

Sala Siete and Café Tertulia: A Community-Based Design For Teatro en 15



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WPI



Sale Siete and Café Tertulia: A Community-Based Design for Teatro en 15

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This report represents the work of two WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on its website without editorial or peer review.

Abstract

Antonio Morales Cruz, the founder of Teatro en 15, believes that theater is a life-changing form of art which can bring about social transformation. Theater has long been a part of Puerto Rican culture, but the lack of a substantial industry on the island makes it difficult for aspiring actors to chase their dreams. Teatro en 15 aims to give these young artists the break that they need. The micro-theater, which has been operating since 2021, provides an experience in which customers travel to six different rooms to see six different 15-minute performances. These performances change every single month based on auditions. On the third floor of the Teatro en 15 building, known as La Casa Cultural, there is an empty rooftop space. By working with Antonio Morales Cruz, the team strived to design a cultural cafe and a seventh performance space on the roof. Through an iterative participatory design process consisting of interviews and workshops, the team gained stakeholder feedback and crafted a comprehensive CAD model of the space to present to Teatro en 15.

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Executive Summary

Introduction

Theater has long been an integral part of Puerto Rican culture. It is one of the many forms of art through which Puerto Ricans show their national pride. Despite such a large cultural significance, the value of theater is often minimized making spreading theater to new people quite difficult. The theater industry is struggling including Teatro en 15. Teatro en 15 is a short form theater which started in Spain (Florian Viton, 2013) but was later brought to Puerto Rico by Antonio Morales Cruz. Teatro en 15, known as a micro-theater, runs Thursday through Sunday and features six 15 minute plays, all having a common theme related to the month. On the third floor of the Teatro en 15 there is an empty room along with an unused rooftop space. Our sponsor, Antonio Morales Cruz who is the Executive Director of the Department of Arts and Culture of San Juan, hopes to transform this space into a cafe and terrace in which new and young artists along with Teatro staff can spend their time. By working with Antonio Morales Cruz, Pascual Febus Pica, and other stakeholders through a participatory design process, this project will result in a cafe design which celebrates the role of art in Puerto Rican history and provides a space for artists to develop their works in a relaxing environment.

Background

There are many relevant stakeholders in this project. The first being our sponsor Antonio Morales Cruz. Antonio being the founder of Teatro en 15 and the Executive Director of The Department of Arts and Culture of Puerto Rico, makes him a very important stakeholder in this project. A second very important stakeholder in this design is Pascual Febus Pica, the building manager of Teatro en 15. Pascual does a lot of the interior design of Teatro en 15. This and working so closely with the theater makes him another very important stakeholder. The last of our main stakeholders is the teatro staff, specifically the teatro Usher. This is a group of university arts students who work at Teatro en 15. This group being young students of the arts and playing such a large part of Teatro en 15 makes them a relevant stakeholder group. The team plans to interact with these stakeholders through a process called participatory design. This is a process of research where a group engages in various workshops or activities with relevant stakeholders to gather information. One of the main ideas of this process is that these workshops remain unbiased and are conducted in a way which works to engage stakeholders so that they are actively participating in the feedback. Some examples of this are interviews, games, drawing activities, and open discussions. Before the group uses this to create an iterative design there are important things to consider before designing each space. When designing a cafe we must be conscious of the patron experience. The way in which a cafe is designed will affect the feelings and way a patron feels when they enter the cafe. The cafe space may include a reading space so when designing for this it must be done early in the design process. The design should make this feel like a separate area while also providing natural lighting. Because we are designing for a preexisting space you must consider the current space. It is important to examine the current conditions and the additional needs for the space that may not already exist. The cultural leaders of Teatro en 15 have also talked of having a stage on the terrace outside, which brings more design considerations to the forefront. Understanding a stage design is very important when creating an outdoor stage. You must plan to adapt the necessary aspects of a stage to an outdoor environment.

Methodology

The goal of this project was to help Director Antonio Morales Cruz in the design of a cultural cafe and performance space to celebrate Puerto Rican theater and encompass these designs in a set of final deliverables. The Team accomplished this goal through the following set of objectives. Number 1, analyze and document the existing rooftop conditions. Number 2, develop participatory design strategies. Number 3, implement the iterative design process. Number 4, embody the design in a set of final deliverables.

The first objective analysis and existing rooftop conditions was done upon arrival in Puerto Rico. The team worked together to take measurement, create drawings and schematics of the existing rooftop conditions. These were then used to create a base CAD model of the space. This was used as a base design for the cafe.

Once this was done the team began objective two, developing participatory design strategies. After analyzing the various stakeholders, we created the “Cafe and Rooftop Design Series.” This was a series of four participatory design workshops that focused on different parts of the design. These workshops consisted of various types of activities while also building off of the previous workshops to come up with new design elements. We then planned to take the data from these workshops and incorporate them into various design choices.

The third and largest objective was the iterative design cycle. Now that participatory design strategies have been developed it was time to implement them. First the team held workshops and interviews with relevant stakeholders to generate ideas and feedback on models and design concepts. This feedback was then incorporated into CAD models and hand-drawn sketches. From there the team made adjustments to upcoming workshops and interview plans based on the lessons learned from the previous workshops and interviews. This cycle was repeated multiple times through the design and resulted in a community based design of the space.

After this rigorous cycle was repeated many times the team moved to objective four, embodying the iterative design process in a set of final deliverables. These deliverables included a cafe inspiration booklet, a participatory design archive book, a final design book and a written report. The cafe inspiration book consisted of images and research from visits to local cafes and cafe inspiration guides which the team purchased. The participatory design archive book is a book which consists of workshop plans, stakeholder biographies, interview plans and other forms of data which was collected from participatory design methods. The final design book consists of the preferred CAD design for the cafe and outdoor terrace space, along with hand drawn sketches of the space. The last deliverable is the written project report which details the project in its entirety

Findings

Throughout this project the group conducted large amounts of research and had many findings, many of which are summarized here.

- Upon completion of the first objective we found the rooftop to be in fairly good condition with minimal structural adaptations needed. That being said, there were many additional mechanical systems located on the rooftop which we had not originally planned for.
- The team learned that Puerto Rican nationalism is expressed through their culture and arts rather than a flag.

- Usher and stakeholder groups were very passionate and engaged during participatory design workshops, Ushers often lead conversations in workshops and talked extensively on many topics
- When planning participatory design workshops we found it beneficial to leave extra time for workshops
- When conducting interviews it is important to let the interviewee talk freely and let the conversation flow and guiding them with questions or prompts to keep them on track
- We found the use of CAD models and hand drawn sketches to be very useful tools in visualizing designs
- When creating the inspiration booklet the team found there are far more design considerations than meet the eye and it is helpful to look at existing designs for inspiration

Conclusions and Recommendations

From our research the group was able to make many conclusions about an appropriate design for this space. Both the cafe and the terrace space should have a calming open air ambiance. The Cafe should have multiple tables by windows to create an open air feel, the cafe should have calming music and be decorated with artwork. There should be an entertainment corner with books and games for those who aren't eating or conversing in this area will simply provide other forms of entertainment. The menu should be short and sweet. All of the design elements which are chosen should be ones that create a calming environment where patrons feel they can spend time, while also encompassing the celebration of Puerto Rican arts. The design elements for the terrace space should also promote an open air feel. In this space there should be a small stage for alternate forms of entertainment, there should be many wooden tables for patrons to sit at. There should be string lights to provide warm lighting at night and awnings to provide shade during the day. Overall the terraces should have a similar ambiance to the cafe while providing an outdoor space for cafe goers.



Introduction: The Opening Act

Chapter 1: Introduction: The Opening Act

Puerto Rican patriotism comes in many different forms. Whether through food, music, architecture, or the arts, Puerto Ricans are very proud of and eager to celebrate their culture. One of these methods of expression, theater, has a rich history on the island. It is an important part of the island's cultural heritage. For hundreds of years theater has been a vehicle for artistic expression, political commentary and social critique (Dauster, 1963). Many of the island's best artists come from theater, even today their contributions continue to shape the culture of Puerto Rico. (Dauster, 1963). Theater continues to be an important outlet for communities to creatively express themselves. Many theaters both local and worldwide produce work which reflect the history and culture of Puerto Rico, and help to shape the future. However, despite having so much cultural significance, the theater industry in Puerto Rico is still relatively small and theater itself is often undervalued. Aspiring actors can only hope that they are talented and fortunate enough to acquire one of the few open roles available. This poses a problem for many on the island. For some theater is an enjoyable way to pass the time and have fun with friends, but for others it is survival. The lack of a thriving industry makes growing in popularity and audience attendance difficult for many theaters, including Teatro en 15.

Teatro en 15 is a small microtheater in Old San Juan which aims to give actors young and old their break in the industry. Modern short-form theater originated in Spain in 2009 when Spanish theater maker Miguel Alcantud used a closed-down brothel to put on plays about prostitution (Florian Viton, 2013). "Microteatro" events are now held in Latin America, the United States, and Europe. Director of the Department of Arts and Culture, Antonio Morales Cruz, brought short-form theater to Puerto Rico through Teatro en 15. Teatro en 15 is a relatively new establishment, having only opened in 2021, and shows six 15-minute plays each night, running on Thursdays through Sundays. Each month features a new theme for the theater and the plays reflect the theme of each month. When attending, patrons start in the colorful lobby of Teatro en 15 (Figure 1), where they receive a ticket with the order of the plays they will be watching. After that, they travel to each of the six different rooms which all have a different story to tell.



Figure 1: Lobby of Teatro en 15

On the third floor of Teatro en 15, there is an unused room with an exterior door that leads to an empty rooftop space. This space overlooks the nearby bars and clubs on the streets of Old San Juan. Our sponsor and the Executive Director of Arts and Culture of Puerto Rico, Antonio Morales Cruz, envisions this space being transformed into a cultural cafe with an outdoor terrace space. Since Teatro en 15 currently has no designated space for staff or artists to spend leisure time at the theater, Antonio wants this space to serve as a place for local artists to come, relax, and work on their art.

By working with Antonio Morales Cruz, the building manager Pascual Febus Pica, and other relevant stakeholders through a participatory design process, this project will result in the development of a cafe and rooftop space of which those at Teatro en 15 can be proud. The design will be one that celebrates the role of art in Puerto Rican history and provides a space for artists to develop their works in a relaxing environment. This will be accomplished through a range of methods including an assessment of current rooftop conditions, the implementation of an iterative participatory design process, and the construction of polished CAD models. These methods will result in a set of deliverables which provide potential design options and help to promote interest and support for the project.



Background: Peeling Back The Curtain

Chapter 2: Background: Peeling Back the Curtain

2.1: Stakeholders

Designing a cafe and rooftop terrace space at Teatro en 15 involves multiple stakeholders who all have different interests, proximity, perspectives, and constraints relative to the design (Figure 2).

Stakeholder Designation			
	Internal Stakeholder	External Stakeholder	Priority Stakeholder
Antonio Morales Cruz	✓		✓
Pascual Febus Pica	✓		✓
Teatro en 15 Ushers	✓		✓
Charlene Nazario	✓		
Chef Marta Gonzalez	✓		
Teatro en 15 Actors and Producers		✓	

Figure 2: Stakeholder Designation Chart

First, Antonio Morales Cruz is the sponsor of this project. He is the Director of the Department of Arts and Culture for the Municipality of San Juan. Director Morales introduced short-form theater to Puerto Rico. Having lived a difficult childhood, Antonio found a love for theater in his youth. He used theater as a vehicle to escape his living conditions. Through his passion and determination, Director Morales has become widely successful with a variety of different businesses and projects including directing films and plays. One of his proudest contributions is the San Juan Drama Company, which he founded to give young teenagers the opportunity to discover the arts and better their situations as well. Unfortunately, Morales was forced to dissolve the San Juan Drama Company due to COVID 19. However, this led him to take on a new project, Teatro en 15. Through Teatro en 15, Morales gives young

artists the chance to make a name for themselves in the theater industry and hone their craft. He wants to develop a true theater industry in Puerto Rico. Director Morales has also founded and runs a variety of nonprofit organizations to give back to his community. In his words, theater saved his life. Morales' ultimate mission is to create social transformation through the arts and make theater more readily available to the youth in his community.

Next, Pascual Febus Pica is the building administrator of Teatro en 15. He works in an office at the theater and is responsible for overseeing the building operations. Febus Pica is a skilled artist. During the beginning stages of Teatro en 15, Pascual used his ability to create inspiration sketches for the six rooms at Teatro en 15, the lobby, the courtyard, and other components. These sketches share a striking resemblance to the actual rooms as they currently stand. Pascual is the spirit of Teatro en 15. He is beloved by the actors and staff and always has a smile on his face. Febus Pica will be integral in guiding the team's design efforts through his knack for building design.

The Teatro en 15 ushers are a group of university drama students who work at the theater. They guide patrons from room to room every night that the plays are running. Upon meeting the ushers, it was evident that they are a tight knit group and that they are extremely passionate about Teatro en 15. They take pride in where they work. The ushers have lots of great ideas. They are also extraordinary people and were very welcoming to the team. Their strong emotional connection to Teatro en 15 makes them a very valuable stakeholder group.

Charlene Nazario is the secretary at Teatro en 15. She is at the theater every day from 7 a.m. to 3 p.m. Charlene handles the day-to-day operations. She is very enthusiastic about Teatro en 15 and is excited for this cafe and rooftop design.

Chef Marta Gonzalez is a highly accomplished woman. She holds two bachelor's degrees in business administration and culinary arts. Gonzalez also has years and years of culinary experience. She is a personal chef and runs her own culinary business among other things. Chef Marta also runs a food stand downstairs in the courtyard at Teatro en 15. Here, she sells delicious empanadas, ham and cheese mallorca sandwiches, coffee, fresh squeezed mango lemonade, and other drinks and baked goods. Chef Marta is beloved by the staff at Teatro en 15 and enhances the theater experience with her culinary expertise and positive attitude.

The Teatro en 15 actors are a group of motivated artists looking to catch a break in the theater industry. They put on breathtaking performances every night to captivate Teatro en 15's audiences. The Teatro en 15 actors can be children, senior citizens, or anything in between. Behind the scenes, the Teatro en 15 producers choreograph and design all of the plays and sets for the theater. They move rapidly to assemble their sets so that the actors can shine. While different actors and producers do return to Teatro en 15 repeatedly, this stakeholder group changes each month along with the collection of performances.

2.2: Participatory Design

Participatory design processes involving various stakeholders support the creation of designs that address patrons' needs and the theater's goals. Participatory design is "a constellation of design initiatives aiming at the construction of socio-material assemblies for and with the participants of the project [and] where social innovation can take place" (Manzini and Rizzo, 2011). Both the designers and the community members play meaningful roles in the co-designing processes.



Figure 3: Hwang's Participatory Design Theory

Hwang's Participatory Design Theory (Figure 3) showcases a community-driven design process. All phases of the design move through, and are approved by, the community. Hwang notes that the client in a participatory design process is not only the person who contracts the project; the client label expands to include stakeholders, residents of the community, staff, and others impacted by the design (Hwang and Fellow, 2009-2012). Hwang's design process consists of holding workshops to ensure that all parts of the design move through the stakeholder groups. The facilitator must design these workshops with the goal of passing each design step through the community in mind. The results of a participatory design process include effective design functions and community acceptance (Hwang and Fellow, 2009-2012).

