Design Across Boundaries

Shared Experiences in the Digital Context

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My family, and of course, my love Vadik.

"If there's a simple, easy design principle that binds everything together, it's probably about starting with the people." – Bill Moggridge

Table of Contents

Abstract

Dynamic media has extended the realm of human experience and communication, providing us with a different perspective of our world. We look through our screens as virtual windows, transporting ourselves seamlessly through time and space. This radical shift in our relationship with the screen transforms our perception of the self, identity and reality.

My work utilizes dynamic media's compression of time and space to create engaging and authentic shared experiences that bridge the gap between people, places and cultures — drawing out individual's points of view to nurture the experience of diversity in a spirit of curiosity and dialogue.

The thesis will document a collection of projects that enable a broad range of individuals to communicate while testing the boundaries of our currently available media. The thesis explores shared experiences across virtual and physical boundaries, across private and public spaces, and within conscious and spontaneous social interactions.

Introduction

"What an artist is trying to do for people is bring them closer to something, because of course art is about sharing: you wouldn't be an artist if you didn't want to share an experience, a thought." – David Hockney

When I was walking down the streets of Boston, looking at the red brick buildings, I occasionally glanced inside the windows, trying to imagine who lived there. What did he look like? What did the interior look like? What did he do in life? What did he like and dislike?

The experience of moving to a new place, and communicating with my family through digital interfaces while overseas inspired me to explore the subject of *Design Across Boundaries*, and to rethink how to design shared experiences in the digital context. Many of my design experiments started from my own attempts at communicating with my family while overseas. The time and space gap forced me to use digital communication technologies such as Skype, WhatsApp, Google+ and many others.

New technologies allow us to discover and experience cultures from all around the world, enabling us to participate in the daily life of someone who is geographically and culturally distant. My case studies explore communication across virtual and physical boundaries, across private and public spaces, and within conscious and spontaneous social interactions.

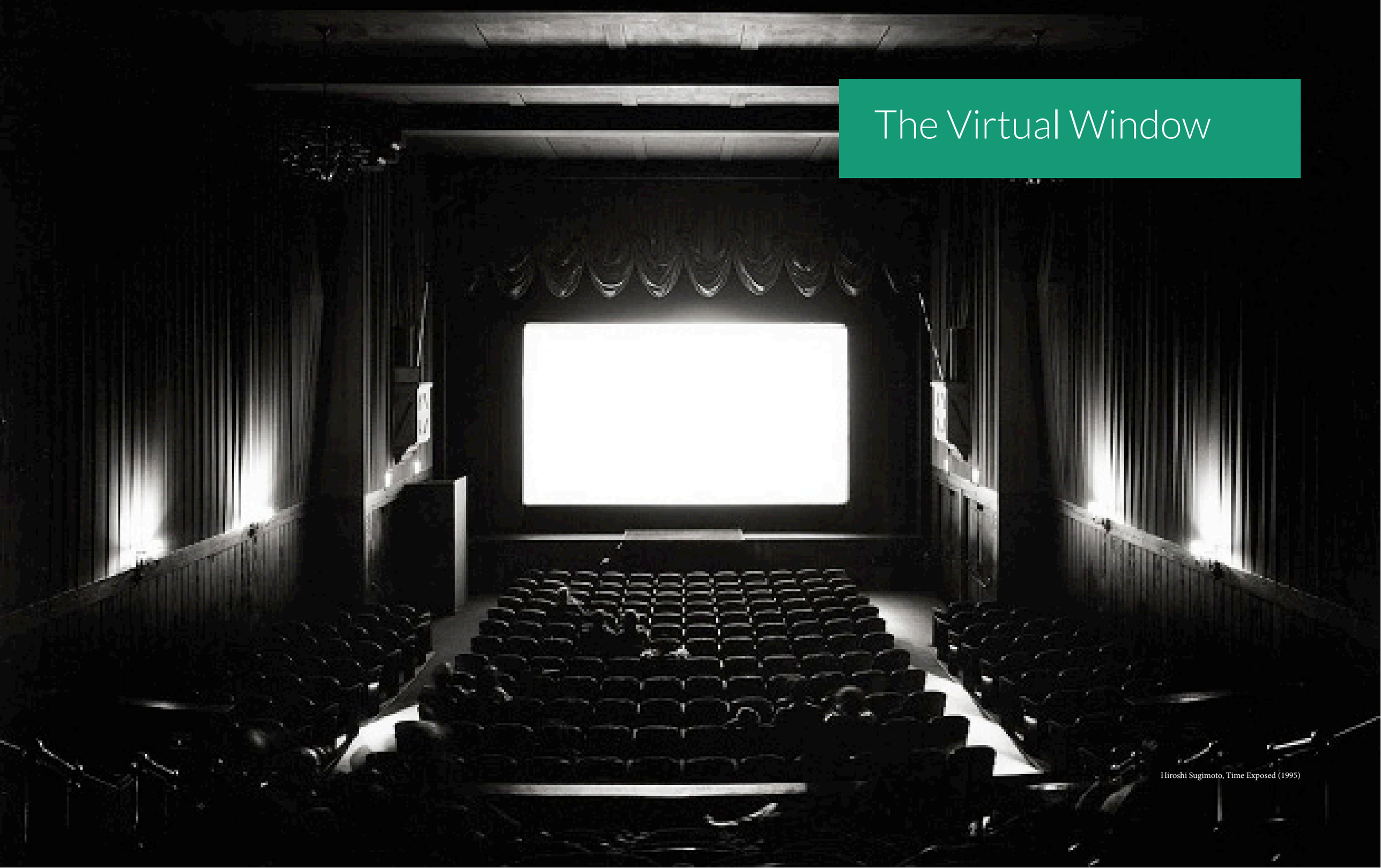
During my thesis exploration I have met many people from all around the world. We chatted, drew, performed, sang, ate, mapped, documented, communicated and expressed ourselves in many different ways. Yet, I have met few of them in the physical world. Most I have met "face-to-face" through a virtual window, across time and space.

This thesis is a collection of design experiences in which I experimented with a broad range of user experiences and variety of users. The interactions were designed across geographical locations and platforms. By focusing on a human-centered design approach, I developed user experiences for myself, family members, classmates, friends, commuters of public transportation, and youth in developing countries.

In addition to designing new interfaces during my thesis exploration process, I conducted a series of experiments in which I used existing digital platforms (such as Google Search, Google Hangout, Skype, Chatroulette, YouTube, mobile applications and more). Using existing platforms enabled me to interact with a variety of users and strangers under the limitations and rules of existing systems. In addition, it helped me to better understand core features and communication technologies that currently exist.

In my thesis, I will present the contextual research that I performed. I will share my inspiration and points of view along with a series of design experiences and experiments.

The Virtual Window



Hiroshi Sugimoto, Time Exposed (1995)

"First of all, on the surface which I am going to paint, I draw a rectangle of whatever size I want, which I regard as an open window through which the subject to be painted is seen." – Leon Battista Alberti (Alberti 119)

The well-known Renaissance theorist Leon Battista Alberti speaks of the canvas as an open window through which you can see the reality, what you want to paint. He raises the concept of the metaphorical window. This is a powerful theoretical and contextual concept; the window is a tool for observing and participating in the reality which we represent by the esthetics tools of the arts, such as color, shape and form.

The origin of the term "Window" is Middle English: from Old Norse vindauga, and it refers to vindr 'wind' + auga 'eye' (Oxford). The window is an 'eye' — an opportunity to see, view and observe the surroundings. In addition, the term articulates a strong sense of architectural element and sense of space. The origin of the word "virtual" is late Middle English: from Latin virtus 'virtue' (Oxford). In this document, when I refer to the term I mean to "not physically existing" but "carried out, accessed, or stored by means of a computer" (Oxford). I will argue that thanks to digital technologies, we perceive the virtual as existing—real and actual, now and here.

During the last two decades the physical window, through which we see the world, has transformed to a virtual one — the screen. Anne Friedberg discusses this transition in her book *The Virtual Window*. She argues that "We know the world by what we see: through a window, in a frame, on a screen. How the world is framed may be as important as what is contained within that frame" (Friedberg 1).

The cinema, television, and the computer have provided us the opportunity to explore "new realities". All those technologies elevate the concept of the frame from which we experience "the world". Forms of images and representations have been developed and transformed. Moreover, "The cinematic, television, and computer screens have become substitutes for the architectural window—relies on the virtuality of representational images" (Friedberg 11). Cinema and television, much like a painting, reference the frame—the rectangle from which we experience "reality," similar to Alberti's "open window".

The new media theorist, Lev Manovich, discusses the screen as a grid. He notes that "the user's screen was ruled by straight lines and rectangle windows that contained smaller rectangles of individual files arranged in a grid" (Manovich 63). The virtual window is composed of images arranged on a grid. At the core, there is the window-frame-screen concept, organized in a grid, from which we explore and discover.

While there are many similarities, human computer interaction distinguishes cinema from television. Fundamentally, it is the transition from viewers to users. *In The language of New Media*, Lev Manovich explains the distinction of the graphical user interface. He notes that "In contrast to cinema, where most 'users' are able to 'understand' cinematic language but not 'speak' it (i.e. make films), all users of the interface, employing it to perform many tasks: send email, organize files, run various applications, and so on"(Manovich 78-79). The viewers in the theater can passively experience linear narratives. They sit in the dark theater with friends and strangers and enjoy stories from different a time and place. When watching a movie the viewer doesn't have a control over the content, and the sequence of the narrative.

Television brought this experience into our homes. The viewers can watch TV with their family and friends in their own space. While there are multiple channels that can be changed, much like cinema, television viewers are relatively passive. The viewer watches the screen, which provides the opportunity to experience pre-directed and edited linear narratives. Even with live shows, the ability to control or change the experience in real time is relatively low.

Digital technology, on the other hand, provides multiple screens and interactive narratives. The viewers have transformed into users. In contrast to cinema or television, many of the narratives are dynamic, spontaneous, and can be manipulated by the users in real time. For example, users control the content on a web site by clicking, scrolling and browsing.

This technological evolution has had a tremendous effect on our lives. Our perception of the self, identity and reality has been transformed by the creation of the digital user interface. Sherry Turkle emphasizes the development and power of the virtual screen to average users. She writes, "The development of windows for computer interfaces was a technical innovation motivated by the desire to get people working more efficiently by

cycling through different applications. But in the daily practice of many computer users, windows have become a powerful metaphor for thinking about the self as a multiple, distributed system" (Turkle 14). As the window became a screen, the viewer became a user. The screen and the grid system are constantly composed of multiple frames. The multiple frames allow multiple perspectives in real time. This shift from window to screen and viewer to user has dramatically reshaped our thinking. In the contemporary world, the new media field provides a multiplicity of possible horizons.

Time Travel, Space Travel

"The screen is at once a surface and a frame … a 'virtual window' that changes the materiality of built space, adding new apertures that dramatically alter our conception of space and (even more radically) of time" – Anne Friedberg (Friedberg 1)

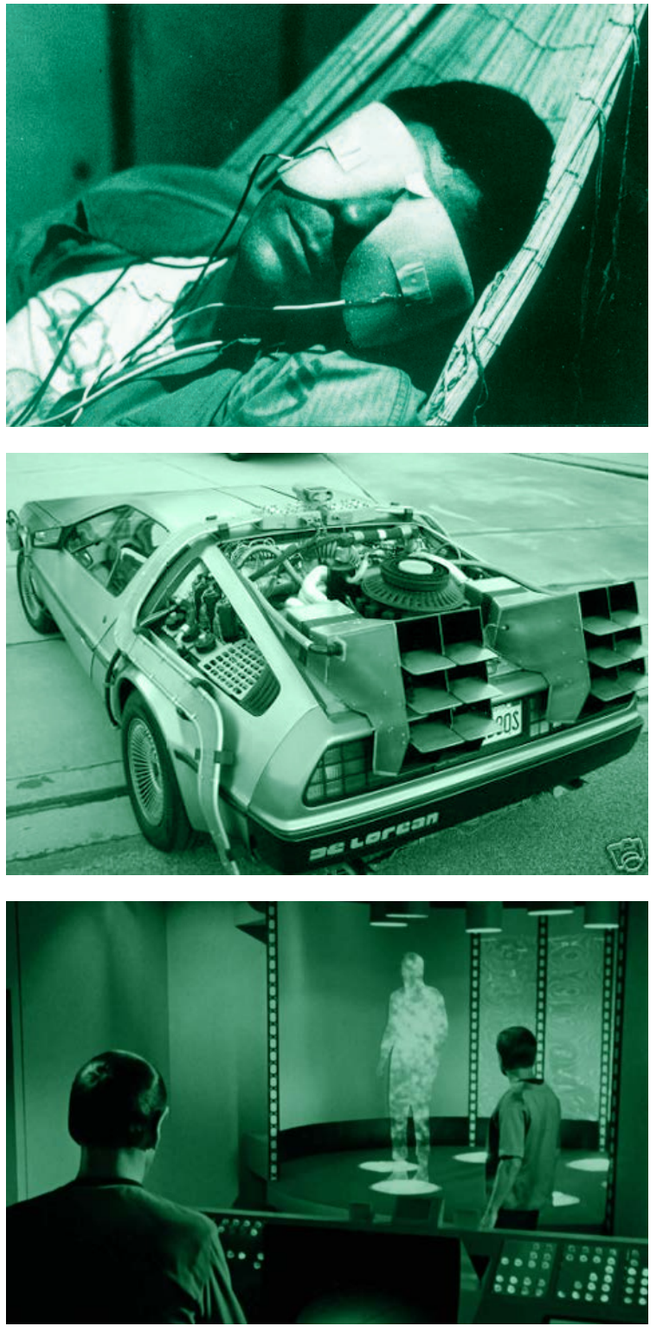
Nowadays the web functions as a space and time machine. In the past, people could only be at one place at any given time. Today, the World Wide Web provides a great opportunity to shift this thinking. Physically individuals are at one place, but mentally they have sensors all around the world—in real time (Jain).

The French philosopher Henri Bergson reevaluates how humans view time, space, and the self in his book *Matter and Memory*. Bergson juxtaposed the term "virtual" against the actual and the real. (Friedberg 145). However, this has changed, and today people perceive the "virtual" as real and actual. The new media has blurred the boundaries between the "virtual" and the "real".

William J. Mitchell explains the concept of "traveling" in cyberspace in the book *City of Bits*. "You get from place to place in cyberspace by following logical links rather than physical paths" (Mitchell 23). He provides an example of the Macintosh user interface (GUI), in which "you go down a level in the hierarchy by clicking on a folder icon to open a 'window' into a place" (Mitchell 23). He empathizes this by saying "Just as Dorothy clicked her heels to get back to Kansas" (Mitchell 23). Digital technologies provide us the ability to explore different places, to move between different points in space in a manner analogous to moving between different points in time. Moreover, the social networks provide us more sensors than ever. Our friends are continually sharing, tweeting, and posting what's happening in their life. From the users perspective, this allows another level of information and experience in real time.

By looking at our personal virtual window - the screen, we can move between different places in space and time. This affects our perspective of reality, society, people and even of the self. The computer, which was developed by humans as a tool, now shapes our own perception. Turkle explains that "the computer has become even more than tool and mirror: We are able to step through the looking glass. We navigate virtual oceans,

unravel virtual mysteries, and engineer virtual skyscrapers" (Turkle 9). The screen serves as 'glasses', allowing us virtually to move in space and time. However, this 'virtual' exploration feels very real. Those glasses shape the way people perceive themselves and others. Turkle emphasizes this by writing, "But increasingly, when we step through the looking glass, other people are there as well. The use of term 'cyberspace' to describe virtual worlds grew out of science fiction, but for many of us, cyberspace is now part of the routines of everyday life" (Turkle 9). The virtual window shapes the way people communicate, express and perceive their selves.



Clockwise from top left: La jetée (1962)
The Time Machine (1960)
Back to the Future I, II, III (1985-1990)
The Terminator (1984), Star Trek (1987–1994)

Life Through the Screen

"Being more or less constantly connected to Internet services through mobile apps and the cloud is becoming an increasingly significant part of people's everyday routines."
– Michael Björn (Bjorn 50)

If anything proves how intensely we experience our lives through the screen it is the ease-of-use of smartphones. For example, studies show that more than 40 percent of smartphone owners pick them up first thing in the morning. As soon as they wake up they log on to the Internet (Bjorn 50). Starting the day with the phone gets people into the habit of keeping it close at hand at all times.

By reading the statistics we cannot underestimate how being 'always connected' has changed and shaped our lives, relationships, and experiences. The existence of screens in our daily lives has a tremendous effect on how people perceive reality, the community and most radically the self. As Turkle describes, "Our new devices provide space for the emergence of a new state of the self, itself, split between the screen and the physical real, wired into existence through technology" (Turkle 16).

The prevalence of the smartphone emphasizes the new technology culture we are living in today. This new technology is constantly evolving, changing and shifting. The tiny screens that now fit in our pockets provide unprecedented access to our devices. How we interact with screens influences our outlook on the environment and society. The device combines a feeling of possession, obsession and control. Users are 'controlling' their lives, multitasking, sending emails, checking the weather, reading magazines, talking with friends, playing games, listening to music and looking for coupons at any time they choose. All this takes place while they are walking to the bus station, waiting in line or just in a meeting.

Mobile devices allow people to feel in control in different situations, even in unfamiliar situations or in the public space. The user experiences a virtual world while being active in a physical space. The everyday has changed from being fully interactive with our physical environment to being filtered through the virtual screen.

We perceive reality as it exists in multiple places at the same time. While we are having dinner with friends, with an equal importance, we are checking what is happening with our other "friends" on the social networks. Turkle argues that "The life practice of windows is that of a decentered self that exists in many worlds and plays many roles at the same time... The experience of this parallelism encourages treating on-screen and off-screen lives with surprising degree of equality" (Turkle 14). The boundaries between the physical world and the virtual are blurred as we shift in and out of our lives on screen.

The blurring between the physical and virtual world has both benefits and detriments for society, which designers should always consider. Digital technology allows individuals to connect, share and explore. It enables people to communicate with one another and to exchange information, no matter where they are. However, the constant engagement of what's happening 'on the screen' isolates the individual and detaches the self from what is happening 'here and now'. This negatively impacts interpersonal relationships. Often, "people sacrifice conversation to connection" (TED).

The recent ad for the new Facebook Home phone captures both advantages and the disadvantages of the social communication online and offline; "We carry our phones wherever we go, they're with us almost every second of the day. We reach for them when we have a free moment… More than anything we use our phone to connect with the people we care about… no matter what you are doing, your friends are all the time with you" (The Official Facebook). People have become comfortable relying on their phones as a constant and endless source of social connections, information, and entertainment. Often the social interactions 'on screen' replace the face-to-face interactions off screen, which contribute to the isolation. How people relate and perceive each other and themselves, changed by this constantly digital connection and communication. In her book Alone together, Sherry Turkle describes those social changes and encourages us to be aware of the side effects of technology on our minds and souls (TED).

Technology shapes and changes us. It changes the relationships with the world, one another, and ourselves. While the technology contributes to isolation and detachment from the self, designers have the opportunity to help the benefits to outweigh the disadvantages. Designers should create social networks that empower the human aspects and enable an engaging dialogue between individuals around the world. While designing human shared experiences, designers should always consider the pros and cons of technology.

The User Experience

The Truman Show (1998)

"Click, click through cyberspace; this is the new architectural promenade.
The network is the urban site before us, as invitation to design and construct the City of Bits (capital of the twenty-first century)… But this new settlement will turn classical categories inside out and will reconstruct the discourse in which architects have engaged from classical times until now. Its place will be constructed virtually by software instead of physically from stones and timbers, and they will be connected by logical linkages rather than by doors, passageways, and streets.
How shall we shape it?" – J. Mitchell (Mitchell 24)

The experience through the screen of the virtual world has much in common with the experience in the physical world. "Looking for things on a Web site and looking for them in the 'real' world have a lot of similarities. When we're exploring the Web, in some ways it even feels like we're moving around the physical space". Steve Krug, in his book *Don't Make Me Think*, describes web navigation as a type of physical navigation in a digital space. He emphasizes that "the words we use to describe the experience - like 'cruising,' 'browsing,' and 'surfing.' And clicking a link doesn't 'load' or 'display' another page - it 'takes you to' a page" (Krug 57).

