Experiencing Kyoto: Evaluating Augmented Reality Audio Guides

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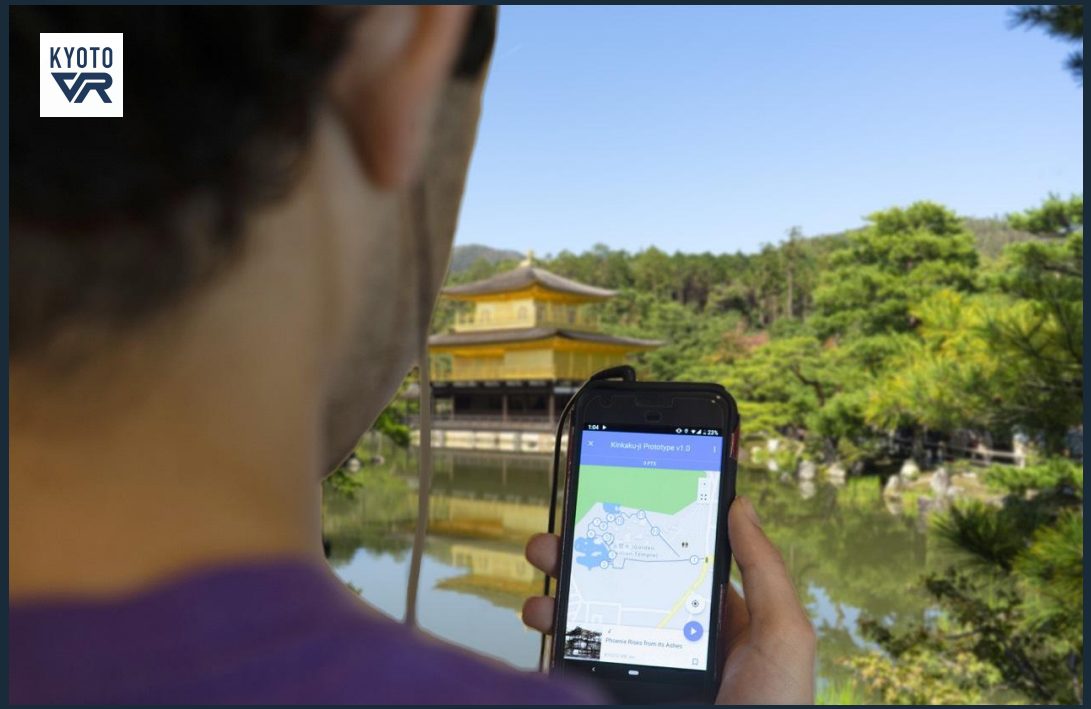
ANTHONY MARGE, MANAS MEHTA

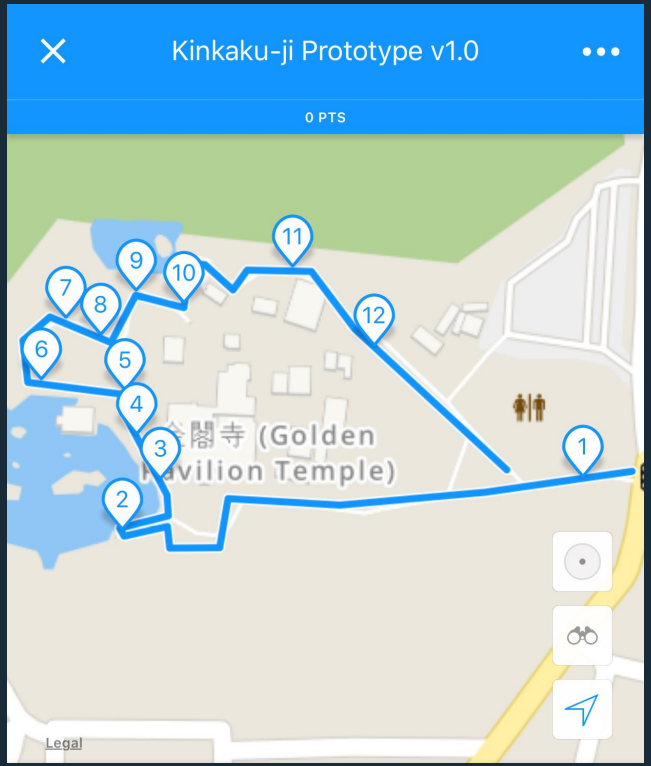
KYOTO VR

December 8, 2018
Kyoto, Japan IQP
Worcester Polytechnic Institute

WPI

The Project


KYOTO
VR


Kinkaku-ji Prototype v1.0
0 PTS
1
2
3
4
5
6
7
8
9
10
11
12
(Golden
Pavilion Temple)
Legal

USER PROFILES

Profile A: Amelia

"I want a tour that is brief, fast, fun, and humorous with information that I wouldn't have found otherwise."

Age: 38
Gender: Female
Country of Origin: Australia
Length of Stay: 6 - 17 days

Channels

- Internet
- Word of Mouth
- Guide Books

Tourist | Alone

Looking For

- Unique information which can't be found elsewhere
- Interesting stories with information about culture and architecture that she will remember later on
- Brief is best
- Ability to go at her own pace and rewind or skip audio as needed

Frustrations

- Too much talking
- Too many forgettable dates and facts

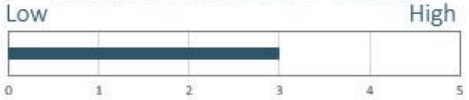
Bio

Amelia is on vacation by herself in Japan. She did a little bit of general research on places to visit during her trip. Amelia has very little experience with audio tours and is not super interested in them. However, she does like the idea of a GPS based audio tour. Her ideal audio tour would be brief and at a faster pace while also fun and humorous.

