

REDESIGN OF MUGHLAI STREET FOOD STALL

INDUSTRIAL DESIGN PROJECT 2
DEP702

SUBMITTED BY
MOHD. HAZIQUE KOLA
216130011
MDES ID'23

GUIDE
PROF. R. SANDESH
IDC, SCHOOL OF DESIGN
IIT, BOMBAY

IDC
School of Design
अभिकल्प विद्यालय



APPROVAL SHEET

Industrial design Project 2
“ Redesign of Mughlai Street food stall ”

By Mohammed Hazique Kola
M.Des Industrial Design 2021 - 2023

Is approved as a partial fulfillment of requirements of post
graduate Degree in Industrial Design at IDC, IIT-Bombay.

External Examiner

Internal Examiner

Digital Signature
Sandesh R (i07139)
24-Jul-23 10:36:52 AM

Project Guide

Digital Signature
Mandar Rane (i07183)
25-Jul-23 09:55:15 AM

Chairperson

DECLARATION

I declare that this written submission represents my idea in my own words and where other ideas or words have been included,

I have adequately selected and referred the original source.
I also declare that I have adhered to all principles of academic honesty and integrity and have not misinterpreted or fabricated or falsified any ideas / data / facts / sources in my submission.

I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources that have not been properly cited, or from whom proper permission has not been sought.



Mohammed Hazique Kola(216130011)
M.Des 2021-23
M.Des, Industrial Design 2021-23

ACKNOWLEDGMENT

I'd like to thank,
All the street food vendors who have co-operated with me for this project. Thanks to Ashraf (Bade Miyan) who gave me insights and feedback during my project-work.
Thanks to my Guide Prof. Sandesh Ramu, for his valuable guidance.

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Thanks to all of PD 2021-23 class
For helping me out in the beginning, I am thanking My batch mates and juniors at IDC who have been the greatest resource at the best and worst of times.

ABSTRACT

Street food business in India is one of the fastest growing businesses in India and it is the next big thing in the food and restaurant industry. Eating street food in India is a delightful experience. It is not just the lip smacking taste, also the culture and cuisine that makes you go gaga over the food served. The rich diversity of cultures which India is proud of is reflected in the variety of cuisines served in the streets of India. One of such is the Mughlai cuisine.

This project aims at redesigning the street food vending cart that serves food prepared with charcoal. Street food is an inseparable part of urban culture. Cities like Delhi, Mumbai and Kolkata boast about its street food. In this project, I have looked at the Iconic Mughlai street food served in Mumbai.

I tried to look at the Mughlai street food and various dependencies that street food businesses have. I analyzed the system of street food vending in this particular cuisine and tried to design a solution for the businesses that want to start a new street food venture. This product caters the restaurant owners who want to expand business in the street food market and the new entrepreneurs that want to establish a Mughlai street food brand.

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PROJECT PROPOSITION

Initially three topics were selected for Project 2

1. Redesign of Mughlai street food vending stall
2. Baby Cradle redesign for slums in Mumbai
3. Luxury tap and faucet design

Each topic involved different areas to explore and learn from. Out of the above topics Re-design of Mughlai street food vending stall was selected.

WHY THIS PROJECT?

A Mughlai street food stall has its own challenges when compared to a usual street food cart. There are a lot of stakeholders involved in this project in both private and public spaces.

This project would give me an opportunity to explore a product that is interacted with in the public space, which I have not previously explored

INTRODUCTION

DISCOVER

Under the discover phase, these were the areas covered

1. Identification/ collection, Product study, primary and secondary user study, Market study, business requirements
2. Classification and analysis of the data collected with relevant benchmarking and comparison parameters
3. Inferences from the Data collected

WHY FOOD STALLS?

High return on investment

The street food stall gives a high return on investment. The investment required for starting a street food vending stall is around Rs 10-15 lakh with immediate return.

Fixed menu

The business need not have an extensive menu to serve the customers. They have very selected items and which are served quickly.

Location flexibility

Location is of utmost importance in a food stall since the entire business is dependent on the high volume of orders. Thus, you must set up a food stall in any densely populated area; it could be a high footfall market or a mall, big office complex, highways, hospitals, airports or university area.

Low fixed cost

The initial investment required in this food business idea is relatively low. You also need fewer staff members since usually food stalls are self-service restaurants.



TRENDING?

Last Updated: 14th May, 2022 17:32 IST

Bollywood Stars Spotted Munching Mumbai's Famous Street Food

In the dazzling metropolis of Mumbai, a city that never sleeps, you will find streets full of hawkers dishing out a variety of snacks and dishes.

Mumbai: BMC to float tenders to run food trucks at 50 spots

As per plan, the food truck spot can be near a high footfall area near park/gardens, tourist locations, schools, colleges, universities in the city.

News paper clippings from recent times

TRENDING?

Food trucks get a push in BMC budget, 65 locations designated across Mumbai

Mumbai News

Published on Feb 04, 2021 12:56 PM IST

The Streets Of India Food Festival At Hotel Sahara Star

Published on July 11, 2022

Mumbai : Get ready to indulge in your favourite street foods from various cities and states of India at Sahara Star's Streets of India Food Festival to be hosted at the Earthplate restaurant from 14th – 31st July 2022.

News paper clippings from recent times

MUGHLAI CUISINE

Mughlai cuisine consists of dishes developed in the medieval Indo-Persian cultural centres of the Mughal Empire. It represents a combination of cuisine of the Indian subcontinent with the cooking styles and recipes of Central Asian and Islamic cuisine.

Mughlai (moog-lie) is a type of cuisine that came about as a result of the Mughal rule in India from 1426 to 1857. During that time in India's history, the food was rich and cooked with aromatic spices, nuts, and dried fruits. The flavors of Mughlai can range from mild to spicy and are associated with their distinct aroma and use of whole and ground spices.

This type of Indian cuisine originated in northern India in places such as Uttar Pradesh, Delhi, and also among Muhajir expats in Pakistan. Traces of Mughlai cuisine can also be found in the Indian cities of Bhopal and Hyderabad where Central Asian cuisine largely influenced its flavors.

The official language of the Mughal Empire was Persian, so many Mughlai dishes also have Persian and Turkic names. Once prepared for royals and emperors, these dishes feature flavorful meals that combine the traditional spices and flavors that embodied Indian cuisine.

Some of the Muslim-influenced names in Mughlai dishes include biryani, pulao, kebabs, and kofta. The strong influence of Muslim cooking styles is evident throughout Mughlai meals as Mughals left a lasting impact on India. This is evident as Mughlai dishes are still very common and desired today.



RESEARCH

DATA COLLECTION

Mumbai is known for its iconic street food cuisine. The rich culture and its diversity has given Mumbai its countless street food options. Everyone regardless from their socioeconomic status enjoy the street food cuisine m]Mumbai offers. A study was conducted in Khau Galli Ghatkopar, CST, Colaba and its adjoining areas to gain insights on the street food vending scenario in Mumbai.

OBSERVATIONS

These are the following areas in which observations and inferences were made

- Structures deployed
- Display of food
- Branding
- Makeshift methods
- Waste management
- Post operation of the stall
- Food menu and cutlery

STRUCTURES DEPLOYED



Vada pav stall near railway station using collapsible table for setting up.



Pani puri stall using collapsible table and makeshift wall.

STRUCTURES DEPLOYED



Ice cream vending stall using collapsible table and plastic stool.



Stall in Ghatkopar khau Gali with collapsible table.

STRUCTURES DEPLOYED



Pani puri Stall in Ghatkopar khau Gali with collapsible table



Installation for seating near Vikholi Dargah for a festival

DISPLAY OF FOOD



Display of condiments roadside near CST station



Mughlai cuisine stall set up on the streets on Colaba



Mini vending box for Gujarathi snacks in Ghatkopar

DISPLAY OF FOOD



Dosa making stall in Khau Gali



Sandwich and juice making stall in Ghatkopar Khau Gali

DISPLAY OF FOOD



Veg Tandoori vending stall in Ghatkopar



Paneer Shawarma vending stall

DISPLAY OF FOOD



Makeshift Biryani stall installed in Vikholi Dargah



Tandoori Stall



Tandoori vending stall

BRANDING



Momo vending stall in
Vikhroli near RCity Mall



Vada Pav vending stall on
footpath near CST



Mocktail vending stall in
Khau Gali

BRANDING



Dahi Puri vending stall on the footpaths of Ghatkopar



Restaurant vending stall in Khau gali, Ghatkopar

MAKESHIFT METHODS



Stone slabs and wooden planks used to set up stalls near CST



Stool and buckets for handwash and drinking water vending in Ghatkopar

MAKESHIFT METHODS



Plastic chairs and tarp sheets for seating area in Ghatkopar



Wooden scaffoldings for rain protection in Khau Gali

MAKESHIFT METHODS



Makeshift cycle on streets of Ghatkopar



Tandoori vending stall using stone slabs and large utensils

WASTE MANAGEMENT



Large unmanaged waste bin in Ghatkopar



Repurposed Cold drinks tray for waste disposal

WASTE MANAGEMENT



Repurposed plastic tray for waste disposal near railway station



Trashcan in front of the shop near railway station

POST OPERATION OF THE STALL



Pan Bidi Vending stall on streets of colaba



Sugarcane vending stall on footpath near CST

POST OPERATION OF THE STALL



Footpaths near CST



Closed sugarcane shop near CST

POST OPERATION OF THE STALL



Closed stall on Colaba to
CST path



Vendors Van parked near
his stall



Closed Vada Pav stall near
CST

POST OPERATION OF THE STALL



Closed Momos vending stall near RCity Mall, Vikhroli



Vending Van parked away from the stall location in Khau Gali, Ghatkopar

FOOD MENU AND CUTLERY

All Prices Exclusive of Govt. Taxes

NON-VEGETARIAN		VEGETARIAN	
4.0 MUTTON 0.4	4.0 CHICKEN 0.4	4.0 VEGETABLE 0.4	JAIN MENU
SIGDI	SIGDI	SIGDI	SIGDI
Mutton Seekh Kabab	320 Chicken Leg	220 Veg. Seekh Kabab	260 Paneer Tikka
Mutton Boti Kabab	320 Chicken Breast	260 Paneer Tikka	260 Mushroom Tikka
TAVA	Chicken Tikka	240 Mushroom Tikka	190 Babycorn Tikka
Mutton Bhuna	320 Chicken Malai Tikka	240 Babycorn Tikka	190 TAVA
Mutton Kheema Fry	320 Chicken Reshmi Tikka	240 Aloo Tikka	190 Paneer Bhurji
Mutton Bheja Fry	320 Chicken Seekh Kabab	290 TAVA	290 Mushroom Masala
Mutton Gorda Fry	320 Chicken Tangdi Kabab	290 Paneer Bhurji	260 Babycorn Masala
ROLLS	TAVA	290 Paneer Kadai	260 ROLLS
Mutton Seekh Kabab Roll	340 Chicken Bhuna	290 Paneer Masala	280 Paneer Tikka Roll
Mutton Boti Kabab Roll	340 Butter Chicken	290 Veg. Bhuna	210 Mushroom Tikka Roll
Mutton Bhuna Roll	340 Chicken Kheema Fry	290 Veg. Makhni	210 Babycorn Tikka Roll
Mutton Kheema Roll	340 ROLLS	230 Aloo Bhurji	310 Paneer Bhurji Roll
Mutton Bheja Roll	340 Chicken Leg Roll	250 Veg. Seekh Kabab Roll	290 Mushroom Masala Roll
Mutton Gorda Roll	340 Chicken Breast Roll	280 Paneer Tikka Roll	290 Babycorn Masala Roll
EGG	Chicken Tikka Roll	280 Mushroom Tikka Roll	ROTIS
Plain Egg Roll	140 Chi. Malai Tikka Roll	210 Babycorn Tikka Roll	Rumali Roti
Plain Baida Roti	200 Chi. Reshmi Tikka Roll	210 Aloo Tikka Roll	30 Tandoori Roti
Mutton Baida Roti	320 Chi. Seekh Kabab Roll	110 Paneer Bhurji Roll	30 Reshmi Paratha
Mutton Egg Roll (Seekh/Boti)	340 Chicken Bhuna Roll	110 Paneer Kadai Roll	20 Bread Naan
Chicken Baida Roti	280 Butter Chicken Roll	310 Paneer Masala Roll	DESSERTS
Chi. Egg Roll (Seekh/Tikka)	320 Chi. Kheema Fry Roll	310 Veg. Bhuna Roll	160 Matka Rabdi
Paneer Egg Roll (Tikka)	320 DUM BIRYANI	310 Veg. Makhni Roll	160 Shabi Tukda
Paneer Baida Roti	320 Mutton Dum Biryani	260 Aloo Bhurji Roll	140 Caramel Custard
	Chicken Dum Biryani	320 Veg. Dum Biryani	140 Fries
			DRENKS
			Soft Drinks
			Mineral Water

ALL ROTIS ARE EGGLESS & WHEAT BASED

Veg and Non Veg Mughlai cuisine at Bade Miya Stall, Cola-ba

"SAL SWAD DOSA VEG."

1. MASA DOSA	80.00
2. MASALA DOSA	90.00
3. CHICKEN PANEER DOSA	120.00
4. CHICKEN DOSA	120.00
5. CHICKEN DOSA	120.00
6. CHICKEN DOSA	120.00
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43. CHICKEN DOSA	120.00
44. CHICKEN DOSA	120.00

Dosa vending stall in Khau Gali

FOOD MENU AND CUTLERY



Plastic bowls for packaging and paper cutlery arranged in Pav bhaji vending stall in Ghatkopar



Disposable Paper plates in Bade Miya, Colaba

FOOD MENU AND CUTLERY



Paper plate and metal spoon for Pav bhaji in Khau Gali, Ghatkopar



Wooden spoons and paper plate for Tandoori dish

BADE MIYAN

Bademiya is an iconic food stall and restaurant chain in Mumbai, India. It was established in 1946 by Mohammad Yaseen as makeshift seekh kabab counter. The counter has now branched out into several restaurants, takeaway joint

and a permanent food stall at the original location. The restaurant is a popular landmark and tourist attraction of Mumbai.



BADE MIYAN

A detailed interview was conducted with the owner and the employees of Bade Miyan to understand what it takes to run a street food stall business. They employ extension of the restaurant to run their food business. The following were the insights from the interview.

For a restaurant, the biggest issue is obtaining License from the governing body and completing the legal formalities. The formalities are much more relaxed for a food cart. The business has to obtain a NOC for fire safety.

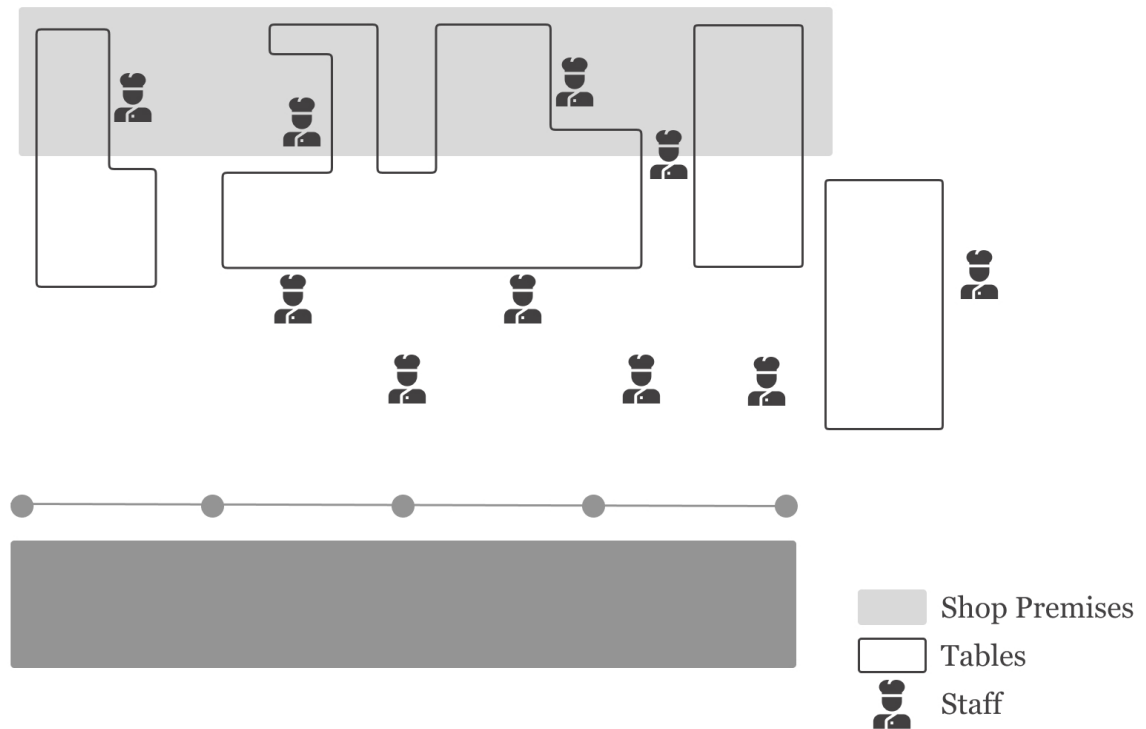
The charcoal taste is a must for the business. The unique taste comes from the charcoal smoke that cooks the meat. Operating the charcoal is itself a challenge.

