MUSIC WITH OR WITHOUT INSTRUMENT

THE DEMOCRATISATION OF MUSIC CREATING EXPERIENCE
Early investigation
Further research
My future vision
Hypothesis
Direction
The thing that really helped me to find the close relationship between playing music and myself was during middle school. That was after a music class at 7th grade, I noticed the teacher was absent in the classroom so I walked to the piano at the corner and started to play some pop songs that I heard from the radio. Felt like suddenly, half of the classmates from my 60 people class walked to the piano and gathered around to sing along to the music I was playing. It was like a “flash mob” chorus group that even the people walking through the hallway of the building noticed that and they joined us.

That was quite a wonderful experience, I felt like I was having a great group conversation through a whole new language to me, and that language is called MUSIC.
Playing the piano became one of my biggest inspirations in life.

At 14, my music taste started to involve different types of music from classical music to indie pop, Britpop and Hip-Hop. I could not wait to play my latest favourite songs on the piano after I finally obtained the ability to arrange the sound that I heard and transform by playing on the keyboard.
After I got to know more music lovers around me, I also was involved into more live music performance like concerts and music festivals and I formed my own band at 19. For me, the communication from the interaction between musicians and audience is irreplaceable.

At 18, I moved to Shanghai for my college, that was the first time for me to live far away from my hometown. I enjoyed almost everything in there except for one, I could not have the access to play the piano easily anymore, it was impossible to move my piano from my hometown to the dorm of my college. I was sad for a while because it felt like I lost the ability to speak a wonderful language. If I didn’t tell my friends that I play the piano, they would never thought of that because there was no opportunity to share my music expression without a piano.

In 2012, I moved to San Francisco for my graduate school. I’m feeling so lucky that living in here means an open eye to see so many music enthusiasts in everywhere. I finally bought a CASIO Privia PX-150 keyboard and now I have the access to play the piano, in a digital way.

My own experience have made me always think about what the relationship between playing music and human could be. And what’s more, if one day I have to move to another place without my keyboard, what could be the new way for me to express my emotion and feeling through music expression.
As a designer, I am looking for the opportunity to apply my understanding and knowledge from Industrial Design to make contribution to our world.

I want to use the democratization of technology as the method to benefit more people to enjoy the joy of playing and creating music. I will establish a new way to encourage the music lover to interact and create music with easier access.
WHAT IS DEMOCRATIZATION?

THE INFLUENCE IN OUR LIFE

Democratization is a term originally from the political category. The context in the technology of modern world refers to the process by which the access to usage of technology rapidly becoming more accessible to a greater scale of general public.

The improved user experience, due to the new usage of technologies, has empowered those people who once were not included in the user groups to use and benefit from the improved new products.

During the democratization process, a increasing number of consumers will have bigger opportunities to purchase and enjoy the advanced developed products, and also being involved into the participation of the improving development of new products.

Overall, the democratization process will benefit the general public from the perspective of advanced technology and accessible user experience. In my thesis I will establish a new way to encourage the music lover to interact and create music with easier access.
Example:
The Democratization process of “Instant” photo sharing
The Democratization of Information: Twitter

Resource: iStock visual trends
WHY PLAY MUSIC?

THE BENEFIT OF PLAYING MUSIC

According to the NAMM report, playing music has been proven that it benefits people from all ages groups.

Babies are born to be musical and interested in music. Even the research is showing that the prenatal education is good for the intellectual development of toddlers.

School-aged children who play music usually have a better academic performance in school and their life, and young generation view the music as part of their social bridge for building the acceptance and trust for other people who come from a different language or cultural background.

Adults who play a music instrument will be able to reduce their physical and mental stress from work and use the activity as an emotional expression.

Seniors who engage in music playing can better prevent diseases such as Alzheimer’s and Parkinson, and also increase their self-esteem.
Street performing on Castro street
EARLY INVESTIGATION

I started the early investigation from reading industry articles and I did survey with these several initial questions, to examine if there is any agreement with my initial thoughts about the current condition of music creating experience.
**Question#1:** Do you think music is an important part of your life?

- **Yes:** 83%
- **No:** 17%

**Question#2:** Do you have an interest in learning to play a music instrument?

- **Yes:** 33%
- **No:** 67%
During the first week, I had several interviews with over 30 people and collected their different reaction. I found that majority of people I had contacted were showing the desire of the appreciation of music and playing music.

83% of interviewees believe that music is an important part of their life.

67% of interviewees expressed an interest in learning to play music instrument.

This survey result indicate that there are common needs among people to pursue their music experience. From this conclusion, I started to look at the market size from a bigger scale. I read several industry articles about the music instrument condition in the U.S. currently.
U.S. Census shows that about 8% of Americans Play Musical Instruments, equals **25.6 MILLION** of the total population.

The U.S. music instrument market is still the largest in the world, it accounts for 43% of global musical instrument purchases, followed by Japan at 16% and U.K. at 7%. IBISWorld anticipates the music instrument industry revenue will grow 8.4% to $9.4 BILLION in 2013.

