



BDA311 Data Driven Design Thinking

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Final Project: MusicAmp

Abstract

As music enthusiasts, we wanted to try and create an innovation that can improve our community by understanding our user groups. Through interviews and surveys, we mainly found 3 frustrations: unorganized learning material that is all over the internet, lack of a community, and difficulties in sharing and publishing their work. During the 5 design steps, we used various tools and techniques, such as R for clustering and NLP, persona map to understand our user group, Ideaboardz to brainstorm ideas, Figma to prototype our product, and maze to test it through descriptive and inferential statistics. What we ended up with is MusicCamp (inspired by Datacamp), it is a learning platform for music, topics range from learning simple concepts or genres to advanced instruments and techniques, it also includes career tracks and skill tracks that offer guided road and courses for a specific career or skill to improve while earning XP and competing with other learners. In addition, Musicamp offers a community feed (inspired by Reddit), that connects users together where they can post about anything related to music. Furthermore, it includes a publish feed where users can upload their work for others to check and listen to and announce live concerts for others to attend.

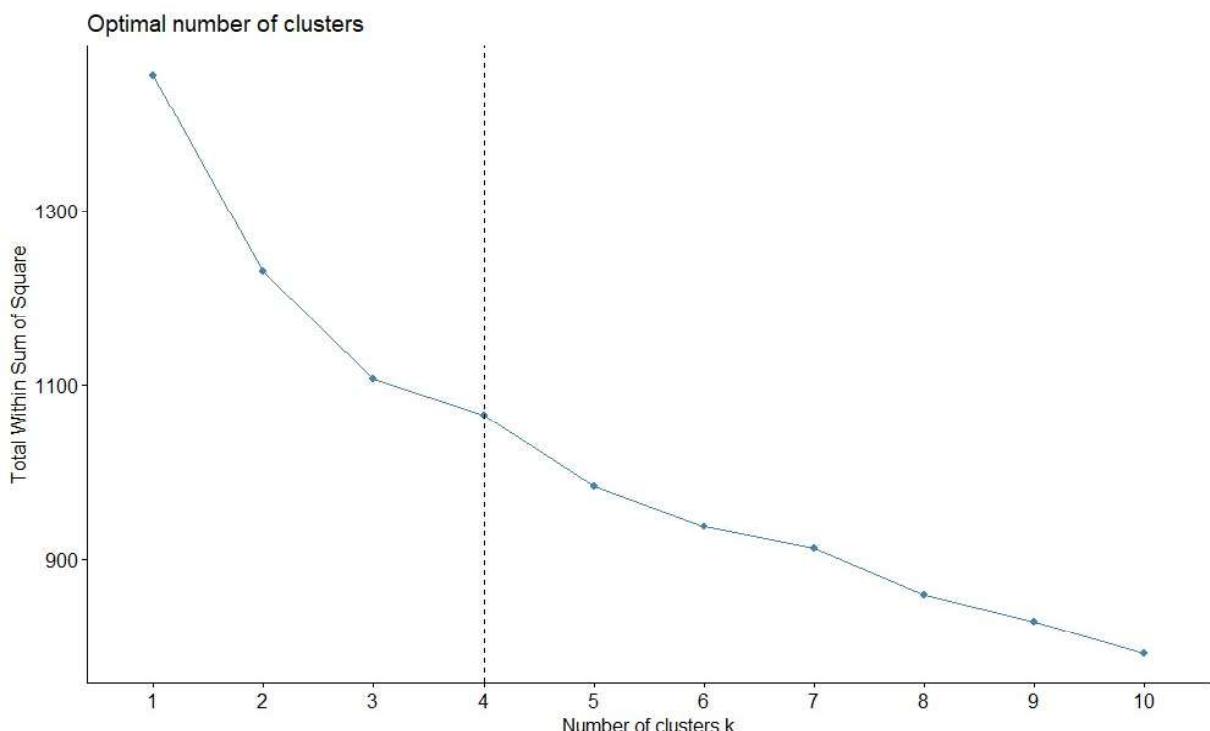
Empathize Step

Step 1-Data Collection:

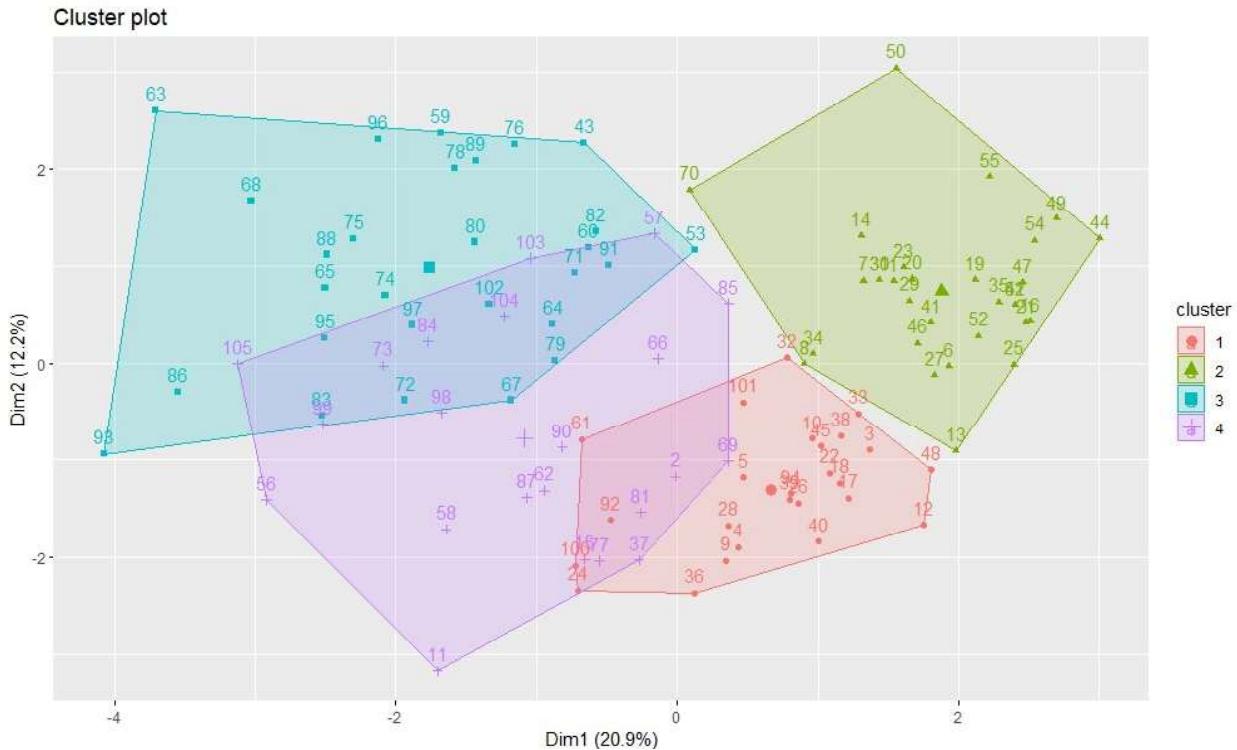
We decided to let our general focus be on music and built a well-structured Google form that would help us understand and select a user group and allow us to begin our data-driven design thinking process. The form included demographic questions, whether the respondents learn or compose music, their relationship with music, and any struggles regarding music whether consuming, learning, or creating. After finishing it we shared it with friends and family, on Discord servers, Reddit, and other social media platforms. 3 days later we had 106 respondents.

Step 2-Analyzing the Data using Cluster Analysis on R:

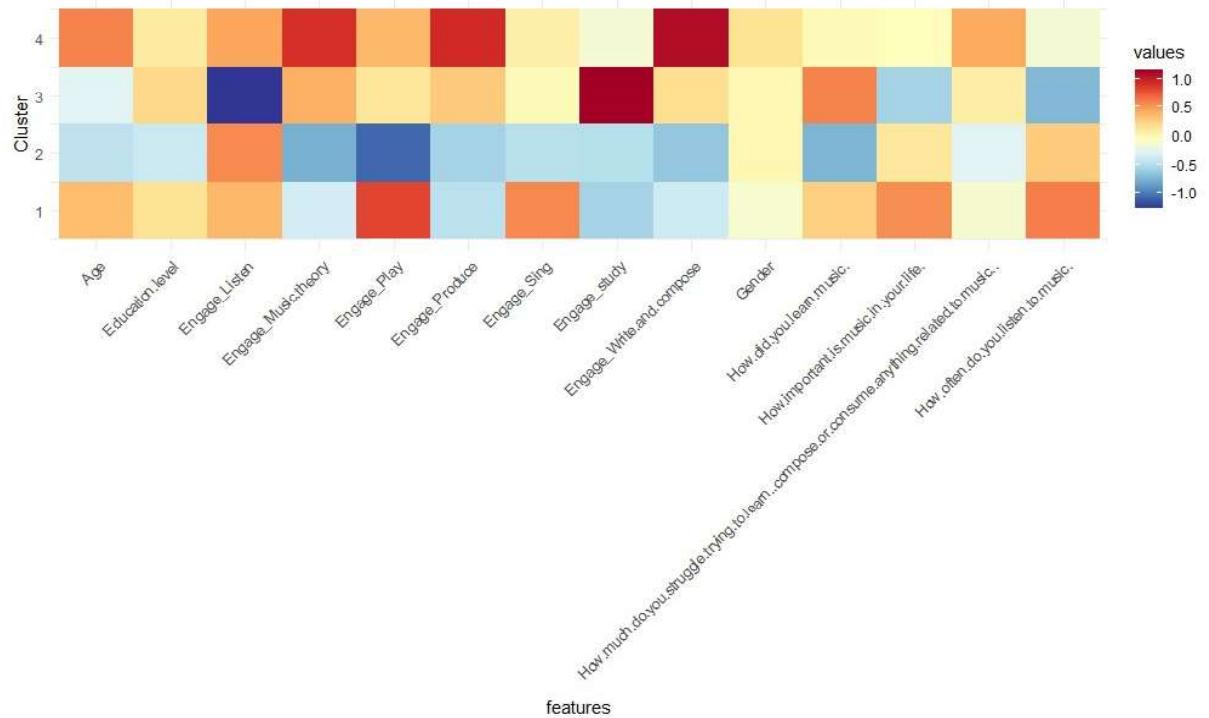
We transformed the form into an Excel and then used R to preprocess and clean the data. We made all the variables numeric, and we used binary for the question of how they engage with music. We decided to use k means clustering which means we had to decide on the number of clusters. To do that we used the elbow method which led us to use 4 clusters.



After using k=4, the k-means clustering results were as follows:



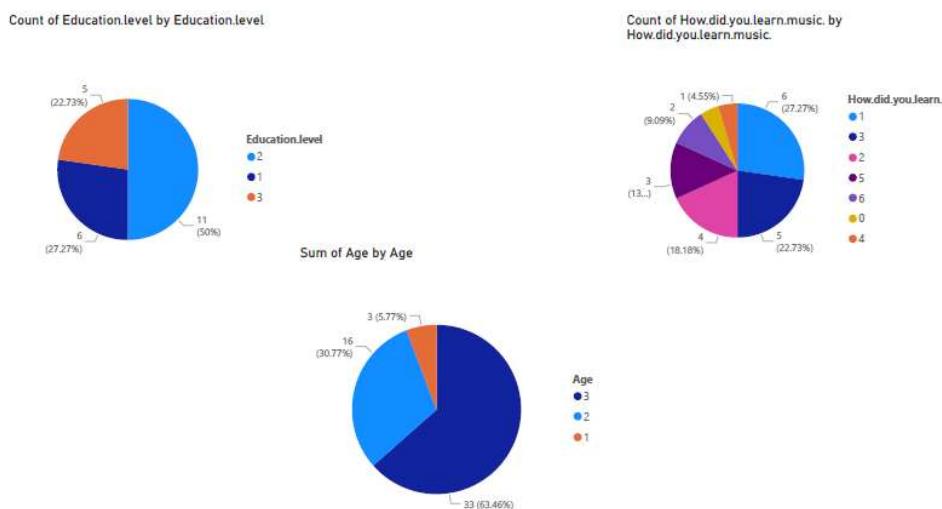
To help us understand the reason behind the split and interpret each cluster we used R to create the following heatmap:



Looking at these clusters we found several clusters interesting. The 1st cluster is people who like music and play and sing but are not interested in studying or learning music theory. Cluster 2 is people who listen to music and also find music important in their lives. The third cluster seems to be people who are very knowledgeable and talented in music but do not enjoy it or feel like it is important in their lives. The last cluster, which is the one we selected, is people who love music, and engage in music in every way, however, they seem to struggle with music. This could be related to difficulty in learning an instrument, composing, or studying theory. Since they seemed like the most interested and also seemed like they could use some assistance we went for them.

Step 3: Understanding our Selected User Group using Visualizations on Power BI

Looking deeper into our cluster (22 respondents) were able to understand our user group much more. Firstly, we found that our cluster includes only a bit more men than women with most being university students in the age group of 22-26 years old. They learned music in many different ways but mainly through private schools and self-learning. Music is important in their life. They engage in music in numerous ways with 95 % engaging through listening, and 82% write and composing. We can also see that only 18% study while 82% engage and are interested in music theory. This could be one of the many reasons that this cluster has struggled when it comes to music.



3.55

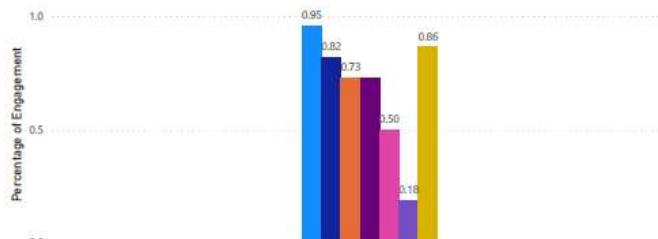
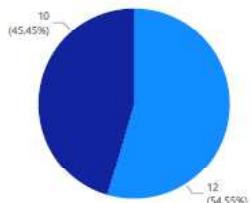
3.45

3.32

Average of How important is music in your life

Average of How.often.do.you.listen.to.music.

Average of How.much.do.you.struggle.trying.to.learn..compos...



Now that we have a better understanding of our cluster we decided to use a person map to represent our user group as that makes it easier for us to continue with the design thinking process.

Music Enthusiast



"Music is not just a hobby, it's my passion and my constant companion through the highs and lows"

Name: Alex
Age: 23
Title: University student
Archetype: The creative guy

Biography

Alex is a 23-year-old university student mastering in business analytics with a passion for music and everything about it. Self-taught in music and interested in music theory. He has honed his skills through a mix of self learning online and some private tutoring

Current Tools / Process

Alex currently uses tutorial videos on YouTube and other sites and reads online articles to learn new stuff and a tutors that he sometimes contact, to create music he uses Audacity and his trusty guitar

Key Features Needed

Alex cannot live without listening to music, playing on his guitar and making music

Goals & Motivators

Alex is motivated to enhance their musical skills, expand their knowledge of music theory, create their own music, and connect with other music enthusiasts and he wishes to succeed In the music industry.

Frustrations

Axle struggles with the challenges of self-learning. They feel overwhelmed by the vast amount of information available especially when it comes to music theory and sometimes finding people who share similar love for music is a challenge in addition he finds sharing his music challenging .

Ideal Experience

To have a successful music career in addition to his academic life and a way to efficiently access any information or tool related to music and be involved in a community of people who share his interest in music.

Behaviors

Alex engages in music everyday, such as listening to a variety genres while studying for his business master degree, in his free he tries to practice his guitar find resources online to grow and learn and tries create music on his own he always tries to share his music to his friends who are not musicians sometimes he might get neglected by a few of them

With the persona map and a clear representation of our user group, we are ready to move on to the Define step of the design thinking process.

Define Step

Step 1-Developing an Interview strategy and Conducting the Interviews:

Firstly, we decided to interview 6 people, 3 each. For the interviews, the strategy we used was asking general questions and then getting more and more specific until we could understand what they struggled with regarding music. We started by introducing ourselves and then asked them about what got them into music. Most of them mentioned that they play music while answering these questions.

This led us to ask them in what ways they engage with music. Most answered that they do it in various ways, which got us wondering how they balance music with their studies/professional life (we know that the interviewees are university students or have begun working). They speak about it being tough to balance but they use music to escape and that they would love to have more music in their lives. This made us ponder what takes up their time when it comes to music thus we asked whether they had any struggles regarding music and if they do what are they. From the final question, we got to get a more direct answer of struggles that they feel when it comes to music in the variety of ways they engage in it. Most mentioned that choosing the correct resources to learn or study was tough for them as there is a wide variety, some mentioned that they had trouble with sharing their work, and a few mentioned that they found it hard to find people who are as passionate toward music as themselves.

Step 2-Using LDA (on R) to Interpret Responses:

In addition to inputting our own Excel file with the respondents' answers, we made three significant tweaks to the LDA code.

First, we changed the context words to align with my topic instead of the class topic. I used the following: "school", "university", "like", "maybe", "sometimes", "started", "struggle", "just", "will", "need", "also", "music", "say", "like", "because", "thing", "give", "can". These words were repeated either due to the way of speaking or because of the topic of the questions. Removing them helped make the separation of topics more insightful.

We decided to stick to the number of topics or k as the original script of 3. We felt the answers and the number of respondents (6) allowed space for 3 topics.