The user experience term relates to the experience of human computer interaction (HCI). User experience (UX) is a term that involves a human interaction with an interface, product, system or a service. "User experience highlights the experiential, affective, meaningful and valuable aspects of human-computer interaction and product ownership" (Wikipedia). Bill Verplank argues that three main questions shape human computer interaction: "How do you do?", "How do you feel?" and "How do you know?"(Moggridge 128) Those three questions refer to three main areas of User Experience: Doing, Feeling, and Knowing. In The experience of dynamic media, Jan Kubasiewicz describes this concept as, Doing, Feeling and Knowing. "'Doing' means acting. 'Feeling' means reacting to feedback. 'Knowing' means learning and understanding the system"(Kubasiewicz 14). How does the user interact with the system? Such as, press, push, pull, click, and grab. What feedback does the user receive? For example, is it visual, audio, or tangible feedback? And how and what does the user understand and learn from the experience?
User experience facilitates the individual's perception, thought, and feeling during the interaction and with respect to the system and content it presents. The American philosopher John Dewey describes what having an experience means in the book Experience and Nature. "Experiences are individual and singular, each having its own beginning and end, its own plot, and its own singular quality that pervades the entire experience. The final import is intellectual, but the occurrence is emotional as well" (Dewey 48). Similar to Dewey's description, a user experience combines both the intellectual and the emotional. During the experience the user acts, feels and learns.

UX design focuses on the motivation and strategy of a product or a system. The system divided to a front-end interface and the back-end. The focus is not only on the look and feel of the front-end interface (the facade), but both on the 'Why' and the 'How', and the "Doing," "Feeling" and "Knowing" of the user experience. As Tim Brown, CEO of innovation and design firm IDEO, argues, "The design profession has a bigger role to play than just creating nifty, fashionable little objects" (TED). He calls for a shift to local, collaborative and participatory 'design thinking'. Design thinking not as a cosmetic solution, rather as a solution for both the emotional and the intellectual elements of the user experience.

Design thinking is a process of understanding and a form of research. The design process starts by answering strategic questions regarding the system's content and context. The strategic questions include attributes such as personas, personas' needs, goals and motives, and user narrative scenarios. The creative process is based on the following steps: observation, inspiration, experimentation, exploration, collection, de-construction, creation, and testing. The end result is an outcome of the process and the user feedback.

Over the last two decades, interactions with digital technologies have dramatically changed. This change provides designers with a new role and greater responsibility in shaping human encounters and communications. "Winston Churchill cast this point into a much-quoted aphorism: we make our buildings and our buildings make us" (Mitchell 49). And Mitchell adds, "It is time to update Churchill's bon mot. Now we make our networks and our networks make us"(Mitchell 117). The fundamental change of perceiving our lives through the screen is both a challenge and an opportunity. Designers have a new role of shaping people lives. The way designers create those networks, systems and interfaces, creates a new reality.

The radical shift in our relationship with the screen presents opportunities for

designers to shape, explore and express how humans experience, communicate, and benefit from digital technology. Human interaction with technology is becoming part of everyday life, extending the realm of human experience as well as incorporating and celebrating all of our senses. Designers have a greater role in shaping human encounters and communications, and creating new solutions for human needs.

Shared Experiences in the Digital Context

"They have worked with computers, not for the sake of working with computers. They have worked with computers because they are the medium that is best capable of transmitting some feeling that you have, that you want to share with other people."
– Steve Jobs (The Lost interview)

Shared experience refers to a moment that happens between two or more people participating in an event or act; acts such as eating, touring, playing, viewing, dancing, listening, watching, etc. Shared experience is an extended form of communication between people.

Shared experience is a human-to-human interaction around a similar act or event. For example, playing a game, watching a game, and teaching or learning how to play a game. Presently, many interactions happen in the virtual world through screens. The computer allows us to connect with other people across time and space. For example, I play a game in Boston with a friend in China through the screen. We communicate and interact even though there is a difference in time and space.

Digital media has dramatically reshaped shared experiences. Before the digital revolution, a shared experience would have referred to an action that happens between people in a specific time and space. Today, digital media allows us to share experiences with others across those boundaries. For example, two people who are meeting through Skype, one is in Boston where it's 7pm, while the other is in Shanghai, where it's 7am. The individuals can communicate with one another by using their voice, body gestures, and face expression. The ability to see each other's expressions in real time enhances the level of communication and mutual engagements. The shared experience captures more of the individual's sensors and creates a more engaging human-to-human interaction.

For the last two decades, we have been witnessing a number of new communication methods through many different platforms, services, products, networks and devices.

We are constantly talking through our smartphone, tweeting our daily status, sharing on Facebook the latest events, posting pictures to Instagram, having a conference through Skype, hanging out on Google+, sharing what we are listing to with Spotify, navigating with Waze and more and more. Probably, while writing these examples there are new social networks that provide new creative ways to communicate with one another.

The evolution of those platforms has rapidly changed and expanded, dramatically affecting our lives. As Lori Takeuchi and Reed Stevens writes, “We have grown accustomed to talking about social media—those contemporary and ever expanding platforms that exist for people to create and share content on the Internet. In a mere decade, social media like Facebook, Twitter, Second Life, and World of Warcraft have become ubiquitous parts of our collective lives. There is a sense, however, that all media use has always been, at least in part, social” (Stevens & Penuel 3). The way we communicate and experience the world changes constantly.

This extension, gives designers an opportunity to create and shape a variety of shared experiences between people around the world. As technological solutions and opportunities increase, designers should be aware of the kinds of shared experience and networks they design and create. Sherry Turkle argues that “We have the opportunity to build new kinds of communities, virtual communities, in which we participate with people from all over the world, people with whom we converse daily, people with whom we may have fairly intimate relationships but whom we may never physically meet” (Turkle 9). Not only do we have the opportunity to build new kinds of communities, we have the responsibility to build new paths to shared experiences.

In the work of Stevens & Penuel, Studying and fostering learning through joint media engagement, I have found an inspiring concept that describes sharing experience with media as a learning tool. This model has been discussed by Joint media engagement (JME) and refers to spontaneous and designed experiences of people using media together. JME can happen anywhere and at any time when there are multiple people interacting together with media. Modes of JME include

Jumanji (1995)

viewing, playing, searching, reading, contributing, and creating, with either digital or traditional media. JME helps articulate the ways in which dynamic media engages social media, and it is a way of thinking about shared experiences with media.

Throughout this thesis I will suggest 3 main properties for designing engaging shared experiences across time and space: Collaborate, Express and Explore. My model relates to the goal of shared experiences in the form of curiosity and dialogue. Engaging in these types of experiences helps us learn something about others and about ourselves.

Designing Shared Experiences

Being John Malkovich (1999)

"Once the designer's art was composition, now it is choreography. In a fluid four-dimensional world, the problem is not so much to get the fixed thing right as to find an elegant sequence of evolving relationships." – Chris Pullman (Pullman 168)

Based upon my experience of designing applications for screen-based shared experiences and learning from their outcomes, I have developed a formal design philosophy that aims to nurture the experience of diversity in a spirit of curiosity and dialogue. My approach consists of three key properties that should be integrated deeply into the user experience:

1. Collaborate

Collaboration refers to human-to-human interaction. It allows users to discover, create and share with one another, as a shared experience. The Collaborate element fosters a dialogue between individuals, and promotes a sense of community for a shared goal.

Collaboration empowers a peer-to-peer approach, in which participants create and share with one another. The freedom of users to share their points of view promotes cultural diversity. Collaboration sustains the community and increases the mutual engagement of the individuals in the experience. The User Experience is made more powerful and engaging through a social shared experience.

Collaborative interaction creates playful and engaging shared experiences. Similar to human-to-human interactions in the physical world, each interaction should evolve organically from the nature of the individuals who are participating.

2. Express

Expression refers to user-generated content and the ability of the users to contribute their input into the interactive narrative. The user can explore and discover as well as create and share. The users contribute their input as an essential part of the collaborative interaction. The users' expression can be in a variety of forms—image, sound, body gesture, face expression and more. In addition, Express enables crowed-sourced platforms, in which the users' input provides real-time feedback.

Expression enables evolving relationships and unexpected moments of human interaction. Systems should be designed responsively with the intent of receiving unexpected real-time user generated content. The interaction should be fluid and dynamic and aim to promote self-expression of the individuals. The focus is on human content and expression versus control. The design of the interface provides room for spontaneous moments of human expression and play. The feel of wonder and curiosity keep users engaged and encourage users to browse, explore and discover.

In addition, the Express property emphasizes the human centered design approach where the user's needs, wants, concerns, and limitations sit at the center of the system. The users creativity and voice is given extensive attention at the design process.

3. Explore

Exploration refers both to physical and conceptual boundaries, addressing the manipulation of time and space in the digital context, and blurring conceptual mental boundaries, such as privacy and intimacy.

The shifting of time and space is a core notion of the virtual world. Digital media allows shifting from different media types, time zones, locations, and from the physical world to the virtual world. In order to design shared experiences in the digital context; designers must bend and blurred those concepts of time and space.

Exploration, when discussed as a design property, empowers both the tension and the opportunity to contrast relationships between opposites. The manipulation of time and space blurs the boundaries between pairs of conceptual opposites terms: inside-outside, natural-artificial, private-public, physical-virtual, community-individual, spontaneous-planned.

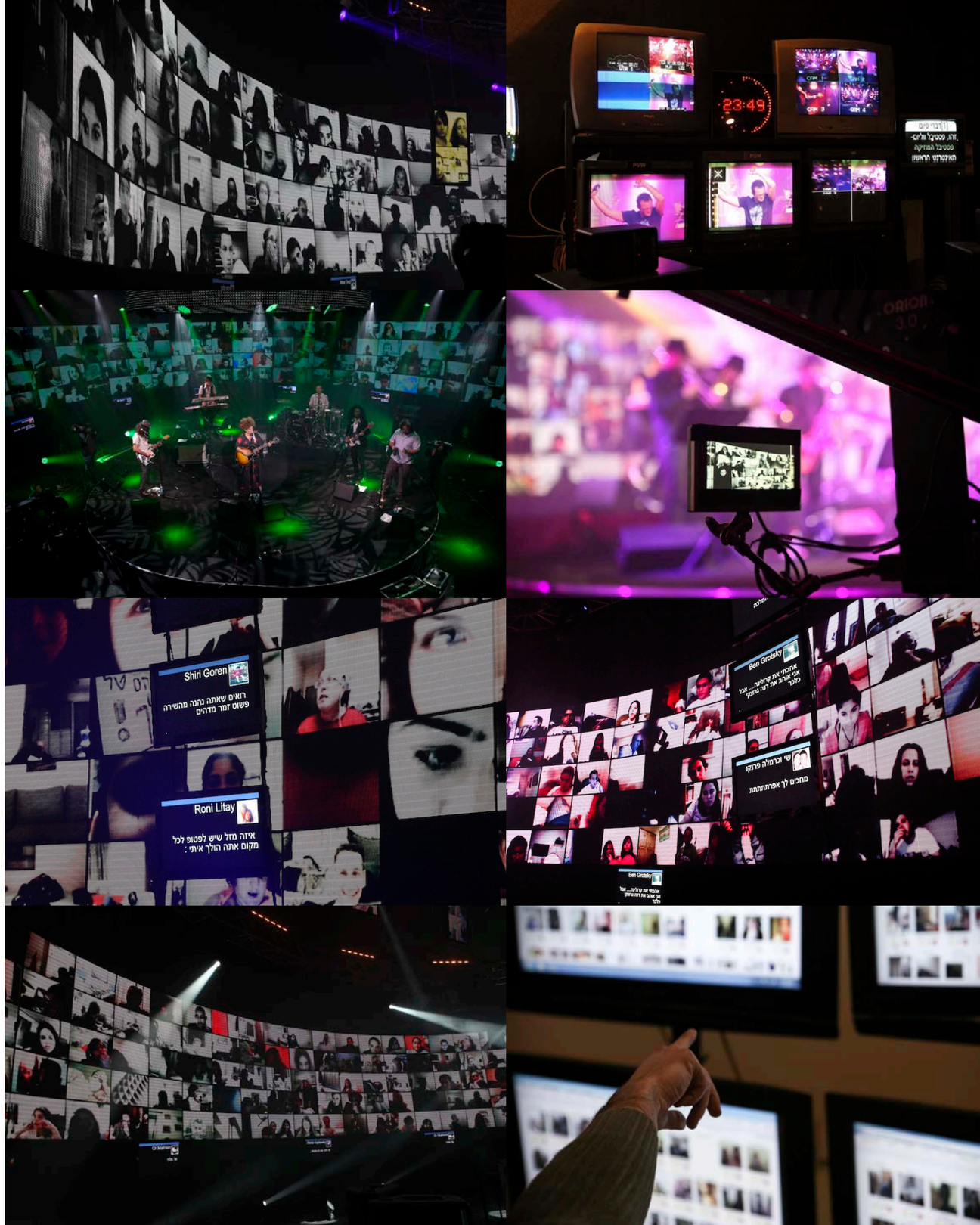
Cross-boundary design allows designers to create engaging shared experiences with people from different places and cultures. By crossing, manipulating and blurring boundaries, we create an opportunity for unique dialogue and a variety of social experiences.

Volume – Online Music Festival

The Volume online music festival is an example of an interactive system that incorporates the three user experience design properties: Collaborate, Express and Explore.
Volume is an Israeli music cross-platform service which offers digitally-restricted streaming of selected music. The service was provided in Hebrew and Arabic for the Israeli local community and was developed by Logia Mobile and Cellcom LTD.
I designed the Volume music service brand Identity and the graphic user interface.
The Volume service was launched by the *Volume online music festival* event.

Volume Festival was a five-day virtual, live streaming concert. Viewers were able to watch and interact in real time with the performances from their home. Home viewers could use webcams to display their images on one of the hundreds of screens in a special studio and could react to the performance live. Their messages were presented on the screen, allowing the performers to react in real time to the viewer. For an entire week, Israeli musicians performed live before tens of thousands of online viewers. At the same time, the viewers could watch performers and communicate with them as if they were present in the studio.

The interaction between the performer who sang in the empty studio and the cheering crowd at home captured the three properties of shared experiences. The music festival happened in the physical studio, and simultaneously in the user's homes. There was a manipulation of space in real time, allowing users from different places to participate. The crowd was able to virtually clap hands, cheer and send messages to the performers. The live feedback enabled collaboration and spontaneous expression between the users, and between the users and the performers. The users were able both to listen to the show and to share their own feelings and thoughts. It was a shared experience, of users enjoying music together, across boundaries.



Volume – Online Music Festival, Cellcom

Shared Experiences & Experiments

DMI Bunch (2013) In collaboration with
Fish McGill & Jeremy Sherman

Posting & Exploring

Insights

Collaboration: Users share different points of view from cities around the world.

Expression: Users choose and submit an interior and exterior image of their living spaces.

Exploration: The project enables the comparison of multiple rooms and places around the world.

Overview

The Insight project is an interactive website, allowing users to explore a world map representation of people's points of view from all around the world. The users post two photos of their place of residence:

1. The exterior - A picture of the view from his/her window.
2. The interior - The view of the inside of the room. This platform enables exploration and discovery in a variety of places.

Process

For four years I lived in four distinctly different cities: Tel-Aviv, Boston, Jerusalem and New York. I made a basic processing sketch of a loop that captured the four panoramic views of the four cities. The visual alignment of the places emphasized the similarities and differences between the places.

Moving to a new country and meeting new people, inspired me to expand the experience of exploring a new culture to a platform which will enable a shared experience with others.

The project is based on the willingness of people to share and publish their photos. I used social networks such as Facebook and Google+, to reach out to friends from different regions. I requested the following:

> *I'd appreciate your help by taking two pictures.*
>
> 1. *A picture of the view from your window (the exterior).*
> 2. *The view of the inside of your room (the interior).*
>
> *Please consider these suggestions:*
>
> - *Taking the pictures in vertical format.*
> - *Better during daylight.*
> - *Camera phone pictures are just fine.*
>
> *Please include information about the location of the photo (City, Country).*

I received pictures from many places, from Beijing, Hong-Kong, Barcelona, Jerusalem, Bangkok to Boston. I collected, reorganized, and cropped the photos to the same vertical format.

The outcome was rich both visually and contextually. Each photo was unique, special and personal. The photo collection allows the users to explore both the diverse places, as well as the personal features in each room. The photo of the interior allows a personal glance into people's lives. The photos tell a story about the person who lives there. By looking at the photos, the user can learn and discover many personal features about the person. The room design reflects on personality and psychological aspects, such as organization, creativity, and habits. By observing the types of objects in the bedroom one can learn about the person's hobbies, professional and personal status, religion, and culture.

As the creator, I was surprise by the variety and richness the images. Despite the specific instructions, many people misunderstood or reinterpreted the request. One of the users took a picture outside of the window, instead of the view from the window (lucky, he lives on the first floor). Another picture was taken with a person watching TV in the middle of the room. Others were very blurry or had an unexpected composition. This was integral part of the outcome, and I understood that I have to focus on the content and not on control.