Resource:
NAMM’s State of the Music Industry Report
IBISWorld http://www.prweb.com/releases/2013/7/prweb10971008.htm
U.S. PIANO SALES NUMBER 1910-2011

U.S. PIANO SALES IN 1910: 365,000
U.S. PIANO SALES IN 2011: 41,000

Resource:
National Piano Manufacturers Association.
Music Trades magazine.
MARKET AWARENESS

TRADITIONAL MUSIC INSTRUMENT MARKET

Recent example: SHERMAN & CLAY, San Francisco, CA

Although the overall industry revenue is increasing as the economy recovers and disposable income rises. I noticed the declining market from one of the most important traditional acoustic music instrument market.

In 2011, 41,054 traditional pianos were sold in the United States, it was a decline of 61% from 2000.

The piano market in the U.S. now equivalent to almost 1/10 of the proportion of its peak time. A recent example in San Francisco is from the historic Sherman Clay piano company, it announced it was out of business on May 31, 2013 after staying strong in this market for more than 140 years. I decided to interview the experts in this industry to know more about the background in this declining situation.

Resource:
National Piano Manufacturers Association.
Music Trades magazine.
Sherman Clay was the oldest and largest piano chain in America. It was founded in 1870 by Leander Sherman in San Francisco, and has sold over two million music instruments.

It was out of business on May 31, 2013 after staying strong in this market for more than 140 years.

Resource:
http://www.shermanclay.com/
I went to the original place of Sherman & Clay company on Mission Street, and it already had been purchased by Steinway & Sons piano company and they were running a new business.

During my visit at the new Steinway & Sons Piano Gallery, I had an interview with the manager, Vince Andracchio.

“We are the official piano gallery of Steinway & Sons, but we also have a large part of business of the imported, cheaper piano model due to the price range variety need for this market.”

“Recently, the sales of our premium Steinway & Sons models has been increasing and fewer people pay attention to the lower priced models.”
From the interview I had with the manager of Steinway & Sons piano, I noticed that the price gap between music instrument is becoming bigger.

The traditional acoustic music instrument market is declining, but it will still exist and become more niche. The wealthy middle class families who are willing to pay for their children’s musical education will still be a large scale from the potential buyer group.

Another situation I noticed was the transforming of the type of keyboard musical instrument on the market. The digital variation of new music instrument is continuing to vie for market share in the musical instrument industry.

In 2011, 41,000 pianos were sold, along with 120,000 digital pianos and 1.1 million keyboards.

Resource:
http://business.highbeam.com/industry-reports/food/musical-instruments
1. Music and playing music continues to be highly important to Americans.

2. The transition on the music instrument market is showing that with the advanced technology, new portable and digital variations of music instrument is the growing opportunity in the industry.

3. The increasing market share of the digital music instrument will lead to more unique possibilities on the future music instrument market.
Based on the primary understanding and observation about the general market and audience, I started to move further to research and dig deeper into people’s behaviour and their current needs.
After the analysis of the information I discovered from the early investigation, I understood the opportunities and general needs on the music playing category, so I continued my further research for more insights.

During this time, I went to different places to find diverse interviewee groups to prove that my information conducted from the interview is more credible and comprehensive.

The **PLACES** I had interview include:
San Francisco Conservatory of Music, Guitar Center, Steinway & Sons Piano Gallery, Twitter, FreeSpace SF, Urban Outfitters, Yerba Buena Center for the Arts, Valencia Street, Castro Street, Mission Dolores Park, The Powell Cable Car Station, The Powell Bart Station, The Montgomery Bart Station, The 16th street Bart Station (where the street performers usually gather).

The **PEOPLE** I had interview with include:
Pianist, Cellist, Clarinetist, Drummer, Guitar player, Bass player, Keyboard Player, Piano learners, Street Performers, People who donate street performers, People who don’t play music instrument.
I started my interview with these three general questions.

Question#1: Do you play any music instrument?
Question#2: If you do play music instrument, what kind is it?
Question#3: Do you still play music instrument regularly?

- 64% Yes I play music instrument
- 36% No I don’t play music instrument
- 85% Yes I still play regularly
- 15% No I don’t play regularly
The reaction to these general questions was pretty interesting and insightful. I noticed that people who claimed they play music, majority of them started the answer by:

“Well I used to……”
“When I was much younger……”

According to my interview in person, 64% of the people participated in my interviews had experience with playing music instrument before. 85% of these people are feeling difficult to keep participation into playing.

According to an article by Judith A. Jellison at the University of Texas at Austin, of the total number of former players, 55% stopped playing before the age of 18, and 24% stopped before the age of 35.

This is showing that a lot of former music instrument players dropped out later due to some uncertain factors. In the other words, there is disconnection from the relationship between people and their music instruments, especially for the transition period from teenagers to working professionals.