Electric grill could be used for the smoky flavor. But it does not beat the charcoal flavor. Space constraints are something to be thought about. The stalls that are currently operating are Collapsible by design. These were custom designed by their father as there were no market products available to serve this purpose. The current available products do not cater to mughlai type cuisine. For Shawarma, there needs to be an electric heater placed in the stall. Electric power requirements are too high to run on a generator. There needs to be a power supply given to the cart.



STALL LAYOUT USED

Their stall inside was crowded with cooks preparing meals continuously. This is due to high demand and an extended restaurant type model. The stall equipments and the people were mapped to find out the space constraints. To operate one stall two people are required. One to handle the charcoal station and the other to prepare meals.



INTERVIEW INSIGHTS

The following were the insights from the contextual enquiry and interview conducted with Mr Ashraf from Bade Miyan

1. Licensing is the issue for restaurants and getting NOC for Fire safety department.
2. Mughlai cuisine is very challenging to please customers. Charcoal taste is a must!
3. Electric grill could be used for the smoky flavour. But does not beat the charcoal flavour.
4. Space constraints while operating charcoal and mughlai kitchen comes up.
5. The stalls are Collapsible by design. These were custom designed by their father as there were no market products.
6. For Shawarma - electric power requirements too high, cannot be done without electric connection.
7. Charcoal produces Smoke that is important to disperse
8. Space in front is kept so that people don't get hurt by charcoal.
9. UPI transactions are difficult to track in the crowd.
10. Jo dikhta hey wo bikta hey - People buy what is displayed.
11. Mobile restaurants maybe the Future business
12. Price 10 lakhs maximum investment into the business.
13. Trails for business expansion are currently being undertaken by Bade Miyan
14. Desserts new business is currently being tried out.

LEGAL FORMALITIES

FSSAI License: A food truck and for that matter, any food business with gross revenue of more than 12 lakh INR needs to have the FSSAI license. It is essentially a 14 digit number. Here is a complete guide on how you can acquire your FSSAI license.

NOC from the Chief Fire Officer: As food trucks deal with a lot of gas appliances, having a NOC certificate from the Chief Fire Officer is mandatory.

Permission letter from the local municipal body: When you will zero in on a location for your business premises, you would need to get a written document, stamped by the local municipal body to start setting up.

Vehicle license: If you will be operating out of a commercial vehicle, a license for the same must be issued by the RTO of commercial vehicles.



DEPARTMENT OF FOOD SAFETY
8th Floor, Mayur Bhawan, Connaught Place, New Delhi - 110001



Registration under Food Safety and Standards Act, 2006
[See Regulation 2.1.1 (5)]

पंजीकरण संख्या / Registration No.: XXXXXXXXXXXX

- खाद्य व्यापार ऑपरेटर का नाम और स्थायी पता**
 Name and permanent address of Food Business Operator(FBO)
- स्थान का पता जहाँ खाद्य व्यापार / परिसर है**
 Address of location where food business is to be conducted / premises
- कारोबार का प्रकार / Kind of Business**
- फोटो पहचान पत्र (विवरण) / Photo Identity Card**

यह पंजीकरण **खाद्य संरक्षा** और मानक अधिनियम, 2006 के अधीन अनुदत्त की गई और वह अधिनियम के उपबंधों के अध्यादीन है जिनका अनुसंधानकारी द्वारा अवश्य पालन किया जाना चाहिए / This Registration Certificate is issued under and is subject to the provisions of FSS Act, 2006 all of which must be complied with by the petty food business.

मान्यकरण / Validation

निर्गमन तिथि / Issue Date : XXXX/XX/XX

वैधता अवधि / Period of Validity : 1 Year

विधिमाम्य / Valid Upto : XXXX/XX/XX

पंजीकरण शुल्क / Registration fee : Rs. 100

स्थान / Place :

दिनांक / Date : XXXX/XX/XX

Disclaimer : 1 - This Registration Certificate is only to commence or carry on the food businesses and not for any other purpose.

2 - This is an electronically generated Registration Certificate and does not require any signature.

FSSAI license sample certificate

CUSTOMER PERCEPTION

To understand the customer perception, interviews were conducted and conclusions were derived

Semi cooked color, the red and the green flavor are very attractive to people. People drool over the colorful spices and the semi cooked food displayed over the counter.

Food being prepared in front of customers is very interesting to the customer.

Chutneys salad, lemons and the added flavors are important to be shown to the customer. It adds to the transparency of the business. The customer knows exactly what they eat.

The stalls are usually put up at midnight. People come in during dinner and stay up until post midnight.

The few cons that the customers complain about

Poor brand recognition of stall. The customers were not able to exactly recall the stall name. They usually navigate to the stall based on the location. There was no significant brand recognition among the street food stalls.

The restaurant extension stalls were able to be recalled because of the restaurant brand associated with it.

Preferred payment is online for most of the customers. Most of the vendors do not accept online payments. They have to withdraw cash and then go to their favorite places.

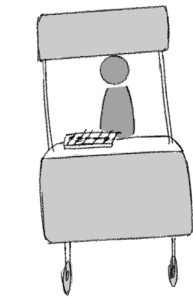
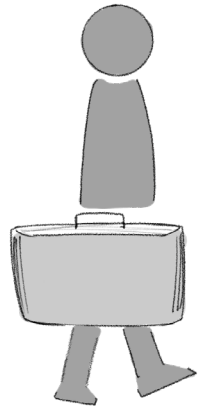
Food trucks/ stalls not seen often in the cities.

DESIGN BRIEF

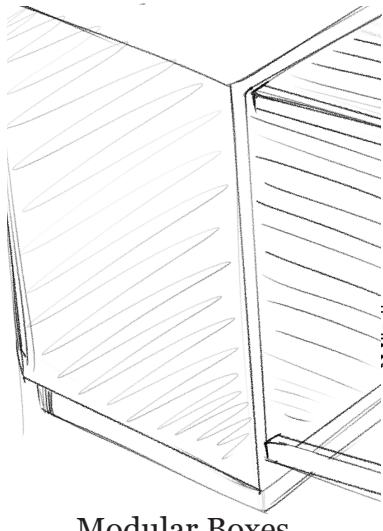
Design a food vending stall for Mughlai cuisine which accommodates cooking of tandoor with charcoal.

1. The stall should be easily setup, dismantled and provide access to mobility.
2. It should accommodate 2 people for its operation.
3. The stall should have provision to not let smoke emitted during the cooking process affect the audience.
4. The stall should aid in crowd management.
5. It should have sufficient area for branding
6. It should have provision for display of food being prepared.
7. It should have easy maintenance access.

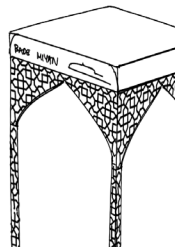
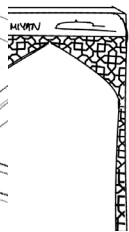
IDEATIONS



Suitcase to stall

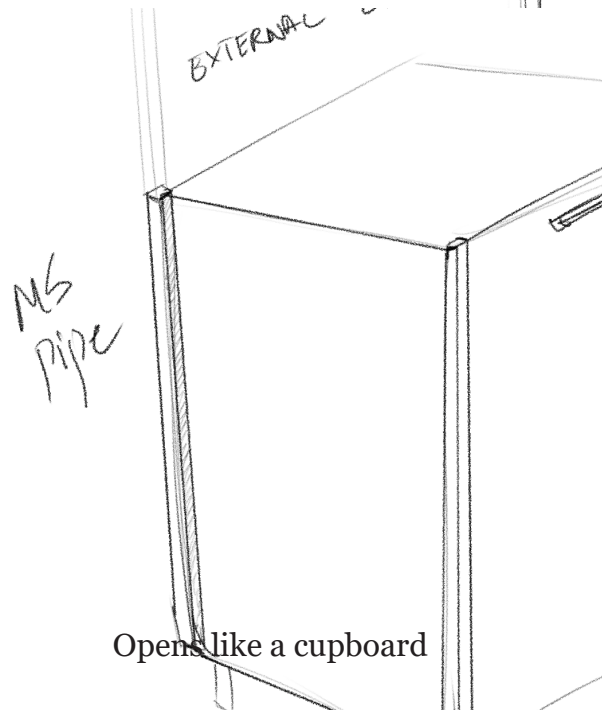
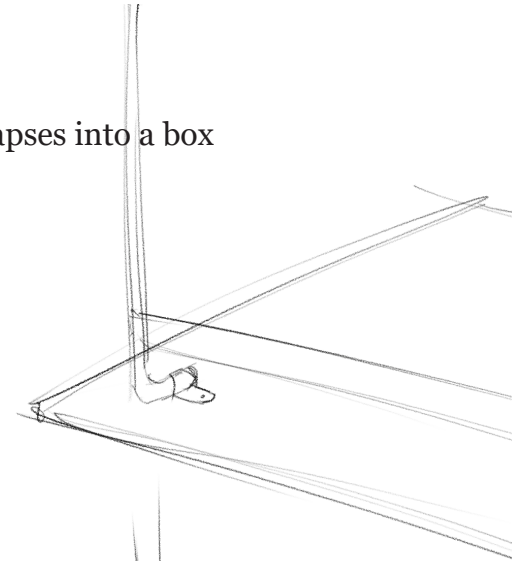


Modular Boxes

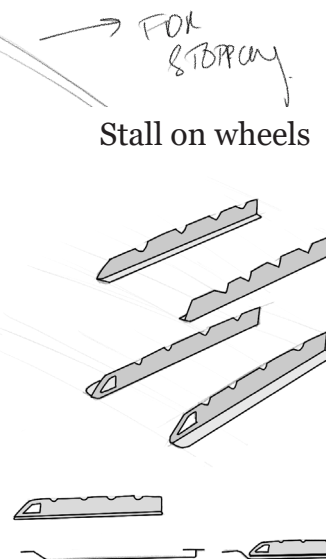


Broad ideation were carried out in the beginning to understand and set a direction for ideation.

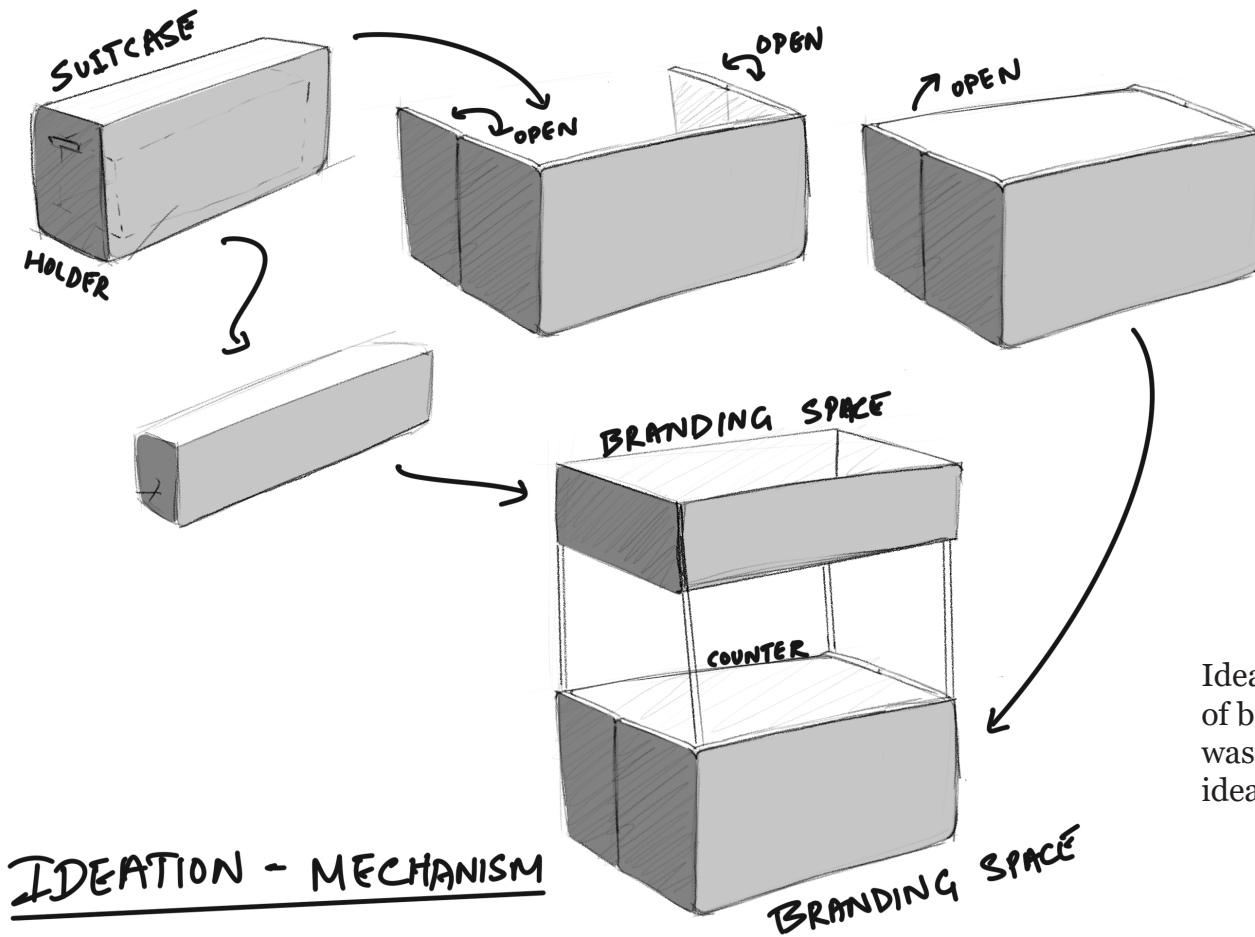
Collapses into a box



Opens like a cupboard



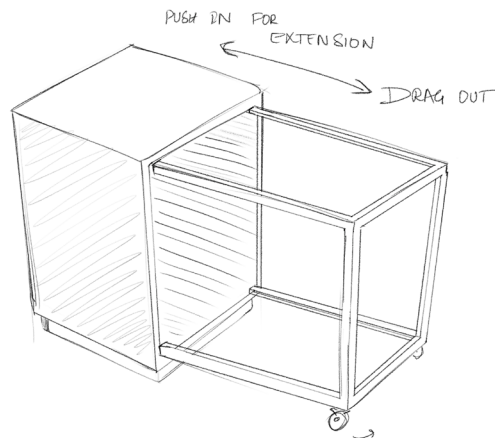
IDEATIONS



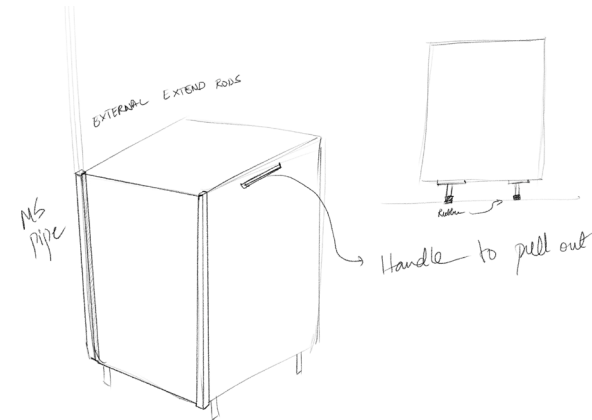
Ideation mechanism where the idea of being carried around and portable was set as the direction and further ideations were carried out.

IDEATION - MECHANISM

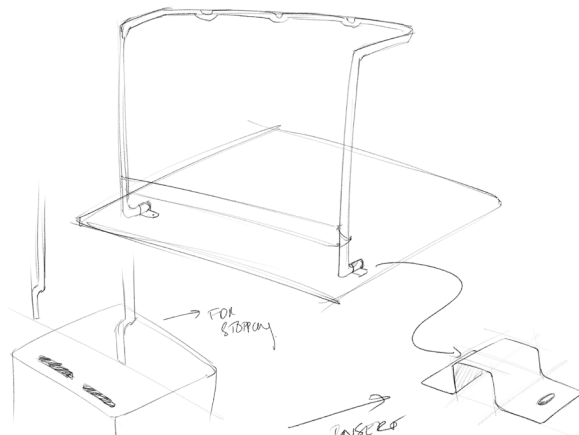
THE SETUP



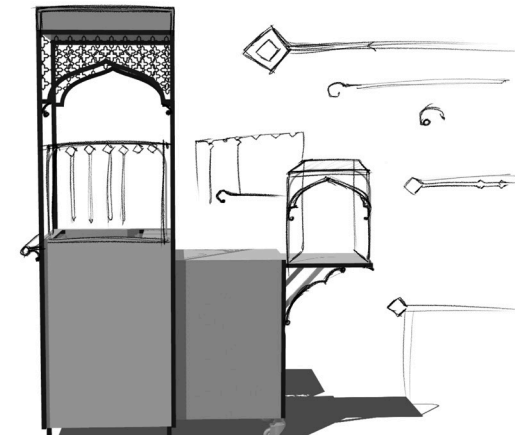
The stall is carried by the vendor in a van to the desired location.



All the raw ingredients and necessary equipments are transported in the back of the van.

