

12:30 - 12:50

**MSX Final
Presentation**
@3301

Our development journey
Concept video screening
Documentations

12:50 - 1:20

MR Demo
@3404 Playtest Room

Future Travel Experience Demo
on our physical mockup

1:20 - 1:30

EcoVision
@3301

Learn about helping the
environment in VR

1:30 - 1:40

Haptic Waves
@3306

Sensory driven design through haptics

1:40 - 1:50

Xhaler
@3301

Uses breathing as a core mechanic to
enhance immersion and interactivity

1:50 - 2:00

Mic Check
@3204

Rap battle against AI

2:00 - 2:30

Interactive Story Lab
@Cavern

Immersive Display, featuring Screening
of film Anamnesis

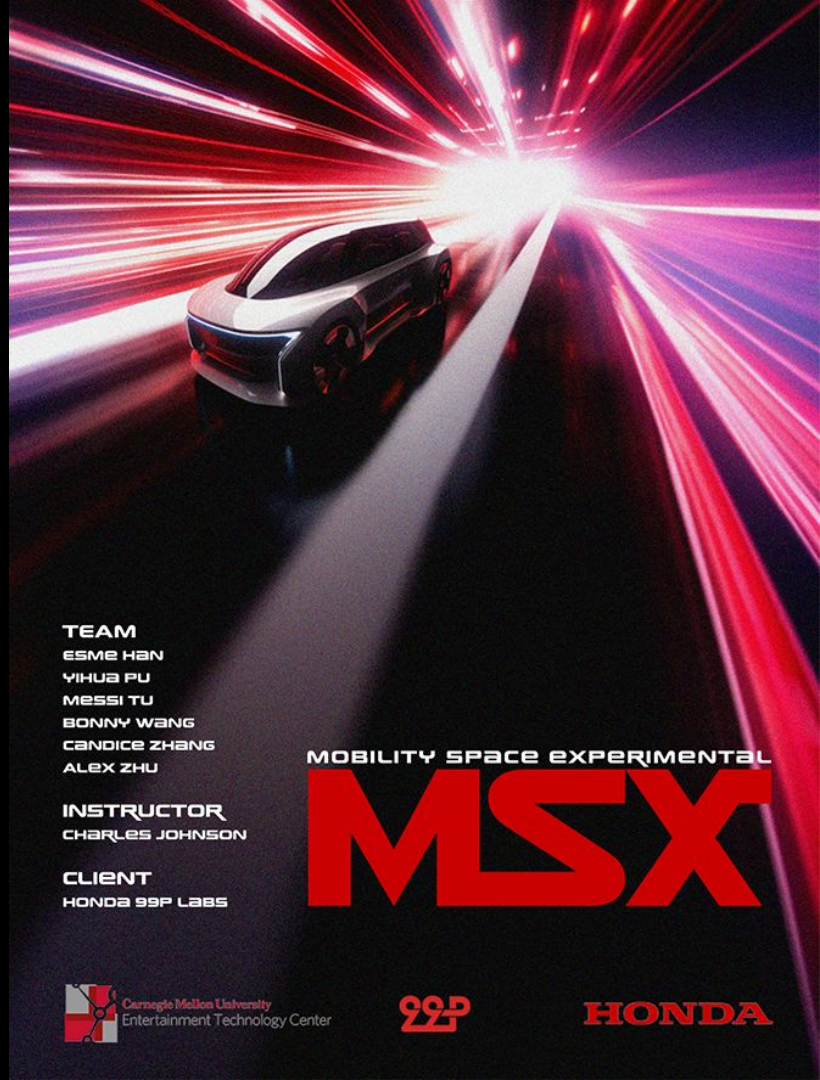


HONDA



MSX

MOBILITY SPACE EXPERIMENTAL



TEAM

ESME HAN
YIHUA FU
MESSI TU
BONNY WANG
CANDICE ZHANG
ALEX ZHU

INSTRUCTOR
CHARLES JOHNSON

CLIENT
HONDA 99P LABS

MOBILITY SPACE EXPERIMENTAL

MSX



Carnegie Mellon University
Entertainment Technology Center



HONDA



**Bonny
Wang**

Programmer



**Alex
Zhu**

Producer



**Yihua
Pu**

Game Designer



**Messi
Tu**

Communication



**Candice
Zhang**

Tech Artist



**Esme
Han**

Tech Artist



**Charles
Johnson**

Instructor



Honda 99P Labs

Client



Project Briefing

Demo Experience Tutorial

Demo Try-on

Project Briefing

Demo Experience Tutorial

Demo Try-on

“Are we there yet?”



Project Briefing



Research & Ideation



“Imagine and define the future in-car experiences so that a trip is not only from point A to point B.”

As you remember...

2nd & 3rd row passengers
(8-passenger Honda Vehicle)

2040 in North America

Full Self-driving (L5)



