

# Rhythmverse | Breaching the gaps in rhythm game communities

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### ABSTRACT

The rapid decline of many arcades as well as the evolution of technology in the mobile, home console, and computer space has redefined the definition of “rhythm gaming.” Rhythm game communities are made up of global subsets of players, creators, and developers that all share the same love and passion for the growth and development of rhythm games. As these communities become more diverse, they also become isolated within their own specific subset. Rhythmverse is a cross-platform service that publicizes player data to connect segmented rhythm game communities globally across different games, regions, and platforms unlike e-amusement, Nesica, and Aime. Players can connect with others and express their shared interests in many varieties of games, further expanding the outreach of the games and increasing its exposure to potential newcomers to the community.

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### Authors Keywords

Rhythm gaming, communities, outreach, troupes

### CSS Concepts

- Human-centered computing reality, virtual world embedded in physical spaces

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### INTRODUCTION

As rhythm game communities grow, there are many potential players who seem very discouraged to play and dedicate themselves to the game. This will cause long term popularity to fall, resulting in loss of profits to the arcade and the company as well as the activity surrounding the games to fizzle out. In the early 2000's these games were very popular, the Guitar Hero franchise became the third franchise ever to break the billion-dollar mark..."[2] One very prevalent problem they had was definitely localization. In the US and New York, many aspects of the games including song titles, as well as instructions for the game are in Japanese and aren't translated into English for North American audiences. Very little english in the game which doesn't make a transition into the digital space seamless. Konami has not put extensive resources into the design and development of North American specific builds.

Parts of the game are region locked due to it not

being in Japan. For the arcade game, Sound Voltex, many features of the games as well including Omega Dimension/Hexa Diver, which is an extra stage function that includes many other songs are region locked with no way of obtaining or playing these levels unless you are in Japan or the surrounding regions in Asia. For DanceDanceRevolution, the song limits are usually not restricted by region, but with the introduction of the new A20 (pronounced Ace-Two-Oh) golden cabinet, there are many songs that are exclusive to just that specific cabinet. There are only 2 in New York, located at the Round 1 in the Broadway Mall in Hicksville, NY and Galleria at Crystal Run in Middletown, NY.

Some high level ongoing problems in my domain space are access to machines and localization of software combined with high cost per play for players. High maintenance requirements for arcades and workers. Localization and poor optimization for North American consumers has resulted in a challenge for new players to get involved with the game. With the instructions being in Japanese as well as the UI presenting itself in a very unorthodox way, it results in many people only playing it once or not at all. Many people have to get helped and require assistance from more experienced players to start up a game.

Konami doesn't have a large history of collaborating with creators and community members for their games. This seriously inhibits progression and the creation

of new and refreshing levels to play. Many different games including community driven PC and mobile rhythm games have frequent community events and collaborations with artists and designers that encourage participation and activity in those games.

### AGILE UX DESIGN PROCESS

The focus of the project is to plan out my work over the course of the next several weeks across many design sprints. To accomplish this activity I built a timeline with bars to represent the time I will use for each step. I used different colors to represent the stages in development throughout the project: ideation, design, and prototype. This timeline provides designated and organized weeks and allocates them to specific parts of the project. From these measurements, I learned that some areas of my project need multiple weeks to complete rather than

just having one per week. I designed and built a weekly schedule to consolidate and streamline my processes throughout the semester. I will be going through my overview of this project and updating it along with the progress of the project. I measured time spent on each part of the project. Spend appropriate time for each section to ensure time spent is dedicated to that one section of the project scope. I measured where does my project need work and making sure my time is spent efficiently and effectively on each design sprint. Visualizing my work and being able to see how much I really have to do.

### ISSUES AT HAND

I wanted to touch upon a huge variety of issues with arcade rhythm games and their communities that have risen from the contrast in environments throughout