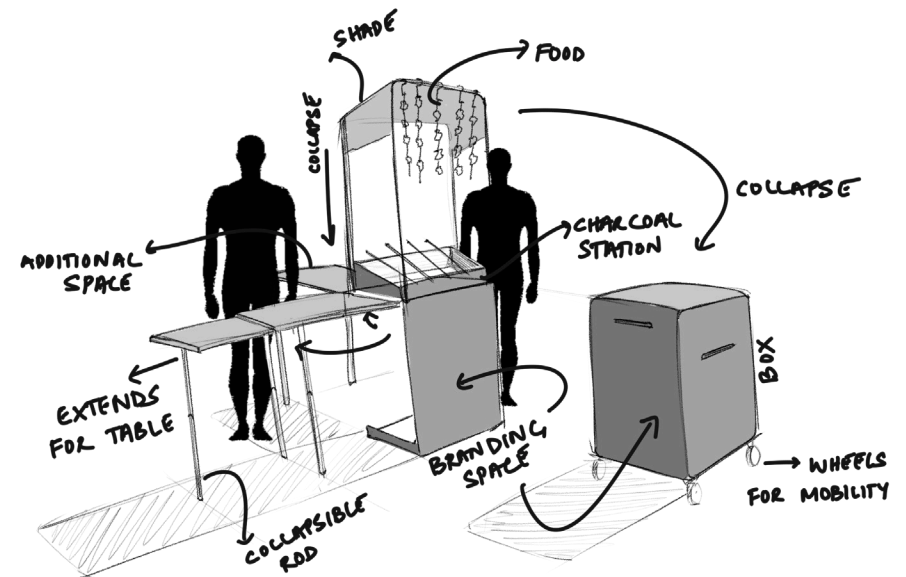
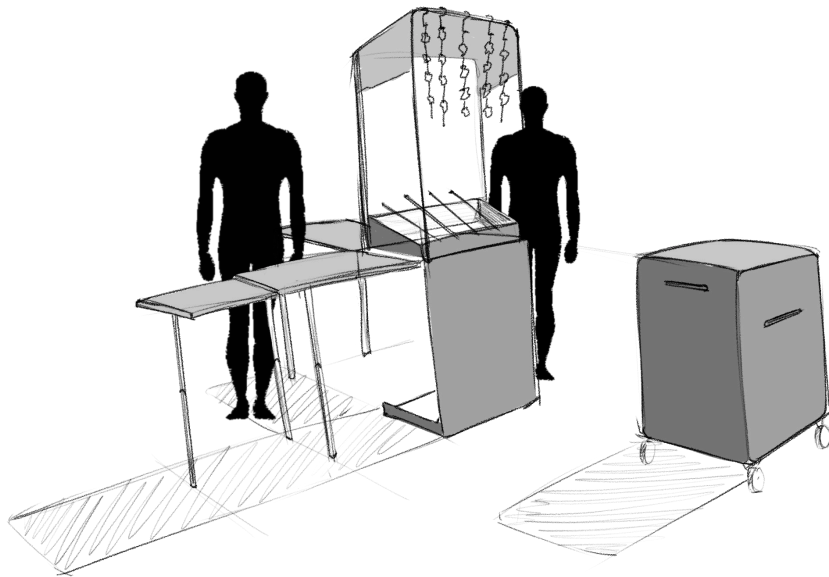


Equipments and the stall are unloaded along with the raw materials and taken to the location of the food stall.

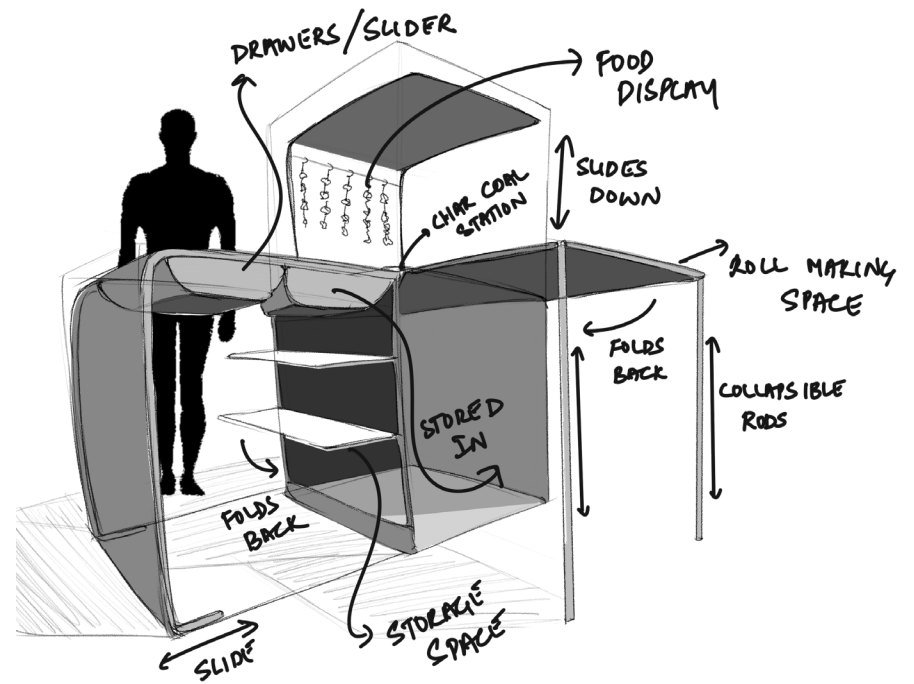
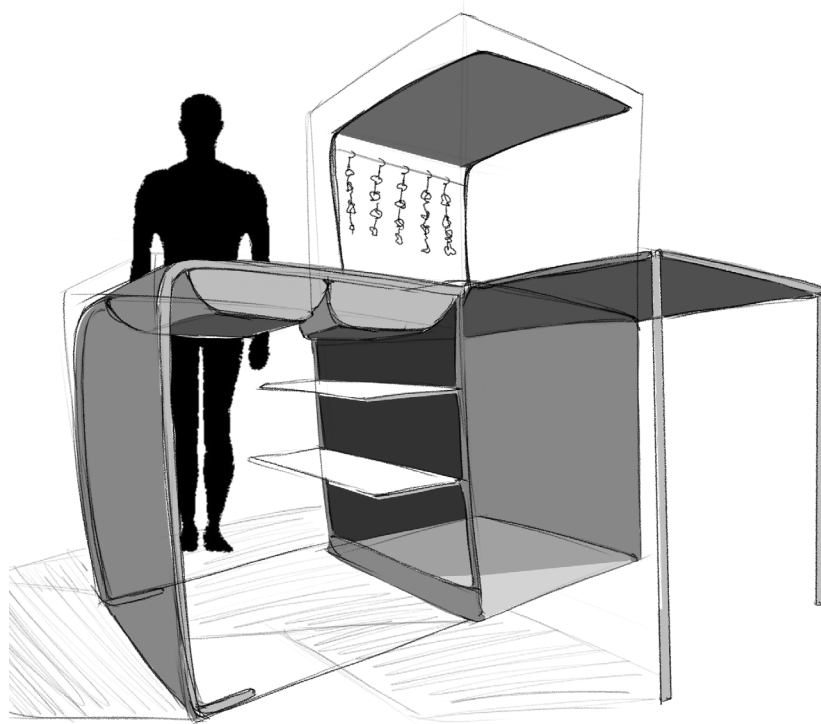


The stall space is set up and all the necessary arrangement is made on the spot.

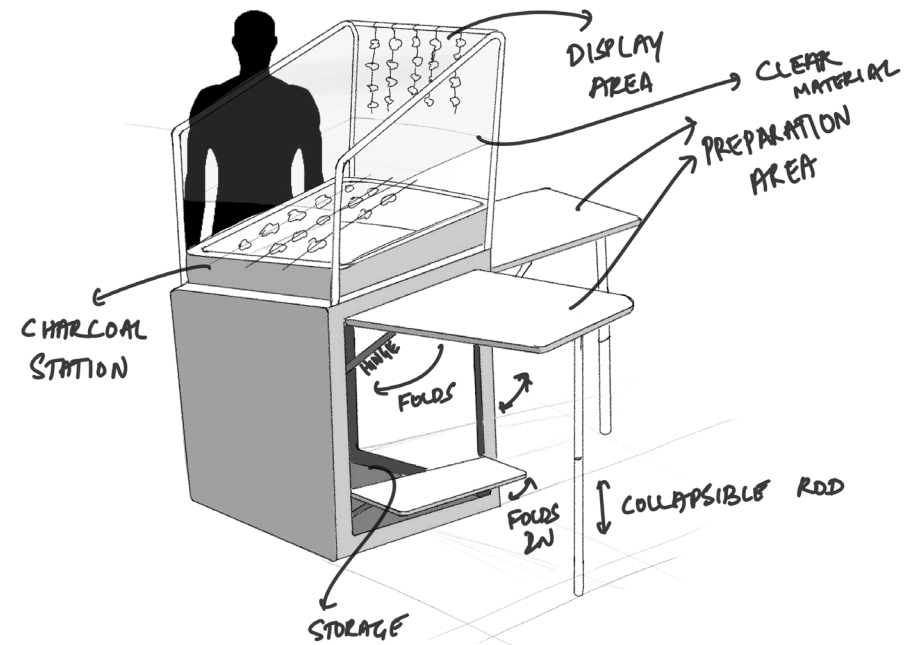
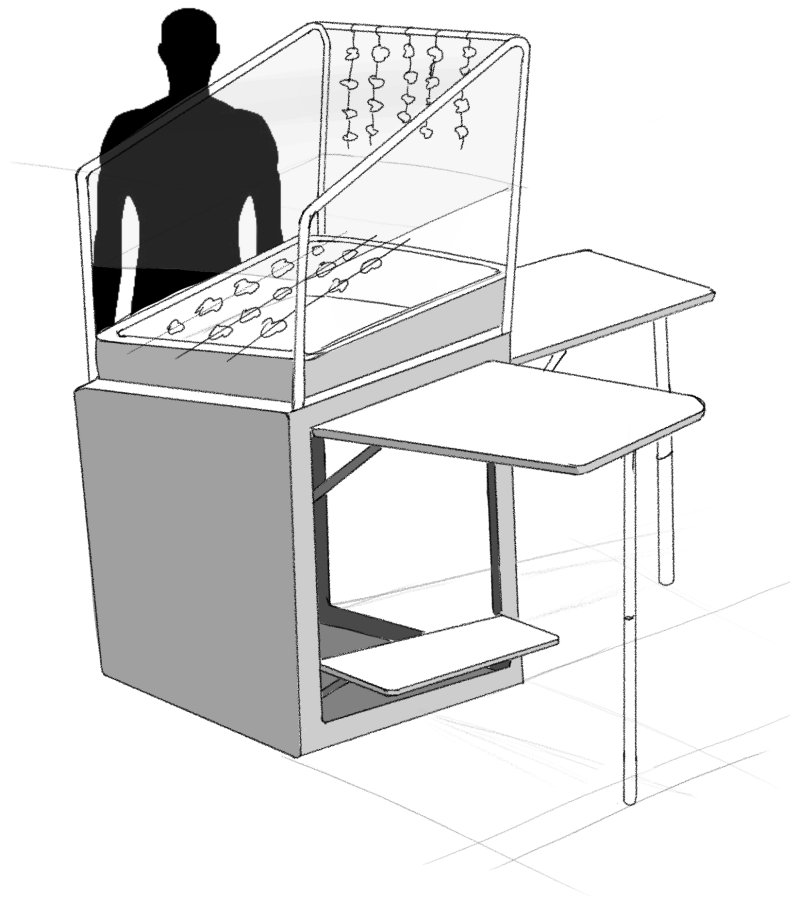
IDEATIONS



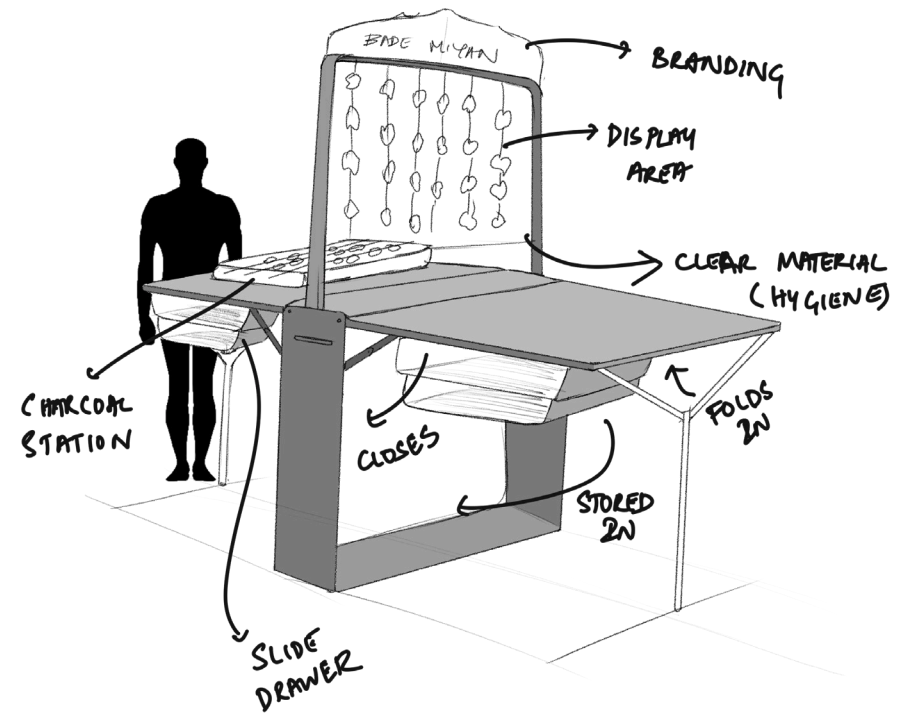
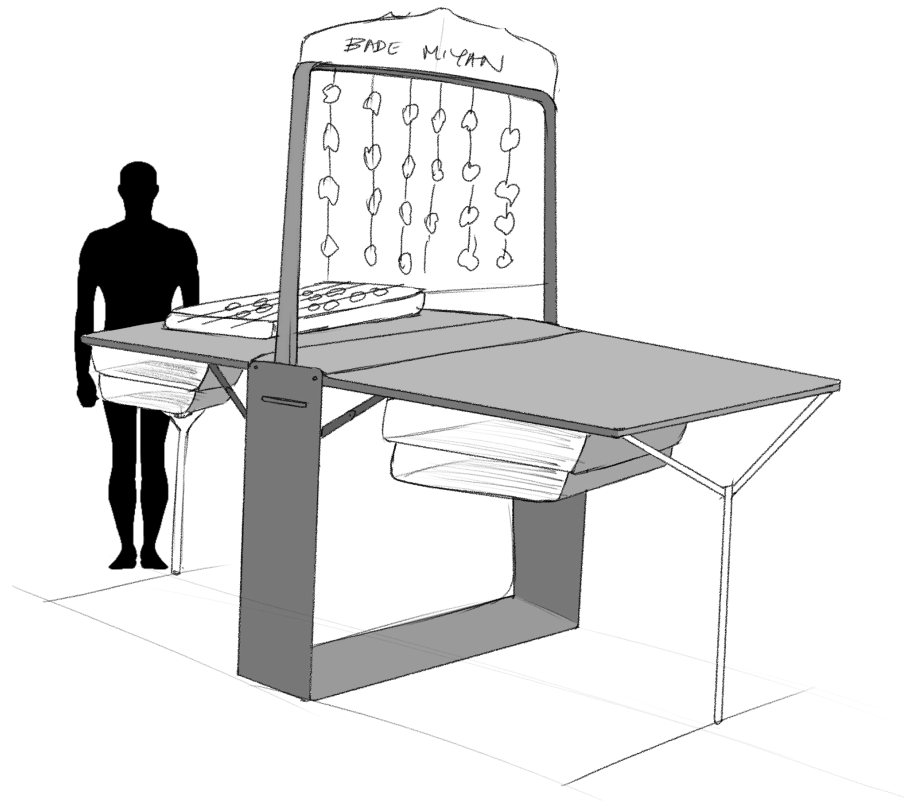
IDEATIONS