Resource:
< How Can All People Continue to Be Involved in Meaningful Music Participation? >
Judith A. Jellison, Professor of Music at the University of Texas at Austin.
Among all the music instrument people mentioned, the presence of Ukulele grabbed my attention about its current popularity. In order to understand its growing popularity and social status, I started a case study about Ukulele playing insights in the following chapters.
Since in my interview, 85% of the former music instrument players told me they were having a difficulty to play music instrument regularly and finally they even dropped out this hobby. Through the further conversation, many of the former music instrument players expressed several factors that stopped their motivation to move on their skill and keep in participation.
WHY STOP PLAYING?

“THE SENSE OF ACCOMPLISHMENT”

Even though many of the formal music instrument players expressed their frustration that stopped their participation into music playing, I decided to dig deeper into the more “esoteric” aspects of the mental and psychological factors that influence people’s music interaction experience.

After the following visit and interview in San Francisco Conservatory of Music, Guitar Center, Yerba Buena Center for the Arts, and some of the further relationship I maintained from the earlier interviewees, I had 3 major discoveries that in which areas music instrument players and learners are having the biggest frustrations.

---------- 1. UNDERSTANDING MUSIC THEORY
---------- 2. MAINTAINING THE SKILLS
---------- 3. CREATING SOCIAL EXPRESSION

These 3 factors influence people’s sense of accomplishment while they are moving on their skills and participation into music playing progress.
1. UNDERSTANDING MUSIC THEORY
Music learning process, especially for classical music field, requires a lot of theory preparation before the practice. It is the most important foundation for music learning, but also the biggest frustration for a lot of music instrument learners while they are trying to step in to this learning progress.

Even though some music instrument learners and players hold an opinion said: “You should not study too much theory or you will destroy your creativity.”

But from the practical learning and playing progress, it is important to be used as a translator to help people from receiving the information of music notes written on the sheet. Since most of the beginners and intermediate level music instrument players will not achieve the level that they can compose music pieces by themselves, it is necessary to understand and use the music theory well while they are making progress.
“Music theory can describe the definition about how people can create music, but it won’t tell you how people have to create music.”

“It is the foundation to help the learners to achieve their ability to create music by themselves.”

I had a telephone interview with Prof. Zhu from Central Conservatory of Music in Beijing, she agreed with me about the importance of music theory during the learning and progressing process of achieve the ability to create music.
According to the recent educational condition report, it is becoming deeply troubling that a lot of students from the school in lower income urban district is having trouble with not having access to music education today.

The lower income school districts that offer music programs shows a 19% decline from 1999 to 2012.

This situation is making the future music instrument learners especially the adults to have a harder time to understand the music theory due to the lack of foundational music education offered in their schools.

Resource:
Association of American Educators
Report: Art Education Programs on the Decline
“I really want to learn the piano, flute and violin but unfortunately I never had the opportunity while I was growing up.”

“For me, playing the piano will remind me of some Asian families. They train their children really hard through the musical education, and also mathematics to show their families success.”

-----April Sullivan
an Employee at COMCAST
Interviewed at YBCA

This quote was from a really insightful conversation during my interview. A lady told me her desire to learn several music instruments but due to her educational and community background, as an African American, she felt there was no accessible method for her to start the music journey. She also mentioned the declining situation for the music education in some public schools, the classical music instrument learning is becoming something privilege, instead of for everybody.
This conversation just remind me of a controversial figure, The “Tiger Mother” Amy Chua. She has been a symbol of the Asian style strict parenting techniques which caused global debate about parenting and culture. From my own experience, it is still a fact that a lot of Asian parents are forcing their children to learn music instruments, especially piano and violin. A lot of my piano classmates dropped out later because they could not find their own enjoy by being forced to learn something.
Mahmoud Z.
Gen3 Creative Studio
3D Designer originally from Cairo
Loves classical music/symphony
Wishes he could learn the piano

How the impact will be
Achievement in life
New experience of understanding theory
“I love listening to the classical music, I wish I could learn how to play it too. But for me it’s really hard to read the musical notation and relate it to the actual action on the music instrument.”
From my discoveries during the interviews with the music instrument learners and the expert in music theory area, I found the reason why a lot of beginners and people who haven’t moved forward in their learning process are having difficulty in understanding the music theory.

It is because the translation from the information on the traditional music notations to the actual music instrument interfaces, and this sight reading ability require a lot of practice to maintain the skills.

The opportunity for Industrial Design and User Interaction is, how can we simplify the music notation information reading process and help the learners to understand music theory better by the engagement from other senses including hearing, taste, smell, and touch to join the sight recognition process.
2. MAINTAINING THE SKILLS
Learning a music instrument, especially the traditional acoustic ones like piano, violin, and cello, requires a lot of time and energy dedicated to thousands of hours of enduring practice. Once the player has been the situation of inactivity on an instrument, their performance will show various levels of drop and it depends on different music instrument and different players.

The professional musicians who have developed a core set of skills to a really high level might never really lose their skills and techniques. But for the amateur music instrument players, the participation of enduring practice is critical for maintaining their ability to perform on a fine level.