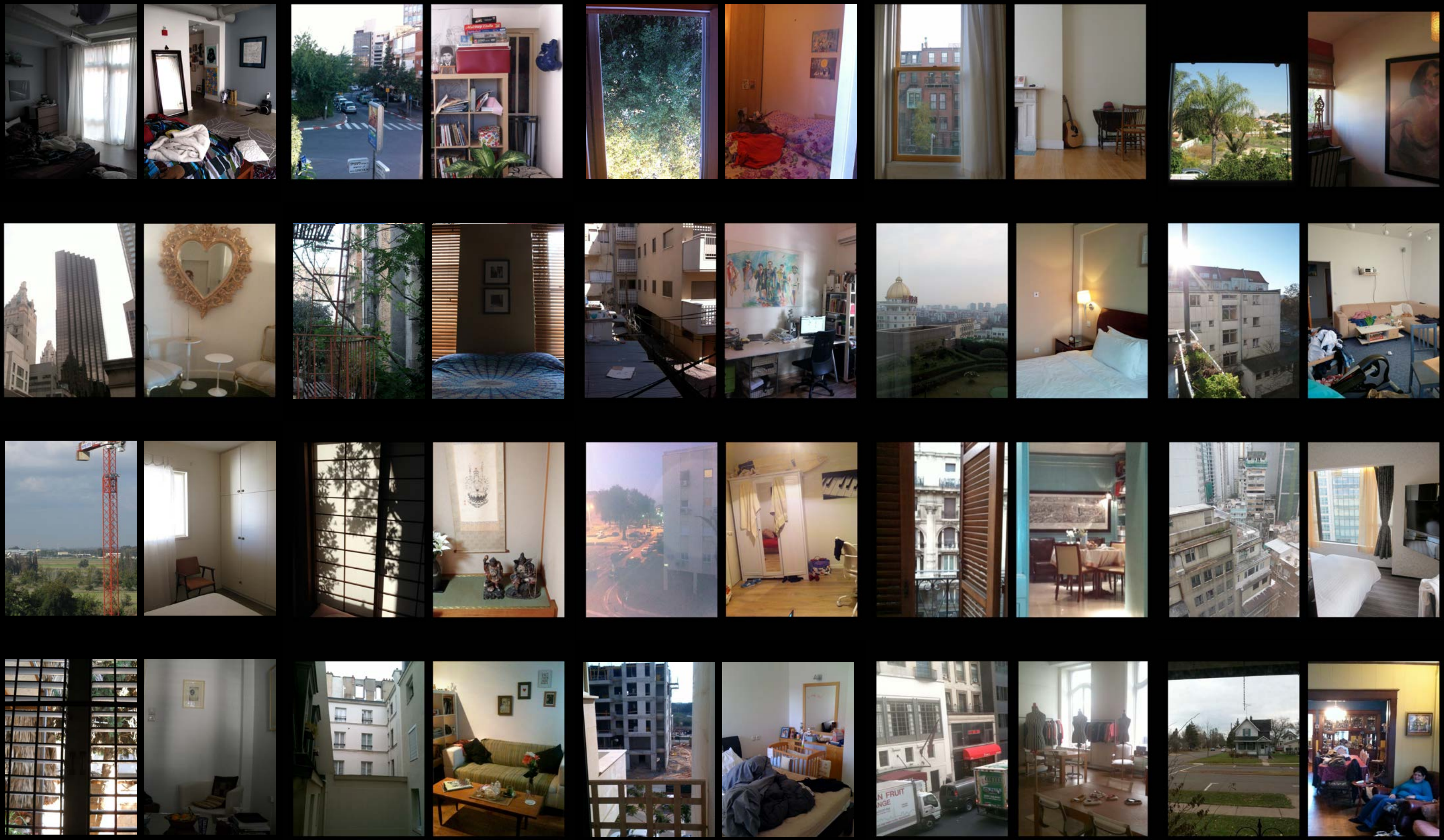
Processing sketch, four cities

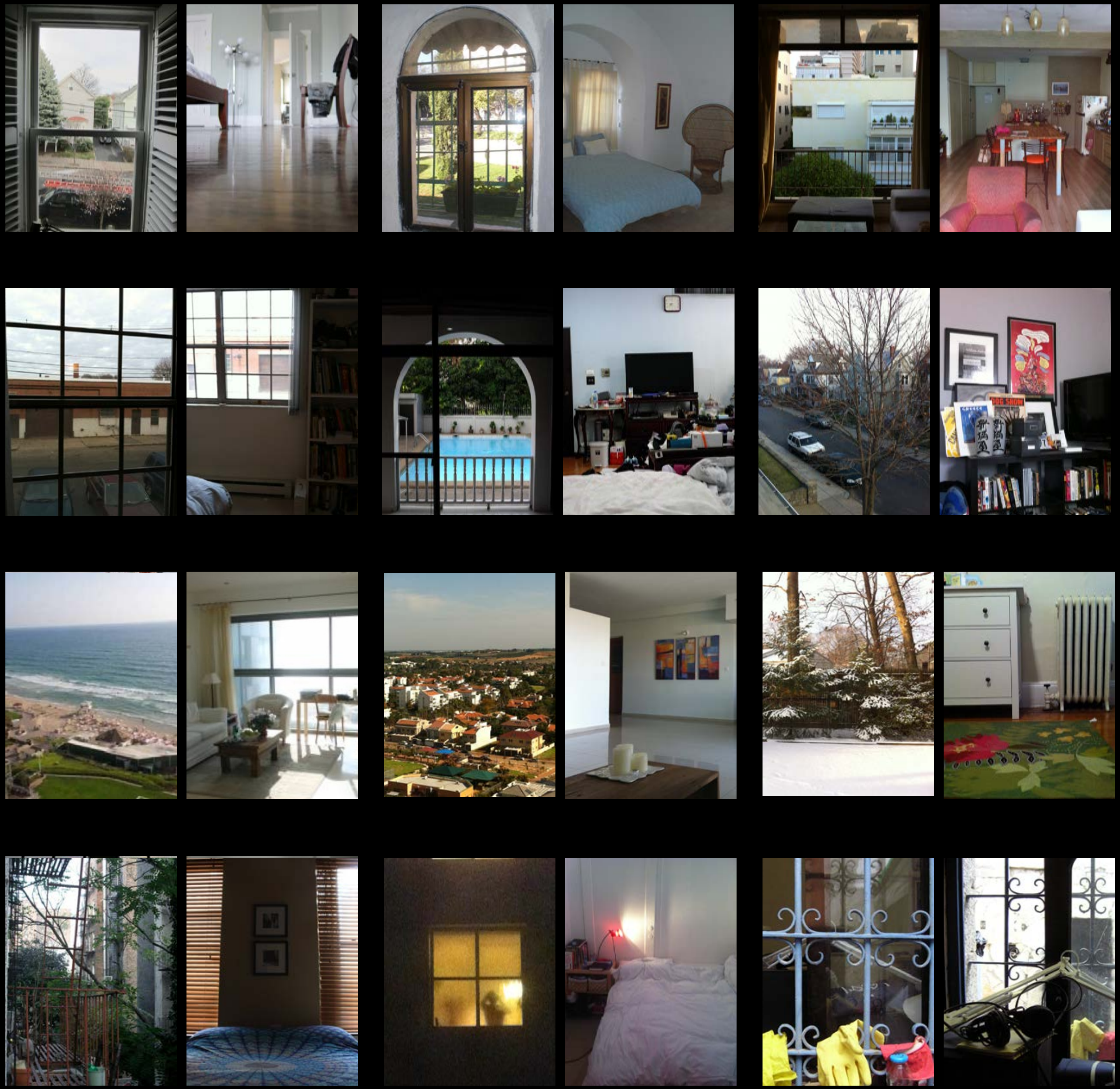
Project Summary

The Insight Project is a visual representation of places around the world. The world map is composed of users' views from cities around the world. Users can navigate and explore the images and can share their own perspective by presenting two pictures of their own:
1. The exterior - A picture of the view from his/her window.
2. The interior - The view of the inside of the room.

The two photos are a chance for a more personal, individual output of our world today. While in social networks users are limited to their friends' data, here they have the chance to discover and explore different people, places and cultures. In this platform the boundaries of objective/subjective and personal/public are blurred by the users and their individual insights.

"Insight" celebrates cultural diversity and the connection between people. From Hong-Kong to Barcelona, there are insights into the authentic lives of people around the world. This glance allows individuals to participate in the daily life of someone geographically and culturally distant. The goal of the project is to increase mutual understanding worldwide.





Ziv Arbel, Barcelona

Itay Marom, Tel-Aviv

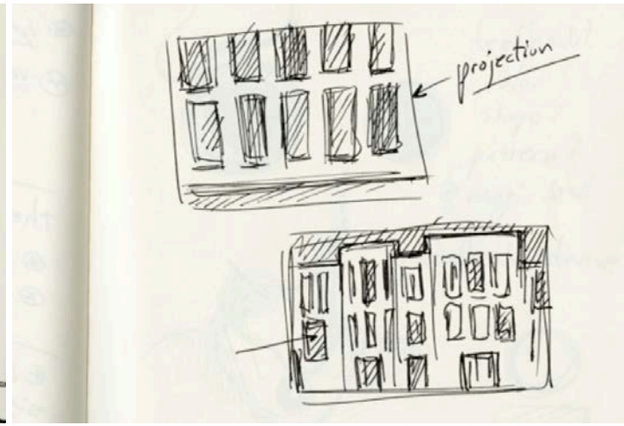
Conclusion

The project is based on user-generated content; collecting visuals from people across geographical locations. It focuses on the content versus control of the images. The variety of images and the diversity of the users are at the core of the experience. The platform enables shared experiences of exploring and discovering new points of view. Users can share their perspectives, as well as reveal individuals' narratives from all around the world.

In addition to the virtual world, I would like to expand the project into the physical world. My goal is to create an art installation in which the Insight pictures will be projected on building facades in different cities and countries.

The projection will take place in an urban landscape, and will be accessible to the community. The images will be projected from the inside of the building's windows onto a screen located in the window and facing the street. From the street view, different windows will contain different images from around the world. As the projected images continually change, they will reveal views from different rooms and windows around the world.

The urban installation will add another layer of interaction to the experience. The public will be able to explore and discover different cities and shared interiors—creating new relationships from familiar settings.



Performing & Showing

RoomTour

Collaboration: American teenagers engage in a dialog by giving, and comparing, tours of their bedrooms.

Expression: The teenagers use YouTube as an opportunity to perform to others.

Exploration: The project emphasizes the similarities between the teenagers and their bedrooms across different geographical regions.

"So what is a Room Tour? Apparently it's something that many people here in YouTube do. You just kind of give them a tour of your room" (juicystar07).

Room Tours are a recent phenomenon featured on YouTube . It refers to videos in which people present their rooms to the curious viewers. They show their rooms' interior design, even what is inside the drawers: from clothes, socks, makeup, magazines, and pictures, to electronic devices. My RoomTour piece is composed of 9 videos, which were all downloaded from YouTube. These videos are extremely popular, with the most popular video having more than 3,400,000 views.

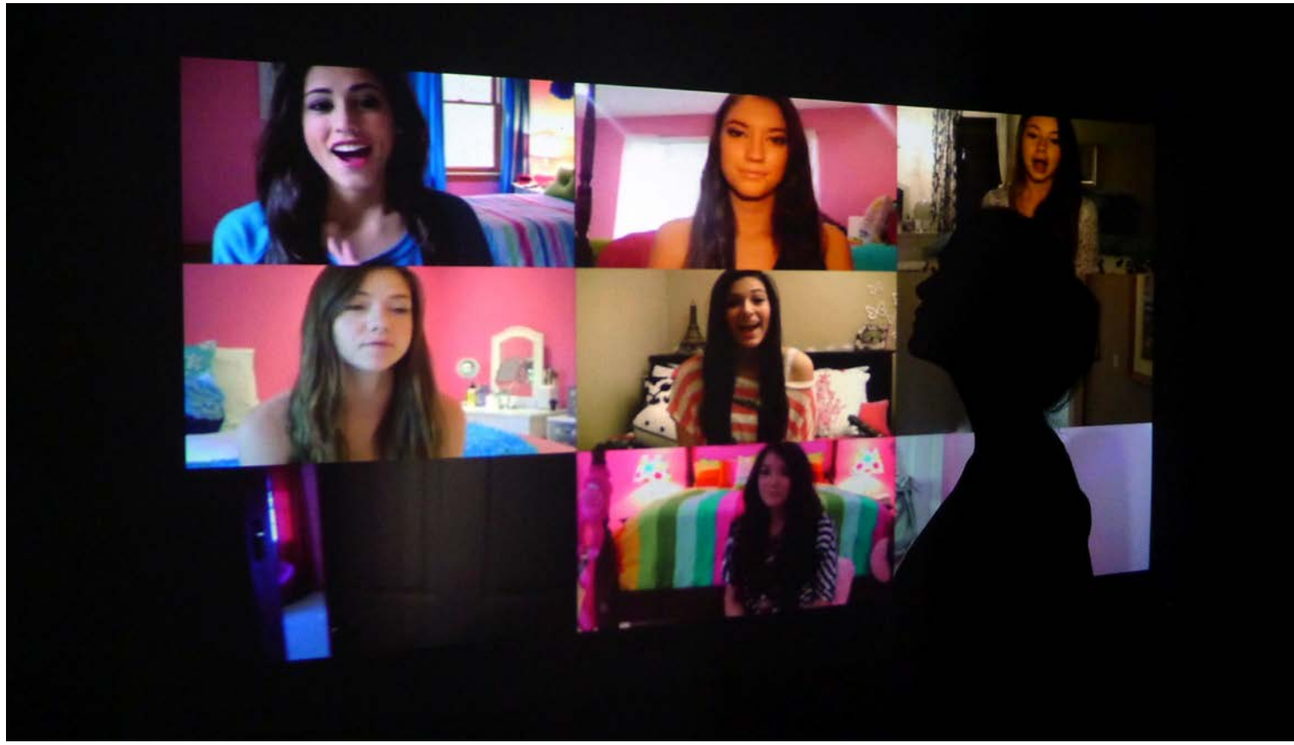
Back2School

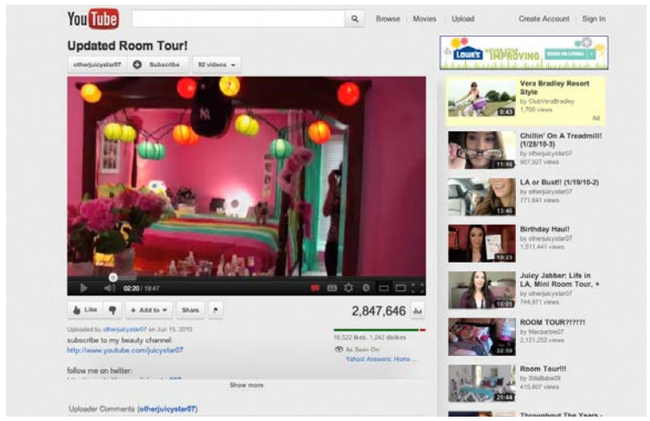
Collaboration: A group of female American teenagers engage in a dialogue by uploading videos describing how to apply makeup for school.

Expression: The teenagers perform and present makeup walkthroughs via YouTube.

Exploration: The project enables viewers to compare the before and after look, and the similarities between the multiple teenagers.

Back2School is a collection of user-submitted videos depicting female American teenagers showing the viewers how to apply makeup for school. The girls show the different products, explain the steps, and apply the makeup on their faces. The videos start with the girls wearing no makeup, and end when they proudly present the final result—wearing heavy makeup and ready for school.





Back2School (2013)

Collaborating & Eating

Sharing Breakfast

Collaboration: Friends share breakfast and conversation via Skype and Google Hangout.

Expression: Participants show how they make breakfast and what they consume.

Exploration: People who are geographically separate share moments of togetherness.

Overview

Sharing breakfast is a series of experiments in which I shared breakfast with family and friends through digital platforms, such as Skype and Google Hangout.

The Experiment

Many of my experiments started from my own attempts of communicating with my family while overseas. Last year, I experienced Passover with my family from afar. Passover, a Jewish holiday, is a cultural ritual in my family. This Passover, my younger sister was in Bolivia while my family celebrated in Israel and I was in Boston.

We set a shared time to connect through Skype and to be part of the Seder. I was displayed on one iPad screen while my sister was on another screen. It was a moving and special experience for us. I was greeting my family while seeing my sister "on the other side of the table" talking from the second screen. There were 4 main digital interactions including: interaction between me and my family (2 elements, screen-to-screen), my interaction with my sister through my family's screen (3 elements, screen-to-screen-to-screen), and the same from my sister's point of view from Bolivia. The three locations of Bolivia, Israel and Boston were connected in real time by the digital platform.

I explored the concept of holidays, rituals, family dinner, and then the concept of multi-guest dinners. This brought me to explore the concept of multiple users all sharing an experience. I explored this subject with video conferencing of people doing the same act - sharing the same experience. I have used Skype and Google+ as my "experiment lab". I designed the experiment to be in the social context of eating breakfast.

For my first experiment, I had a breakfast over Skype with my friends Fish and Sheryl. It was the first time that we had breakfast together. First they showed me what they are eating. We found out that we were eating similar things, and moreover, we found out that we had the same exact cups and bowls. It was a fun and engaging experience. We talked about the weekend, drawing, and art. We showed our sketchbooks and illustrations. I felt the experience was very engaging, personal, and intimate and even brought us closer.

In the second experiment, I had a breakfast over Google+ with my great classmates: Fish, John, Saul & Stephanie. Once again, it was the first time that I had breakfast with John, Saul and Stephanie. People showed stuff: what they are eating, their dishes, and how they

make the food. Fish made an omelet during the video conferencing. While it was less intimate because of the group dynamic, we still had the chance to see each other early in the morning in a more personal, private setting (in the bedroom, kitchen, etc.)

After John and Stephanie left, Saul, Fish and I kept talking. Suddenly an unexpected guest joined our conversation. It was my cousin from Israel who saw I was online. This was a great spontaneous moment where I lacked control and was surprised by the platform. Not to mention that it was the first time that they all have met.

Conclusion

The shared experience of having breakfast with friends via digital platforms emphasized the design properties: Collaborate, Express, and Explore. The experiment explored sharing moments of togetherness with people in different geographical regions. The collaborating and sharing from afar, blurred the geographical space. The experiment underscored the dissonance of being together and apart.

Digital technology enables us to have a shared experiment with someone who is physically distance. As Lori Takeuchi and Reed Stevens writes,"We have grown accustomed to talking about social media—those contemporary and ever expanding platforms that exist for people to create and share content on the Internet."-And they emphasize that "We need to better understand how people use media together and how individuals interact with and around all forms of media" (Takeuchi, Stevens 4). I want to capture what I have learned from this experiment and to integrate it in future platforms that I will develop.

Cooking & Talking

Breakfast Sound Experiment

Collaboration: People across the globe communicate with one another by demonstrating how to make breakfast.

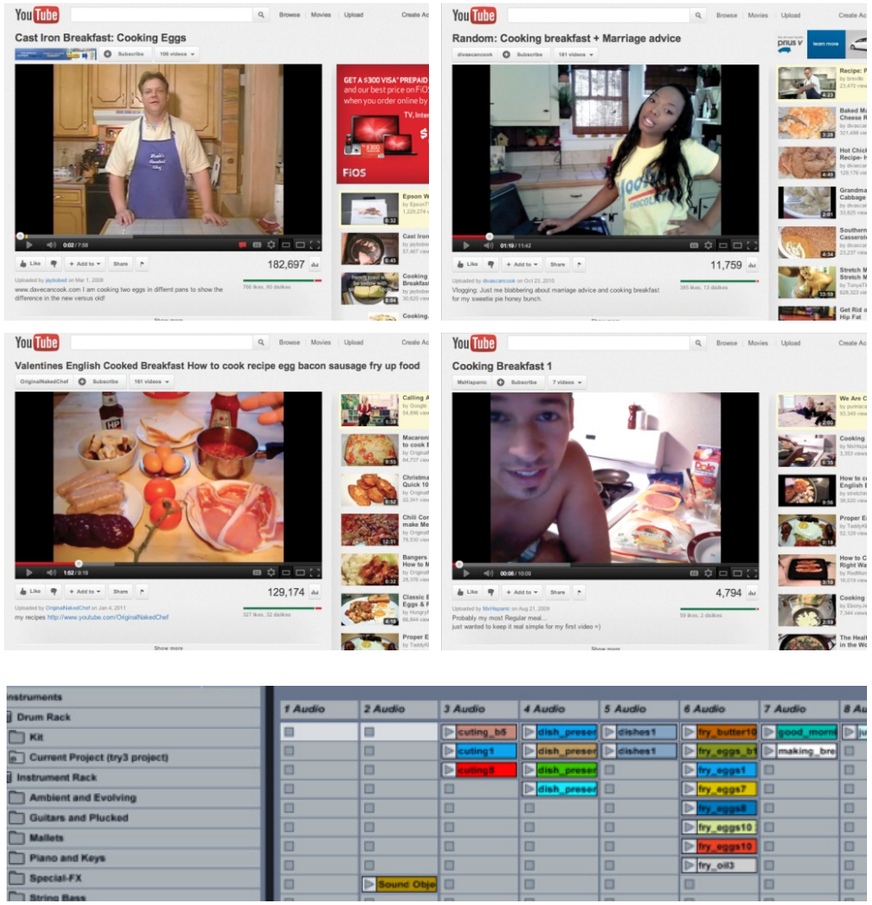
Expression: People use the YouTube platform to perform and share their stories.

Exploration: The project compares the variety of dishes, stories and personalities in the context of culture and region.

Overview

Cooking Breakfast is a conceptual sound experiment. It is composed of a variety of YouTube videos, with one common factor: cooking breakfast. All the videos show different people — an American teenager, a Mexican grandmother, a macho old British guy, and a sweet Japanese girl — making breakfast in their home.

I captured all the sounds and then divided them by actions. For example, cutting, boiling, chopping, talking, etc. Instead of sound libraries of drums and guitars, I had libraries of frying oil and boiling eggs. I experimented with them and made several conceptual sounds experiments.



Meeting & Expressing

Chatroulette experiments

Collaboration: The act of drawing, during a random meeting, transforms the expected social reality of Chatroulette into something unique and surprising.

Expression: Communicating through image redefines expectations and transforms the user relationship.

Exploration: Random users from around the world are engaged in a shared experience through drawing, this enables us to compare and explore the multiple reactions and personalities.

Overview

"Chatroulette experiments" is a series of experiments where I interacted with random users through the Chatroulette Platform.

The Experiment

Chatroulette is an online chat website that pairs strangers from around the world together for webcam-based conversations. The chat connection is random. The users don't have control of who or what is going to show up at the screen. They have the option to stay or leave by "roll the roulette" and press the next button. The UI is very basic and simple. The screen is composed of three frames: one of you, one of the other user and one basic art board where the users can draw or text.