Willingness to Pay

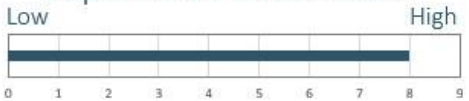
JP¥ 425

Interest in Audio Tours



Interest in GPS Tours

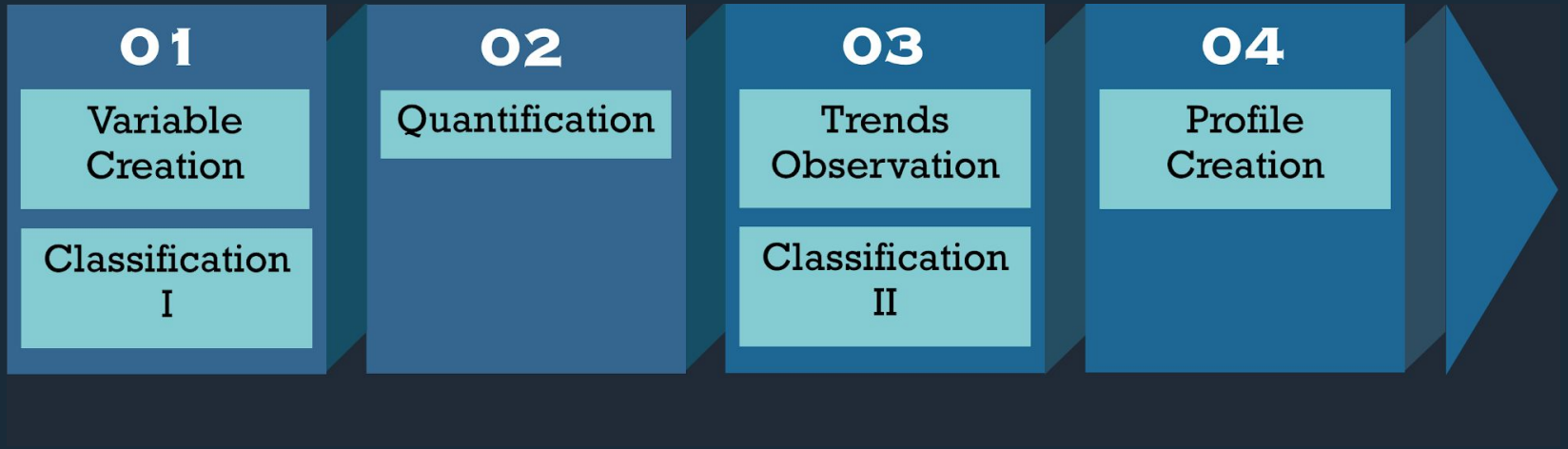
Experience Satisfaction



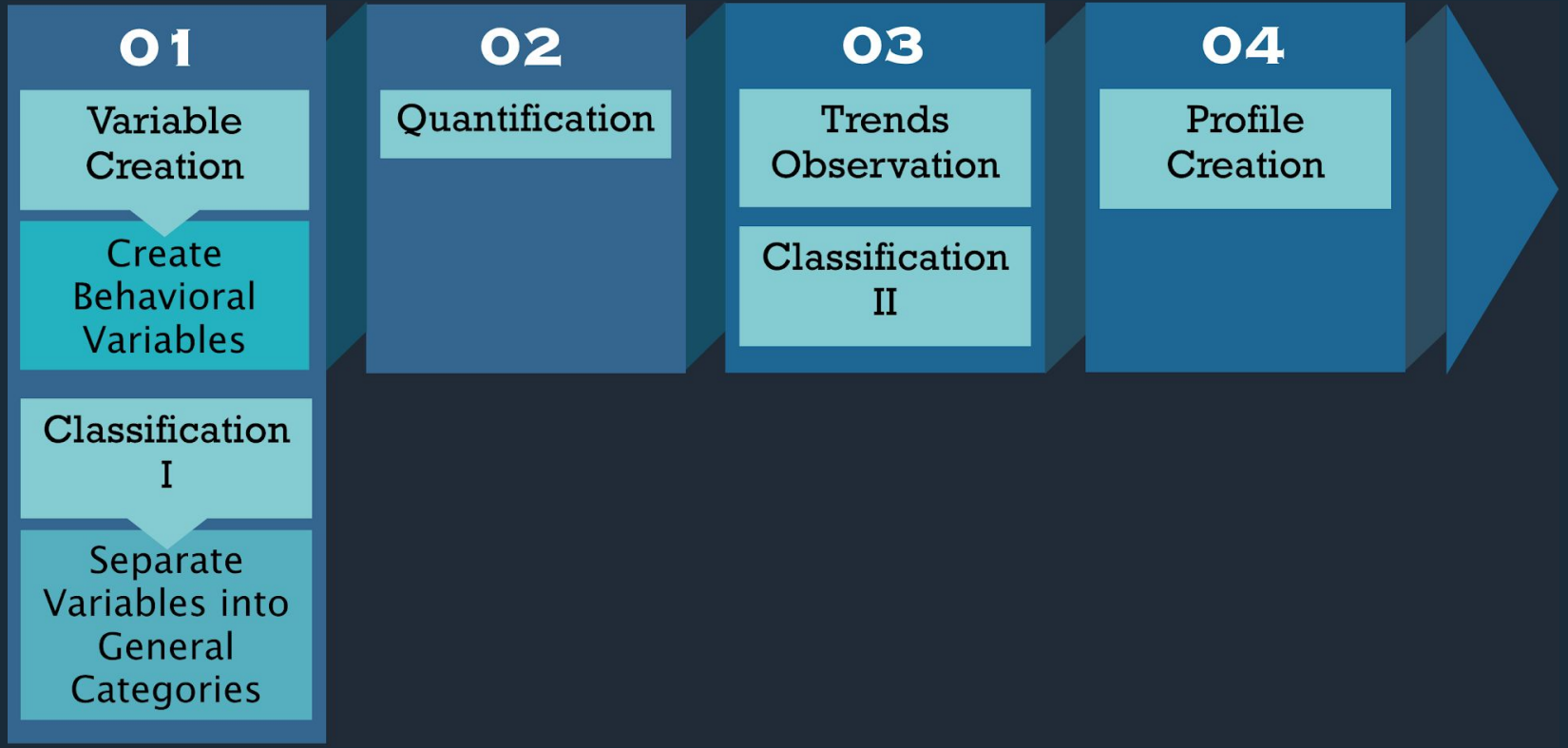
Likeliness to Recommend

Enough Information?