For my own experience, when I was preparing for my piano grade 9th test while I was 12, my personal record was about practicing for 8 hours per day almost one month before the test, I definitely felt that my technique and sensitivity were at the peak status. Later when I started to learn by myself and devoted much less time into the physical practice, I noticed my significant performance drop and it was very hard for me to pick up the status while I used to practice 8 hours every day.
“Music instrument lessons are normally around 45 minutes at one time, the most important part of improving is after the class, it is called **practicing.**

The more one practices the faster the player can move forward and become professional.”

Prof. Zhen Zhu
Professor of Piano Department
Central Conservatory of Music, Beijing

I had a telephone interview with Prof. Zhu from Central Conservatory of Music in Beijing again, she expressed the importance of the role of practicing during the music instrument participation process. Also, the practice can lead to better performance technique and will lead to a next level of self accomplishment.
The learning, practicing and improving process is not a short term plan, it usually take years for achieving closer to the professional level.

This graph shows the how children’s motivation level changes through these different stages.
TIME DEDICATION

From the interview I had with Professor Zhu, she also gave me a definition of the amount of time dedication that people need to put into during the practice progress.

“You need $1000$ hours of practice to understand your finger positions and basic theory, $5000$ hours of practice to be able to play by reading frequently, $10,000$ hours to be able to play by ear and start to create your own music.”

So for the time dedication people need to achieve for the practicing progress, if a music instrument player practice 6 hours for 6 days a week, that will be almost $5$ years total.

For the adults, this participation progress of practicing is even much harder because we have a lot of responsibilities and time commitments, and it's hard to dedicate enough time to a musical instrument. It is another major factor that lead to a lot of former musical instrument players to give up between age 18-35 (*), while during their transition status period from teenagers to young professionals.

*Resource:
< How Can All People Continue to Be Involved in Meaningful Music Participation? >
Judith A. Jellison, Professor of Music at the University of Texas at Austin.
The progress from entry level to advanced level

Music sheet examples:
Anna Magdalena: No. 04: Minuet in G, Johann Sebastian Bach
K331 Sonata in A, 3rd Movement: Alla Turca, Wolfgang Amadeus Mozart
Fantasie Impromptu in C sharp minor op66, Frédéric Chopin
During my visit in Twitter, I discovered a piano in their staff activity room and it is available to all the employees and visitors to play. I met and had a conversation with a software engineer whose name is Maricel Mihalcea, originally from Romania. He told me that his biggest frustration is that he has been moving to different places all the time and his work makes it very difficult for him to concentrate on practicing all the time. Since there is a piano in the company, he almost goes to the room everyday to use part of the lunch time to practice playing. This conversation noticed me that people usually don’t have the access to practice while they are out home.
“My work is so busy that keeps me away from playing my clarinet, I can’t even practice during my travelling to work.”

“When it comes to inactivity on practicing an instrument, my sight-reading ability will be slower and my mouth muscle stamina will be weaker.”
Nick L.
Alumni of San Francisco Conservatory of Music

Former UCLA student, started to play clarinet since 7
The transition in life to the job market
Self-learning Software Engineer

How the Impact Will Be
Keep in participation of musical practicing
Maintain the level from his peak period
Access of practicing when not carrying the instrument
Population growth in the U.S. has been shifting to the metro areas, especially since the economic recovery began in 2010.

What I noticed is the young professional who are at the age between 18-35 are living and working in denser metro areas. This situation is making the space accessibility harder because it is not convenient to carry with their music instrument regularly, and the practicing process have to be done at their home space.

Also their available time after work is making it less possible to dedicate it to keep the participation of practicing a musical instrument. Because they have a lot of responsibilities and time commitments, and it’s hard to dedicate enough time to a musical instrument.
From my further discoveries during the interviews with the music instrument learners and the education expert, I found another reason why a lot of musical instrument players who haven’t moved forward to the level they desire are having difficulty in dedicating their time to the practicing progress.

Traditionally, the classical/acoustic musical instrument is fragile and not in a portable size. More young working class are living in the metro areas now, they have a lot of responsibilities and time commitments, and it’s hard from them to dedicate enough time to practicing if they don’t have convenient access to play with their music instrument.

The opportunity for Industrial Design and User Interaction is, how can we enhance the practicing part which does not necessarily need to interact with the actual music instrument, like the ability of the frequent **sight-reading** and the **sensitivity and flexibility** of muscle, including mouth, fingers and other parts on human body.
3. CREATING SOCIAL EXPRESSION
Even though there are various of cultural aspects of how people appreciate and share music in different part of the world, the core of music has always been a bridge to connect the community with social gathering and social interaction.
“I went to Ghana and I saw their Ewe music culture which shows me what the natural music and dancing social activity from human being should be.”

“The three best things in life should be GOOD COMPANY, GOOD FOOD, and GOOD MUSIC.”

---Daniel Joseph, South Shore Conservatory of Music, MA

“Performing music is connecting our neighbourhood”

---Jamone, Manager of BOOM BOOM ROOM

During my further research, I received a lot of useful insights when we were discussing about the social aspects in music interaction. Human have the nature desire that we love to gather and share our emotion through different activities. Music can be performed largely in social environment, as the most universal language, it can connect people together without any language translation. That’s why the experience of creating and sharing music is definitely a great way that can help the music instrument player to achieve the self-accomplishment and find their joy in this music instrument playing journey.
YUTO Y.

