

APPENDICES

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INTEGRATED PRODUCT DESIGN
DELFT UNIVERSITY OF TECHNOLOGY
COLLABORATED WITH PHOENIX DESIGN

- APPENDIX 1 -

**INTERVIEW
RECRUITMENT
BRIEF**



Tianchen Liu

Background

This project is the master graduation project of Tianchen Liu. Tianchen is a master student in Integrated Product Design at Delft University of Technology (TUD), the Netherlands. The project is conducted in Phoenix Design under the Phoenix Academy Program. The project is supervised by both TUD and Phoenix Design.

Project Aim

The aim of the project is to design a drum kit that fits drummers in the future scenarios. I believe that the future of the drumming should not be restricted by the physical location. Besides, the drum should have great emotional resonance with the drummer. As the trend of digitalization going on, the drum should still provide the authentic drumming experience.

As part of the research, I aim to contact professional drummers for a deeper understanding of the topic and insights for the concept. I will keep the participants updated in the following process for further feedback.

Key Words

Future Scenarios, Emotion, Mobility, Flexibility, Authentic Experience

Purpose of Interview

- Understanding the current usage of the drum kit
- Understanding the emotional value of the drum towards the drummer
- Figure out the essential elements for the authentic drumming experience
- Get to know drummers' future dreaming picture of drumming

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INTERVIEW QUESTIONS

Intro & Background 项目介绍 & 受访者背景

Name 姓名

Age 年龄

Years of drumming 鼓龄

Background 背景经历

How did you start drumming? What is the trigger?

你是怎么接触到架子鼓的？是什么契机？

Current Usage

Context 场景

Where do you play? What scenarios do you have? How many drums do you have? Do you have different drums for different places?

你打鼓的场合有哪些？你有多少套鼓？你不同场合用的鼓是同一套吗？

What accessories do you use for different context?

你在不同场合需要使用什么配件/辅助设备？

Process 过程

What's the typical process of your job?

你一般工作（商演等等）流程是怎样的？

How do you transport the drum? What is the process?

你是如何运输鼓的？

Do you think transporting the drum is a problem for you?

你认为鼓的运输是一个痛点吗？

What brands of drum are you using? What is your favourite brands and why?

你现在使用的什么品牌的鼓。你最喜欢的品牌是哪个？为什么？

Do you have any problems while using the drum?

你觉得现有的鼓，有什么其他使用问题或者你不满意的地方吗？

What do you value when choosing the drum?

你在挑鼓的时候主要在意什么呢？

Authentic Experience

Try out Freedrum and feedback.

试用 freedrum，询问反馈。

What do you think the difference between electronic drum and normal drum kit?

你认为电子鼓和普通架子鼓区别在哪里？

What elements do you think that gives you the authentic drumming experience?

你觉得是哪些元素让你有真实的击鼓体验？

Emotion 情感价值

Value 价值

What's your favourite band, drummer, or musician? Why?

你最喜欢的乐队/鼓手/音乐家是谁？为什么？

Do you enjoy drumming? What does drumming mean to you?

你喜欢打鼓吗？打鼓对你来说意味着什么呢？

Why percussion, not other instruments?

为何选择鼓这种打击乐，而不是其他乐器呢？

Why drum kit, not other percussion? **Show Mood Pictures of other percussions.**

为何选择架子鼓，而不是其他打击乐器呢？**展示其他打击乐图片。**

What do you think is the core of drumming?

你觉得鼓的核心本质是什么呢？

What do you think the drumstick?

你认为鼓槌的角色是什么？

How personal is the drum to you? Will you play on different drums?

鼓本身对你来说是很私人的东西吗？你会随便打别的鼓吗？

What's your first drum? What is the history?

你的第一套鼓是怎样的？中间经历了什么？

What does the drum kit means to you? Please describe the relationship between you and your drum kit.

架子鼓这个乐器本身对你来说意味着什么呢？你能描述一下你和鼓之间的关系吗？

Context 场景

Do you always express the same emotion while drumming? What affects it, e.g. context?

在演奏时，你总是在表达同样的情感吗？影响你表达情感的因素有哪些？场合？

Do you want audience? Why?

你想要听众吗？为什么？

What do you think the relationship between the drum kit and the environment? Show pics.