In my first experience I logged in and chatted with a few random people. I interacted with a variety of people from all around the world—from a young girl from the United States to a tattooed guy from Brazil. With some people it was fun to chat with. However, with some I had to quickly press the Next button. Along with nice and interesting people there is a high percent of pornography in this platform.

While I was chatting I experienced a number of mixed feelings such as: suspense, drama, tension, foolish, curiosity, and disgust. The online chat platform is prurient; it's full with nudity and pornography. In order to avoid these kinds of interactions, I had to quickly press the next button many times. At the core of the platform is the sense of lack of control

And then something happened. A young guy from Italy started to draw on the art board. I joined him and we made a few shared sketches. We doodled together. We took turns adding details. This was a fun and engaging experience. I pressed the Next button and noticed that on the new user profile it says: "I wanna make a drawing". Once again, we doodled together. Then, I cleared the art board and started to draw his portrait. This was a great experiment. I was very curious about his response; however, once I completed the sketch the browser crashed. I had to try this interaction again. I logged in and started to chat. The user said "hello" and I replayed "Hi, one sec" and started to draw right away. I repeated this experiment and drew over 20 people. I felt that something special and unique happened.

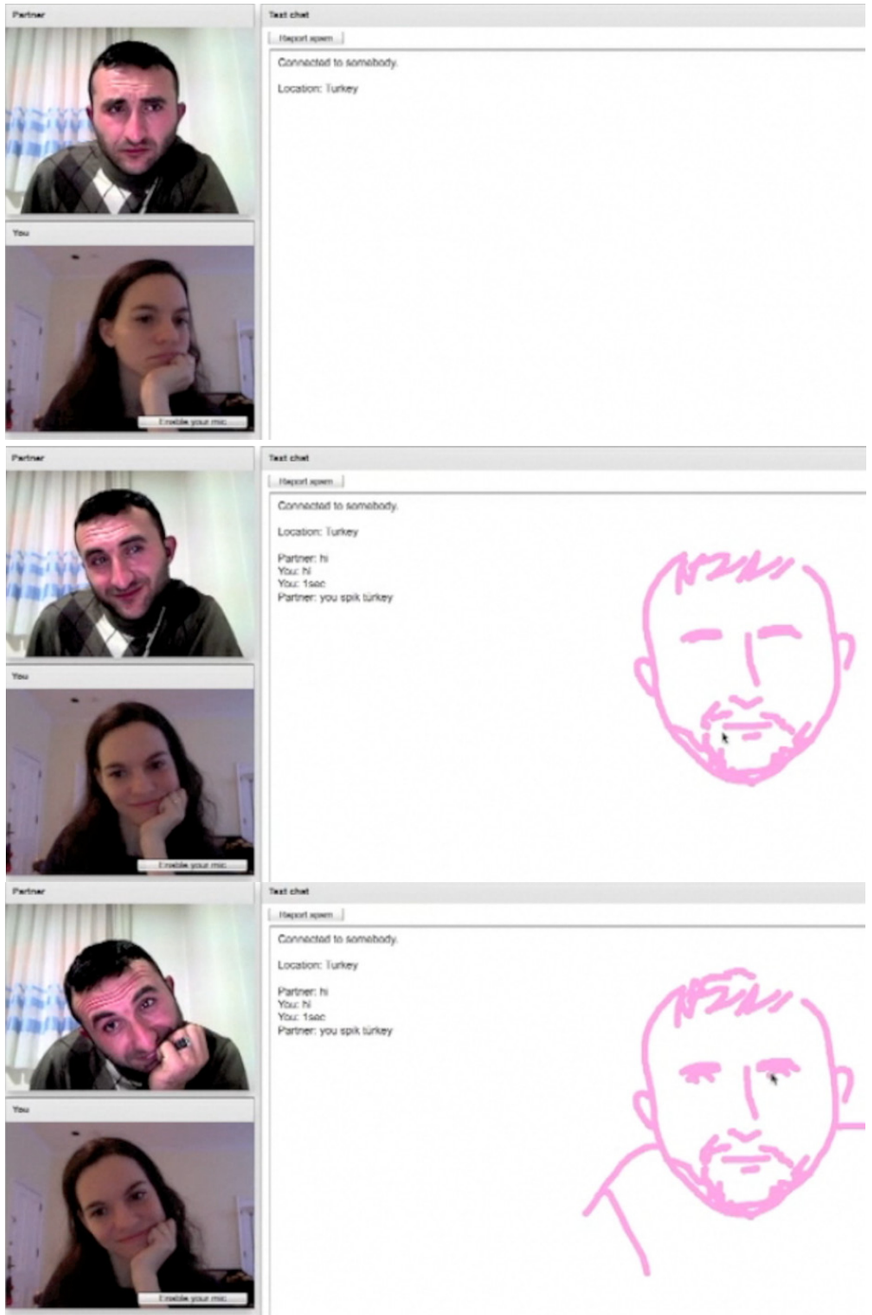
The interaction was Intriguing and engaging. There was a common pattern in the users' behaviors. At the beginning of the conversation we both were suspicious, isolated and apathetic. The user was curious about my actions, trying to figure out what I was doing. Once they realized I was drawing their portraits there was the "aha moment" - the defining moment when the user recognized that they were being drawn.

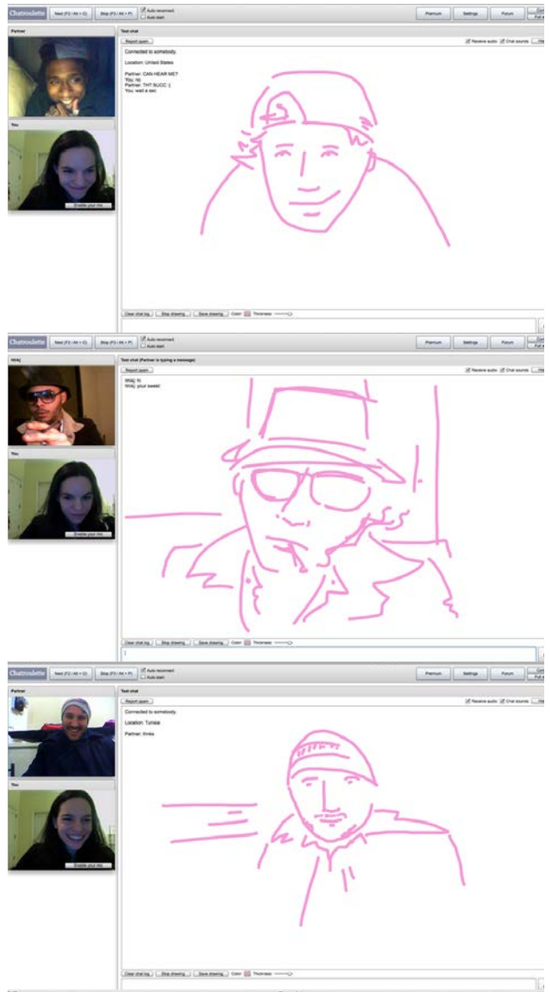
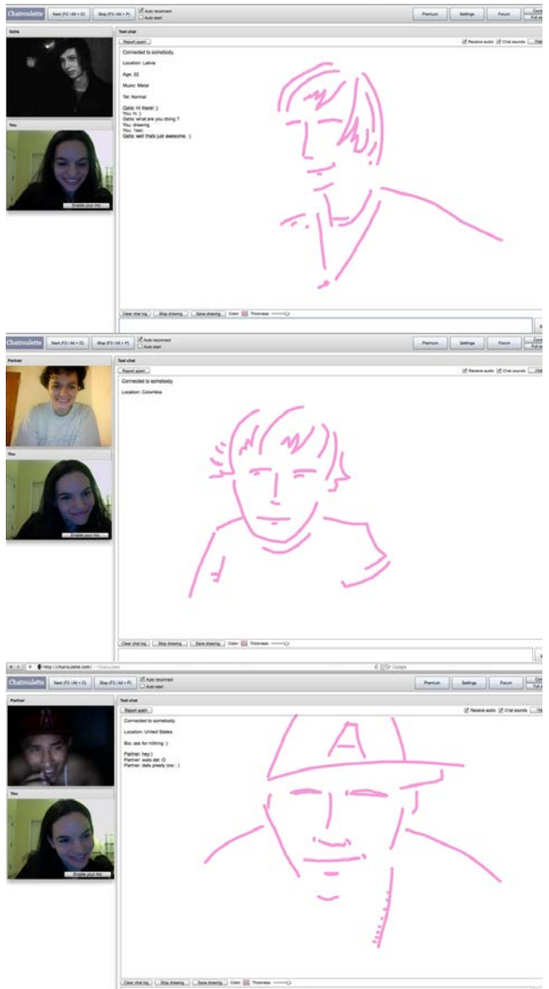
Their facial expressions changed dramatically, people were surprised and a bit confused. They start to smile and giggle. They became friendly and seemed happy. They thanked me and carefully followed the drawing, my video image, and their video image. It was a brief interaction, only 2-5 minutes. Once I finished the drawing, I texted "thank you, bye bye" and pressed Next.

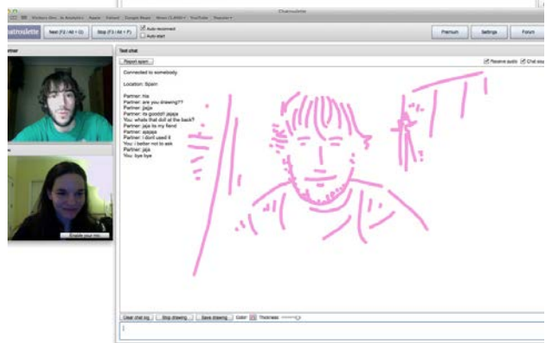
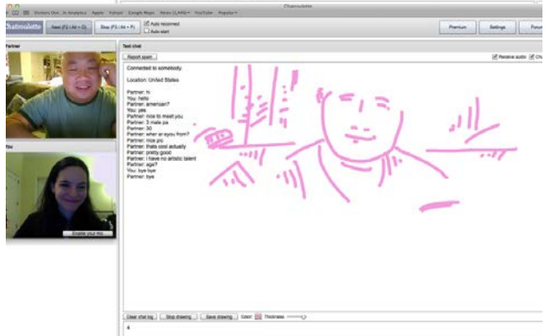
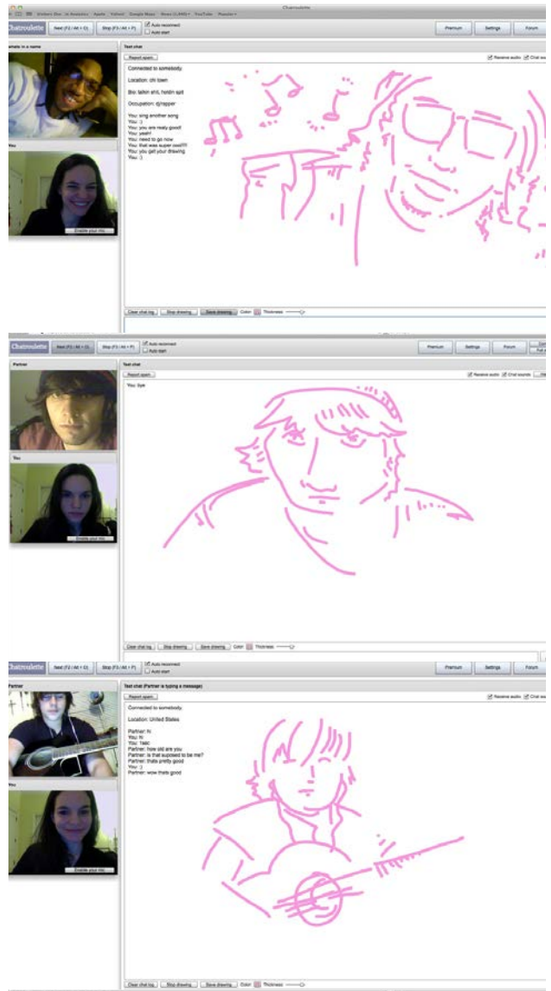
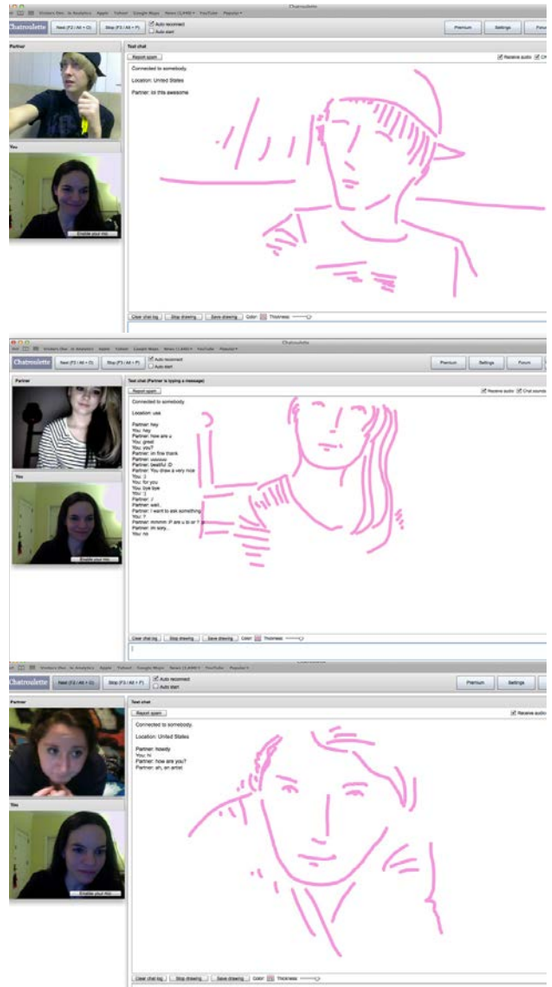
The interaction expanded from 2 elements - the user and myself, to 3 elements - the user, myself, and the drawing. The drawing was my own interpretation of his/her image. The user perceived my image, their image and my perception of their image. I felt that this interaction was an authentic shared experience bridging the gap between two people.

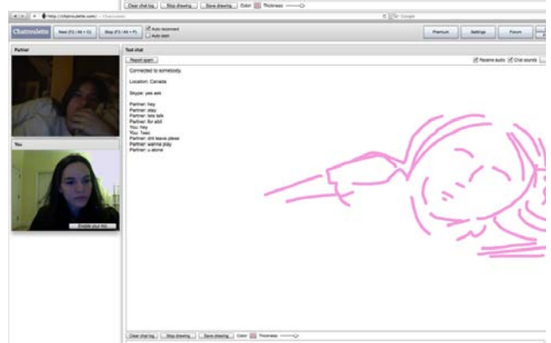
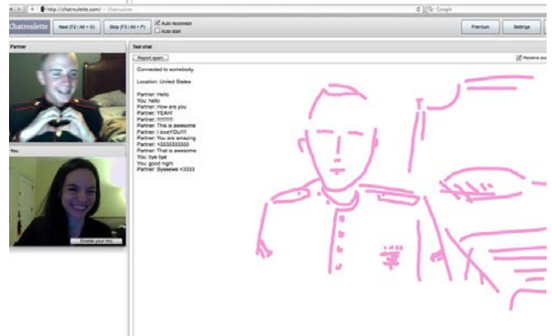
During the second experiment I recorded the screen. I drew a guy from Turkey. When I looked at the video I was amazed. Once he recognized that I was drawing him, he started to smile and mimic me. While I was drawing he was unconsciously imitating my facial expression and body gestures. We became physically similar.

For my third experiment I made a processing sketch of a basic UI composed of two videos and one simple art board. I connected an external camera to capture the user and projected it in a larger scale. The personal computer screen allowed a private human-to-human interaction. The large scale and the new context affected the interaction dramatically, making it less intimate and less focused.



Conclusion

"One hundred percent my window into the world." – Ternovskiy (Ioffe)

This quote is from the Chatroulette founder interview in the New Yorker. It emphasizes his perception of the virtual screen. Ternovskiy describes a radical state of mind where the platform is 100 percent his window to the world. While I don't identify with this quote, the Chatroulette platform enabled me to meet a broad range of people and to participate in people's lives all over the world.

The Chatroulette experiment emphasizes how important is to elevate human aspects in a shared experience. The experiment captured the three shared experience design properties. At the core was the spontaneous expression. By drawing the users portraits I was able to change the atmosphere of the chat and the relationship. The users transformed from suspicious to happy. The interaction brought us closer and was a strong mutual engaging experience.

This shared experience had a strong emotional aspect. The drawing brought us closer. The users' facial expressions and body gestures provided a clear message. We became physically similar. The fact that they spontaneously and unconsciously mimicked my facial expression and body gestures was striking evidence. By changing one element in the interaction we can dramatically affect the relationship between the users.

This experiment gave me great raw materials for future investigation. I documented more than one hundred screenshots along with the portraits of all the users with whom I talked. The experiment inspired me to continue working on projects in the spectrum of drawing, painting, photography and new media. I will show next project Partners in which I explored the ability of visual manipulation, framing and communication in paintings.

Capturing & Representing

Partners

Collaboration: The act of capturing and painting the users' portraits extends the one-on-one interaction from the artist to the viewers in the gallery.

Expression: The visual representation in a gallery setting enables reinterpretation and exploration.

Exploration: Viewers are engaged with the digital interaction through physical painting.

Overview

"Partners" is a series of paintings of random users with whom I chat in the Chatroulette platform. While I chatted with people, I captured the screen with their images and printed the frames. Using these frames as references, I drew the portraits in a large scale, using mixed techniques on cardboard.

The users are not aware of the fact that they were documented, drawn and was presented in a gallery setting. Moreover, because of the random feature of the platform I have no way to connect them. The only information I have is the exact time of our virtual meeting (time and date) and their image.

Partners (2013)

Connecting & Communicating

OkiToki

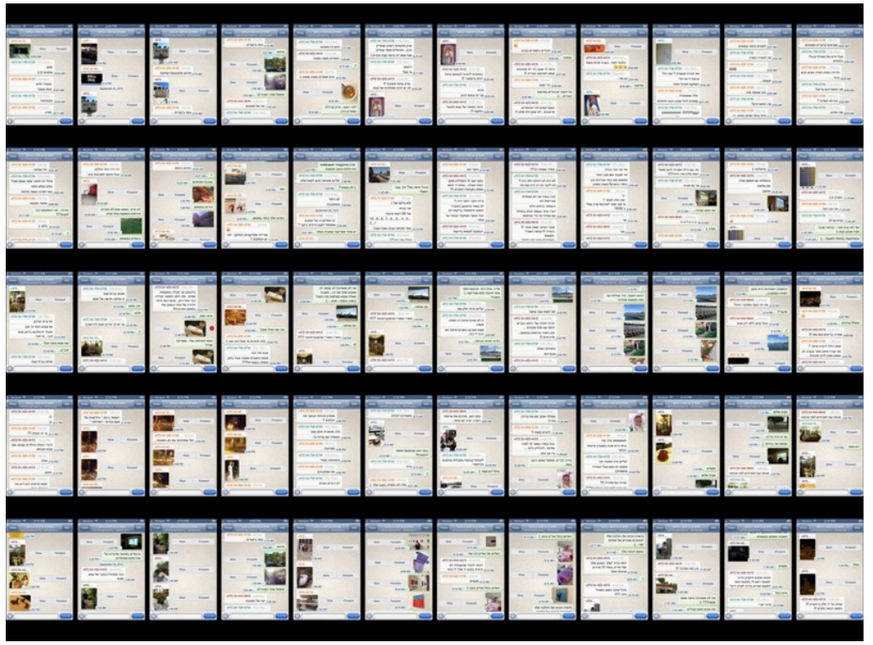
Collaboration: The application enables real-time interpersonal and informal dialogue between close friends or relatives from afar.

Expression: By posting images and comments with one another, people engage in a relationship of being together and apart.

Exploration: The application aims to make geographical space disappear while revealing the time differences between the collaborators.

