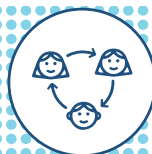


CIVIC INTERACTION DESIGN



CONNECTING


Cinemas
EUROPE



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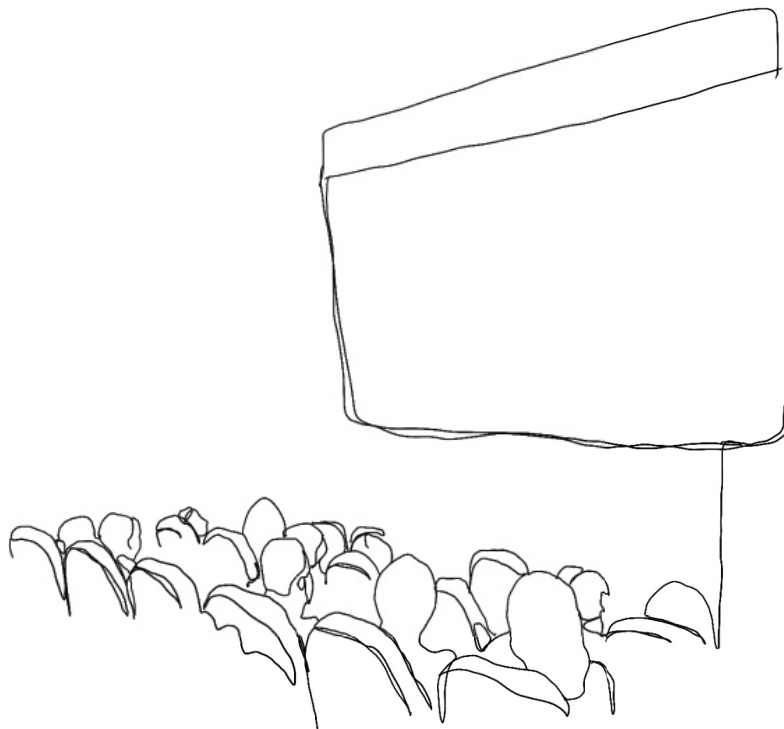


Co-funded by
the European Union

 Amsterdam University
of Applied Sciences

CIVIC
INTERACTION
DESIGN

Master Digital Design



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INTRODUCTION

In recent years, cinematic experiences have become increasingly interactive, playful and immersive. The rise of new cultural forms including large scale media art, virtual reality, augmented reality, interactive installations and more can be used to expand the cinema experience both within the cinema space and beyond. Urban media art often aims to create a cinematic experience outside of the walls of the theatre where buildings and cities themselves can become a canvas.

There is potential for rural arthouse cinemas to utilize these new forms to not only expand the cinema experience but also to redefine themselves as local cultural hubs. New forms of visual media culture have the ability to connect, engage and entertain audiences in new ways. By doing so, cinemas can play a role in building up trust and meaningful social relations within communities, and even become a site for political debate.

Cinemas play a significant role in connecting audiences beyond social, cultural and generational differences around politics, world events and community developments, to name just a few. The role of the cinema is not only to entertain audiences but to enhance communities and encourage dialogue between residents. In particular, rural cinemas are looking for new ways to engage their rapidly disappearing audiences, partially due to online streaming services such as Netflix. As well as that, more and more young people are moving out of their communities and into big cities. There is an opportunity here to transform cinemas into cultural hubs that connect, engage and entertain local communities and international audiences through the use of interactive technologies.

Connecting Cinemas is an initiative of Public Art Lab and Neue Kammerspiele, funded by the Europe MEDIA program of the European Commission. The project aims to bring audiences and cinemas together in rural regions across Europe and establish a networked infrastructure to share live events and programmes and develop new knowledge about the position of rural cinemas as cultural centers in the digital age.

The Civic Interaction Design research group at the Amsterdam University of Applied Sciences along with Public Art Lab in Berlin, KEA European Affairs, Neue Kammerspiele in Kleinmachnow and four rural European cinemas, will contribute to this project by exploring interactive media experiences that promote audience engagement in public spaces and cinemas. Our goal is to collect and analyze interactive media case studies that have been used or could be used within the cinematic context. We did this to gain a greater understanding of what makes these projects successful in achieving their goals and the steps that were taken to get there. From there, we derived common elements and developed a 'how-to' guide to aid future designers and cinema owners in the co-creation process, as well as to manage expectations of the final deliverables.

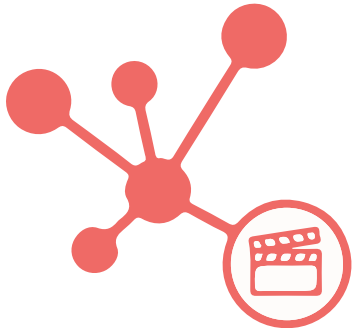
Additionally the Civic Interaction Design research group has collaborated with the Master Digital Design at the Amsterdam University of Applied Sciences in an eight week research through design experiment in this field. Two student groups at the Master Digital Design worked on gathering research and insights through the development of two concepts. A third group took on a 20-week project with the same assignment. Their prototypes and findings further influence the development of the design guide for this project.