你觉得鼓和周遭演出环境的关系应该是什么样的？看图片。

When do you want to drum and why? **Show Emotion.**

你什么时候会想打鼓？为什么？**展示情感列表。**

Others 其他

Do you follow the notes or improvise? What is the border? What role does the randomness play in drumming?

Taking risk = Security?

你是跟着谱子打还是即兴演奏？跟谱和即兴演奏的界限在哪里？这种随机性在鼓的演奏中扮演着什么角色？

承受风险 = 安全感？

Do you have any special habit or signature move while drumming? Why?

你打鼓时有一些习惯或者一些标志性动作吗？为什么？

Do you think drumming is separate activity or it is part of daily life activity/part of life?

你认为打鼓对你来说是一个单独的活动还是其他活动或者生活的一部分？

Do you think drumming is a private activity? Why? Show Taiko.

你认为打鼓是个人活动吗？为什么？展示太鼓照片

Do you wish that your drum can grow with you?

你希望你的鼓可以陪伴你成长吗？

Do you think you will accept or willing to try the new archetype?

你觉得你会接受新的鼓的原型或者说愿意尝试吗？

If it is your only drum, how much are you willing to pay for it?

如果这是你的唯一一套鼓，你愿意为它花多少钱？

Future

What's the relationship between you, the drum kit, other performer, and the audience?

你认为你、架子鼓（产品）、其他演奏者、观众间是一种什么样的关系？

What dream function do you want for the drum or what's your dream drum? (ask about real-time customization)

你理想中的鼓有哪些功能或者说你理想中的鼓是怎样的？（问一下实时自定义鼓）？

Ending

Could you provide the picture of your drum in the context?

能提供一些你使用的鼓的照片吗（实地拍摄）？

Could you provide some pictures of you performing?

能提供一些你演奏或者排练时的照片吗？

Could you provide any pictures related to you and drum? Your favourite one? Why?

能提供任何你跟鼓的照片吗？哪一张是你最喜欢的？为什么？

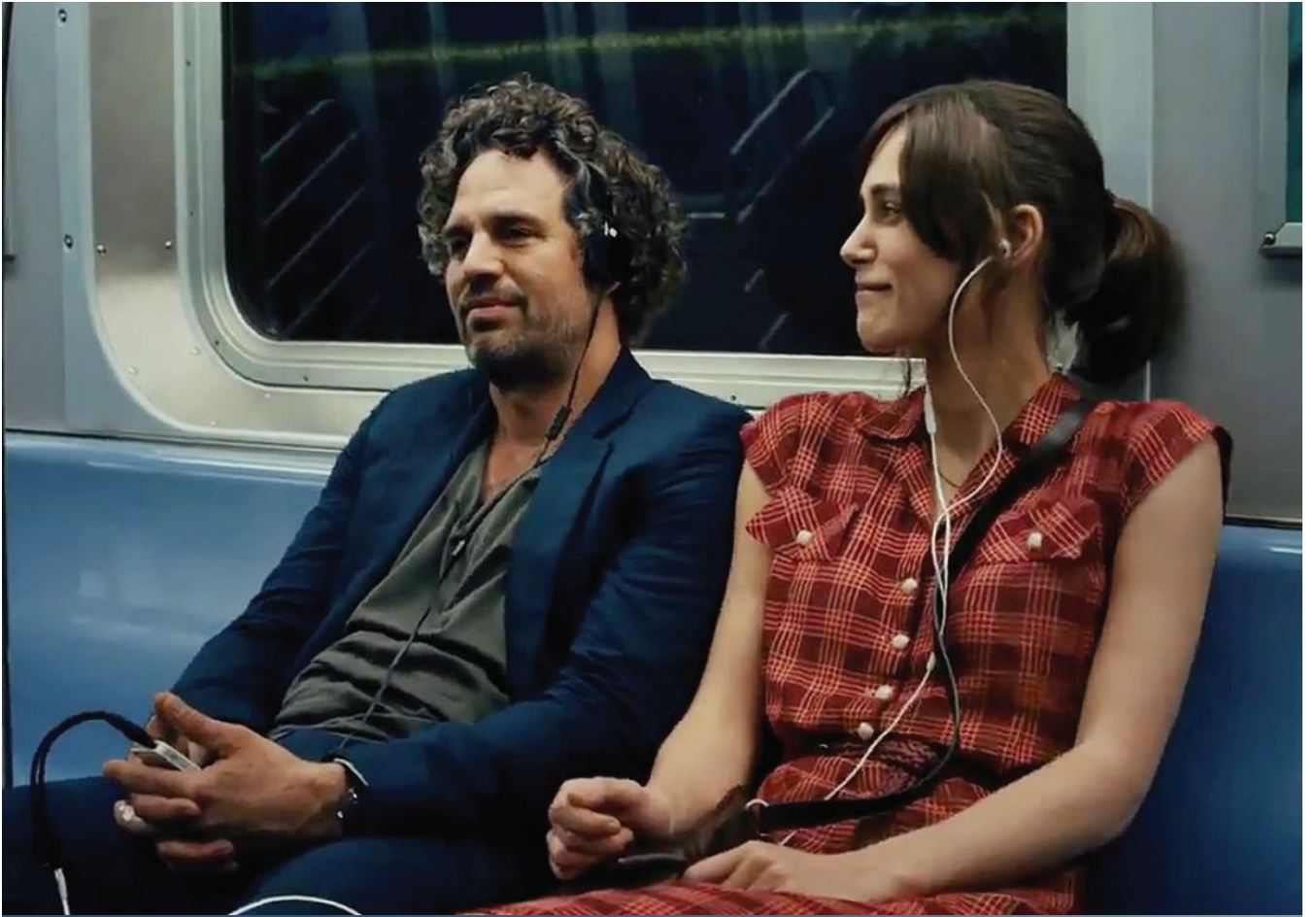
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MOOD PICTURES FOR INTERVIEW