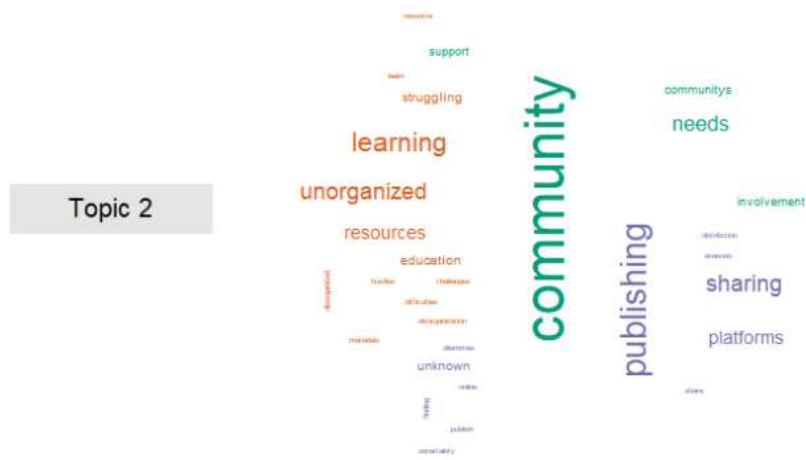
Lastly, we adjusted the number of terms to 5. This is because when we used the original 10, we believed there were too many terms which caused the meaning of each topic to not be clear and topics to be overlapping each other. Therefore, using fewer terms seemed more suitable.

Looking at the results we used the topics that came out of the 4th and final question as they were the ones that most clearly defined 3 topics and potential issues faced by the respondents. The following are the results and the separation of the 3 topics that came out of the 4th question.

Topic 1 <chr>	Topic 2 <chr>	Topic 3 <chr>
community	learning	publishing
needs	unorganized	sharing
communitys	resources	platforms
involvement	education	unknown
support	struggling	avenues

5 rows

Topic 1



Step 3-Reflecting on Emergent Themes:

The first topic seems to be about a need for people with similar interests. Words like “community” and “communitys” point that out clearly also words like “support”, “needs”, and “involvement” seem to be things that they want to do within a community that understands them.

The second topic seems to be about the struggle of learning about music. “Learning and education” indicate this also words like “resources and “unorganized” hint that the thing they struggle with is that there are too many resources and that they do not have an organized way to access the information they seek. Also, the word struggling should have been removed but this topic still has a clear theme.

The third topic seems to relate to an issue with sharing their music work. “Publishing” and “sharing” are clear indicators of this. “Unknown”, “platforms” and “avenues” may relate to the fact they feel like they struggle with publishing as they do not know what platforms or avenues to use to share their music, or they do not know how to use the platforms available.

These results reflected our expectations as we heard these struggles pop up during our interviews. When there were 10 terms, a lot of the topics were mixed together which did surprise us and that's why we ended up changing the term count to 5. Moreover, the method of interpretation of different words helped open up our thinking to understand the issues in a more defined and clear way. For example, with the last topic the word “publishing” is straightforward forward but the word “unknown” linked with the other words helped us define the issue more clearly.

Step 4 - Creating the User Needs Statements:

1. University students who are passionate about music need a way to reach people with similar interests because the people around them don't share the same love.

This emerged from the first topic. The lack of love per se is related to the word “support” as the people around them may not have understood the passion and to the word involvement as they may not have people to share experiences in music with.

2. University students who are passionate about music need an organized and efficient way to access resources about music because they feel overwhelmed by the vast amount of information available.

This emerged from the second topic. The overwhelmed feeling is related to the word “unorganized” as they struggle to find what they are looking for and the information available is related to the word “resources” since there are a lot of resources available to them. The mix of these too seems to be the root cause of their issue related to learning music.

3. University students who are passionate about music need potential avenues to share their music because they do not know the methods of publishing their music work.

This emerged from the third topic. The not knowing was extracted from the word “unknown” which hinted that they do not know something related to publishing and its link to other words like “avenues” and “platform” helped give us insight into what they did not know, which was utilizing or just knowing the platforms or avenues available to them in order to share their work.

Now that we have clearly defined the issues that our user group is facing, we can now move into the ideate step to help brainstorm solutions to the problems we have just defined.

Ideate Step

To begin the ideate process and to help our brainstorming, we transformed our 3 user needs statement to how might we statements.

1. How might we make it easy for university students passionate about music to find like-minded people?
2. How might we empower university students to explore and access music resources in an organized manner?
3. How might we provide university students with the resources and tools to effectively promote and publish their music?

After creating the how might we statements we opened an idea board on IdeazBoard and listed some ideas that would solve at least one of the issues and answer at least one how might we.

Ideate board Group 1

Ideas	Most Rational	Most Delightful
A cool website where there are courses, a place to show music work and a place for blogs and communities. + 4	An app that has videos and tutorials to teach music theory and how to create music separated and also where people have access to communities with like-minded people (based on the genre). + 0	peer to peer tutoring program to teach and discuss music. + 1
make a music school for the user group + 1	Virtual reality platforms where musicians can jam together + 2	

Darling	Long Shot
A metaverse with an ai version of the greats in the music industry that the user group can communicate to for guidance. + 1	create a chip that gives music experience and let them communicate with each others + 0
	A VR world where you can live through the history of music, take music theory classes in a fun way. + 0

We came out with 4 ideas each and hopped on a call. First, we placed them in the category that fit the idea the most. Next, we voted on our top 3. Each one had 5 votes. The top 3 we voted on were:

1. A VR platform that can help musicians meet, create a community, and enjoy their passion for music

2. An app that can help organize resources (videos, articles, etc.) related to music learning and music theory all in one place to help the users easily access any information they may need in an efficient manner. Also, it would include a comments and chat area for people to communicate and share their work.
3. A website where the user can take courses and have a more interactive learning experience on any topic they want regarding music. Moreover, if certified, people can create their own mini-courses or practices to teach their peers something new. The website would also include an area to post blogs, threads, videos, and any work they would want to share.

After settling on these as the top 3, we started talking about each one. We decided that the VR is very limited to people who own or are willing to pay for a VR headset and have a passion for music so we decided that that option was not very feasible. We were left with the app or the website. We went for the website as we felt the more interactive experience and the fact it is easily accessible on any device (especially laptops which most university students or higher use). Moreover, we believe that the community feel of the website where people can create their own mini lessons and post blogs or threads is more welcoming and homey than the app's comment and chat section.

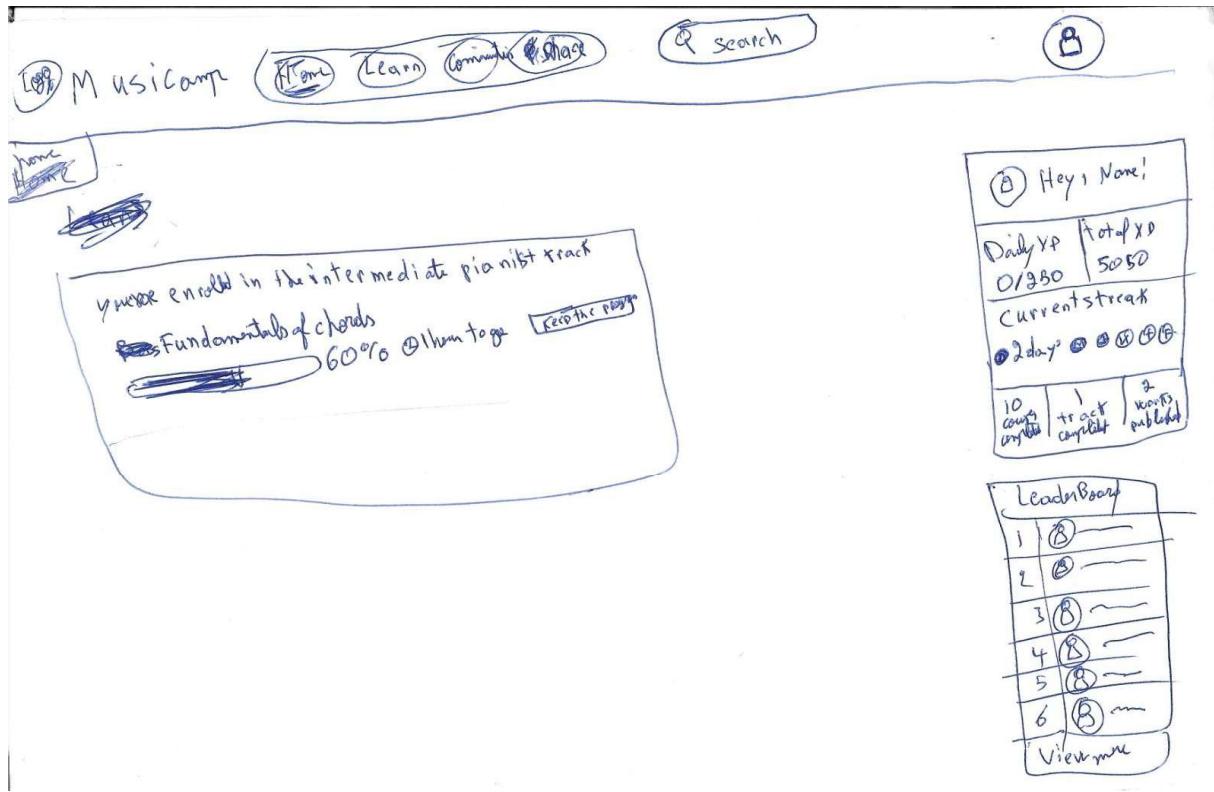
That is why we ended up choosing the website as our final idea. We are planning to include an XP system to motivate users to learn where they can earn it through courses, practices, and quality posts on the blog/thread section. There will be a leaderboard on the home page of the people with the most XP. This way there is motivation, the resources on one site, and a way to be included in a community and share any of their work. We will also include a publish section where people can share their work or create a live event whether it is live in real or on a discord call where people can join virtually on their devices and people can sign up for these events and concerts. In addition, people can make courses and have a chance to be part of a paid program where the more people enroll in their course the more cut they get, which will encourage people to make demanded and high-quality material and resources so more people will enroll in their courses.