User Profiles



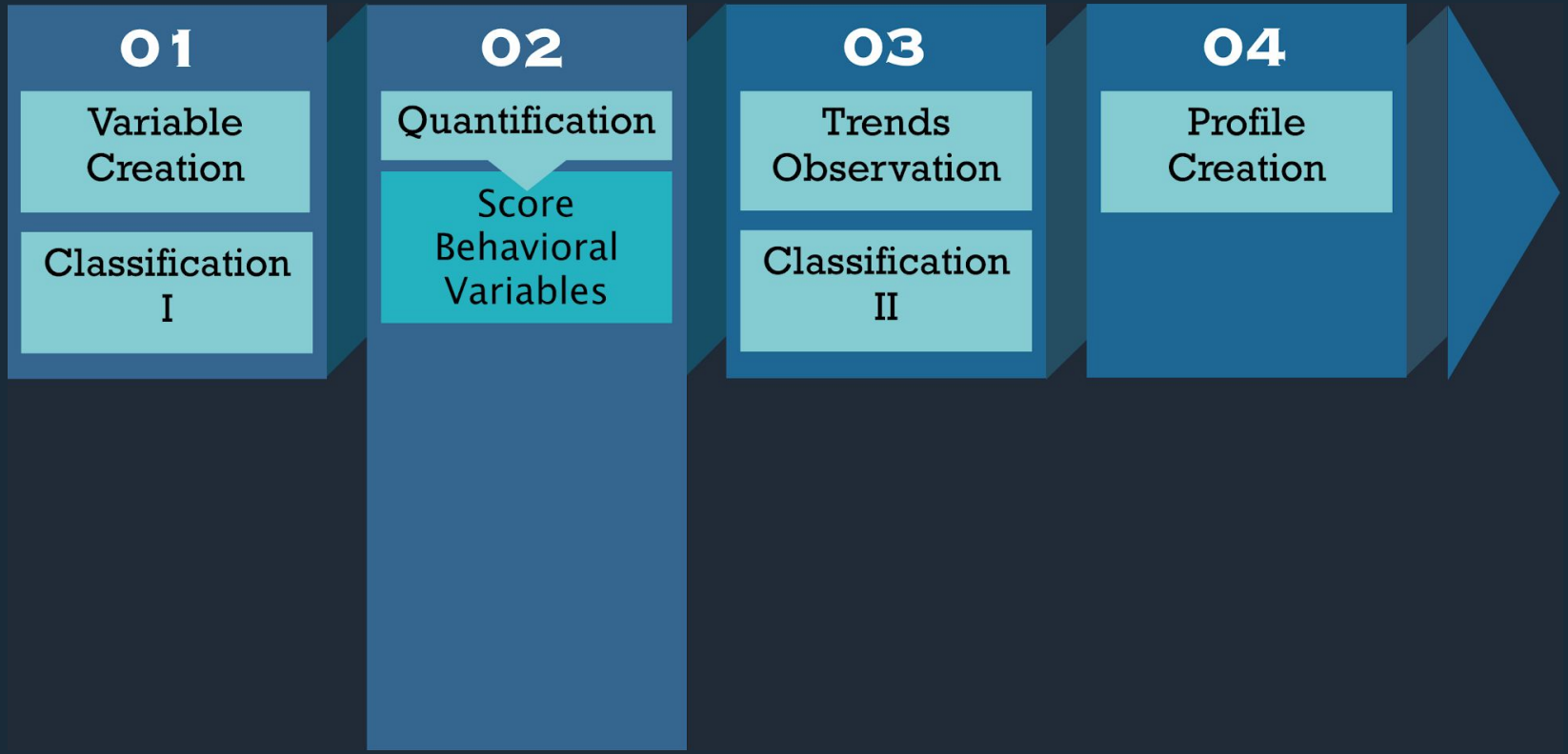
User Profiles



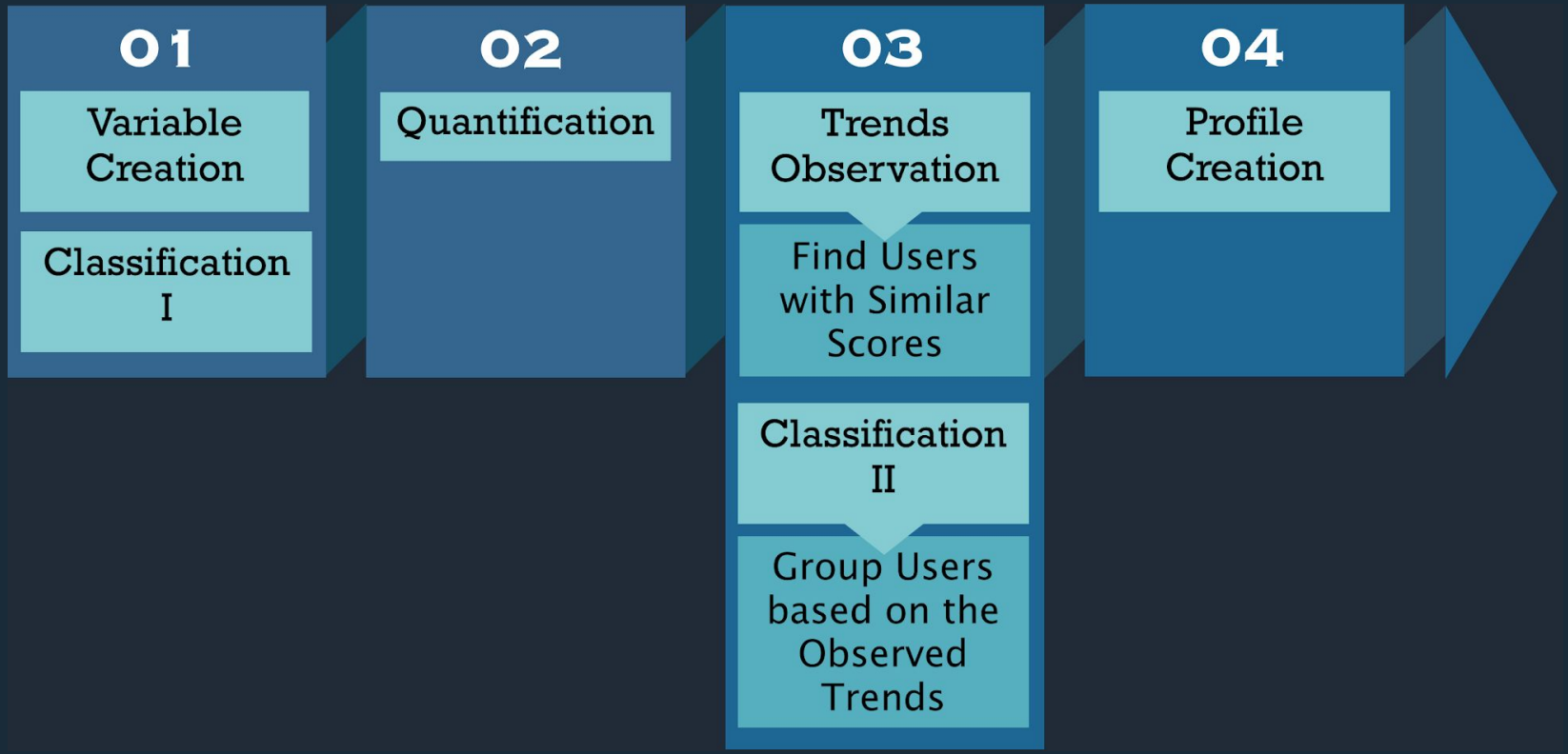
Behavioral Variable Categories

- Data Type
- Demographics
- Initial Reaction to the Product
- Previous Tour Experience
- User's Technology
- Tourism Preparation
- Narration Satisfaction
- Information Satisfaction
- Product Preferences
- Payment
- Overall Satisfaction and Recommendation

User Profiles



User Profiles



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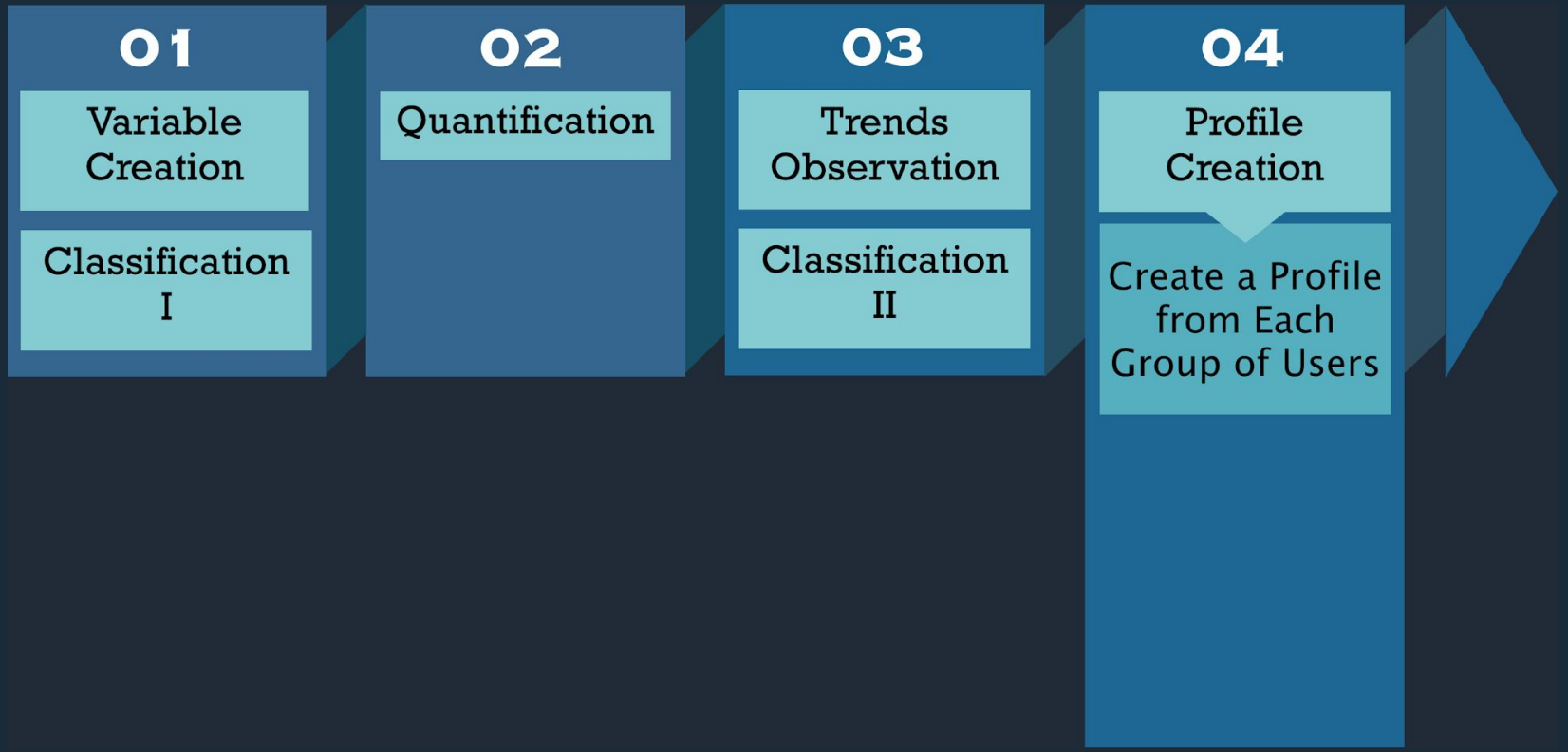

Profile A: Amelia

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Age: 38
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Country of Origin: Australia
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Channels

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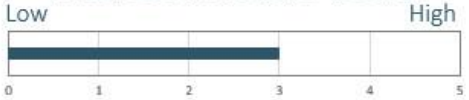
Bio

Amelia is on vacation by herself in Japan. She did a little bit of general research on places to visit during her trip. Amelia has very little experience with audio tours and is not super interested in them. However, she does like the idea of a GPS based audio tour. Her ideal audio tour would be brief and at a faster pace while also fun and humorous.

Willingness to Pay

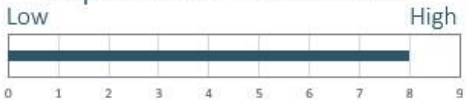
JP¥ 425

Interest in Audio Tours



Interest in GPS Tours

Experience Satisfaction



Likeliness to Recommend

Enough Information?

Profile F: Mei

"Having a lot of information gives the app value, otherwise it is not worth the money."