Tech Research



Car

Self-Driving

Seat Layout

Seat Functionalities



Car

Self-Driving

Seat Layout

Seat Functionalities



AR/MR

Wearable

Spatial Computing

Interaction



Car

Self-Driving

Seat Layout

Seat Functionalities

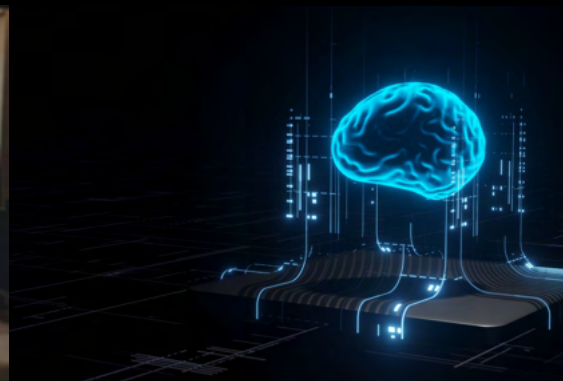


AR/MR

Wearable

Spatial Computing

Interaction



AI

Ownership

AIGC

Customization





User Research

Parent Persona

Web Developer

32 yrs old

5 yrs old daughter / 9 yrs old son /

30 yrs old wife / Himself



Driving
Purpose

Go To Work

25 mins

Pick Up Kids

15 mins

Visit Parents

3 hrs

Road Trip

4-6 hrs

Interests



Audio Book



Video Game



Baseball



Family Travel

Child Persona

9 yrs old

5 yrs old sister / 30 yrs old mother /
32 yrs father / Himself



Riding
Scenarios

Go To School

15 mins

Park Trip

15 mins

Visit Grandparents

3 hrs

Road Trip

4-6 hrs

Interests



Audio Book



Board Game



Drawing



Dinosaur

Painpoint

1

People want private space

2

Children can't keep quiet
and stay in certain position

3

People are isolated, family
members can't interact

4

Car ride process waste a
lot of time

5

People interact with
outside environment

Painpoint

Opportunities

1

People want private space

Utilizing VR to create virtual boundary for people

2

Children can't keep quiet and stay in certain position

Entertainments using future technologies

3

People are isolated, family members can't interact

Creating collaborative activities suitable for all family members

4





Car ride process waste a lot of time

Enabling people have meaningful time spending together

5

People interact with outside environment

Finding ways to connect people with moving environment

Painpoint	Opportunities	Possible Solutions
1 People want private space	Utilizing VR to create virtual boundary for people	Fully immersive VR 
2 Children can't keep quiet and stay in certain position	Entertainments using future technologies	<div> <div> Novel experience using cars' motions </div> <div> Car Seat Functionalities </div> </div>
3 People are isolated, family members can't interact	Creating collaborative activities suitable for all family members	Party games that involve multiple players 
4 Car ride process waste a lot of time	Enabling people have meaningful time spending together	Educational game/ creative activities can be developed 
5 People interact with outside environment	Finding ways to connect people with moving environment	MR allows people to explore the space / relate car experience with destination 

“A Mixed Reality In-Car Experiences Concept Design for North American Families in 2040”

Featuring **an edutainment experience demo**
during a family road trip to Yellowstone National Park



Why making this edutainment experience?

Why making this edutainment experience?



Core Values

- ❑ Family connection
- ❑ Spend meaningful time together in car (edutainment)

Why making this edutainment experience?



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- ❑ Family connection
- ❑ Spend meaningful time together in car (edutainment)



Technologies

- ❑ To show future possibilities
(Seat, AR/MR, AIGC)

Why making this edutainment experience?



Core Values

- ❑ Family connection
- ❑ Spend meaningful time together in car (edutainment)



Technologies

- ❑ To show future possibilities (Seat, AR/MR, AIGC)



Destination

- ❑ Destination related content
- ❑ Filled with curiosity and anticipation before arrival

Departure



During the trip



Arriving



Departure



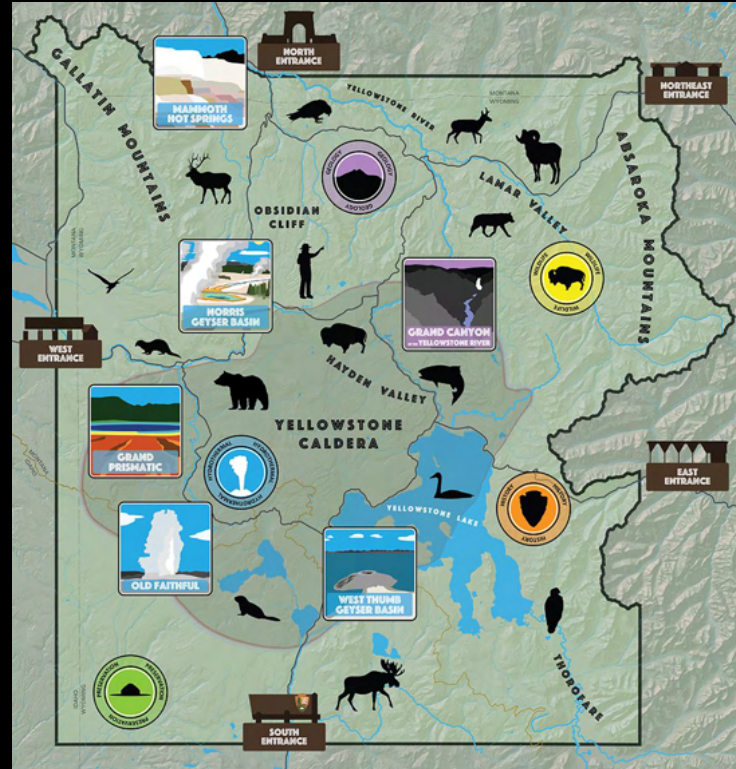
During the trip



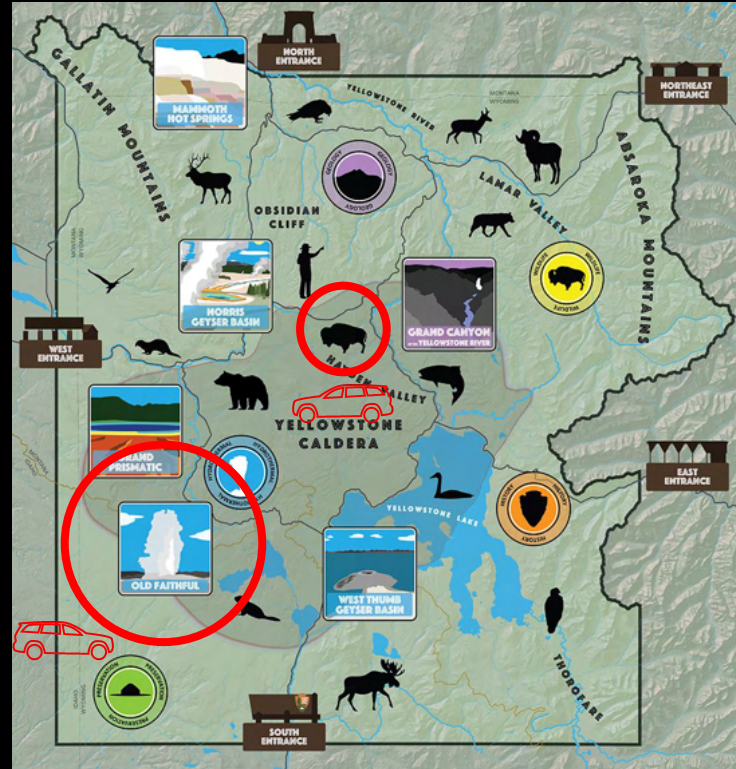
Arriving



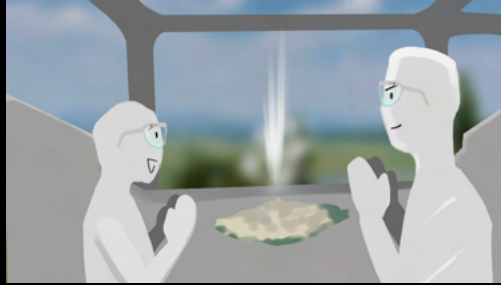
Destination - Yellowstone National Park



Destination - Yellowstone National Park



Edutainment Experiences



Geyser Experience

Learn the geographical
facts about the Old Faithful
Geyser and set off the
geyser together