Now that we have finalized this decision, we can move to the penultimate step of the design thinking process, the Prototype step.

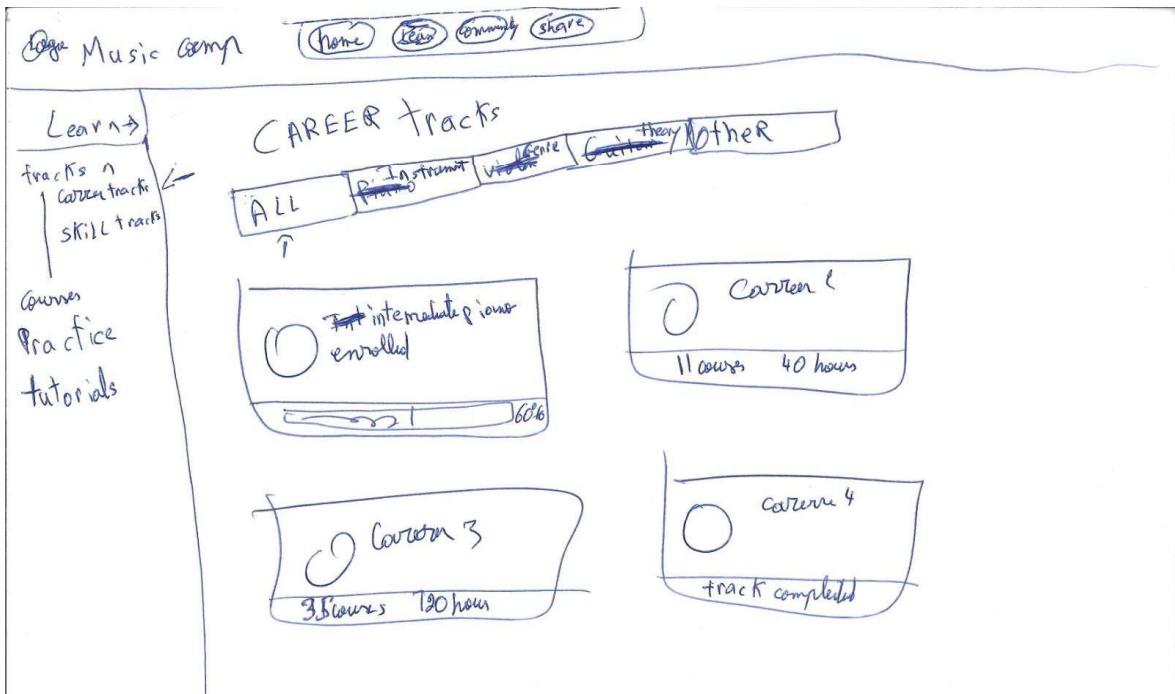
Prototype Step

1- Low Fidelity:

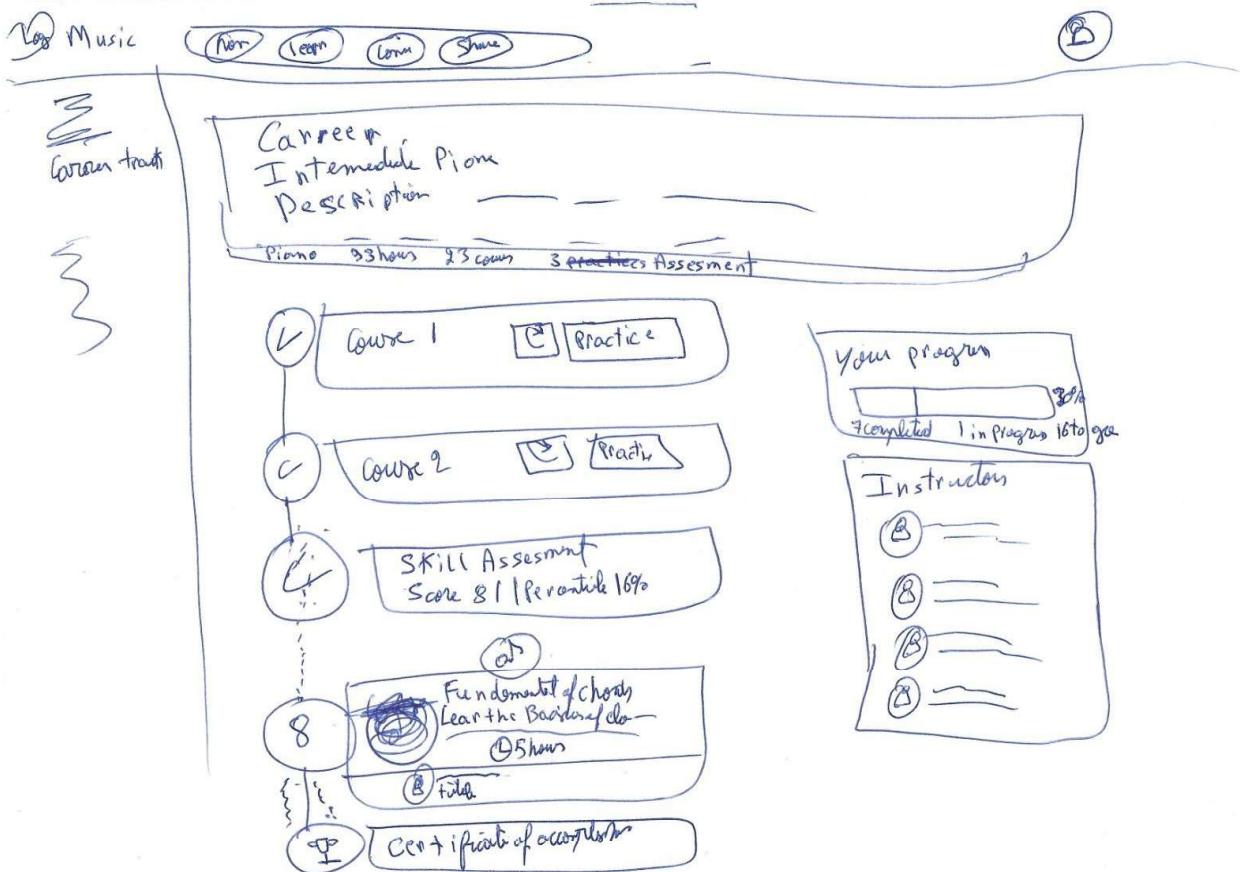
Home Page



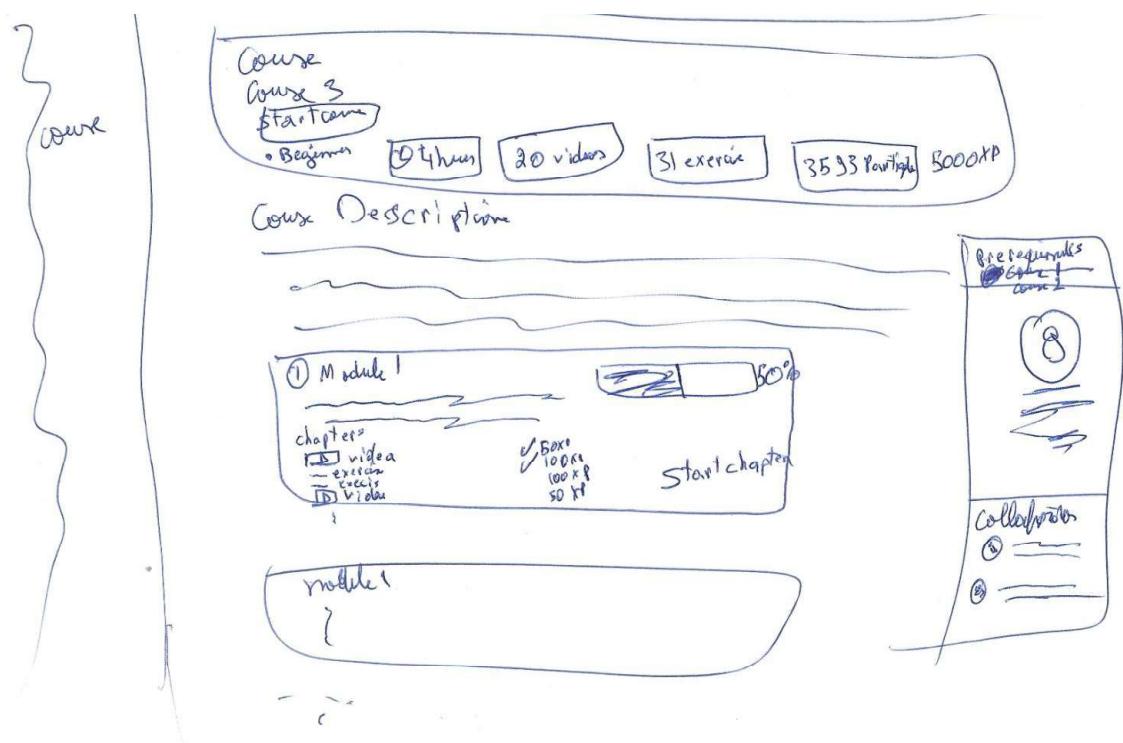
Career Track



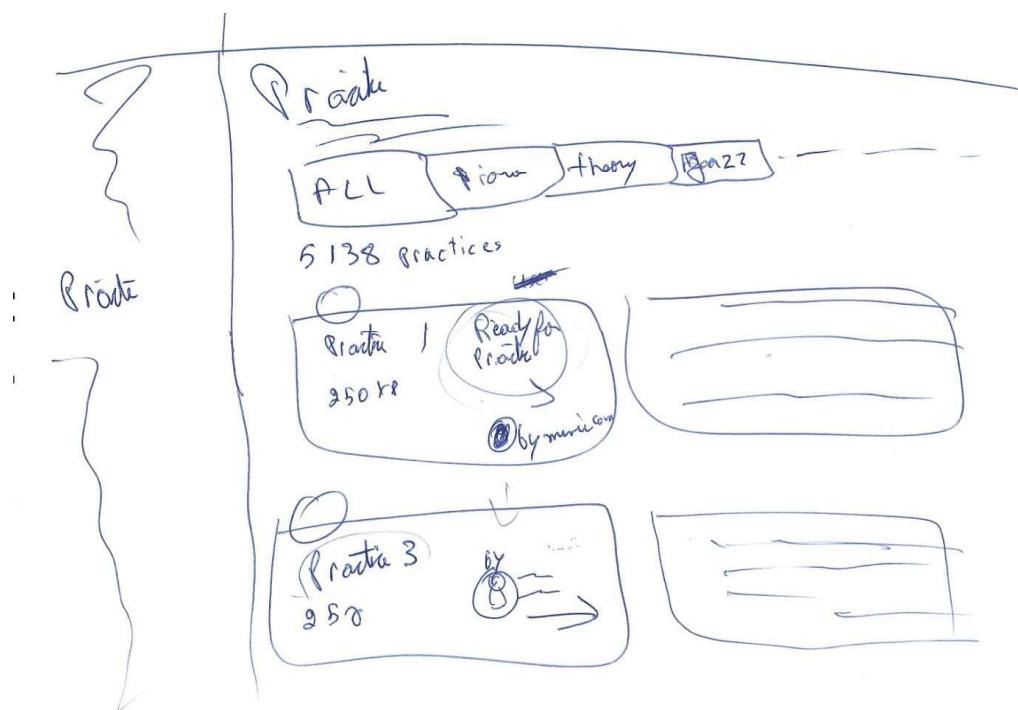
Career Track example



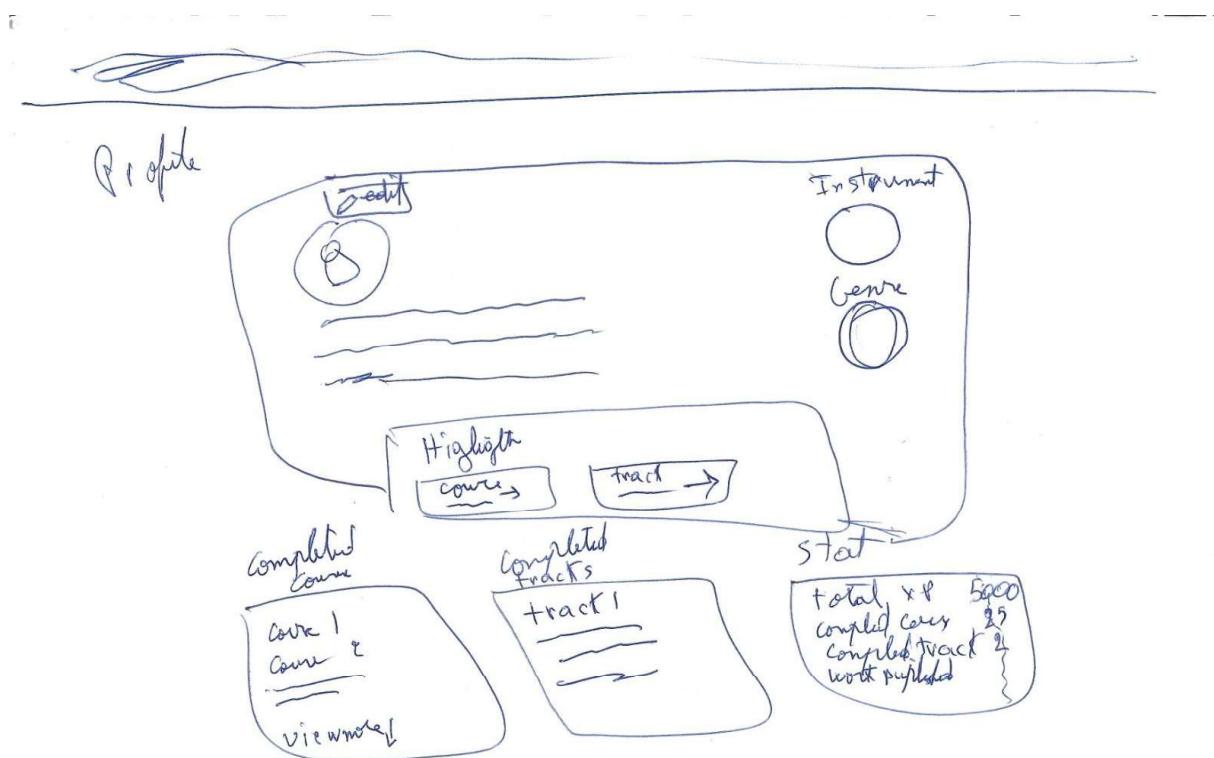
Course



Practice



Profile



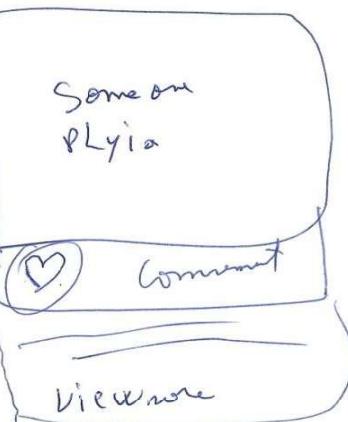
Community

MUSICOMP

(Home) Learn Community Forum



Community



Want to play Country Bass
Steps

Comment

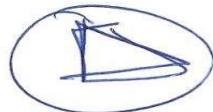
Inside Course