KEY GOALS

The Connecting Cinemas project has established three approaches for cinemas to relate to their audiences, foster communities, set up events and explore the possibilities of the cinema as a cultural hub.

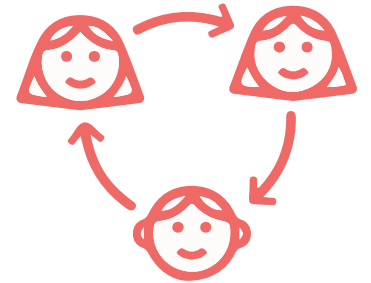
Connect (How to develop new relations and with whom do you connect?)



This goal is focused on connecting audiences and facilitating cultural understanding through the exchange of perspectives among people, reaching out to the world beyond the local community, bringing in communities from outside the locality and bringing in new audiences across and within geographies.

Engage (How are themes and issues explored and what content is created to draw in audiences?)

The 'Engage' goal focuses on expanding the cinema-making process beyond theatres and into local neighbourhoods. This strand looks at what types of content could be used to engage these new audiences. In particular, it explores communication strategies related to urgent local issues such as solidarity, humanity and the social inclusion of minorities.



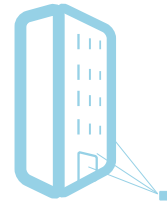
Entertain (How can the aesthetic experience transform the cinema?)



The 'Entertain' strand aims to transform the cinema into a centre for visual culture with many different types of events and playful interactions such as VR and AR storytelling, film festivals and educational cinema workshops and scenarios.

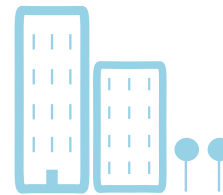
KEY SITES

Interactive media art and installations can exist within different spaces and forms. Below is a list of the key sites that cinemas could choose to activate. These categories are not rigid, there are opportunities to combine these locations for one intervention as well. Each location has its own pros/cons and the designers and cinema owners should work together to choose the location that best fits the goal of the intervention.



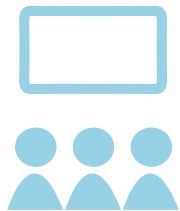
On the City

Using technologies such as projection mapping, building facades, for example on the cinema itself, can be used as screens to broadcast content in public space, bringing art to localized points in the city.



In the City

By inviting audiences to explore their local surroundings, the city itself can be used as a site for the cinema to host community events or set up active installations across the town.



In the Black Box

New forms of media can be embedded into the black box to create concentrated experiences where audiences can focus on the artwork or interactive experience in a gallery-like space.



In the Lobby

The cinema lobby can be transformed into a social space where cinema goers can ambiantly experience new media art and installations and converse with others in the space.



In the Digital Space

Through the use of technologies such as smartphone applications, websites, virtual reality and augmented reality, cinemas can bring new digital cinematic experiences to their audiences.



Hybrid

These are experiences or installations utilize more than one space at a time, for example an event that takes place within the city can also incorporate an online element such as a phone application.

GUIDELINES

This is a guide for designers, cinema owners and other stakeholders to use when co-designing an interactive experience in the context of the cinema or related to visual culture. We attempted to create a baseline language that all parties can understand and participate in. Through analyzing case studies and having open discussions with the Connecting Cinemas consortium about our findings and insights, we have developed six parameters that address the different elements and considerations involved in designing a project. This by no means is a definitive list and should be used in an open way and adapted on a case-by-case basis. Separately or together, these can be used to expand the cinema experience and connect, engage and entertain audiences. Our vision is for this guide to be a starting point for realising new, meaningful interventions in the cinema space.

What is the goal?	<ul style="list-style-type: none"> Within the Connecting Cinemas project three curatorial strands exist: Connect, Engage and Entertain. Which of these three goals is the main focus of the project?
What is the message and who is it for?	<ul style="list-style-type: none"> Is it about a local political issue, community health and wellbeing, a cinematic theme, cinema programming, etc.? For which age group or lifestyle characteristics do you see most fitting to target?

Where do you see it?	<ul style="list-style-type: none"> Which of the following spaces will it be located in? The cinema black box, the lobby, on a facade, in the city, in the digital space or a hybrid?
How does it relate to time and space?	<ul style="list-style-type: none"> How large will the space be? Will it be dark or light? Will it be limited in time (ie. based around an event) or continuous? How long does a single experience last? Is the experience scheduled?
How will users interact and engage with the experience?	<ul style="list-style-type: none"> What is the user's journey through the experience? How does the user interact with the experience? Will the movement be free or guided? What emotional impact should the experience have on the user?
What technologies will you use?	<ul style="list-style-type: none"> What technologies will the experience incorporate (AR, VR, projection mapping, touch screens, motion tracking, sounds, etc.) ? What impact do you expect your chosen technology to have on users? What technologies are accessible and attractive to the target group?

