

Environment and Behavior:  
The Power of a Branded Customer Experience



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I (Kristi Woolsey) will be giving this talk and workshop but I want to start by giving credit to Traci Thomas MAYA's Service Design Lead. She is the person who would usually be giving this talk but with this session's emphasis on environment and creation of a branded customer experience, I get the honor.

"Most Advanced, Yet Acceptable"

Users  
**M·A·Y·A**

Most people have not heard of MAYA and so before I begin, it may be useful for me to share a quick overview so that you understand how the tips and tools that I share are used in our world. MAYA is an acronym coined by the famous mid-century designer Raymond Loewy. It stands for "Most Advanced, Yet Acceptable." We focus on taking the most advanced technology and making it acceptable to the people who use it.

**We are a design and innovation  
think and do tank**

MAYA is made up of human scientists, digital strategists,  
visual and industrial designers, filmmakers, consultants,  
and a host of other experts.

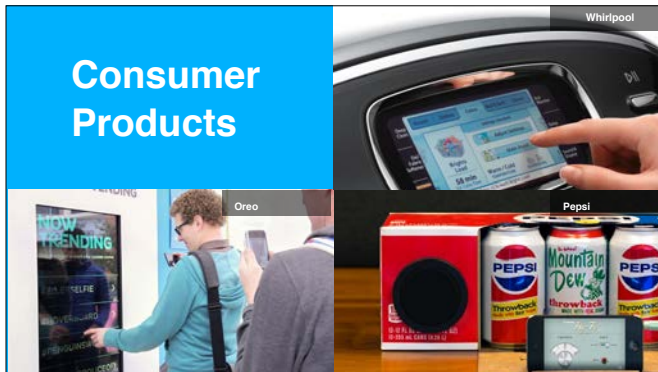
MAYA is set up to help our clients solve their most complex interdisciplinary problems in human centered ways with a focus on future trends and connected technology.

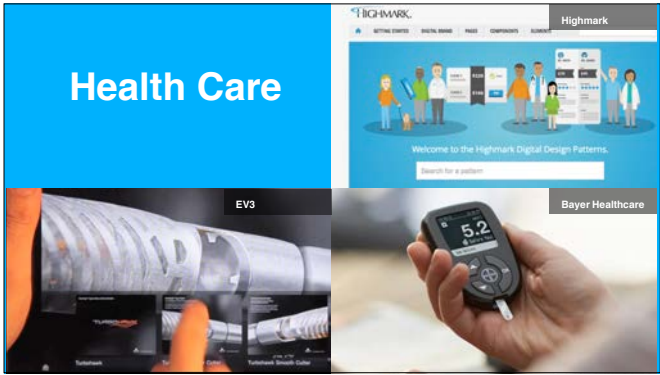
For 26 years, we've helped the world's greatest brands uncover breakthrough employee, customer and target audience insights .

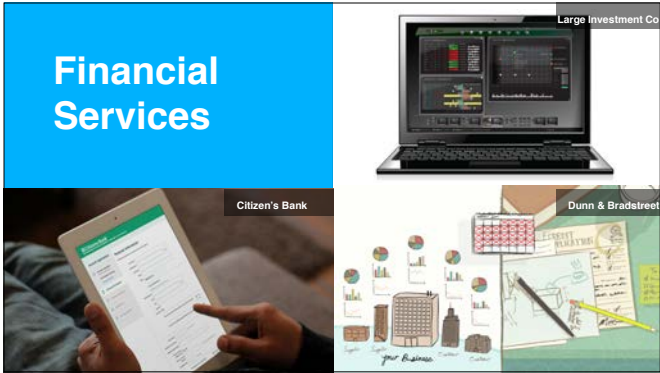
We help our clients harness the power of innovation.

MAYA was launched by three faculty from Carnegie Mellon University, a cognitive psychologist, a visual designer, and a computer scientist. We continue to be structured around organizing information in ways that unlock human potential. We serve our client in four broad practices: Products/Services, Strategy, Environments, and Pervasive Computing.

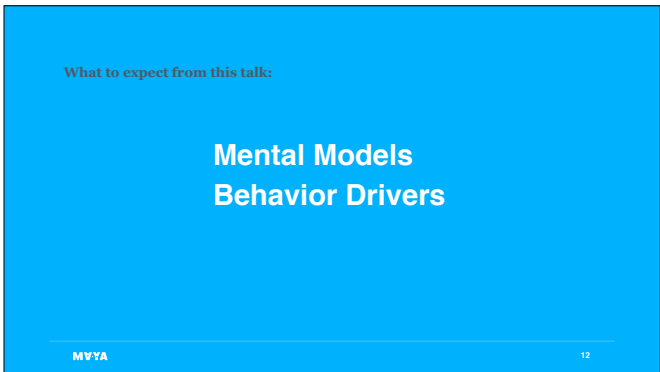
We work across industries and with a huge variety of companies and cultures.







MAYA self funds research into human interaction with the environment of pervasive computing (Internet of Things). We wrote the book, invented an app to manage all of the smart devices in your environment, and created a snap together hardware/software product that allows you to connect devices and controllers in ways they were never meant to be connected, allowing non-engineers to hack their worlds.



In this talk I will first share some mental models that we use at MAYA and then get into some of the behavior drivers that can be used to design great service experiences.



Experience is by its nature individual. Two people can be in the same place at the same time looking at the same thing and yet come away with entirely different experiences. Service design is (in many ways) the impossible task of creating a collective shared experience.



#### Mental Model 1: Moments on a timeline

We approach this challenge by choosing particular moments along a timeline to design and control. Each of those moments is dense with experiential stimulus (interaction, information, visual content, etc) in order to invite a similar experience. We then allow the individual to journey in their own experience uncontrolled, until the next dense point of shared experience.



This approach is much like reading a cartoon. We can all look at and agree on the meaning of each panel, but the spaces between the panels we fill in for ourselves.