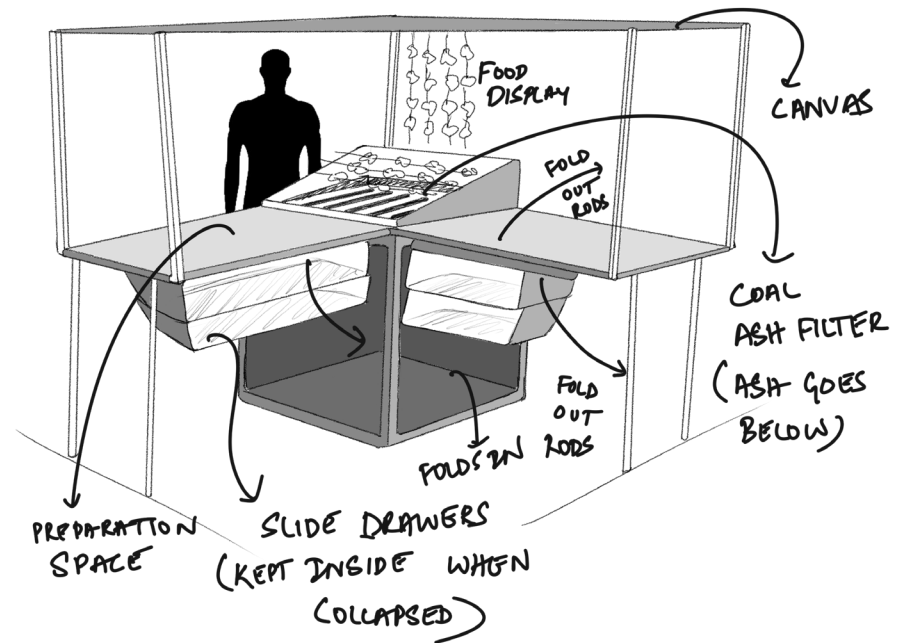
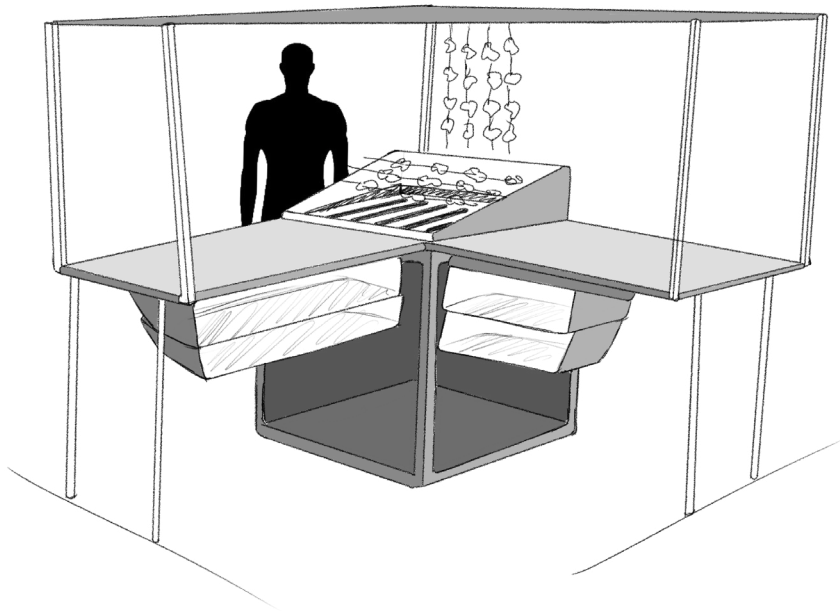
IDEATIONS



IDEATIONS

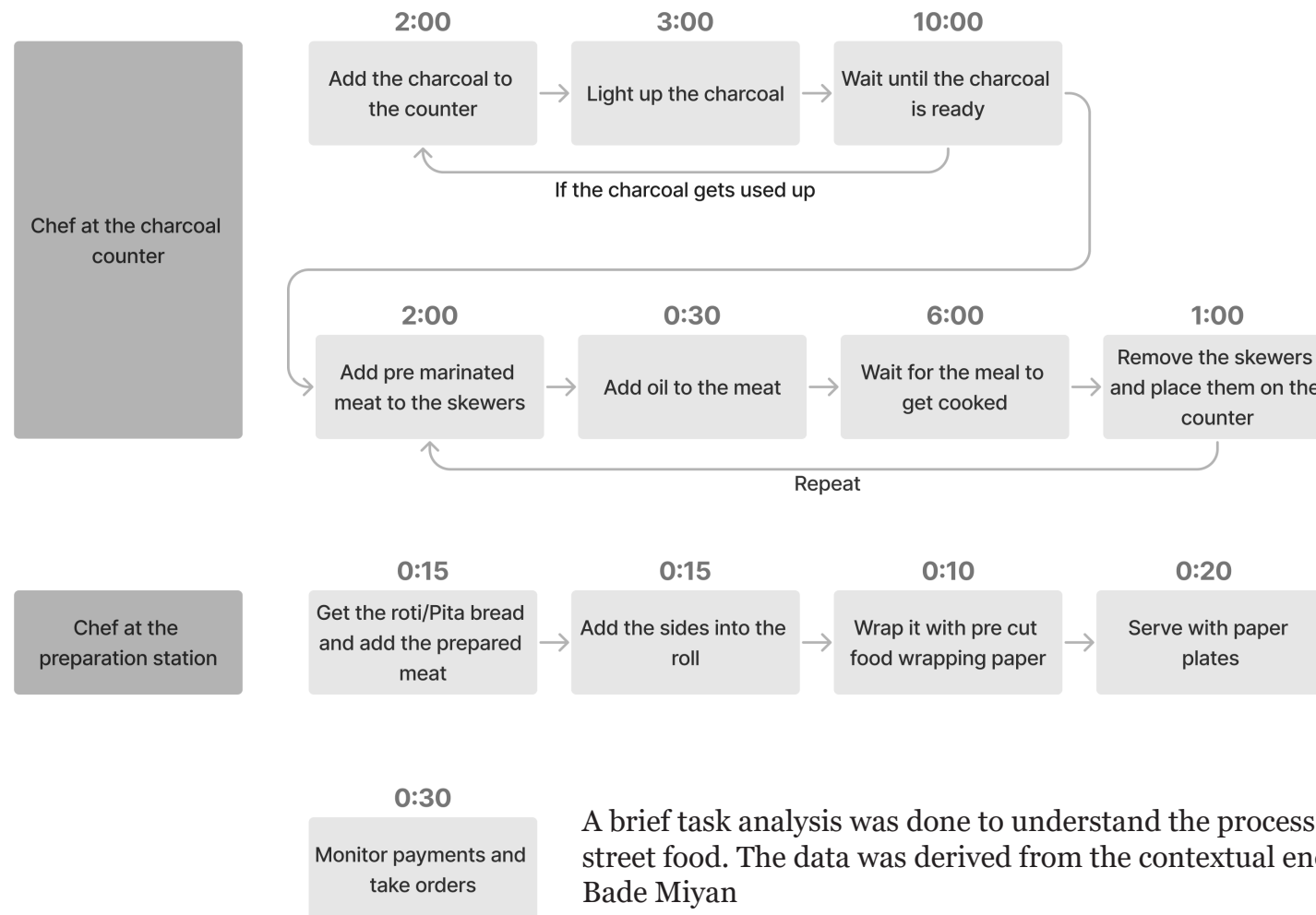


IDEATIONS



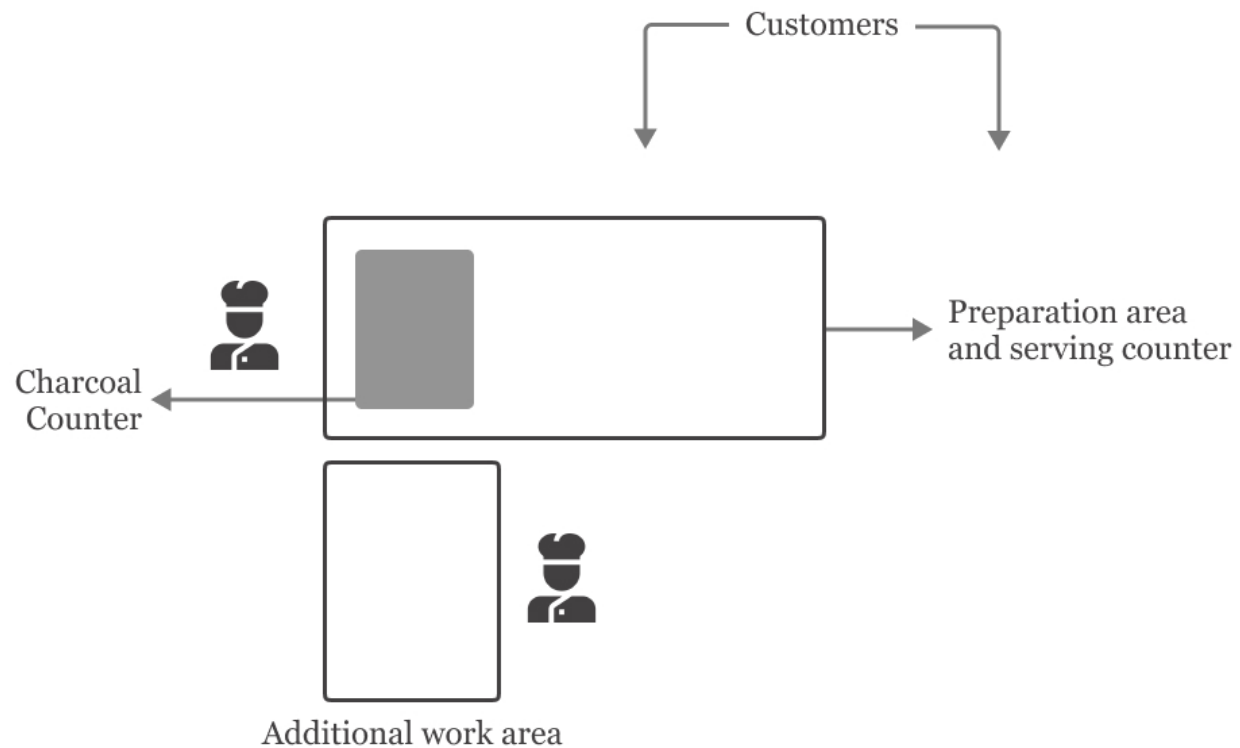
IDEATIONS

TASK ANALYSIS



IDEATIONS

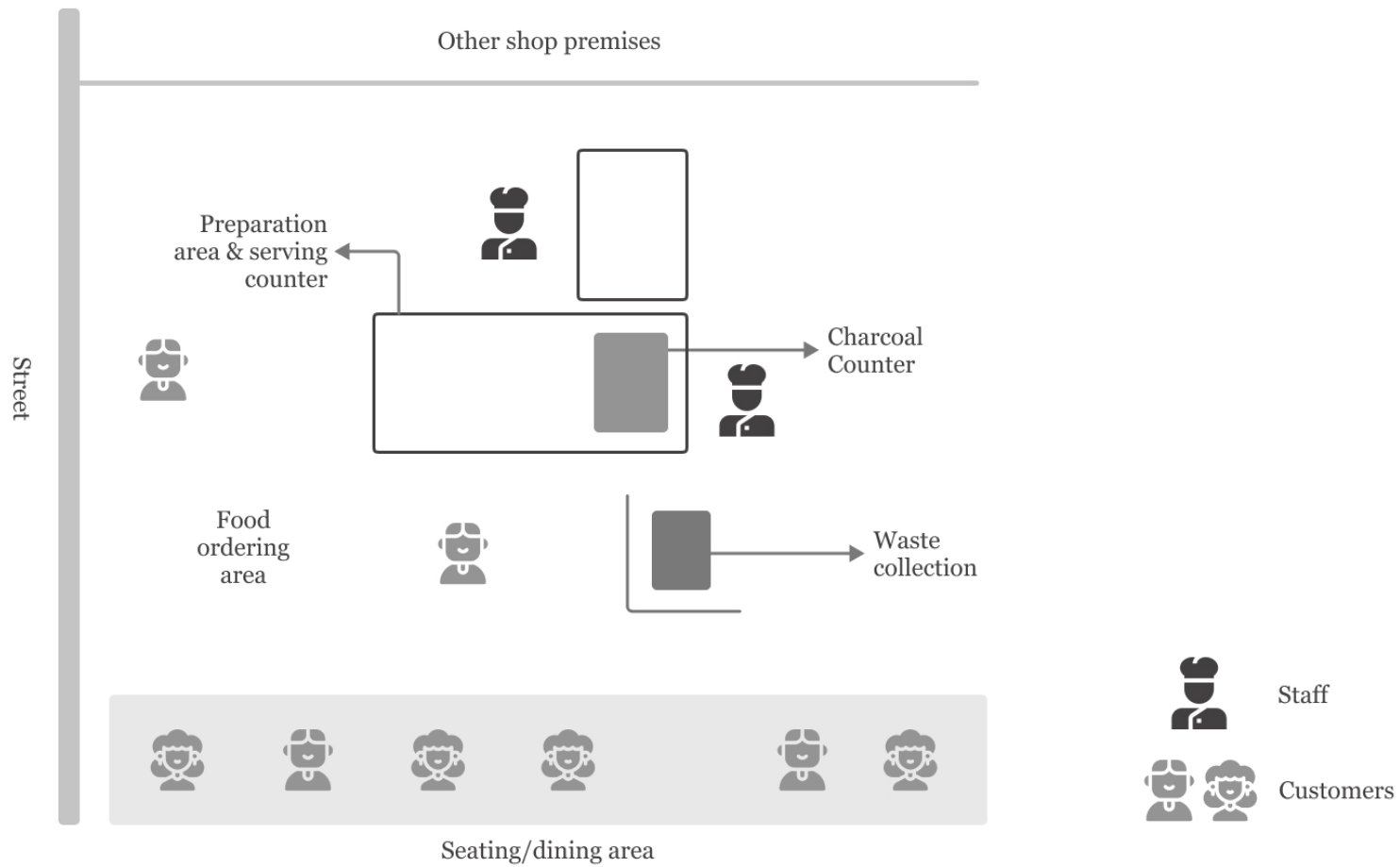
STALL LAYOUT



Optimum stall layout for preparation and serving of the food considering the design brief parameters.