Bison Experience

Learn the animal habits and
feed the bison with the
right food

Project Briefing

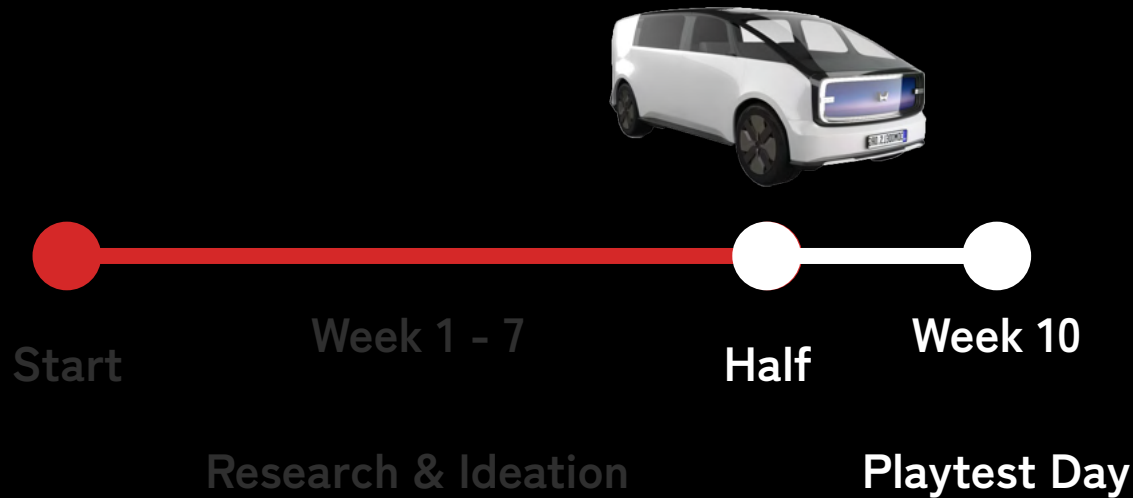


But...

“Are we there yet?”



Project Briefing



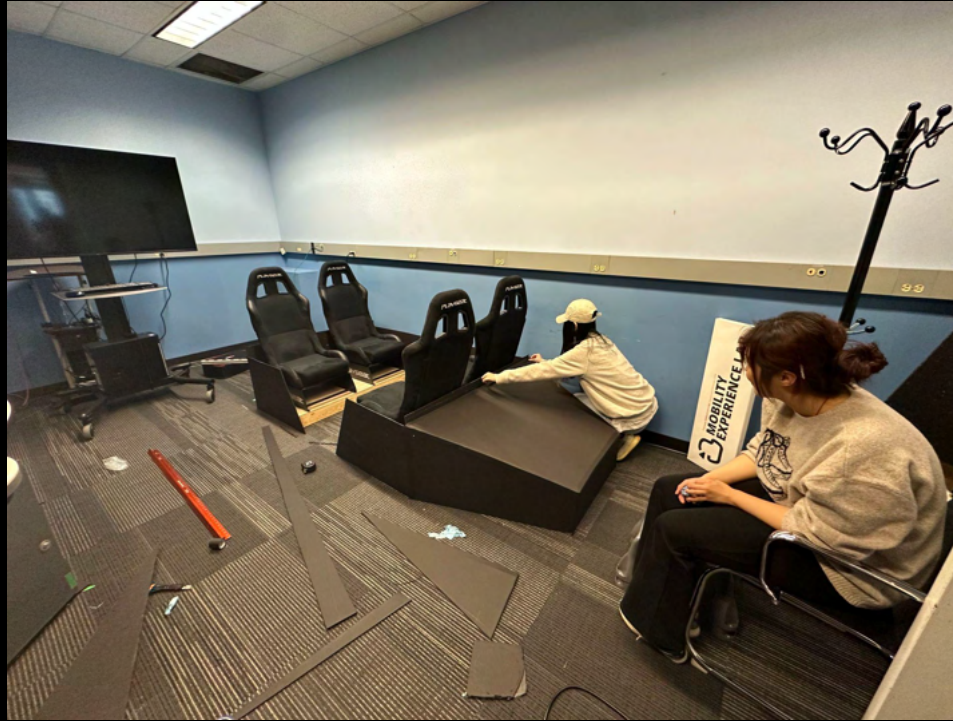
Playtest Environment Setup



Playtest Environment Setup



Playtest Environment Setup



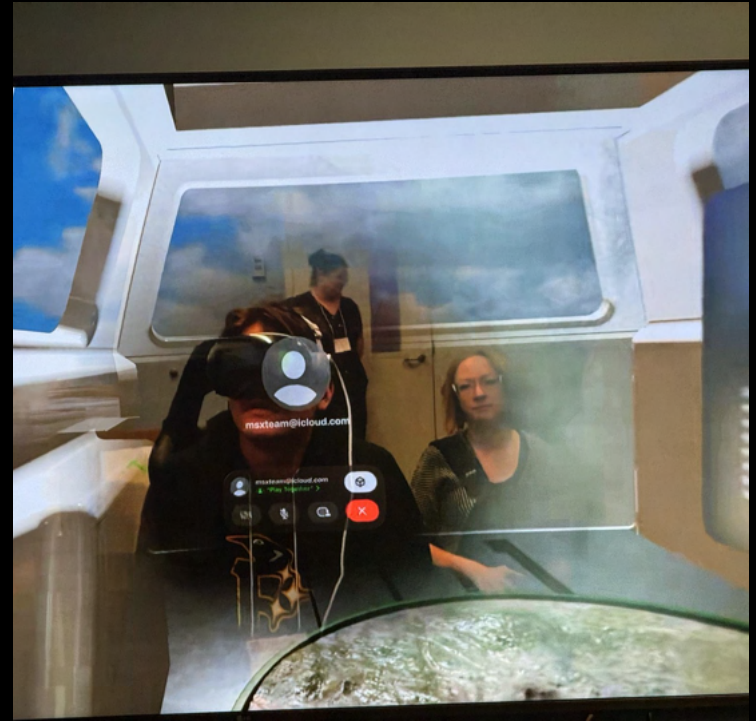
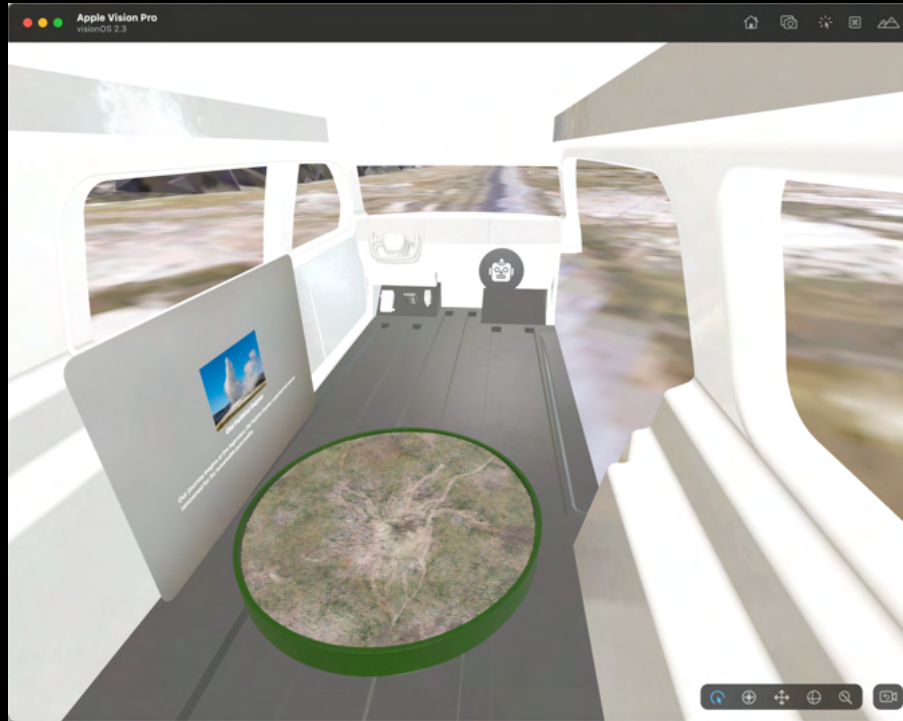
Playtest Environment