Age: 45
Gender: Female
Country of Origin: China
Length of Stay: 10 days

Channels

- Word of Mouth
- Internet

Tourist | Family

Looking For

- Lots of details and historical information
- Additional relevant information about the location
- A thorough tour that notifies her if she misses a site

Frustrations

- Not enough information in the tour
- Boring and overly formal tone
- Missing parts of the tour due to accidentally skipping a site or the audio cutting out

Bio

Mei is on vacation with her family in Japan. She did not do any research on where to visit during her trip. Mei has some experience with audio tours and is fairly interested in them. She is fairly interested in the idea of a GPS based audio tour. Her ideal audio tour would have a passionate tone of voice and lots of thorough and detailed information.

Willingness to Pay

JP¥ 760

Interest in Audio Tours

Interest in GPS Tours

Experience Satisfaction

Likeliness to Recommend

Enough Information?

Age: 38
Gender: Female
Country of Origin: Australia
Length of Stay: 6 - 17 days

"I want a tour that is brief, fast, fun, and humorous with information that I wouldn't have found otherwise."

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Gender: Female
Country of Origin: China
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Willingness to Pay

JP¥ 425

Enough Information?

No ☐ Mostly ☐ Yes ■

Frustrations

- Too much talking
- Too many forgettable dates and facts

Willingness to Pay

JP¥ 760

Enough Information?