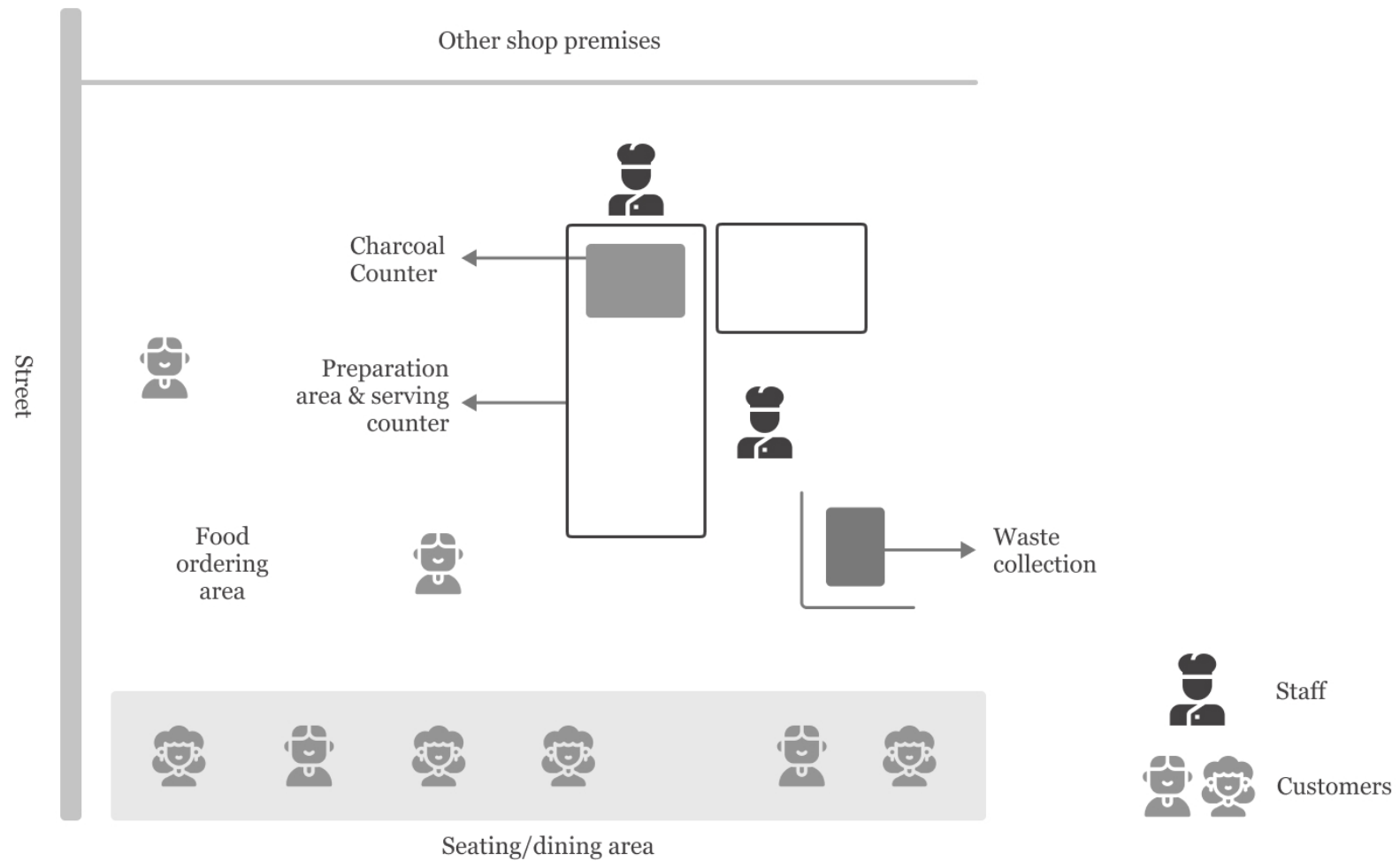
IDEATIONS

STALL SETTING



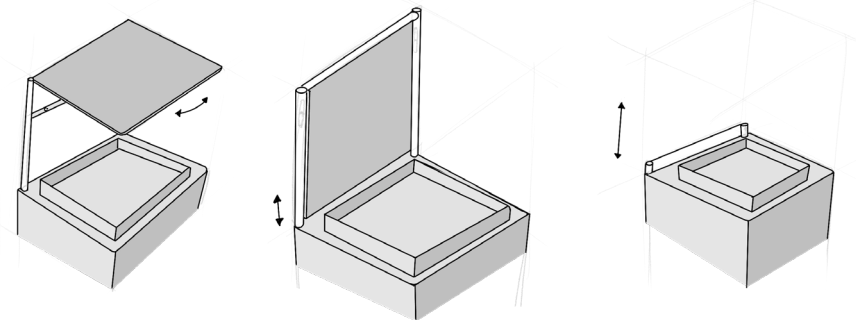
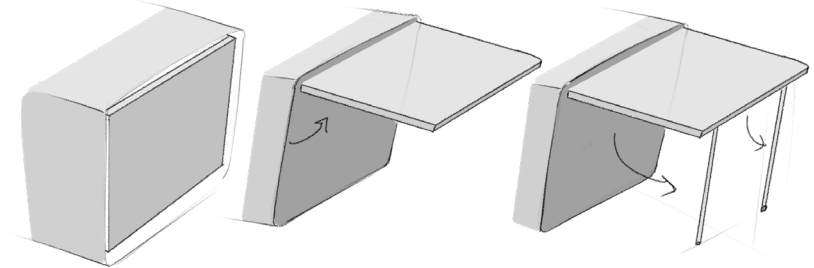
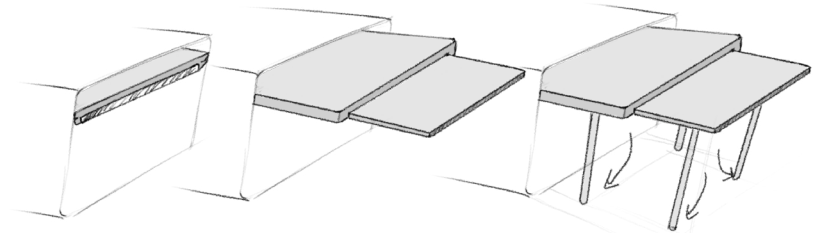
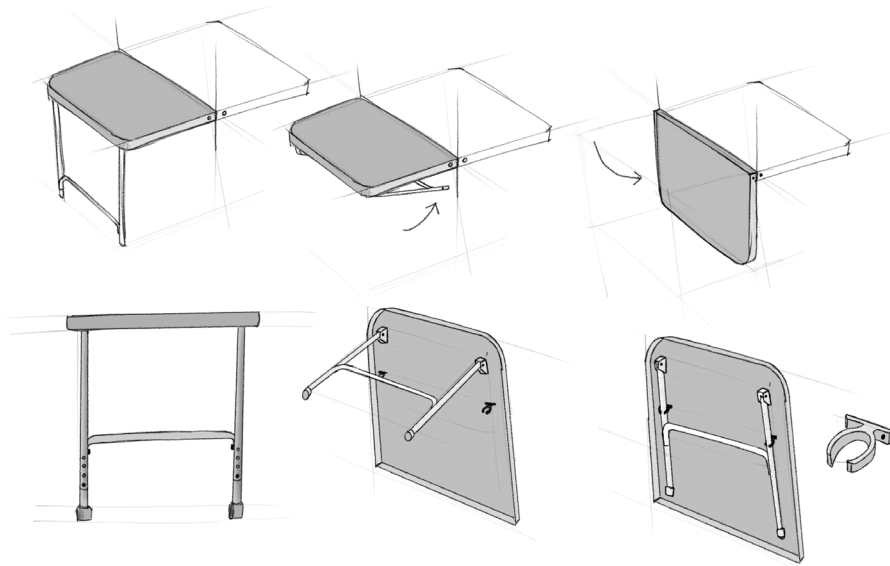
IDEATIONS

STALL SETTING



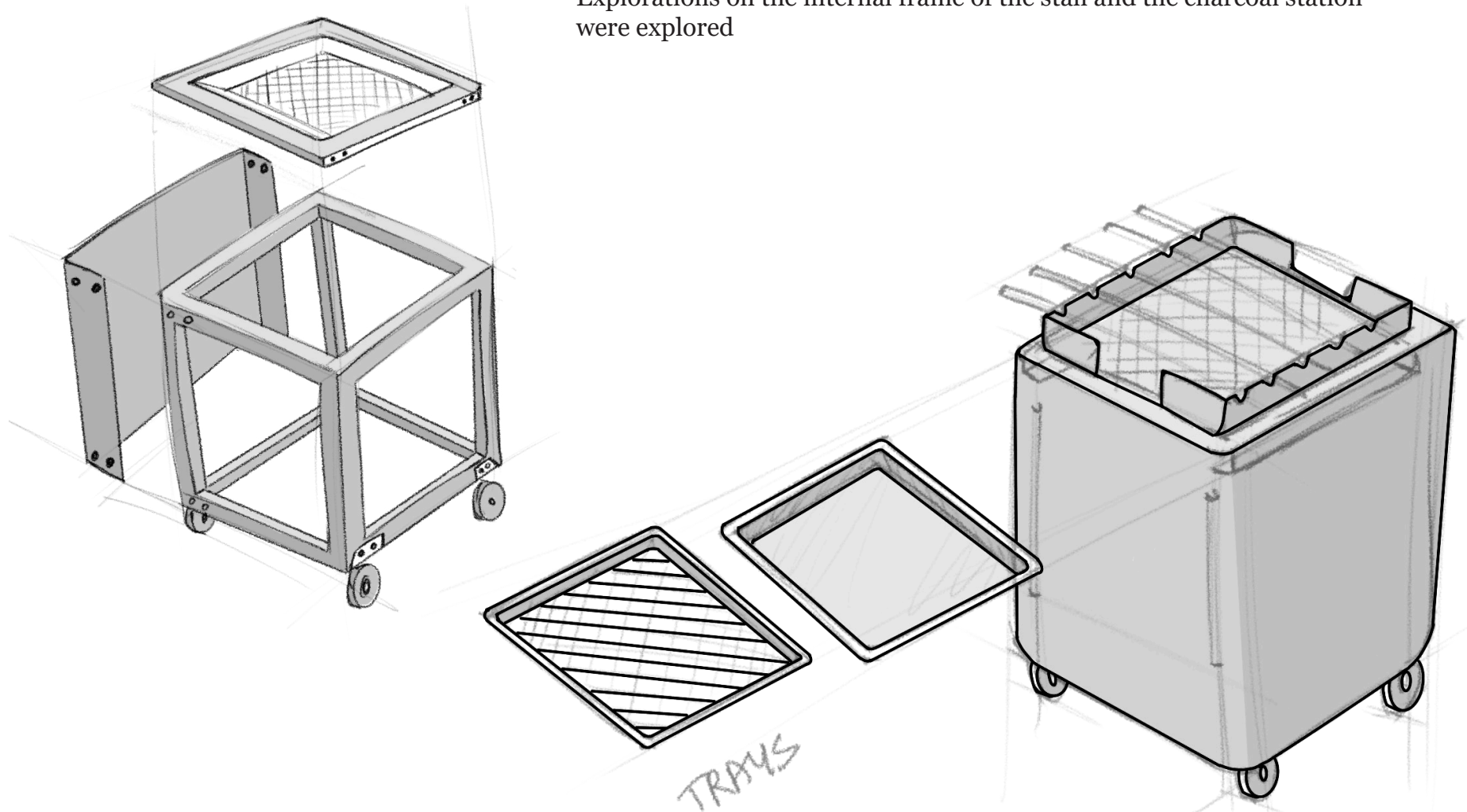
DETAILING EXPLORATIONS

Explorations were carried out for understanding the mechanisms of stall opening and closing. The side tables expanding to increase the volume of the stall.

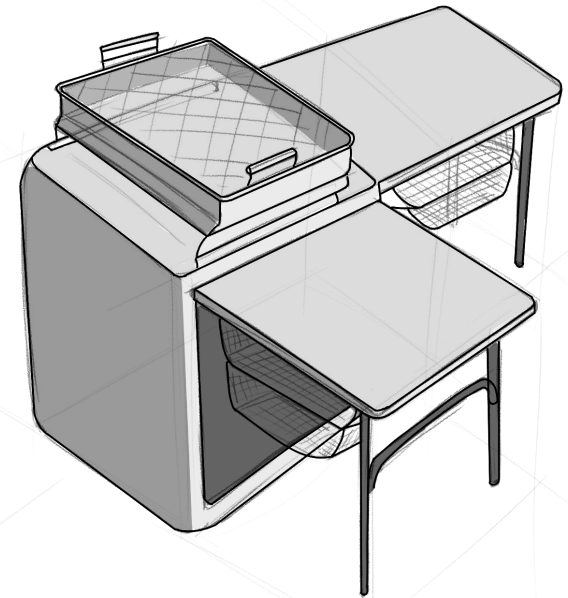
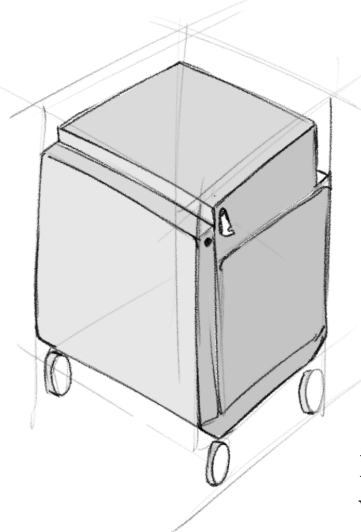
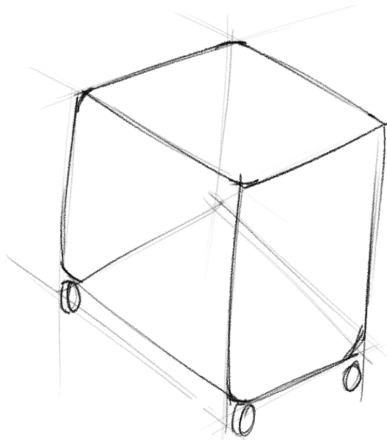
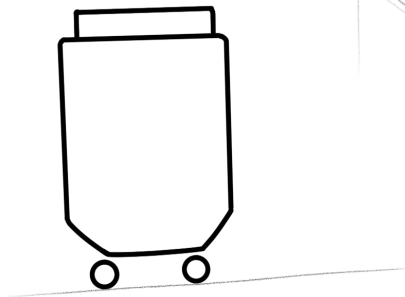
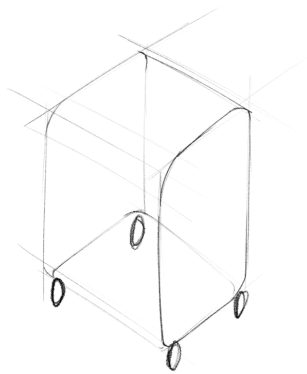


DETAILING EXPLORATIONS

Explorations on the internal frame of the stall and the charcoal station were explored

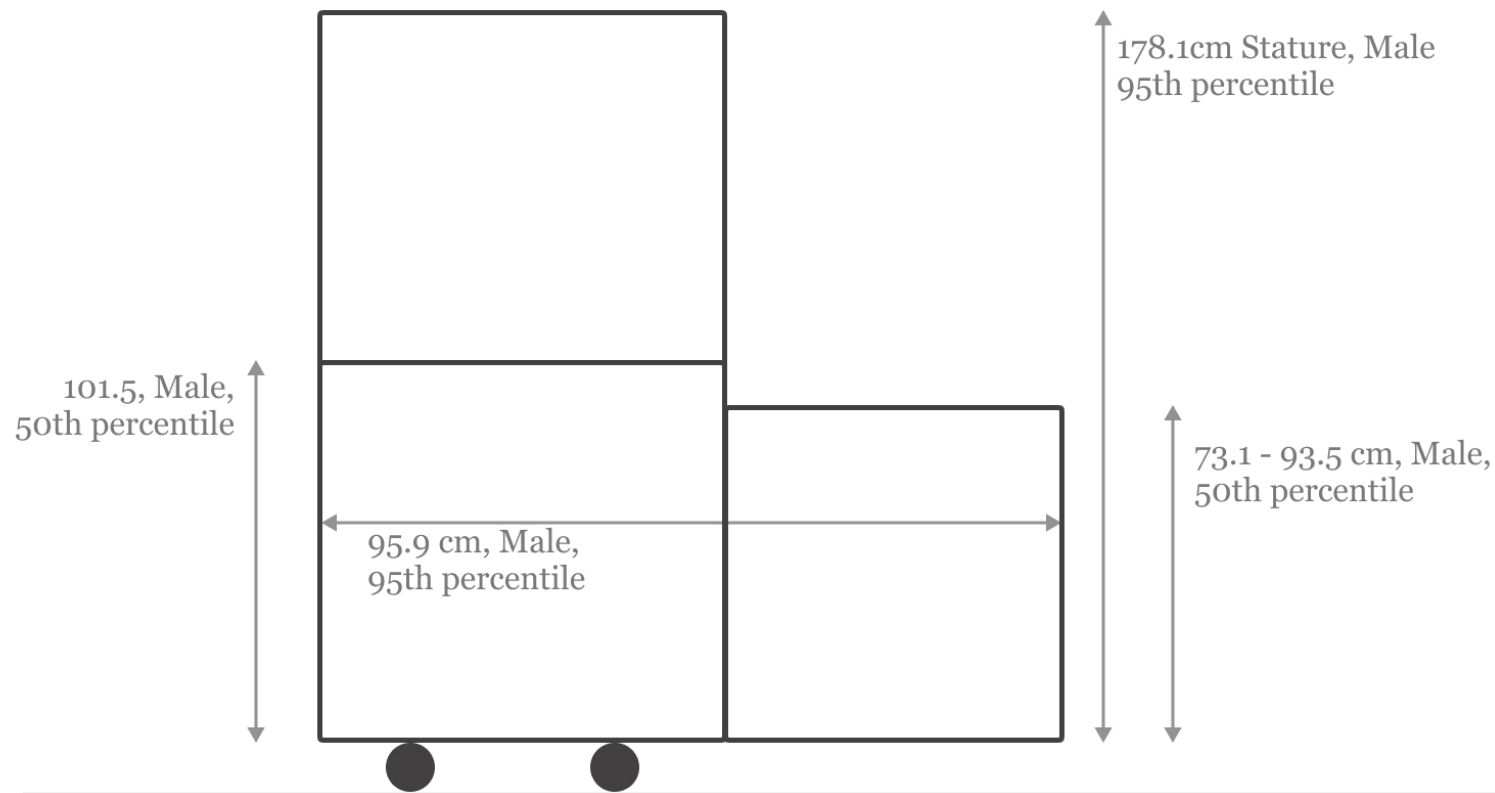


DETAILING EXPLORATIONS



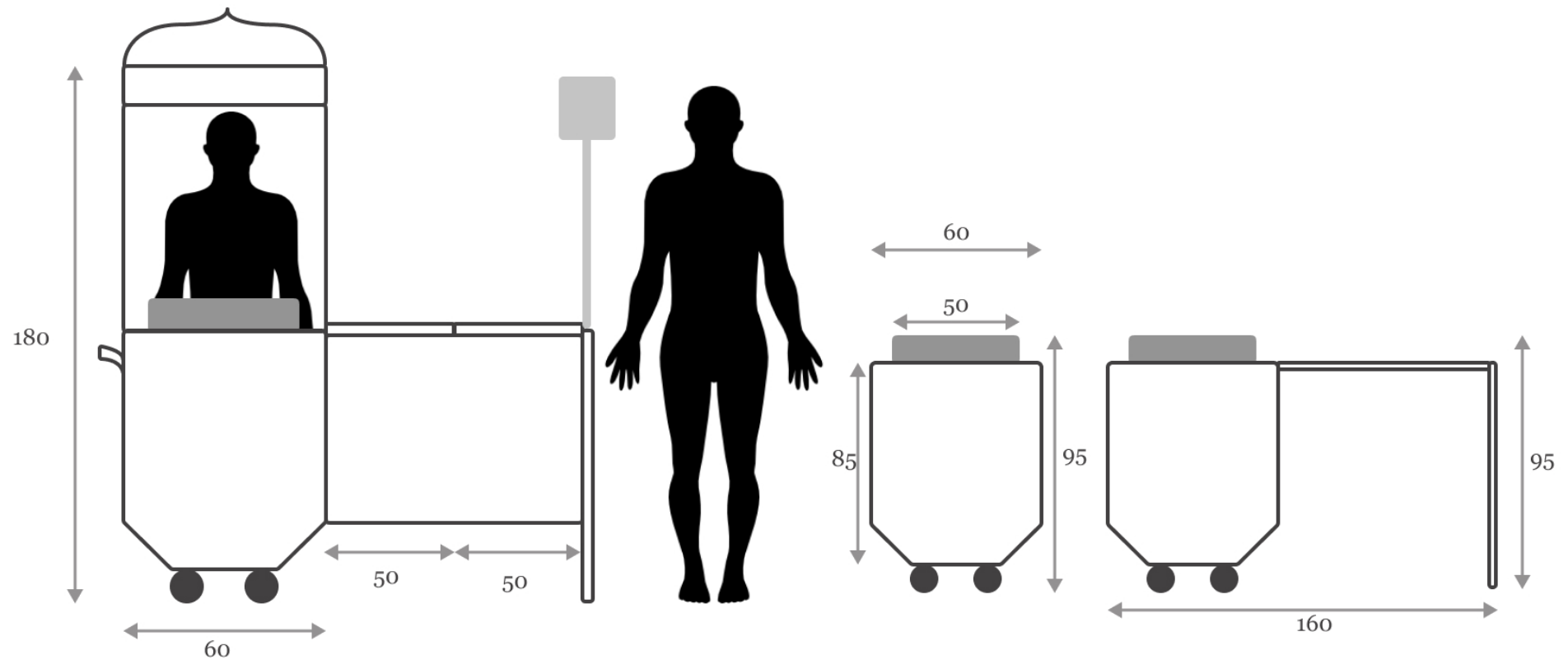
Detailing the overall volume and volume when stall was expanded.