As Manzini and Rizzo (2011) highlight, participatory design can be performed for both local and framework projects. Local projects are groups of related small projects which are broadcast further by more large-scale projects called framework projects (Manzini and Rizzo, 2011). The goal of these local and framework projects is to promote the community's active participation in the design process. The "planning by project" strategy uses both project styles which successfully results in large-scale transformation processes (Manzini and Rizzo, 2011).

Participatory design is characterized by several aspects. First, it involves spontaneous decision-making that embraces suggestions from the community. (Luck, 2018). Expanding on this idea, teams must learn to roll with the spontaneous changes for which participants advocate instead of fighting

them. Building strong relationships with the community and prioritizing their needs through conversation is essential (Rogers, 2015). The Collaboration System Model (Drain and Sanders, 2019) focuses on the factors that impact the designer-community relationship (Figure 4). This model demonstrates that the collaborative design process is cyclical. Through participatory workshops, designer knowledge and participant feedback are iteratively gauged to narrow in on a comprehensive design solution.

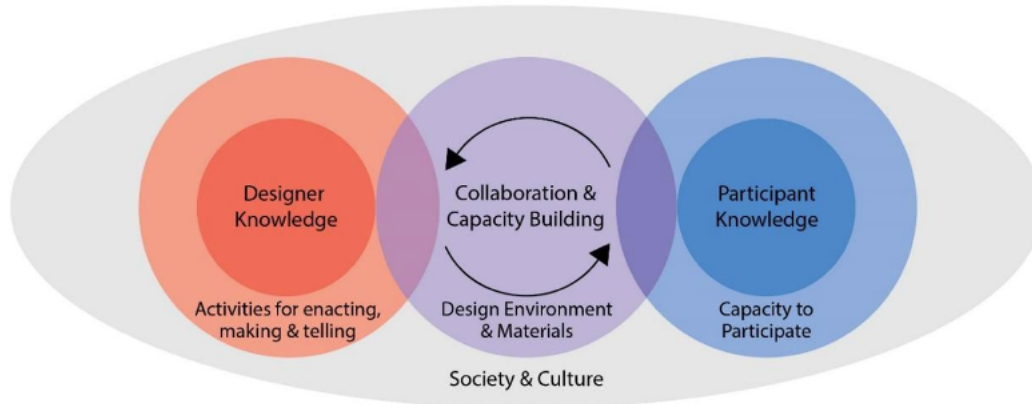


Figure 4: Collaborative System Model (Drain and Sanders, 2019)

Participatory design has benefits over other design theories because it prevents the reduction of people to their behaviors and characteristics outside of the context of their community (Dowd, 2019). By working with the community, a team can gain well-rounded knowledge so that a design can address communal issues (Rogers, 2015).

While designers of local projects tend to work more in co-design teams, designers of framework projects primarily function as design activists (Manzini and Rizzo, 2011). This stems from the fact that designers have the choice to either work in co-design teams, which involve collaboration with future design users, or be design activists. They can opt to be either facilitators of ongoing initiatives or triggers for new initiatives. This decision lies completely in the hands of the designer.

There are various tools that participatory designers use to facilitate community collaboration. Holding workshops helps designers understand community concerns and develop strong relationships with stakeholders, augmenting the impact of and support for a design solution (Hwang and Fellow, 2009-2012). Hwang recommends that workshops begin early in the design process and include all stakeholders. Additional design tools include "subjects of conversation" and "tools for conversation." Subjects visually depict design elements, while tools help to facilitate social interaction. Framework projects can be large "tools of conversation" that amplify a local message on a larger scale (Manzini and Rizzo, 2011).

2.3: How To Design A Cafe and Outdoor Performance Space

2.3.1: Cafe Design: Third Places

Designing Coffee Shops and Cafés for Community (Waxman, 2022) provides details of what to consider in a café design, from understanding what types of patrons the café is looking for to creating a layout and atmosphere that promotes an establishment's goals. Waxman characterizes cafés as third places, which are “places open to all where people can relax in the company of others” (Waxman, 2022, p. 4). Third places are neutral ground where no one must play the role of host or invitee. Third places should also be accessible to all, as they serve as a leveler or an inclusive place welcoming all people (Waxman, 2022). Third places often feature regulars at these establishments. Third places also tend to have a playful mood and play the role of “home away from home” for patrons (Waxman, 2022, p. 20). Third places provide a context to develop low-intensity relationships and interactions that are key to social development (Waxman, 2022).

Place attachment theory suggests that people form attachments to a space when they have a long and intense experience with it, and this space then takes on special meaning for that person. The presence of other people in this space is essential to forming this patron-third place attachment (Waxman, 2022).

As Waxman (2022) notes, understanding the social relations between patrons influences a café's design. In creating a café design, one must think about the patron's experience at the café. When patrons have memorable encounters at third places such as cafés, they create a connection to these spaces in meaningful ways that reinforce their identity and encourage repeat visits (Waxman, 2022). Special events with art and entertainment can enhance a patron's experience and establish connections (Waxman, 2022).

The first step to approaching the creation of the design of a ‘third space’ such as a café is determining the scope of the project. Waxman lays out different levels of scope (Waxman, 2022):

Level I: Involves “no more than the selection of a major piece of equipment or replacement of a small area of the facility.”

Level II: Involves the “renovation of a significant portion of an existing foodservice facility”.

Level III: Involves the “complete renovation of an existing foodservice facility or the design and construction of a new foodservice facility”.

Level IV: Involves “the development of a chain for a franchise prototype”.

Once the scope of a project is determined, the most important consideration of a café design is that the needs of a space's users or patrons are prioritized and met (Waxman, 2022). The needs of patrons can be organized by priority. The most basic need of patrons is access; they must be able to enter a space.

The establishment must be useful, and patrons must feel safe and secure in the establishment. Patrons should engage with the space (Waxman, 2022).

The first impression that the establishment sets is essential to patron experience. The design for a space should communicate the following questions clearly (Waxman, 2022):

- What is it?
- What benefits does it offer me?
- How do I get in?
- What is inside?
- How will I be received?

When a space clearly answers these questions as the patron walks through the door, they have the information necessary to have meaningful experiences there (Waxman, 2022).

The space planning process consists of “developing the layout of the space, including addressing the location of columns, walls, windows, interior partition, stairs, railings, and other fixed features of the space” (Waxman, 2022, p. 125). The layout of cafés is often broken into the front of the house and the back of the house. The front of the house is “where patrons spend their time and usually includes the entry, seating areas, and in many cases, a service counter” (Waxman, 2022). The back of the house is “where the work takes place and consists of the preparation areas, office, receiving, refrigeration, and storage” (Waxman, 2022). The layout of an establishment should be adaptable and able to be modified over time so that space is continuously used effectively.

The layout of a café must prioritize the patron experience. For example, the interior design of a café influences a patron’s view on how long their visit will be: more comfortable lounging and a greater number of tables may encourage a longer stay, while more rigid seating and less or smaller tables signal shorter stays (Waxman, 2022). Patrons also have a more positive experience when there is enough space both at a table and adequate room to move (Waxman, 2022). To anticipate the seating needs of a café, or other types of ‘third spaces’, operators should anticipate the fraction of patrons who will visit alone, with another person, or in larger groups (Waxman, 2022). Using buffers such as a counter or shelf in less desirable or high-traffic seating areas encourages the use of those seating spaces (Waxman, 2022). Coffee Business has found that using tables that are 32 inches high are most ideal for customers (Coffee Business, 2019).

In customer areas, proper traffic management is essential. According to Simms (2018), The three areas where back-up can be expected in customer flow are the register, the pick-up area at the bar, and the condiments station. When determining where to place a register, it is important that customers have enough space to form a line without interfering with other areas of traffic. There should also be enough space between the register and pick-up station, so customers do not get confused by other people in the

café. The condiments station should be out of the flow of traffic and provide enough space for multiple customers to attain what they need. Ideally, it would be placed on the side of the main bar or near the front door (Simms, 2018).

A café floor plan should optimize the employee workstation and provide employees with enough space to work efficiently. Simms states that ensuring that a barista has everything needed at their station available within a 360-degree rotation is critical. The key element in a coffee shop is the espresso machine; all other equipment should be designed around this. A small fridge, sink, and espresso grinders are also essential.

A universal design approach focuses on creating a café that prioritizes creating meaningful experiences with patrons. Universal design “describes spaces that seamlessly work for everyone and allow patrons to use the building on their own” (Waxman, 2022, p. 134). Standards set by laws such as the Americans with Disabilities Act should be the minimum work done to promote universal design. A café where access is incorporated seamlessly into the design upholds universal design and most effectively welcomes everyone (Waxman, 2022).

The atmosphere of a café should be welcoming and inviting to patrons. Lighting is an integral part of setting this atmosphere. Different lighting conveys different messages. Lower, softer lighting invites a longer stay while harsher lighting may move patrons along more quickly (Waxman, 2022). Dim and ambient lighting is ideal for a café as it promotes relaxation and creates an intimate ambiance (Simms, 2018). Using natural light reduces energy costs and is good for the human body; translucent elements and lighter finishes can bring natural light deeper into a café’s interior (Waxman, 2022). Artificial lighting can set the tone of the interior, allow for staff and patrons to see to complete tasks, and can highlight various interior décor. This plays three roles: ambient, task, and accent lighting. (Waxman, 2022). When determining what type of lighting to use, Waxman advises that “the lighting plan should incorporate the desired lighting levels which support the needs of guests and staff while also recognizing the goals of the design concept” (Waxman, 2022).

Lighting and color often work together to “communicate to patrons the tone and mood of an establishment in both evident and subliminal ways” (Waxman, 2022, p. 148). Shaping and preserving the element of sound is also crucial; designers must find a balance of materials that absorb and bounce sound so that the desired level of noise is achieved (Waxman, 2022). Showcasing art in a café is yet another way to create ambiance that connects patrons to local culture and allows local artists to share their work (Waxman, 2022). Music sets the tone for a space; soft background music will eliminate silence and will allow for customers to comfortably converse (Waxman, 2022).

Cafés communicate their identity through the food and beverages that they offer. As a result, “those involved in the design of an establishment’s building and interior should fully understand the

business's identity prior to developing their approach to the project" (Waxman, 2022). The menu and products provided at the café should reflect the café's identity. Implementing the participatory design process ensures that the menu is tailored to meet the needs and preferences of patrons. By including customers and employees in the menu design, important data can be gathered on what is most and least popular to better understand the customers' and employees' wishes. Involving multiple parties will lead to a creative menu as many perspectives are taken into consideration. The menu will also dictate the equipment needed for the coffee bar and kitchen.

The brand and identity of the café will be closely linked to Teatro en 15. Teatro en 15 may be able to extend its brand by continuing the building's style and decor through the design of the 'third space' on the roof.

2.3.2: Designing a Reading Space

The Teatro en 15 rooftop space may include a library or reading space, which should be determined early in the design process. Spacing a library with shelves and seating creates a separate area (BluEnt, 2022). For a modern library, modular components, moveable walls, or side storage bins create a flexible and mobile space (BluEnt, 2022). Natural lighting and lounge spaces enhance a patron's experience. Traditional libraries have less natural light but are still good places to read with floor-to-ceiling bookcases (Gheorghe, 2012). Traditional libraries call for more wood, leather, and artwork to enhance the space (Gheorghe, 2012). It is recommended to implement division with curves in the bookshelves. Back lighting strips are recommended to draw interest to displayed books (Gheorghe, 2012).

Energy efficiency is essential to an island suffering from an unstable electrical grid. Using natural ventilation, effectively using the space provided, and implementing light only as required make the space energy efficient.

2.3.3: Transforming a rooftop space

Creating a 'third space', café, library and/or performance space for the roof of a building includes many elements that impact a design. An article in Foodservice Magazine by Amelia Levin titled *Trendy rooftop design in 10 steps* outlines the following steps to take before starting a rooftop design process (Levin, 2016):

1. Consider the view from the rooftop. If the view is enjoyable, aim to preserve it when the rooftop is furnished (Levin, 2016).

2. Research all building code requirements and ensure that the design is created to meet them. These requirements include considerations such as a maximum weight capacity, restrooms, mechanical, electrical, and plumbing facilities, and an elevator to ensure that the Americans with Disabilities Act (ADA) has been met. It is recommended to work with structural and architectural engineers to ensure these conditions have been met (Levin, 2016).
3. Analyze the current condition of the rooftop with questions in mind, such as what it has space for. Will the space need an air conditioning unit or a condenser? HVAC systems are costly and can be noisy to neighbors; try working around the current systems in place if possible (Levin, 2016).
4. Consider the overall costs and budget of the design. Rooftop spaces can be very costly, especially when one accounts for add-ons such as a retractable roof or pest prevention. There are decisions that can be made within reason to be more cost-effective, such as using an awning or canopy instead of a retractable roof (Levin, 2016).
5. Study the customer market in which the rooftop space will be functioning. Knowing the customers translates into knowing what they will want out of this space, which will directly impact the design. A more mature clientele may want more table service and enhanced seating, while younger customers may be more casual (Levin, 2016).
6. This stage of studying the customer market leads to the next stage: developing the menu and the nature of drink service (Levin, 2016).
7. Consider the kitchen and storage needs of the rooftop. A rooftop typically needs a three-compartment sink to meet health requirements. Pantry space needs to be accounted for, along with a location to store trash until it can be brought down to a dumpster or another garbage area (Levin, 2016).
8. Weatherproofing and the extent of its necessity must be considered. If the area has higher wind speeds, heavier furniture should be chosen or furniture should be nailed down. It is likely that additional storage to store furniture will be needed as well; choosing furniture with wheels may help in this stage. Otherwise, using a tarp or more permanent enclosure to cover furniture is recommended (Levin, 2016).
9. Consider the aesthetics of the space. Should landscaping be included in the space? If so, this calls for watering and other structures to support the plant life. Glass screens to protect customers from wind can also be incorporated in an aesthetic way (Levin, 2016).
10. Manage additional staffing and operational needs. In creating a new space, additional staff must be hired to manage the space. This also connects back to the costs and budget step; how much will it cost to hire the additional staff necessary for this project (Levin, 2016)?

2.3.4: Outdoor theater and stage design

Cultural leaders and managers of Teatro en 15 have suggested that the rooftop space contain an outdoor stage. Event stage design is the process of adding production elements to a presentation space to make the stage look appealing, improving the patron experience (Waida, 2021). Understanding event stage design is important to analyzing an event stage, identifying the aspects that should remain, and adapting it appropriately for an outdoor or rooftop performance area. The main components of event stage design are the lighting, audio, visual equipment, set décor, props, and furniture. Waida (2021) suggests seven steps to designing an event stage. These include:

1. The demographic of the audience is a primary consideration (i.e., young vs old).
2. Next is the venue. This project focuses on an outdoor stage, so there are spatial limitations such as sound level, noise pollution, and mechanical elements.
3. Apply production principles, or “the basic elements of good stage design” (Waida, 2021). The three production principles that apply to this project are simplicity, cohesion, and texture.

According to Waida, these can be described as shown (Waida, 2021):

- 3.1. Simplicity states that the rooftop should have elements that are not in conflict with one another.
- 3.2. Cohesion means using elements which support the overall theme of the space.
- 3.3. Texture includes “everything from textured materials to layouts that have elements in the background and foreground of the stage scene design” (Waida, 2021).
4. Create a strategic layout that maximizes the seating space while also allowing audience members to flow smoothly throughout the area.
5. Consider lighting. Lighting can transform a plain area into an interactive environment full of energy, and it also sets the mood.
6. Incorporate technology if appropriate. For a rooftop performing area, something simple such as a light-up sign is a way that technology can be incorporated.
7. The final step is to use what is physically nearby; sometimes, effectively using the natural space and incorporating it into the stage design is the best route.