STUDENT AT KYOTO UNIVERSITY

Exchange student originally from Osaka
Played guitar and bass in his band before
Never had the change and space to
reunion the band again with his friends in music scene

HOW THE IMPACT WILL BE

Flexible band experience
The reunion of friends playing together
Benefit of performing as a indie band
“My best friends in my former band went to different places, so we never had the chance to perform together. Even though I can find the people who want to play with me in here, there is still missing emotional link to my old friends while we were performing together.”
“It happens a lot of times that I can not find a appropriate way to track my creation inspiration. I can`t really sing well, so I don`t feel like using the recorder while I am instantly inspired.”
BRENNA D.
STUDENT AT ACADEMY OF ART UNIVERSITY
She has been learning and performing the piano, violin, organ and guitar for more than 11 years. Living in the urban area means no easy access to practice playing. After 15, she was already comfortable to learn other musical instruments by herself.

HOW THE IMPACT WILL BE
The potential experience of air guitar
The seamless mobility of creating music
The opportunity to share her talent in community
The conversation during the interview with my 4th persona Brenna inspired me a lot.

And I also found a lot of musician during my interview, they mentioned that sometimes the form and interaction function from a traditional music instrument, or even a digital interface version is limiting their imagination and creativity. Another pianist said while he doesn’t have the access to play with his piano while he’s out, he always like tapping the other surface or even his body. And also, singing loudly while in a shower can help him to unlock the creative resource.

According to a new research from Guildhall School of Music and Drama and the Royal College of Music, the musicians may be at their most creative moments while they are not physically playing their instrument or singing. Imaging if there is a more flexible and natural way that people can interact to create music instead of being limited by the physical interaction between musician’s body and musical instrument interface, the music creating experience might achieve a whole new level.
Researchers discovered that the breakthrough of inspiration moments often happened when the players were humming to themselves, instead of while playing their actual musical instrument.

Resource:
<Musicians may be most creative when not actually playing instrument>
The Guardian
From my earlier interview and observation, I noticed that there is one acoustic music instrument is gaining its popularity quickly even under the competition from the new digital, portable music instrument.

I decided to start to learn to play Ukulele, talk to the Ukulele players and analysis what is the advantage that help it to gain the popularity during recent years.

Resource: National Association of Music Merchants
By the time I was writing the proposal, I had been playing Ukulele for 3 weeks. The experience is pretty amazing and I already can easily play some music by learning by myself.
“Ukulele is small, portable, easy to pick on and it has 4 strings.”

---Matthew Bocaya
Illustrator, originally from Hawaii

This is what I heard after I asked Matthew, who is a Ukulele player for ten years, to describe what he likes about ukulele in one sentence. The result didn’t surprise me because I felt the exactly same way.

One main reason for the ukulele’s mass success on the market is its low price tag. Another is its portability. Most importantly, it’s easy to learn and perform to share in the community.

Finally, in an era of overwhelming smart devices and digital entertainment, maybe the ukulele is simply a cheap, quick way to reconnect ourselves to our nature, to our heart, and our humanity.
The Ukulele is a strictly non-threatening musical instrument - not too difficult to play, easily portable and unpretentious.

--- Frank Skinner
During my 20 years of journey with playing the piano, the portability has always been an issue for me to keep the participation. Since I moved away from my hometown when I went to my college, I lost the access to the original piano in my home and I had been always looking for a replacement so I can still play with some music instrument which simulate the interaction from the real acoustic piano, but in a more portable way.

The experience with playing Ukulele reminded me again about the portability issue again. Comparing to the piano, Ukulele is so much easier to carry out and to perform outdoor socially.
“Let’s go out and play in the park!” Ukulele/Piano
I decided to do a test to examine how much effort I need if I want to bring my keyboard and play it outdoor, for the potential busking or social activity. My keyboard is CASIO Privia PX-150, it is almost the lightest digital piano musical instrument on the market and it weighs 25 lbs. I bought all the extra supporting devices that I need from ebay. Including my keyboard, the total cost was $1050 it the device weighed about 55 lbs.

The Ukulele I borrowed from my friend cost $50 and it weighs about 3 lbs.
As the musical democratization continues to be more advanced, all music lovers should be able to express their emotion through the music creating process, regardless of their former skills, techniques, and experience.

To achieve the level that people can create music freely, one need to go through the progress including understanding the theory, practicing to maintain the skills, and a social environment for self-expression. Each of these 3 factors will influence the others and keep the musical instrument players more engaged in the participation.