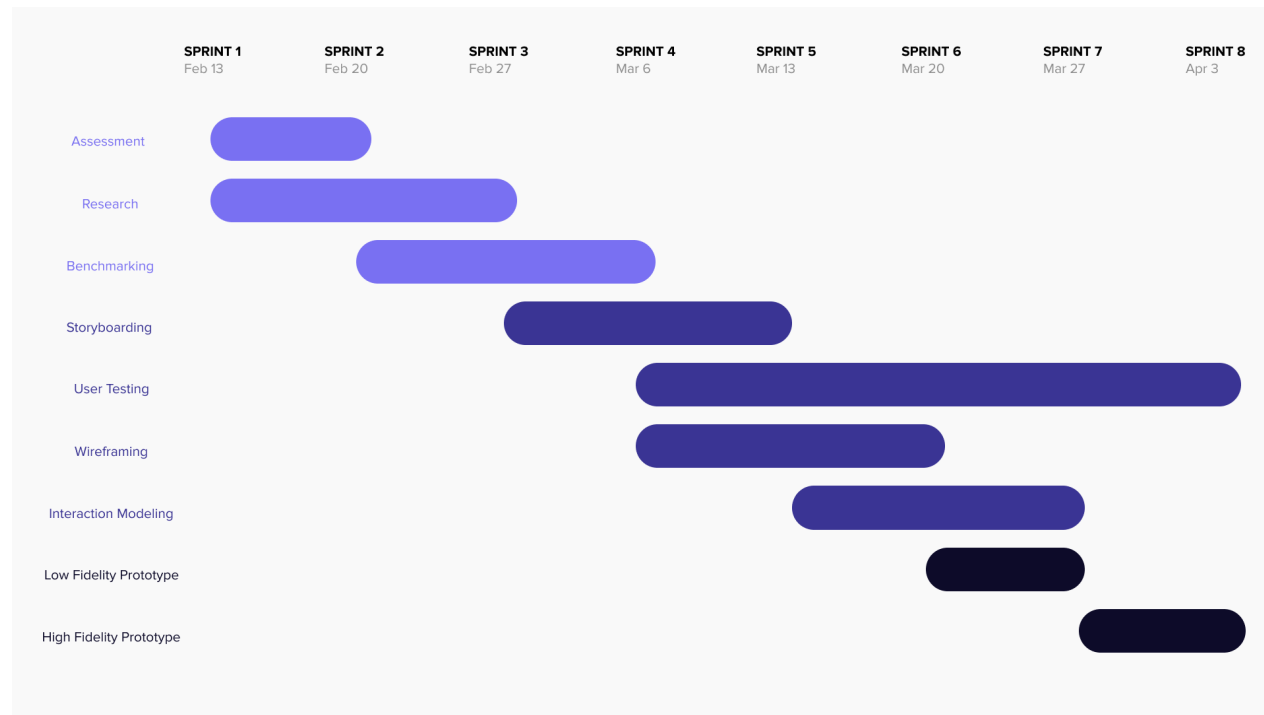
different countries and regions of the world. Some of them are:

- North America and Europe are often left out when it comes to new games, updates, events, and many songs and features on certain games are region locked to Japan and surrounding countries.
- Many communities are left in the dark or are shadowed by bigger ones. Many are closeted and feel hidden.
- Many players feel betrayed by Konami and feel they have felt victim to many of the decisions they have made that have devastated communities over the years and have caused long term damage.

### PROBLEMS TO SOLVE

#### Lack of Exposure and Neglect

Lack of exposure and neglect are the two biggest issues that many rhythm game communities suffer from. Outside of Japan, there are many neglected regions which result in declining quality access or access entirely to these games. Many legacy cabinets are used which don't run the most up-to-date software and are usually modded by community members. The overall decline in access progresses into shrinking communities and leading to spotty player bases and scarcity among different regions and countries outside Asia, mostly in the United States and Europe. More machines and more access to machines were the biggest things respondents would change. Issues that many rhythm game communities suffer from. Outside of Japan, there are many neglected regions which result in declining quality access or access entirely to these games. Many legacy cabinets are used which don't run the most up-to-date software and are usually modded by community members. The overall decline in access progresses into shrinking communities and leading to spotty player bases and scarcity among different regions and countries outside Asia, mostly in the United States and Europe. More machines and more access to machines were the biggest things respondents would change. I want to showcase the communities that do show dedication to many of the games that



are often overshadowed or completely ignored. The presence of these communities is there and the people want to be acknowledged as much as native countries. Neglect from companies like KONAMI and SEGA have resulted in community regression or closeted segmented communities scattered across entire regions. Sound Voltex is a game with a big popularity that has been diminishing due to lack of exposure and access in the US and Europe. Many players have taken matters into their own hands by pirating the game from home and buying an aftermarket controller online to play, which has grown a massive online community for the clone rather than the actual game itself.

### Intimidation by Upper Level Players

Fight the stigma and intimidation that many people encounter when trying to get into these kinds of games. I want to encourage communication and interaction among players of many different levels and skills. Dedicated communities present opportunities for advanced dedicated players, but very little for those who can't perform at that level yet. Without new players to replenish and fulfill communities, it will cause communities to dissolve and popularity in regions to fizzle out. This will further encourage neglect by manufacturers. Community events that encourage ALL players from across the region to participate will definitely. While there are many segmented communities, there's no interconnected community between different games and regions that would encourage interest and gameplay. Many games have clusters in different parts of the world with no way to unify them. Gatekeeping isn't intended by pros, but is perceived by casuals and contributes to decreasing engagement in these games and more importantly their communities.