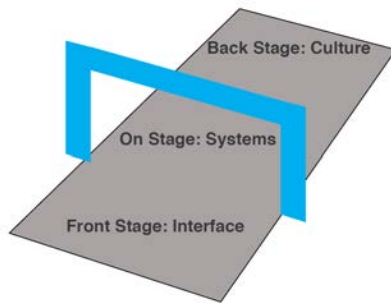
Amazed  
Comforted  
Surprised  
Interested  
Supported  
Unsure  
Excited  
Challenged

### Table activity:

Step 1. Each person at the table chooses a word that describes a customer's experience. You can choose from the list on the slide or something similar. Each person writes that one word on an index card.

Step 2. As a group, the table assembles the cards into an order that tells a story of a particular customer experience. Once you are happy with one order, rearrange the cards to tell the story of a different experience.

Observation. The groups are asked to share out and notice that the order of the specific moments of experience matter and that different orders would seem to support a different brand experience.

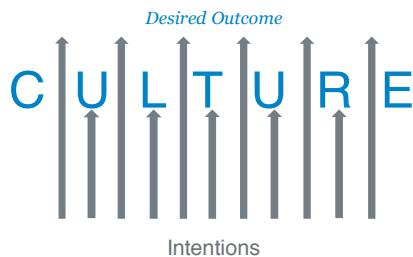


### Mental Model 2: The Service Stage

culture: organization structure, management, technology, programs/amenities

systems: policies, processes, tools, physical/virtual environment

interface: the human experience

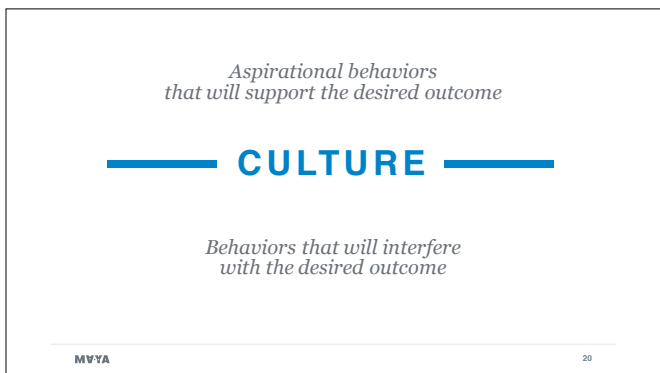


Culture is a key driver as it can either support or interfere with the desired results.

We love this definition of culture by Chris McGoff.

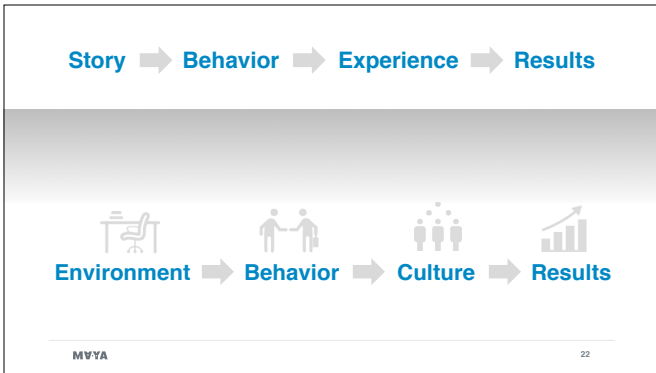


McGoff's definition becomes useful in service design when we begin to diagram out those behaviors that will support the brand experience and those that will interfere.

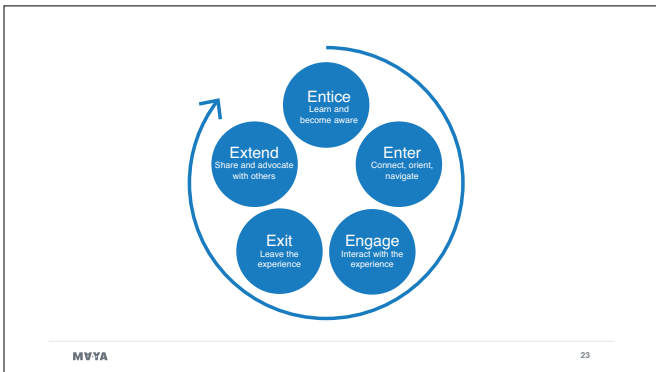


Even with that clarity, we have the challenge of changing the culture. We have to recognize that you can't work on culture directly - it is driven by other factors in the environment. So we get to the "right" culture not just by working with our people, but also by thinking through issues of organization, programs, technologies, and place.





We can see that by combining these two mental models - the front stage which is the designed story that drives behavior in order to generate experience to lead to results, lines up with the back stage of environment (org structure, programs, technology and physical/virtual space) to influence behaviors towards the desired culture that will deliver results.

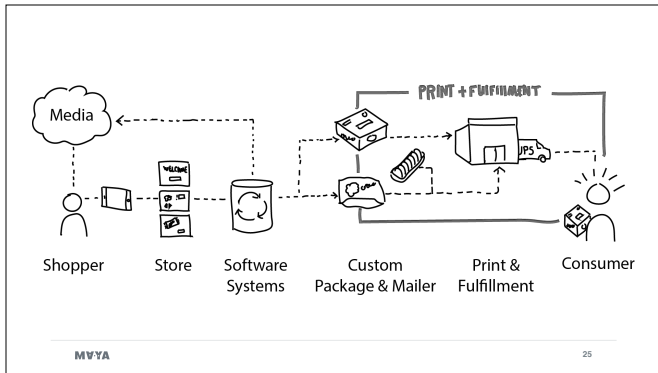


Mental Model #3: The 5 E's of service design  
Entice, Enter, Engage, Exit, Extend

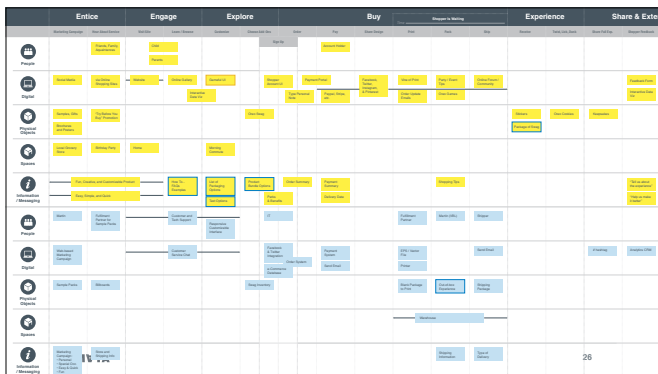


All of these models come together as we consider front stage and backstage in subcategories of people, tech, place, etc across the timeline of the 5 E's.