No ■ Mostly ☐ Yes ☐

Frustrations

- Not enough information in the tour
- Boring and overly formal tone

Interest in Audio Tours
Low
High
0 1 2 3 4 5
Interest in GPS Tours
Low
High
0 1 2 3 4 5 6 7 8 9

Interest in Audio Tours
Low
High
0 1 2 3 4 5
Interest in GPS Tours
Low
High
0 1 2 3 4 5 6 7 8 9

Experience Satisfaction
Low
High
0 1 2 3 4 5 6 7 8 9
Likeliness to Recommend
Low
High
0 1 2 3 4 5

Experience Satisfaction
Low
High
0 1 2 3 4 5 6 7 8 9
Likeliness to Recommend
Low
High
0 1 2 3 4 5

RECOMMENDATIONS

Core Recommendations

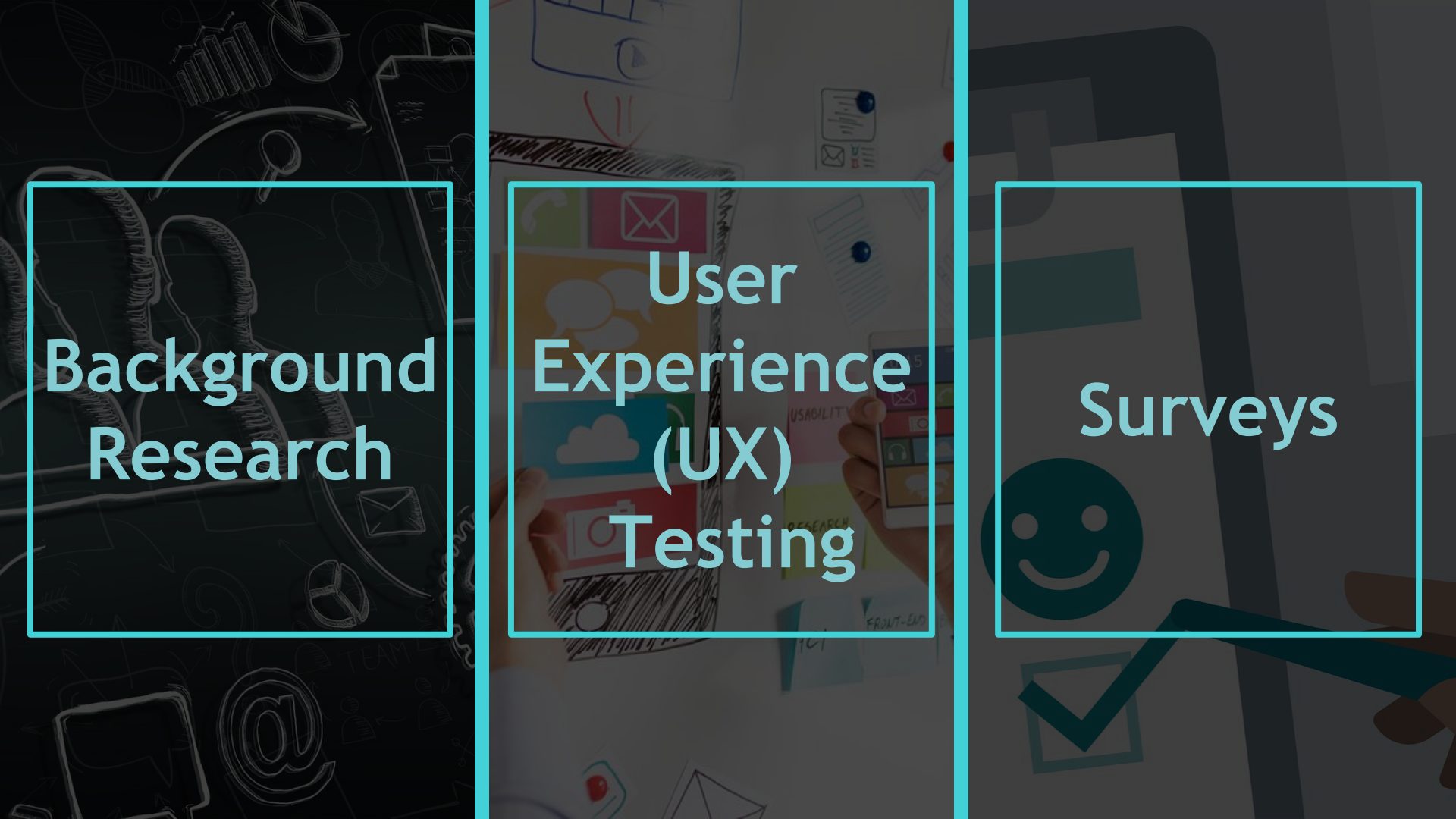
01 Give the User the Ability to Control Audio (and Read It)

02 Offer Different Versions of the Tour

03 Add an Optional Additional Information Feature

04 Improve GPS Reliability of the App

05 Product Pricing


Background Research
User Experience (UX) Testing
Surveys

Core Recommendations

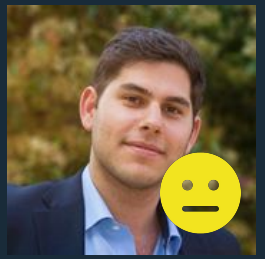
01 Give the User the Ability to Control Audio (and Read It)

Sticking Point Users Can Miss Information in Audio

Sticking Point Product Limits User Interaction

Profile A

Profile B


Profile C

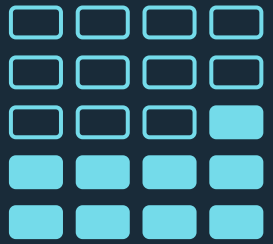
Profile D

Profile E

Profile F

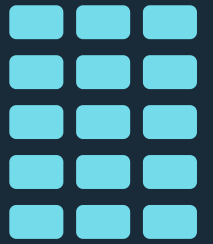
Sticking Point

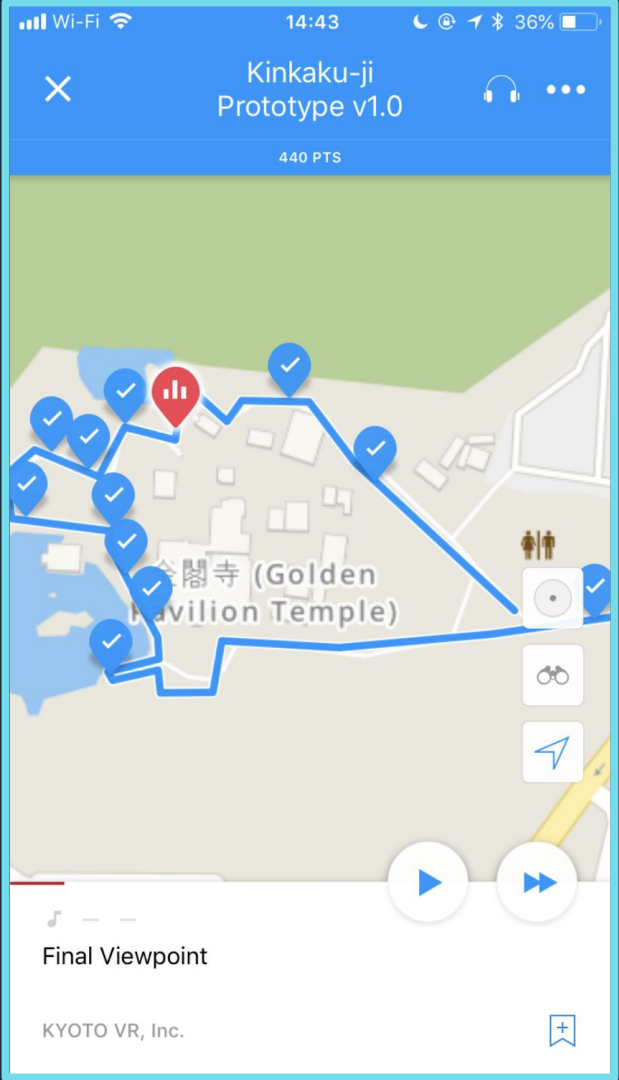
Users Can Miss Information in Audio

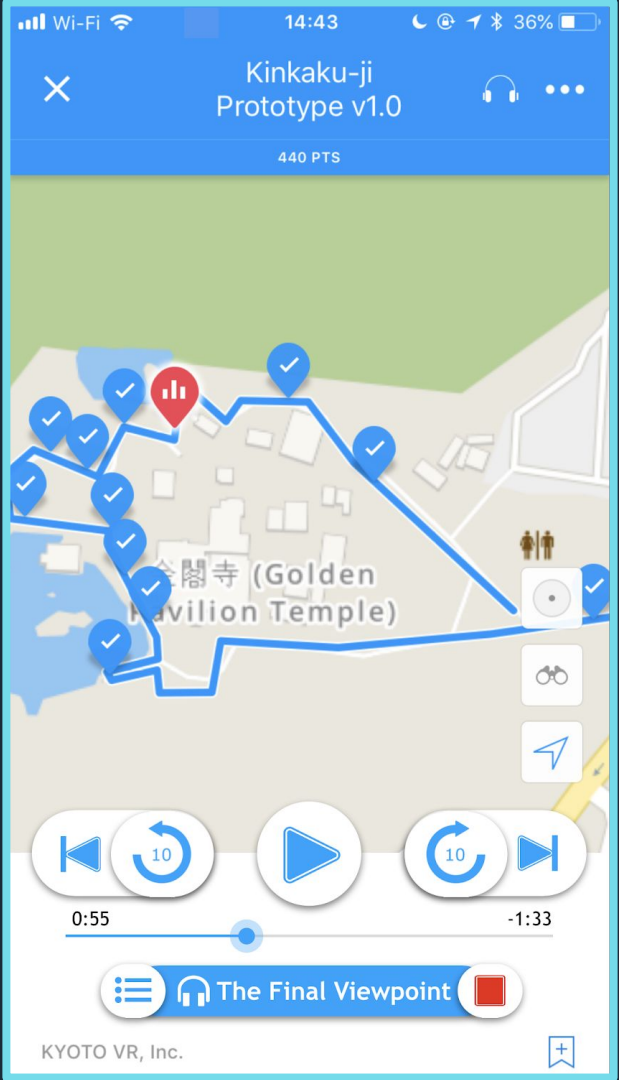
Issue	Potential Causes	Users
Users Often Miss Key Audio Points	Distractions Unexpected Phone Call Misdirected Focus	 9/20