Playtest Environment



Playtest Day --- Geyser Setoff Experience



Playtest Day (Mar. 29th)



Playtest Day Takeaways

What could be improved:

- ❑ Our experience needs a **better flow pace** so that guests can capture all available information shown to them

Playtest Day Takeaways

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- ❑ Guidance (tutorial) to set off the geyser would be very helpful for guests **to understand what this experience is** and **what they should do**

Playtest Day Takeaways

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- ❑ Assets refinement and optimization are needed, such as car seats and door, to **make the experience feel realistic**

Playtest Day Takeaways

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- ❑ Guidance (tutorial) to set off the geyser would be very helpful for guests **to understand what this experience is** and **what they should do**
- ❑ Assets refinement and optimization are needed, such as car seats and door, to **make the experience feel realistic**
- ❑ **Setting up Apple Vision Pro for guests was very hard.** We need to find a way to facilitate all these procedures.



Project Briefing



But...

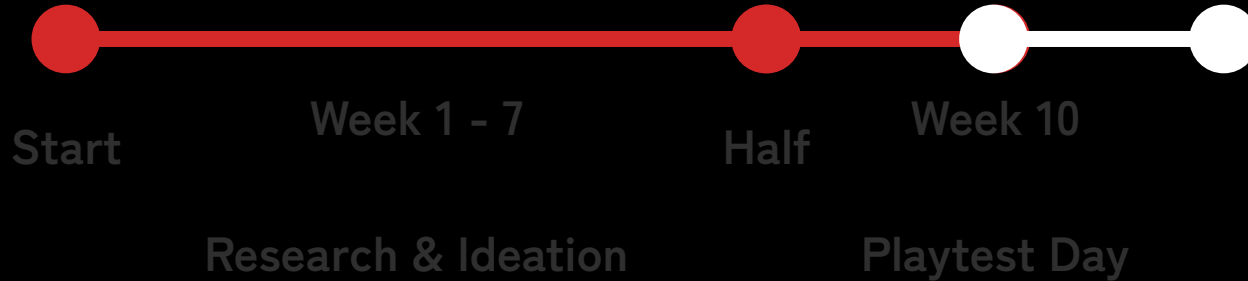
“Are we there yet?”



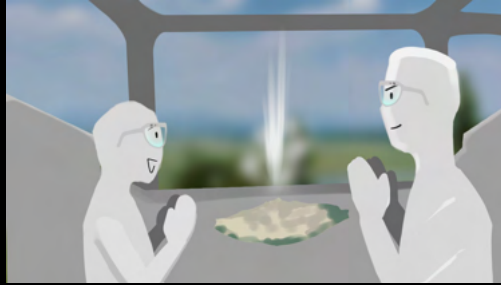
Project Briefing

Soft Opening

Week 12



Soft Opening Experiences



Geyser Experience

Learn the geographical
facts about the Old Faithful
Geyser and set off the
geyser together



Bison Experience

Learn the animal habits and
feed the bison with the
right food

Soft Opening (Apr. 10th)



Soft Opening (Apr. 10th)



Soft Opening (Apr. 10th)



Soft Opening Review

What went well:

- ❑ The bison walks closer to the car was magnificent. Players can pet the bison and feel the actual size of it.
- ❑ Sitting face-to-face is like the future
- ❑ Relevance to players' family road trips

Soft Opening Review --- Geyser Experience

What could be **improved**:

- ❑ **Too many texts and narrations.** It's more like watching a documentary instead of having an interactive experience.

Soft Opening Review --- Geyser Experience

What could be improved:

- ❑ **Too many texts and narrations.** It's more like watching a documentary instead of having an interactive experience.
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Soft Opening Review --- Geyser Experience

What could be improved:

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- ❑ The geyser sandbox is too small to capture the feeling of a geyser eruption, which makes it not exciting and not immersive
- ❑ The emergent meaning of tapping fingers does not feel like a geyser eruption trigger
- ❑ More social interactions and understandable experience flow

Soft Opening Review --- Bison Experience

What could be **improved**:

- ❑ It's difficult to **differentiate between the virtual and actual reality** during the experience

Soft Opening Review --- Bison Experience

What could be improved:

- ❑ It's difficult to differentiate between the virtual and actual reality during the experience
- ❑ Asset tweakings
(e.g., bison floating in the air, car pillar blocking the view, etc.)