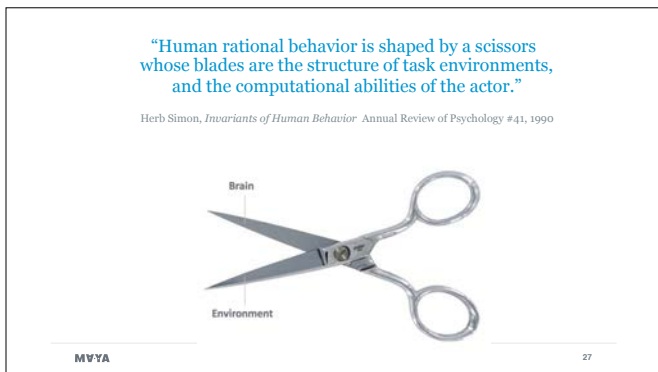




Sometimes when there is a particularly thorny issue front or back stage we pull it out and work it through but then...



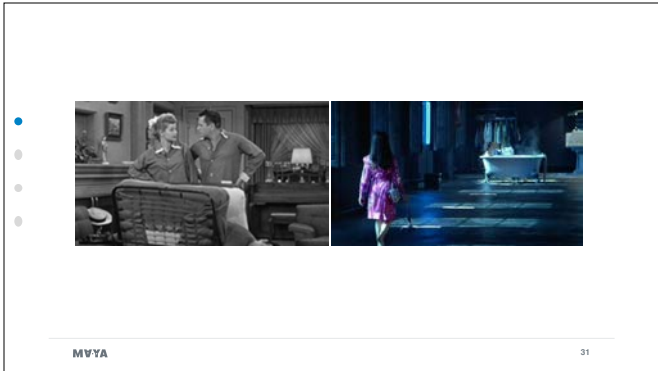
but then put it back into the front stage/backstage format so that we make sure that the customer experience that we need to reinforce the brand is most likely to happen



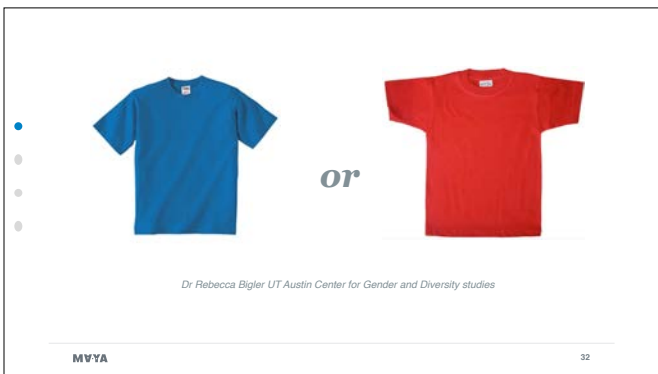
#### Mental model #4

Herb Simon was a nobel laureate in multiple areas. He researched and wrote a number of papers on his theories of bounded rationality - in essence, why do people behave the way they do. He came up with a simple framework...people’s behavior are driven by either the person themselves OR the environment in the broadest sense of that word. So if you want new behaviors, you can change the people (get new people or train the ones you have) OR you can change the environment. In most cases it is much easier to change the environment.

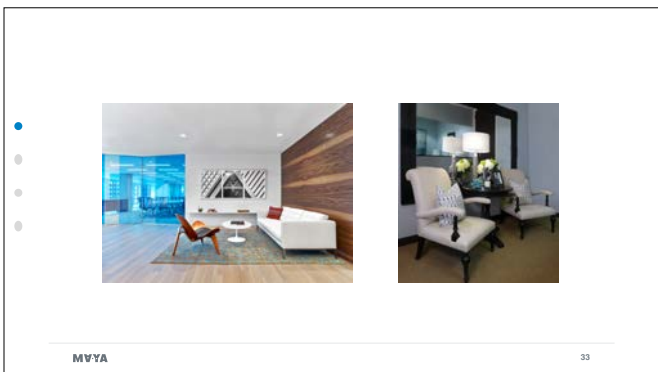




Take these examples. Each scene has a man and a woman but even if you have never seen an I Love Lucy show or the movie Diva, you know that these couples live very different lives. Each element in their visual environments was chosen to give you the viewer the opportunity to fill in meaning based on your existing memories and associations.



Dr. Bigler did an experiment with preschoolers. She put half the class in red t-shirts and the other half in blue and instructed the teachers to go about normal classroom activities. At the end of three weeks, the kids were asked who is smarter reds or blues? who is meaner? and the kids universally attributed good qualities to the children wearing their color T-shirt and bad qualities to the other group. We naturally and quickly trust people who look like us.



The same thing is true of the physical environment. Your customer is deciding before they ever walk into your store whether it fits them. If you are a discount store but you have fancy doors or lighting or flooring, then if I am a discount customer, before I ever walk in (if I walk in), you have lost my trust. That potential hire sitting in your lobby is deciding simply by looking at the design of your lobby whether or not your company wears the same color t-shirt that they do. When you make these design decisions, they have to be made in a way that communicates the brand promise as it needs to be heard by your target market.

### Case Study

Anheuser Busch:  
Bars in Airports and Stadiums  
as a brand awareness strategy



Budweiser was losing significant market share to micro-brews and we used a program of putting bars in airports and stadiums across the country in order to reinforce a set of television ads that were running at the same time, all focused on sharing the story of Budweiser's rich history and its own quality ingredients and brewing processes.