- APPENDIX 4 -

PERSONAS

Passionate Newbie

Haoxin Weng (Male, 25)

"I feel good when drumming because I am in the flow of the music."

- Level: Beginner as a hobby
- Nationality: Chinese
- Current city: Delft, the Netherlands
- Living place: Student apartment
- Drumming place: TUD studio room
- Drum style: N/A

Value Understanding

- "I don't care whether there are audience. Drumming for me is a monologue."
- "Drumming is 'violence with rhythm'."
- "Every time when I try a new beat, it is a surprise for me."
- "For me, I am more "playing" rather than 'drumming'."

Drum

Roland TD25KV for beginners



Needs

- "I want to buy an electronic drum in my rent apartment when I have a stable job"
- "I want something to guide me when I am drumming alone. It is not convenient to go to the culture center to take the course only 45 min a week."
- "I cannot buy one drum here since it is not portable."
- "I want to quietly play the drum in my apartment."



Versatile Professional

Shutong Wang (Male, 21)

"I like it when being on the stage with the spotlight on me."

- Level: Munich Music Academy student, future professional drummer, drum for 13 years
- Nationality: Chinese
- Current city: Munich, Germany
- Living place: Rent room
- Drumming place: Studio room, Livehouse
- Drum style: Versatile but more into rock style

Value Understanding

- "I don't like Marimba because I cannot show off with it."
- "Once I master it, I feel in control and secure, which is very important for me."
- "I like it when the drummer plays an important role."
- "When I play the drum for a long time, I begin to be attached to it. It is part of my life."

Needs

- "For some specific special sound and detailed sound made by acoustic drum, the electronic drum is super difficult to simulate."
- "The feedback of the electronic drum is not holistic (hand, feet separate)."
- "I use MIDI to compose drum music."
- "E-drum and real drum has their own limitation in the sound they create."

Drum

Gretsch catalina maple walnut

MIDI?



Gentle Whiplash

Yitian Wang (Male, 59)

"Nothing can replace the acoustic drum where the strength can be controlled by our heart, emotion, and brain."

- Level: Professional drummer, drum teacher, drum for 48 years
- Nationality: Chinese
- Current city: Taiyuan, China
- Living place: Own apartment
- Drumming place: small apartment, official music hall
- Drum style: Versatile, most official music



Value Understanding

- "Electronic drums are only for practice, it is not suitable for the official performing."
- "All the practice is for the final performance."
- "People get curious to the drum kit. Two hands, two feet produce so many different sounds."
- "In music, the strength is the emotion."

Drum

Pearl drum for more than 30 years



Needs

- "It is the best that the drum you play on the stage is the drum you practiced with."
- "I remember helping you move your drum when you were a kid, it is a pain in the ass because you live in the top floor."
- E-drum cannot allow the drummer to express the real emotion they want to express.
- "There will be different other percussion instruments in front of the drum kit."