DETAILING EXPLORATIONS



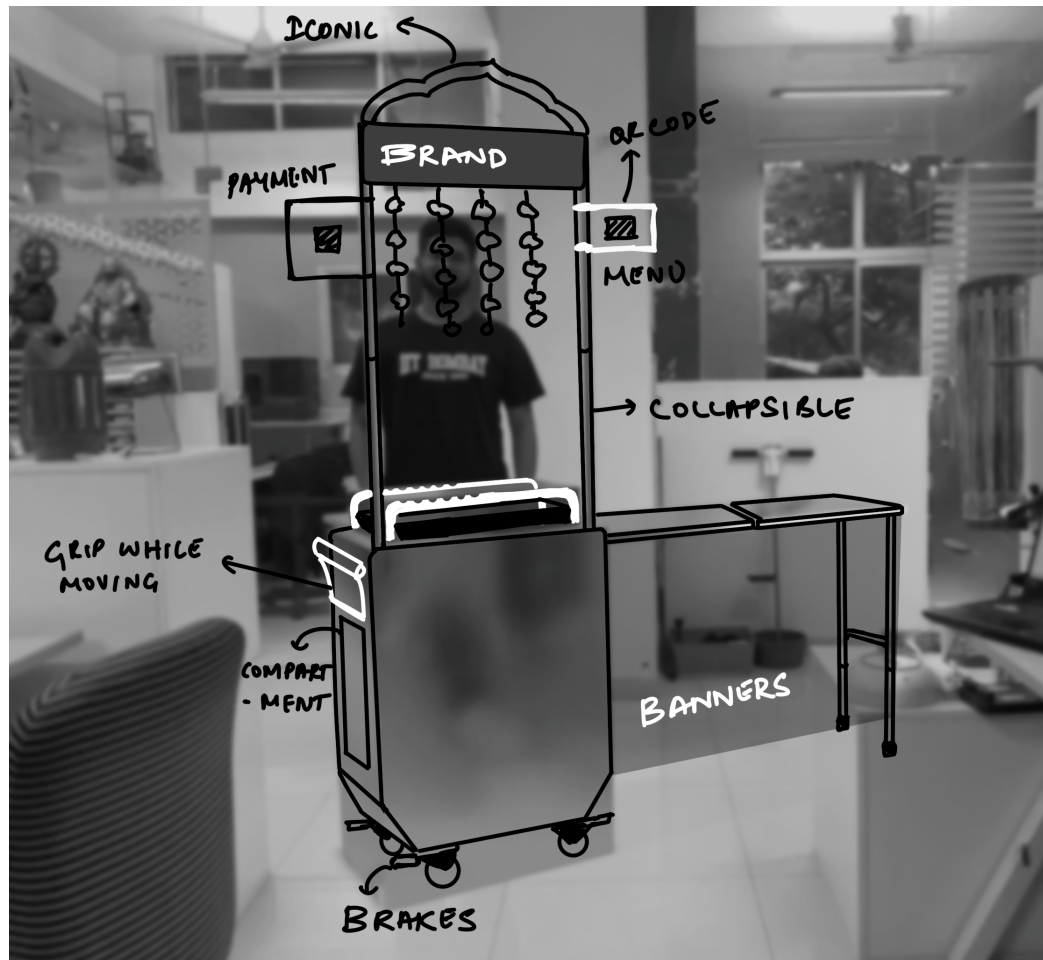
Dimensions of the stall was finalized by considering anthropometric data of Indian Men.

DETAILING EXPLORATIONS



The stall dimensions from the front and side views.

DETAILING EXPLORATIONS



Explorations using AR feature to add details in the stall design.

Using Augmented reality feature on the Ipad, models were directly placed on the floor and checked for workability, height and the pictures were used to ideate further.

DETAILING EXPLORATIONS



Explorations using AR feature to add details in the stall design.

The stall could be placed directly on the ground using the AR feature. This gave me freedom to further ideate on the features of the stall.

CONCEPT RENDERS

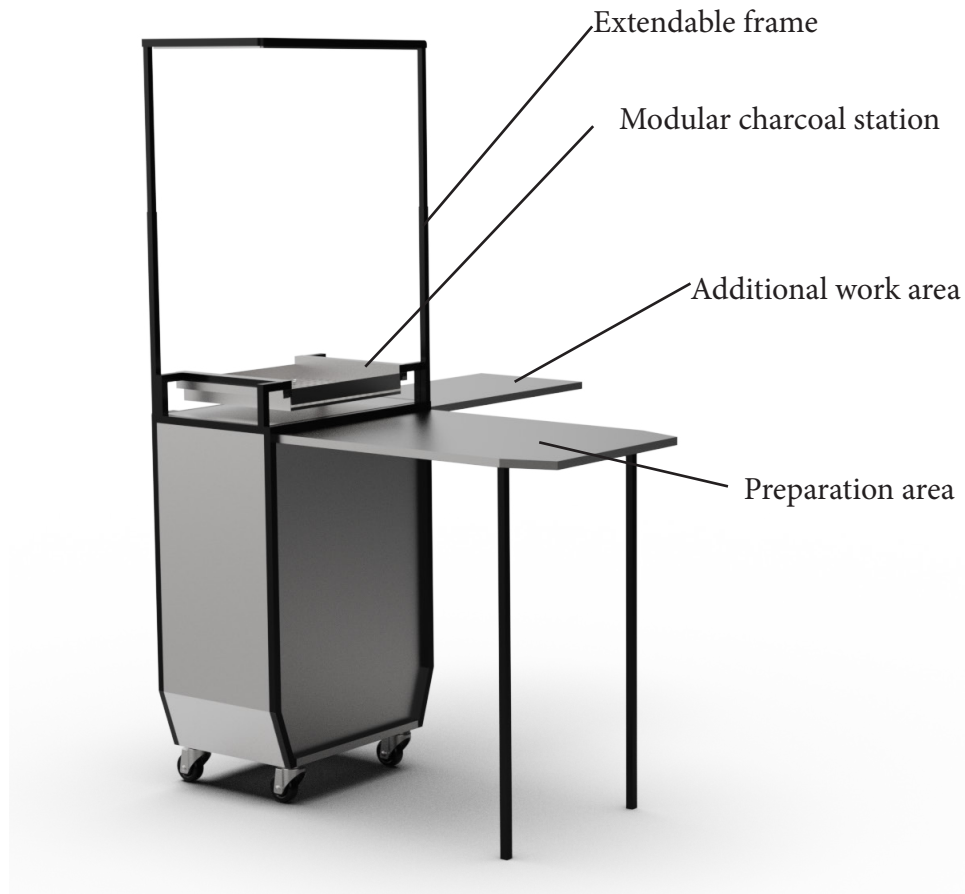


The stall in closed form is easily transportable by pushing it. The castor wheels were added to help in mobility.

The handles on the stall helps the user to push the stall.

The material used for construction is mild steel 20X20 mm square section for the frame. The frame was covered with Stainless steel 202 sheet of gauge 21 (0.8mm thickness).

CONCEPT RENDERS



The stall has collapsible rods that go up to form the stall. The sides of the stall open up to create extra space for preparation area and additional work area. The charcoal grill is placed on the stall during operation. The stall also has extendable legs that support preparation area and additional work area.

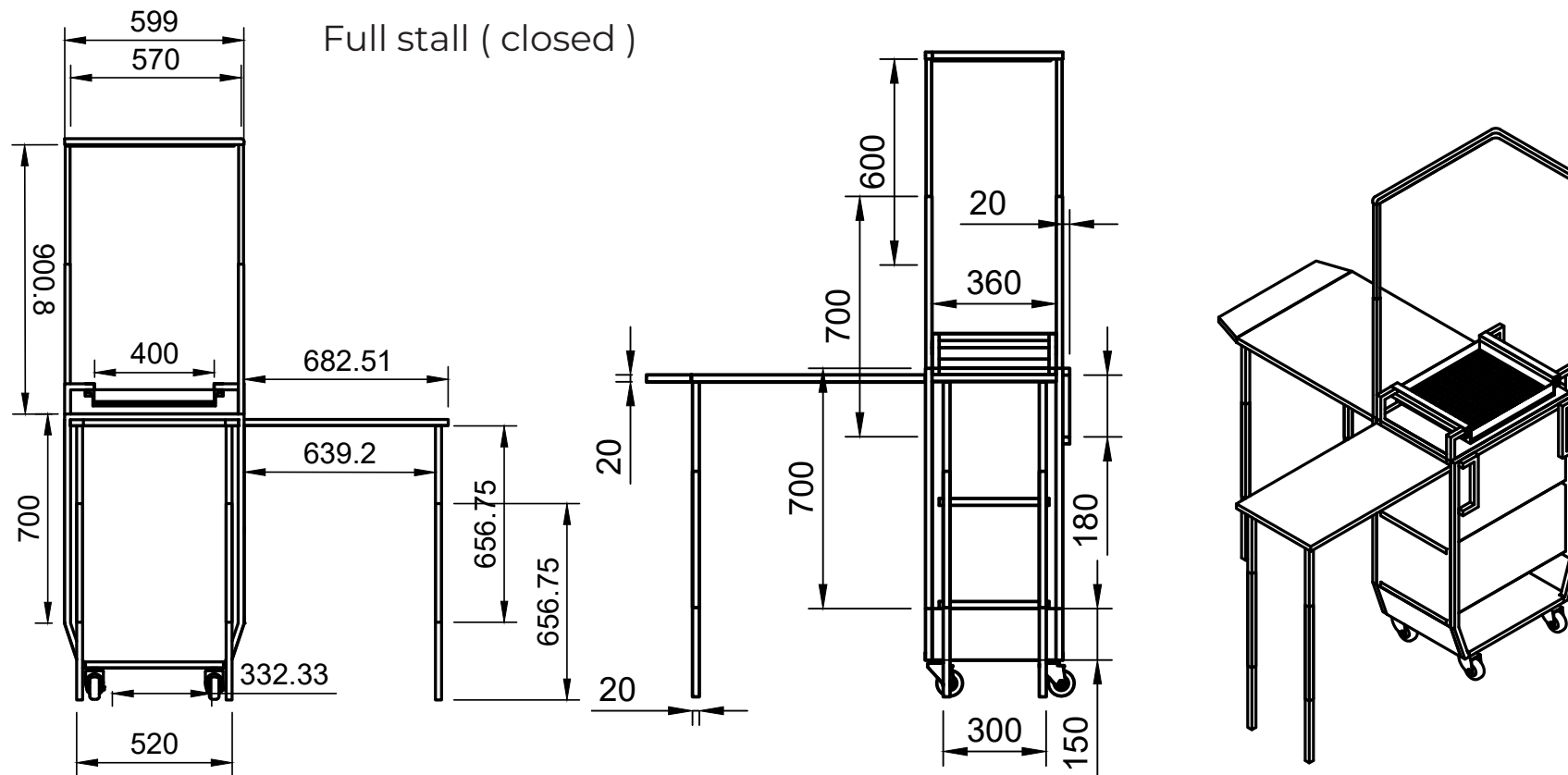
CONCEPT RENDERS

The stall has storage space to keep non frequent ingredients in place and accessed whenever necessary



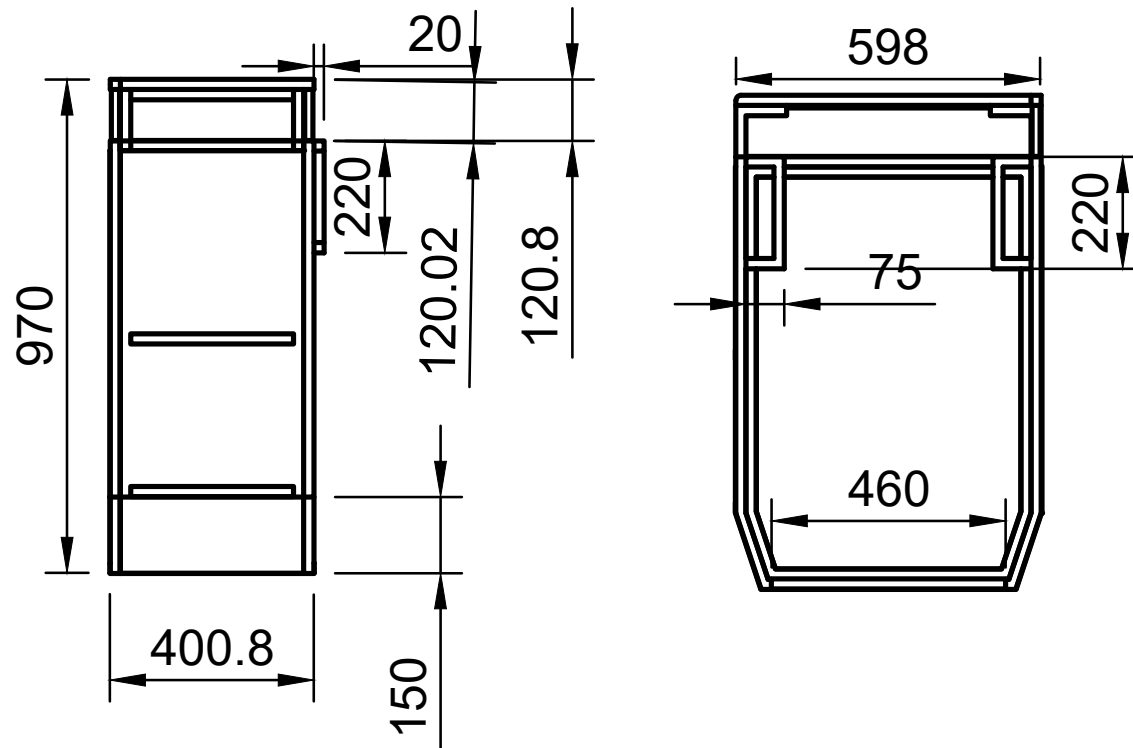


CONCEPT DETAILING



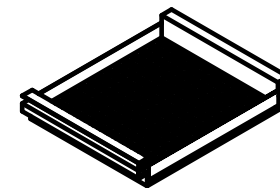
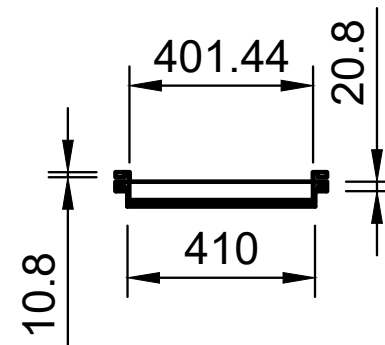
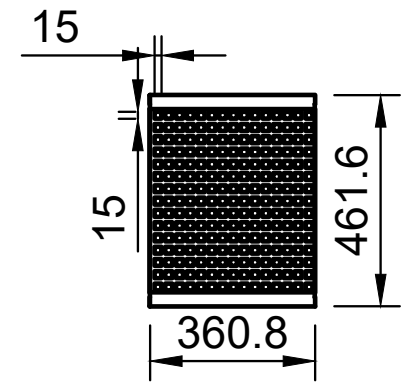
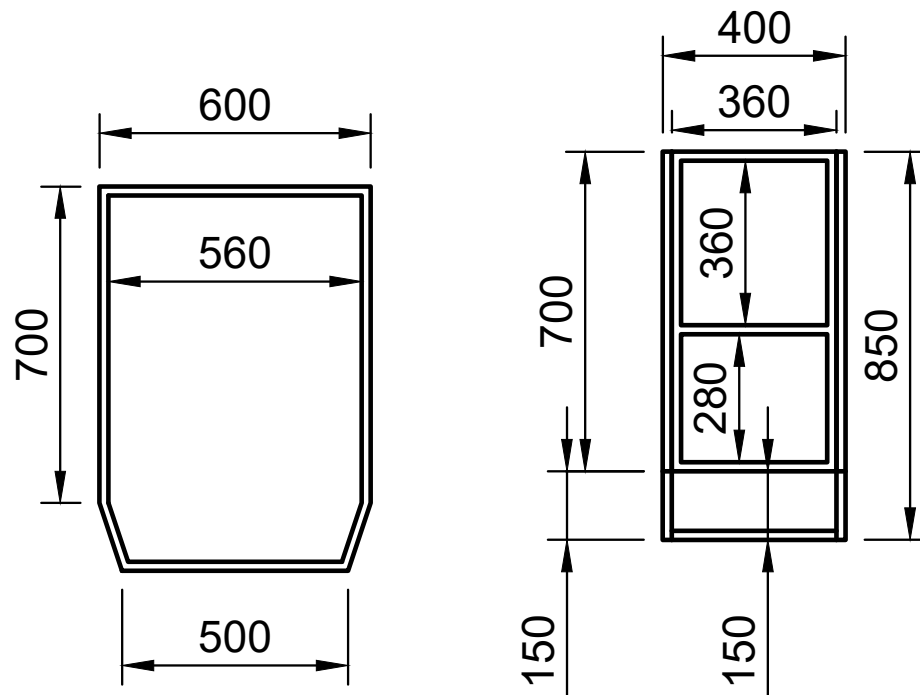
CONCEPT DETAILING

Full stall (closed)



CONCEPT DETAILING

MS frame



Charcoal station

CONCEPT FEEDBACK

VOLUME OPTIMIZATION

The volume of where the equipments go and where the food is prepared is not adequately explored. Role playing and understanding the volume requirements were suggested in the Pre jury.

VISUAL SEMANTICS OF MUGHLAI

The stall has poor mughlai semantics. The stall looks like it could belong anywhere in a corporate scenario to the streets. It does not have a defining visual semantics of mughlai food.