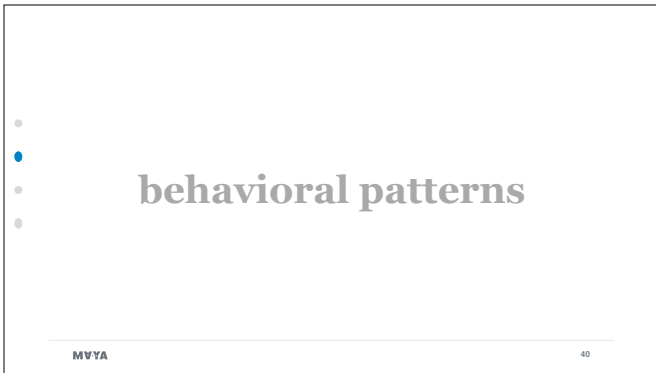


This was a version that would break down and ship from convention floor to convention floor - always carrying that same message.

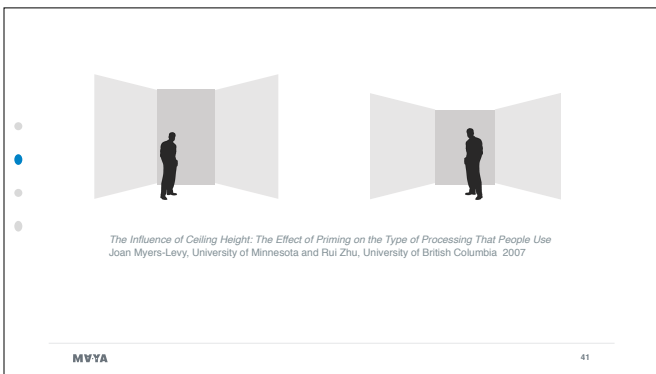


Ticketmaster needed to take its dated headquarters and speak to the potential hires that it wanted to attract. We used materials and colors selected to speak to a younger hipper crowd.





The second category of environment behavior drivers I will share with you, are some examples of research based techniques for connecting environment with behavior and some of the ways that is being applied.




Our first example is this study that showed that humans conceptualize better under high ceilings and focus better under lower ceilings. You can see this playing out in every car dealership and furniture store you have ever been in. The showroom ceiling is high, encouraging you to imagine yourself in a new car or with a house full of new furniture. However, once your decision is made, the sales person will guide you into a small room or area with dropped ceiling to make the detailed decisions and sign the paperwork. These retailers are taking advantage of our natural human behavior patterns.



Another example...Scott Page did a series of experiments with three “groups” of people. The first was a single guy with an extremely high IQ. The second was a group of white middle class men with a high average IQ. The third was a mixed group with diverse gender, race, socio-economic, and career backgrounds. He gave each group a set of problems and it turned out that group three solved them better faster every time. The research was repeated at Stanford and other institutions and now we can say with a fair amount of certainty that diversity beats IQ for creativity and problem solving.

**The propinquity effect**  
The Spatial Ecology of Group Formation 1960  
 Festinger, Schachter, and Back



at Google:  
**a 4.5 min wait**  
 costs approximately \$1400/year  
 per coffee drinking developer

MAYA 43

However, we know from the red shirt blue shirt research that we don't naturally trust people who are different than us and so we won't naturally choose those people to be part of our problem solving teams. This is where something called "the propinquity effect" comes in to play. It turns out that even if you wear a different color shirt than I do, if I run into you on a regular basis, I will begin to trust you. It may be interesting to note that when Google put its first barista in its offices, it was not with the purpose of attracting and retaining employees. It's specific purpose was to slow people down. They measured and figured out that the perfect wait for a cup of coffee was between 4 and 5 minutes. Less than 4 minutes and you wouldn't talk to the other people there waiting. More than 5 minutes and you wouldn't come get a cup of coffee. This "wasted" time, was designed in to help build trust in order to empower more diverse teams - working with our natural behavior patterns to drive the experiences that are needed for results.



MAYA 44

Another example: We humans converse with each other and generally assume that we have conveyed our point and that the other person understands what we meant and have said. Research shows that the bulk of the time that is not true. However, when we create visual information, getting it out of our heads in the form of words and diagrams...even stick figures, the level of understanding rises and with more information to respond to collaborative problem solving becomes more effective. At MAYA we invented something we call TeamBoards that allow us to work alone or together but always with the information on the board and not just locked in our heads.



MAYA 45

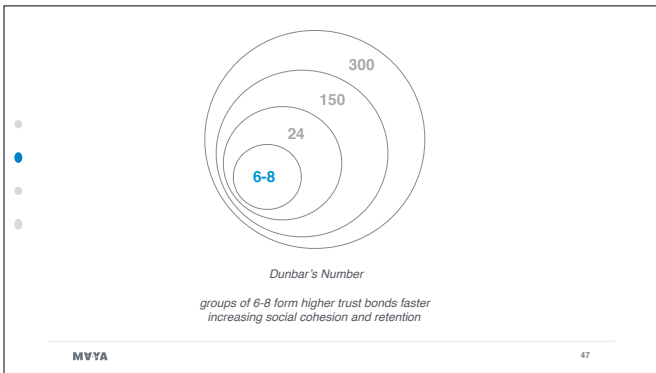
The last example I will share with you is something called "functional inefficiency" or the milk-in-the-back-of-the-store. Everyone here is familiar with this but what you may not know is that research shows that if I enter the store and turn right, circumnavigating counter-clockwise, on average, I will spend slightly more than if I enter and turn left. If I walk through fresh food first, on average, I will spend more than if I walk through prepared food first. The milk is usually not just in the back of the store. It is most often located so that in order to get to it, you walk in the door, turn right, walk through produce, and then find it. In your own employee and customer environments remember that the goal is not efficiency. The goal is creating the behaviors and experiences that will drive results.