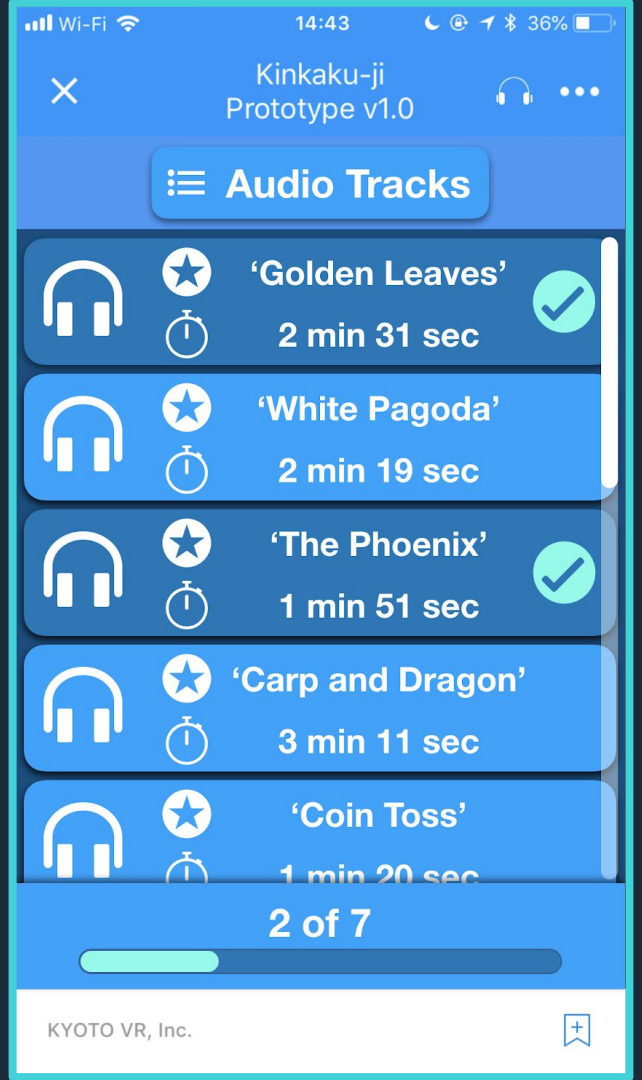
Sticking Point

Product Limits User Interaction

Issue	Potential Causes	Users
Product Restricts Groups	Headphones Limit Talking Some Users Move Faster Than Others	 15/15


Wi-Fi
14:43
36%
Kinkaku-ji
Prototype v1.0
440 PTS
Final Viewpoint
KYOTO VR, Inc.


Wi-Fi
14:43
36%
Kinkaku-ji
Prototype v1.0
440 PTS
金閣寺 (Golden
Pavilion Temple)
10
10
0:55
-1:33
The Final Viewpoint
KYOTO VR, Inc.


Wi-Fi
14:43
36%
Kinkaku-ji
Prototype v1.0
Audio Tracks
‘Golden Leaves’
2 min 31 sec
‘White Pagoda’
2 min 19 sec
‘The Phoenix’
1 min 51 sec
‘Carp and Dragon’
3 min 11 sec
‘Coin Toss’
2 of 7
KYOTO VR, Inc.

Core Recommendations

02 Offer Different Versions of the Tour

Sticking Point Different Users Want Different Tour Versions

Profile A

Profile B

Profile C

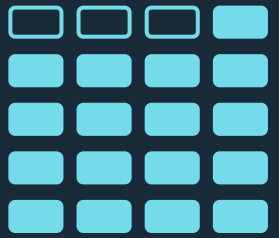
Profile D

Profile E

Profile F

Sticking Point

Different Users Want Different Tour Versions

Issue	Potential Causes	Users
Certain People Want to Hear More About Different Things	Different Backgrounds Different Interests	 17/20

Wi-Fi 14:43 36%

Kinkaku-ji
Prototype v1.0

Personalize your experience

What would you like to hear about?

- Base Tour
- Architecture
- History
- Cultural Background
- Anecdotes
- Modern Day Significance

15 min 27 sec

Back | Continue

KYOTO VR, Inc.

Wi-Fi 14:43 36%

Kinkaku-ji
Prototype v1.0

Personalize your experience

What would you like to hear about?

- Base Tour ✓
- Architecture
- History ✓
- Cultural Background ✓
- Anecdotes
- Modern Day Significance

15 min 27 sec + 9 min 14 sec

Back Continue

KYOTO VR, Inc.

Core Recommendations

03 Add an Optional Additional Information Feature

Sticking Point Lack of Information

Profile A

Profile B

Profile C

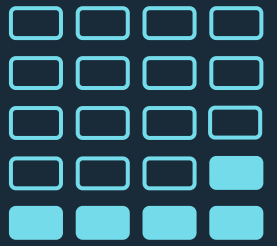
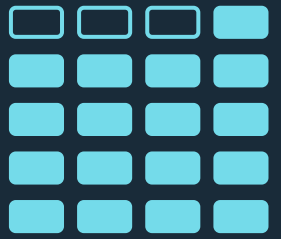
Profile D

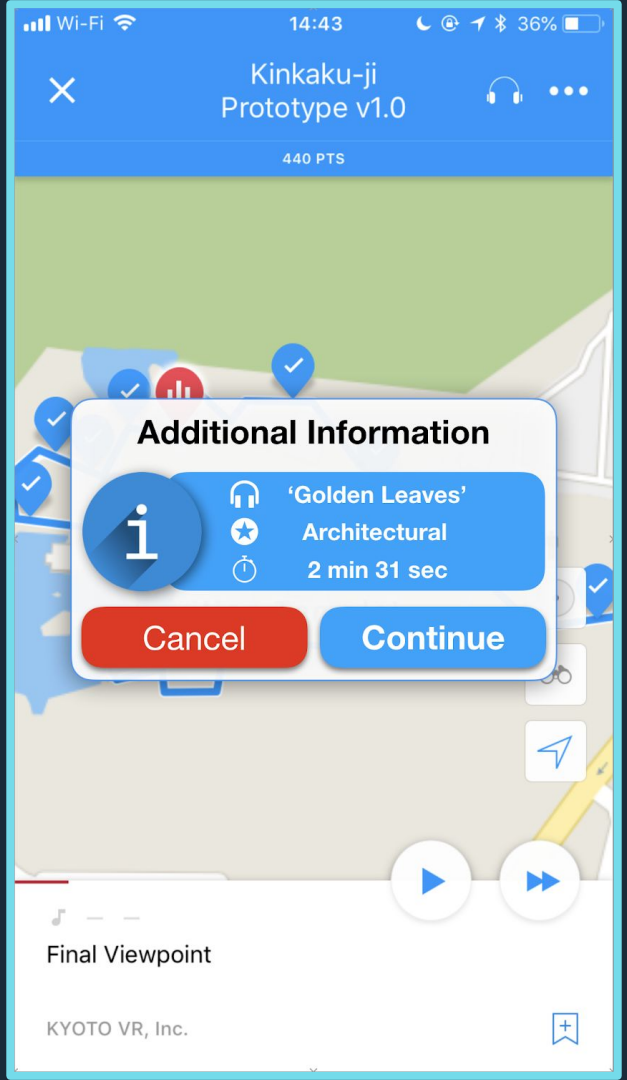
Profile E

Profile F

Sticking Point

Lack of Information

Issue	Potential Causes	Users
Users Felt There Wasn't Enough Information	Not Enough Variety of Info Simply Not Enough Content	 5/20  17/20


Wi-Fi
14:43
36%
Kinkaku-ji
Prototype v1.0
440 PTS
Additional Information
'Golden Leaves'
Architectural
2 min 31 sec
Cancel
Continue
Final Viewpoint
KYOTO VR, Inc.