### Maintenance and Upkeep

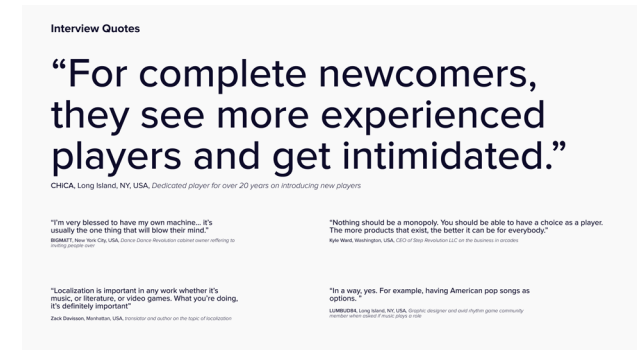
Many arcade cabinets are either long overdue for repair or upgrades in the United States and Europe. While Asian countries will receive the latest and greatest models of each succeeding game, other overseas countries will either only get a software update or a reskin of an older machine. This results in many of

the machines becoming old and in desperate need of repair. Many arcades are then stuck with obsolete tech and diminishing arcade game popularity. Some updates actually hurt the games popularity. Sound Voltex: Vividwave was the 5th installment of the game that featured many different modes of play in the US. In mid-2021, the newest version Sound Voltex: Exceed Gear was released as an upgrade kit for older cabinets in the United States which ended up region-locking many features from the game such as Hexa:Diver and Omega Dimension modes, which gave players exclusive songs and encore songs. They have gotten lazy when it comes to upgrading these games overseas.

### Localization

Many arcade cabinets that have been made have come from Japan. While more recent versions of these games have come with complete translation into English, many of the newer games have not had that overhaul and localization implemented before it's release. This can lead to confusion with users in countries, like the United States, who don't speak Japanese trying to operate and use these machines. However, it's more than language for rhythm games owned by KONAMI. In 2016, after a decade of being overshadowed, DDR got e-amusement support in the US, which allowed the United States to be connected with the rest of the world and allowed players to save scores and progress. While DDR has this luxury now, many other games suffer from issues that come with being direct imports from Japan. Sound Voltex: Vividwave was the 5th installment of the game that featured many different modes of play in the US. Some updates actually hurt the games popularity. In mid-2021, the newest version Sound Voltex: Exceed Gear was released as an upgrade kit for older cabinets in the United States which ended up region-locking many features from the game such as Hexa:Diver and Omega Dimension modes, which gave players exclusive songs and encore songs. They have gotten lazy when it comes to upgrading these games overseas. Wacca, a rhythm game owned by another brand, is another import from Japan. They don't suffer from the same content issues as

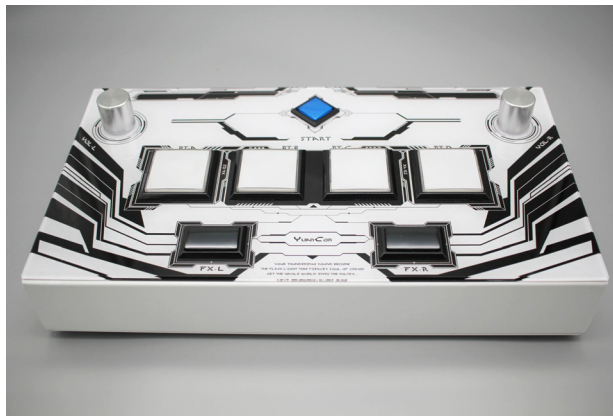
Sound Voltex, but still carry the same language barrier that limits player engagement in non-Japanese speaking countries and discourages casual players to gain interest.



### DATA COLLECTION

I took many site visits and was able to interview many local Dance Dance Revolution players and Kyle Ward, the CEO of StepManiaX, a competitor in the at home market I built a set of interview questions. This build gives me a broad spectrum of information about the game and community surrounding it. The players I interviewed all have different eras of activity. Some played starting in the early 2000s when the game was first introduced, which I call the first generation. While others started in 2016 when the game was reintroduced into the US, which I called the second generation. I measured the players behaviors, trends that were popular, and what the communities were like and how they have changed. From these measurements, I learned that the business of Dance Dance Revolution has changed for better or worse depending on who you ask. Kyle Ward mentioned that the community as whole is not growing, but shrinking. The evolution of the game while its biggest strength is also its weakness and downfall. The early days of DDR marketed in the United States were successful because of the a combination of factors that made the game fun. Simple UI, recognizable song choices, and a skill ceiling that anyone could reach. The days of not using the bar that led to some fun and entertaining gameplay, it was more casual friendly. "Interfaces that promote and