The strategies for good theater design will inform the rooftop performance space. Because the design for the café will be added to an already-existing theater space, understanding what makes a successful theater design is important.

Inventionland and Arch20 highlight design concepts that center around the audience’s experience. Stage designers should be aware of blind spots and areas of visibility, so audience seating should not be in any of those blind spots (Inventionland, n.d.). Additionally, the stage design, whether for an event stage or a more traditional theater stage, should allow the audience to remain a comfortable distance from the

stage (Arch20, n.d.). N. Chavda explains in an article that the theater design cannot impede any emergency exits or their visibility/lighting (Chavda, n.d.).



Methodology: Mucha Mierda

Chapter 3: Methodology: Mucha Mierda

3.1: Mission Statement

The primary aim of this project was to provide Director Antonio Morales Cruz and Teatro en 15 with a community-based design for an art-focused rooftop cafe and performance space. The team intended to research Teatro en 15 and the heritage of San Juan, implement an iterative participatory design process, and embody all feedback in a set of polished deliverables, namely an archival record of the entire participatory design process and a final design book of detailed CAD models and sketches.

3.2: Objectives

Throughout the course of the project, the team accomplished the following objectives:

1. Analyze and document the existing rooftop conditions
2. Develop participatory design strategies
3. Implement the iterative design process
4. Embody the iterative participatory design process in a set of final deliverables

3.3: Objective 1: Analyze and Document Existing Rooftop Conditions



Figure 5: Current Conditions of the Cafe Space



Figure 6: Current Conditions of the Rooftop Space



Figure 7: Scoping Out The Rooftop for the First Time

As a starting point in the design process, the team first needed to become familiar with the rooftop (Figure 6) and cafe space (Figure 5). Documenting the current conditions of the space was vital in creating a base CAD model of the cafe and rooftop. To accurately portray the current state of the rooftop and cafe space the team captured photographs (Figure 7), cross-referenced existing blueprints provided by Pascual Febus Pica (Figure 8), took measurements (Figure 9), and made sketches (Figure 10) to create a comprehensive 3D model.

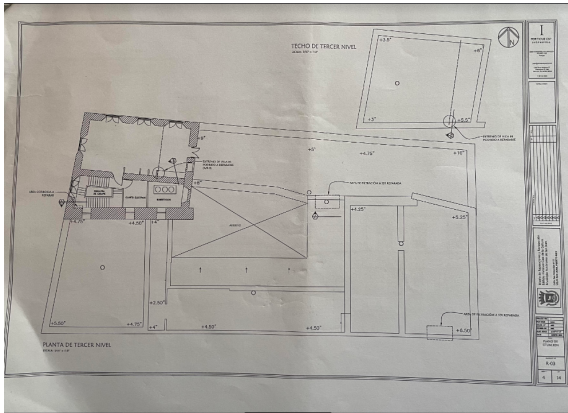


Figure 8: Existing Blueprints of the Third Floor Provided by Pascual Febus Pica

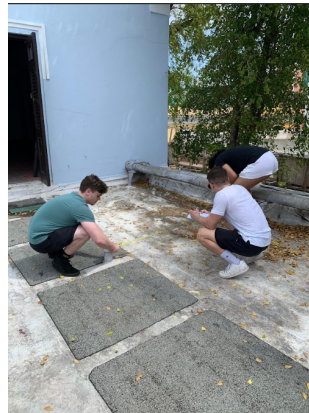


Figure 9: Measuring the Rooftop Space

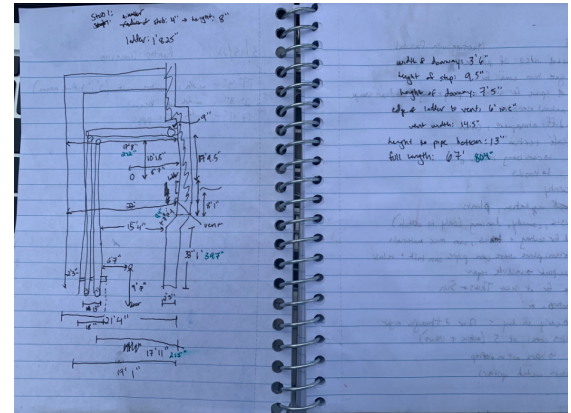


Figure 10: Rough Sketch of the Rooftop Space

The team measured walls, doorways, pipes, and other mechanical elements. This data was then translated into a large, to-scale drawing of the rooftop by team member Antonios Sevastos (Figure 11).

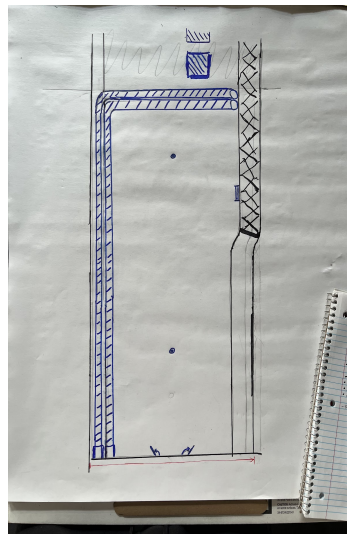


Figure 11: Large, To-Scale Drawing of the Rooftop by Team Member Antonios Sevastos

Later, team member Cole Lederman used the SketchUp 3D modeling software to craft a base CAD model of the rooftop and cafe space (Figure 12). This model was saved and duplicated so that it could be not only built upon but also referenced later if necessary.

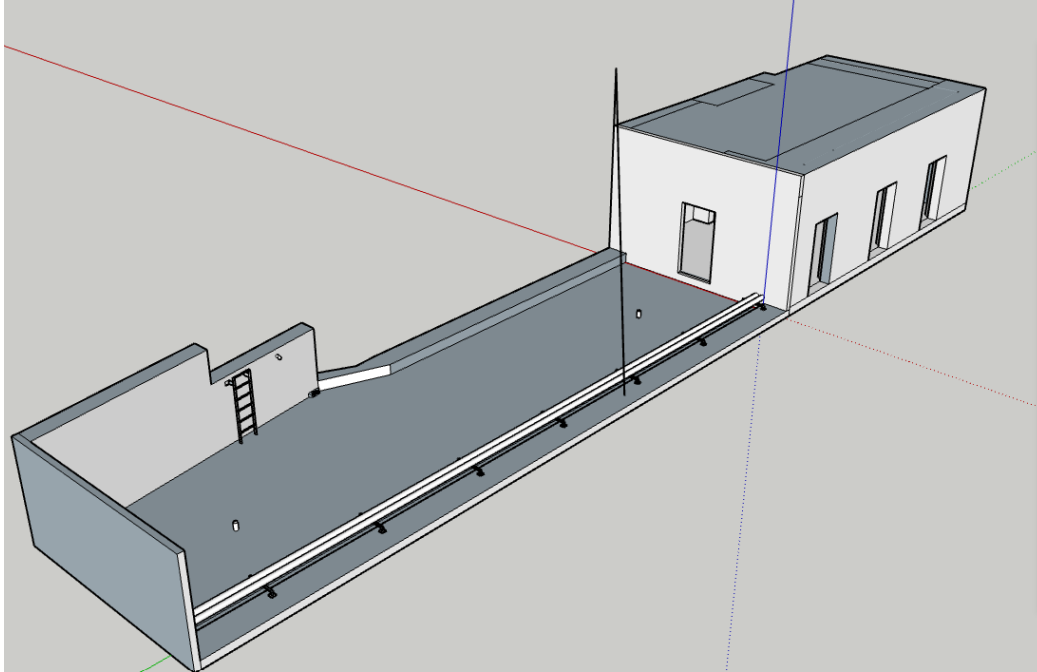


Figure 12: Base SketchUp CAD Model of the Rooftop and Cafe Space by Team Member Cole Lederman

3.4: Objective 2: Develop Participatory Design Strategies



Figure 13: The Team Brainstorming Participatory Design Strategies

After familiarizing with the space, the team sat down to develop participatory design strategies (Figure 13). These strategies included meeting the actors and staff, obtaining contact information for key stakeholders, planning interviews and meetings, and brainstorming a workshop curriculum. The team also attended theater performances to gain a better understanding of the theater operations (Figure 14). The team attended all performances for the months of March and April in 2023 (Figure 15).



Figure 14: Attending Teatro en 15 for the First Time with Director Morales



Figure 15: Views From the Audience at Three Different Teatro en 15 Plays in March and April 2023

The team created the “Cafe and Rooftop Design Series”. This consisted of four workshops that focused on different parts of the design and cumulatively built off of each other. Since stakeholders have different roles and levels of participation, the methods used to include them in the design needed to vary. Furthermore, the team emphasized collaboration with the stakeholders instead of just taking their feedback and incorporating it into the design. It was also important to avoid placing any constraints on the stakeholders’ ideas or injecting any of our own ideas into the design.

3.5: Objective 3: Implement the Iterative Design Process

3.5.1: The Iterative Design Cycle

Now that the team had developed participatory design strategies it was time to implement the iterative design cycle (Figure 16). First, the team held workshops and conducted interviews to generate

ideas and gain feedback on models and design concepts. Next, this design feedback was incorporated into the CAD models and hand-drawn sketches. From there, the team made adjustments to the upcoming workshop and interview plans based on the lessons learned from the last round of workshops and interviews. This cycle was repeated multiple times throughout the duration of the project, resulting in a community-based design which had been iterated through a rigorous feedback loop.

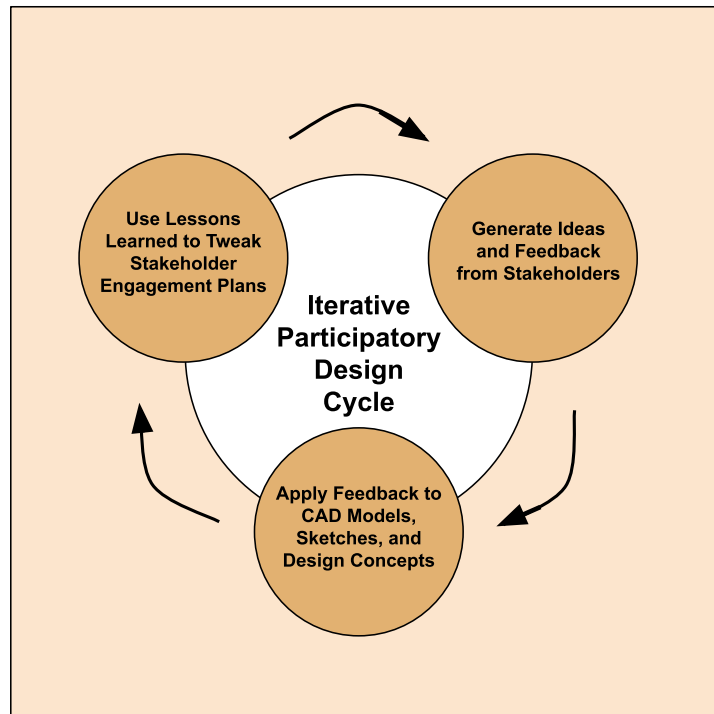


Figure 16: Iterative Participatory Design Cycle Diagram

3.5.2: Cafe and Rooftop Design Workshops

A key component of the iterative design process was the Cafe and Rooftop Design Series. This curriculum included four workshops to collect design feedback from one of the most significant stakeholder groups, the Teatro en 15 ushers. These workshops were also attended by Pascual Febus Pica at times. The workshop curriculum was broken up into two different phases: the cafe design phase and the rooftop design phase. The cafe design phase consisted of three different workshops including a cafe element brainstorm session, a cafe drawing activity, and a cafe acting exercise. For the sake of time and based on lessons learned from the first phase, the rooftop design phase only consisted of one workshop which combined a rooftop element brainstorm session with a rooftop drawing activity.

3.5.2.1: Workshop 1 Cafe Element Brainstorm Bulletin

The first workshop in our Cafe and Rooftop Design Series focused on brainstorming elements to

be included in the cafe space. The goals of this workshop were to introduce the team to the Teatro en 15 ushers, learn about their ideas for the cafe space, and get the ushers excited about the cafe design. The team also aimed to establish strong relationships with these ushers for future collaboration and workshops.



Figure 17: Workshop 1 Chair Setup

First, the team gathered all of the ushers by the entrance to Teatro en 15 and led them upstairs to the cafe space. Here, a group of chairs were arranged in a circle in the center of the room (Figure 17). The ushers were instructed to sit for an introduction and icebreaker activity. Cookies, chips, and water were provided to the participants courtesy of the team. The team introduced themselves, thanked the ushers for attending, and received consent for both photographs and quotations from all parties. The rules of the icebreaker were explained as follows. One person would start holding a lime which the team had bought prior to the workshop. That person needed to say their name prefaced by an animal whose first letter was the same as that of their name (i.e. “Cockroach Cole”). Next, this participant would pass the lime to any other person in the circle who had not yet held the lime. The new holder needed to repeat the animal and name of all other prior participants in order before coming up with their own animal-name pair and passing the lime again. This continued until all participants had held the lime. This was an entertaining way to break the ice and learn everybody's names. The mix of Spanish and English used for animal names created an intriguing dynamic. The ushers enjoyed this icebreaker activity more than anticipated. They even encouraged Pascual to come up with an animal of his own to which he replied “Pony” and received a chorus of laughs from the room.

Following the icebreaker activity, we transitioned into our cafe bulletin brainstorm. Remaining seated in a circle, the ushers were prompted to respond to the following question: “What elements make up a cafe experience?” One team member held a sheet of poster paper and a marker for recording the ideas voiced by the ushers (Figure 18).

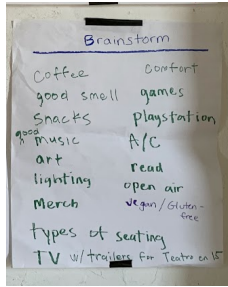


Figure 18: Cafe Element Brainstorm



Figure 19: Cafe Idea Bulletins

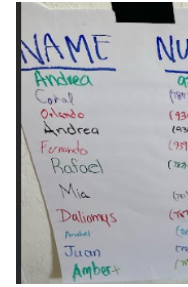


Figure 20: Phone Number Sheet

After brainstorming essential cafe elements, the team and ushers grouped these ideas into 5 general topics: Culture, Ambiance, Menu, Comfort/Seating, and Entertainment. One team member walked around the room writing these topics on 5 sheets of poster paper which had been adhered to the walls prior to the workshop (Figure 19). Then, the ushers were asked to stand, given markers, and allotted 15 minutes to walk freely around the room (Figure 22), writing whatever thoughts came to mind with respect to each topic (Figure 23). During this time, the team members roamed the room to provide any assistance (Figure 21). There was also another sheet of poster paper on which the ushers were asked to write their names and phone numbers if they felt comfortable during this time (Figure 20).



Figure 21: Cole Talking to Usher Fernando About The Cafe Design



Figure 22: Ushers and Pascual Writing on Posters and Discussing



Figure 23: Participants Pondering Menu

Finally, the team guided the ushers back into the seated circle to debrief (Figure 24). One team member held up one of the posters and prompted the ushers with questions while the others took notes. This process was repeated for each of the 5 posters. Surprisingly, the ushers completely took over the conversation and even engaged each other in heated debates about music, food items, architecture, seating, and other cafe elements. Febus Pica was visibly touched and also surprised by the ushers' passion for this cafe. The ushers expressed lots of "out of the box" ideas, some of which drew laughs from Febus Pica. At one point, he leaned over to Cole and whispered "I told you. They have lots of crazy ideas." While it is important to avoid placing constraints on these brainstorms, it is up to the team to consider the practicality of some of the ideas.