Overview

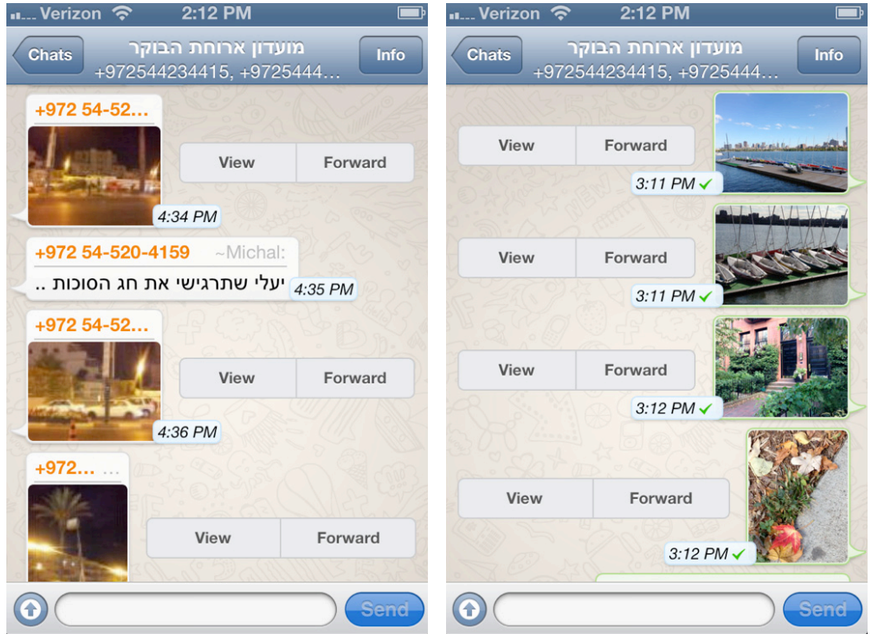
OkiToki is a mobile messaging application, which enables real time modular dialogue between people in different places around the world. The conversation takes place in real time using mobile devices. The design was inspired by my own interaction and communication with my family abroad.

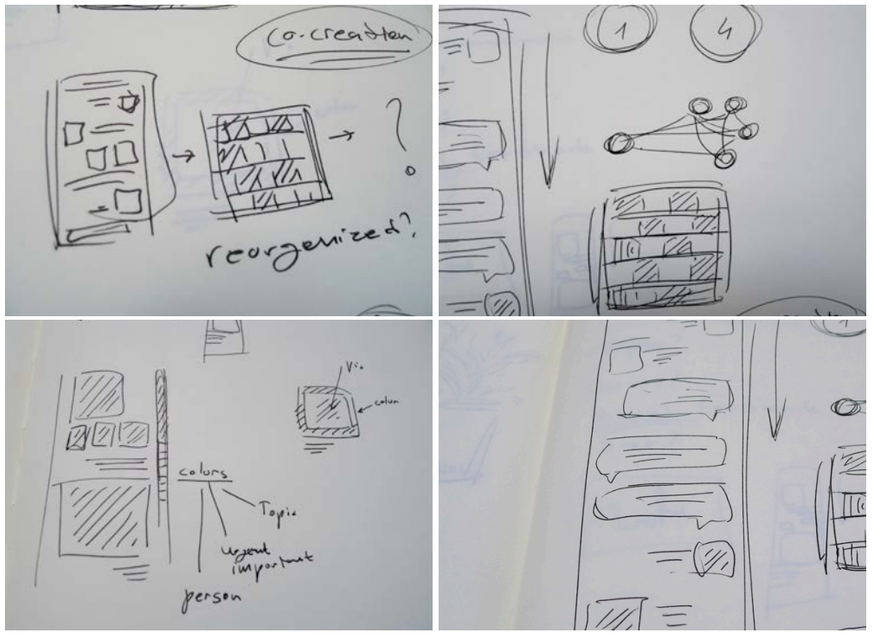


Process

The OkiToki design was inspired by my conversation with my family abroad. We used the cross-platform messaging app Whatsapp, which allows exchanging of messages and images. I examined a conversation between five people during six days, connecting Israel and the US. I captured and collected the screenshots of the interaction. Then I reorganized and aligned the screens one next to each other in a chronological order.

By collecting and reorganizing the images I was able to compare and contrast the different images. One of the elements that drew my attention was the visual presentation of the differences between the two places, Israel and US and the seven hours time gap.

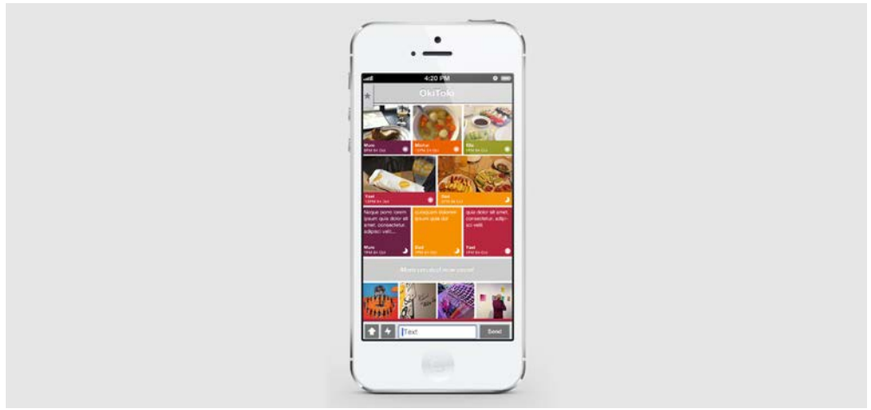


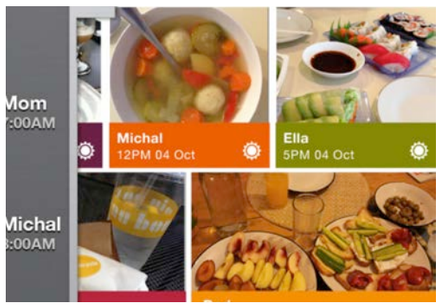


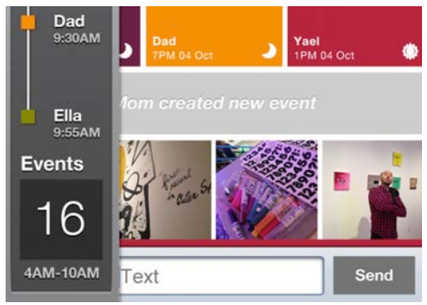
The online communication is a shared experience that accrued across time and space. During the interaction, the participants simultaneously submitted an image of their meal. The shared experience enables the users to connect and compare the similarities and differences. Another interesting interaction was when I posted images of my Journey to MIT at 11am, while my mom posted her journey back from work at 6pm. By looking at the images one can see the architectural and cultural differences of the two places.

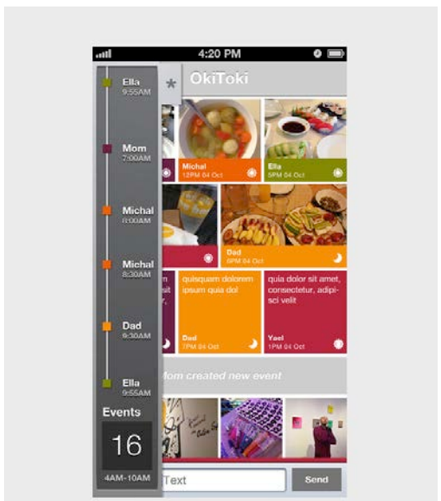
In addition, I posted images from a nice day at a Boston Park, at the same time that my parents posted pictures from a funeral in the Tel-Aviv cemetery. Here, the comparison between the images was not only visually and geographically but mainly contextually—a different state of mind and mood.

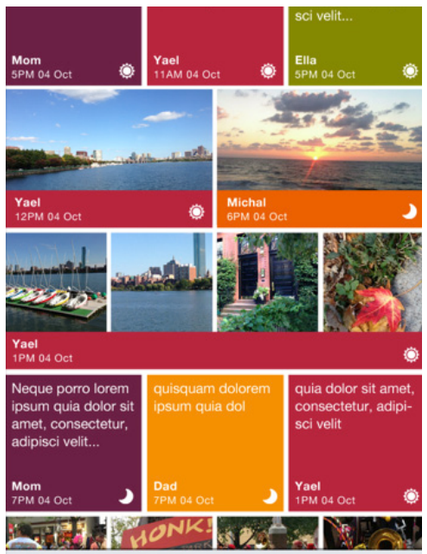
The existing Whatsapp application enables the exchange between multiple people. However, there are many difficulties once the participants are located in multiple time zones. The application user interface design is composed of a grid of messages in which the users' input is organized in chronological order of a live feed. Once the conversation happens simultaneously it organizes the inputs vertically one after another. In addition,











there are no events or topic subcategories. The conversation seems like a long, one-topic conversation, while actually it has multiple topics, timeframes and subjects.

In order to better understand the key objectives of the application I observed real world conversations. I summarized the main elements of basic requirements, as following: Dynamic and simultaneous dialogue, multiple people, variety of topics, and real-time feedback. To this list I added three attributes that are possible in the virtual world: Variety of places, Time differences, Visual display.

Project Summary

OkiToki is a mobile application, which enables dynamic and simultaneous conversation between people in multiple time zones. The interface provides visual display of time differences and variety of topics. The app enables real time feedback while emphasizing the time differences.

The mobile messaging application enables real time modular dialogue. The app core design features are: collaborate, explore and express. The app enables a shared experience of communication. The users text, post images, comment and express their thoughts and feelings in a close group.

The OkiToki User Interface is composed of four main elements: The app title bar, the bottom action bar, the modular live feed and a tag which opens a slide menu on the left side of the screen. The interface design provides a user friendly and intuitive experience.

The feed design is a modular 3 by 4 layout of squares. Each user has color tag. This makes it easy to understand right away who posted a comment. Each comment contains the text or image, the user's name, date and hour, and a day or night icon, which refers to the specific user's time zone. If multiple images or comments are posted at the same time or in 5-10 minutes gap, they will be presented side by side on the squares grid. In addition, there is a separation between conversations that do not relate by a gray space at the feed display. The users can start a new event by clicking the bolt icon on the action bar.

The action bar contains four components: a text input filed, an upload image button, a start new event button, and a send button. This section is designed for the user input. The call to action is send.

The slider presents a visual overview of the recent conversations. It displays the chronological order of the users' comments and time, and it shows how many events happened since the user was online. The user can vertically scroll up the left menu, in order to explore more information. This feature was designed as a solution for the time zone gap. For example, if one of the users was asleep he can easily and rapidly explore and discover what he missed.

Conclusion

OkiToki is a mobile messaging app for a shared experience of communication between relatives and friends in a close group. The application user experience was based on the Whatsapp cross-platform app. By redesigning the User Interface I was able to express a dynamic dialogue between people in multiple places and to reveal the time differences.

The core features of the application enable a shared experience while blurring spatial boundaries. The users communicate informally across temporal and spatial boundaries. By communication, sharing, and posting, the users collaborate and engage with one another. The system is based on the evolving relationship between the participants and promotes self-expression. The interpersonal communication makes geographical space disappears and reveals the time differences.

Collecting & Revealing

Capsules

Collaboration: Relatives and family members across generations are brought together by browsing a shared photo archive.

Expression: The collision of young and old, past and present are both surprising and revealing.

Exploration: The system's methods of organization and representation blends past, present and future, and old and young.

Overview

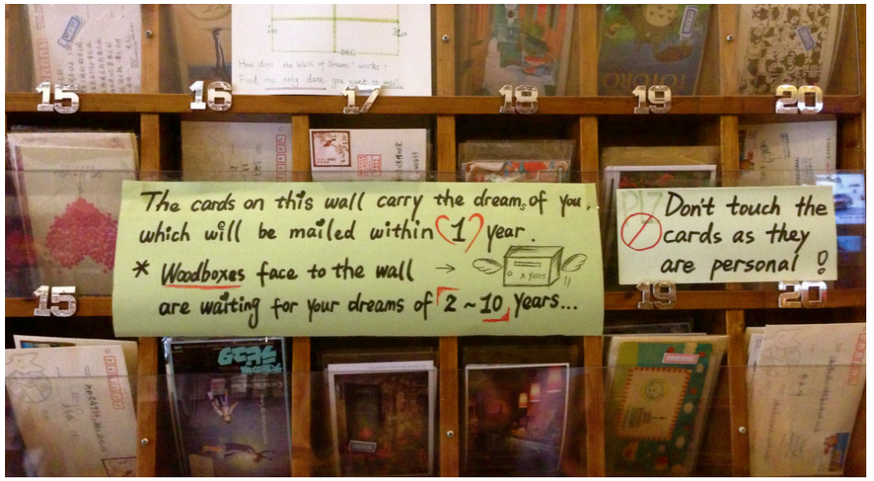
Capsules is a family photo database archive enabling a new experience of navigation, collection, exploration and discovery of relatives' photography collection. Capsules offers a new experience of photo browsing that spans multiple generations and participants. It creates meaningful relationships between the photos (such as form and subject) and enables the users to explore, reinterpret, and to discover new narratives of past moments.

Process

The inspiration for this project was a lobby display in a youth hostel in China. I was a researcher as part of the MIT Media Lab Changing Places workshop in Shanghai. The research workshop was called "Post-Oil Shanghai: Designing Systems for New Resilient Cities in China" and it took place in Shanghai. It was a design charette with students from Tonji University (Shanghai) and Aalto University (Helsinki). In the hostel, there was an interactive installation—two walls full of postcards facing each other, with the following sign:

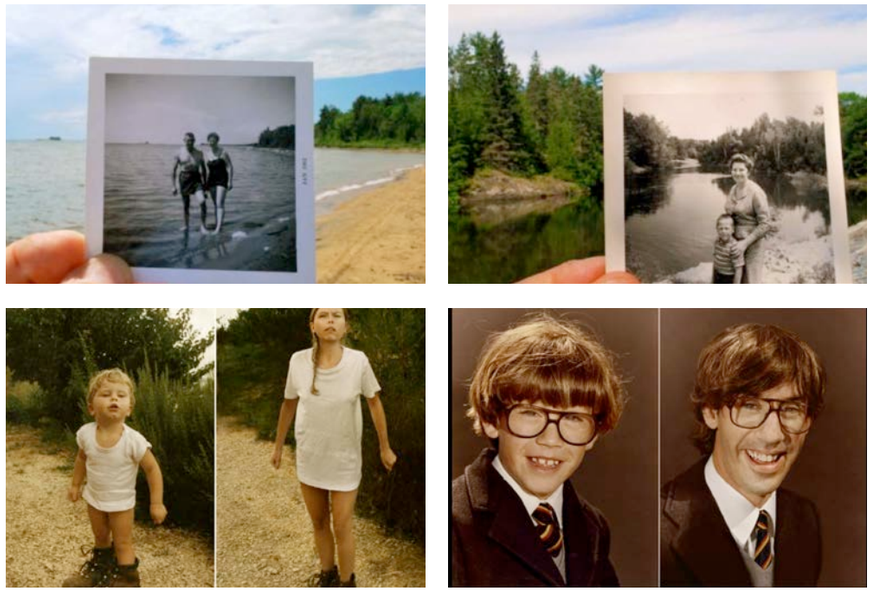
"The cards on this wall carry the dream of you, which will be mailed within 1 year. Woodboxes face to the wall are waiting for your dreams of 2-10 years…"

There was also a sign, which said: "Don't touch the cards as they are personal!" The postcard installation emphasizes the concept of time shifting. The hostel collects and saves the cards and then sends them to the recipient, it could be addressed to a friend,



a lover, a relative or even to yourself. It extends time for delivering a message. The message is being captured and protected until it is delivered. I began to question what makes the time shift valuable? What kinds of messages are valuable after time manipulation?

Photography captures a similar essence of time manipulation. The ABC Project *Now & Then* is a good example for this concept. *Now & Then* is a photography project in which an old photo is held against a new photo, to tell a story of past moments. The pictures present a variety of individuals and places, such as a couple on the beach, a mother and son in nature, a group of people next to a shop in the city and more. Similar to the postcard installation, by aligning the old picture with the new, the project tells a story about the culture, the space, the individuals and how times have changed—dramatically emphasizing time shifting.



Top to buttom: The ABC Project, Now & Then
Back to the Future, Irina Werning

Another photography project that elevates the concept of time travel is *Back to the Future* by Irina Werning. Werning describes the project on her website, "It's imagining how people would feel and look like if they were to reenact them today… Two years ago, I decided to actually do this. So, with my camera, I started inviting people to go back to their future" (Werning). Werning invited people to be recaptured in a picture from their childhood. The project presents multiple people from their past and present.

In both projects the time manipulation intensifies meaningful relationships between the past and present. The time shift reveals something about the person, the place, the culture and the history. Many times, there is a surprise element of unexpected connections. For example, a picture of a naïve little girl is shown in a second picture as an adult covered with piercing and tattoos. Additionally, there is a current picture of the Twin Towers in New York City versus a picture of the building during the September 11th attack.

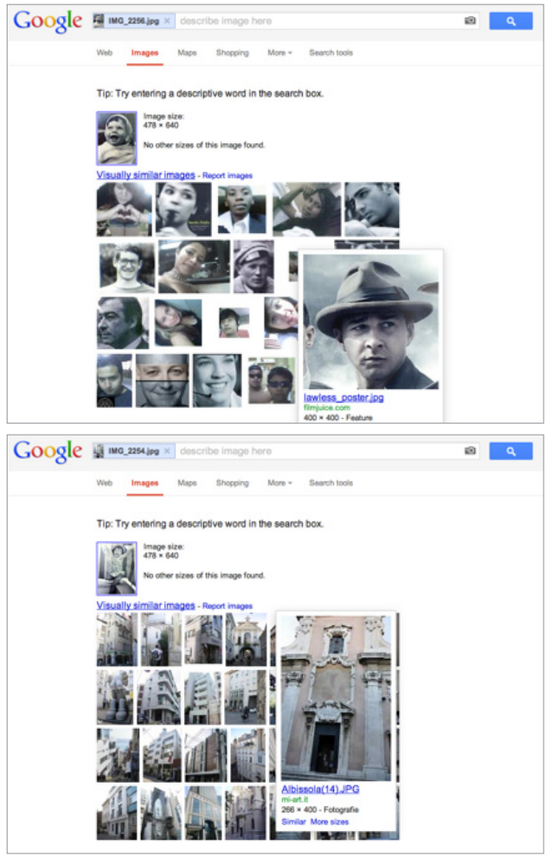
Digital photography enables time travel, and emphasizes a meaningful and valuable time shift. For this reason, I decided to research my current digital photography album. My photo archive is currently stored on the computer and the cloud. I usually use the default Mac iPhoto or the basic Mac folders software to browse it. I can sort the files by generic attributes such as name, date, type, size and label. The pictures navigation is very limited.

For my first experiment, I asked my mother to send me pictures from the family album. I collected and reorganized the pictures in groups of shared attributes, for example, pictures of my sisters and me in the Kibbutz, pictures of my grandmother, mother and me, in which we all wear hats, and pictures of my father and I carrying a red buoy. The pictures were grouped and reorganized by a shared subject, such as place, person, object, age, color and more.

For my second experiment, I explored the Google image search engine, where a user can search similar pictures by upload a photo file. I uploaded a different picture from my family album to test the search results. At times the resulting images were quite different from the original photo. For example, a search using a black and white picture of my mother resulted in multiple pictures of black and white architectural buildings. However, more often the input and the results were visually and contextually similar. This happened mainly with a picture of a face. It was clear that the Google image search

engine uses an algorithm based both on visual elements (shape, lines, forms, colors) and on face recognition.

For my third experiment, I used the Visual Thesaurus software. The software is a visual interactive tool, which enables a search by words and terms. As opposed to Google search, there are no images on the Visual Thesaurus. I researched the verbal connections to words and terms such as family, home, place, space, position, situation and site.
I started with the word “family” which connected to the term “home,” which connected to “place” and so on.



Project Summary

Capsule is a family photo database archive enabling a new experience of navigation, collection, exploration and discovery of the users' photography collection. The pictures are organized by visual and conceptual properties, such as space, event, shape, form, color, age, objects, time, face expression, gesture, posture, etc.