support physical activity offer an exciting opportunity to build applications that have a positive impact on people's daily lives.”[1] Today the games difficulty cap increased from 10 to 20 and levels have gotten more and more harder. With techniques never before seen, a growing competitive aspect to the game, and more players making DDR into a routine: it also increased the level of elitism in the community and reducing the influx of new players. I constructed and conducted multiple interviews with many different Dance Dance Revolution players. Interviewed a variety of dedicated players with differing skills sets, experience, and knowledge on the game and the community as a whole. Older players that have been involved since early to mid-2000s are classified as “First generation.” Players who joined after the release of DDR Ace in 2016 are the “Second Generation”. I measured the impact that DDR has had on these communities and how it's evolved in between generations. Analyze the proportions of the communities (first and second generation players) and how each is impacted by the changes in the game and the overall popularity of the game. Analyze the players behaviors and actions to see how they play and interact. I learn the culture of DDR has changed over the last 15 years. The player base has evolved from a more fun and casual play style to a more competitive and heavy on score. Players who are regulars at arcades are often playing multiple times a week. The culture of DDR has changed over the last 15 years. The player base has evolved from a more fun and casual play style to a more competitive and heavy on score. Players who are regulars at arcades are often playing multiple times a week. I learned about the early days of DDR. It was marketed in the United States where it became successful because of the a combination of factors that made the game fun. Simple UI, recognizable song choices, and a skill ceiling that anyone could reach. The days of not using the bar that led to some fun and entertaining gameplay and it was more casual friendly. The fall of DDR came after years of many different factors. Neglect for upgraded cabs led to many to leave the game as the experience was dropping. The increase difficulty of charts made



the game appealing to dedicated players, but made it gradually more unfavorable for anyone to just step up and play. Song choices in the game have also been very limited genres. Many of the most recognizable songs are pop songs as well as many different genres. However, many of the popular US titles are gone and the variety has been streamlined.

### COMPETITIVE ANALYSIS

The method I'm going to use to generate my solutions is competitive analysis. Competitive Analysis will allow me to see how other competitors features are and what strategies they use. I will also be able to discover what advantages and disadvantages different companies have and how they can be addressed. SWOT Analysis compares the strengths, weaknesses, opportunities, and threats that a certain competitor has and the Competitive Analysis Framework compares many different variables from different sectors of different competitors and puts them side by side. My data contains many different rhythm games as well as different arcades that host these games in many different regions of the world. Using SWOT, Comparing and contrasting how different arcades operate and why each one is more successful is important to determining why the community is more prevalent in certain areas than others. Locations as well as specific companies can influence the weight and

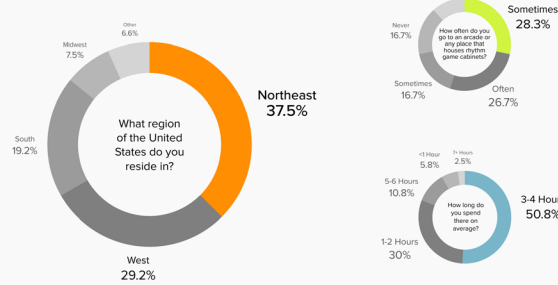
variances of the popularity in many different sectors. The Competitive Analysis Framework allows me to break down many of the aspects and issues brought up in my research such as access, maintenance, localization, and the overall condition of the arcade cabinets as well as the facilities that operate them. I also want to use these compare the experiences within arcades to out



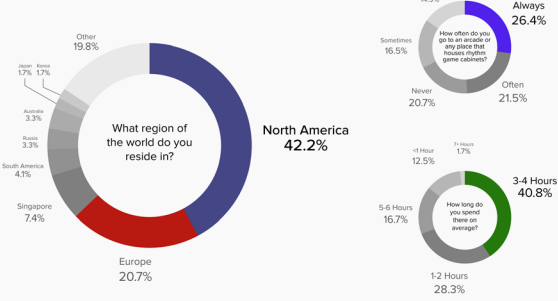
of arcade experiences. My project scope has expanded to rhythm games outside the arcade including mobile games and at-home variants on computers and gaming consoles. They also have similar factors that make up what these games are and what they're supposed to be. Since they have increased community involvement, they definitely would make as great competitors in how they produce and market their games. I conducted an interview with StepmaniaX CEO, Kyle Ward. He has been involved in the community for over 20 years and has experience in the industry. He has been selling and marketing his product to DDR players and members of

the community. He has also marketed as exergaming and has reached out to audiences young and old. He has seen the differences in the game and its community for the last 20 years. I was measuring what he was doing in his business that other companies don't do. He mentions the aspects that made the game so successful in the US that have been lost for over a decade. His game, StepManiaX, is a 4-panel game similar to DDR, but has attracted many in and out of the rhythm game community by providing easy to use gameplay with recognizable songs and simpler UI so anyone can play. StepmaniaX is a dedicated dancing cabinet used for step-based exergaming. It has been used in many settings