Remember!

Always consider how the location, time, space and technology enhance the goal.

Notes

CASE STUDIES

Urban Alphabets

Speaking Willow

Earth Speakr

Universal Tongue



URBAN ALPHABETS

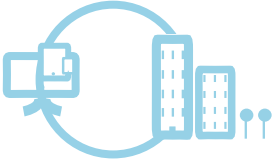
Creator: Suse Miessner

Location: Helsinki, Berlin, Riga, Madrid, Sao Paulo, Aarhus, Liverpool

Year: First began in 2011

Description: Urban Alphabets is a participatory project where the aim is to gather photographs of letters and characters throughout the city on your smartphone, upload them to a database and contribute to a unique, local Urban Alphabet which is then displayed in the city.



What is the goal?	<ul style="list-style-type: none"> The primary goal of Urban Alphabets is to create an entertaining intervention that will highlight the uniqueness of a city and build a sense of place.
What is the message and who is it for?	<ul style="list-style-type: none"> The idea behind the Urban Alphabets project is to show inhabitants and tourists of a particular city how special and unique that city is. It is a fun, participatory intervention for city residents or tourists.
Where do you see it? 	<ul style="list-style-type: none"> Urban Alphabets exists within the city and in the digital space. First, participants capture images of letters and characters throughout the city. Then, the ever-changing alphabets are usually presented in a town square on a large scale outdoor media screen. The unique alphabets of different cities exist in an online database for anyone to view.
How does it relate to time and space?	<ul style="list-style-type: none"> Participants gather images and upload them to the Urban Alphabets app. The characters that appear on screen are ever-changing; either when new ones are uploaded or when old uploads repeat. The project can be installed in different cities to showcase the city's own individuality. This experience was set up in seven cities worldwide during festivals. However, outside of the festival period individuals could download the app and engage with the experience anywhere and in their own time.
How will users interact and engage with the experience?	<ul style="list-style-type: none"> Participants are involved in a scavenger hunt around their city for the first part of this project. Then, they are invited to upload the characters to a database and view the spectacle in a public space where the facade is set up. They can also send messages, which will be output using the letters they have added to the alphabet. Users can either be involved directly or just as spectators. It should bring them a sense of connection to their city and even evoke a sense of pride.
What technologies will you use?	<ul style="list-style-type: none"> The project uses a smartphone application and projectors/ screens depending on the location.



ENTERTAIN

Urban Alphabets aims to create an entertaining experience, almost like a treasure hunt, that encourages exploration of the city. When the city's alphabet is presented in a town square, on a building facade etc., residents and visitors alike can collectively enjoy the unique visual representation of their city.






SPEAKING WILLOW

Creator: Rafael Lozano-Hemmer

Location: Washington D.C.

Year: 2020

Description: Speaking Willow is an interactive sculpture that has been programmed with sample recordings of different languages which together represent the native languages of 99% of the world's population. Hanging speakers coming from a large man made willow tree begin to play sound when a person walks by.

What is the goal?	<ul style="list-style-type: none"> The goal is to connect audiences to many cultures or languages that they may not directly engage with on a regular basis.
What is the message and who is it for?	<ul style="list-style-type: none"> This piece is intended to highlight the interconnectivity of language amongst museum goers of all ages and allow them to interact with language in a new and surprising way.
Where do you see it? 	<ul style="list-style-type: none"> This artwork is on display in the museum courtyard at Planet World, DC, which is an immersive museum dedicated to global languages.
How does it relate to time and space?	<ul style="list-style-type: none"> This is a permanent installation. It's placed outdoors with a bench beneath it and seating around it so that visitors can experience it from different angles and are exposed to the entire soundscape. This experience is not scheduled, there is no set beginning and end times.
How will users interact and engage with the experience?	<ul style="list-style-type: none"> The experience is immersive; audience members interact by walking under branches to trigger audio from the hanging speakers. They can also take a seat to the side so they can observe others interact with it instead. The objective is to notice the similarities and interconnectivity of the languages that you hear, as opposed to just focusing on the differences.
What technologies will you use?	<ul style="list-style-type: none"> The tree uses motion sensors and 500 speakers.



CONNECT

Speaking Willow connects people both to each other and a multitude of languages from around the world. Using audio as the key component allows museum-goers to focus in on this one sense, allowing for space to reflect on the similarities, differences and interconnectivities of language. Placing this installation out in open space draws in passersby that are curious about the different sounds they are hearing, perhaps even accidentally triggering the sounds through their movement.