IDEATIONS

FOOD AND SPACES AND STRUCTURES

A brief research was conducted to understand the food semantics and what it takes to define structures and spaces around food. The following were the conclusions of the research.

For dining, an open area nearby should be ideally used. A safe physical distance should be maintained among workers, patrons and pedestrians. The food pick up areas should have raised surfaces and should use touch free technology if necessary. Single use menu and chalkboards could be used. Electronic menus that can be viewed on personal devices should be encouraged.

Visual identity

The design should reinforce identities of a place. The design of the stall is like a blank canvas waiting to be filled with impressions that are compelling and communicative.

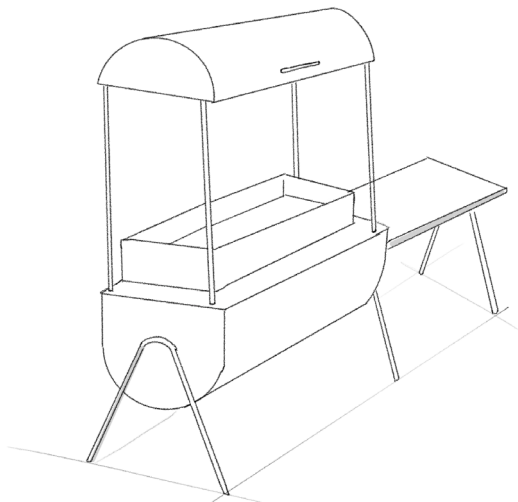
The design should reveal true character of the brand. It should inspire a positive feeling and be engaging dynamically with the customers as well as the staff.

The design should have recognizable difference from neighboring stalls.

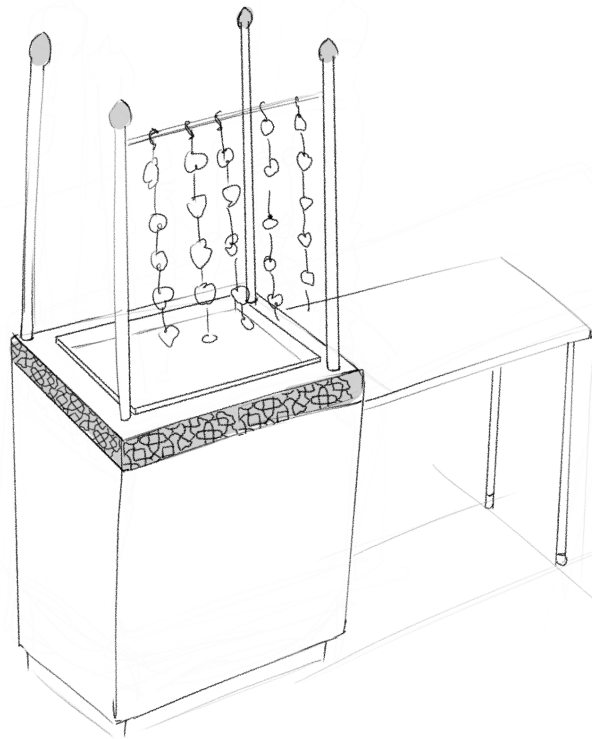
The design should ultimately create a memorable spatial experience.

The design should tell narratives with multi sensory experiences and instill a sense of belonging. The design should provide urbanites with ways to appropriate a space and claim it as theirs.

IDEATIONS

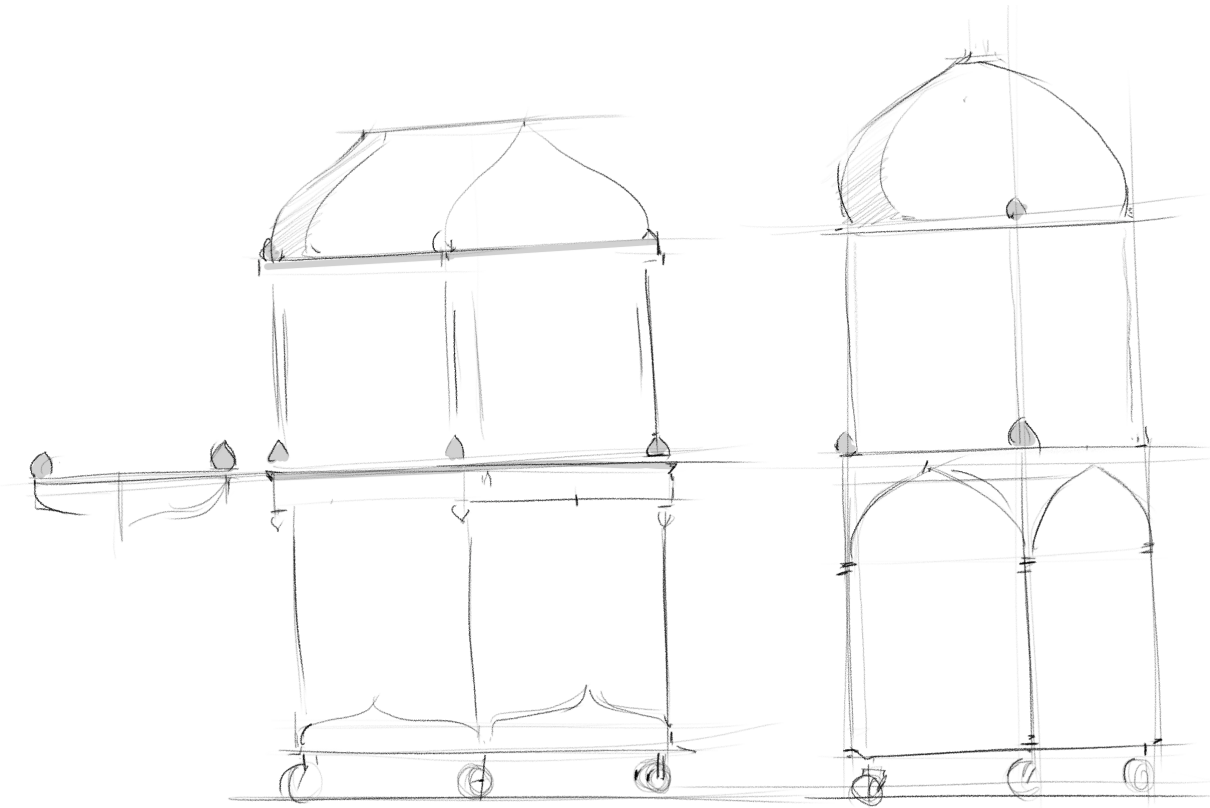


Adding kebab style semantics



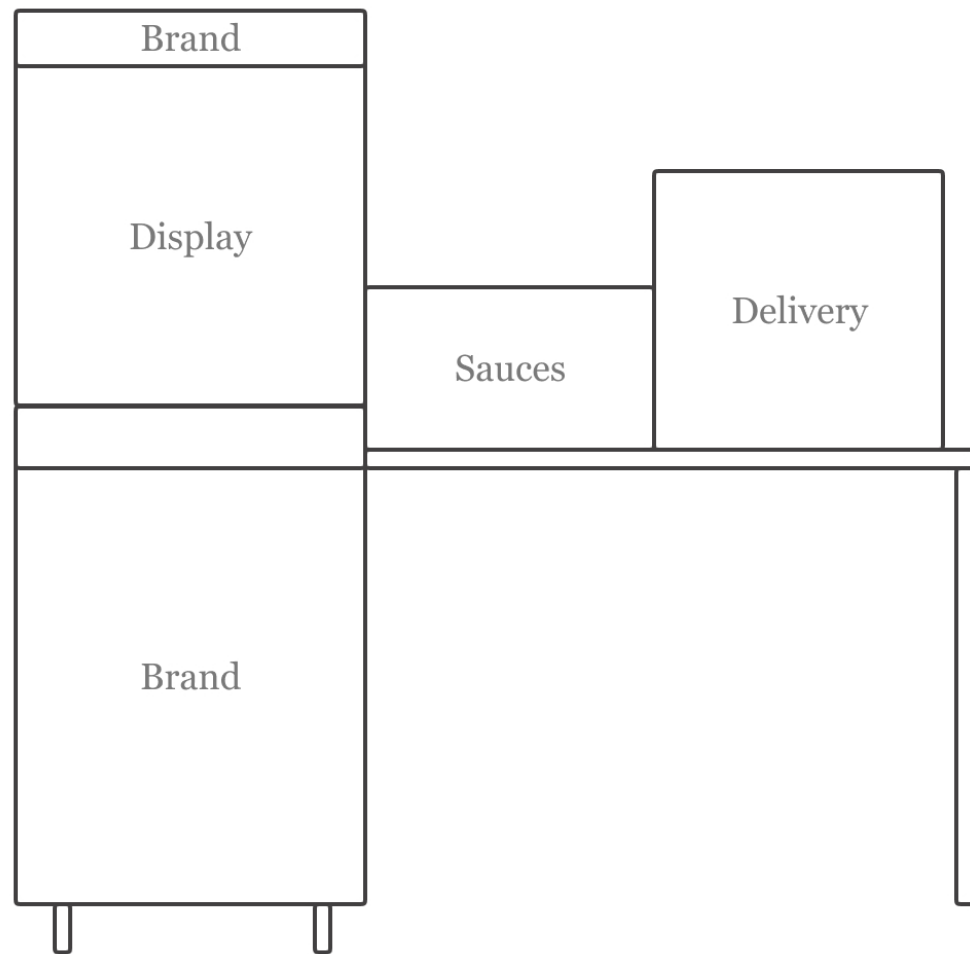
Adding mughlai architectural aesthetics

IDEATIONS



Adding visual semantics of mughlai cuisine

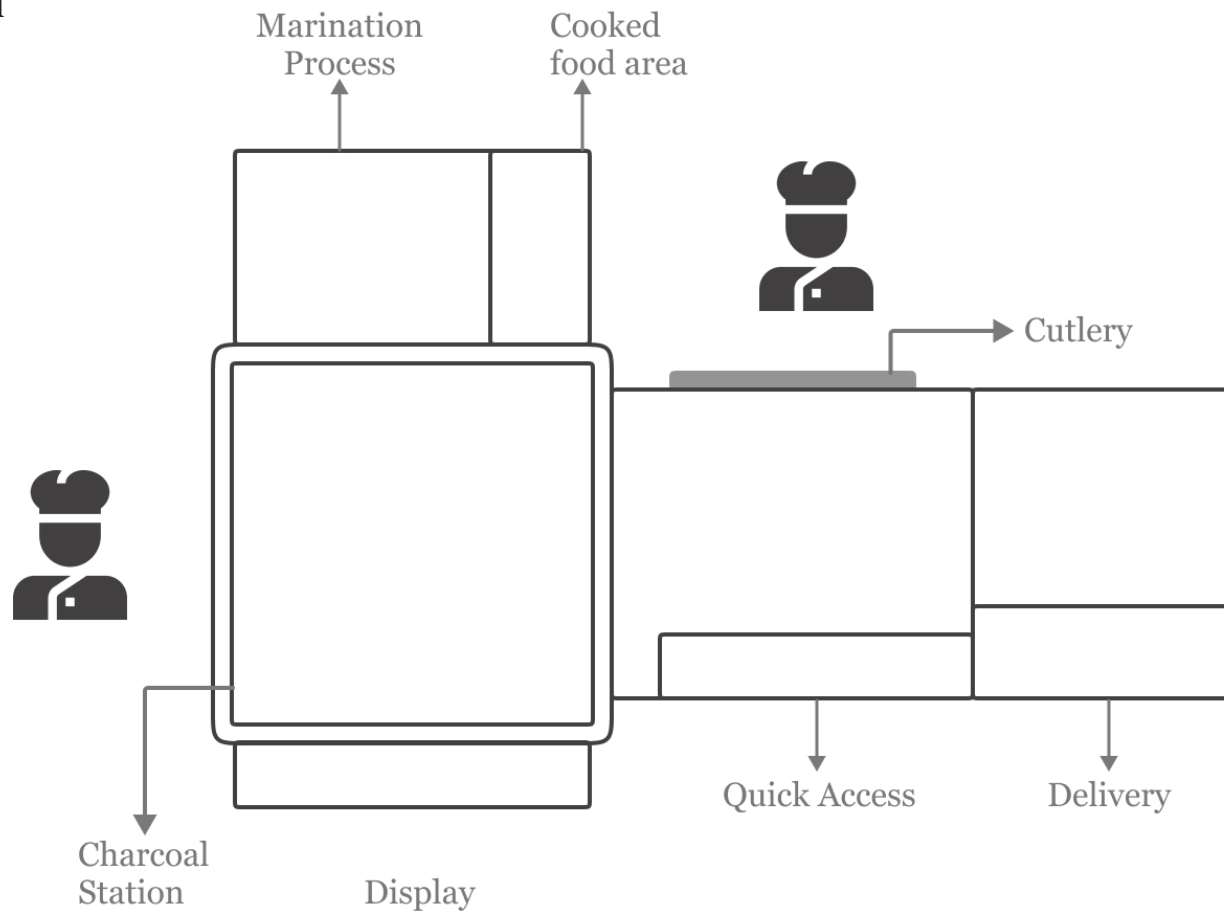
SPACE AND VOLUMES



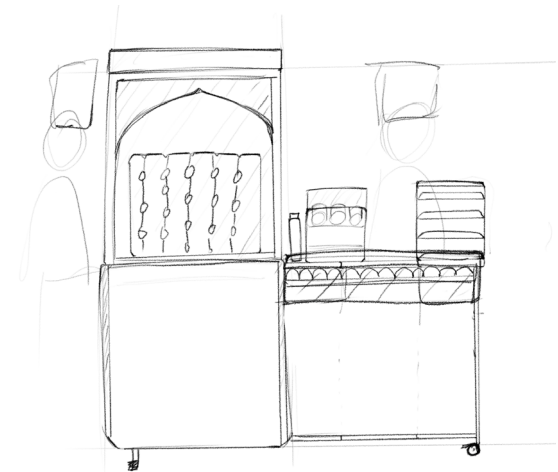
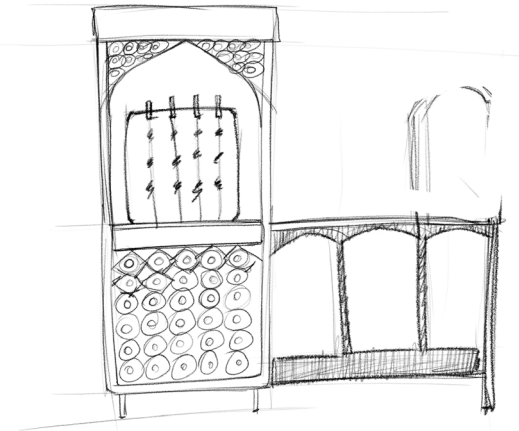
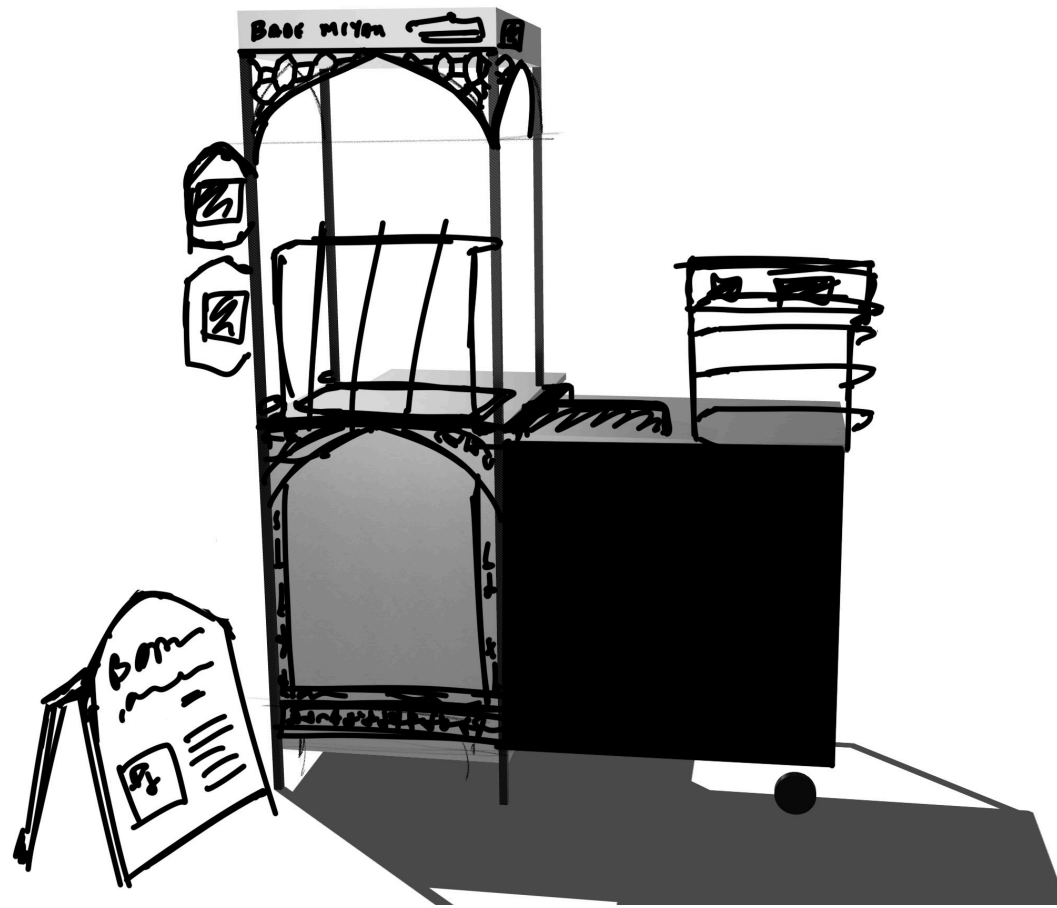
Front view of the stall