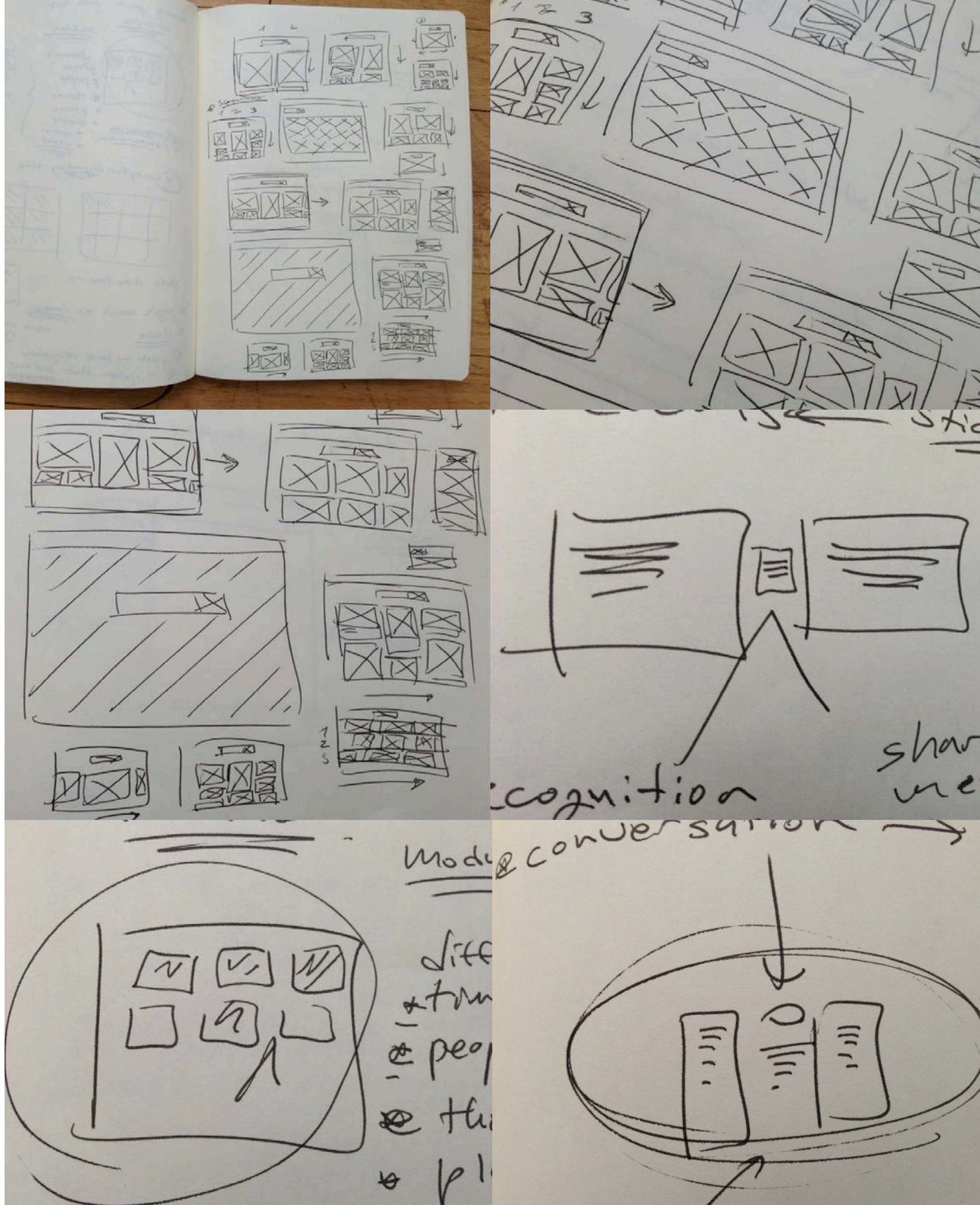
Capsule is a visualization tool, which offers a new form of digital photography collection. It creates meaningful relationships between the photos so that the user can explore unexpected relationships, new connections, and reinterpretations, and discover new narratives about past moments. The User Interface design is composed by two main elements: a vertical search column and search results.

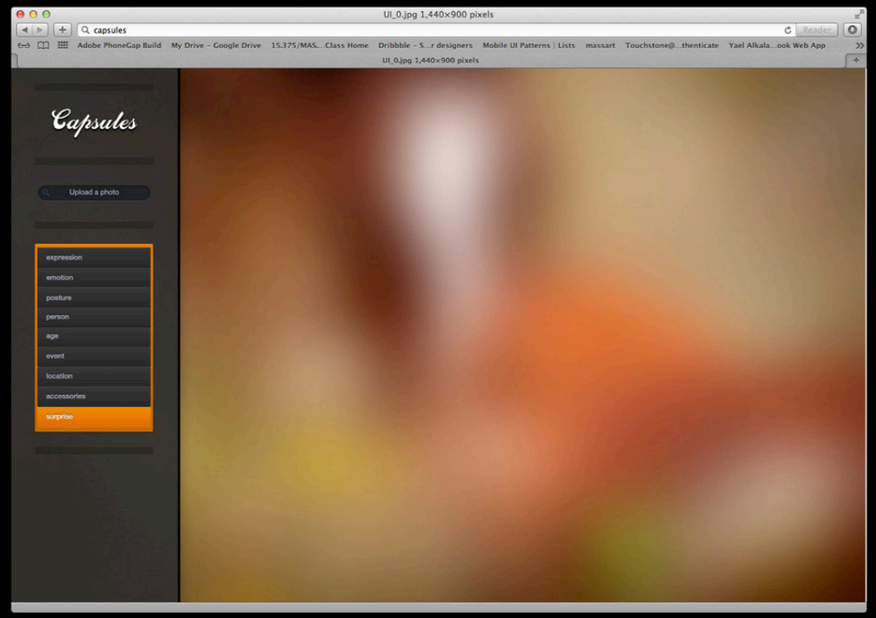
Capsule offers a new experience of digital photo album exploration. The design is straight forward, with one clear call to action: to search. The user can search by using a word tag and uploading a photo. The search is based on conceptual and visual properties. By using machine intelligence the search presents similar images.

For example, when uploading an image of myself as a baby with the tag "Person," the search results are pictures of my relatives from the same age, from a different time and space, in this case photos of my grandmother, mother and me as babies. The pictures are presented one next to the other. The user can horizontally navigate and explore the image results. The collision of young and old, past and present are both surprising and revealing.

Another example is searching by a picture of the holiday "Hanukkah" with the tag "Event". The results are current and past "Hanukkah" celebration pictures. The users can explore and discover how times have changed. The visual representation emphasizes the similarities and the differences between the images and the times. It promotes a sense of continuity and ritual. The users share, browse, discover and reveal.

The shared database promotes a sense of history and story. By collecting, reorganizing, tagging and representing the photos, Capsules allows users to browse, share and discover in new ways. The information becomes more accessible and allows a fun and engaging learning experience of past moments, culturally, historically, and personally. The experience is both emotional and intellectual.

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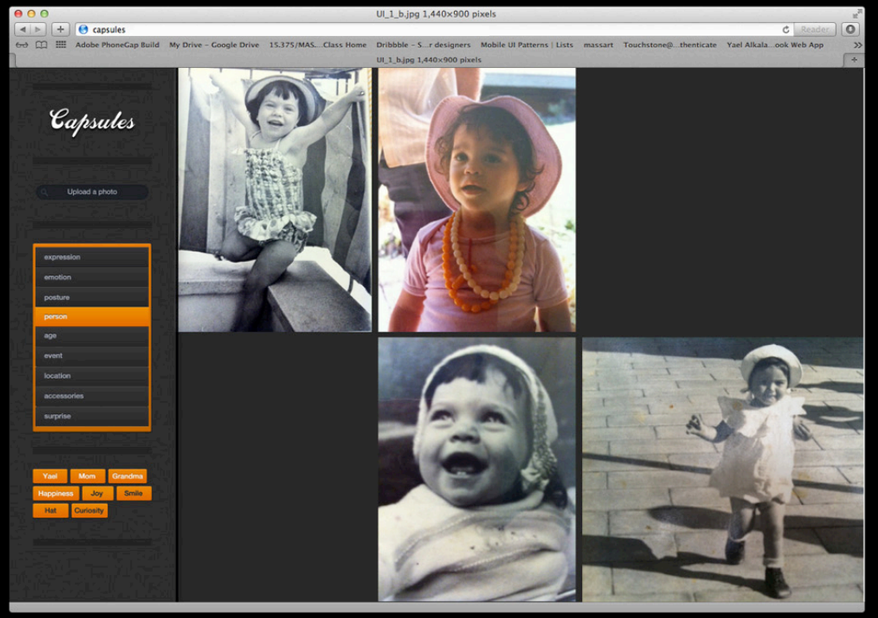
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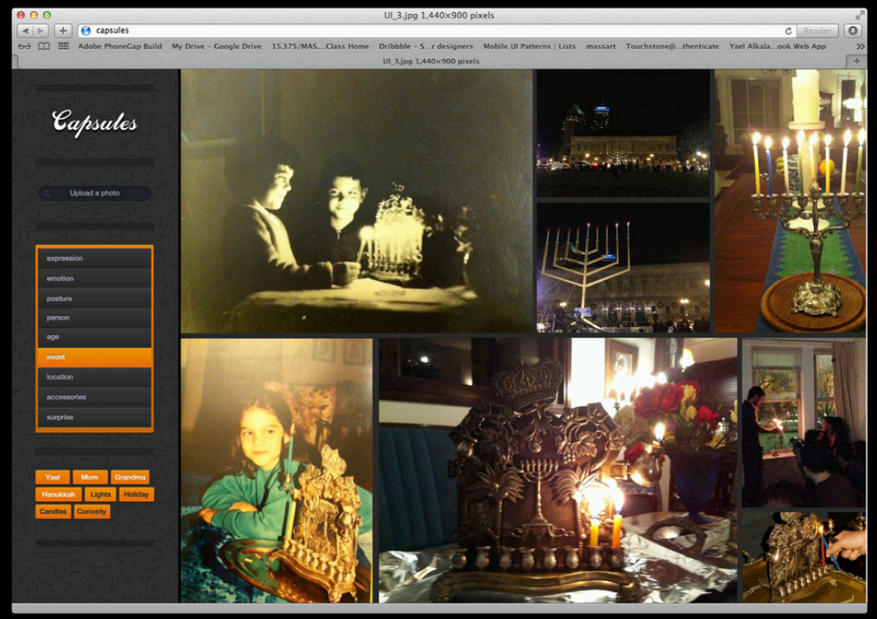
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Candles
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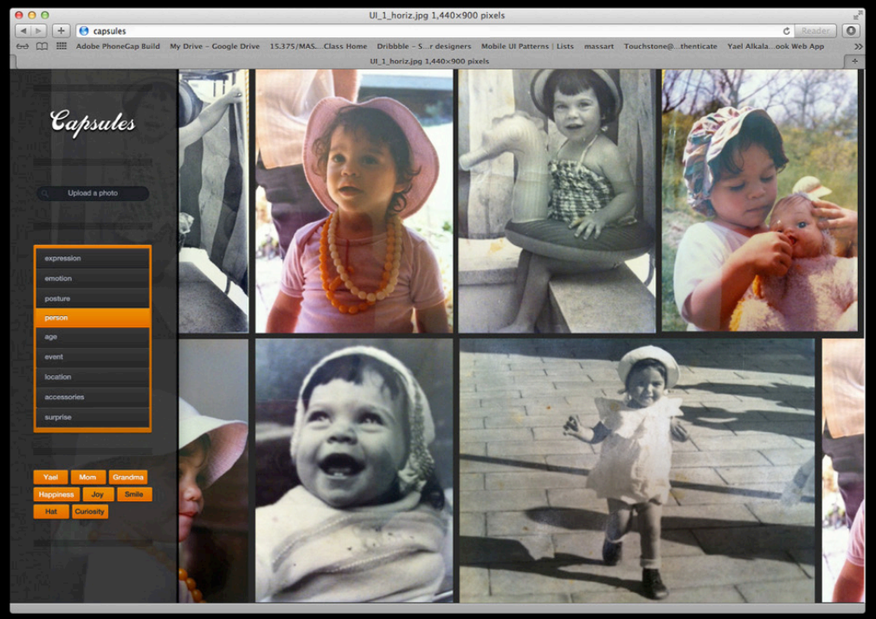
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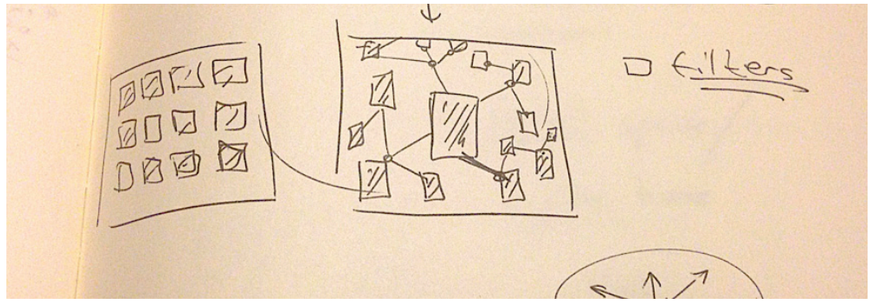
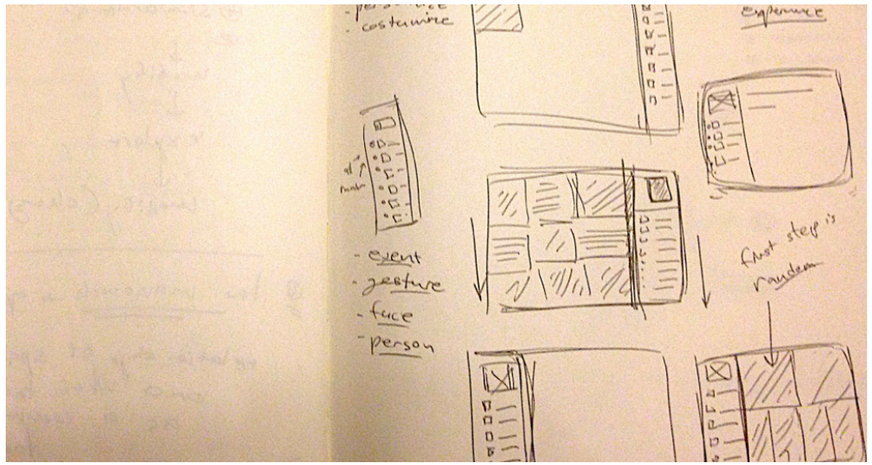
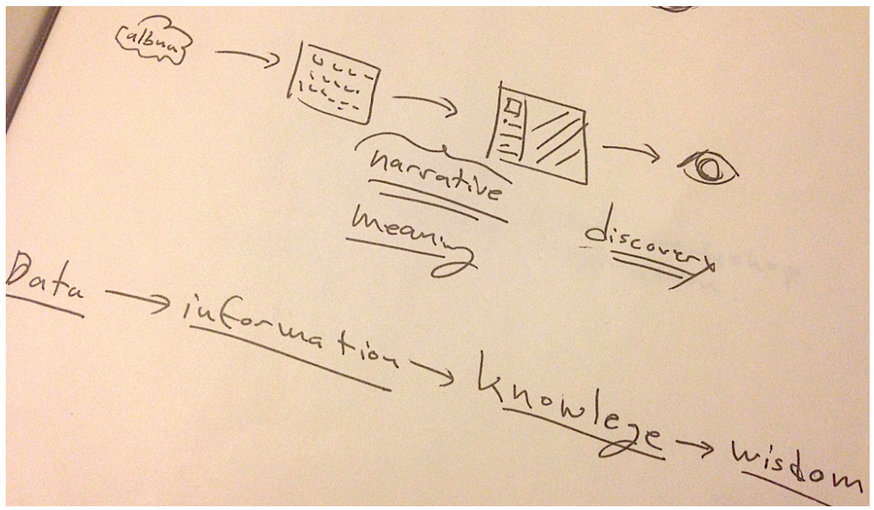






Conclusion

Nowadays, there is an overflow of pictures. People are constantly documenting and sharing their lives. Once people have this overflow of photos there is less value to the experience of photo collecting. In addition, the perspective of browsing the personal digital archive is very limited, due to generic computer platforms. Capsules allows a more engaging shared experience of browsing and discovering of our personal photography databases.

I predict that soon we will be able to use a search engine to search the name of a person, a specific year and a place and to receive the image right away. Currently, when I Google "Yael Alkalay, Beach Tel Aviv, 1987" I do not get the right results. However, it is only a matter of time until I do. The number of pictures that people upload to the web every day along with the rapid improvements of technology such as face recognition will allow these kinds of services soon.

While presenting the Project I received great user feedback. Many people shared their current frustration of browsing their own personal photo collection. They all expressed their wish to have a service like Capsules.

I believe there is a need for a shared experience of personal photo archive. Currently, there is lack of collectability of photographs, while at the same time people take more and more pictures. The storing of photos on a shared database on the cloud, along with improvements to the technology, will allow me to execute the service. I wish to further develop the project and to establish the service as a new shared experience of photo browsing and discovery.

Sharing & Listening

BusBuzz

Collaboration: Commuters collaborate to create and share a dynamic playlist.

Expression: A dynamic playlist blends the likes and dislikes of the individuals within the group.

Exploration: Communal music sharing across personal space in real-time.

Overview

BusBuzz is a location-based social music application for mobile use in the public buses of Istanbul. This application essentially creates a jukebox specific to each bus, allowing BusBuzz users to discover and share music together. BusBuzz aims to improve bus rides by creating a fun and engaging social experience through music. It aggregates the users' music preferences and creates a dynamic playlist. This playlist is like a jukebox, sensitive to user input and specific to each bus.

The project began as an academic case study at the MIT Mobile Experience Labs, but is now being developed and implemented in Turkey by The AVEA Innovation Labs - A Turkish telecommunication high-tech company.

In collaboration with Karen Su.

Process

I have worked on the BusBuzz project as part of the class Design Workshop: Design without Boundaries - Disruptive Applications for Pervasive Computing at the MIT Mobile Experience Labs, with Professor Federico Casalegno in Spring 2012. We worked in collaboration with the AVEA Labs - A Turkish Telecommunication high-tech company. As part of this project we were challenged "to imagine and design emerging technologies and innovative user experiences to reshape the way people connect, communicate and interact with services, products and spaces in the urban context" (MEL). We worked in multidisciplinary teams of two. I collaborated with Karen Su, a computer science student from Wellesley College.

Our inspiration was a vintage retro picture of a group of young men hanging out and listing to music at the beach. The picture depicted people enjoying each other's company, listening to the radio together as a shared experience. That situation felt very familiar, a fun and engaging experience of listening to music together, as a group. On the other hand, while observing public transportation, many of the situations expressed a different experience. While observing people using public transportation, the commuters seemed isolated, a bit depressed and just waiting for the ride to end. The contradiction between the two situations led us to think how to combine the two. We wanted to capture some of the fun and engaging essence from the first picture and bring it into the public transportation environment.

In today's fast-paced life, many of our special moments are associated with music. However, people have been increasingly solitary in their music experience. Music is a pervasive part of our lives and a fundamental expression of culture. With the digital music revolution, people have increased access to all kinds of music (Youtube, iTunes, Spotify, Grooveshark, Pandora, Last FM, etc). The current challenge for music applications isn't to grant more access, but to enhance the social aspect of the music experience.

Why the bus? It is a closed public space where commuters often stay for an extended time with little other distractions. Moreover, traffic congestion and pollution are major concerns for modern cities like Istanbul (Nurbanu, Evren). According to a study of commuters in Boston and San Francisco, "By encouraging the development of apps that make commuting easier, transit agencies can drastically, and at little cost, improve the ridership experience and make riding mass transit more attractive."(Barry) Our hope is that, by creating a fun and engaging ridership experience, BusBuzz will make public transportation more attractive and also promote Istanbul as a fun, playful and sustainable city.