Soft Opening Review --- Bison Experience

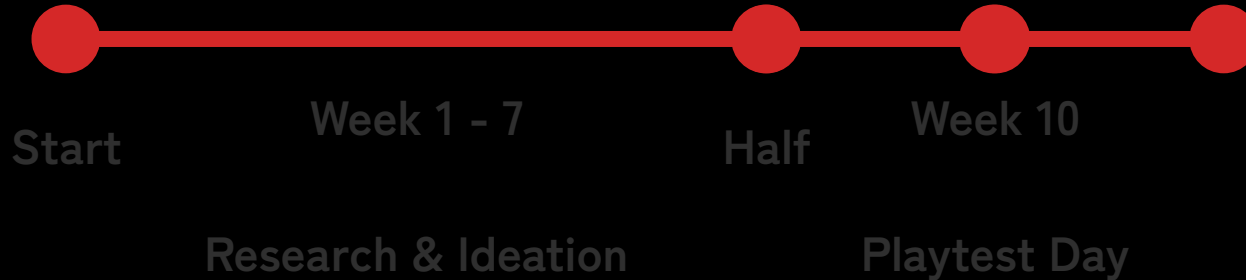
What could be improved:

- ❑ It's difficult to differentiate between the virtual and actual reality during the experience
- ❑ Asset tweakings
(e.g., bison floating in the air, car pillar blocking the view, etc.)
- ❑ Leaving space for social interactions

Project Briefing

Soft Opening

Week 12



But...

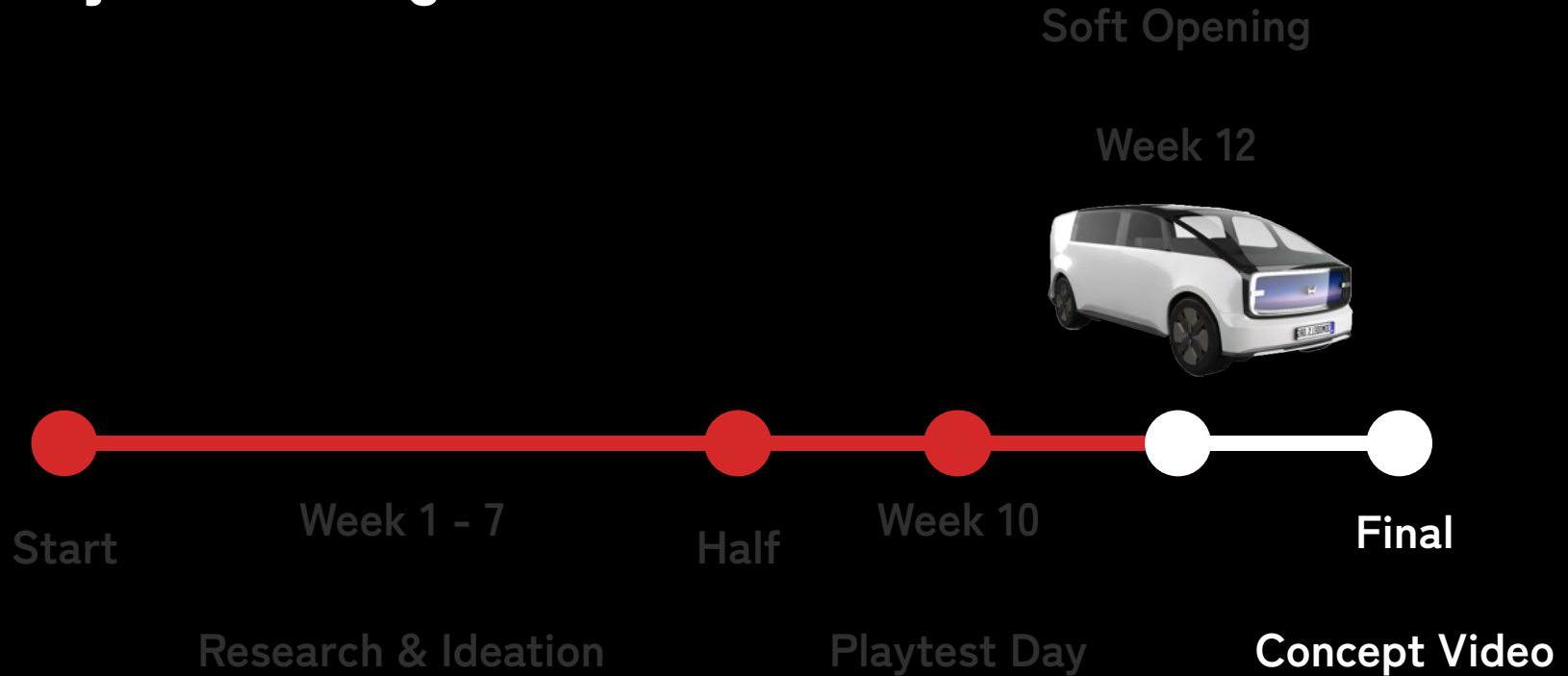
“Are we there yet?”