Figure 24: The Team and Participants Debriefing

Throughout the discussion, the ushers were very attentive and talkative. They even pulled out their phones to show the team design ideas. The ushers noted that the menu should be simple with only drinks like coffee and some baked goods. One usher, Fernando, described it as “short and sweet” which could make a good tagline for the cafe. The participants also expressed that the cafe should not compete with Chef Marta Gonzalez’ food cart in the courtyard downstairs. It was interesting that they brought this up and it is clear that they all care about her. The ushers said we should talk with her about selling food in the cafe.

From this activity, it was concluded that the ambiance of the cafe should be calm and relaxing. There should be low lighting. The ushers stated that the cafe should avoid using white lighting and harsh overhead lights. The lights could even include a dimmer to control their intensity depending on the time of day. The ushers agreed that the cafe should include warm colors. The doors should be see-thru to let in natural light even when they are closed. They should be composed of wood and glass. The cafe space should have natural ventilation. While air conditioning could be included, it is not a necessity. The current fans should be updated to be more energy and cost efficient, as they are likely very old.

A more controversial topic was music. One usher suggested using music from Puerto Rican icons like Bad Bunny, while others pointed out that the music should be quiet and relaxing like classical piano. This sparked a debate about what kind of music is appropriate to serve the purpose of the cafe. In the end, it was agreed upon that the music should be kept more calm and relaxed as the cafe is a place to “tune down”. The ushers noted that the walls could possibly be soundproofed to avoid letting in noise from the surrounding bars and clubs. All participants agreed that the space should be used to celebrate local Puerto Rican artists. The cafe should provide a place for new artists to gain exposure like Teatro en 15 does for actors. Furthermore, a few ushers suggested having a map of Puerto Rico with pins for customers to identify where they come from. The space should remind patrons what it means to be Puerto Rican. When asked whether the cafe should have Puerto Rican flags to celebrate culture, the ushers explained that this is not how Puerto Ricans express their culture. The ushers said that Puerto Rican people love their flag, but they do not parade it around like people from the States. Instead, they celebrate culture through the arts, food, and music. The space could also celebrate culture by using architecture from San Juan.

The ushers expressed their desire for a variety of seating. There could be higher chairs at the

counter, but the tables should be lower. The availability of outlets is an important consideration. One idea that grew throughout the course of the debriefing was the inclusion of an entertainment corner with bean bag chairs, modular couches, televisions (possibly showing trailers of Teatro en 15 plays), bookshelves, carpet, and board games. The cafe might also include a small stage for live music or comedy.

To close, the team thanked the ushers and Pascual for their time. The team explained that these completely voluntary workshops would be conducted each week and previewed the next workshop. The team gathered to compare notes and created a groupchat with all of the ushers for future use. A few key lessons were learned. First, the debriefing portion of the workshop took much longer than expected and it is important to leave enough time during the next workshop. Additionally, the ushers spoke in Spanish for large portions of the discussion. While this is certainly a consideration, the language barrier also became a bit of a joke between the team and ushers and actually functioned to break the ice at certain points. Lastly, there was general agreement about many of the cafe elements, but also points of contention. These points of contention are what will allow the team to develop different design options.

3.5.2.2: Workshop 2 Cafe Drawing Activity

The second workshop in our Cafe and Rooftop Design Series was a drawing exercise. The goals of this workshop were to visually capture and discuss the ushers' design ideas for the cafe space inspired by the results of the previous cafe element brainstorming workshop. First, the team gathered the ushers by the entrance to Teatro en 15 and led them upstairs to the cafe space. Here, a group of chairs were arranged in a circle in the center of the room. The ushers were instructed to sit for an introduction and icebreaker activity. Cookies, chips, and water were provided to the participants courtesy of the team. The team introduced ourselves once again and explained the last workshop for any newcomers. The team also thanked the ushers for attending and received consent for both photographs and quotations from all parties. For the icebreaker activity, the team decided that we would play Telestrations. Each person received a stack of 4 blank sticky notes and a pen. To start, each participant needed to draw something. It could be anything that comes to mind. After 1 minute of drawing each person passed their stack of sticky notes to the left. Each participant looked at the drawing they received, moved it to the bottom of the stack, and had one minute to guess what the drawing was without showing anyone. They wrote their guess on the blank sticky note on the top of the stack. Then, each participant passed their stack again to the left. Now, each person needed to look at the words on the note they received, move the sticky note with the guess to the bottom of the stack, and then draw that guess on the blank sticky note on the top of the stack. One minute was given to do so. After this, each participant passed their stack of sticky notes to the left for a third time. Each person was instructed to look at the drawing on the stack they received, move it to the bottom of the stack, and then write a guess of what that drawing was on the blank sticky note on the top

of the stack. Finally, each person passed their stack to the left one more time. Now that all four sticky notes in each stack had been written on, it was time to share. Going around the circle, each person held up their stack of notes and presented the evolution of the drawings.

Following the icebreaker activity, the team explained that now that the participants' drawing skills had been warmed up, we were transitioning into our cafe drawing exercise. The ushers were split into three groups of two. Each group was given markers and a large sheet of poster paper to place on the wall at any spot around the room (Figure 26). The participants were told they had 30 minutes to draw their vision for the cafe space (Figure 27). There were no restrictions or limitations placed on the drawings. Additionally, the team gave no ideas or elements of their own. This was completely up to the ushers. For inspiration, the cafe element bulletins from the last workshop were hung up around the room. As an exciting twist, the team announced that Pascual Febus Pica would pick his favorite drawing at the end and the winning team would receive a special prize. During this time, the team members roamed the room to provide any assistance.



Figure 25: Polaroid Photograph Frame

There was also a photo station set up so the team could take pictures of the ushers for the Stakeholder Biographies section of this book. For these photos, a polaroid frame was cut out and drawn on by team member Antonios Sevastos (Figure 25). The ushers signed their names on this frame at various points throughout the workshop.



Figure 26: Group 3 Planning Their Cafe Drawing



Figure 27: Group 2 Drawing Their Cafe Design

During this drawing activity, the ushers were very mobile and put a lot of detail into their sketches. When 30 minutes had passed, the team instructed the ushers to put their markers down and gather around one of the drawings (Figure 30). The group which created this drawing was given five minutes to present their work to the team and other participants (Figure 28). The team asked a few questions, but held back any comments or feedback on the design itself at that time. This presentation process was repeated for each of the other two groups (Figure 29).



Figure 28: Group 1 Presenting Their Drawing



Figure 29: Group 2 Presenting Their Drawing



Figure 30: Team and Participants Gathering Around One of the Drawings

Group 1 chose to draw a straight cafe counter in the corner by the door to the rooftop (Figure 31). They explained that the counter should extend in front of the pre-existing closets and that these closets should be used for cafe storage or utilities. Group 1 included an entertainment corner with bookshelves and couches by the entrance to the cafe. They placed one round table in front of each of the three doors. In Group 1's drawing, there were modular sofas in the middle of the room, green colors with gold accents, and art on the walls from local artists. Perhaps the most interesting inclusion from this group was a drive-through window to the rooftop terrace behind the cafe counter so that people outside could pick up their food without congesting the cafe counter. This was an unexpected idea, but it has a very practical

function and seemed to garner support from Pascual and the other participants. One potential problem with Group 1’s design was the lack of available walking space for patrons as a result of the large modular sofas in the center of the room.

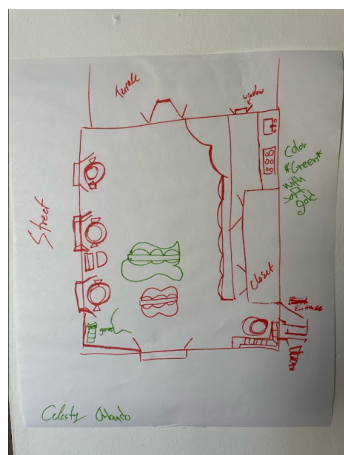


Figure 31: Group 1 Cafe Drawing

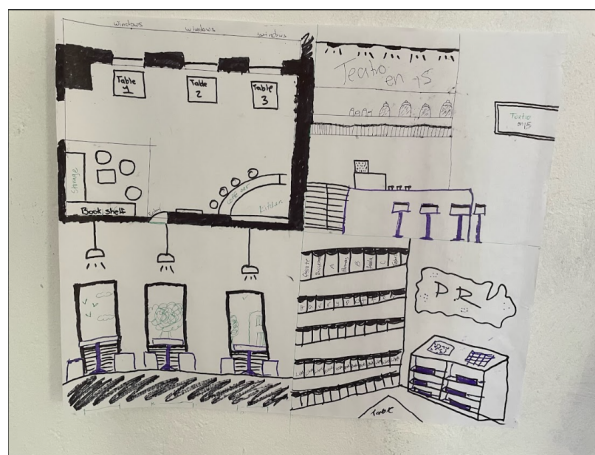


Figure 32: Group 2 Cafe Drawing



Figure 33: Group 3 Cafe Drawing

Group 2’s drawing (Figure 32) included a round cafe counter with barstools in the same corner as Group 1’s counter. There was a register, a chalkboard menu, a big glass case for pastries, and decorations of books or coffee bean jars on shelves behind the counter. However, this counter did not extend in front of the closets. The entertainment corner had tall bookshelves, a map of Puerto Rico with pins for customers to identify where they come from, a coffee table, bean bag chairs, and a smaller shelf for board games. They placed one square table in front of each door. There were lights hanging from the ceiling over the counter and cafe tables. Group 2 said they would use soft colors and yellow lighting. They also noted that the cafe should have glass doors and art on the walls from local artists.

The last group, Group 3, opted to have a rectangular cafe bar called the “Quince Bar” in the same corner as the other groups (Figure 33). This bar would have barstools and a TV behind the counter for a menu or Teatro en 15 play trailers. The entertainment corner had a divider between itself and the entrance with a welcome sign. The entertainment corner would be its own relaxing space, like a living room, with wood, plants, and couches, chairs, and a coffee table. This group also included one square table in front of each door. However, Group 3 placed other round tables with chairs and one big elliptical table with couches around the room. They said that the cafe should have an intimate, cozy feeling with vines and similar lights as the patio. To express Puerto Rican culture, the cafe should have Teatro en 15 cups and merchandise on display on the walls near the bar as well as murals and paintings from emerging artists around the room. Finally, Group 3 expressed an interesting idea to use epoxy to make custom tables that had the outline of Victoria Espinosa, the “mother of Puerto Rican theater,” in them. Pascual loved this

idea. He said it was touching and very creative.

After these presentations, the ushers were guided back into the seated circle to debrief. The team and participants discussed common elements between the drawings, reasons for the inclusion of certain elements, and points of contention between the groups. Some of the common elements included the layout, tables near the doors, a cozy entertainment corner with bookshelves, the counter location, soft colors, cultural expression, and the subtle use of Teatro en 15 colors in certain elements of the design. The points of contention were the shape of the counter and tables, the use of tables in the middle of the space, and storage. The ushers noted that it was important not to oversaturate the space. They also recommended rotating the paintings like the plays downstairs and hanging historical theater posters on the walls. One of the larger topics discussed during the debrief was the use of the Puerto Rican flag to celebrate culture. The ushers explained that some of them had visited New York and saw flags hanging everywhere. They thought this was strange and said that Puerto Ricans hold pride in their flag, but do not typically parade it around like that. Instead, culture is celebrated through the arts, food, and music. This is an essential consideration that the team will take into account when designing the cafe.

After debriefing, it was time for Febus Pica to pick his favorite. While he was initially reluctant to choose and noted that all of the groups had great ideas, Febus Pica ended up selecting the drawing from Group 2 shown in Figure 32. This team received candy as a prize. To close, the team thanked the ushers and Pascual for their time, previewed the next workshop, and gathered to compare notes. This time, the team did a better job of managing time, especially during the debriefing portion. One thing that could have been improved was the attendance for the workshop.

3.5.2.3: Workshop 3 Cafe Acting Exercise

The third workshop in our Cafe and Rooftop Design Series was an acting exercise. The goal of this workshop was to expand on the previous workshops in a fun way. The team anticipated that the ushers would likely be very enthusiastic about this workshop since they are students of drama and the arts. In order to prepare for this workshop, the team used props and other items to create a mock cafe for the ushers. The team set up chairs, tables, a mock cafe counter, and even an entertainment corner with a map of the island. The team also provided fresh pastries with paper plates, bought coffee, and set up the bulletins and sketches from previous workshops around the room to set the scene for this activity. The plan for this workshop was to provide a brief introduction of the team if needed and then jump right into the activity. The ushers were to be divided into groups to act out various prompts given by the team. For example, one prompt was “You are hanging out with a friend at the entertainment corner. Act out what you would be doing in this space.” These prompts were based on feedback from the previous activities and were intended to make the cafe come to life. Each group would have one minute to prepare and one

minute to act out their scene. The team intended for this to be a fast-paced workshop to keep the energy of the room high.

Despite much preparation for this workshop, none of the ushers showed up because of time conflicts. Therefore, the team did not end up running this workshop. Fortunately, not all was lost as the team spent the time which had been allotted for the workshop speaking with one usher who arrived at the theater after some time. This was valuable as the team was able to speak with this usher alone and continue to build a strong relationship with one of the cafe's primary stakeholders.

3.5.2.4: Workshop 4 Rooftop Element Brainstorm and Drawing Activity

The fourth and final workshop in our Cafe and Rooftop Design Series combined components of both the brainstorm bulletin activity from Workshop 1 and the drawing activity from Workshop 2 into one workshop focusing this time on the rooftop terrace space. The goals of this workshop were to learn about the ushers' ideas for the rooftop space and to visually capture these ideas as well. First, the team gathered the ushers by the entrance to Teatro en 15 and led them upstairs to the cafe space. Here, a group of chairs were arranged in a circle in the center of the room. The ushers were instructed to sit for an introduction and icebreaker activity. Cookies, chips, and water were provided to the participants courtesy of the team. The team introduced ourselves once again and explained the last workshop for any newcomers. The team also thanked the ushers for attending and received consent for both photographs and quotations from all parties. At this time, the ushers were shown the progress on the CAD model for the cafe space as well. For the icebreaker activity, each participant was given a sticky note and a pen. When instructed to begin, each person was given one minute to draw the Teatro en 15 logo on their sticky note using only one continuous line. However, there was a catch. Each participant needed to complete this task with their eyes completely shut. After one minute, the team and participants would compare to see whose drawing was the best. This was a quick, but entertaining activity. Surprisingly, most of the drawings resembled the actual logo.

Following the icebreaker activity, we transitioned into our rooftop bulletin brainstorm. Remaining seated in a circle, the ushers were prompted to respond to the following question: "What elements do you envision on the rooftop terrace?" One team member held a white board and a marker for recording the ideas voiced by the ushers (Figure 34).