Olafur Eliasson, Earth Speakr, 2020, for the Federal Foreign Office on the occasion of the German Presidency of the Council of the European Union 2020s



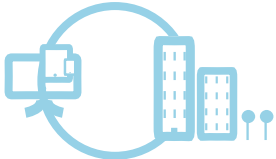
EARTH SPEAKR

Creator: Olafur Eliasson

Location: Digital space and physical locations

Year: 2020

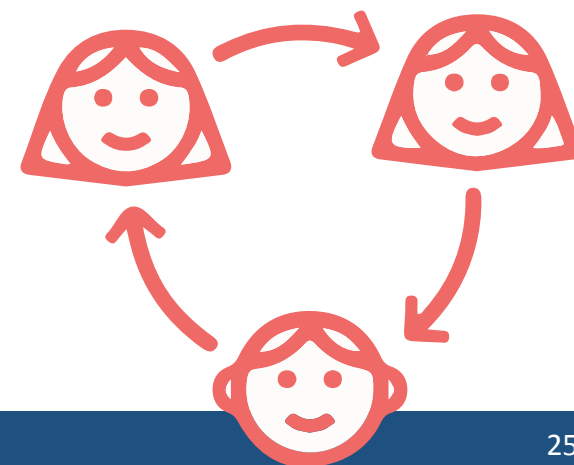
Description: Earth Speakr is a platform for children to leave their messages for the earth. The app allows you to take short videos of your surroundings and personalise them with your individual facial expressions.

What is the goal?	<ul style="list-style-type: none"> This experience is meant to engage audiences and enable discussion, learning and action around climate change in a playful and interactive way.
What is the message and who is it for?	<ul style="list-style-type: none"> The message of Earth Speakr is about the climate crisis. It's mission is to highlight the fact that younger generations are the ones who will inherit the brunt of the previous generations' mistakes. The experience raises awareness about climate change issues and empowers children, who are often not listened to in the political sphere, to express their opinions about the future of their planet.
Where do you see it? 	<ul style="list-style-type: none"> Earth Speakr is a hybrid experience. It exists in both the physical and the digital world. This allows for users to share their feelings about climate change through the affordances of digital technologies while using real world spaces and objects to create a scene.
How does it relate to time and space?	<ul style="list-style-type: none"> The user captures moments in the physical world. Each video lasts anywhere from a few seconds to thirty seconds. The videos are archived in an interactive map, where users can explore and see the thoughts and experiences of other children around the world. This map can be accessed at any time. The videos exist there permanently, unless removed by the user. The database of videos is ever-changing and updating as new users engage with the application.
How will users interact and engage with the experience?	<ul style="list-style-type: none"> The user is first guided through the app to create a personalised animation using their own facial expressions. The user can then place their animated face onto something in their surroundings and record a video of themselves speaking. They can enter their video into a community theme such as pollution, animals, water or future. This personal message then becomes part of a collection of others worldwide. The application aims to create a feeling of playfulness and empowerment.
What technologies will you use?	<ul style="list-style-type: none"> Earth Speakr is smartphone AR app that uses facial recognition. The app also features an interactive database map of all of the Earth Speakr videos from around the world that can be viewed on a desktop or mobile application



ENGAGE

Earth Speakr's aim is to engage children in a discussion about climate change. The application uses personalisation through facial recognition and AR as a strategy to create a sense of ownership for the users. It encourages the video makers to take pride in what they have created. This has the potential to increase their willingness to share their opinions, which in turns spreads awareness of the topic even further. The social interactive map feature furthers the engagement by creating a community and showing that there are young people all over the world who care about making a better future for the planet.



UNIVERSAL TONGUE

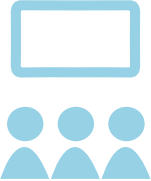
Creator: Anouk Kruithof

Location: Amsterdam

Year: 2018

Description: Universal Tongue is a multichannel video installation that showcases dance styles from all across the globe simultaneously.



What is the goal?	<ul style="list-style-type: none"> The central goal of this project was to illustrate how we are all universally connected around the world through body movement.
What is the message and who is it for?	<ul style="list-style-type: none"> The message of Universal Tongue was to show that dance is a global language across cultural boundaries. Though the movement styles are different, people all around the world use dance as a mode of empowerment and self expression. It is a piece for people who are interested in the interconnectivity of human beings and it requires a level of reflection on the part of the viewer, though it can still be enjoyed visually by all types of people.
Where do you see it? 	<ul style="list-style-type: none"> This concentrated experience exists in a gallery space indoors where people can walk through and view many dance videos at the same time.
How does it relate to time and space?	<ul style="list-style-type: none"> The space is large enough for viewers to roam freely through the screens. The environment is mostly dark with a few coloured accent lights to direct attention to the dance videos without too much external distraction. In the space there are eight videos playing, each lasting about four hours. In total, there are thirty two hours of unique dance videos from all over the world. The experience is not scheduled and viewers can come and go as they please.
How will users interact and engage with the experience?	<ul style="list-style-type: none"> The visitor enters the space and sees eight large screens with dance videos hanging from the ceiling. They are able to explore the space as they wish. Maybe they stand far away to examine the videos simultaneously or maybe they get up close to view just one at a time. As they make their way through the installation they are invited to reflect on how dance is universally loved across cultures.
What technologies will you use?	<ul style="list-style-type: none"> Universal Tongue is presented on 8 hanging projector screens.



