User should tap the heart icon and the repost icon in the top corners.

Task 2:

Description: For this task, change to another hub.

Goal: User clicks on another hub disk from the dial selector on the top of the screen.

Task 3:

Description: For this task, find the queue for the hub you're currently in and change the order of the play queue.

Goal: User should click on the queue button and drag one of the songs to change the play order.

Task 4:

Description: The activity page is used to track friends' activities like their comments, likes, reposts and posts. For this task, try to comment on a song that a friend shared on the activity page.

Goal: User should find a commented song and tap on the comment icon.

Task 5:

Description: The Post page is used to post new songs or hubs. For this task, try to post a hub.

Goal: User should tap "Hub", upload songs and the cover image, select a genre and a mood, and post the hub.

Task 6:

Description: The search page is used to search for songs either by manual input or by categories. For this task, browse for songs that have been released recently.

Goal: User should click on "New Releases" category and find a list of songs.

Task 7:

Description: The profile page is for viewing your own profile and finding information such as how many followers you have and what songs you have uploaded/posted. For this task, find out how to share your profile to a friend.

Goal: User should navigate to the menu (3-dot button) to find the share profile button and click on it.

Data Collection

Participant: P1

Task	Task completion results	Errors	Time per task	Notes from user reflection
1	Completed	0	10 seconds	Where does the like get stored, where does reporting go? Is my like public or private?
2	Completed	0	5 seconds	Likes the navigation circle at the top.
3	Completed	3	15 seconds	The three lines were not that visible. Tried clicking on the song images instead.
4	Completed	3	10 seconds	The hitbox is tiny and couldn't be clicked easily.
5	Completed	0	10 seconds	Didn't click on the upload buttons but proceeded to click on the Post button at the bottom.
6	Completed	3	20 seconds	Clicked on the search button instead.
7	Completed	0	10 seconds	Easily found it because they were familiar with the UI of having a menu and a share

				button in the menu.
--	--	--	--	---------------------

Participant: P2

Task	Task completion results	Errors	Time per task	Notes from user reflection
1	Completed	1	25 seconds	"Like" was super fast but repost took a little time to find.
2	Completed	2	20 seconds	Tried clicking on the arrow at first
3	Completed	4	40 seconds	Finding the queue took a little time, but it was confusing that you had to drag the queue to change the order, but they said it made sense for it to do that if it was done on an actual mobile device.
4	Completed	0	15 seconds	Very straight-forward
5	Completed	2	2.5 minutes	Because not everything is implemented, it was confusing when some things couldn't be clicked on. Wasn't really sure if they were doing it correctly as there wasn't any feedback if things were selected or

				not.
6	Completed	0	15 seconds	Very simple and easy to find.
7	Completed	5	1.5 minutes	Took some time to find where to share. Made some clicking mistakes by clicking on edit profile and the share button on the songs.

Participant: P3

Task	Task completion results	Errors	Time per task	Notes from user reflection
1	Completed	1	14.62 seconds	Got confused by the share and repost buttons. Suggested to keep the buttons far apart to better differentiate between them.
2	Completed	0	8.39 seconds	User clicked on the disk to the right and had no issues switching hubs.
3	Completed	1	23.27 seconds	Took the user some time to figure out how to access the queue. From the queue screen user tried to drag the title down. Took the user some time to drag the bar icon to successfully

				change the order.
4	Completed	0	15.92 seconds	Tried switching between tabs first but then successfully clicked on the comment icon. Suggested making the buttons bigger.
5	Completed	3	1.02 Minutes	User successfully changed over to the hub tab to post but struggled with the interactive elements. User was trying to click on the album/song images to upload and did not click the upload button. User was also confused between the 'upload song' and 'uploaded songs' buttons.
6	Completed	0	10.23 seconds	User had no problems finding the new releases section on the search page.
7	Completed	1	23.15 seconds	User clicked on the edit profile button first but eventually clicked the three dots icon. Suggested that there just be a direct share button on the profile card.

Participant: P4

Task	Task completion results	Errors	Time per task	Notes from user reflection
1	Completed	0	9 seconds	Find the "like" button immediately, but take several seconds to find the "repost" button.
2	Completed	1	19 seconds	Hesitate for a while to find the dial selector. Click the buttons at the bottom first
3	Completed	2	20 seconds	Take awhile to find the queue bar. Drag the title of songs first, and then find the icon to drag with
4	Completed	0	10 seconds	Hesitate for a while to make sure all the songs are shared by friends. Find the comment button immediately.
5	Completed	0	27 seconds	Find the "Hub" and do the rest of the tasks in a short time period. Hesitate when finding out the uploading function is not implemented.

6	Completed	2	10 seconds	Users easily find out the "New Releases" category.
7	Completed	3	33 seconds	The user clicks every single button in the profile page, and finally clicks the 3-dot button and finds the share profile button.

Study Analysis

Quantitative Results

Task	Total Time Per Task	Average Time Per Task / # Participants
Task 1	58.6 seconds	14.65 seconds
Task 2	52.36 seconds	13.09 seconds
Task 3	98.24 seconds	24.56 seconds
Task 4	50.92 seconds	12.73 seconds
Task 5	187 seconds	46.75 seconds
Task 6	55.24 seconds	13.81 seconds
Task 7	169.44 seconds	42.36 seconds

Task completion rate per user	# of success / total # of tasks
P1	100%

P2	100%
P3	100%
P4	100%

Task	Total # of Errors / # of participants
Task 1	2
Task 2	3
Task 3	10
Task 4	3
Task 5	5
Task 6	5
Task 7	9

Qualitative Results

Observation notes and reflections with each participant have been recorded under the data collection section for each participant's table. After carefully aggregating and processing this data our team was able to develop insights about common pain points in our interface where participants were generally confused. In our first task where users were required to like and repost the song, we found that many of the participants found the share and repost buttons to be confusing. With such similar functionality one participant commented about keeping the two buttons further apart in order to make them more clear. Alternatively, some users also found that the like and repost functionalities were ambiguous and that they required more feedback about where they were liking or reposting to.

In task 3, two participants also got stuck on changing the queue order because they were trying to drag either the title or album art instead of the dedicated button. We found that for

ease of use the whole element should have been draggable. Finally, one particular area where participants struggled was the post page in task 5 for creating a new Hub. Since the Figma prototype interactions were not perfect, many participants struggled with the lack of feedback and assumed they were doing something wrong when selecting the album art and tracks. Additionally, users were getting confused between the "Upload Song" and "Uploaded Songs" sections and believed both could just be merged into one in order to avoid confusion.

As a result of our data collection and heuristic evaluation we have decided to make the following changes:

- Keep the share and repost buttons far apart in order to avoid confusion between similar functionalities
- Allow users to drag anywhere on the song bar in order to change the queue order. A dedicated drag button was too restrictive.
- Provide better user feedback across the application but also specifically when selecting album art and tracks for the post page. Users should easily know that they have successfully entered all the information to create the hub.
- Remove redundant wording from buttons, and merge similar functionality to eliminate extra clicks.
ex. "Upload Song" and "Uploaded Songs"