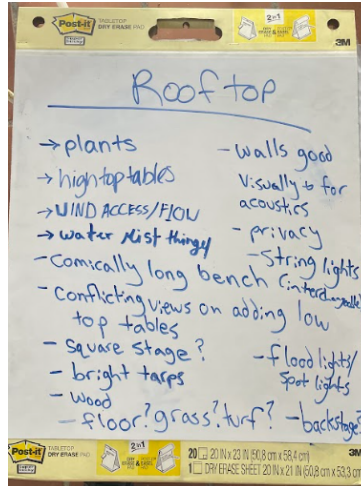


Figure 34: Rooftop Element Brainstorm

After brainstorming rooftop terrace elements, the team explained that we were now going to do the same drawing activity that we did for the cafe space in Workshop 2, but for the rooftop terrace (Figure 35). Since only three ushers attended this workshop, each was given their own sheet of poster paper to place on the wall at any spot around the room and markers (Figure 37). This time, the participants were told they had 15 minutes to draw their vision for the rooftop space (Figure 36). There were no restrictions or limitations placed on the drawings. Additionally, the team gave no ideas or elements of their own. This was completely up to the ushers. For inspiration, the rooftop element bulletin from earlier was hung up on the wall. During this time, the team members roamed the room to provide any assistance. There was also a photo station set up so the team could take pictures of the ushers for the Stakeholder Biographies section of this book. For these photos, the same polaroid frame from Workshop 2 was used. During this drawing activity, the ushers moved back and forth between the cafe and rooftop.



Figure 35: Participant 1 (Fernando) Drawing His Terrace Design



Figure 36: Participant 2 (Daliomys) Drawing Her Terrace Design



Figure 37: All 3 Participants (Fernando, Daliomys, and Coral) Drawing Their Terrace Designs

When 15 minutes had passed, the team instructed the ushers to put their markers down and gather around one of the drawings. The participant who created this drawing was given five minutes to present their work to the team and other participants (Figure 38). The team asked a few questions, but held back any comments or feedback on the design itself at that time. This presentation process was repeated for each of the other two participants.



Figure 38: Participant 3 (Coral) Presenting Her Drawing

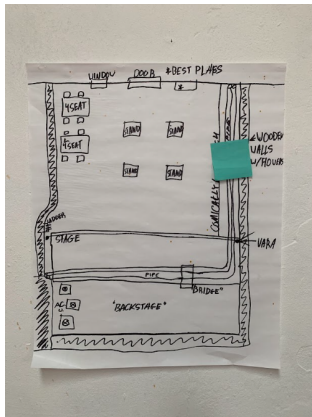


Figure 39: Participant 1 (Fernando) Rooftop Drawing

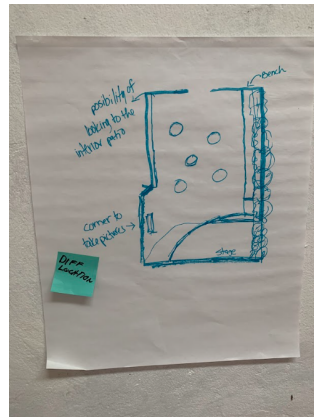


Figure 40: Participant 2 (Daliomys) Rooftop Drawing

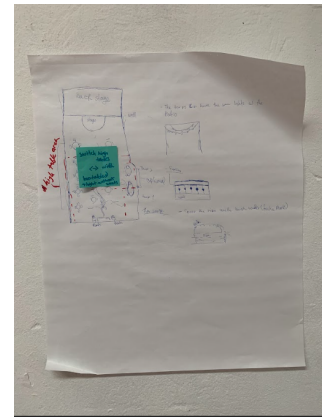


Figure 41: Participant 3 (Coral) Rooftop Drawing

Participant 1 (Figure 39) drew a “comically long” wooden bench to cover the pipes, wooden fencing along the edges of the rooftop with flower beds, all higher wooden tables, a rectangular stage, and a drive-through window. He also included a “backstage” area near the air conditioning units for performers and storage, a beam hanging over the stage to hang lighting equipment, and a photograph wall near the door. This participant noted that sections of the long bench should hinge upward to access the pipes underneath. This was a very creative idea. Lastly, Participant 1 used large awnings over the seating

and stage areas.

Participant 2's drawing (Figure 40) included a rounded stage instead of rectangular, a large wooden bench to cover the pipes as well, and a wall to take pictures. She said there should be a mix of high and low tables so that everyone has a comfortable seating choice. The low tables would be kept by the bench. Participant 2 added that the rooftop should have string lights similar to the patio downstairs, lots of plants to make the space feel cozy, and warm colors.

Participant 3 (Figure 41) included a mix of high and low tables, a round stage to resemble traditional theater stages, artistic flooring, a "backstage" area, fencing, awnings with the Teatro en 15 colors, string lights, a drive-through window, and lots of plants and greenery. She even suggested using plants that repel mosquitos to make for a more pleasant experience.



Figure 42: Example of Clear Plastic Sink Ceiling

After these presentations, the ushers were guided back into the seated circle to debrief. The team and participants discussed common elements between the drawings, reasons for the inclusion of certain elements, and points of contention between the participants. Some of the common elements included the layout, natural vegetation, awnings, the inclusion of a drive-through window, a photo station, a long wooden bench to cover the pipes, and a variety of seating. The points of contention were the style of the stage and the types of tables used. The ushers noted that maybe the team could incorporate a clear plastic sink ceiling (Figure 42) into the design to let in natural light and provide protection from weather. To close, the team explained that this workshop concluded the Cafe and Rooftop Design Series, thanked the ushers and Pascual for their time, and gathered to compare notes.

3.5.3: Stakeholder Interviews

The team also interviewed other stakeholders including Antonio Morales Cruz, Pascual Febus Pica, Charlene Nazario, and Chef Marta Gonzalez.

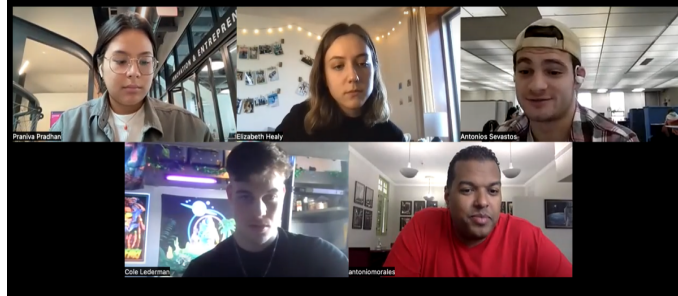


Figure 43: Zoom Interview with Antonio Morales Cruz

The team first met and interviewed our sponsor Antonio Morales Cruz (Figure 43) to learn about the project and his background. Morales is the founder of Teatro en 15 and the current Director of the Department of Arts and Culture for San Juan. During our interview, he discussed his childhood and how Teatro en 15 came to be. Morales grew up in the public housing project as the oldest of three brothers. He always wanted to do arts, but his father did not approve. Therefore, he could not openly express his interests. Luckily for Morales, his mother went behind his father's back and secretly enrolled him in the only theater school in the area at the time. He expressed to the team that this was a life changing experience and that he quickly realized arts were his path. Moreover, Morales wanted the kids from his community to discover the same passion. Throughout his teens and mid twenties, Morales ran a local theater group in the housing projects. Later, he created the San Juan Drama Company to bring theater to kids outside of the projects and to give everyone the opportunity to join. Morales told the team that people from the outside are typically scared to enter the projects. Through the San Juan Drama Company, he aimed to bridge this gap. Unfortunately, the San Juan Drama Company was forced to pause because of COVID-19 and it was eventually disbanded. Morales regrets not being able to say goodbye to some of the kids from his drama club. When the San Juan Drama Company was forced to pause, Morales began thinking about his life. He said that he did not want to die in the community. Morales wanted to move away from community theater and look toward bigger things. Around this time, he got a call from the new mayor of San Juan, asking Morales to be a part of his cabinet as the Director of the Department of Arts and Culture.

While on a trip to Miami, he discovered the art of "micro-theater". Morales instantly fell in love with the idea and wanted to recreate it in San Juan. Upon returning home, he found an abandoned building in Old San Juan which had been closed since Hurricane Maria. This building consisted of government offices. Morales turned these offices into performance spaces and in January of 2021, he opened the doors to Teatro en 15. Morales explained that Teatro en 15 consists of six micro-spaces. Each month, after a series of auditions and proposals, the best six performances are selected to run for the entire month. Teatro en 15 runs from Thursday to Sunday at the building known as La Casa Cultural. Each room is considered private property and from Monday to Friday, this is a closed space outside of the

performances. Morales wants to have a place for people to come on any day of the week. He told the team that there is currently an empty rooftop space on the third floor of Teatro en 15. Here, he wants to create a seventh room and also a cafe. During the day, the cafe can function as a relaxing reading space with bookshelves, tables, a cafe counter, and a small stage. The outdoor rooftop space, or terrace, will function as a seventh room with a performance stage, tables, chairs, lighting equipment, and fencing or barriers around the perimeter so customers do not fall off the roof. Here, Morales wants to put on night-time performances from Thursday to Sunday that are different from the ones downstairs. These performances could potentially include standup comedy, music concerts, and more adult-oriented theater shows. Morales said that the cafe should have natural ventilation with beautiful windows and no air conditioning. When asked why he wants this cafe now, Morales remarked “Because now is the time.” He wants to give variety to La Casa Cultural in addition to leaving a forever legacy. Puerto Rico does not currently have a large theater industry. It is extremely difficult for young actors to get into the arts. Morales wants Old San Juan to be a role model for other towns in Puerto Rico. He wants to create a large, booming theater industry in Puerto Rico. Morales wants to see Teatro en 15 continuously evolve, even after he is no longer running it. He wants to “plant the seed for others to grow.” Morales alerted the team to a crack in one of the columns near the space, but said this should not be a big problem. He also discussed staffing, hours of operation, architecture, and an elevator. Morales noted that there will be a separate staff assigned to the terrace area and the cafe will be open to the public at all times. He said that the terrace area should be able to withstand the harsh weather in San Juan and pointed out that most of the buildings in San Juan are made of very strong cement crafted by the Spaniards. The municipality has experienced architects who can help with this. Considering the weather, he even suggested that the furniture on the roof could be put away in the cafe when there are no performances on the terrace. There is currently no elevator to the rooftop, but Morales said there are plans to install one once the funding is available. Lastly, Morales told the team that the cafe and terrace spaces should function “separately together.” This means that they can run on their own and will have different functions, but should be cohesively designed.

Next, the team interviewed the building administrator of Teatro en 15, Pascual Febus Pica. The goal of this interview was to gauge Febus Pica’s ideas for the cafe and rooftop terrace space. The team also wanted to ask him about the ushers’ availability and his thoughts on our participatory design approach. The team received consent for quotations. To start, Febus Pica pulled up a video on his computer to show the team. It showed old photographs of La Casa Cultural before it was renovated. It also included drawings by Febus Pica of the different Teatro en 15 rooms, the courtyard, and the lobby. The video used magical effects to transition from his drawings to photographs of Teatro en 15 now. With the addition of inspirational music in the background, this video was heartwarming and even brought about tears from Febus Pica. The last images shown in the video were drawings by Febus Pica of his

visions for the cafe space (Figure 45), which he called “Cafe Tertulia,” and the rooftop terrace (Figure 44).



Figure 44: Drawing by Pascual Febus Pica of the Rooftop Terrace



Figure 45: Drawing by Pascual Febus Pica of the Cafe Space

After showing this video, Pascual expressed to the team that the rooftop should be a space for artists to play and sing on an outdoor stage. It should have a different, more calm atmosphere from the rest of Teatro en 15. The cafe and rooftop space should have natural ventilation, security to oversee who goes on the rooftop, and natural vegetation. In the cafe, patrons can drink coffee, read a book, talk, relax, and celebrate art. On the terrace, customers should be able to listen to music, watch comedy, and dance. The space should be open at least from Thursday to Sunday from the afternoon until the evening. Actors, producers, and ushers can hang out in the rooftop space before the performances at 7 p.m. Febus Pica noted that the space might need a bathroom. He also mentioned plans for an elevator to be installed and gave the team a drawing of this potential elevator (Figure 46). Lastly, Pascual gave an original blueprint of the rooftop to the team for use in CAD modeling. At the end of the interview, the team thanked Febus Pica for his thoughts and left him to do his work.



Figure 46: Drawing by Pascual Febus Pica of a Potential Elevator Shaft to the Rooftop

Pascual Febus Pica introduced the team to his secretary, Charlene Nazario, who the team also

interviewed. The team met with her in a conference room at Teatro en 15. The goal of this interview was to gain input from Nazario about the cafe elements, style, atmosphere, and the activities that would take place on the rooftop. The team received consent for quotations before proceeding. Nazario told the team that the activities in the space should depend on the time of day. Early in the day, the cafe could provide brunch, coffee, and smoothies. At this time, there could be yoga, dancing, and even painting on the rooftop terrace. Nazario said that Teatro en 15 is a relaxing environment during the day. At night, however, there is a mix of audience and patron needs. There are different age ranges and a mix of cultures. All should feel welcome at this space, but the cafe should not be a bar or nightclub. Nazario remarked that the cafe should have completely see-through glass doors and a space for art and reading. She mentioned that there could even be chairs with bookshelves built into them. In the cafe space, artists should be able to think freely and create. The cafe should also be a place where casual business meetings could take place. Nazario pointed out that there could be a wall of plants to make the cafe eco-friendly and a television on the back wall. Additionally, she brought up the idea of rotating local art on the walls of the cafe. However, Nazario said that this would be difficult as the artist would have to loan the piece to the cafe and the art would have to be protected from damage. Therefore, in her eyes, the simplest solution would be to use internal art like murals or donated pieces. For color, Nazario said that the space cannot tolerate a lot of color on the walls. One of her more interesting ideas was to have artistic ceiling tiles instead. Lastly, Nazario said that the rooftop space should be hurricane safe.

During the menu portion of Workshop #1, the team was encouraged to meet with Chef Marta Gonzalez. While attending the theater performances, the team members had ordered delicious beef empanadas, ham and cheese mallorcas with powdered sugar, and fresh-squeezed mango lemonade from Chef Marta. However, the team wanted to sit down with Gonzalez to learn about her past, role at Teatro en 15, and ideas for a cafe. The team met Gonzalez at Teatro en 15 initially, but traveled to a nearby park to interview her. Here, the team asked Gonzalez about her background. She explained that she is a very experienced business woman and culinary expert with multiple bachelor's degrees. Gonzalez said that she is a personal chef in addition to selling food at Teatro en 15 and other endeavors. She told the team that she currently uses her own kitchen to prepare her food. When asked about how she would set up and run a cafe, Gonzalez expressed that the menu is the first part of a cafe design. She said that she recently drafted a new, cheaper menu. Gonzalez noted that a menu should be simple and require little equipment. The cafe space itself needs both hot and cold glass display cases for food. Additionally, she noted that she would want to merge the styles from her current food stand into the upstairs area. Gonzalez introduced the team to the idea of a "micro-cocina." This concept incorporates as many kitchen appliances as possible into a small space, so that a person can access everything within an arm's reach (Figure 47). Gonzalez would use inspiration from tapas kitchens in Spain, where she lived for a long time. Her ideal micro-cocina would

include a small oven, a fryer, a microwave, a cooler, an induction stove, a coffee machine, and a sink (Figure 48). There should also be ample counter space (Figure 49). Gonzalez suggested that the team should consider the environmental impacts of the cafe and aim to make the cafe eco-friendly. In an email to the team, Gonzalez wrote, “I also wanted to comment when I spoke to you that if your project had an impact on the environment we will use the terrace as an example that your materials are recycled, your roof can be used for solar panels for terrace lighting now energy consumption, If you have rainwater harvesting channels, these small details give value to your project is the current trend that supports the ecosystem and the environment.” Additionally, Gonzalez recommended using a chalkboard menu because it is more cost effective.