Soft Opening

Week 12

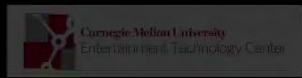


Project Briefing



MSX · Honda Experience

Concept Video



Development Breakdown

Mimicking the Future

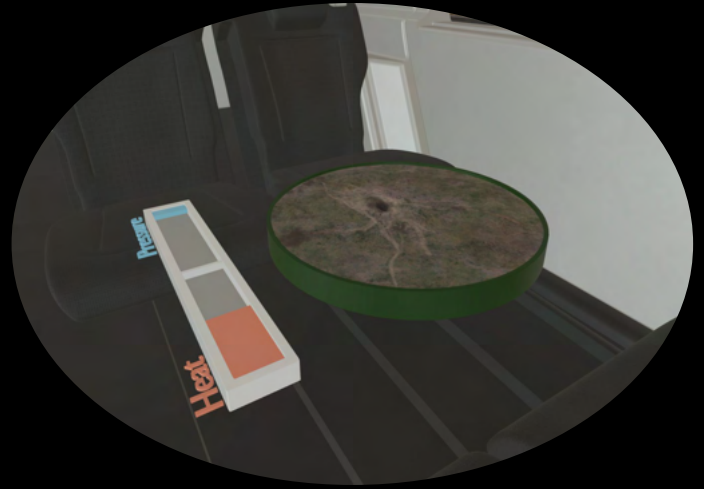


Reality Composer Pro

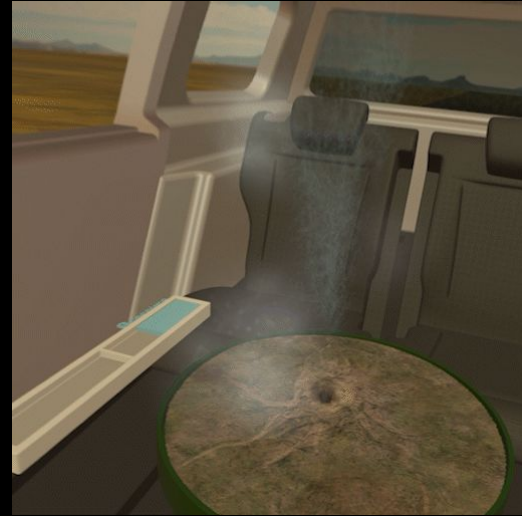
Two-player game



Old Faithful Geyser Experience



Geyser - Interaction



Geyser - Educational Content

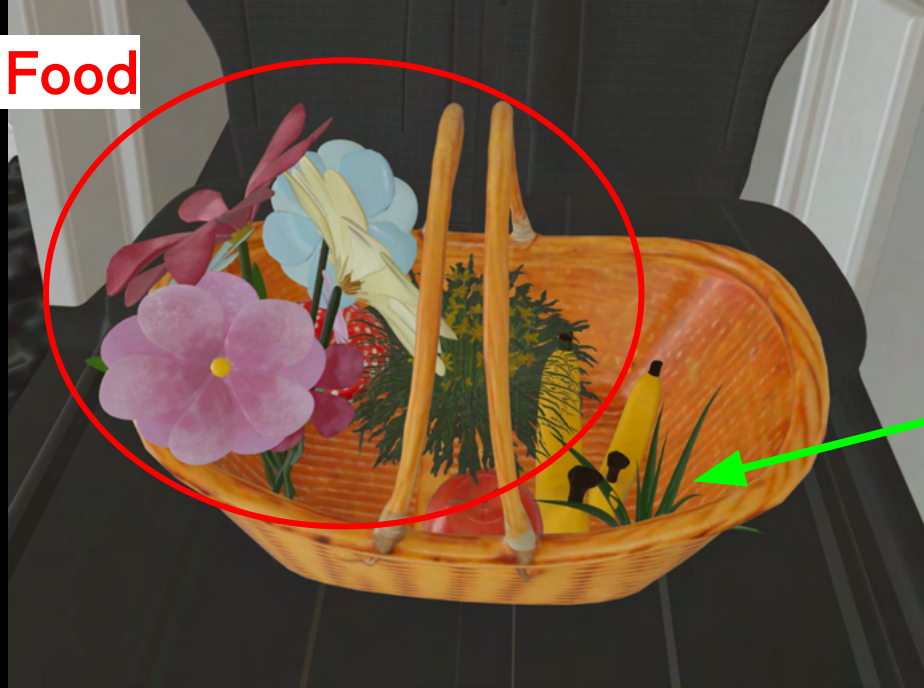


Bison Experience



Bison - Educational Content

Wrong Food



**The Only
Correct Food**

Bison - Interaction



Art



PBR



Real Map



AI Generated

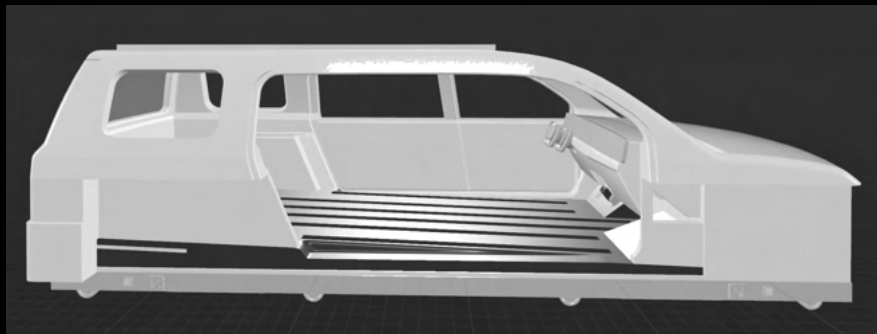
Art



Animation in RCP



Alpha Testing in RCP



Industrial Standard Model Polishing



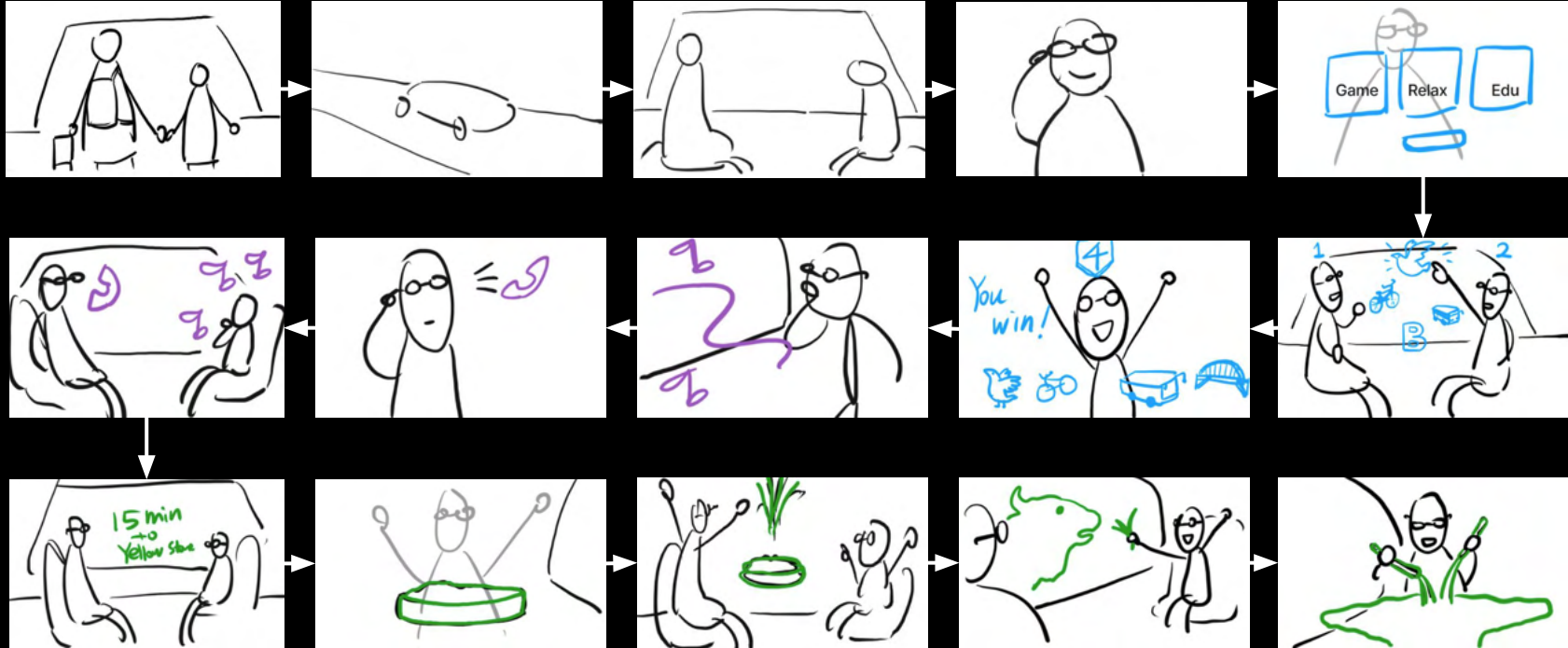
Particle System in RCP

Art

Bison Animation



Concept Video --- Storyboard



Concept Video --- Filming



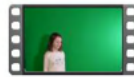
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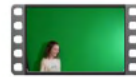
C0188