CONNECT

Universal Tongue aims to cross cultural and geographical boundaries by showing how we, as humans, are all connected. Dance is the strategy used to put this idea across. By showing the dance videos at the same time, audiences are invited to take a step back from perceived differences and begin to notice similarities across countries and cultures, bringing them closer together.



Notes

STUDENT PROJECTS

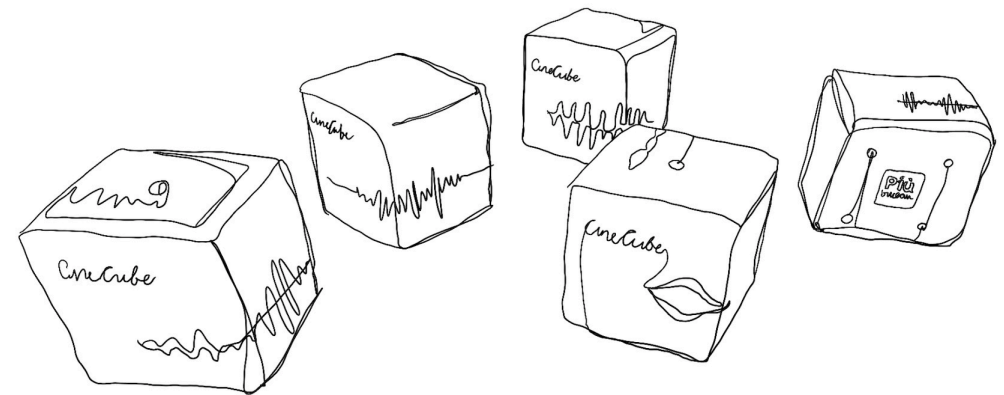
To gain further insights through a research through design approach, Civic Interaction Design and Connecting Cinemas worked in collaboration with the Master Digital Design at the Amsterdam University of Applied Sciences to develop prototypes of interactive digital media installations to expand the cinema experience.

Brief: Their task was to explore how to transform the cinema into a cultural centre and connect, engage or entertain audiences with playful interactive installations. They were asked to consider how digital media can be used to contribute to the goals of the Connecting Cinemas project.

Bureau Piu

Lime Productions

Art by Us





BUREAU PIU

Nicoletta Mannella, Odin Shadmi, Robin Tepe & Simona Vargas Paraschivoiu

PROBLEM SPACE

How might we expand the cinema experience to connect audiences with each other and the cinema?

Bureau Piu based their concept around the need for adults (approx. between 25-35) to connect with each other. By re-engaging them with their local cinemas, the team hoped to also address the loneliness that this generation can often feel. They saw this as an opportunity to bring more visitors of this age group to these local arthouse cinemas which are facing difficult times currently with online streaming services, larger multiplex cinemas and Covid-19 restrictions. Their task then was to translate these desires into a playful, interactive installation.



Bureau Piu's key goal was to connect cinema audiences. They achieved this by developing an interactive experience in the cinema black box that aims to attract audiences and connect them with each other and with the cinema itself through play.

FINAL DESIGN (IN THE BLACK BOX)

Prototype: CineCube

Description: Team Bureau Piu designed the CineCube, an interactive cube with music that encourages connection among movie-goers while relating to the film being shown. The cubes are randomly placed on seats in the black box, so not every cinema-goer gets a cube. They are invited to pick them up and explore what they do. Each cube is connected to a music channel and the movements of the cube trigger the sounds. When used together, the cubes create a full melody that is played through the cinema speakers.

Technology: Every wooden cube in the cinema is outfitted with its own accelerometer that reads the movement of the user. The sensor is connected to a wifi board that sends the data to a computer which converts each movement into sound.



APPROACH

First, the team had to dissect and understand the wants and needs of their target audience in relation to their cinema-going experience. Their research phase began with looking into the history of cinemas and how they have previously been seen as community centers. This research reinforced the idea that the current cinema experience can often be static.

Bureau Piu conducted interviews with two of the cinemas involved in the Connecting Cinemas project. Through these interviews, they learned more about the cinema-going habits of 25-35 year olds and developed an understanding of what technologies would be possible to use in the black box.

To understand their target group, the team sent out a survey to ask why they like going to the cinema. This was important to understand users' feelings about the cinema and concentrate on what could be improved, changed or enhanced. These were the main findings of that survey:

- Their target group are looking for a temporary escape from reality when they go to the cinema.
- They go to the cinema to enjoy shared experiences.
- They want local cinemas to become community centers.