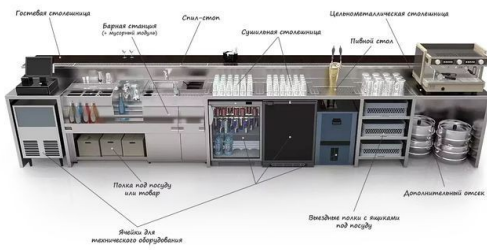


Figure 47: Micro-cocina Layout



Figure 48: Another Micro-cocina Concept

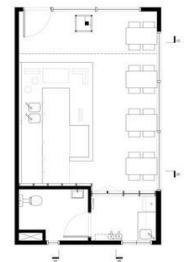


Figure 49: Potential Cafe Layout

After the interview, Gonzalez said that she wanted to show the team some local cafes for inspiration. She took the team to multiple different spots before ordering food and drinks at one in particular (Figure 50). This cafe had an outdoor courtyard with wooden tables, chairs, and plants (Figure 51).



Figure 50: Marta and the Team Ordering at a Local Cafe



Figure 51: Outdoor Courtyard at Local Cafe

It also had a large industrial coffee grinder (Figure 52), which made for delicious cold brewed coffee, and a chalkboard menu hanging above the counter on the wall (Figure 53). After lunch, the team thanked Chef Marta for coming and giving her input. Gonzalez told the team that she would send an

email with photographs of her menu, micro-cocina layouts, and cafe design concepts.



Figure 52: Industrial Coffee Grinder at Local Cafe



Figure 53: Chalkboard Menu and Counter at Local Cafe

3.5.4: Weekly Sponsor Meetings

Separately from team interviews, the team also met with Antonio Moralez Cruz, Pascual Febus Pica, Professor Scott Jiusto, and Professor Leslie Dodson once per week to discuss the team's progress. In total the team attended four of these sponsor meetings. These meetings were used to get feedback on our workshops and CAD models and to plan for the next week.

3.5.5: Meeting with Vice Mayor

A highlight of the project was the ability to meet with and present to the vice mayor of San Juan. Sponsor Antonio Morales Cruz set up a meeting between the team and the vice mayor of San Juan Israel Alicea Luciano to discuss the project (Figure 54). The goal of this meeting was to show all progress to the vice mayor, answer any questions he had, get him excited about the project, and discuss possible funding. For this meeting, the team prepared a PowerPoint presentation (Figure 55). This presentation illustrated the initial goals of the project, the workshops that the team conducted, and the design plans moving forward. The team also showed Luciano the progress on our CAD models. The vice mayor seemed very excited about the potential for this project. However, he had a few concerns. He asked the team numerous questions. One question that the team was not prepared to answer was about what the business model would be for the cafe. Thankfully, Antonio Morales Cruz interjected and explained that the cafe would probably use either an extended staff of ushers or an entirely new staff. The vice mayor explained that since Teatro en 15 was related to the municipality, hiring a separate staff might not be a viable option. He suggested hiring people from the municipality's Economic Development Program, as it would benefit the cafe and show the value of this program. To wrap up the meeting, the team invited the vice mayor to the new Teatro en 15 performances later on and to go up on the rooftop.



Figure 54: The Team Posing With the Vice Mayor, Antonio Morales Cruz, and Other WPI Students



Figure 55: The Team Presenting Our Project to The Vice Mayor at Antonio Morales Cruz’s Office

Later that evening, the vice mayor showed up at Teatro en 15 to see the rooftop space (Figure 56). After seeing the space, the vice mayor was even more excited for the project. As he was walking around (Figure 57), Luciano pointed at different spots and expressed his own ideas for the space. The most shocking part of his visit to the rooftop, which even left Director Morales Cruz stunned, was when the vice mayor said to the team “We can have my architects and a construction crew out here immediately. We might even be able to get it done before you guys leave Puerto Rico.” He also noted that acquiring funding for the project would not be difficult.

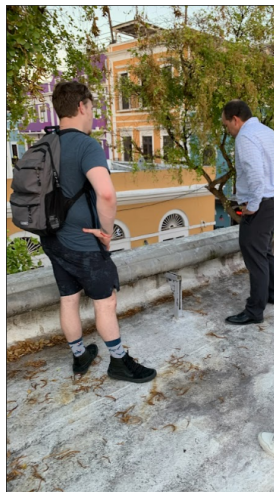


Figure 56: Showing the Vice Mayor the Rooftop



Figure 57: The Vice Mayor Walking Around the Roof

3.5.6: Engaging with Ushers to Forge Deeper Relationships

In addition to engaging with the ushers through workshops, both team members Cole Lederman and Antonios Sevastos made a significant effort to interact with them outside of a work setting. These

ushers are college students as well and similar in age to the team, so it was relatively simple to establish friendships with them. When project sponsor Antonio Morales Cruz generously offered the team VIP box seats to a local Rauw Alejandro concert at Hiram Bithorn Stadium in San Juan and informed them that some of the ushers would be attending, the team gleefully accepted the offer. Later that night, the team and a few of the ushers attended the concert and even managed to make it down to the front near the stage (Figure 58). This night was an experience that the team will never forget and helped to further break the ice with the ushers.



Figure 58: View from Front Rows at Rauw Alejandro Concert in Hiram Bithorn Stadium

3.5.7: Guided Tour of San Juan with Antonio Morales Cruz

Not only did sponsor Antonio Morales Cruz aid the team in meeting other stakeholders and producing a comprehensive community-based design, but he also enriched the team members with an education about Puerto Rican heritage and the struggles that many inhabitants of the island face. Director Morales guided the team to some of his favorite restaurants and cafes outside of the tourist areas of San Juan (Figure 59). He also gave insight about the community where he grew up. To Director Morales, theater was an escape. It drove him to aspire for more. In his words, “theater saved my life.” The opportunity to learn from such an outstanding and accomplished person was a transformative experience for the team and helped to truly understand Director Morales’ motives for creating Teatro en 15.



Figure 59: A Restaurant Called ‘La Casita Blanca’ Which Director Morales Showed Team Members

3.5.8: Visits to Local Cafes for Design Inspiration

Part of the iterative design process was visiting nearby cafes for inspiration. Some cafes in particular were notable for their use of string lighting (Figure 60), natural vegetation (Figure 61), and colorful roofing (Figure 62) to provide an outdoor feel to an indoor space. These cafes gave the team ideas for elements that could be used in the outdoor terrace space at Teatro en 15.



Figure 60: String Lighting at a Local Cafe



Figure 61: Natural Vegetation at a Local Cafe



Figure 62: Roofing and Outdoor Terrace Space at a Local Cafe

Others exhibited unique indoor design choices like the cafe counter (Figure 63), seating (Figure 65), flooring, wall patterns, and tables (Figure 64), which provided the team with an array of different concepts for the cafe portion of the design.



Figure 63: Cafe Counter at a Local Cafe



Figure 64: Interior Design of a Local Cafe with Wood Tables, Wood Floor, and Brick Walls



Figure 65: Interior of Another Local Cafe with a Variety of Seating

Lastly, the cafes which the team visited offered a variety of delicious food and drink options, including but not limited to fresh brewed coffee (Figure 66), baked goods, mofongo (Figure 67), warm mallorca rolls with powdered sugar (Figure 68), and an assortment of different sandwiches (Figure 69).



Figure 66: Fresh Brewed Coffee at a Local Cafe



Figure 67: Mofongo at a Local Cafe



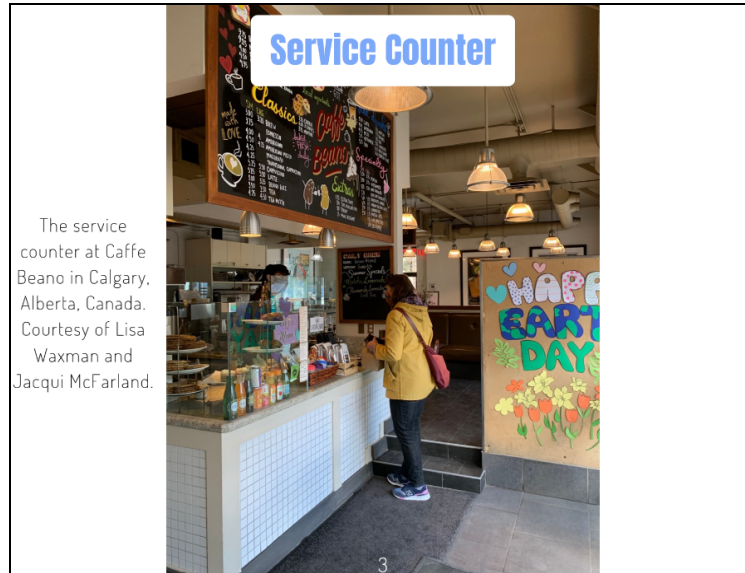
Figure 68: Mallorca Breakfast Sandwich at a Local Cafe



Figure 69: Steak and Plantain Sandwich at a Local Cafe

3.6: Objective 4: Embody the Iterative Participatory Design Process In a Set of Final Deliverables

The final objective of this project was to embody the iterative participatory design process in a set of final deliverables to give to the sponsors. These deliverables include a cafe inspiration booklet, a participatory design archive book, a final design book, and a written report. The cafe inspiration booklet (Figure 70) is the culmination of visits to local cafes and research from cafe inspiration guides which the team purchased.



The service counter at Caffe Beano in Calgary, Alberta, Canada. Courtesy of Lisa Waxman and Jacqui McFarland.

Figure 70: Page About Service Counters from the Cafe Inspiration Booklet

The participatory design archive book is composed of stakeholder biographies, workshop and interview summaries (Figure 71), and a participatory design feedback spreadsheet (Figure 72) with a write-up of this feedback.

Workshop 1: Cafe Brainstorm Bulletin

Attendees: Team, Pascual Febus Pica, Teatro en 15 Ushers
Date: 3/24/2023
Time: 3:30 PM
Duration: 1.5 hours

Summary: The first workshop in our Cafe and Rooftop Design Series focused on brainstorming elements to be included in the cafe space. The goals of this workshop were to introduce the team to the Teatro en 15 ushers, learn about their ideas for the cafe space, and get the ushers excited about the cafe design. The team also aimed to establish strong relationships with these ushers for future collaboration and workshops. First, the team gathered all of the ushers by the entrance to Teatro en 15 and led them upstairs to the cafe space. Here, a group of chairs were arranged in a circle in the center of the room. The ushers were instructed to sit for an introduction and icebreaker activity. Cookies, chips, and water were provided to the participants courtesy of the team. The team introduced themselves, thanked the ushers for attending, and received consent for both photographs and quotations from all parties. The rules of the icebreaker were explained as follows. One person would start holding a lime which the team had bought prior to the workshop. That person needed to say their name prefaced by an animal whose first letter was the same as that of their name (i.e. "Cockroach Cole"). Next, this participant would pass the lime to any other person in the circle who had not yet held the lime. The new holder needed to repeat the animal and name of all other prior participants in order before coming up with their own animal-name pair and passing the lime again. This continued until all participants had held the lime. This was an entertaining way to break the ice and learn everybody's names. The mix of Spanish and English used for animal names created an intriguing dynamic. The ushers enjoyed this icebreaker activity more than anticipated. They even encouraged Pascual to come up with an animal of his own to which he replied "Pony" and received a chorus of laughs from the room.

Following the icebreaker activity, we transitioned into our cafe bulletin brainstorm. Remaining seated in a circle, the ushers were prompted to respond to the following question: "What elements make up a cafe experience?" One team member held a sheet of poster paper and a marker for recording the ideas voiced by the ushers (Figure 1).

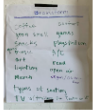


Figure 1: Cafe Element Brainstorm




Figure 2: Cafe Idea Bulletins




Figure 3: Phone Number Sheet

After brainstorming essential cafe elements, the team and ushers grouped these ideas into 5 general topics: Culture, Ambiance, Menu, Comfort/Seating, and Entertainment. One team member walked around the room writing these topics on 5 sheets of poster paper which had been adhered to the walls prior to the workshop (Figure 2). Then, the ushers were asked to stand, given markers, and allotted 15 minutes to walk freely around the room, writing whatever thoughts came to mind with respect to each topic (Figure 5). During this time, the team members roamed the room to provide any assistance (Figure 4). There was also another sheet of poster paper on which the ushers were asked to write their names and phone numbers if they felt comfortable during this time (Figure 3).




Figure 4: Cole Talking to Usher Fernando About The Cafe Design




Figure 5: Ushers and Pascual Writing on Posters and Discussing




Figure 6: Participants Pondering Menu

Figure 71: A Page from the Participatory Design Archive Book Summarizing Workshop 1

<i>Workshop 4</i>			
	Group 1	Group 2	Group 3
Seating / Layout			
High tables	yes	yes	yes
Low tables	yes	yes	na
Round stage	yes	yes	na
Low tables by bench	yes	yes	na
Wood tables	na	na	yes
Floor seating	na	na	yes
bench	yes	yes	yes
Colors / Mood			
Teatro colors	yes	na	yes
String lights	yes	yes	na
Brown / yellow	na	yes	yes
Warm colors	na	yes	yes
"1960's vibe"	yes	na	na
Other			
Plants	yes	yes	yes
Window outside	yes	na	na
Photo station	na	yes	yes
Points of Contention			

+ ☰ Cafe Workshops ▾ Rooftop Workshops ▾

Figure 72: A Portion of the Participatory Design Feedback Spreadsheet About Workshop 4

The final design book contains a preferred CAD design for the cafe and outdoor rooftop terrace (Figure 73) and hand-drawn design sketches (Figure 74).

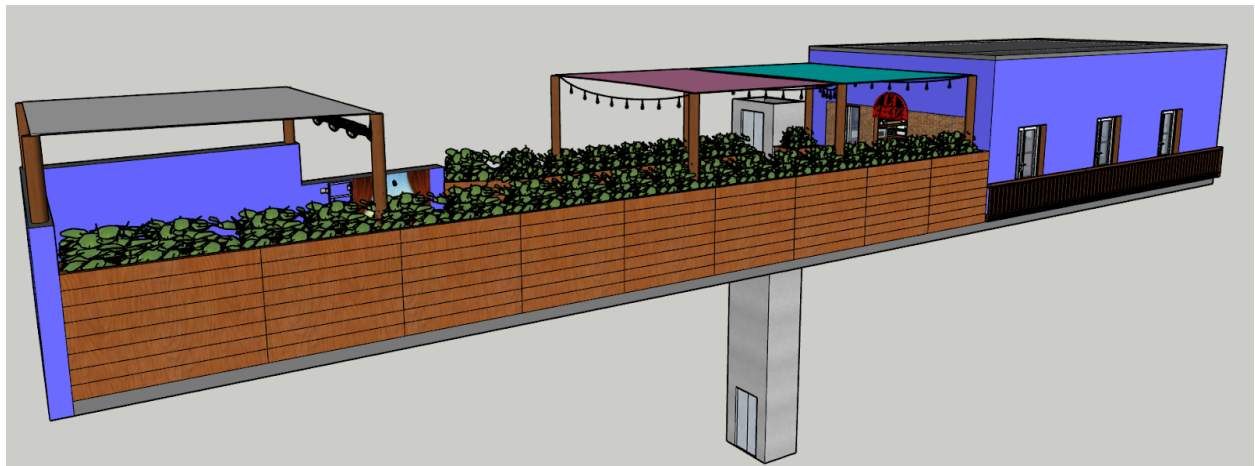


Figure 73: Overview of the Preferred CAD Design for the Cafe and Outdoor Rooftop Terrace

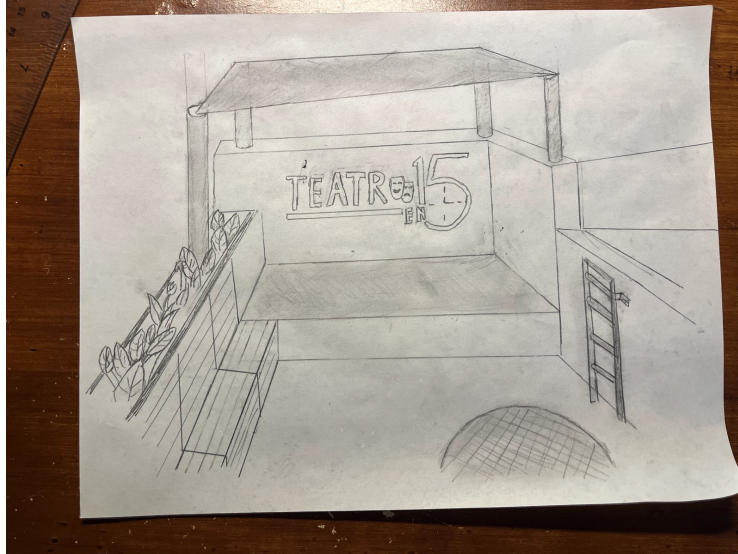


Figure 74: Hand-Drawn Sketch of the Outdoor Stage on the Terrace

Lastly, the team crafted this written report detailing background research, motives for the cafe and rooftop design, an extensive methodology, findings, recommendations, and conclusions for this project.