In order to better understand the Istanbul urban landscape, we interviewed local citizens and asked many questions regarding their daily routine, ways of transportation and mobility, and aspirations regarding their commute. In addition, we researched the Fundamental Problems of Istanbul Transportation (Nurbanu, Evren) and learned more about the issue that each morning millions of citizens who live in the Asian part commute to the European part, which causes tremendous traffic jams all over the city. We discovered that many commuters spent hours a day because of inefficient public transportation. For example, one of the students said that on average it takes him an hour and a half to get to the university from his home (each way, 3 hours per day). He said that this is very common among his classmates and friends.

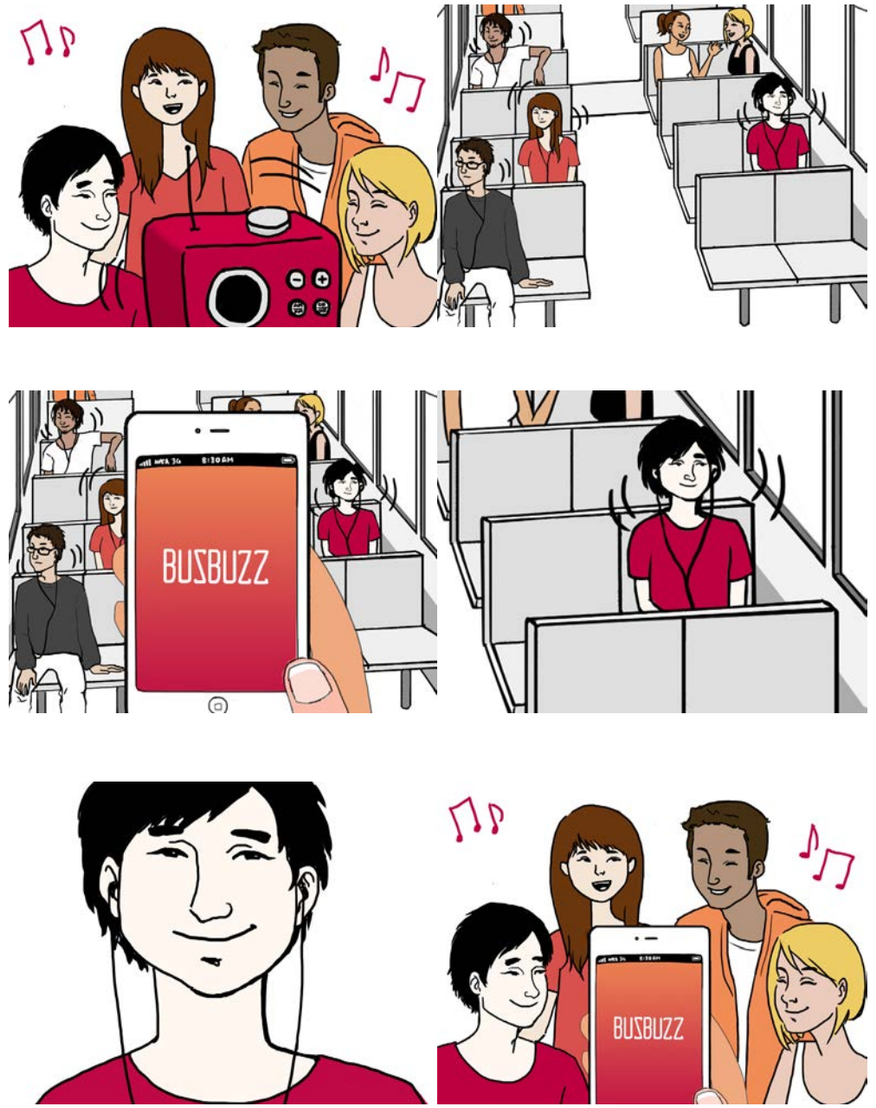
Moreover, we considered the cultural aspects in the public transportation in Istanbul. It's common for the driver to treat the bus as his own private space and to play music very loudly. The driver controls the kind of music, the station and the volume without taking into consideration the commuters' preferences. We derived inspiration from this situation and played with the concept of shifting the "music control" from the driver to the people. For the people, we designed a detailed user scenario—Pre-ride (walking to the station / at the station), On the ride, and Post-ride (off the bus). With a user centered design approach, we explored the possibilities in each stage, such as what is the content and context and how the system will apply in a variety of scenarios. We specified different personas as the system's end users.

We wrote a detailed script for each situation and Karen, the co-designer, drew a storyboard. On our storyboard we presented Tuna—a 23-year-old computer science student who lives in Istanbul. The
storyboard described the following scenario:

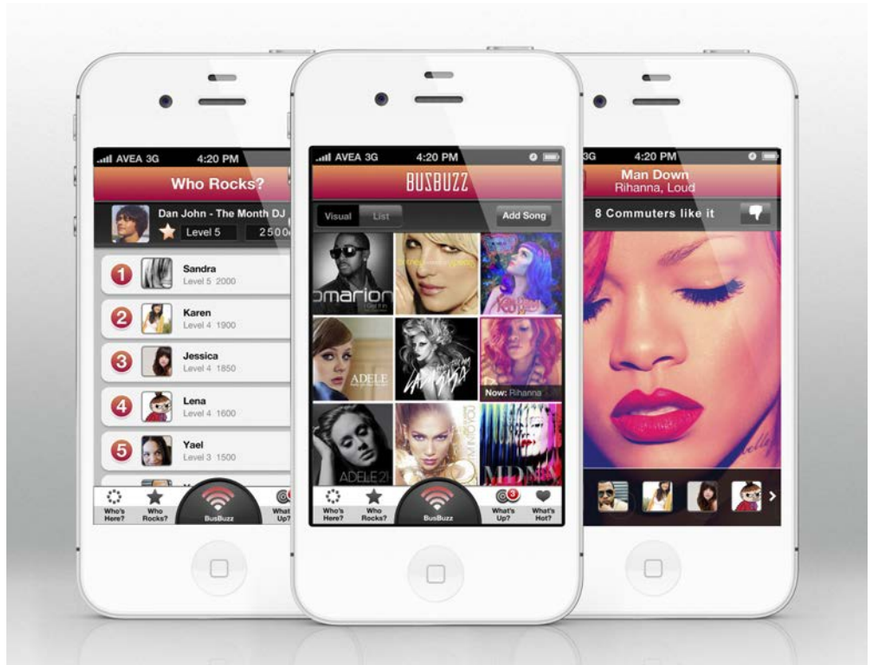
Every morning Tuna commutes to his university (Bogazici University). The Trip takes around 90 minutes (walking and bus). On Monday morning, before he leaves for school, Tuna is surfing the web while listening to music on aveaMuzik.com. He sees a banner for the BusBuzz application. He thinks, "That looks cool. It could helpful later on. I'm always so bored on the bus and my music is getting old." Tuna downloads the app.
Tuna arrives at the bus stop. He opens BusBuzz. He explores the application and goes to the "Find a Bus" feature. He sees two buses arriving. One is currently playing pop music and the other is playing Arabesque music. He decides to take the one with pop music.

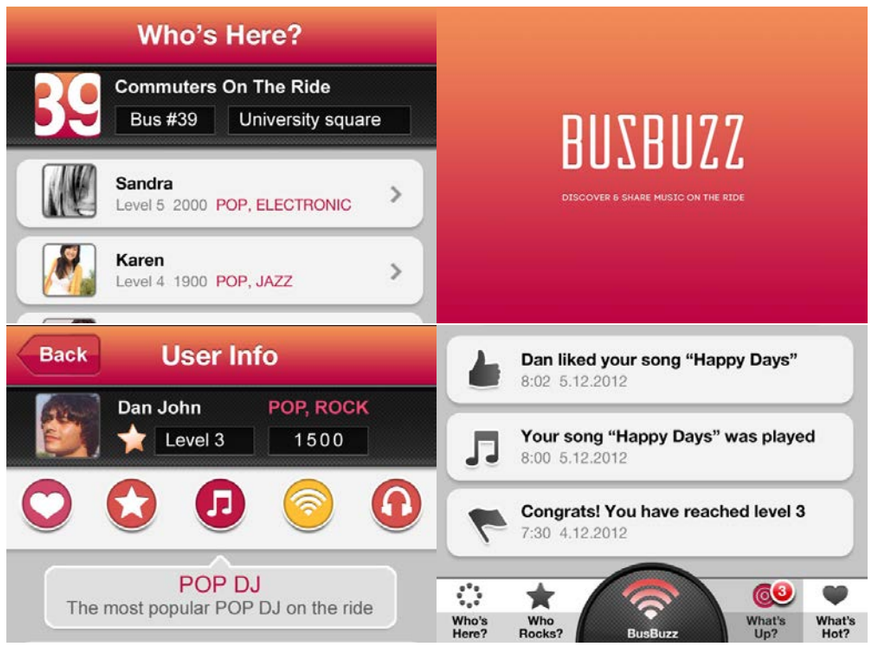
Tuna gets on the bus. The app detects that he's on the bus and automatically starts playing. The application aggregates the bus commuters' music preferences and creates a dynamic playlist. (interior of bus; people adding music). Tuna listens to the bus playlist and discovers new music. Tuna adds a song to the bus playlist. Five minutes later, Tuna's song plays. A girl sitting next to him says, "I love this song!"
Tuna says goodbye to the girl and gets off the bus. The music automatically stops playing. Tuna downloads the playlist from that ride. He thinks, "That was a fun ride. The time flew by with the BusBuzz app."

After conducting the research, I designed the graphic visual language. The visual language was based on the product design brief that summarized the key objectives, target consumers, core values, etc. We sketched the wire frames and the information architecture. Then, I implemented the visual language and created a detailed User Interface.



BusBuzz storyboard, Karen Su





Project Summary

BusBuzz has three core values: discover, share and socialize. Commuters can discover new music through the bus playlist, share their music by adding songs to the playlist, and interact with their community through rating songs and exploring user profiles.

BusBuzz is essentially a bus jukebox. Users can add songs to the playlist and rate existing songs up or down, but no one can skip or pause a song. This makes for a truly shared experience—it is like a radio, but only for BusBuzz users and unique to each bus. In the playlist, preference is given to songs that are added by users currently on the bus, songs that have not been played recently, and songs that are favorably rated by current riders. When no one adds any songs to the playlist, BusBuzz automatically pulls from the music preferences of the current commuters' AveaMuzik accounts to aggregate a list of similar songs. This way, there is always something in the playlist, and everyone has a say in what kind of music goes into the bus playlist. In order to elevate the social value of the application, we developed a gaming feature, in which more active users receive points and rewards.

While creating the system we used a human centered design approach. We addressed the shared experience design properties by designing a system based on social elements of sharing and exploring. The current playlist is a collaboration between commuters at the specific place and time. BusBuzz enables the shift from a private experience to a public shared experience. We allowed Expression by limiting the system control and allowing the user to actively add songs and shape the content.

BusBuzz has a detailed User Interface. The user interface is divided into five key features: BusBuzz Playlist, Who's Here? Who Rocks? What's Up? and What's Hot? The user must have a smartphone (with wi-fi connection or 3G) and headphones or earbuds. He/she must also have an AveaMuzik account. AveaMuzik is a paid music service provided by AVEA Labs. Our current model uses its database, which eliminates the issue of quality control and copyright issues for BusBuzz. Once these pre-requisites are met, all the user has to do is step onto a bus to get started.

Playlist: The homepage displays the songs that are currently on the bus playlist. The user can rate the song up or down, as well as explore information about the song (including album art, lyrics, and users currently on the bus who have rated the song favorably).

Commuters can choose to passively experience BusBuzz and simply plug in their headphones, open the application, sit back and listen. They can also actively participate by adding their favorite songs to the bus playlist through AveaMuzik.

What's Hot? Users can see a top-10 list of the most favorably rated songs of the bus. This allows them to keep up with current trends and explore new music. The What Rocks page will vary from bus to bus, so there is the potential of exploring music trends across different parts of the city.

Who's Here? Users can see other commuters on their bus who are currently using BusBuzz. From there they can see each commuter's user profile, which displays music preferences, points gained from engaging with the application, and achievements in the form of badges (for example, DJ of the Month). This information can be filtered through privacy settings and is intended to be a jumping-off point for conversation outside of the application: social interaction in real life.

Who Rocks? When a user adds a song to the bus playlist and a lot of people rate it favorably, the user earns points, levels up, gains recognition, and possibly--if they have a lot of points--becomes featured in the Who Rocks? list. This feature contributes to the social core value by adding a competitive gaming aspect to BusBuzz.

What's Up? When a user levels up, gains points, or receives special offers, he/she is notified with a congratulatory pop-up notification. The history of these notifications is listed in What's Up.

Conclusion

BusBuzz is a unique application combining location based technology and a social music experience. The application aims to improve the human experience in the city, promote a sense of community through music, and use public transportation as a platform to accomplish these goals.

When designing the system we considered the technology, users, and cultural expectations. We created an interactive prototype and a video abstract to articulate the concept. By doing that, we were able to communicate and discuss the idea with our classmates, colleagues, and professors. We presented the project to the AVEA Labs directors who came to Boston from Istanbul. The reactions and opinions from that meeting helped us to modify and upgrade the project along the way. Iterative design is an essential part of the design process, especially when creating the UX of a service or product for the end users.

During the design process we advised local people from Istanbul to better understand their specific cultural perspective and needs. I would like to further explore the interaction with the community in Istanbul. I'd like to create a live demo in order to test the system in a public bus setting. I'm curious about the reactions and level of collaboration among the users. Live user testing is essential to emphasize the advantages and disadvantages of the system. This kind of input will help us to shift the project from an academic to a commercial product.

Fortunately, the project was chosen by the AVEA Labs to use as an inspiration and a reference for a future project in Istanbul, sponsored and promoted by the company. This is a great opportunity to test and develop the system in a large-scale setting. The company saw great social potential in the project and a way to promote positive values. I am excited for this opportunity and I'm looking forward to seeing the evolution of our idea.

In addition, the core values of the applications, discover, share and socialize, can be easily adapted in more scenarios and public places. Basically, almost every public shared place could be use as a platform for the idea—of listening to music as a shared experience. Ideal places could be close public spaces such as coffee places, shops, malls, airports, trains and etc. I look forward to continuing this exploration by further developing the application and extending its scope to reach beyond public transportation.

Seeing & Doing

UCUDO

Collaboration: The platform leverages technology to help society shift from solitary complacency to solidarity through action, and promotes a dialogue between students, parents and educators.

Expression: The app enables and empowers children to fight back against bullying by taking action in real-world events.

Exploration: Technology reduces the barriers and empowers parents and students to take actions across time and space.

Overview

UCUDO is a mobile application for preventing bullying in elementary schools districts with a location-based, crowd-sourced approach. The app reduces the barriers for kids and other witnesses who see bullying to do something about it.

The UCUDO solution helps people go from passive hand-wringing to active witnessing and addressing of physical bullying. UCUDO catalyses the way society deals with bullying in elementary school districts by helping children report the bullying they see amongst their peers. By leverage technology, the platform helps society shift from complacency to action.

In collaboration with Matt Stempeck and Jeff Schmitz, MIT Media Lab.

Design Process

The project began as an academic case study at the MIT Media Lab *Development Ventures: MIT Emerging Market Innovations Seminar* with Professors Sandy Pentland and Joost Bonsen. I collaborated with Jeff Schmitz, a Media Lab software engineer in the Human Dynamics Lab, and with Matt Stempeck an expert in civic engagement technologies. The team was extremely well versed in mobile technology and social interventions.

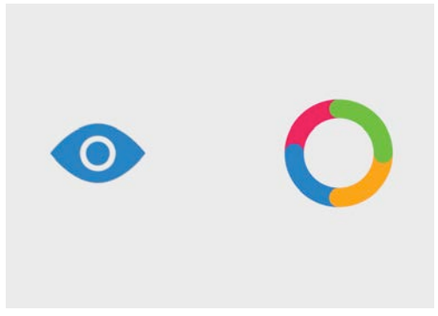
As part of this project we were challenged to make a better reality through technology innovation. Our wish was to empower people to create a better reality. We agreed to address the emerging tragic phenomena of bullying across the US.

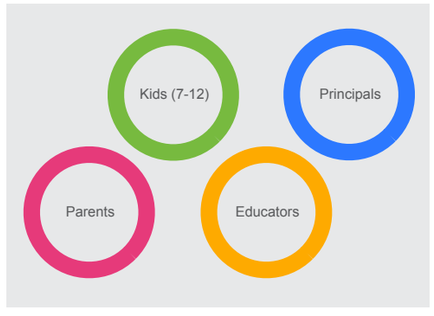
Bullying is a discouraging phenomenon across the US. As of fall 2012 nearly 50 million students enrolled in elementary and secondary schools in the US (Buckfire). Nationwide, "9 out of 10 elementary students have been bullied by their peers," according to researchers at Lucille Packard Children's Hospital and the Stanford University School of Medicine. Millions of kids experience bullying at school, where they should feel safe, happy, and confident.

In addition, according to the report *Bullying in Schools* by the U.S. Department of Justice, "Bullying is widespread and perhaps the most underreported safety problem on American school campuses…Contrary to popular belief, bullying occurs more often at

school than on the way to and from there…Bullying occurs at all grade levels, although most frequently during elementary school." The document goes on to emphasize the importance of reporting: "Many victims and witnesses fail to tell teachers or even parents. As a result, teachers may underestimate the extent of bullying in their school and may be able to identify only a portion of the actual bullies" (Sampson).

The UCUDO solution helps people go from passive hand-wringing to active witnessing and addressing of bullying. UCUDO is a catalyst to deal with bullying in elementary school districts by helping kids report the bullying they see amongst their peers. We would like to leverage technology to help society shift from complacency to action.





Project Summary

UCUDO is a location-based crowd-sourcing mobile application, which uses information technology to create a local database. The app enables kids who witness bullying to do something about it immediately. It enables the users to capture events on the spot in an easy, simple, fast, and direct way. In addition, the app monitors reports and provides trustworthy, detailed analytics that are useful to educators and school administrators. The US government addresses bullying with nationwide programs. The programs are centred on raising awareness for the topic, educating students, parents and teachers, and creating policies and rules. Currently, schools face a great challenge to determine how often, where and when bullying occurs. The reporting system forces students (often the victims themselves) and parents to fill out paper forms well after a bullying event has occurred. UCUDO can upgrade the current reporting process, relying on the convenience and ubiquity of digital technology.

The UCUDO markets are educational and social networks. The business is a B2Community model. When designing the application we have addressed four main personas as end-users: kids (ages 7-12), parents, educators, and school principals. We researched and developed user narrative scenarios to best address the problem, the needs, concerns, and the added value for each group.

UCUDO User Interface addresses four core bullying issues:

1. Stop Bullying on the Spot - Report events in real time.
2. Get the Facts - Learn immediately what happened.
3. Assess Bullying in School - Analyze when, where and how bullying occurs and whether prevention efforts work.
4. Engage Parents and Youth - Engage students, educators and parents to act.

I have designed the user experience to best fit those challenges while creating an engaging shared experience of a dialogue between students, parents and educators. UCUDO has a detailed User Interface. The user interface is divided into three key objectives: Report, Analytics and Real-time emergency map. The core features of the app, are geofencing, collision detection, spatial event reporting and analytics. The analytics-learning feature is a tool for the school districts and but not for the students. While the main feature at the student User Interface is Report.

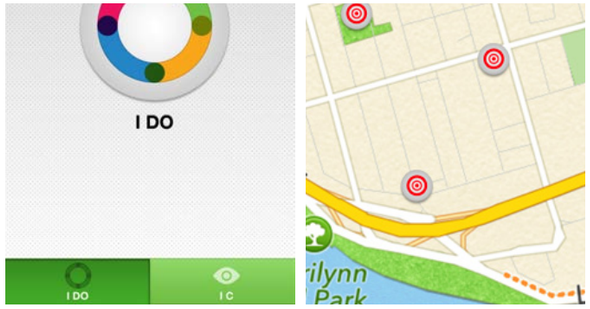
The strategy of the brand identity design is to establish the solution as a social movement and engage the community. The User Interface design is based on the three shared experience design properties: Collaborate, Express, and Explore. The technology enables parents and students to take an action across time and space. The system reduces the barriers and allows a community intervention. The app enables students to express their concerns by anonymously reporting. At the foundation of the experience is collaboration by promoting a dialogue.