DESIGN DECISIONS

What is the goal?	Connection through mystery <p>The team made the decision to design a physical object because it would be something new and mysterious in the black box that encourages interaction between audiences. As cinema-goers discover the Cine Cubes, they must work together to build up the soundscape.</p>
How does it relate to time and space?	Transforming empty time and space <p>Bureau Piu chose to create an intervention to take place in the silence right before the movie starts and right after the movie ends. They wanted to transition this typically empty moment into one of connection. To create immersiveness in the space, they chose to connect each cube's melody to the central sound system of the black box so that the pieces of the music fill the room. Each user gets to see and hear how their melody fits into the others in real time.</p>
How will users engage with the experience?	Defining the shape <p>The team chose to make the object a cube because this shape lends itself to twisting and turning, as the user explores all sides with curiosity. A ball, for example, would be infinite and the movements would not be as defined.</p>

KEY USER TEST FINDINGS

Due to Covid-19 restrictions, this group could not carry out their planned test at a local arthouse cinema. Instead, they tested with fellow students and discussed their concept with cinema owners.

- The cinema owners said it would be best to use the CineCube for special cinematic events, like movie premiers, to preserve the novelty of the experience.
- They suggested that the created sounds should relate to the movie about to be shown either as a soundtrack or a themed soundscape.
- Test users agreed that the cube is an intuitive shape for exploring all angles and said that it helped encourage movement of the object.
- User tests uncovered that their first prototype of the cube was too large for most people to turn around smoothly in their hands. In response, the team developed a smaller second prototype.

TAKEAWAYS FOR CONNECT

- Adding a surprise playful element to the cinema space is a technique that can be used to connect audience members.
- Incorporating play has the potential to break down barriers and allow people to connect in a new way.





LIME PRODUCTIONS

Claire Crawford, Martijn Fleurkens & Kourosh Gharehdaghi

PROBLEM SPACE

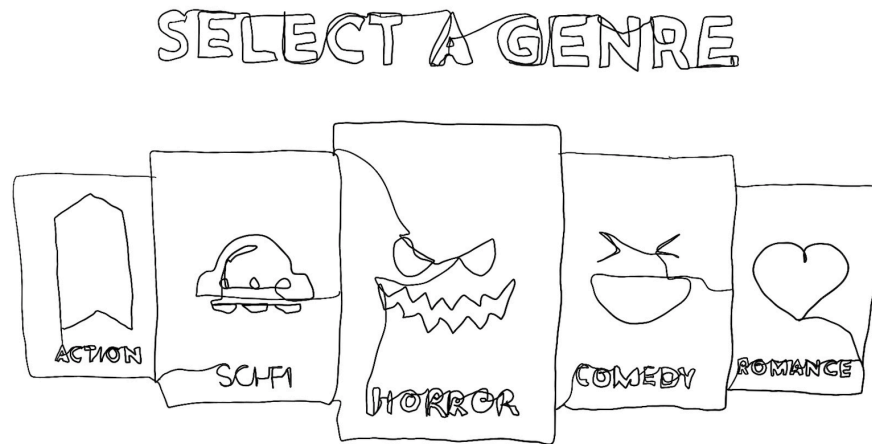
How can cinemas utilize interactive installations to connect with local audiences and increase engagement in cinema programming, especially amongst teenagers aged 12-18?

Lime Productions identified a gap in the wants and needs of teenagers and the offerings of cinemas. They found that teens want a place to socialize with friends and a place for entertainment. In order to fill this gap, Lime Productions came to the conclusion that teenagers should be given a say in cinema programming.



Lime productions achieved their key goal by creating a playful experience that would have a direct impact on the programming of the cinema and that would engage local residents.

FINAL DESIGN (IN THE CITY)



Prototype: Motion Tracking Voting Game

Description: Team Lime Productions designed an interactive game where players can use their body movements to vote for whichever programming they would like to see at their local cinema. Players have a chance to win prizes like free movie tickets or snacks at the theater. The context of the installation is in the town square or inside the cinema lobby. At the end of the game, users are prompted to scan a QR code which takes them to a mobile platform where they can claim their prizes. Additionally, the mobile extension includes a forum where local citizens can talk about movies, view the programme and purchase tickets.

Technology: This concept uses motion tracking to enable the users to play the games with only their body. An LED screen with an attached webcam is needed to display the game visuals and read to the movements of the user. The game application is run via the web, so it only requires a server and internet connection to run. The mobile platform extension is a website reached by QR code.

APPROACH

Their first exploration into the problem space was with a user survey with questions about the participant's cinema-going habits. These are the main reasons why, according to their research, teens are not going to the cinemas:

- Ticket and concession costs are too high
- Cinema programming does not always appeal to them
- Streaming services are on the rise

In their research, the team found that gamification has been successful in attracting younger audiences. The team was inspired by these case studies: Universal Everything for motion tracking and a gesture recognition project by Pago Granini.