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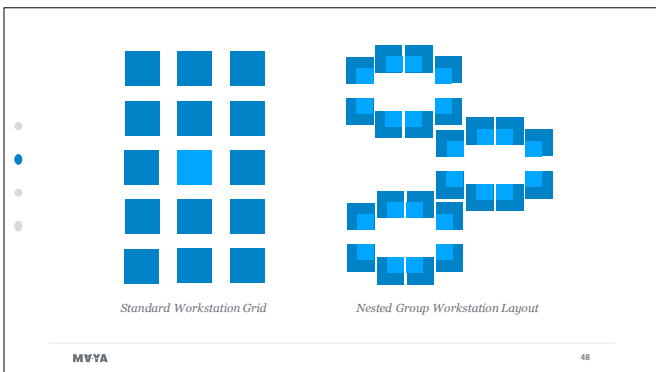
**Case Study**

PCA Skin:  
 Attract and Retain well educated call center workers  
 Provide a more consistent customer call experience

PCA skin sells skincare products to doctors, dermatologists, and aestheticians. They provide outbound sales of product through training and inbound support of product in use. The challenge was that they were hiring nurses and aestheticians who saw this call center job as temporary. They also found that with the variety of backgrounds, their customers might get the person who knew about their problem or they might not, and PCA needed to even out the customer experience.




We began by identifying some behavior drivers including the fact that people form higher trust bonds faster in small groups. How could we put these call center workers into groups that would begin to solve our problems?



Our first move was to rearrange the furniture. We grouped workstations into groups of 8 with backs that were open to the group. A call center worker could face into the corner with sound absorptive material or spin around to pass the call off to another member of her group that might have more knowledge relative to that specific call. We were also taking advantage of the “wing-man” effect. If I introduce you as an expert, even if the customer doesn’t know me, they will find your responses more believable and trust you more. With this seating layout and teams carefully curated to provide different kinds of knowledge we did three more things. We changed the compensation so that employees were bonuses on both their own sales and the sales from their group. We rearranged employees within the group every three months providing new opportunities for peer learning, and each group took their break together creating opportunities for social cohesion.







2006-2012

Employees increased 61%  
Training time down 31%  
Revenue up 78.99%

MVVA 49

The financial and performance results were astounding. Attraction and retention were up. Training time was down, and the resulting revenue impact was what we were looking for.

MVVA 50

There were a number of other behavioral drivers that we tapped into at PCA and I'll share just one. Melissa Farling and Jay Farbstein did a study in an inmate intake facility at the Sonoma County jail. The actual intake room is very stressful with people drugged or drunk, numerous behavioral problems, and high stress for the guards. They installed a picture of nature in the room, measured stress before and after as well as negative behavior incidents and it turns out that even a photograph of nature will lower stress. We know from other studies that reduction of stress in employees leads to higher productivity and so there are several locations within the facility that use this technique.

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movement

MVVA 51

The third big category is movement. If you want your customers or employees to experience something in a particular order, you can use architectural elements, color, lighting, and other physical environment categories to encourage movement. If you have ever been in a space where no number of "you are here" signs seem to get you oriented, it is because the architectural clues are running contrary to the way you are actually expected to move.



As an architecture professor, I had an entire lecture around this concept but I will just convey this with a few slides so that you get the idea. If you were dropped into this landscape and did not know where you were supposed to go - where would you choose to move? Most people will respond towards the tree. It is the one differentiated object in the landscape and so it draws both your attention and your body towards it. The same thing applies to interior elements. If there is one thing you want your customers to do, see, or experience, make sure that one thing is different than anything around it. We call this “one column”. One column draws you towards it.



Two columns create a gate that imply a path. It could be two columns, two lights, two pieces of furniture. The idea is that if you want people to move in a particular direction you can use “two columns” to begin to define that path.

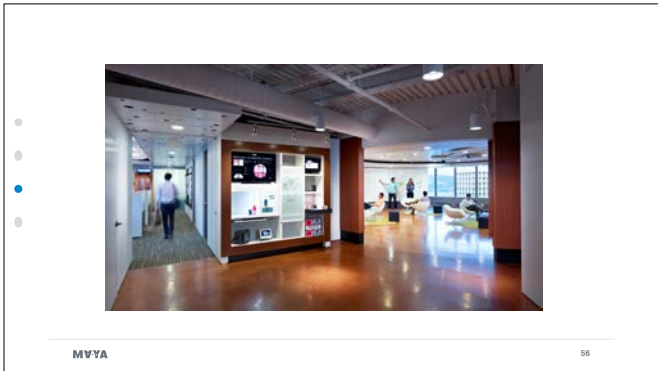


Four columns create a room, a point of pause. You can put four columns (or four trees or four pieces of furniture) in a wide open space and people will tend to use that implied space as a place to pause and survey their surroundings or plan their next path. This idea of architectural elements attached to movements also applies to one wall, two wall, raised floor, dropped ceiling, bright lighting, dull colors, and more. There are specific ways to influence specific movement patterns and so the lesson to take from this is that the most important first step is to design the movement you want. Design the movement that will deliver the customer or employee experience that communicates the brand promise. Once you have that storyline, then you can begin to choose the objects that will make that experience happen.

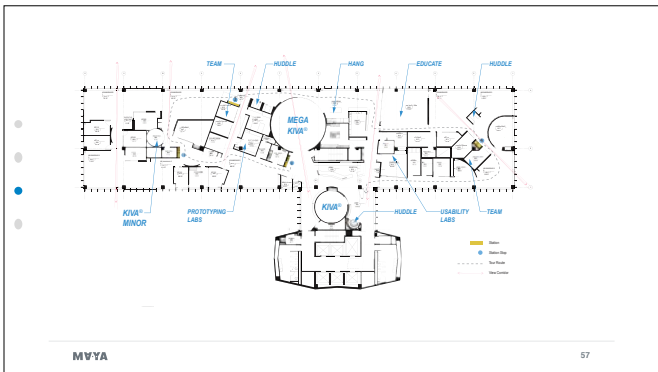
Case Study

MAYA design:  
a highly collaborative think and do tank

MAYA's physical space is designed to communicate with potential clients with a "one-column" and movement (tour) approach. It is also designed to support our interdisciplinary collaboration.



At several points along the movement path a client/potential client will come across these display cases, a one-column event. Each of these showcases a variety of MAYA projects, helping that potential client better understand the ways they could engage us for the benefit of their business.