Persistent Rose

Jiayi Zhang (Female, 26)

"Drumming is like a thorn in my normal life. I want to pursue its perfectness."

- Level: Drum teacher, drum for 13 years
- Nationality: Chinese
- Current city: Shanghai, China
- Living place: Own apartment
- Drumming place: small drum classroom, home
- Drum style: Pop, wish to play jazz and blues

Value Understanding

- "I like my own drum, it is old, the stronger you hit, the better it sounds."
- "Drumming is the 'art of raising wrist'."
- "Drum kit can give me sense of achievement, and this feedback is quite fast."
- "The diversity and richness the drum kit shows is very important to me."
- "Drum kit is supposed to be cool and masculine."

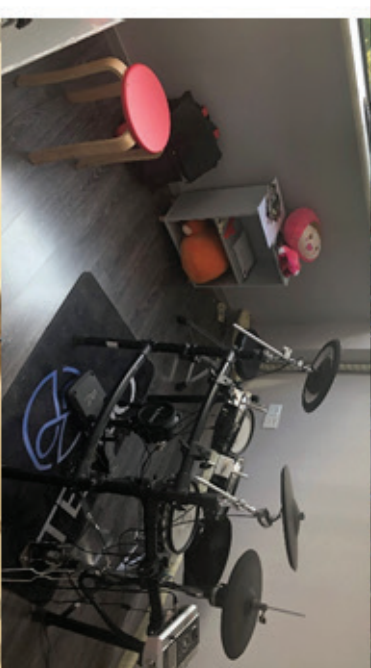
Drum

DW drum kit



Needs

- "The quality of the accessories is very important (e.g. connection)."
- "E-drum for me, is a TRIGGER. There is no difference in strong or weak sound."
- "This feeling of space and position is important for a real drumming experience."
- "The e-drum is hard to mimic this huge amount of different hitting ways."
- "The design of the drum kit is not holistic."



Avantgarde Pioneer

Jojo Mayer (Male, 56)

"The only important thing is to awaken the curiosity for the full potential of our mind."

- Level: Famous drummer
- Nationality: Swiss
- Current city: New York, USA
- Living place: Own apartment
- Drumming place: Rehearsal room, livehouse, concert world tour
- Drum style: Jazz, e-style

Value Understanding

- "The reason we play drum now is to communicate cultural aesthetics and values."
- "In a digital world, everything is 0 or 1, but the distance between 0 and 1 is what we cannot be replaced."
- "When I passed the threshold, the human restrictions actually liberated me."
- "Improvisation has always been the most fascinating part for me as a performer, it is also the key now."

Drum

SONOR advanced drum kit



Needs

- Easy setup
- Technical meltdown is too problematic
- More sound possibility
- Clean stage



Rock 'N' Roll

Chad Smith (Male, 58)

"I want to be a bank robber if I was not a drummer."

- Level: Famous drummer
- Nationality: American
- Current city: New York, USA
- Living place: Own house
- Drumming place: Road tour, life on the road
- Drum style: Rock

Value Understanding

- "Hard work, there is no shortcut."
- "If you are passionate about what you love, you want to do it yourself."
- "I love the old times when playing in the small club. There is no fancy light, nothing. You just play, guys are just there, for your music."
- "I am passionate about the music in school for kids. It is every kid's right to be able to be exposed to music and have the opportunity to play music."
- "My brother is worried about me because it is a crazy route."

Needs

- Life on the road (tour)
- "I love stuff, the physical stuff."
- "I am not that kind of guys who just jump on different drums. It is lucky that I have a big van so I can carry my own drums."

Drum

DW



Math Rocker

Kashikura Takashi (Male, 43)

"Constant pursuit of what makes you feel good will eventually lead to discovering your own style."

- Level: Drummer in TOE
- Nationality: Japanese
- Current city: Tokyo, Japan
- Living place: Own apartment
- Drumming place: Rehearsal room, concert
- Drum style: Post rock, math-rock

Value Understanding

- "When I play with other people, we have this common goal of making great music, so I can interact with people right away."
- "It's a lot of work, but still fun."
- "When I am playing the music I love, I see the audience enjoying it so much, it surprises me."
- "There is no replacement for the sense of accomplishment."