Findings: The Final Scene

Chapter 4: Findings: The Final Scene

4.1: Cafe and Rooftop Space

Upon inspecting the cafe and rooftop space, the team found that this area was clean with minimal damage. There were only a few small cracks in the walls and flooring. The doors and fans were very old. There were some mechanical elements like pipes, a ladder, and vents that needed to be considered in the design. The team also learned that there are plans for an elevator to be installed from the 1st floor courtyard to the rooftop terrace. On the other side of the wall where this proposed elevator shaft would be placed, there is already an existing elevator. However, this elevator only goes to the second floor and cannot be extended to the third floor for mechanical reasons. Initially, the team was told that the cafe would need to have a bathroom. However, as a result of spatial limitations and water access issues, this idea was eliminated. Instead, customers could simply use the restrooms on the first or second floors. This would be especially easy with the addition of an elevator.

4.2: Puerto Rican Culture

Regarding culture, the team learned that Puerto Rican patriotism is expressed differently than in the States. It is not tied to a flag. Rather, Puerto Rican culture is celebrated through art, food, and music. This is an important distinction for the team to consider when brainstorming ways to incorporate cultural celebration into the cafe design.

4.3: Participatory Design Workshops

From the participatory design workshops, the team found that the ushers are very passionate about Teatro en 15 and this cafe design. Surprisingly, the participants agreed on most major design elements and the general layout. However, there were heated arguments about certain points of contention. This is not to say that debate is a bad thing. Contrarily, having debate over design elements is beneficial for establishing strong justifications for certain design choices. Additionally, the team learned that passion for a design transcends language barriers. Even when the participants spoke entirely in Spanish, their enthusiasm bled through for the team to see.

Moreover, the team discovered that it is vital to leave plenty of extra time to complete the workshops. Things might not go according to plan and certain parts might take longer than anticipated. To get the most value from these workshops, it is important that they are not rushed. The workshops should

also be scheduled for earlier than the planned start. This builds in time for participants to show up late and avoid missing any of the activities. Another essential component of these participatory design workshops is to remain completely unbiased. The team should not influence the participants' ideas or give subjective feedback on these ideas. Finally, it is important to avoid interrupting the discussion. Even if the conversation moves away from the desired topic, the team recommends letting the discussion flow organically. This helps to ensure that the participants feel completely able to share their ideas and will yield better results.

4.4: Conducting Stakeholder Interviews

In conducting stakeholder interviews, the team found that it is crucial to let the interviewee talk freely with no constraints placed on the conversation, only making sure to guide them with questions or prompts during low spots and keep them on track. It is also important to have good questions planned beforehand and to take detailed notes for the entirety of the interview from multiple different notetakers.

4.5: CAD Models and Hand-Drawn Sketches

The use of the SketchUp 3D modeling software for this project taught the team that CAD models are an effective tool to help stakeholders visualize a design and become more excited for its potential implementation. When creating 3D models using CAD software, particularly SketchUp, the team found that it is beneficial to build a base model of a space, duplicate it multiple times, and build on it throughout the design process. Additionally, the team noted that it is important to show design iterations to stakeholders frequently, save models often to avoid losing progress, and merge components into groups to increase software operation speeds as more complex models require more time to load. Implementing pre-made components from the vast 3D library also saves time and effort. One downside about using this software is that it is difficult to maneuver around and present the model to others.

When making hand-drawn sketches, the team found that it is best to use pencil for the ability to erase if needed, use a straightedge to draw lines, and use a ruler or measuring tape to draw components to-scale for a much better visual representation.

4.6: Cafe Inspiration Booklet

From creating the cafe inspiration booklet, the team found that there are a plethora of design considerations that go into creating a cafe. When assembling a booklet like this, it is vital to ensure that all copyright rules are upheld and photographers are given credit, especially if the book is being made for

public use. Moreover, more design inspiration options provide more opportunities for stakeholders to give ideas.



Recommendations & Conclusions: A Critic's Review

Chapter 5: Recommendations and Conclusions: A Critic's Review

5.1 General Recommendations

When designing a rooftop terrace and cafe space, it is important to consider the environmental impacts that the design may have. Gentrification is also an important consideration, especially on the island of Puerto Rico. Designers should ensure that this space benefits the surrounding area and its residents. Furthermore, the team recommends for anyone reading this report to research the arts in Puerto Rico to understand their power and relevance on the island. The arts act as a vehicle for Puerto Ricans to express their culture and identity. La Casa Cultural specifically is a significant historical building and it is pivotal to recognize the cultural pertinence of this building before taking on a project like this. Lastly, the team recommends visiting Puerto Rico and Teatro en 15. It is truly a once in a lifetime experience that everyone should have the opportunity to enjoy.

5.2 Cafe Space



Figure 75: Preferred Cafe CAD Model

From the cafe-focused workshops in our Cafe and Rooftop Design Series and our stakeholder interviews, the team crafted a preferred design of the cafe space with an accompanying CAD model (Figure 75) and hand-drawn sketches.

To summarize, the team can conclude that the cafe, which has a running title of “Cafe Tertulia,” should be a relaxing place for artists to work, for staff at Teatro en 15 to take a break, and for the general public to indulge in Puerto Rican culture. To provide a relaxing feel, the cafe should consist of calm, warm colors and yellow lighting with dimmers to change the intensity of light depending on the time of day. The walls should be simple, not oversaturated. The cafe should have wood floors, wood tables, and a wood counter. These elements could use different colors of wood. For decoration, the cafe could use vines, theater posters, and shelves around the room with Teatro en 15 merchandise like mugs and hats on them.

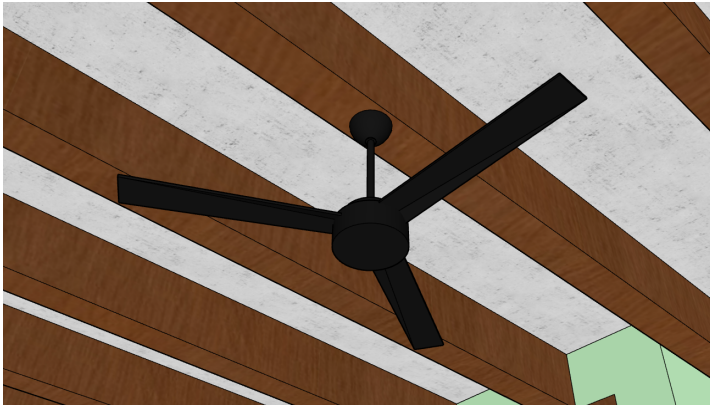


Figure 76: Updated Industrial Fans



Figure 77: Cafe Doors

The cafe should use natural ventilation and function as an open-air space. While air-conditioning could be installed, it is not a necessity and takes away from the open-air aspect of the cafe. The existing industrial fans could be updated to provide better airflow (Figure 76). An update could make these fans more energy efficient and cost effective. The doors should be see-through with glass panes and thin wood borders (Figure 77). They could even be sound-proofed to accommodate for noise from the surrounding bars and clubs. However, most of the time they should be left open to provide natural ventilation.

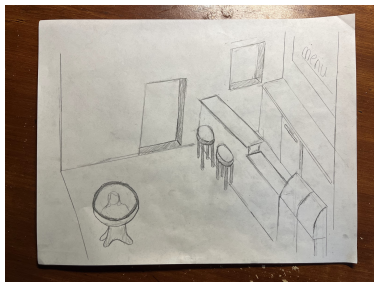


Figure 78: Sketch of Counter



Figure 79: Cafe Counter



Figure 80: Existing Storage Closets

The cafe counter should be located in the corner near the door to the terrace and opposite to the doors overlooking the street below (Figure 78). This counter (Figure 79) could be rounded or rectangular. It should extend in front of the existing closets for storage (Figure 80).



Figure 81: Higher Counter Section



Figure 82: Lower Counter Section with Cash Register



Figure 83: Glass Display Case



Figure 84: Swinging Door to Get Behind Counter

The counter should include a higher section for seating (Figure 81), a lower section with a cash register for picking up food or ordering (Figure 82), a glass display case (Figure 83) with both a hot side and a cold side for food storage, and a swinging door to get behind the counter (Figure 84).

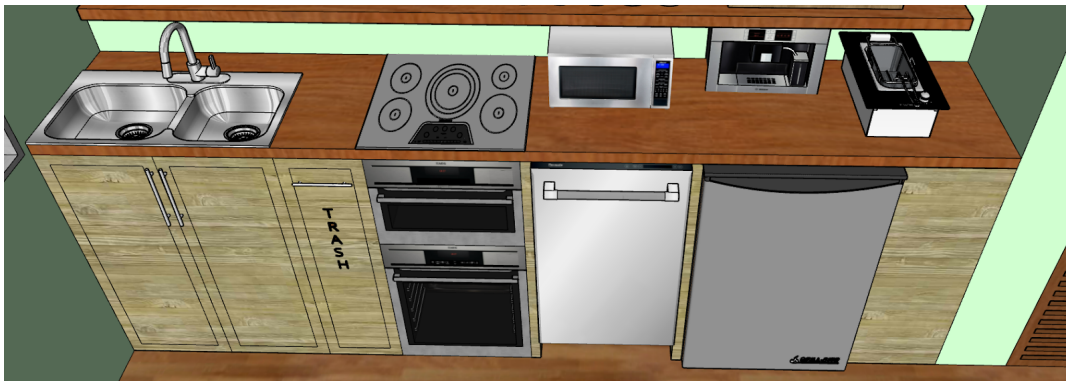


Figure 85: Micro-Cocina Setup

Behind the cafe counter along the wall, there should be a “micro-cocina” consisting of the following elements: a sink, a dishwasher, a mini-fridge, a microwave, a small fryer, an oven, a small stove top, a trash can, and a coffee machine (Figure 85).

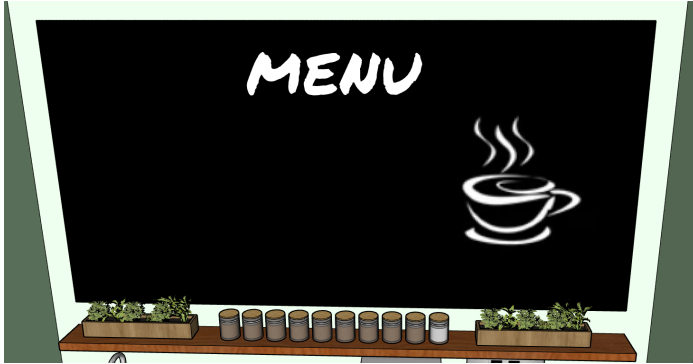


Figure 86: Chalkboard-Menu with Shelf Below

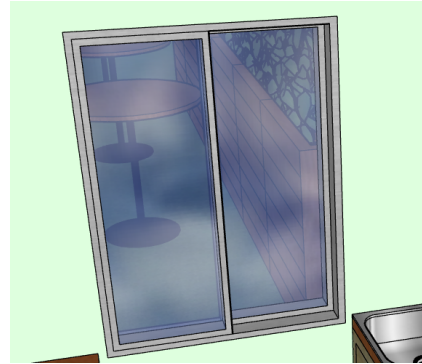


Figure 87: Drive-Through Window

There should also be a chalk-board menu on the wall with a shelf below for decorations such as jars of coffee beans (Figure 86). The team recommends installing a drive-through window out to the rooftop terrace if possible to avoid congesting the indoor cafe counter (Figure 87).

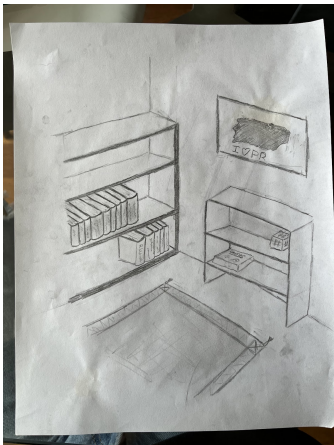


Figure 88: Sketch of Entertainment Corner



Figure 89: CAD Drawing of Entertainment Corner

The cafe should also include a cozy entertainment corner to the left of the entrance (Figure 88). This entertainment corner should have a tall bookshelf along the wall, a smaller shelf for board games opposite the bookshelf, a carpet to provide a homey feel, a couch along the wall, and bean bag chairs on the floor (Figure 89). There could also be a map of Puerto Rico or the world on the wall above the couch and a container of thumb tacks so that customers could pin where they are from on the map. There could be a chalkboard for customers to draw on this same wall as well.

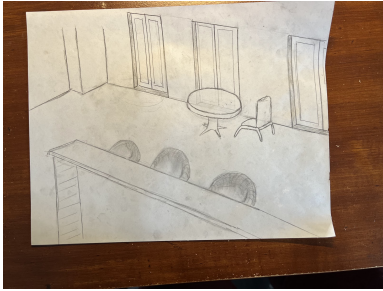


Figure 90: Sketch of Cafe Seating



Figure 91: CAD Drawing of Cafe Seating and Tables

For seating, there should be one table in front of each of the three doors (Figure 90) in addition to barstools at the cafe counter, outdoor seating, and seating in the entertainment corner. The cafe should have enough comfortable seating while still providing customers sufficient space to walk. The three tables should be lower and made of wood. They could be round and have four chairs around each (Figure 91). There could also be additional tables in the middle of the room, but this might crowd the cafe walking space.



Figure 92: Art from Local Upcoming Artists on Walls



Figure 93: Existing Wood Beams on Ceiling with New Paint



Figure 94: Victoria Espinosa Tables

To incorporate cultural expression into the cafe design, there could be paintings or writings from local upcoming artists on the walls (Figure 92). These pieces could rotate like the Teatro en 15 plays, but this would present difficulties like ownership, copyrighting, and potential damage. There could also be art on the ceiling to avoid oversaturating the walls. The cafe could use a drop ceiling with replaceable ceiling tiles. On these ceiling tiles, there could be different paintings, pieces of poetry, or other artistic displays. While this would be an intriguing idea, the ceiling could also simply feature the existing wood beams with a fresh coat of paint (Figure 93). Furthermore, the tables by the doors could use epoxy or wood burning to incorporate an image or silhouette of Victoria Espinosa into them (Figure 94). Puerto Rican culture should be celebrated through the music played at the cafe as well. This music should be relaxing to fit the overall mood of the cafe. It could be presented in the form of a radio, a jukebox, or even a live piano.