DESIGN DECISIONS

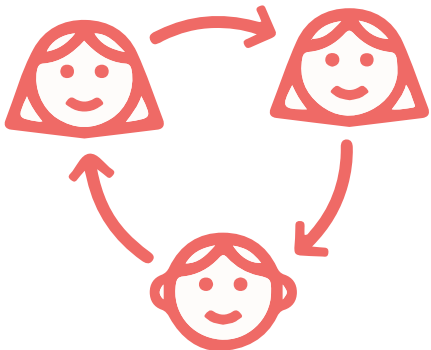
What is the goal?	Teens inspire cinema programming The goal of this installation is to make cinema programming an inclusive process and engage local teens. Through this installation, they are given a say in upcoming films.
How will users engage with the experience?	Gameplay during Covid-19 Lime Productions developed a prototype that would make it possible for audiences to participate in the game but still adhere to the 1.5 meter rule. In the experience, the participants use their bodies as a game controller to avoid close contact with others.
What technologies will you use?	Motion tracking to build engagement This experience is enabled by motion tracking. The choice of technology was driven by the team's sense of responsibility to adhere to Covid-19 restrictions yet still wanting the experience to be active and playful.

KEY USER TEST FINDINGS

- Test users enjoyed the physical element to the game.
- A stronger connection should be made to the cinema itself from the beginning so as to set this installation apart from an arcade game.

TAKEAWAYS FOR ENGAGE

- You can activate a public space and attract new cinema audiences by bringing the dialogue out of the cinema and into the city.
- It might be important to make sure that your installation is strongly linked to the cinema theme when taking an experience into the public domain.





ART BY US

Joey van Gessel, Sophie de Haan, Steven Lidmanjaja & Miriam Loos

PROBLEM SPACE

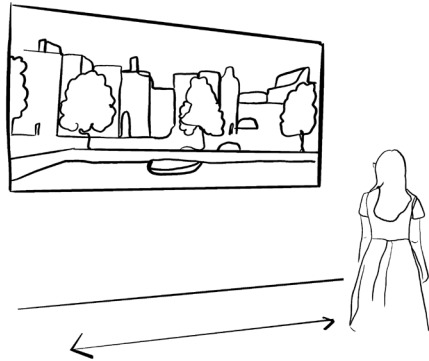
How might we foster awareness of climate change and its influence on the weather and our daily life through an artistic, interactive and cinematic experience?

The goal of this project was to engage audiences in an urgent local socio-political issue. Art by Us chose to focus on climate change with a particular focus on its impact in Amsterdam and across the Netherlands. Through an installation, they wanted to enable people to “see the bigger picture” of how their individual actions and choices could affect the long term climate in Amsterdam and the world.



Art by Us achieved their key goal by designing an interactive exhibition where visitors can experience the effects of climate change through interactive and still artworks. In the exhibition, participants can explore different future climate scenarios as they move around the space. The full exhibition aims to spark thoughts and discussions about the topic of climate change and its effects on the weather.

FINAL DESIGN (IN THE LOBBY)



Prototype: Interactive Art Exhibition

Description: The interactive art exhibition by Art by Us is located in the gallery space of the cinema but could be suitable for the lobby space too. It features two parts: an interactive painting and a collection of still paintings. The interactive painting allows participants to explore different climate change scenarios by moving around the interaction zone. The left side of the interaction zone triggers positive scenarios of windmills and clean streets to represent a future where humans take charge of climate change. The right side of the interaction zone triggers negative scenes of smoggy skies and plastic-filled waterways to represent a future where humans do not change their current behaviors. The interaction space additionally acts as a timeline – the back of the space is the current year (2021), and the front of the space is the future (2050). The still paintings surrounding the interactive painting are well-known paintings that have been altered to depict the effects of climate change. For example, in the painting by the Dutch artist, Vermeer, *The Milkmaid* is shown without milk in her pail.

Technology: The interactive painting is projected onto a blank wall in the gallery space. It uses a depth camera in combination with skeleton tracking and processes incoming data in a node based visual programming software. By calling a weather API, the painting depicts the current weather at the exact location. These technologies allow the experience to be inclusive, anonymous and user-driven for up to two people. The participants' movements in the interaction zone outputs different painting variations that were created with 3D rendering and Photoshop scripts. The additional still paintings in the room were altered using Photoshop.

APPROACH

Art by Us began by focusing on the local area of Amsterdam and brainstorming what urgent topics could be addressed. As with many places around the world, Amsterdam is vulnerable to changes in the climate due to its precarious construction. This drove them to design around the topic of climate change in the city. The goal for the final prototype was for it to be:

- Engaging: encouraging active participation from the audience
- Inclusive: connecting the audiences despite social and cultural differences
- Interactive: responding to user input
- Educational: communicating and teaching a message
- Cinematic: extending the experience of going to the cinema
- Amsterdam-based: located in or near a cinema in Amsterdam
- Amsterdam-related: dealing with a socio-cultural topic relevant to Amsterdam
- Attractive: fostering curiosity
- Digital: using the affordances of digital technologies

Within the idea of the interactive art exhibition, Art by Us tested multiple types of interactions and painting styles until they decided on the final aesthetic and technology.