Drum

CANOPUS



Needs

- "Preparing equipment is hard. There is a lot of stuff to carry. I have to load it all into a car and take it all out."
- "My preference of sound changes now and then."
- "I have to make sure my tuning is right. I ask sound engineer to adjust it whenever I go and have them tell me if there is any problems."



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FUNDAMENTAL NEEDS



Competence

Having control over your environment and being able to exercise your skills to master challenges.

Rather than feeling incompetent or ineffective.



Autonomy

Being the cause of your own actions and doing things your own way.

Rather than feeling that external conditions and other people are the cause of your actions.



Purpose

Having a clear sense of what makes life meaningful and valuable.

Rather than lacking direction, purpose, or meaning in your life.



Belonging

Being part of and accepted by a social group or entity that is important to you.

Rather than feeling incompetent or ineffective.



Relatedness

Having warm, mutual, and trusting relationships with people whom you care about.

Rather than feeling isolated or unable to make personal connections.



Impact

Seeing that your actions or ideas have an impact on the world and contribute something.

Rather than seeing that you do not influence or contribute anything.



Acknowledgment

Getting attention and appreciation for what you do and respect for who you are.

Rather than being disrespected, underappreciated, or ignored.



Security

Feelings that your conditions and environment keep you safe from harm and threats.

Rather than feeling unsafe, at risk, or uncertain.



Order

Feeling that your life is structured, organized, and balanced.

Rather than feeling that your life is messy, disorganized, and confusing.



Morality

Being able to act on your personal values, passing them on to others, and seeing them reflected in the world.

Rather than feeling that you cannot recognize or act on your values.



Fitness

Having and using a body that is healthy, comfortable, and full of energy.

Rather than feeling ill, uncomfortable, or listless.



Stimulation

Being mentally and physically stimulated by novel, varied, and relevant impulses.

Rather than feeling bored, indifferent, or apathetic.



Ease

Having an easy, simple, and relaxing life.

Rather than experiencing strain, difficulty, or overstimulation.

Fundamental needs

- APPENDIX 6 -

IDEATION SESSION BRIEF

Agenda

- | | | | |
|------------------------------------|-------|--------------------------------------------|-------|
| • Briefing | 20min | • Break | 5min |
| • Warm-up Exercise | 5min | • 2 nd Topic: Sound Exploration | |
| • 1 st Topic: Same Drum | | Problem Redefine: H2's | 10min |
| Problem Redefine: H2's | 10min | Brainwriting | 12min |
| Brainwriting | 12min | Superhero Act | 10min |
| Hidden Presumptions | 12min | | |