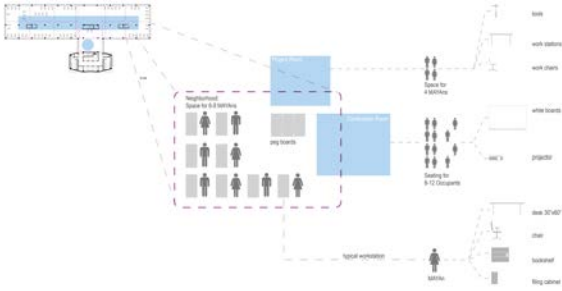
The dashed line shows the tour route and the blue dots show the locations of the display cases. The tour route is supported by the ways that the walls are laid out, making the experience of movement through the space feel natural and the discovery of the display cases along the way delightful.



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58

Our office includes multiple round conference rooms. These round rooms by their lack of “head” of the table, immediately remove hierarchies empowering all levels to participate fully. We also wanted to provide lots of space for getting ideas out of our (and our client’s) heads. The entire room is rapped with writing space so that there is no scarcity and no barrier to anyone picking up a marker and participating.



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59

We sit in neighborhoods not departments. We use the propinquity effect on a daily basis, helping different disciplines to be comfortable with and grow to trust others so that we can team and collaborate more effectively.

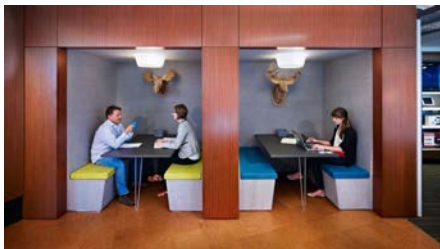


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60

A neighborhood might have a human scientist, a software developer, a visual designer, an IT person, a business operations person, and others. The neighborhoods seat about 8 people, building on that small team trust factor.

We also know that in order to collaborate we have to be able to think, make, learn, and work alone or in pairs and so we have quiet physical spaces that support that needed behavior.



The last behavior driver that I will mention is human interaction with information. When, what, and how information is presented can significantly influence behavior and experience.

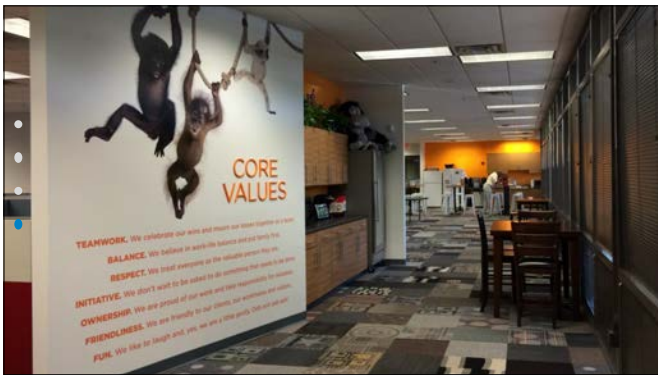
information

Before we dig into physical space, I want to touch briefly on virtual space. In today's world physical and virtual space are extensions of each other and the thoughtfully designed customer experience needs to include both. For most customers and employees, their first interaction with your company happens on-line, whether gathering advance information or simply mapping locations.





I also want to point out that in today's world we want to think not only of the information that a customer or employee seeks out online but also the digital information that you might push to them at particular points of their experience with you. The digital conversation can be just as fluid as an actual conversation and should be woven into the overall experience blueprint.



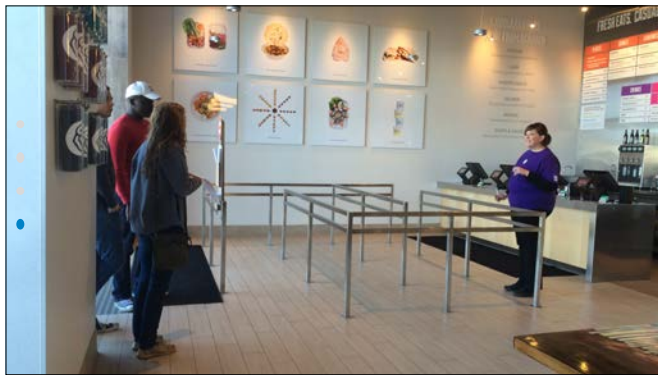
Returning to the physical world, I would share with you that this space is communicating with its employees in at least three ways. There is the obvious words on the wall placed to make sure employees understand the company values. There is also the carpet. This exploding growth startup had a good budget and could have purchased matching carpet tiles but the decision was made to deliberately make it a little messy and a little less designed, in order to continue to communicate “we are a startup”. Finally there is the orangutan on the wall which is an inside joke. One of the early company picnics was at the state fair where someone won a large stuffed orangutan (look closely at the photo and you will see it sitting on top of the refrigerator). If you work at the company, you know that story and you know what the images mean, if you don't then you don't. The Center for Evidence Based Management did a meta study looking at over 800 bodies of research on human productivity. They found markers that would indicate increased team productivity and the number one factor was Social Cohesion. Digging into social cohesion we can look at the research around what it takes to create a sense of community and one factor is a feeling of belonging. There are a number of ways to accomplish



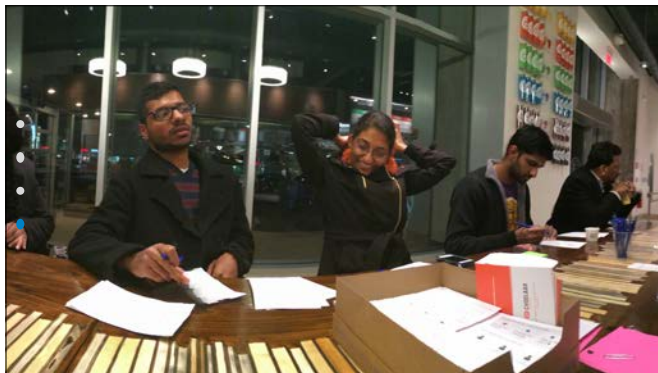
I share here another example of non-verbal communication from Sony North American Headquarters in San Diego. This image is of the founders and was chosen to infuse their sense of exploration and play into the very real day to day business challenges.



Choolaah, based in Cleveland, OH, approached MAYA to help them redefine the fast casual experience for Indian cuisine.