Core Recommendations

04 Improve GPS Reliability of the App

Sticking Point GPS Inaccuracy

Profile A

Profile B

Profile C

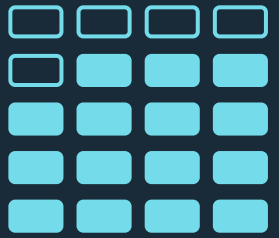
Profile D

Profile E

Profile F

Sticking Point

GPS Inaccuracy

Issue	Potential Causes	Users
GPS Misalignment	Outdated Phone Technology	 15/20
	Lack of WiFi Hotspots	
	Small Trigger Area	
	Radio Interference	

Core Recommendations

05 Product Pricing

Sub Recommendation: Free Trial Tour

Recommended Price: ¥400-¥650

Profile A

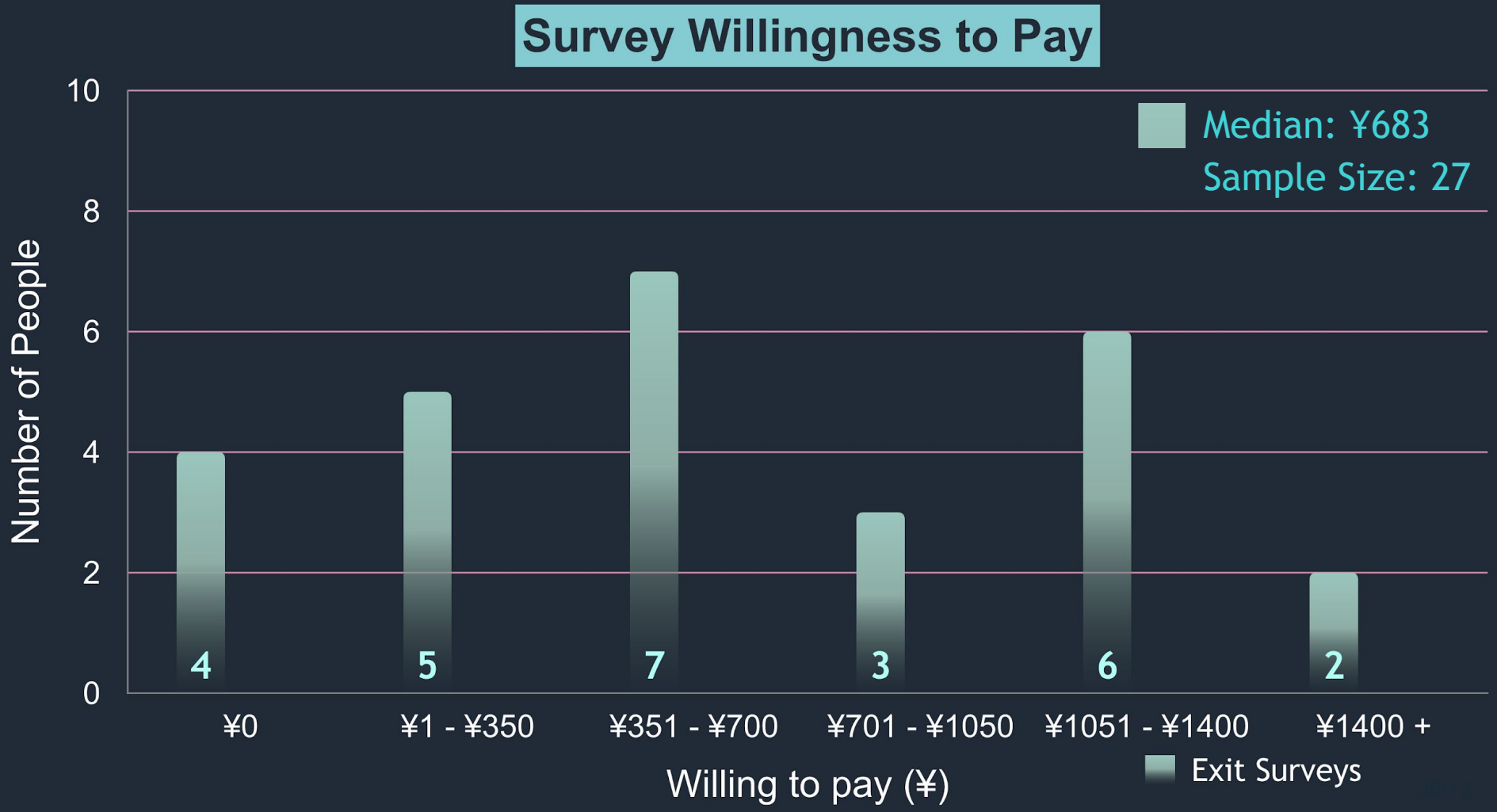
Profile B

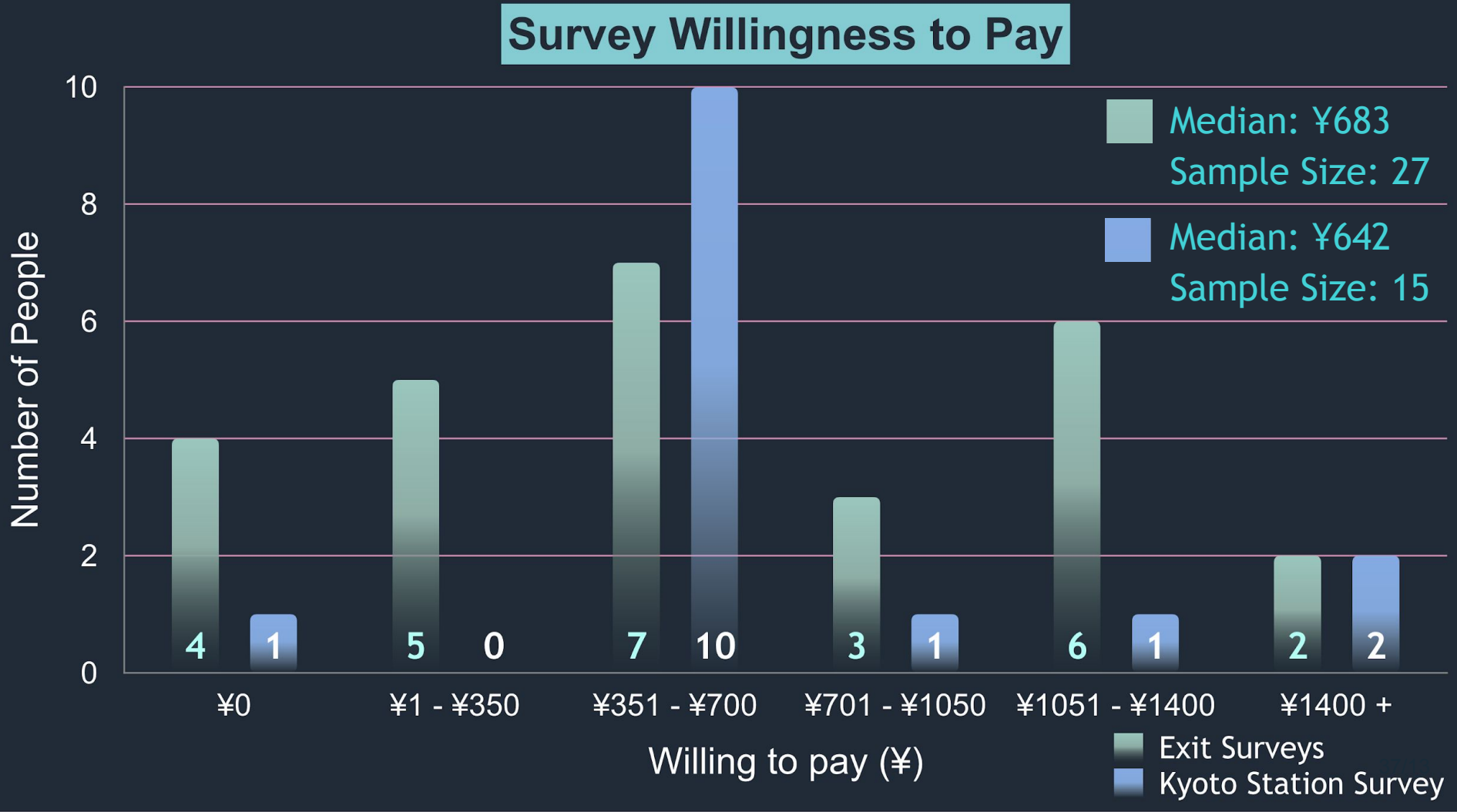
Profile C

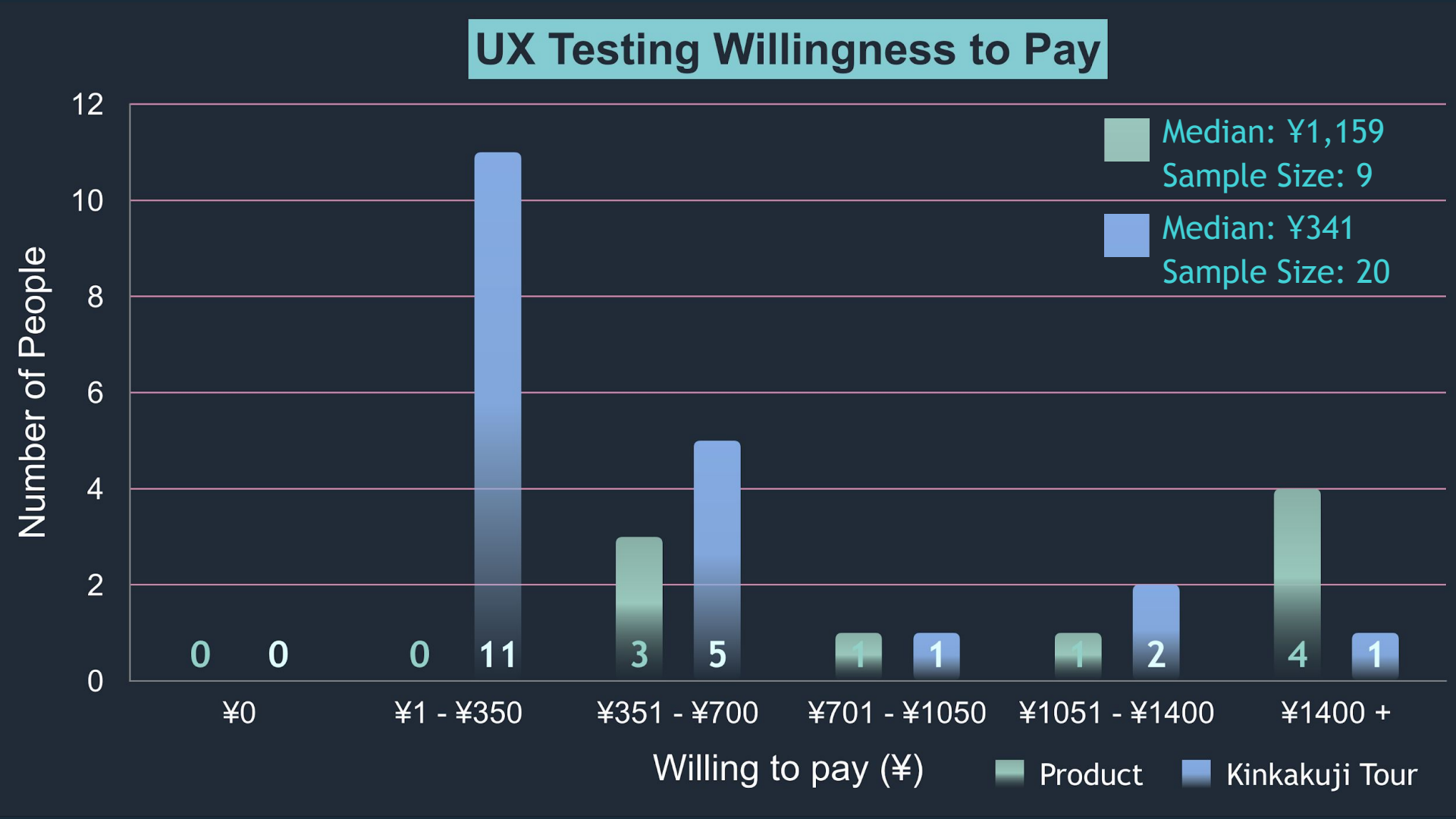
Profile D

Profile E

Profile F


Survey Willingness to Pay
Median: ¥683
Sample Size: 27
Number of People
10
8
6
4
2
0
4
5
7
3
6
2
¥0
¥1 - ¥350
¥351 - ¥700
¥701 - ¥1050
¥1051 - ¥1400
¥1400 +
Willing to pay (¥)
Exit Surveys


Survey Willingness to Pay
Median: ¥683
Sample Size: 27
Median: ¥642
Sample Size: 15
Number of People
10
8
6
4
2
0
4
1
5
0
7
10
3
1
6
1
2
2
¥0
¥1 - ¥350
¥351 - ¥700
¥701 - ¥1050
¥1051 - ¥1400
¥1400 +
Willing to pay (¥)
Exit Surveys
Kyoto Station Survey


UX Testing Willingness to Pay
Median: ¥1,159
Sample Size: 9
Median: ¥341
Sample Size: 20
Number of People
12
10
8
6
4
2
0
0
0
0
11
3
5
1
1
1
2
4
1
¥0
¥1 - ¥350
¥351 - ¥700
¥701 - ¥1050
¥1051 - ¥1400
¥1400 +
Willing to pay (¥)
Product
Kinkakuji Tour