Survey 1: Rhythm games and their communities (US)  
120 Responses



Survey 2: Rhythm games and their communities (International)  
121 Responses



including at home as well as in schools as a way to get children active. The pad's are designed with very advanced technology that provide a quality experience every time. They are made in batches and sellout within minutes of going on sale. Unnamed Sound Voltex Clone and K-Shoot Mania are community made copies of the

arcade game, Sound Voltex. They provide a similar arcade experience with the functionality of the arcade game with the benefits of custom community made charts and custom skins for the game. If you buy a controller you can play the full game at home without having to travel to an arcade.

Yuancon is one of many brands of Sound Voltex controllers that are manufactured. They are handmade and made in batches. The controllers provide the feel of an authentic arcade controller and are used with the softwares, USC and KSM. As an owner of one, it has helped me be able to play the game while the arcades were closed as well as helping improve my performance.

### RESEARCH FINDINGS-SURVEY

The United States, more specifically New York, is the main area for my project and research scope. My original task with the survey was to gauge the strength of the current strength of the communities many different regions of the United States. My original outreach was to predominantly the Northeast US concentrated around the Tristate area. In the Northeast, I found there to be an underground community of arcade rhythm gamers also known as the New York EVOLVED, named after the song that is featured in Dance Dance Revolution with the same name. My survey was made to scope out other potential communities, like the NY Evolved, and analyze, compare, and contrast the varying strengths and weaknesses of different regions of the United States. I found that while many of the most populous regions such as Northeast and Western U.S. had more dedicated and close knit communities. Other regions like the South and Midwest had very scattered, yet very dedicated player bases. North America, more specifically the United States, is the main area for my project and research scope. My original task with the survey was to gauge the strength of the popularity in the U.S. compared to the rest of the world. The most common stereotype with this genre of gaming is that all the concentration is focused solely around Japan and the surrounding countries, like Korea, Taiwan, and Singapore. As of 11/09/21, 118 different respondents

from across 20 different countries have partaken in my survey. Over 1/5 of the respondents coming from Europe, a country that has been overlooked by various companies. Japan, Taiwan, and Singapore combined for 11%. Europe had almost double the turnout rate than those 3 countries combined. Many arcade goers like to frequent arcades for a few hours. 41.2% of respondents spent 3-4 hours on average at an arcade on any given day. As of 11/23/21, these results haven't changed. I wanted to analyze how the communities behave and how often they attend different arcades. The data was a lot more spread out than I originally had thought. In the United States, a little over a quarter of players (26.1%) went to the arcades often (multiple times a week). This figure shows how popular the arcades are in the US and many rhythm gamers often frequent the arcades more than once a week. While the data shows popularity in a general spectrum, it doesn't show traffic by arcade or day. This is key as one incentive that can skew the results are specials like 1/2 priced games that happen every Wednesday at Dave and Busters.

### RESEARCH FINDINGS-SITE VISITS

Dave and Busters only houses Dance Dance Revolution (DDR). In both visits, Dave and Busters was mainly dedicated experienced players. These players would play in a cycle that would change based on who went most recently. Sometimes players would either pass or volunteer to go up and play. When the dedicated players would play, occasionally casuals and people walking by would glance for a second or two, then walk on. Some would stare until the song is over. On my first visit, 2 kids jumped onto the game and logged in. Despite many others having trouble with signing in, these kids signed in successfully without an issue. After their initial play, they put another credit in, and then walked away. They were the only ones outside the group to play. On the second visit, the players were gathered to wait for an upcoming release of songs at 9:00 PM EST. The total number of players from both site visits was 7 at the max.

Some actions that many dedicated players would do would consist of bringing in multiple bags containing various items such as clothes, shoes, sports bottles, hand sanitizer, and more. Also, it would create a mess around the DDR machine.

Round 1 houses many different rhythm games. Through my visits, Dance Dance Revolution had the greatest activity. On my first site visit, there were a few players on the game Sound Voltex who I met and conversed with. Despite not knowing them prior, we conversed and became friends. We we're able to find common interests in rhythm games and led to a connection. On my second visit, other than DDR, other games weren't being used. Hardcore players didn't show up until night time around 10PM. While I was gathering data, many players would ask me if I wanted to go up.