Conclusion

UCUDO developed with the intent to be a social movement to prevent bullying. We wanted to encourage and inspire the community to act together for a better reality. The UCUDO is an example of a shared experience, which can motivate and empower society to take actions in order to create a social positive change. We wish to spread the word about UCUDO by working closely with local communities and school districts.

Going forward we wish to deliver a working prototype of the UCUDO application. The prototype will be directly informed from conversations with educational stakeholders. We will collaborate with school districts in the Boston area to pilot the service. Due to the very sensitive data of the system, one of the main concerns is how to create a trustworthy platform and how to engage the student to participate. We will meet with key people in the field of education, such as influential teachers, school administrators, insurance representatives, parents, and kids in order to get their feedback.

We are planning to have key partnerships with elementary schools across the U.S. and non-profit organizations for youth that try to stop bullying, such as StopBullying.org, TheBullyProject, Project Anti-Bully, and the Born This Way foundation. Our larger goal is to be part of the official nationwide programs of the U.S. government against bullying in elementary schools.



Observing & Mapping

UNICEF GIS 2.0

Collaboration: The tool streamlines interaction between citizens and governments.

Expression: Young people can map and report their understanding of risks in their neighborhoods.

Exploration: A community is mapped and defined by using virtual tools.

Overview

UNICEF Geographic Information System (UNICEF-GIS) empowers young people to map disaster risk-related data. It delivers information at the exact location a youth perceives risks and strengthens dialogue and collaboration between community and government.

In collaboration with UNICEF

Process

The UCUDO project emerged as a collaboration with UNICEF on a crowed-sourced location-based reporting system. I have worked on the UNICEF GIS 2.0 project as part of the MIT *MediaVentures – Media Lab Entrepreneurship & Digital Innovations Seminar*, with Professors Sandy Pentland and Joost Bonsen. UNICEF GIS 1.0 was developed by UNICEF, The MIT Mobile Experience Lab, and Innovative Support in Emergencies Diseases and Disasters (InSTEDD). I worked on UNICEF GIS 2.0 User Experience design development with Joseph Agoada, who is the Resource Mobilization Coordinator at UNICEF NY HQ Social and Civic Media Section, Division of Communication.

In order to better understand the project strategy we first wrote a product design brief where we specified and summarized the platform's promise, perception, position and attribute. The platforms core values are Trustworthy, Action Oriented and Accountable. The platform key objectives are as following:

- Inform and prioritize disaster risk reduction activities.
- Empower youth to understand and take ownership over the disaster risks in their community.
- Direct civic engagement between government and community.

Next, we addressed the platform's personas and specific user scenarios. The user scenario was divided to three phases: Pre-Mapping, Mapping and Post Mapping. For each phase we wrote a detailed narrative and actions items.

In addition, we analyzed the users feedback from the former workshops. This gave us valuable insight into different use cases that we should address. By mapping the case studies, and the users' concerns, needs, and wishes, we determined the design and user experience for technical developments.

The main upgrades were the mobile reporting User Experience and the Web admin and mapper reports dashboard. We enhanced the following implementations:

- **Urgency Rank System** - A methodology for ranking and visualizing incoming youth reports.
- **User Dashboard** - Construct intuitive dashboard interface for trainers, mappers and administrators to edit map layers, verify and refine reports.
- **Mobile app** – Redesign the LBS reporting system in order to make the UX more intuitive, simple and user friendly.

Project Summary

UNICEF-GIS is a cross platform tool, which allows young people (12-18) to collect, map and report on disaster risks in the urban environment. The product delivers contextually rich information on the exact location of urgent disaster risks.

The tool supports a program cycle for a better way to facilitate interaction between citizens and governments. The maps created by local youth and strengthen dialogue and collaboration between community, and government around disaster risk reduction.

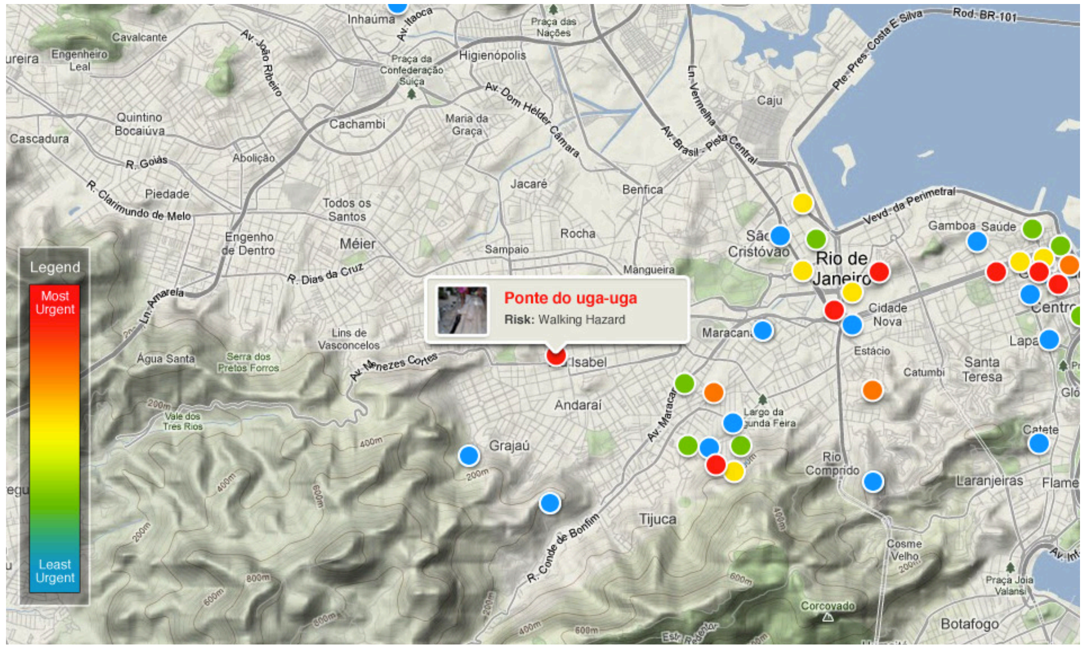
The mission is to make neighborhoods safer and healthier for children. The type of risks and hazards are tangible issues such as buildings or roads near collapse, open sewage or garbage, downed power lines and other actionable issues related to sanitation, water, infrastructure, etc. Youth residents of the community, who already know the area, report the risks.

The UNICEF GIS 2.0 web platform has a detailed User Dashboard. The new key features, which we developed, are the Urgency Rank, the User Dashboard, and the new Mobile-reporting app. The number of reports is increasingly growing, and in response we incorporated a system to label and rank reports. The urgency rank is based both on severity and urgency as well as social attributes (citizens rates). The Urgency Rank feature brings a new visual way to explore the maps for both government and citizen users. As the number of youth reports submitted to UNICEF continues to grow, the Urgency Rank feature makes the data more actionable, dynamic and newsworthy (UNICEF).

The Urgency Rank feature will be powered by an open source UNICEF-GIS Data Severity Index that will utilize objective criteria and an algorithm to give an urgency score and rank for each youth report submitted. Urgency score ranges are designed with a color code and label, scaling from blue/low urgency to red/immediate risk to children. The new feature improves the User Experience by making the information more accessible. Users can easily and quickly sort the most critical outstanding risk reports within a particular issue and geographic area.

In addition, we implemented and designed the user dashboard. The dashboard is for Mappers, administrators and government official's use. The dashboard enables youth Mappers to monitor a reports progress, to edit and refine reports, and to share reports to social networks. Administrators can verify and curate reports, and export reports for public advocacy. Government Officials can choose which reports to act on, coordinate with mappers, and post action updates.

The last improvement was redesigning the mobile application, in order to make the report experience more intuitive and user-friendly. The main goal was to minimize frustration and maximize action. The new mobile app has a clear call to action – report. The users can easily map the risk right away. I reduced all unnecessary UI elements, and make an obvious hierarchy. I have changed the reporting flow, to first report and then refine. The users can report, edit and explore different risks categories in a fun and engaging way.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Santa Teresa
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Gamboa
Saúde
Benfica
Méier
Jacaré
Cachambi
Higienópolis
Todos os Santos
Engenho de Dentro
Piedade
Cascadura
Quintino Bocaiuva
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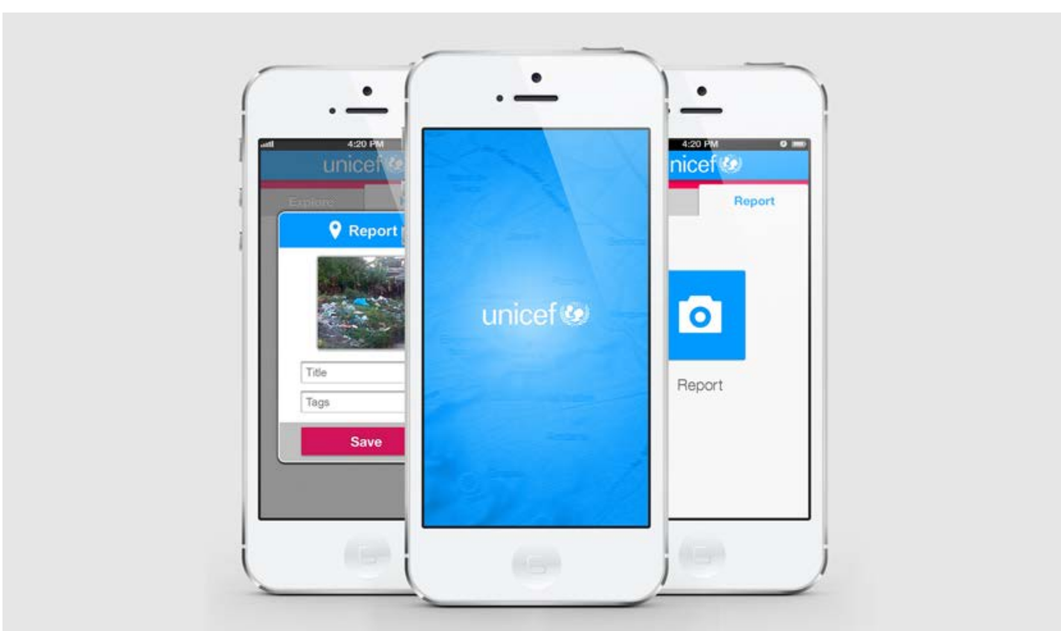
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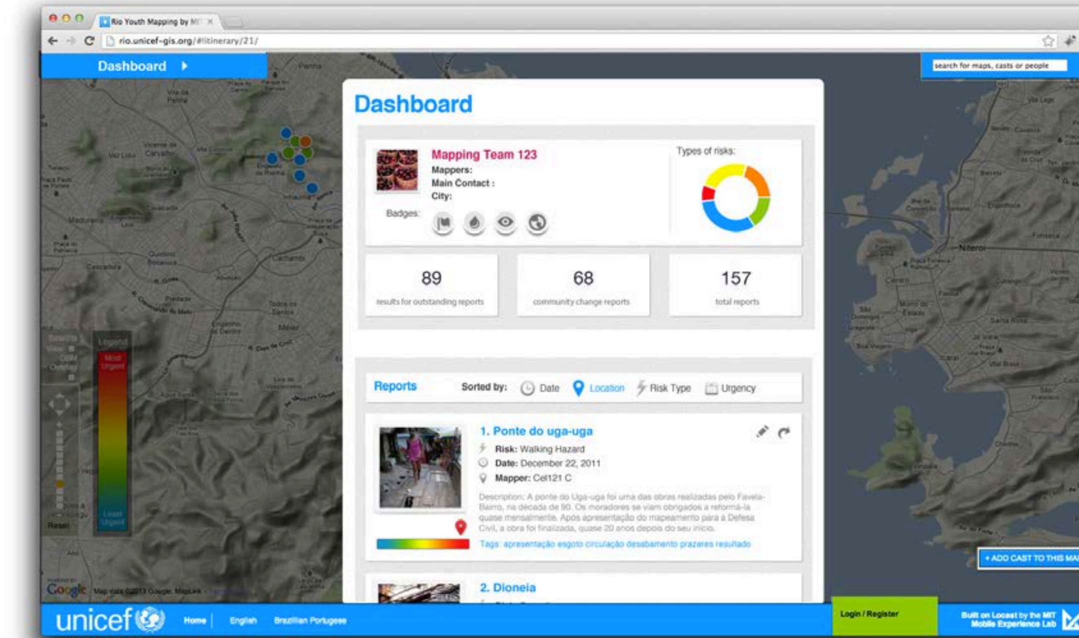
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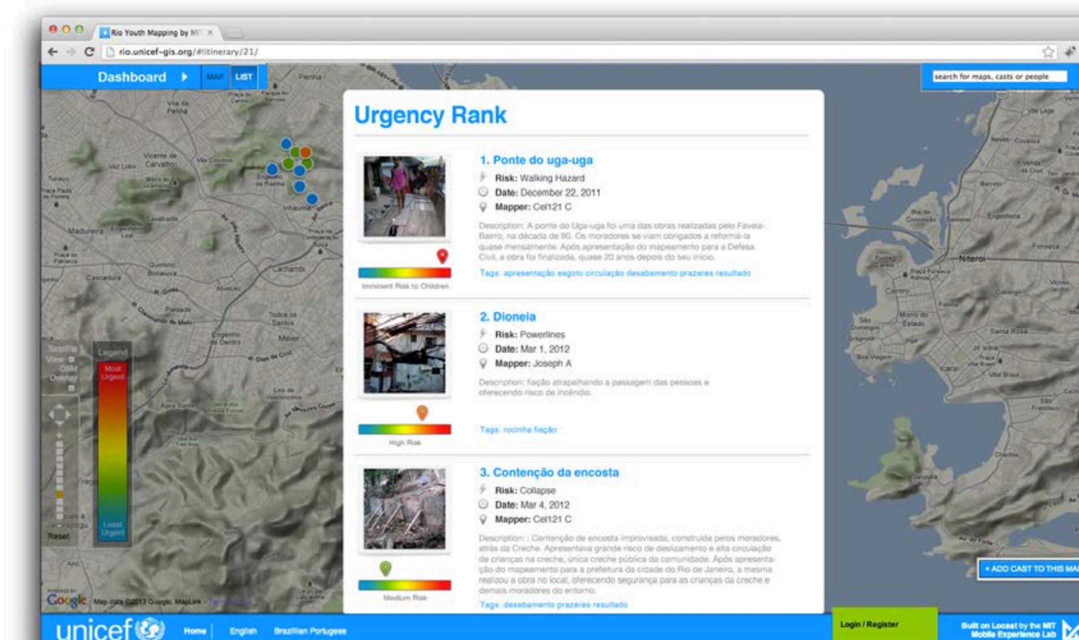
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Conclusion

UNICEF GIS empowers young people in vulnerable communities to understand, identify, and report risks they perceive around them. Through participatory digital mapping youth gain new awareness about their surroundings, enabling and empowering them to amplify their voices on critical issues. The participatory process provides contextual information, which will increase personal capacity for informed decision-making and will create youth-led action around disaster risk reduction issues. The information gathered also improves government efficiencies (UNICEF).

By creating a shared experience between citizens and governments, the community can make neighborhoods safer and change reality for the better. The technology and process will strengthen participatory governance by creating a new way for youth and community members to communicate with officials and increase awareness of social and environmental risks.

By addressing the specific users and scenarios we were able to simplify and clarify the system. We made the information more accessible through visualization tools. Moreover, by creating a collaborative and engaging shared experience we empower and motivate people to take actions for social change. Nowadays, UNICEF are developing and implementing the new features, in UNICEF GIS 2.0 platform. The upgrades can dramatically improve the shared experience for a better dialogue and results.

UNICEF workshop Brazil

Thesis Conclusion

The thesis presents the emerging relationship individuals have with the virtual window — the screen through which they see the world. The virtual window blurs the boundaries between the life on and off screen. This relationship with computer screens dramatically affects human relationships and the perception of reality. Moreover, the thesis includes the intellectual and emotional attributes of the user experience and shared experiences in the digital context.

With a human centered design approach, the work explores a collection of case studies in which I experimented with a broad range of shared experiences. The interactions were designed across geographical locations, platforms, and activities. The work explores a variety of shared experiences, such as talking, eating, meeting, performing, listening, reporting, observing and discovering. Each experiment demonstrates a unique context and content, which allows for an in-depth investigation.

From working on these case studies and learning from their outcomes, I was able to develop a formal design approach for projects that encourage the experience of diversity in a spirit of curiosity and dialogue. My approach consists of three key properties: Collaborate, Express and Explore. While designing the multiple interactions I explored: How do the users work together? How do they express themselves? And how does the shared experience cross digital boundaries?

A few important lessons that I learned in working through my case studies were:
User feedback is extremely important.
The design process does not end with the launch of the product or the service. In fact, it is just the beginning.
Surprise is extremely important and is an integral part of the media.
By creating empathic tools we have the potential of creating a better dialogue. By designing across boundaries we allow other perspectives and opportunities for genuine exchange. Design has a great potential for positive social change.

At the beginning of the thesis, I quoted Moggridge, who says:

> *"If there's a simple, easy design principle that binds everything together, it's probably about starting with the people" (Moggridge)*

This design principle is true through the entire design process – from start to end. While creating and shaping technology tools, designers should always think about the Personas who use and interact with them. How do they do, feel and know? And most importantly, what kind of intellectual and emotional experience do they have?

Looking forward

Audio and video cues are essential aspects of human-to-human interaction. Advanced technologies and solutions for shared experience in the digital context are being rapidly developed. In the near future, we will have more ways to interact with one another. In an attempt to create new ways of communication, developers are inventing new devices, interfaces and services. Jeff Cavins, in the article "Holograms, 'Minority Report' Gestures And Other Ways Your Meetings Will Change By 2018," describes four main technologies that will provide new ways for human-to-human interactions, as following:

- Ultra HD Live Video Streaming - Ultra HD-quality screens and streaming of 4K videoconferencing;
- 3D Binaural Audio - 3D spatial binaural sound which feels like it comes from different parts of the room;
- Gesture Interfaces - Gestures interface (like Leap Motion sensor and Microsoft's Kinect) with tactile feedback and projected interfaces;
- Holograms - Creating holograms in real-time. (Cavins)

In addition, Google Glass is one of the recent inventions that provides a way to share experiences. While on my Skype and Google Hangout breakfast sharing experiments, I shared breakfast with my friend while we engaged and saw each other through the screen. With Google Glass, users will not only be able to see from their own points of view, but will also be able to see from their peers' points of view - from their 'own eyes'. This will increase dramatically the options for shared experiences and at the same time blur even more the boundaries between the self and the other, the physical and the virtual, the private and public.

With Google Glass and similar technologies, the perception of space is dramatically manipulated. The virtual window will allow users to experience reality through the perception of others, from their own 'windows'. Designers and developers should carefully explore those blurred boundaries and be aware of the great responsibility they have in shaping humans' reality perception.

Those technologies provide designers with new opportunities to shape shared experiences. Cavins hypothesizes: "Either way, these four technologies are not as far away as they might seem. And it's likely that in just a few short years, the way we communicate will be on par with the furthest reaches of our collective imagination just 30 years ago. So what's left to invent once we get to holograms, pervasive life-like screens, 3D audio and next-gen interfaces? Will this be the opus of innovation in communications? Well, there's always teleporting, but that's just science fiction" (Cavins).

Marshall McLuhan, the Canadian new media theorist said, "we shape our tools and afterwards our tools shape us" (McLuhan xxi). He calls media an extension of man. New technologies have transformed media, and the media is simultaneously transforming our society. Creators have the responsibility to play a positive role in this new and innovative landscape.

Designers have a greater responsibility than ever before in shaping human encounters and communications. Dynamic media has extended the realm of human experience and communication. One of the biggest challenges is in designing innovative User Interfaces while preserving an authentic human interaction.

As a UX designer, my vision for my work is to develop innovative platforms that will allow people to communicate and express themselves. In this respect, I wish to further explore shared experiences in the digital context, and be able to create original methods to deliver digital interfaces that motivate people and enrich lives.

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