Choolaah wanted to present Indian food in a modern and healthy way to make it more approachable for those who might not typically gravitate towards ethnic options.



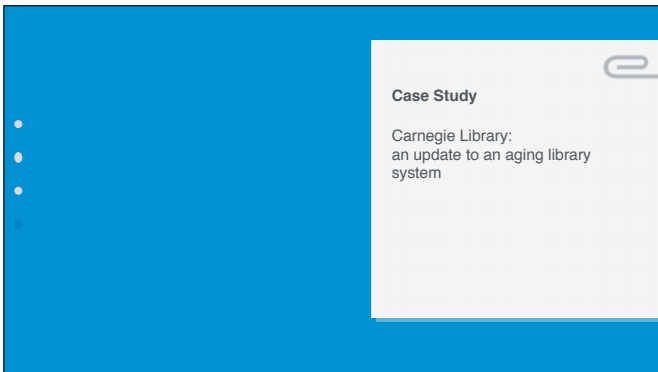
We immersed ourselves in the current experience, we interviewed staff and conducted user research at the restaurant.



We created paper prototypes and interacted with customers to get direct feedback on our early stage concepts.



In a co-design session with the Choolaah team, we used these insights to create an end to end service experience including this digital menu that enabled customers to customize their menu based on different dietary preferences. In this way we were able to build trust and organize the information for ease of both understanding and ordering.







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73

Libraries thrive on complexity, but sometimes the physical and organizational structures that manage this complexity break down.

This “environmental complexity” becomes apparent in an information overload of sights, sounds, signs, technology devices, official- and unofficial-looking people that, together, confuse or intimidate users. **Users drift away when they’re unsure where to turn** for help or whom to ask. New users, unversed in library jargon or lacking detective skills, often cannot find what they’re looking for.

A large-scale capital improvement project to update and upgrade nearly every library building in its network became a perfect opportunity for the Carnegie Library of Pittsburgh to rethink how it interacts with and serves its customers (and attracts



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74

**Users of any environment or product have a “mental model” of what they expect to experience.** We began our work with the Carnegie Library by trying to understand the mental models of its customers and the library’s organizational schemes.

MAYA gathers data on a wide range of issues, using techniques such as interviewing and shadowing customers and the personnel with whom they interact. **Sometimes, we become users ourselves, analyzing and evaluating the basic components of the environmental system** by measuring them against usability guidelines similar to those we use when analyzing the interface of a software application or web site.

For the Carnegie Library, we chose a single task and played out a day in the life of a new library customer. We found that library jargon permeated the space, and



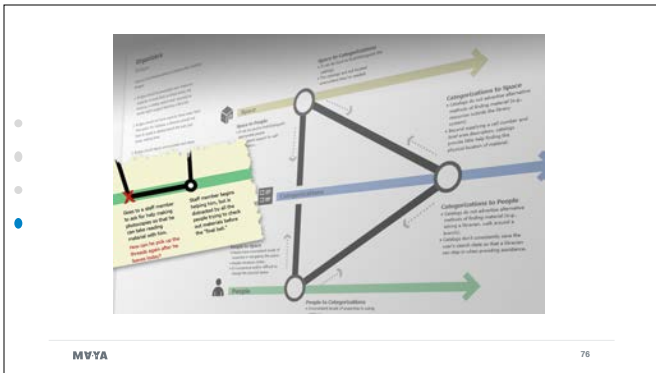
MAYA

75

**Designing something for the “average” person tends to result in an average product or experience -- not a great one.** But neither can a product cannot be all things to all people. So, MAYA uses personas -- hypothetical customer archetypes -- as a way to find the right balance (and cover the right bases).

To analyze how library customers traverse connections and organizers, MAYA created detailed personas, as well as use scenarios based on these personas. The personas spanned a broad range of library customers. For example, one depicted a first-time customer, Naomi, and what her thoughts would likely be when entering the library and attempting to find out how she should check out a book.

Our diagrams mapped each persona’s journey through their experience, showing where and how they encountered organizers (physical space, categorization schemes, and librarians) and the nature of the interactions. The “valleys” in the use



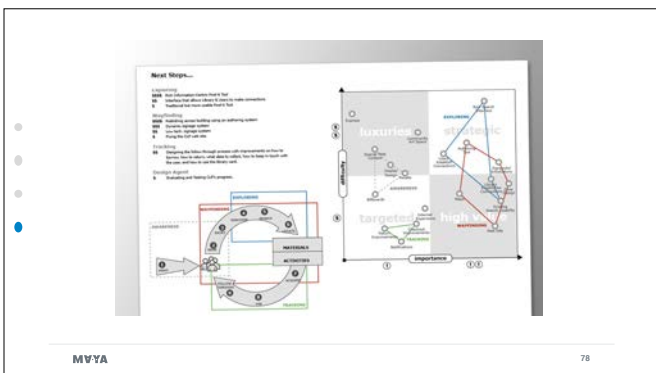
After walking four personas through a series of tasks, we documented breakpoints, or negative experiences. Each X represented a breakpoint -- **the logic bridge customers expect, but find missing**. They are places where the system failed to help the customer accomplish her goal, such as when searching for an item online and then trying to find it on the shelf (or not finding it at all, and then looking for help from a librarian).

The breakpoints revealed inconsistencies that repeatedly stumped customers, who couldn't learn an action sequence in one part of the environment and reapply it to obtain similar results in other parts of the environment. They were unable to bridge from one organizer (a catalog computer) to another organizer (the book shelf). **There was a lack of intuitive continuity throughout the space between organizers and items.**



To rapidly generate a wide variety of ideas for bridging breakpoints in the customer-experience cycle, we formed mixed "tiger teams" of architects, librarians, and MAYA's designers.

**(We open up our process and encourage our clients to participate, rather than develop our ideas in isolation and slide them under our clients' doors.)**



By combining the tangible recommendations generated by tiger teams with the observations and analysis of MAYA's researchers, we created a set of design recommendations and mapped them on a cost-benefit chart.

The first dimension -- *importance* -- shows how important it is to users to have those design recommendations implemented.