There was a larger presence of dedicated players at

Round 1 compared to Dave and Busters. There were also many more machines and variety of games than Dave and Busters. While Dave and Busters featured Dance Dance Revolution, Round 1 has other games like Sound Voltex, WACCA, Pump It Up, and Beatmania IIDX being it's other big titles.

### RESEARCH DATA POINTS

Access to machines was one of the biggest takeaways from my research. It was reported as the biggest issue when asked about problems that apply to rhythm games. Out of 120 people surveyed internationally, 93 (77.5%) respondents apply this to rhythm games in general and 73 (60.8%) applied it to their most skilled rhythm game. The widespread issue of access shows that the demand is there for these games, but the supply doesn't support the demand. In the United States, 84/120 (69%) applied it to rhythm games in general and 58/120 (48.3%) applied it to their most skilled



## Rhythmic Ryan

Millennial arcade rhythm game player with a variety of games in his arsenal

### About:

Ryan is an avid dedicated rhythm game player and has been for over 15 years. Since childhood, he has always loved arcades and many rhythm games that have come through its doors like Dance Dance Revolution, Pump It Up, and In The Groove. He's always found them to be fun and nothing more than a hobby to play them whenever he went to his local arcade. As he's grown older, his love has blossomed and his hobby has become an activity he is dedicated about. However, even though his interest has grown, many of these arcades he once frequented have closed and he worries that his ability to play his favorite games will be diminishing and that his great moments will all just become memories. **ID:**

**RHYRY4N (pronounced Ryth-Ryan)**

### Goals:

- Perform at his peak level
- Progress skill level
- Get to know more people in the community
- Improve experiences with machines

### Behaviors:

- Breaking milestones while playing
- New song release encourages repetitive play to unlock song
- Friends are also into rhythm games
- COVID impact on arcades
- Regions have differing arcade activity
- Music featured in game is amazing

### Pain Points:

- Prices of games have gone up
- Machines aren't functioning properly
- Scheduled Maintenance interrupts game time
- Casuals can unintentionally damage the machine and leave them broken
- Feels underrepresented by corporations

### Motivators:

- Goes up to the machines with a towel, bottle of water, and a large backpack.
- On his phone, when not playing
- Stretches before every set
- Scouts out other games nearby to see if they are occupied

### Occupation: Administrative Assistant

Age: 28

Location: New York City, NY, USA

rhythm game. Localization isn't a one size fits all problem. It varies through many different countries and regions. In the United States, the issue of localization comes from imports that don't go through any sort of support or build for the North American consumer base such as English localization and dedicated online support. In Europe, it's the extreme lack of machines combined with the main online service used for BEMANI (Konami) arcade cabinets, e-amusement, not being readily accessible and available. A couple global issues on my survey are the level of exposure and maintenance. There is definitely a potential for the growth of communities in many regions of the world if they just were able to play. Based on my International survey, the creation of more community events to engage new and upcoming players was proposed by many respondents. There is reports of stigma and intimidation that inexperienced players feel when

## Rhythmic Ryan

"Arcade scene isn't like it used to be"

Age: 28 Occupation: Administrative Assistant

### Says

"It's maintenance again?"  
I've had maintenance issues on all rhythm games multiple times a week. This includes equipment breakdown, which means the game needs to be fixed and then it takes several hours to get back to normal.

"Trigger again?"  
I had a trigger problem and had to go to a store to get a new trigger. It was a pain because I had to wait for the trigger to arrive and then I had to wait for the store to be open to get it.

"I can't wait to go to the arcade."  
I've always loved going to the arcade, but it's been so long since I've been there. I want to go but I don't have the time or money to do so.

"I can't wait to see you again?"  
I've always loved seeing you play and I hope you're having a good time. I'll be there for you when you need me.

"I'm a maintenance again?"  
I've had maintenance issues on all rhythm games multiple times a week. This includes equipment breakdown, which means the game needs to be fixed and then it takes several hours to get back to normal.

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### Feels

Excited Ryan always feels excited when he has the opportunity to go to an arcade.

Angry Ryan is constantly angry when he has to wait for a game to be fixed.

Happy Ryan always feels happy when he has the opportunity to go to an arcade.

Disappointed Ryan always feels disappointed when he has to wait for a game to be fixed.

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Disappointed Ryan always feels disappointed when he has to wait for a game to be fixed.

### Thinks

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### Does

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### Phases

Plan: Ryan always goes to the arcade with a towel, bottle of water, and a large backpack.

Arrive: Ryan arrives at the arcade and finds the machine he wants to play.

Dance: Ryan plays the game and has a great time.

Depart: Ryan leaves the arcade and goes home.

### Emotions

Excited Ryan always feels excited when he has the opportunity to go to an arcade.