DESIGN DECISIONS

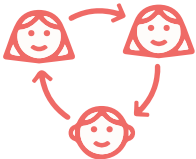
What is the goal?	Building climate awareness through art The goal of this interactive art installation is for participants to explore the future effects of climate change and reflect upon this topic in an experiential way.
How will users interact and engage with the experience?	Taking steps towards your future Participants in the interaction zone are encouraged to physically take steps towards the future that they want to see. The space in the room is used as an active part of the exhibition as participants are free to roam and explore as they please.
What technologies will you use?	Skeletal tracking for inclusivity and anonymity The choice to use skeletal tracking with a depth camera ensures that participants are not tracked or remembered by their features. It also allows the experience to be inclusive for people with varying abilities, for example for participants in wheelchairs. Using local weather data for relatability The choice to link the local weather API to the painting to ensure current weather and time patterns makes the interactive painting experience feel more real, thus deepening a sense of responsibility for the planet.

KEY USER TEST FINDINGS

Art by Us held an exhibition at LAB111 on June 18, 2021 with around 30 visitors. The team asked participants for their feedback and reactions to the experience through a survey.

- Overall, all participants enjoyed the interactive exhibition experience.
- The majority of participants felt that the exhibition successfully raised awareness about climate change. But it was also true that some participants did not learn a significant amount of new information, due to their previous knowledge about the topic.
- The participants felt that the physical interactivity with the painting enhanced the experience. Though, some participants noted that the interaction with the painting was not clear, as they were initially unsure in which direction to move without explanation.
- All participants liked the fact that the exhibition took place at a local cinema. Some made comments about the fact that this drives the cinema towards being a cultural hub and political player.
- Some participants noted that this experience made them feel more connected to their local cinema.
- Overall, the participants wanted to have additional facilitated discussions about climate change after their interactions with the exhibition.
- For the most part, the people who came to the exhibition were there in response to a personal invite, however, on a few occasions cinema goers were curious and walked in on their own. These were primarily younger (25-35 years old) moviegoers.

TAKEAWAYS FOR ENGAGE



- By choosing a motion tracking technology that is inclusive and considerate of a wide range of audiences, the students ensured that the message of climate change would reach as many people as possible. This is important as climate change is an issue that will affect all residents of planet earth.
- Using famous paintings allows the message to resonate with audiences on a familiar and deeper level. It also highlights the historical moment that we are currently in and gives pause for thought about how future artworks will depict life on this planet from 2021 onwards. It poses the question of how our approach to climate change will affect what we see in galleries by the year 2050.
- By placing the participant into the experience as an active input engages them with the topic in a visceral and personal way. This results in a heightened feeling of responsibility for their actions towards climate change.

EPILOGUE

After working closely with the Connecting Cinema partners, analysing case studies, co-developing a set of guidelines, showcasing our research to the partners and guiding student design projects, we have drawn up a list of some of the key take-aways for each goal that should be taken into consideration by any parties looking to set up their own interactive cinematic installation.

CONNECT

Cases that did this well:

Speaking Willow, Universal Tongue, CineCube

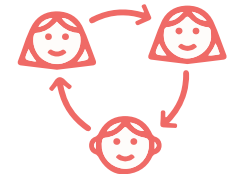
Speaking Willow and Universal Tongue both aim to connect participants to humanity at large by creating interventions that break down cultural barriers and expose our sameness through language and dance. CineCube, on the other hand, approaches the key goal of 'connect' on a more localized level by designing a fun, co-creative activity for participants in the same space to connect with each other through play.



ENGAGE

Cases that did this well: Earth Speakr, Lime Productions, Art by Us

All of these case studies empower their audiences and users by giving them a platform to participate in local/global conversations and decision making. Giving people a voice in their future, whether it be the future of their planet or the future of their cinema programming, creates a sense of ownership, resulting in more empowered and active citizens.



ENTERTAIN

Cases that did this well: Urban Alphabets

In the Urban Alphabets project, the cinema experience is expanded into the city in the form of a type of treasure hunt. The participatory element of this community event is entertaining for audiences and transforms perceptions of what a cinematic experience could be.



NEXT STEPS

This publication was a first step into exploring how to create interactive cinematic experiences that connect, engage and entertain audiences. The case study analysis and student projects brought valuable insights into light. In the future, we hope that the findings in this report will help other designers, audiences and cinema owners to create their own interventions to expand their cinema experiences.

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IMAGE CREDITS

Suse Meissner, Urban Alphabets, 2011
Rafael Lozano-Hemmer, Speaking Willow, 2020
Olafur Eliasson, Earth Speakr, 2020
Anouk Kruithof, Universal Tongue, 2018

Bureau Piu, CineCube, 2021
Lime Productions, Motion Tracking Voting Game, 2020
Art by Us, Interactive Art Exhibition, 2021

Connect, Engage &Entertain Illustrations, Caroline Dedenis, 2021
Other illustrations, Pamela Nelson, 2021

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