Learn/courses / ~~Handwriting~~ Course 3

Course outline →

Video 1

50%



@musicomp

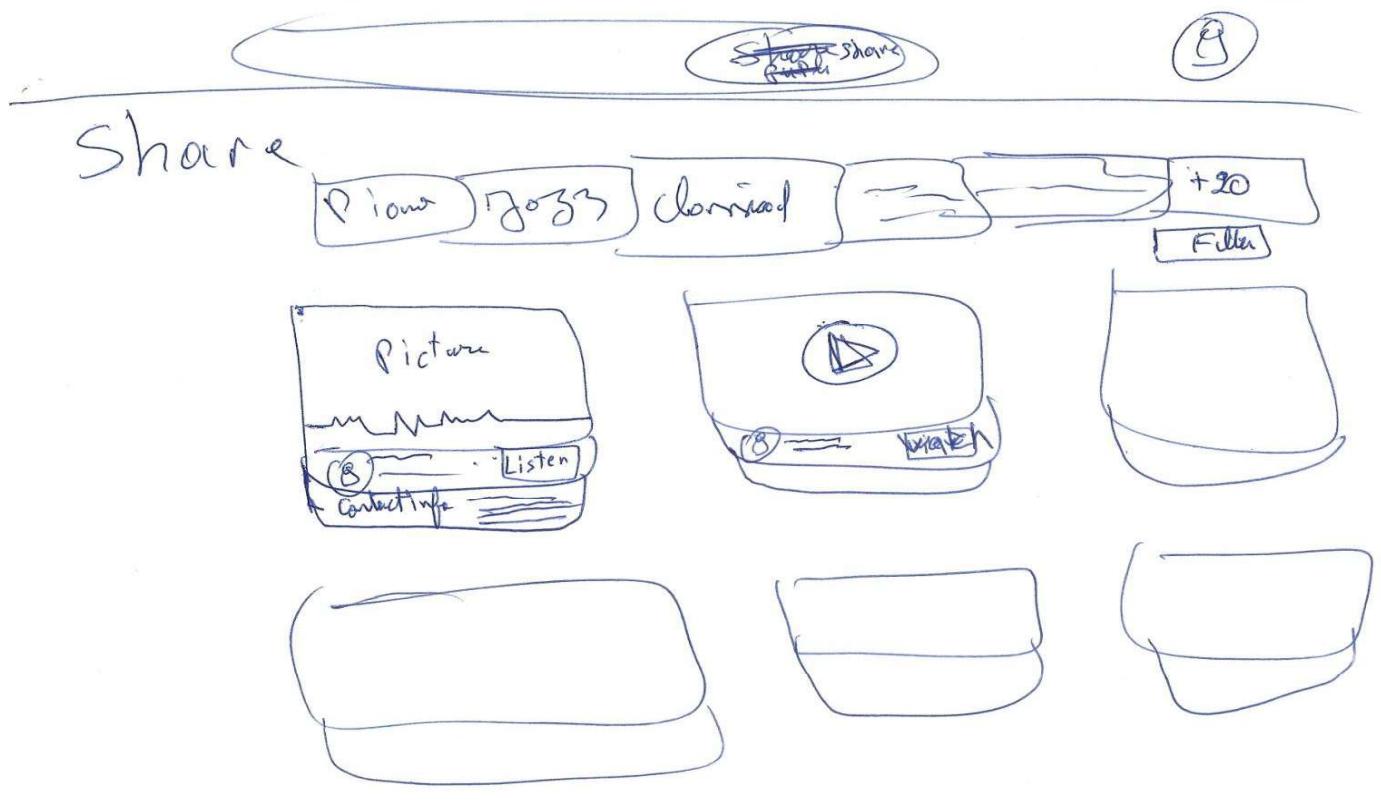
frontline

module 1

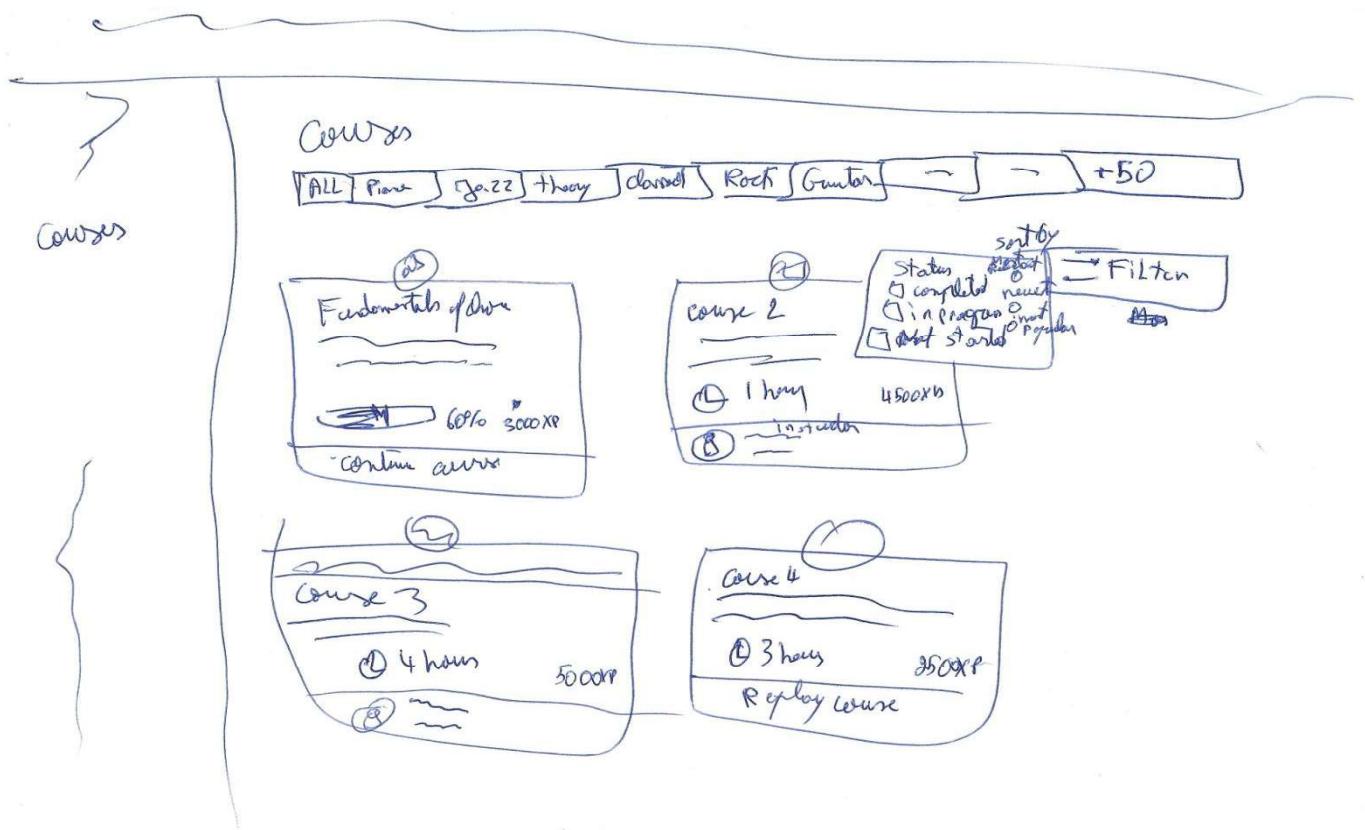
module 2

module 3

Share aka Publish (we changed it to Publish)



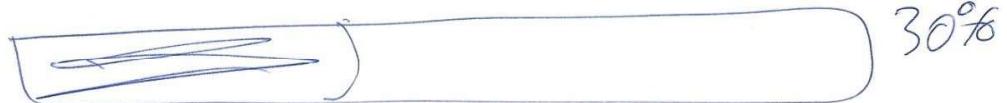
Courses list



Practice example

② music comp

Pratice 1



30%

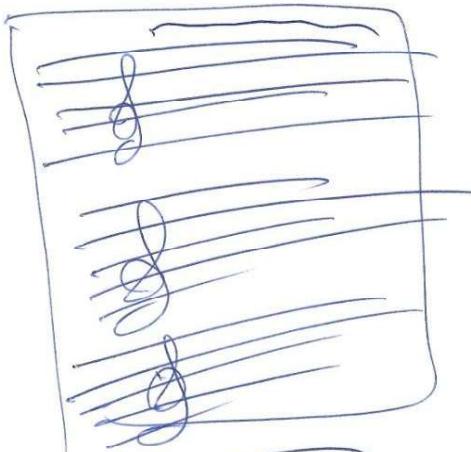
MCQ

- 0 wavy line
- 0 horizontal line
- 0 slanted line
- 0 diagonal line
- 0 curved line