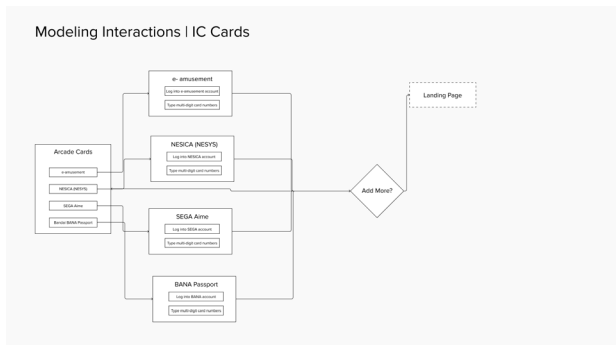
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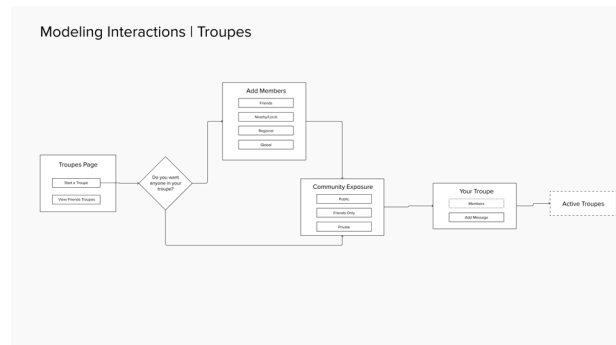




UI. I wanted to take inspiration from my benchmarked work along with competitive analysis to design a more user-friendly experience for casual and dedicated player bases. To measure the strength of the wireframes, I will conduct a user testing to determine the usability of the UI. My goal is to see how it is and how it compares to it's competitors. The level of complexity of usability is a very challenging measurement as many who use the UI become accustomed and don't see or realize the flaws in it's design. For user testing, I need to get a mix of experienced and non-experienced players to test and see how easy or hard it is to use. I learned that the current state of the interface doesn't focus on many current and future players. The design is very technical and made to display and organize the information, but it doesn't take into account the human factors. It's designed for the pros and dedicated players, but fails to recognize the casual player who just wants to play rather than going through endless menus.

### PROTOTYPING

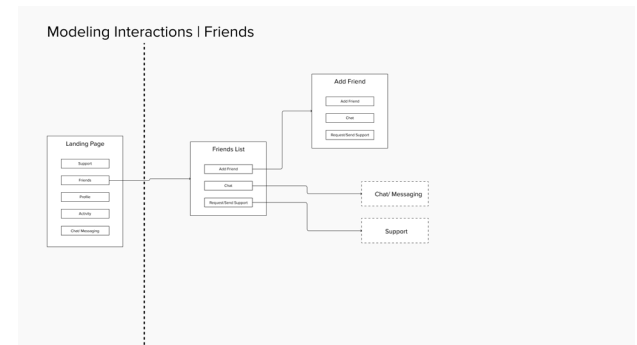
I built wireframes, user testing, and storyboards to craft a low-fidelity prototype in Figma. I also built models and charts to visualize user interaction and possible choices and outcomes of various interactions I measure. With these models, I measured the complexity of various interactions and sequence of options presented to the user. From these measurements, I learned which UI choices make the most sense and components of UI that help or hurt the experience and how they can be improved. I used wireframes, user testing, and



storyboards to craft a low-fidelity prototype in Figma. I continued with user testing and analyzing interactions users have with the product. Make adjustments where necessary. I learned more complex user interactions and challenges that they encounter to make interface user-friendly. I replaced templates and placeholders with actual photos, text, and interactions and generated a library of icons to use throughout each interface and use results from user testing to make it friendly to a wide range of users. Continue with user testing and analyzing interactions users have with the product to measure what interactions and design decisions benefit the experience. Making adjustments where necessary and comparing results from different users and find similarities within the interactions to improve. From the user testing, I learned more complex user interactions and challenges that they encounter to make the interface user-friendly. Benchmark UI and find design trends and interactions that create successful and meaningful interactions.

### FUTURE WORK

Rhythmverse connects players from different types of games and uses the players data to establish connections within their own community as well as others that share the same love for the rhythm game genre and the niche community that blankets many different regions. It also uplifts incoming players and newcomers who express interest and provides them a pathway to get involved



while also improving their skills. My future work would be to tackle the problems within the business side. As communities continue to evolve, the current business dealings still leave out a grand majority of players who are left in the dark. Addressing the problems of lack of access and localization will lead to more diversified and stronger communities across the world. Removing any obstacles for players to play and engage is the key to expanding this niche community. This will give the genre the ability to continue to grow and thrive to beyond it's potential.