The second dimension -- *difficulty* -- shows how difficult it would be (according to budget, timeline, and resources) to implement the recommendations.

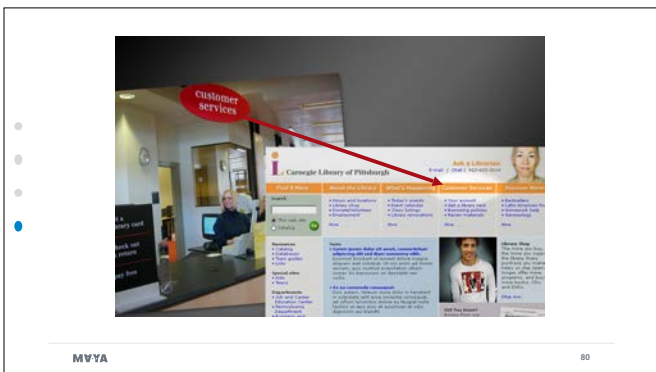
After careful consideration, the Carnegie Library of Pittsburgh decided to **focus its efforts on three strategic initiatives that would have the greatest immediate effect on the experience of its customers:**



Translating the information architecture into an easy-to-use, yet sophisticated wayfinding system was an iterative and collaborative design process among MAYA, the architects, signage consultants, and library stakeholders. **As the architects defined the “space economy,” MAYA took the lead in defining the “information economy.”**

The information architecture not only provided a consistent logic for information content and locations, it also supported a variety of interfaces for communicating that information.

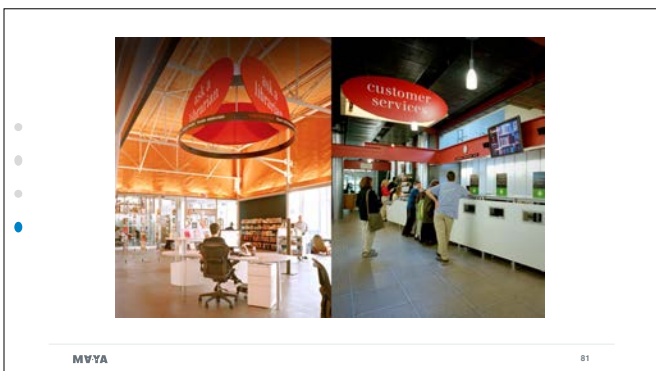
**The consistent logic of the information architecture enabled us to create an inventory of display devices suitable for specific locations, budgets, and message classifications.**



The Carnegie Library of Pittsburgh **wanted its customers to operate in familiar surroundings, whether the territory was online or in a library building.**

Working closely with the library’s own talented web-development team, MAYA:

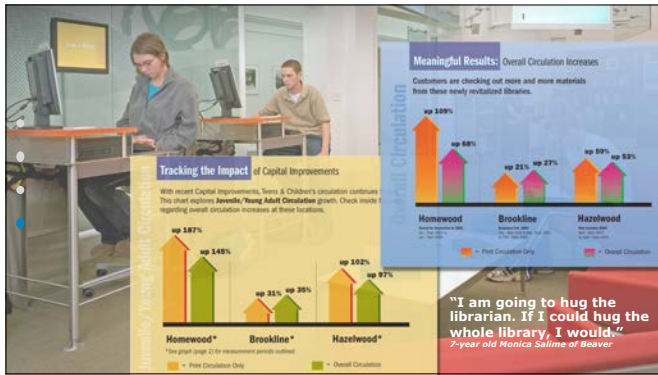
- Developed multiple conceptual options for a new Web interface
- Conducted multiple rounds of reviews and additional iterations
- Replaced confusing jargon with a consistent, user-friendly vocabulary (or lexicon)
- Developed a functional site map
- Created low-fidelity wireframes of key screens
- Provided suggestions for integrating the library catalog and the Web site, even within existing constraints
- Developed higher-fidelity designs for the home page and representative leaf pages



In the “Experience Economy,” how an organization addresses the cognitive and emotional needs of customers within the organizational environment drives differentiation. **Identifying these needs, and how the environment is or isn't meeting them, will guide the design of rich, memorable experiences that customers want to repeat.**

In addition to transforming a building from which people fled more than they flocked, the library has begun reclaiming its place as a valued, innovative, and inspiring center of information and discovery.

The physical changes brought about by architectural renovations to The Carnegie Library of Pittsburgh have been matched and enhanced by a simultaneous overhaul of how the library serves customers. Librarians and staff devote more of their time to more high-value, high-reward efforts.



With recent Capital Improvements, Teens & Children's circulation continues to rise (the growth has been up to 187%). Customers are checking out more and more materials from these newly revitalized libraries (the growth has been up to 109% in some libraries).

An excerpt from a recent Carnegie Library Newsletter:

Roland Mick, the retired management consultant who worked for NASA at Mission Control can't think of a better way to spend his time. Like many Main Library customers and first-time guests, he says he can't get enough. And one thing is clear: Roland is not talking about used books, he's responding to Main Library's \$4.1million First Floor transformation. "A lot has been accomplished here. It's virtually illuminated," he says. "This is transformational. It reminds me of NASA. I know this took monumental change and energy. This is great for Pittsburgh."

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**"MAYA helped us to explore fearlessly and spend wisely."**

*Herb Elish, Director Carnegie Library*

MAYA 83

In an "Experience Economy," how an organization addresses the cognitive and emotional needs of customers within the organizational environment drives differentiation. Identifying these needs, and how the environment is or isn't meeting them, will guide the design of rich, memorable experiences that customers want to repeat.



### Group Activity: Affinity Cluster part 2

Affinity grouping of active listening notes to see if we can discover themes with the goal of encouraging people to talk about how these ideas might impact their work so that they have actionable take-away.

This is how we do it.



HCD: focus on the user first, instead of the technology. We move iteratively to discover all the breakpoints.

AA: Need a solid underlying architecture. It's the information that binds products together, not the technology.

CW: The age of products, services, or environments that are stand-alone is fast coming to an end. We are focused on the deep implications of the trillion-node world.

Users

# MAYA

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