Sub Recommendation

Free Trial Tour

Recommended Price for Product: ¥550-¥1150

Recommended Price per Tour: ¥100-¥350

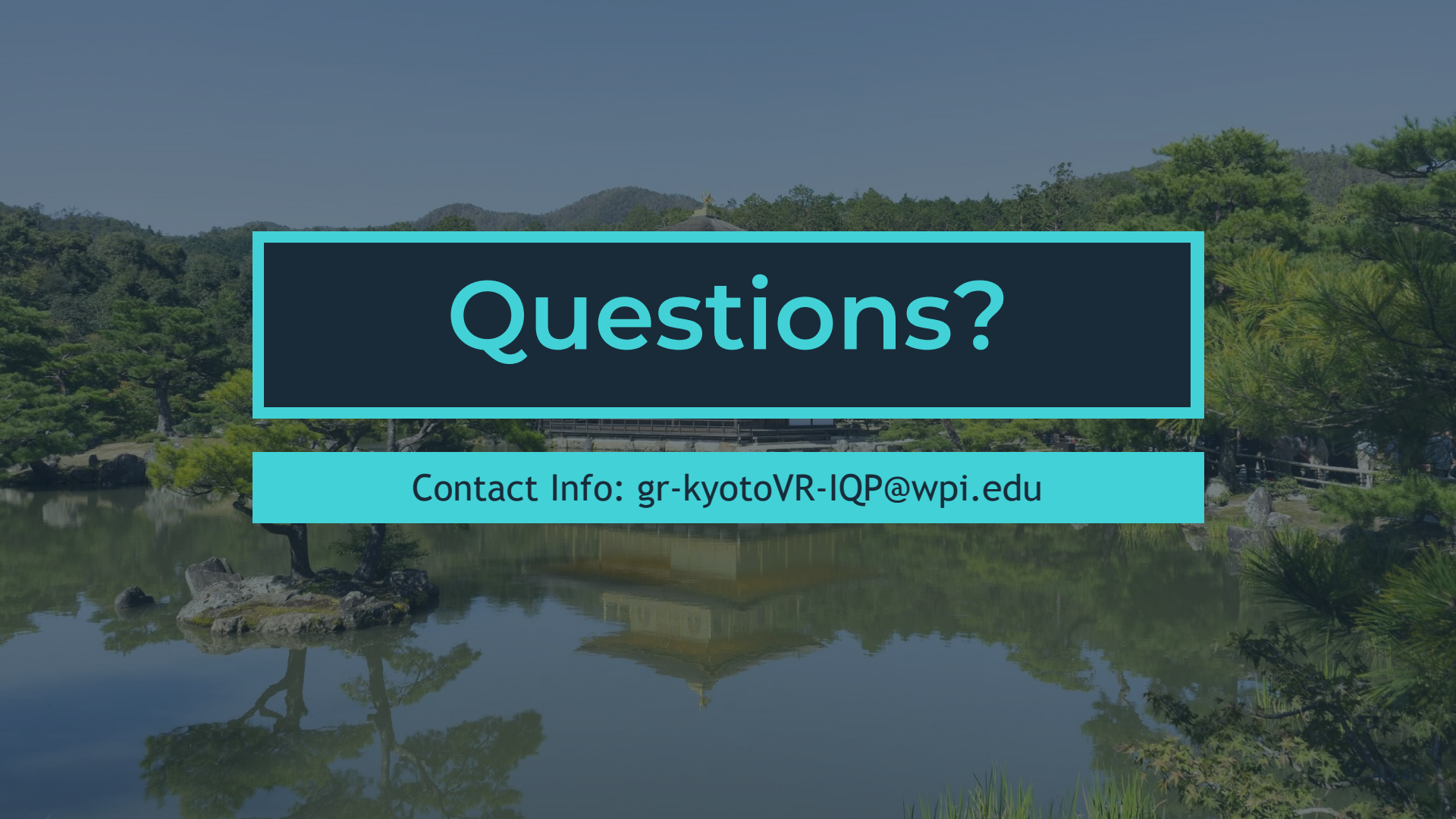
NEXT STEPS

Finished Product Testing And Improvement

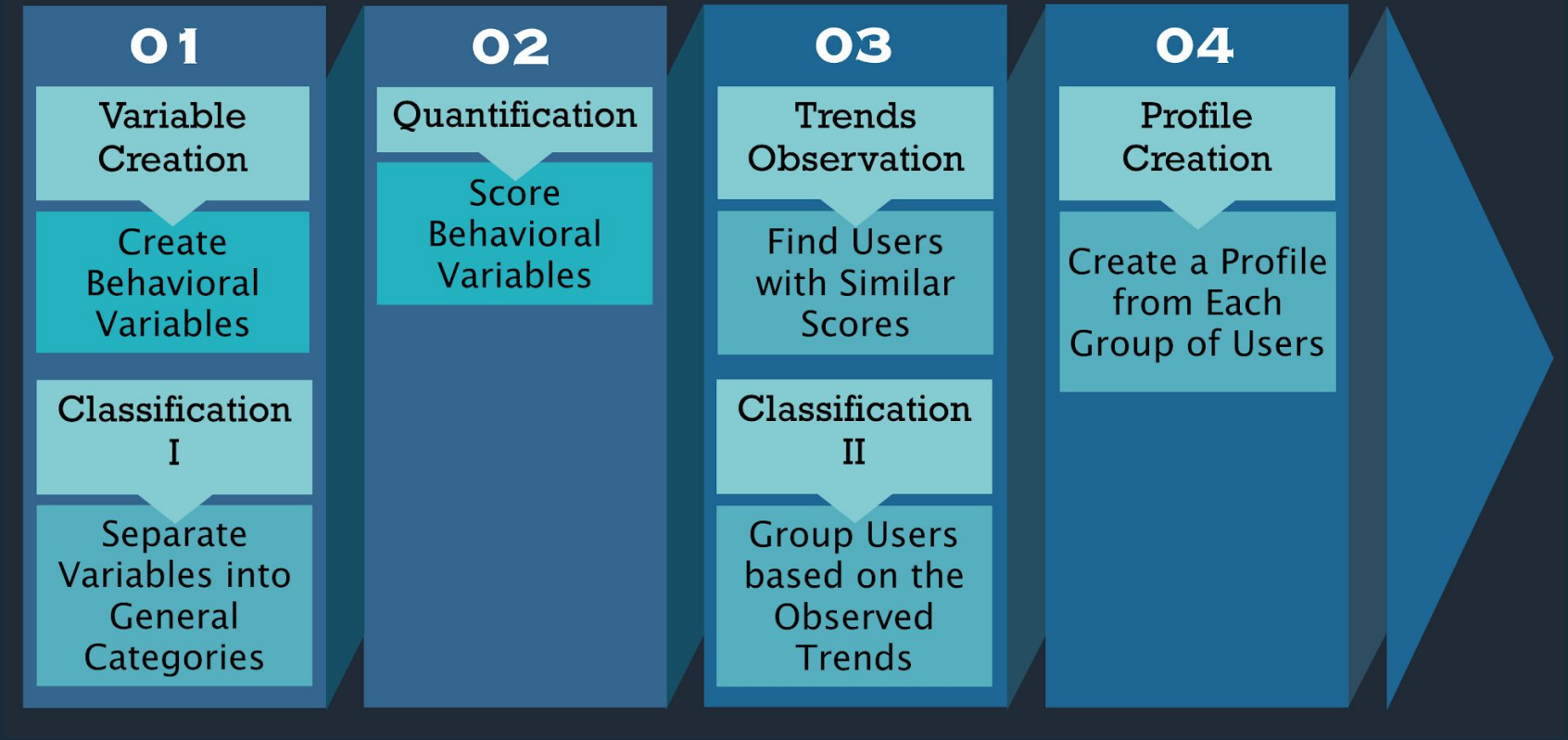
UI Design Improvement, Research, and Testing

Advertisement Campaign

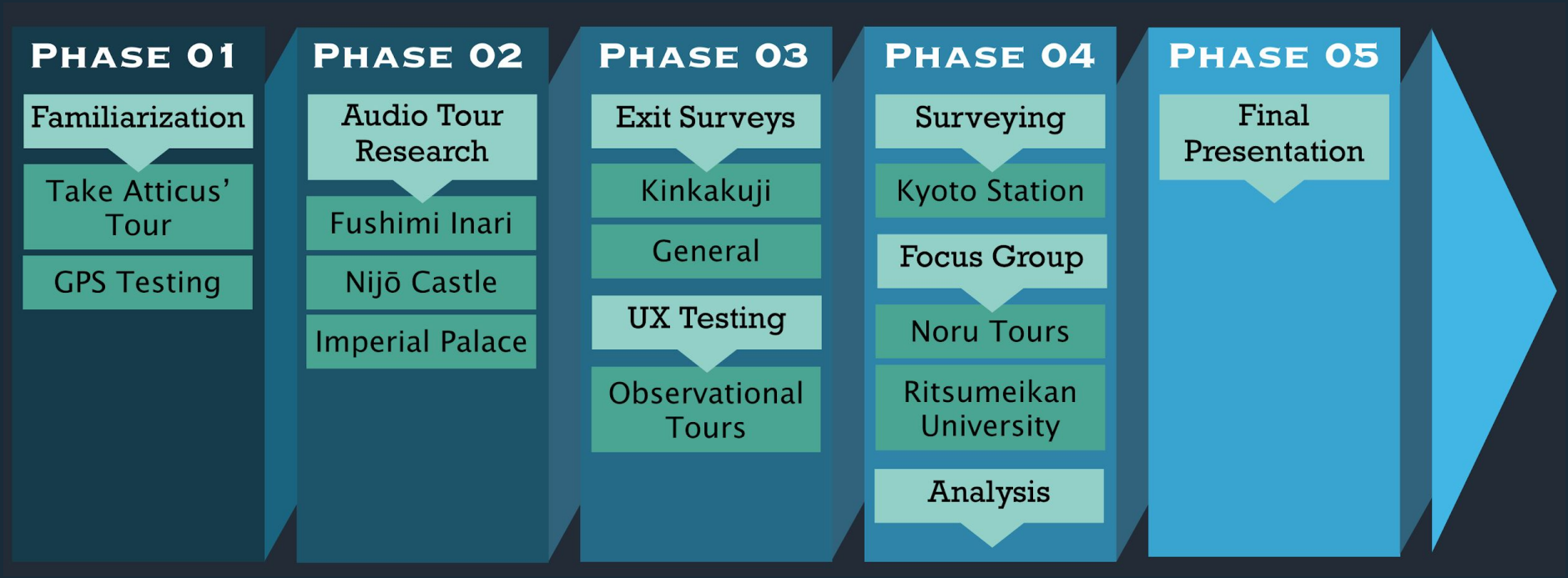
Product Expansion


Questions?
Contact Info: gr-kyotoVR-IQP@wpi.edu

User Profiles



Project Outline



User Profiles

Nature and Amount of Research

General - 0

Location - 1

Price - 2

Worth Seeing - 3

USER #	NATURE AND AMOUNT OF RESEARCH
1	0
3	1
4	0
5	N/A
7	0
8	3
9	1,2,3
10	0
13	1

Willingness to Pay

JP¥ 425 per site

Looking For

- Lots of details and historical information
- Additional relevant information about the location
- A thorough tour that notifies her if she misses a site

Frustrations

- Not enough information in the tour
- Boring and overly formal tone

"Having a lot of information gives the app value, otherwise it is not worth the money."

Profile F: Mei

Age: 45
Gender: Female
Country of Origin: China
Length of Stay: 10 days

Willingness to Pay

JP¥ 425 per site

Looking For

- Unique information which can't be found elsewhere
- Interesting stories with information about culture and architecture that she will remember later on

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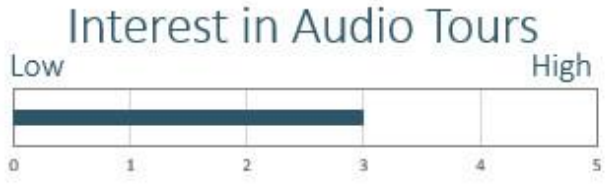


Sticking Points

01 GPS Inaccuracy

02 Unclear Directions

03 English Only

04 The Uncommonality of Downloading Tourist Apps

05 Different Users Want Different Tones of the Tour

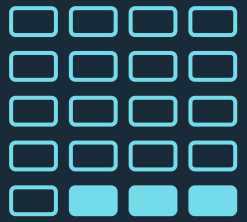
06 This Form of Audio Tour Limits Human Interaction

07 Lack of Information

Sticking Points

04 The Uncommonality of Downloading Tourist Apps

Issue	Potential Causes	Source
People usually don't download travel apps	Google Travel Guide - Lonely Planet	UX Testing



3/20