### CONCLUSION

Throughout the design process, I learned so much about the culture, history of the games, and the people who make them what they are. I'm grateful for the opportunity to be able to dive into this niche community and be able to investigate into the problems that are overlooked by many. It gave me the ability to explore different environments and speak to many people who I never thought I would ever be able to contact. I love rhythm games and want to share it with the world. Bringing this community out of the underground and into the public eye is definitely the first step into progressing the future of the genre and make the closed off subset more open to everyone.

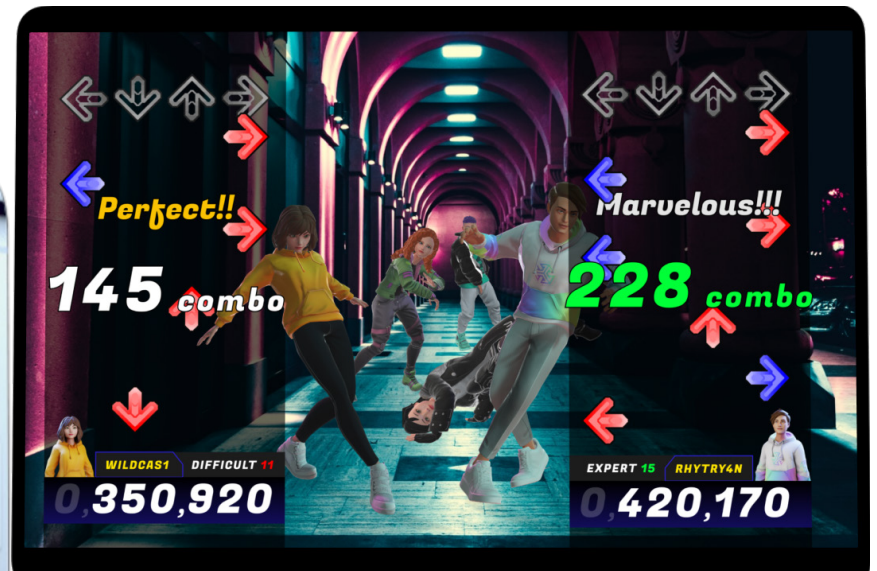
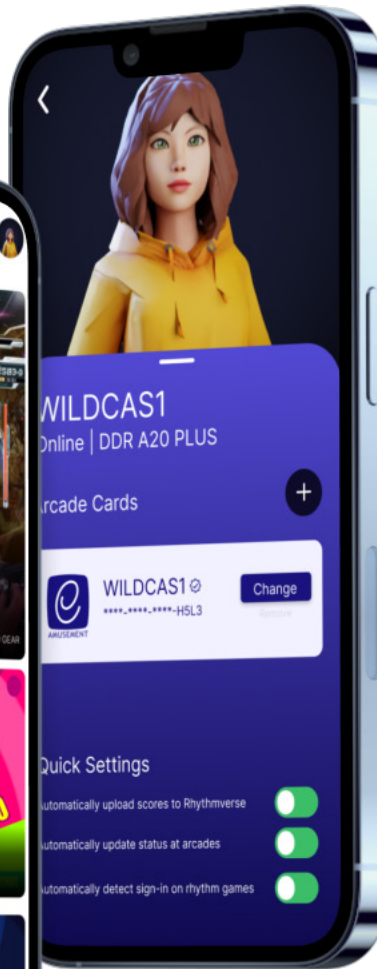
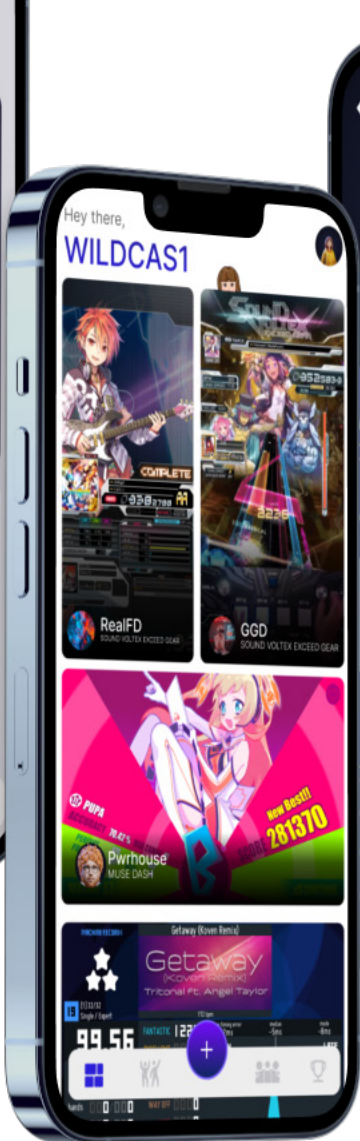
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