H2's

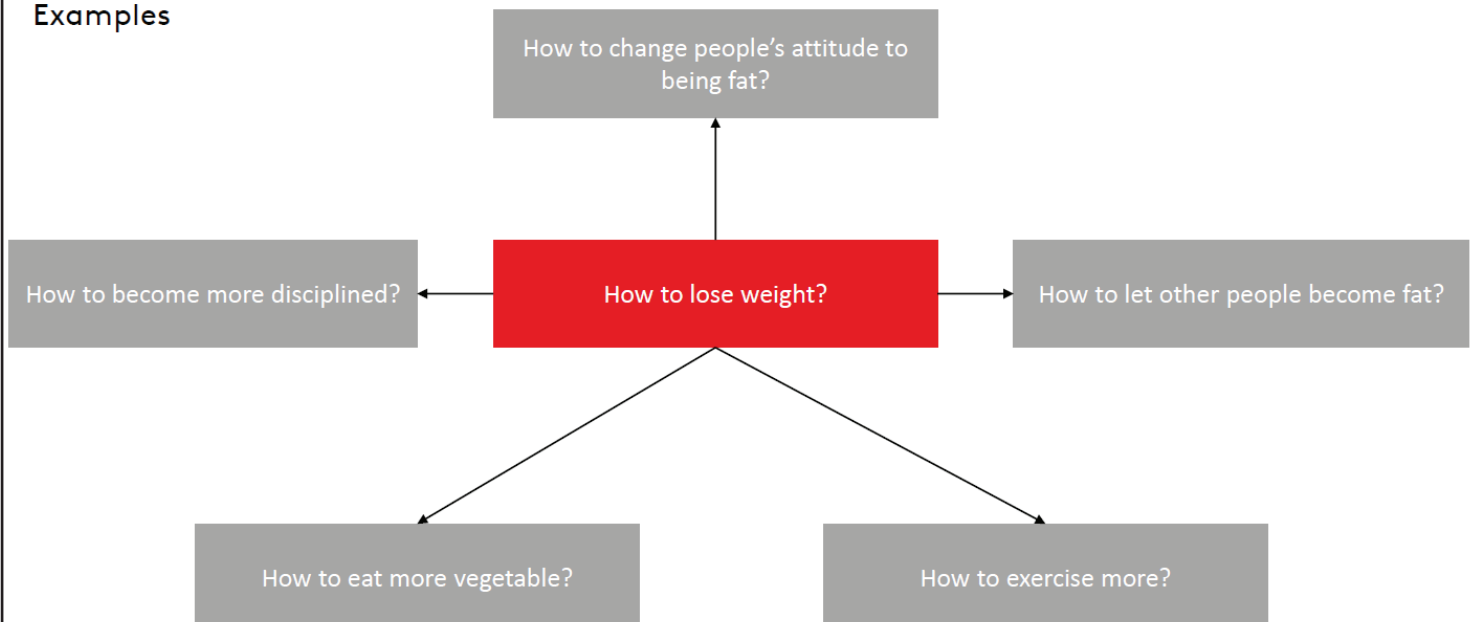
Problem Redefine

- Try to rephrase/reformulate the current question using "How to..."
- Stop when reaching 10 mins or have 15 H2's.
- Cluster & Combine, finally generate one new problem statement.

"How to let drummers produce more sound?"

H2's

Examples



H2's

Problem Redefine

- Try to rephrase/reformulate the current question using "How to..."
- Stop when reaching 10 mins or have 15 H2's.
- Cluster & Combine, finally generate one new problem statement.

"How to let drummers produce more sound?"

Brainwriting

"Obvious" Ideas

- Draw ideas individually, after 2 mins, pass on to the person next to you and continue.

Hidden Presumptions

"Unexpected" Ideas

- List all the presumptions we have about the drum kit
- Pick 3 most interested presumptions, try to break them to solve the problem

Hidden Presumptions

Examples

Chair

- 4 legs
- Allow people to sit on
- Has a surface to support your back
- Stand on the ground
- Etc.



Chair

- No leg
- Allow people to sleep on
- Has a surface to support the butt
- Floating
- Etc.

H2's

Problem Redefine

- Try to rephrase/reformulate the current question using "How to..."
- Stop when reaching 10 mins or have 15 H2's.
- Cluster & Combine, finally generate one new problem statement.

**"How to allow drummers to play on the same drum,
for both practicing and performing?"**

Brainwriting

"Obvious" Ideas

- Draw ideas individually, after 2 mins, pass on to the person next to you and continue.

Superhero Act

"Unexpected" Ideas

- Each person picks one superhero (provided or your own)
- Try to solve the problem by using your own superpower (wild version)
- Try to translate the solution back in a more realistic way (less wild version)

Superhero Act

Example

- Problem: How to reduce the food waste in the family kitchen
- Superpower: Teleporting
- Wild version: The excess food will be directly transported to the poor people or other people who accept shared food.
- Less wild version: A delivery service which based on the real-time monitoring data that can deliver the excess food to other people who need food, etc.