C0189



C0190



C0191



C0192



C0193



C0194



C0195



C0196



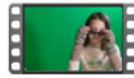
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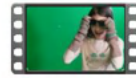
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C0200



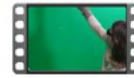
C0201



C0202



C0203



C0204



C0205



C0206



C0207



C0208



C0209



C0210



C0211



C0212



C0213



C0214



C0215



C0216



C0217



C0218

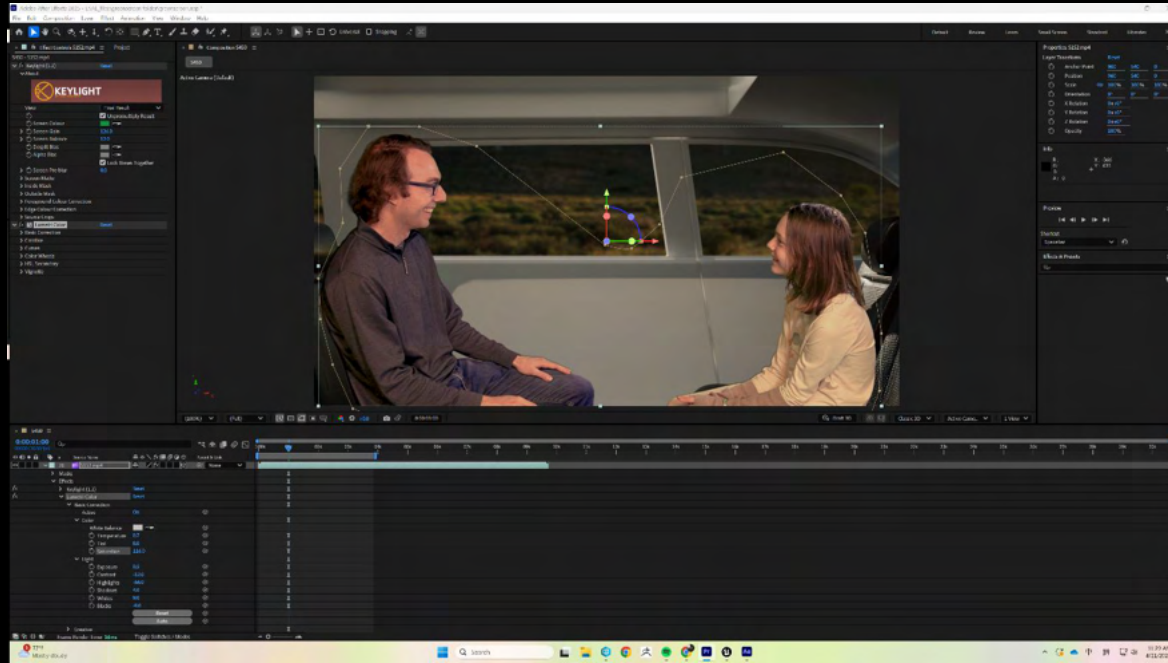


C0219

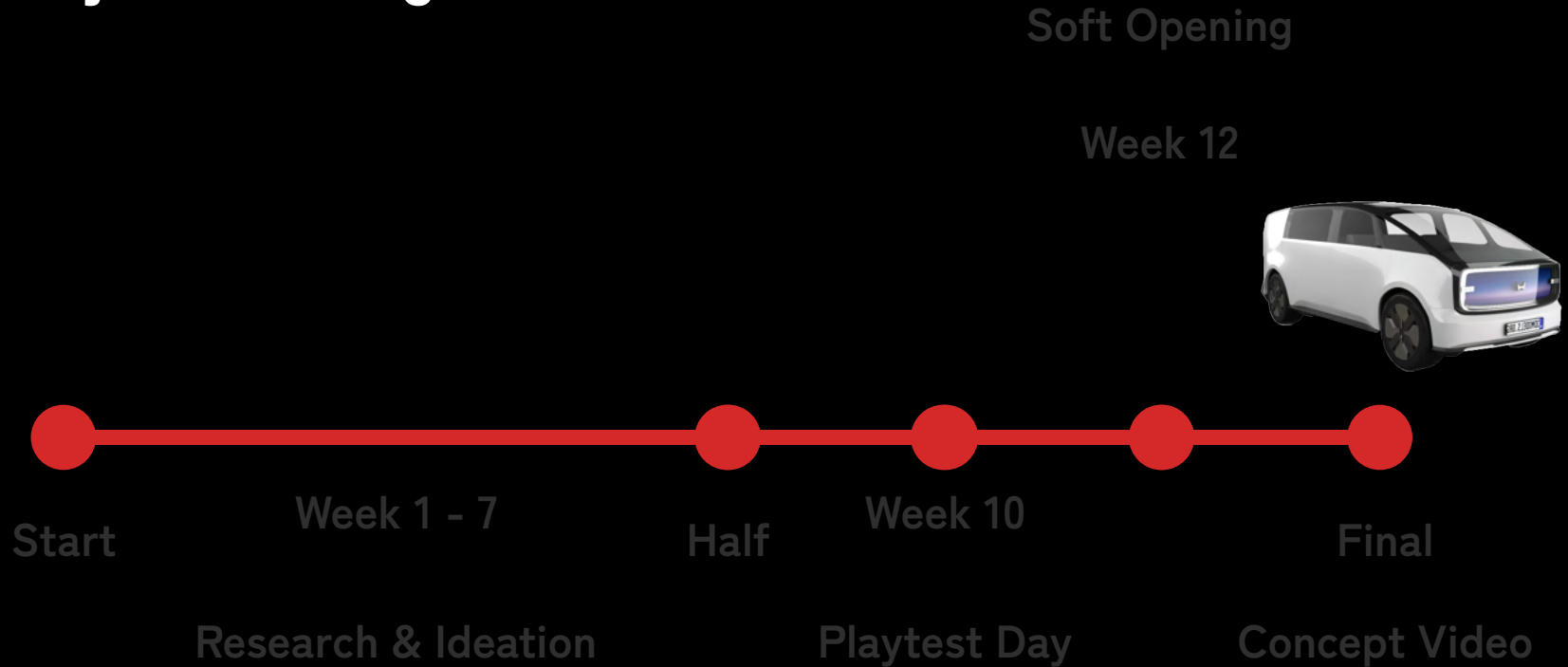


S2S4

Concept Video --- Editing



Project Briefing

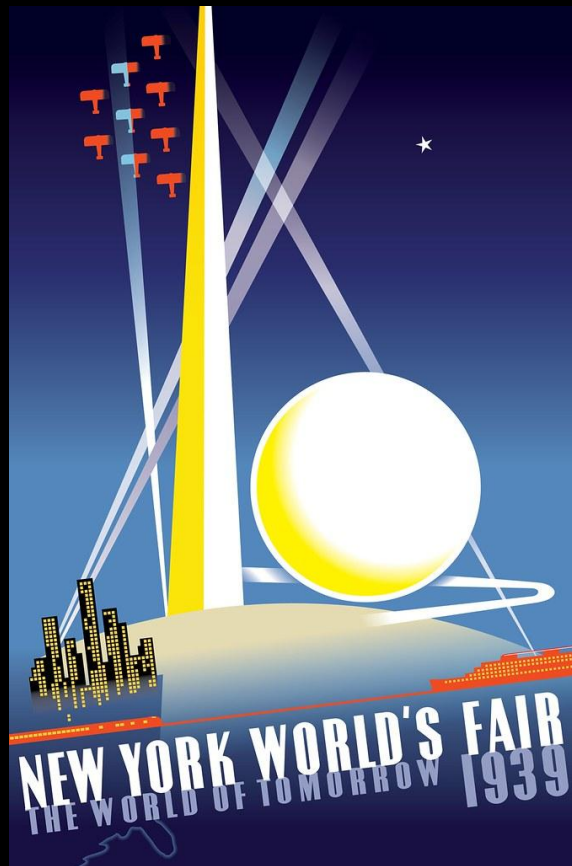


But...

“Are we there yet?”









“Futurama” exhibit designed by Norman Bel Geddes



The concept of a network of expressways connecting the nation



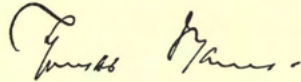
An early depiction of automated guided cars



First “Westinghouse Time Capsule”

THE MESSAGE OF DR. THOMAS MANN

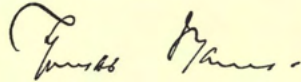
WE know now that the idea of the future as a "better world" was a fallacy of the doctrine of progress. The hopes we center on you, citizens of the future, are in no way exaggerated. In broad outline, you will actually resemble us very much as we resemble those who lived a thousand, or five thousand, years ago. Among you too the spirit will fare badly—it should never fare too well on this earth, otherwise men would need it no longer. That optimistic conception of the future is a projection into time of an endeavor which does not belong to the temporal world, the endeavor on the part of man to approximate to his idea of himself, the humanization of man. What we, in this year of Our Lord 1938, understand by the term "culture"—a notion held in small esteem today by certain nations of the western world—is simply this endeavor. What we call the spirit is identical with it, too. Brothers of the future, united with us in the spirit and in this endeavor, we send our greetings.



THOMAS MANN [1875-], German novelist & essayist; awarded Nobel Prize in literature, 1929. Now living in the United States.

THE MESSAGE OF DR. THOMAS MANN