Traditionally, this process is time-consuming and complicated. The opportunity for Industrial Design and User Interaction it to simplify this process by bringing more accessible music creating interaction experience.
MUSIC THEORY

SOCIAL
EXPRESSION

MUSIC
SKILL
I did the analysis from the information I received during my early and further research. Based on the trend on both music instrument market, and general music industry, I came up with my vision that how can we keep on improving the experience of creating music progress socially.
MY VISION
OF THE FUTURE INDUSTRY
INCLUSIVE,
CONNECTED,
INTERACTIVE,
ACCESSIBLE,
DEMOCRATIZATION.
The record sales market in the U.S. has been declining after millennium. Even though the market share of digital music is increasing, the behaviour of how people consume music is totally changed and nowadays the audience has been used to the music streaming service like PANDORA and Spotify.

There is dramatically change from music record industry, the shift of consumer tastes are changing from MASS to NICHE.

Indie Label U.S. Sales Market Share Grows to 32.6 Percent

**INDIES REMAIN #1 SALES SECTOR NOW**

---Billboard Magazine

**IMAGINE:**

**WHAT THE FUTURE SELF-ESTABLISHING MUSICIAN COULD BE?**
The growing live performing market is becoming more important in music industry. The interactive relationship between musicians and audience could be the next selling point to this industry and will engage more potential musicians and fans to participate in this market.
GROWING OPPORTUNITY FROM LIVE PERFORMANCE

The concert industry grossed a record **$5.1 BILLION** in North America.

Unlike the recording side of the global music industry, which has suffered as a result of digital disruption and is currently less than half its pre-digital size, the live music business continues to thrive.

--- Dean Graziano, CEO of Lively LLC.

Music festivals are more dominant than ever in the concert business, and they’re still growing.

--- Rolling Stone Magazine

Resource:
“Before I start to play, I stop the crowd and keep them clapping or some other activity to the overall interaction between my audience and me. The audience love to feel that they are involved in the performance.”

“The one man band“ is always one of my favourite street performers in San Francisco, I like how Mr. Jordan engages the audience every time and impresses everybody with his unique idea of musical instruments.
The difference between people`s interaction in 2005 and 2013: when Pope Benedict was chosen from the new world of 2013 with Pope Francis.

Resource: NBC

This picture inspired me a lot, the democratization of technology is bringing more accessibility to the general public to achieve the information. But, how can technology also improve our social interaction? Can it benefit the music creating experience?
ACTIVE OR PASSIVE
BYSTANDERS V.S. PARTICIPANTS
The using of smart devices during a live performance has been a controversial topic recently. Even though taking pictures and videos can be one of the methods that audience engage socially, but some musicians believe it is hurting the engagement between the actual interaction in the musical environment.

**“HIDING” BEHIND YOUR SCREEN --- BEING “SOCIAL” BUT FEEL LESS SOCIAL**

The convenience of the digital devices is helping people to be comfortable being **Bystanders**, instead of being involved into the social **Participation**.
From the earlier investigation and research, I learned that the progress of creating music need a lot of time to understand the theory and practice to maintain the level, how can we encourage the music instrument players to find a better self expression in a more accessible and social way?

IMAGINE:
What if the future music social event can connect the audience to perform music with the musicians in an interactive way?
Picture I shot during Hardly Strictly Blue Grass Music Festival
THE DIGITAL/APPS TREND

One of the most obvious symbol of how democratization is improving people’s accessibility to create music is the portable digital devices and music apps on smart devices. What is the advantage and disadvantage of them and how can I understand the future possibilities? I started to do several user test with these new digital/software music applications.
I went to Guitar Center and tested various digital music instruments and compared the interaction feedback to the traditional acoustic music instrument. I had an interview with Alex “KazzEmcee“, a local music producer in San Francisco and we shared the opinion about the physical interaction on the music apps.

“Because of its accessibility, the Music Apps are bringing people’s love to music again. But the disadvantage right now is that the glass tapping interaction on these smart devices can not transform the emotional connection between musicians and the music instrument interaction.”

Alex “KazzEmcee”  
Music Producer  
Guitar Center, Upstar Records
Traditionally, the physical interaction between human and music instrument is a great way to train the coordination and sensitivity of brain activities. But on the recent music apps, majority of the interaction is based on fingers tapping on the glass screen and the tactile feedback is limited.
Find the balance between

ACOUSTIC / DIGITAL
HARDWARE / SOFTWARE

My conclusion is, the music apps on smart devices are showing that the music creating experience is becoming more and more accessible and inclusive. But comparing to the interaction between human and traditional acoustic music instrument, the music apps are lack of the authentic tactile feedback interaction.

The opportunity in the future should bring the gap between acoustic/digital and hardware/software.
I can see the future of music interaction is going towards a way that doesn’t necessary require the existing traditional music instrumental methods.

The relationship between human physic and music should be re-considered.
The core of the interaction between human and music instrument mostly depends on the finger interaction. The tactile technology has a potential contribution to bridge the gap between physical and virtual interaction.

If motion detection technology is involved in this music creating experience, it will liberate the musician from a physical interaction. More importantly, it can create a social interactive environment that will result in a new type of live performance experience.
SOUNDMACHINES

—a custom-built instrument for performing electronic music by DJing visual patterns on record-sized discs.