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MOOD PICTURES FOR IDEATION



Invisible Woman
隐身女



Magneto
万磁王





Antman
蚁人



Ghost Rider
恶灵骑士



Hulk
绿巨人



Thor
雷神索尔



Flash
闪电侠

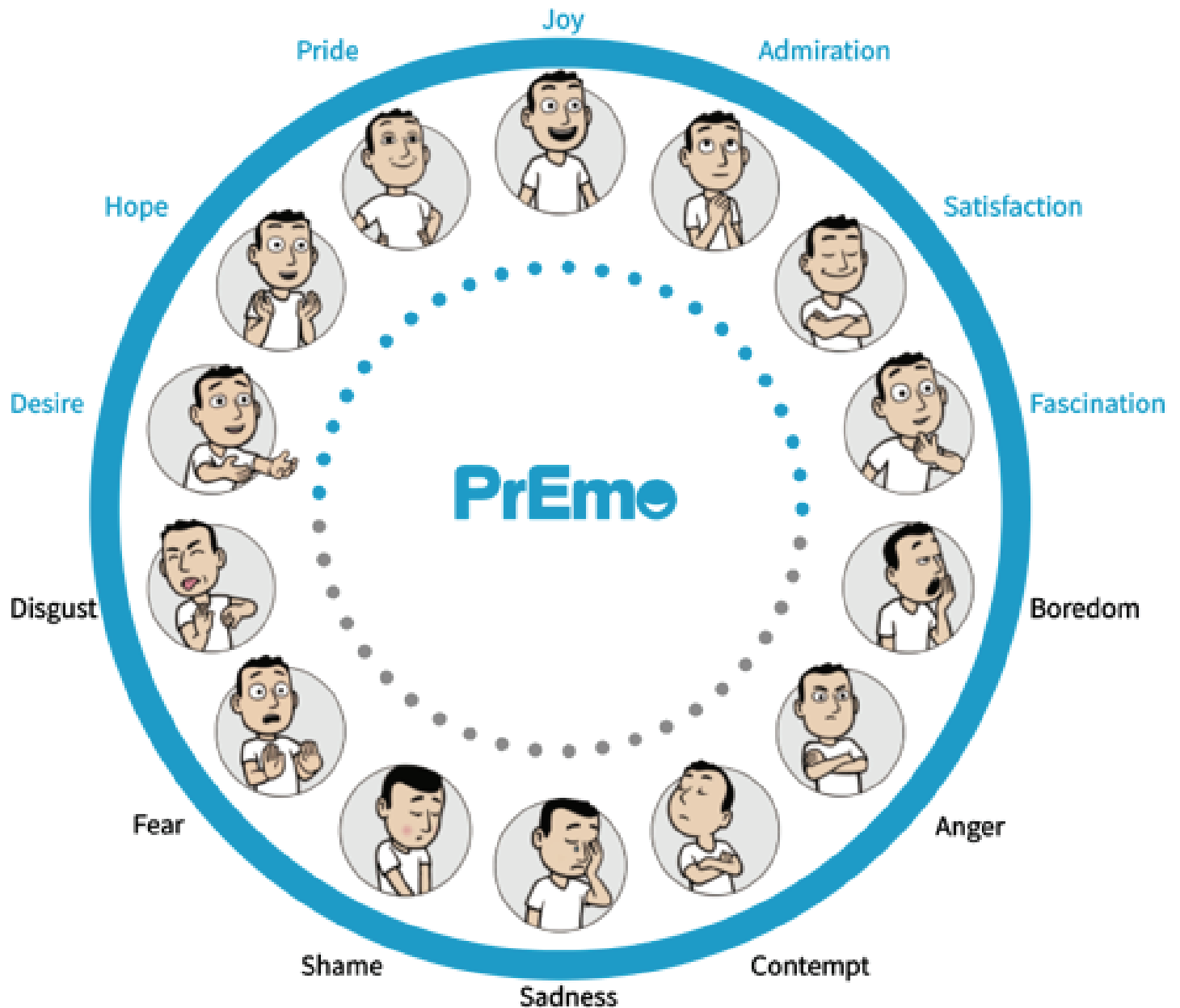


Daredevil
夜魔侠

- APPENDIX 8 -

USER TEST QUESTIONS

- What do you think of the idea of the concept (sound collection and foldable drum kit)? What emotion is triggered? **First let them describe and then SHOW Peter's Emotion Chart**



- What do you think of the look of the product (Shape and form, CMF, etc.)? How do you feel (adjectives)?
- As for need 1: producing richer sounds, could you rate the concept from 1 to 5? Any feedback?

1	2	3	4	5
Not fulfilled at all	Barely fulfilled	Fulfilled	Well Fulfilled	Perfectly Fulfilled

- As for need 2: easy set-up, could you rate the concept from 1 to 5? Any feedback?

1	2	3	4	5
Not fulfilled at all	Barely fulfilled	Fulfilled	Well Fulfilled	Perfectly Fulfilled

- As for need 3: flexible transport, could you rate the concept from 1 to 5? Any feedback?

1	2	3	4	5
Not fulfilled at all	Barely fulfilled	Fulfilled	Well Fulfilled	Perfectly Fulfilled

- As for need 4: customized configuration, could you rate the concept from 1 to 5? Any feedback?

1	2	3	4	5
Not fulfilled at all	Barely fulfilled	Fulfilled	Well Fulfilled	Perfectly Fulfilled

- Regarding functions and other real use context, do you have any feedback? Rate stability from 1 to 5 here.

- Any other feedback?