End

Check

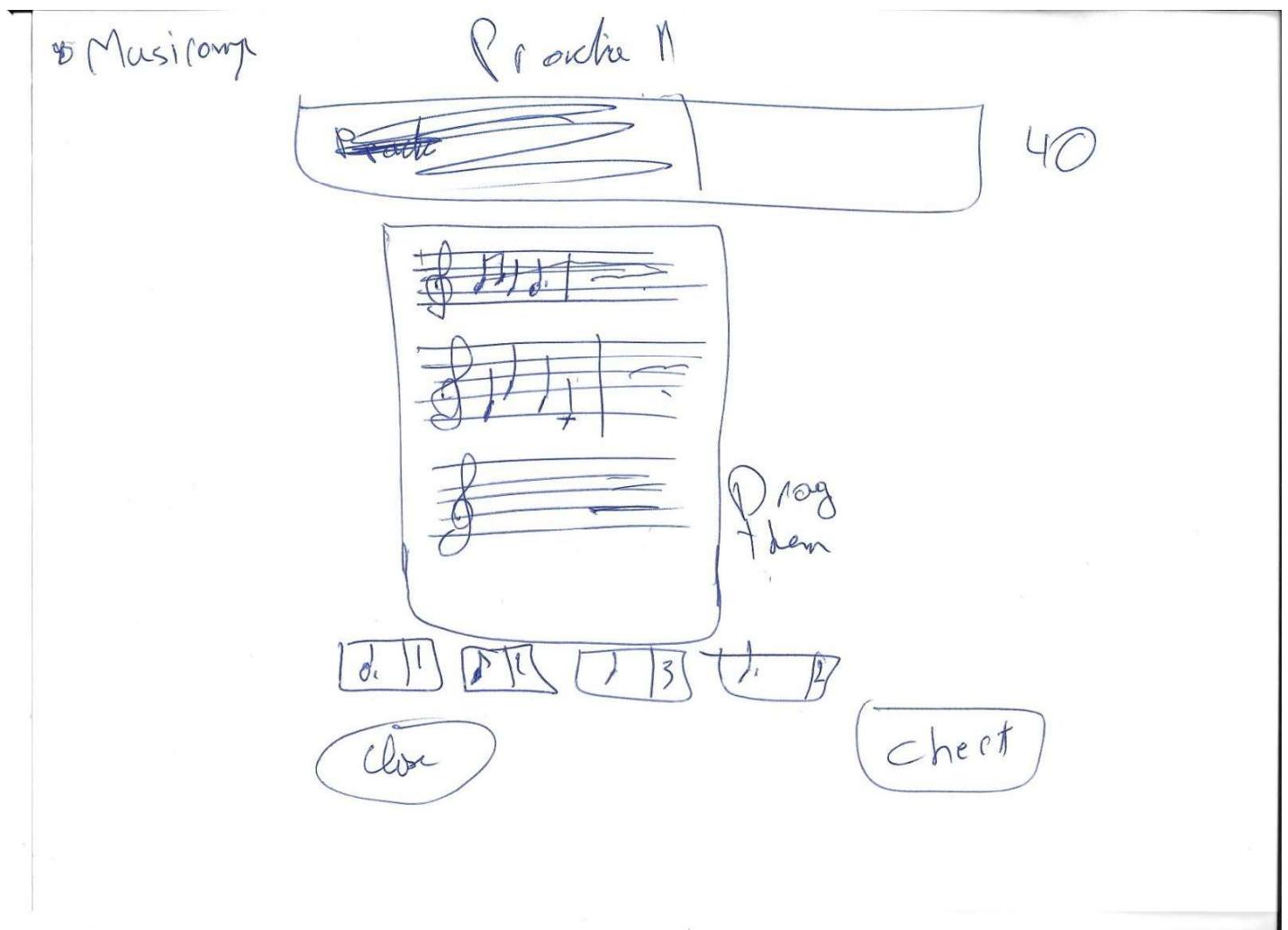
① Learn / come / course 3



Listen

Practice this until
you are comfortable

Next



2- High Fidelity:

[Figma Prototype Link](#)

Briefly, to explain the changes, we had to cut off a bit of the low fidelity due to time, so we chose to only prototype the key features of our website which are the home page, tracks, community, publish, and logging in.

Test Step

Step 1- Develop a test plan:

Test objective	Description	How tested
Understand the demographic of our users	Knowing the age of our users helps us understand how an average user in the same age group would interact with the website.	Through a multiple-choice question in Maze
Test ease of accessing a career track (if design and layout are logical and interests them).	Test whether the flow to reach a career track is a logical one for the users.	Through a prototype test in Maze
Test ease of accessing the community feed and interacting (if design and layout are logical and interests them)	Test whether the flow to reach the community feed is a logical one for the users and whether they enjoy the layout of the feed (by making them scroll through the feed to reach the final one and like).	Through a prototype test in Maze

<p>Test ease of finding published work and accessing one (if design and layout are logical and interests them).</p>	<p>Test whether the flow to reach the published work is a logical one for the users and whether they enjoy the layout of the page and if it entices them (by making them scroll through the page to reach the final one and check it out).</p>	<p>Through a prototype test in Maze</p>
<p>Gain insight into users' experience of the website (helps us perceive whether the users are satisfied and excited by the current stage of the website)</p>	<p>Ask them to rate their experience with the website on a scale of 1-10 to see if the flow is logical and straightforward, the colors and photos are appealing, the layout is simple, and encourages usage of the website.</p> <p>In the notes section, we will mention flow, design, and layout so they know what they are meant to rate.</p>	<p>Through an opinion scale in Maze,</p>

To gage users' satisfaction and likelihood to recommend	Asking if they would recommend it to people close to them will help show us the overall appeal of the website and the chance of the website spreading through word of mouth. also, could hint at the need for improvement. Helps us understand how useful are helpful this website could be.	Through a Yes/No question in Maze
Figure out the user's overall thoughts, criticism, joys, and recommendations for the website (improvements to be made)	Asking them to answer and criticize our website to help us know what needs improvement, what they like, and if there are features that we should add in a way where they can express their thoughts freely (open-ended question).	Through an open-ended question in Maze

The above test objectives were tested and chosen knowing that we had a limited amount of questions and tasks we were able to assign. Our goals were to test the flow, layout, design, features, and functionality of the website that need validation to ensure the website meets the user's expectations and requirements. For the prototype test, we tried to assign several paths so that the user could have a tour of the website, see the key features available, and form an opinion of the way the app flows and looks. Then, to help us gauge where they stand, we asked them to

rate their overall experience and to see whether the website reached their expectations. Next, we asked whether they would recommend this website which hints that the website is not only functional but also user-friendly and is beneficial to the users. Lastly, Asking them to express their true feelings and recommendations that represent their thoughts on the website can help us understand the consensus and allow us to use tools to help us analyze these answers (ex. LDA).

Step 2-Analyze results from the Maze test:

We have 38 respondents according to the Maze report this is less than the sample size ($n=96.04 \approx 97$) recommended through the proportion formula using a confidence level of 95% ($z=1.96$), $p=0.5$, and $E=0.1$. The reason for the values used is that we do not have any basis for these estimates we took the standard values used. Moreover, the difference between the number of respondents and the recommended sample size is due to the limited time and people we have access to with a passion for music. Due to this difference, take the results with a pinch of salt.

For our analysis, we mainly used descriptive analytics, count, and percentages of the obtained results to gain insights into how the test went and the experience of the respondents. We also use the heatmaps, numbers, and paths provided to us by the maze report.

Q1: How old are you?

From our participants 58% were between 22-26, 29% were 17-21, 8% were 27+, and 5% were 12-16. This indicates that our test is heterogeneous (as intended even though our main target was university students) as we picked people from different age groups so we can see how friendly and helpful the website is to people of all ages. This is because we believe our website can be relevant to a range of ages as long as they have a passion for music.

The majority of the upcoming analysis will be based on the age groups, 17-21 and 22-26 as the dominant age groups, for the 27+ group, looking at their usage heatmap and paths they found that the UI is simple and straightforward, this can be shown by the low misclick rate and 100% direct path success and all of them seemed to have enjoyed the website where all of them rated the website 5/5. For the 12-16 age group they struggled to navigate the first task and we noticed that most of them had unidirect success and high misclick rate due to the Taylor Swift

tab. The majority rated it 4 maybe due to the inaccessible Taylor Swift tab or they were confused by the homepage.

Q2: Prototype Task 1: Access the Intermediate Pianist career track

 54.1%	 0.0%	 37	 32.4%	 25.0s
Direct success	Mission unfinished	Total testers	Misclick rate	Avg duration

Mission unfinished: The fact that everyone was able to finish the mission is great and reflects that our UI is not too confusing and that the respondent also used their laptops.

Direct success: The reason for the average amount of direct successes could be due to the fact that on the home page, we have a course that is part of the intermediate pianist career track displayed which caused a lot of people to click it instead of navigating to the learn tab first. (seen by the heat map).

Misclick Rate: The reason behind the misclick rate can be both due to the slow loading of tests and also since a lot of the functions are not available yet (such as typing/filling information) as this is a test of a prototype and not the final product such as having the words intermediate pianist and learn on the screen but them being nonclickable, in addition to the course related to the career track. This can be seen in heat maps.

Average duration: The reason for it being too long may be due to the lack of functionality and the fact the users did not know about it. Also since there is no sidebar for quick navigation and the home page includes a lot of content to digest and content related to the track that is not part of the path.

Q3: Prototype Task 2: Like the final Community Post



Mission unfinished: The fact that people were unable to finish the mission is confusing as most were left on the first screen without attempting anything. Could be a connection issue, laziness or they got busy. If they got lost first it would make more sense.