The initial commission called for a set of visuals for a performance entitled Connectivity, that was supposed to allow both the performer and the audience to contribute to the music.
MUSIC+KINECT / GESTURE

Motion-detecting system lets dancers control the music just by moving

Motion-sensing system lets dancers control music
Uses sensors from two Xbox systems together
Clapping hands can alter sound of drum beat
Tapping head can start drum loop going

WORLD’S FIRST KINECT STYLE GESTURE CONTROL MUSICAL PERFORMER

World’s First Kinect style Gesture Control Musical Performer

This is the future of Kinect Musical Performance. Vincent John Vincent invented video gesture control virtual reality with Francis MacDougall in 1986. By 1991 they had a fully dynamic immersive video gesture control virtual reality system. Vincent started performing around the world in 1986. He created a whole new genre of performance technology and hundreds of virtual performance instrument scenes, including musical scales, soundscapes, virtual drum kits, virtual juggling, virtual dance and a world of other creative landscapes.
Taiko No Tatsujin
(Master of Taiko)

YAMAHA TENORI-ON

Toshio Iwai, Piano as Image Media, 1995. The viewer-participant uses a trackball to create patterns on 'player-piano' music scroll that moves up to a grand piano that plays notes accompanied by patterns of coloured light that emanate from the keyboard.

Traditional Player Piano & Synthesia

VOCALOID x Hatsune Miku
CONCLUSION
FOR FUTURE VISION

There are two important ways that people can interact with music creating experience.

**Personal** MUSICAL INSTRUMENT
**Social** MUSICAL ENVIRONMENT

Helping the music lovers to keep in participation will make them more active in the process of music interaction. It will also be helpful to keep their level of interest and maintain the music skills for a long time. Also, the potential usage of technology like tactile and motion detection and create a new way that people can interact to create music and will result in a innovative method for social music performing experience.
HYPOTHESIS
IF there is a design of system/product/interface could make the music creating experience more intuitive, accessible and social interactive.

THEN the music lovers would be able to move to the higher level faster and they would be more engaged to learn, create and express music. Moreover, the future music industry would benefit from the interactive audience participation.
1. **Enhance the music theory understanding process**
   by new interaction from different senses.

2. **Enhance the practicing accessibility**
   by portable and tactile design solutions.

3. **Enhance the social expression**
   by interactive platform that can involve more social music interaction.
Attend professional conference/show
SXSW,
The SF MusicTech Summit in May,
Wearable Tech Conference SF in July,
CES, SIGGRAPH.

Talk to more experts in musical field,
School of Music for Visual Media@AAU,
SF Conservatory of Music,
Web Design and New Media department,
Use the resource and explore more in UI/UX.

Busking piano in public and collect the public’s reaction.
Find & Perform in a band to experience the social interaction.
TIMELINE

**Pre-Research**
SUMMER 2014
- Market Analysis
- More Expert Interview
- Industry Conference

**Research**
FALL 2014
- Define Direction
- Case Studies
- Further Persona
Design
SPRING 2015

Intern

Implementation
FALL 2015

PROTOTYPE
USER TEST
CONCEPT DEVELOPMENT

FINALIZE DESIGN
VISUAL COMMUNICATION
PROFESSIONAL PRACTICE
INTERVIEW
<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vince Andracchio</td>
<td>Manager</td>
<td>STEINWAY &amp; SONS Piano Gallery</td>
</tr>
<tr>
<td>Prof. Zhen Zhu</td>
<td>Professor of Piano Department</td>
<td>Central Conservatory of Music, Beijing</td>
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<tr>
<td>Jordan B. Wilson</td>
<td>Musician &amp; Inventor</td>
<td>The famous street performer “ONE MAN BAND”</td>
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<tr>
<td>Alex “KazzEmcee”</td>
<td>Music Producer</td>
<td>Upstar Records, Guitar Center</td>
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<tr>
<td>Nick Litwin</td>
<td>Software Engineer</td>
<td>Alumni of San Francisco conservatory of music</td>
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<tr>
<td>Ilana Lipsett</td>
<td>Co-Founder</td>
<td>Freespace SF</td>
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<tr>
<td>Daniel Joseph</td>
<td>Musician</td>
<td>Alumni of South Shore Conservatory, MA</td>
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<tr>
<td>Matthew Linaman</td>
<td>Founding Member at Cello Street Quartet</td>
<td>Alumni of San Francisco conservatory of music</td>
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<tr>
<td>Maricel Mihalcea</td>
<td>Software Engineer</td>
<td>Twitter</td>
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<tr>
<td>Mahmoud Zahar</td>
<td>Art Director</td>
<td>Gen3 Creative</td>
</tr>
<tr>
<td>Sungbin Choi</td>
<td>San Francisco Friends of Chamber Music</td>
<td>Alumni of San Francisco conservatory of music</td>
</tr>
</tbody>
</table>
How Can All People Continue to Be Involved in Meaningful Music Participation?

Commission Author: Judith A. Jellison

Judith A. Jellison is the Mary D. Bell Regents Professor of Music at the University of Texas at Austin.