The cafe’s menu should be simple or “short and sweet.” It should include coffee and other drinks, pastries, and maybe a variety of sandwiches. The menu should be affordable as well to accommodate artists and the staff at Teatro en 15. The team recommends talking to Chef Marta about creating a menu and potentially running the cafe. If this is not possible, then there should at least be an attempt to avoid competing with her food cart downstairs. She is well accomplished as a chef and beloved by the Teatro en 15 staff.

Lastly, the business model is an important consideration. The cafe could be run by an expanded staff of Teatro en 15 ushers, people from the Municipality of San Juan’s Economic Development Program, or an entirely new staff. The cafe should be open from the morning into the night every day of the week for the general public. The rooftop terrace could serve as an extension of the cafe seating during the day when there are no scheduled performances on the roof.

5.3 Rooftop Terrace Space



Figure 95: Preferred Rooftop CAD Model

Similar to the cafe space, the team was able to create a preferred design of the rooftop terrace space with an accompanying CAD model (Figure 95) and hand-drawn sketches from the rooftop-focused workshops in our Cafe and Rooftop Design Series and our stakeholder interviews.

To recapitulate, the team can conclude that the rooftop terrace, which has a running title of “Sala Siete,” should function as both an extension of cafe seating during the day and also separately as a

seventh performance space to complement the six rooms downstairs at night. While the rooftop could accommodate dance classes, yoga classes, or other various activities during the day, the performances at night would operate on a similar proposal process to the rooms downstairs. Patrons would need to purchase tickets to attend these night-time performances on the rooftop terrace. These performances, which could include comedy, singing, theater, or other forms of art, would also carry a different, more adult feel than the performances downstairs.

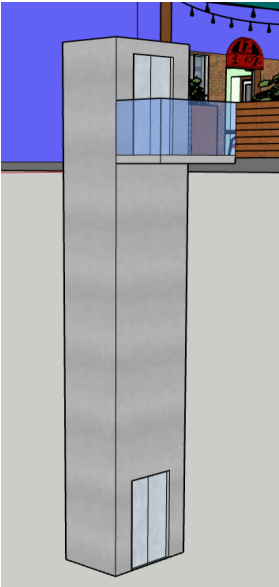


Figure 96: Elevator Shaft CAD

The team recommends following through with the installation of an elevator from the first floor courtyard to the third floor rooftop for the purpose of accessibility (Figure 96).

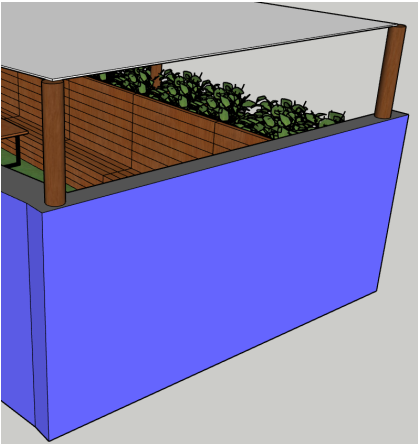


Figure 97: Wall Erected to Block off Air Conditioning Units and Pipes

The rooftop terrace should have a wall put up to block off the existing air conditioning units and pipes from the rest of the space (Figure 97).

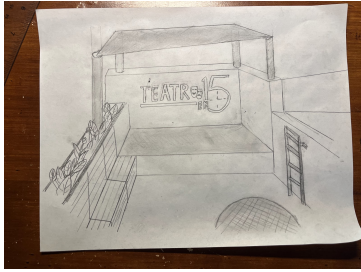


Figure 98: Performance Stage Sketch

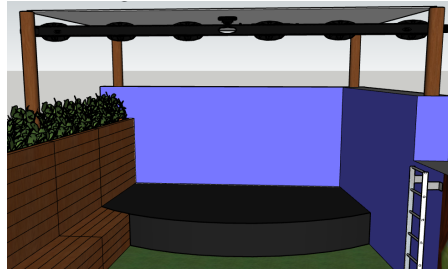


Figure 99: Outdoor Performance Stage CAD

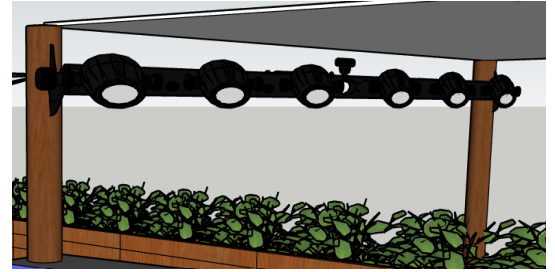


Figure 100: Beam to Hang Lighting Equipment Above Stage

Along this wall, there should be a performance stage (Figure 98). This stage could either be rectangular or rounded (Figure 99). It should have storage available underneath for performance equipment and other items. One recommendation is to have a beam suspended above the stage to hang lighting equipment. This beam could be attached to the support posts for a potential awning over the stage (Figure 100). The team also recommends looking into placing a door along the aforementioned wall and creating a “backstage” room near the air-conditioning units for the performers to use or for storage.

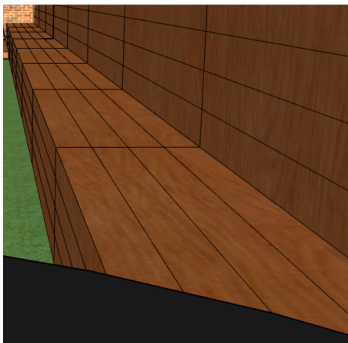


Figure 101: Long Wooden Bench

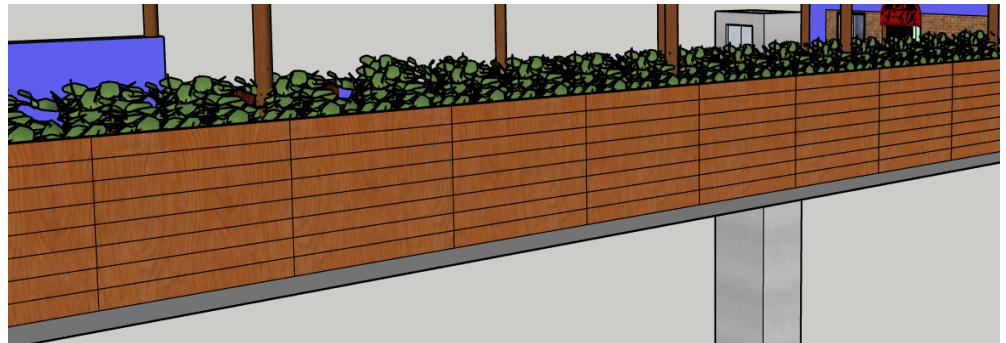


Figure 102: Tall Wooden Flower Beds

There should be a long wooden bench constructed along the street-side of the rooftop to cover the existing pipes and function as both a barrier and seating (Figure 101). This bench could be made so that individual sections of it are capable of hinging upward to provide access to the pipes underneath if necessary. Along the edges of the rooftop space, there should also be tall wooden flower beds (Figure 102). These would provide natural vegetation to the terrace while also acting as fencing so that no one falls off the roof. The flower beds could include spot lights or other forms of lighting.



Figure 103: High Outdoor Tables



Figure 104: Low Outdoor Tables

For seating, there could also be a variety of high (Figure 103) and low (Figure 104) tables scattered around the rooftop. These tables could either be mobile in case they need to be moved for weather, or immobile and durable enough to withstand the harsh storms in Puerto Rico. The team recommends mobility so that the furniture could be moved if necessary for different events on the rooftop. This furniture could be moved into the cafe, into the “backstage” area, or elsewhere if needed. Regardless, the tables should be able to survive bad weather. The tables and other furniture should not be made of metal because they would get too hot. However, wood might not be durable enough to survive the storms. There could be some other material in between that is best suited for this space.

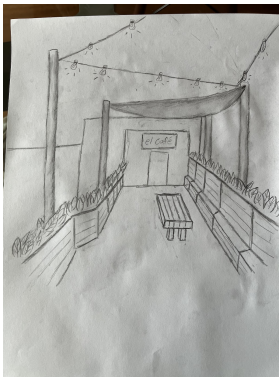


Figure 105: Sketch of Outdoor Awnings

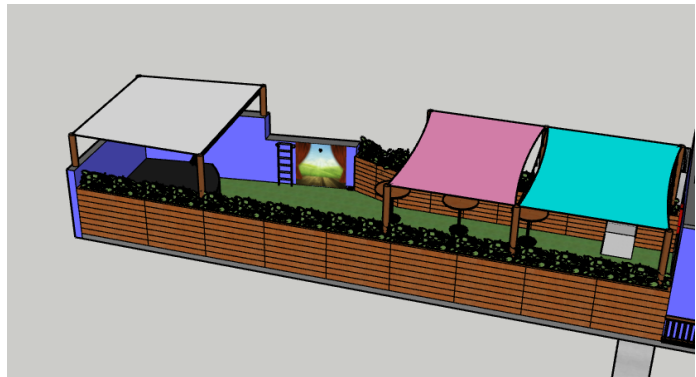


Figure 106: CAD Drawing of Outdoor Awnings

Above the rooftop space, there should be some sort of roofing to provide shade and weather protection (Figure 105). The team recommends using three awnings similar to the one downstairs in the courtyard. These awnings could be placed over the seating near the door to the terrace and over the stage. The awnings could also utilize the colors of Teatro en 15: blue, pink, and white (Figure 106). We

discussed the possibility of using a clear plastic sink ceiling, but concluded that this would not be visually appealing. Additionally, string lights should be hung on the awnings to give a cozy ambiance to the space.



Figure 107: Rooftop Terrace Turf Flooring



Figure 108: Doorway From Cafe to Terrace with Brick Walls and Sign



Figure 109: Example of Signs Above Doors to Six Performance Rooms Downstairs

The flooring of the rooftop terrace should be weather-resistant and easy to clean. The team recommends using low-maintenance turf for this space to provide a natural outdoor feel (Figure 107). The doorway from the cafe to the terrace should be accompanied by brick walls on both sides and a large sign above (Figure 108), similar in design to the signs above the doors to the six performance rooms downstairs (Figure 109).

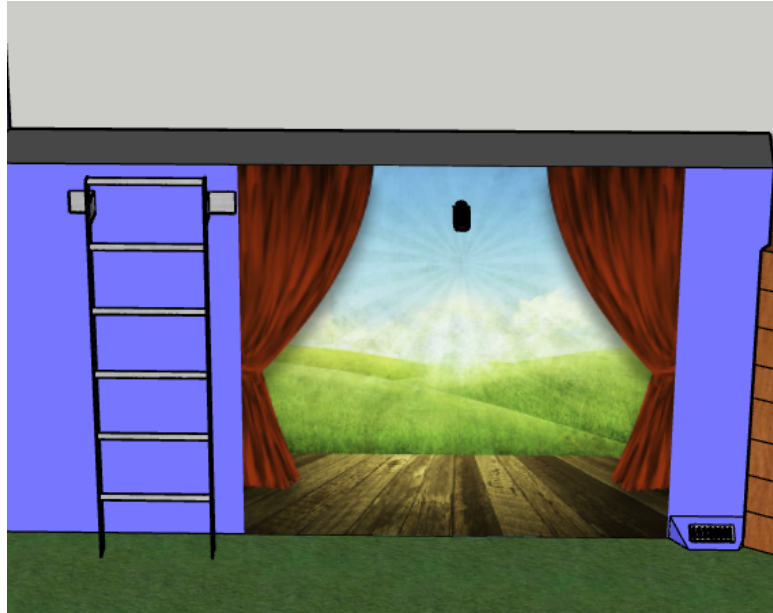


Figure 110: Potential Photo Station with Mural on Rooftop Terrace

Lastly, the team recommends having a photo station near the ladder with some sort of mural (Figure 110). Customers could take photographs in front of this mural and post it to their social media, establishing an easily recognizable marketing landmark for Sala Siete.

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Appendices

Appendix A: Interview Consent

Appendix A1: Informed Consent Agreement and Greeting Script

While this project is relatively low risk since it deals with architectural design and expression of the arts, the team will nevertheless ensure that informed consent is obtained from all participants with whom the team will work. The team will use the following formal verbal consent language:

“We are students from Worcester Polytechnic Institute (WPI) in the United States working in cooperation with Director of the Department of Arts and Culture Antonio Morales Cruz to support his programs and initiatives. To obtain different opinions regarding the café and rooftop stage design for Teatro en 15, we would like to ask you questions relevant to this topic. Your participation in this interview is completely voluntary, and it is important to us that you fully understand your rights throughout the interview process.”

The team also expects to receive information from participants in more informal settings. In this case, the following statement or one fundamentally like it may be used:

“We are students from Worcester Polytechnic Institute in the United States working to design a café and rooftop performance space for Teatro en 15. To do so, we’d like to ask you a bit about this theater and the design. We want to assure you that any information you give us will only be included in our project with your permission, and talking to us is completely voluntary. Would you like to answer some of our questions?”

Appendix B: Interview Questions

Appendix B1: Antonio Morales Cruz Interview Questions

1. What plays are currently being performed at Teatro en 15? Why were these plays chosen?
2. What functions or aspects of Teatro en 15 are going well, and what functions or aspects do you think need to be improved?
3. What is your vision for the café and rooftop?
4. What are the goals of Teatro en 15? How will this design further these goals?
5. How do you picture the relationship between the theater, the café, and the rooftop space?
6. What is the relationship like between you and the Teatro en 15 staff and actors?

7. What challenges has Teatro en 15 faced in the past?

Appendix B2: Pascual Febus Pica Interview Questions

1. What is your role at Teatro en 15?
2. What do you envision for the rooftop cafe and terrace space?

Appendix B3: Charlene Nazario Interview Questions

1. What is your role at Teatro en 15?
2. What kind of activities would you participate in on the rooftop?
3. What would you like to see at the cafe space?

Appendix B4: Chef Marta Gonzalez Interview Questions

1. Would you like to tell us about your culinary background?
2. How long have you been selling food at Teatro en 15?
3. What would your ideal cafe menu look like?
4. How would you set up a cafe space?

Appendix B5: Teatro en 15 Actors and Producers Interview Questions

1. How long have you worked at Teatro en 15? What has changed, or how has the theater developed since then?
2. What is your role working at Teatro en 15? What things would you consider necessary in completing this role?
3. Do you want your role to change at all? Why or why not?
4. How do you see the addition of a café and rooftop space impacting Teatro en 15?
5. How would you picture this space, as well as how it functions as a part of Teatro en 15?
6. What would you like to see this space used for? What is your vision for such a space?
7. Why do you like performing at Teatro en 15? What does the 15-minute play format offer to you as an actor?
8. Do you see the café and rooftop space having an impact on the success of the operations of Teatro en 15's productions? Do you see it as potentially infringing on productions?

Appendix C: Accessing CAD Models

To access the CAD models, you must download the SketchUp Viewer application [here](#), download the CAD files, and open these files in SketchUp Viewer.

Appendix C1: Base CAD Model of Cafe and Rooftop Space

The base CAD model of the cafe and rooftop space can be downloaded [here](#)

Appendix C2: Preferred CAD Model of Cafe and Rooftop Space

The preferred CAD model of the cafe and rooftop space can be downloaded [here](#)

Appendix D: Accessing Other Deliverables

Appendix D1: Cafe Inspiration Booklet

The Cafe Inspiration Booklet can be accessed [here](#)

Appendix D2: Participatory Design Archive Book

The Participatory Design Archive Book can be accessed [here](#)

Appendix D3: Final Design Book

The Final Design Book can be accessed [here](#)