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“That optimistic conception of the future is a projection into time of an endeavor which does not belong to the temporal world, the endeavor on the part of man to approximate to his idea of himself, the humanization of man.”

– Thomas Mann



“a trip is not only from point A to point B.”



Finally...

There is an old African proverb.

If you want to go fast, go alone...



If you want to go far...

If you want to go far, go together.





Dave Culyba
Hazel Culyba
Mike Christel
Jessica Hammer
Estefania Harbuck
Brenda Harger
Anthony Palyszeski
Dave Purta
Steve Audia
Carl Rosendahl
Jesse Schell
Jonathan Walton

.....

Thank you.



But...



?





“夢”Dream



“It’s not about how to achieve your dreams. It’s about how to lead your life. If you lead your life the right way, the karma will take care of itself. The dreams will come to you.”

– Randy Pausch



The Power of Dreams

How We Move You.



HONDA
The Power of Dreams

How we move you.
CREATE ► TRANSCEND, AUGMENT





HONDA 



MSX
MOBILITY SPACE EXPERIMENTAL

Thank you.



Project Briefing

Demo Experience Tutorial

Demo Try-on

Apple Vision Pro Setup

Top Button

Digital Crown



Apple Vision Pro Setup



Step 1: Hands & Eyes Calibration

Press Top Button 4 times



Step 1: Hands & Eyes Calibration

Digital Crown

Rotate to scroll

Press to select





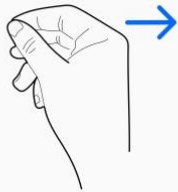
Tap



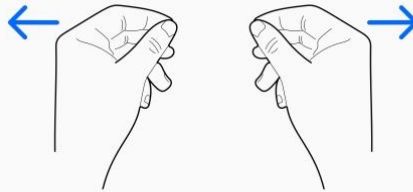
Double tap



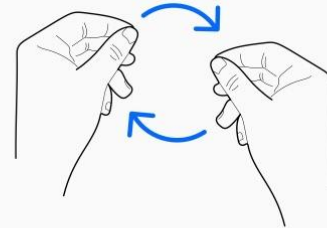
Pinch and hold



Pinch and drag



Zoom



Rotate

Please take a seat to the future



12:30 - 12:50

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Our development journey
Concept video screening
Documentations

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@3404 Playtest Room

Future Travel Experience Demo
on our physical mockup

1:20 - 1:30

EcoVision
@3301

Learn about helping the
environment in VR

1:30 - 1:40

Haptic Waves
@3306

Sensory driven design through haptics

1:40 - 1:50

Xhaler
@3301

Uses breathing as a core mechanic to
enhance immersion and interactivity

1:50 - 2:00

Mic Check
@3204

Rap battle against AI

2:00 - 2:30

Interactive Story Lab
@Cavern

Immersive Display, featuring Screening
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