Direct success: The reason for the high amount of direct successes could be due to the fact that the UI is simple and the directions are very clear, especially with the word community highlighting where to go. The ones that didn't seem to want to explore and a few clicked on Taylor Swift maybe thinking those were the community posts but those people ended up in the correct place after (seen by the heat map and paths).

Misclick Rate: The reason behind the misclick rate can be a lot of the functions are not available yet (such as typing/filling information/ buttons) as this is a test of a prototype and not the final product or also because a lot of the content on the page was engaging and fun. A few people clicked on unrelated places to tour the site (like the cat community post), a few on Taylor Swift, and most on random places or missing the button due to loading times. This can be seen by the heatmap. We can note that some people thought the popular topic was the community feed.

Average duration: The reason for it being average may be due to the ease of the UI which made people reach the second screen quickly (from the pianist track to the community page) mixed with the posts that made people take a longer time to reach the final post.

Q4: Prototype Task 3: Check out the published song Midnight Blues



Mission unfinished: Only 1 person was unable to finish the mission. Could be a connection issue, laziness or they got busy. They reached the second page all they had to do was scroll down and click check it out on Midnight Blues.

Direct success: The reason for the high amount of direct successes could be due to the fact that the UI is simple and the directions are very clear, especially with the word publish highlighting where to go. The ones that didn't directly succeed may have clicked a button that takes them to the final page (under maintenance screen) without them going through publishing. Curiosity of any other live show or button ended their attempt (seen by the heat map and paths). Another reason could be if they decided to unlike the final post (a few did) it takes them on an indirect path.

Misclick Rate: The reason behind the lower but still high misclick rate can be mainly attributed to the disliking of the post and the people clicking the search bar. The reason could have been to try and search for Midnight Blues however the function is not available yet. A few people clicked on unrelated places like other published work or some pages on the sidebar. This can be seen by the heatmap.

Average duration: The reason for it being average may be due to the ease of the UI which made people reach the second screen quickly (from the community page to the published work page) mixed with the posts that made people take a longer time to reach the Midnight Blues as they had to look at each to find the correct work to check out.

Q5: Rate your experience on the website



The opinion scale responses scored 35 indicating that 49% of users who completed the task found it very pleasant and this might be considered bias as we know the people who have done the survey personally or due to the simplicity of the majority of the UI. Those who scored low could be potentially those who were lost on the home page, missing functionality, or having difficulty with the first task and spotting some critical buttons. This shows that changes need to be made but in general, as only 2 are under neutral we are in a great place.

Q6: Would you recommend this website to others interested in learning music?



Most of the users would recommend the website to others which means that they believe the app, when fully developed, may be beneficial to potential users. These results lead us to infer that the respondents themselves may use the app as they are recommending it to others after the necessary changes and final touches are made.

Q7: When it comes to engaging in the music community what are your needs, does the website fulfill them? If not, what additional features would you like to see?

With the answers of these answers being paragraphs and having 33 different respondents we decided to analyze the results using LDA. We used the same LDA code as we use in the Define step but we switched the Excel and made a few tweaks.

We added a few context words to the existing list: fix, recommend, improve, change, maybe, need, needs, feature, features, additional, recommendation, and recommendations. These were repeated due to the question and the way the respondents answered it. Removing helped make topics more clear. Moreover, we decided to increase the number of topics or k to 5. We felt the answers (paragraphs) and the number of respondents (33) allowed space for 5 topics and will help us know how we may be able to improve our website.

Lastly, we kept the number of terms to 5. This is because when we used the original 10, we believed there were too many terms which caused the meaning of each topic to not be clear and topics to be overlapping each other. Therefore, using fewer terms seemed more suitable, especially with the larger number of topics we decided to go for

We split the Excel file into 2 questions (if the website fulfills the needs and the additional features) and decided to use the LDA for the second one. We felt that the features would be more useful to us and allow us to know the immediate next steps if we decided to continue the project. The first answer can be inferred from the rest of the maze survey through whether they would recommend it and their experience of the website.

Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
chat	artificial	event	good	competition
direct	assistant	person	nice	win
private	help	friends	typo	person
text	intelligence	meeting	great	perform
nice	personalized	real	real	talent



The first topic seems to be a feature related to a way to contact a user directly (direct messaging). The direct part is from words like “direct” and “private” while the contact part comes from words like “chat” and “text”. The word “nice” could be related to someone saying it would be nice to have a way to message or just that they are saying the website is nice but a direct message feature would help, or just unrelated to the topic.

The second topic seems to be about adding AI or personalized help. “Artificial” and “intelligence” indicate a potential recommendation for the implementation of AI words like “assistant” and “help” hinting that they would like to have some sort of help while on the site. Also, the word “personalized” hints that this assistant should maybe be able to recommend courses, or give advice based on the user's personal data and preferences.

The third topic seems to relate to recommendations related to setting up real-life meetups and events to let the community grow closer. Words like “real” and “person” relate to it being in real life and not only online and words like “meeting” and “event” mean the way these can come to life whether through events or meetups. “Friends” can be related to them creating real-life friends within the community through these events.

The fourth topic seems to be respondents who thought everything was perfect or were just too lazy to answer or think of ways to improve the site. This is reflected by words such as “good”, “nice”, “and “great”. The word “real” could be due to the way some people talk and say real as a way to agree or compliment something or belong to another topic that recommends real-life meetups. Lastly, “typo” could be related to some of the shows having typos which we do need to look over.

The fifth topic suggests competitions or talent shows in the community. This is shown by the words “competition” and “talent”. related to setting up real-life meetups and events to let the community grow closer. “Person” could relate to it being in real life and not only online. “Perform” could also be related to real life or that they want to perform or watch performances. Lastly, “win” could indicate that prizes should be awarded to the winner whether that is cash or a website-related prize.

These results reflected our expectations as we saw these recommendations when looking over the answers to our survey. When there were 10 terms, a lot of the topics were mixed together which did surprise us and that’s why ended up changing the term count to 5. Moreover, the clear distinction of the topic helped us realize features that we could add that would improve our users’ experiences. This will help us understand where to go from here.

Descriptive Analytics

Q2: Hypothesis testing

H0: The direct success percentage is greater or equal to 50%

H1: The direct success percentage is less than 50%

After calculating Z using its formula we got the value 0.4987 which is more than 0.05 (95% confidence) which means we reject H0 and we conclude that the direct success percentage is less than 50%

Q3:Hypothesis testing

H0: The misclick rate is greater or equal to 50%

H1: The misclick rate is less than 50%

After calculating Z we got the value -0.1338 which means we do not reject H0 and we conclude that the misclick rate is greater or equal to 50%

Q5:

Central Tendency:

Mean: 4.28, indicating that on average, the satisfaction score is between Pleasant and Very Pleasant

Median: 4.5, which means that half of the respondents rated the satisfaction as Pleasant or higher

Mode: 5 The most common response was Very Pleasant

Dispersion:

Range: 3 Since we assigned scores from 1 to 5, and there were no responses for Very Unpleasant, the range is between 2 and 5

Variance: 0.76 indicating that the scores vary around the mean

Standard Deviation: 0.87 which is the average amount the scores deviate from the mean

Distribution:

The data is skewed toward the higher end of the satisfaction scale, with the majority of respondents rating their experience as Very Pleasant.

Overall this indicates that our website is in a good spot and has reached and exceeded our users' expectations.

Step 3-Changes to make based on analysis of results

Change to Make	Data-Driven Reason
Make all buttons and areas functional	<p>Due to the number of misclicks throughout the prototype tasks in nonfunctional areas.</p> <p>Shown throughout the analysis and specifically shown in descriptive analytics of prototype task 2 (Q3).</p>
Add a sidebar to the home page and rework the home page	<p>Most of the misclicks were on this page having an easy-to-navigate sidebar on the page would allow them to quickly access the pages they want to (prototypes task 1).</p> <p>Rework the page as direct success deceptive analysis of prototype task 1 suggests (Q2).</p>
Add a DM system	Recommendation based on LDA Topic 1, which helps people communicate directly in case they want to join a band, have a

	question about somebody's work, or are trying to meet up and make friends.
Add an AI assistant	Recommendation based on LDA Topic 2, which helps people navigate and answer questions in case of any confusion (from the XP system, how to post, or anything). Could even help guide and recommend users on what courses and practices to do based on their goals in music.
Fix Typos	Seen in LDA Topic 3. This makes it more professional and presentable to users.
Add live events (meetups and concerts)	Recommendation based on LDA Topic 3, which helps people in the community connect in a more calm setting than live competitions allowing them to enjoy and share their love for music while building real-life friendships.
Add live competitions	Recommendation based on LDA Topic 5, which helps people showcase and hone their skills, practice performing, win some prizes, and bring the community closer together.