Commission Members:
- Charles Berry
- James Byrd
- Richard Christians
- Craig Johnson
- Robin Martin
- Marilyn Moore
- Response: Warren T. Carter

Introduction

I was looking forward to an address by a nationally prominent politician who was known to music educators as a supporter and advocate for the arts. After he gave a few platitudes and remarks praising the work of the thousands of music educators in attendance, it happened again. Never losing eye contact with his audience and in a strong voice, this politician, orator, orator, orator elegantly intoned, “I was tone-deaf in music classes... and still am... never played an instrument. This (tone-poor leader) guy with sing... beautifully” (apologies).

Is there a problem? This dude says beautifully and he supports the arts. But the tone of his voice, his lack of enthusiasm, and the message he conveys is disturbing, particularly since this comes in our era. Wouldn’t he and all the other men and women who “don’t sing” (play an instrument, go to concerts, listen to classical music, etc.) really love to participate successfully in the sonic experiences that seem to bring so much joy to many of us? What happened to the guy who was an engrossing and intelligent speaker in school that led him to confidently declare himself a “tone-deaf” adult?

This paper is about learning. Moreover, it is about how all learners acquire musical knowledge and skills through their school experiences and the impact of school music experiences on their adult musical lives. What musical experiences are meaningful for the school and adult life? Are there connections among meaningful music experiences at school and in school? How can participation in meaningful music experiences at school transfer to adult life? How can all people continue to participate in meaningful musical experiences?

Judith A. Jellison, Professor of Music at the University of Texas at Austin.
Musicians may be most creative when not actually playing instrument
http://www.theguardian.com/music/2013/oct/01/musicians-creative-research-muse

Number of people playing a musical instrument in the U.S.

Apps can help us fall in love with music again

The 6 Stages of Piano Students: Why and When Piano Students Quit Lessons

Fan Participation and the Democratization of Music

Democratization of Music Creation
http://panelpicker.sxsw.com/vote/19195

The End of the US Piano Industry
http://mises.org/daily/3253

Music Festivals Enjoy Record Expansion in 2012

The piano’s status in U.S. living rooms is declining
http://www.latimes.com/features/home/la-hm-pianos16-2009may16,0,4599055.story#ixzz30JkF0tHa
PORTFOLIO
CHENXIANG SONG

BLACK & DECKER/COPIC/ILLY/PANERAI
BRAND STRATEGY
TRANSPORTATION DESIGN
SKETCHING
3D MODELING

INDUSTRIAL DESIGN

TOYOTA COLLABORATION PROJECT

INTERACTION DESIGN
DIY NEW MARKET

Single females are the second largest homeowner group in the U.S.

40% Women now accounting for 40 percent of all tool sales.

90% 50 percent consider themselves do-it-yourselfers.

Still, the majority of power tools and accessories are designed for men.

This gap in demand provides a unique growth opportunity for Black & Decker power tool product lines.

THE NEW OPPORTUNITY:
DESIGN FOR FEMALE DIY POWER TOOL USERS

DESCRIPTION:
How can we make the powerful power tool easier for female user to handle?

Combined with the latest wireless switch technology and energy harvesting method, POWERMATE is a wireless power dimmer that allow users to control their power tool easily with the screen interaction.

Brand extension strategy Project
(3 weeks for each brand)
September 2013 – December 2013
DESIGN PROJECT 2
COPIC INFINITE
Is a conceptual docking system inspired by CMYK printing principle. The user can custom the desired color through iPhone Apps and ink cartridge system will refill the marker with mixed ink.

Brand extension strategy Project
(3 weeks for each brand)
September 2013 – December 2013
DESIGN PROJECT 2
Brand extension strategy Project
September 2013 – December 2013
DESIGN PROJECT 2
TOYOTA Collaboration UI/UX Design Project
TOYOTA innovation HUB San Francisco, CA
June 2013 – August 2013
Special Topic IDS699
TOYOTA Collaboration UI/UX Design Project
TOYOTA innovation HUB San Francisco, CA
June 2013 – August 2013
Special Topic IDS699
ACHIEVEMENT/GOAL

1. Guide the young driver to be confident and responsible
   - The K.E.Y. System decreases the cellphone distraction while in driving
   - Offer the safety tutorial and practice for new drivers to improve
   - Encourage young drivers to care more about driving behavior
   - Games experience can teach us more than we think

2. Promote Toyota social image
   - Potential parents buy who care about their child's driving behavior
   - Show the public the effort of working on distraction driving
   - Promote Scion customization experience in young community
   - Improve the driving culture for the next generation
ALIAS model w/ Hypershoot rendering
Spring 2013
Intermediate 3D Modelling final project
SOLIDWORKS modeling & rendering
Fall 2013
Solid Digital Modelling final project
Wacom digital sketching/rendering
Spring 2014
Design Drawing 4
COPIC MARKER indication
Fall 2013
Design Drawing 3
*Picture I shot in Freespace SF,
A utopia that bring people from Twitter and Tenderloin together.
“Music is the place where democracy lives. Every note is equal.”

---Vince Gill

Everyone should be able to appreciate, create and share music.