SPACE AND VOLUMES

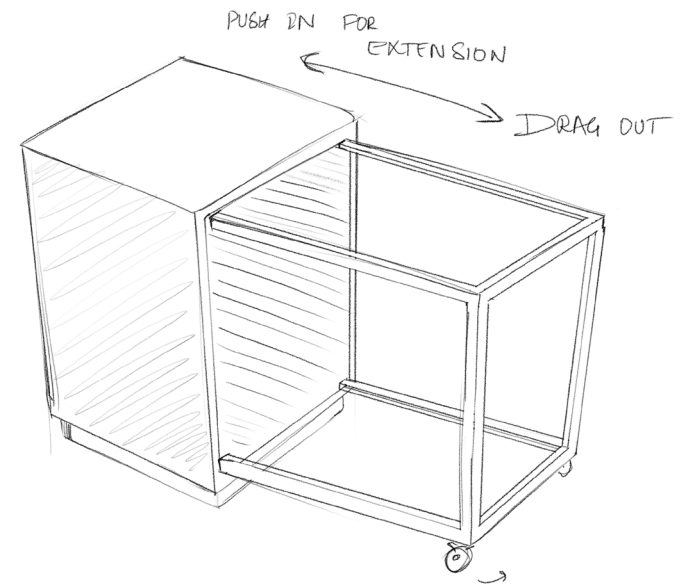
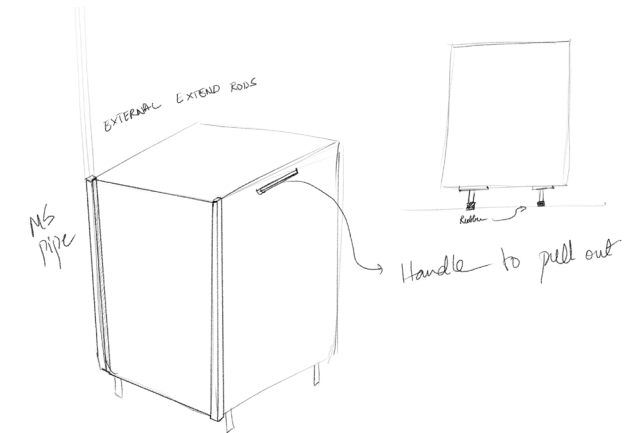
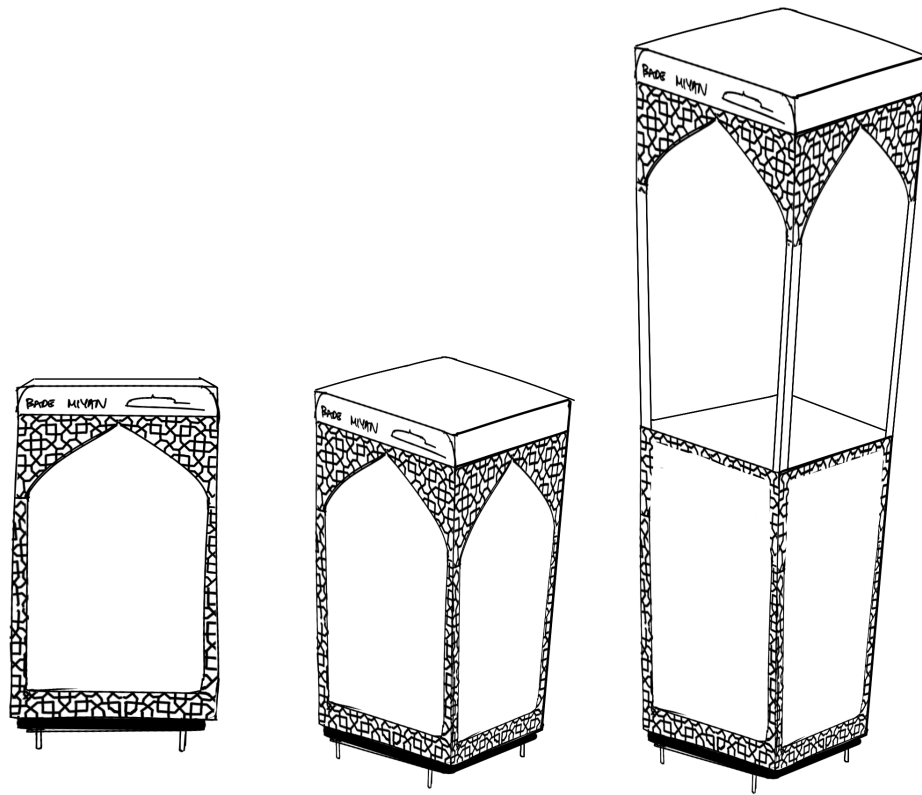
Top view of the stall



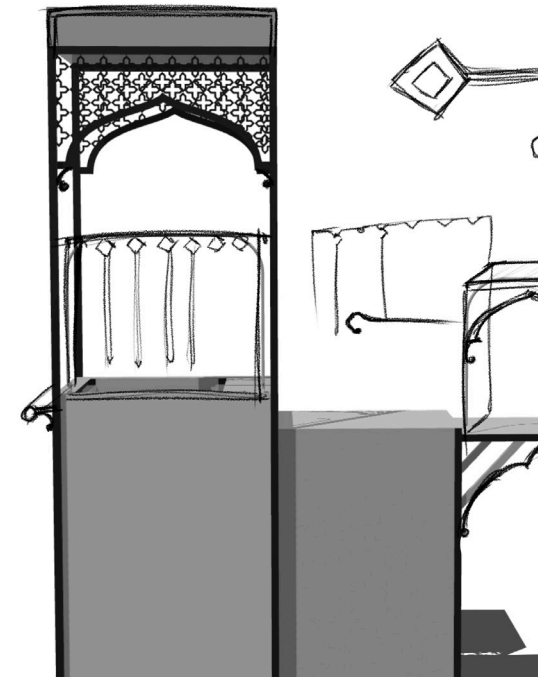
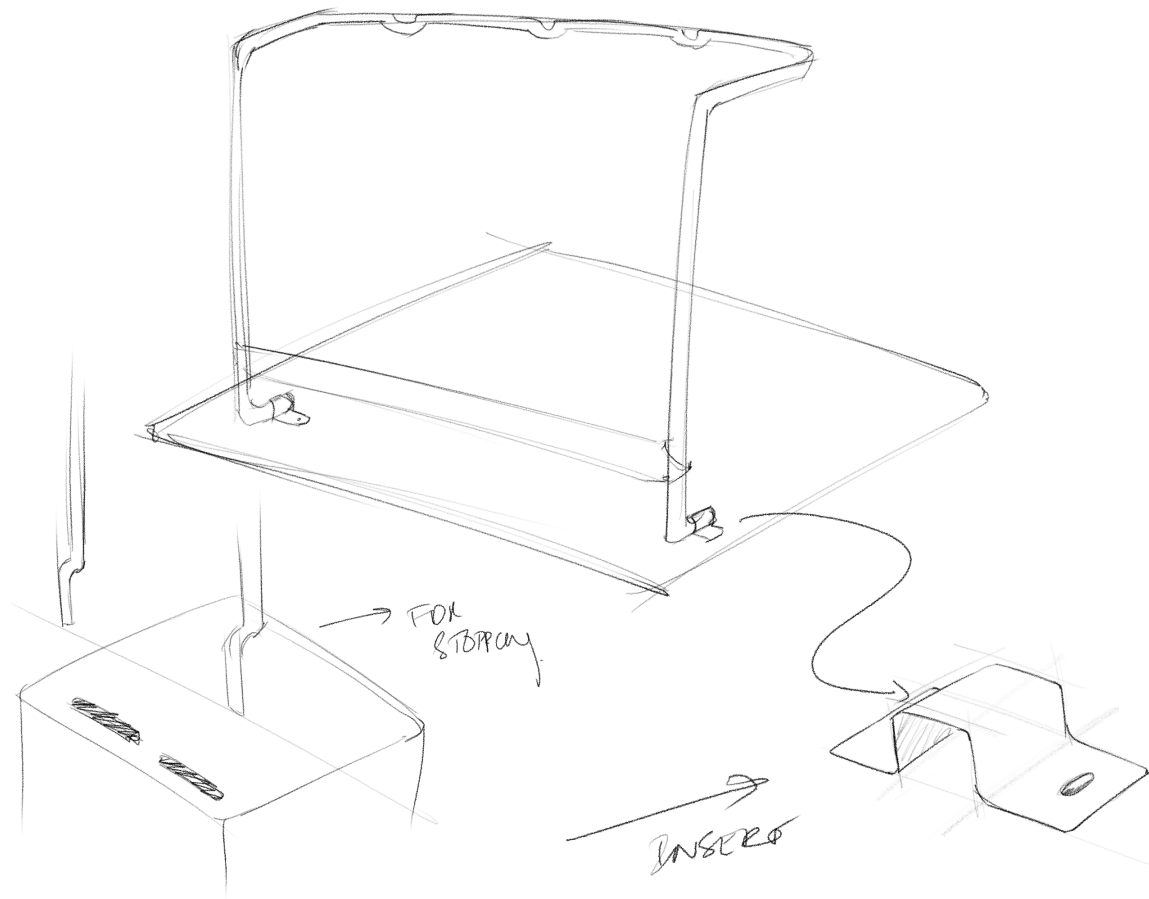
FINAL CONCEPT



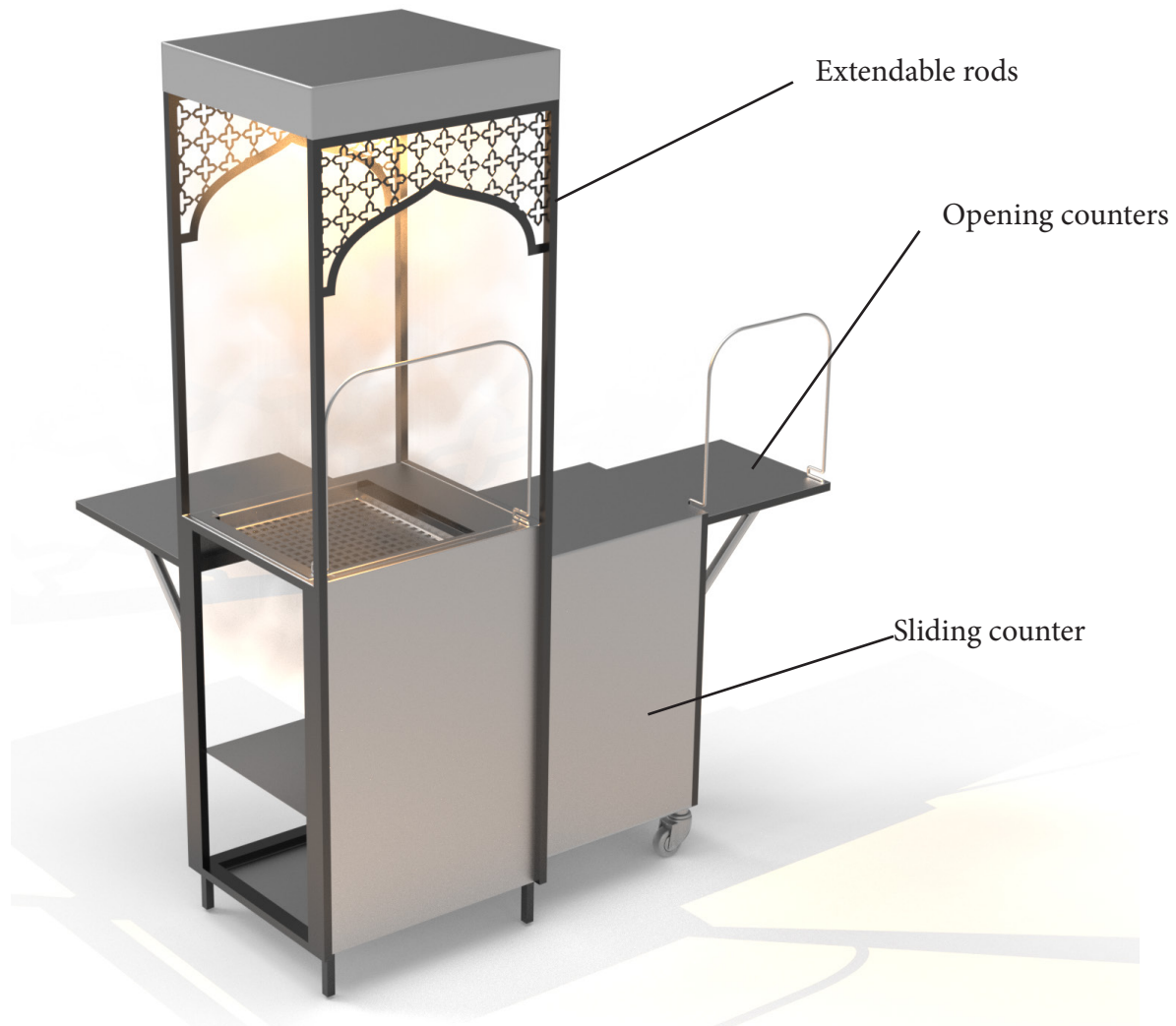
FINAL CONCEPT DETAILING



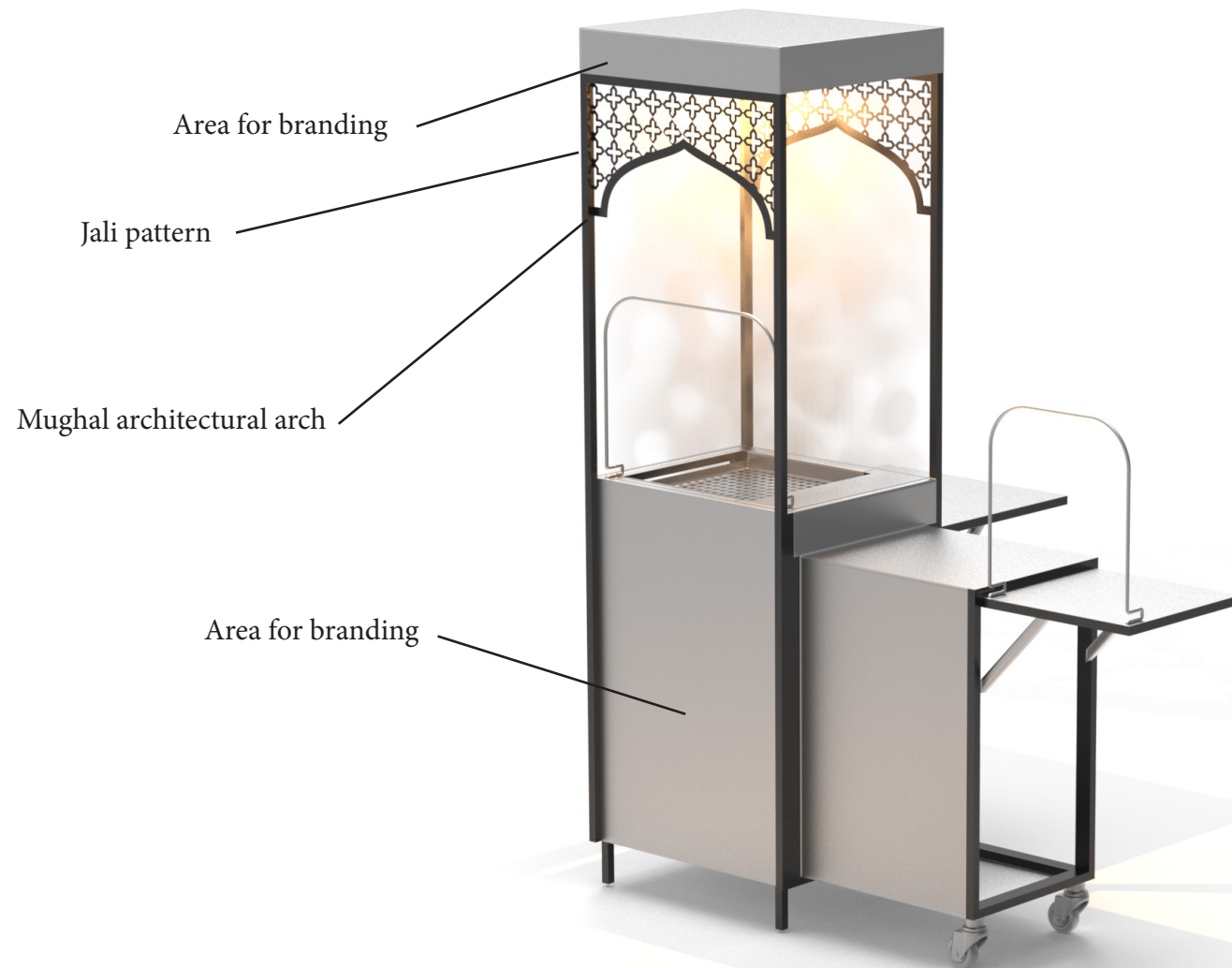
FINAL CONCEPT DETAILING



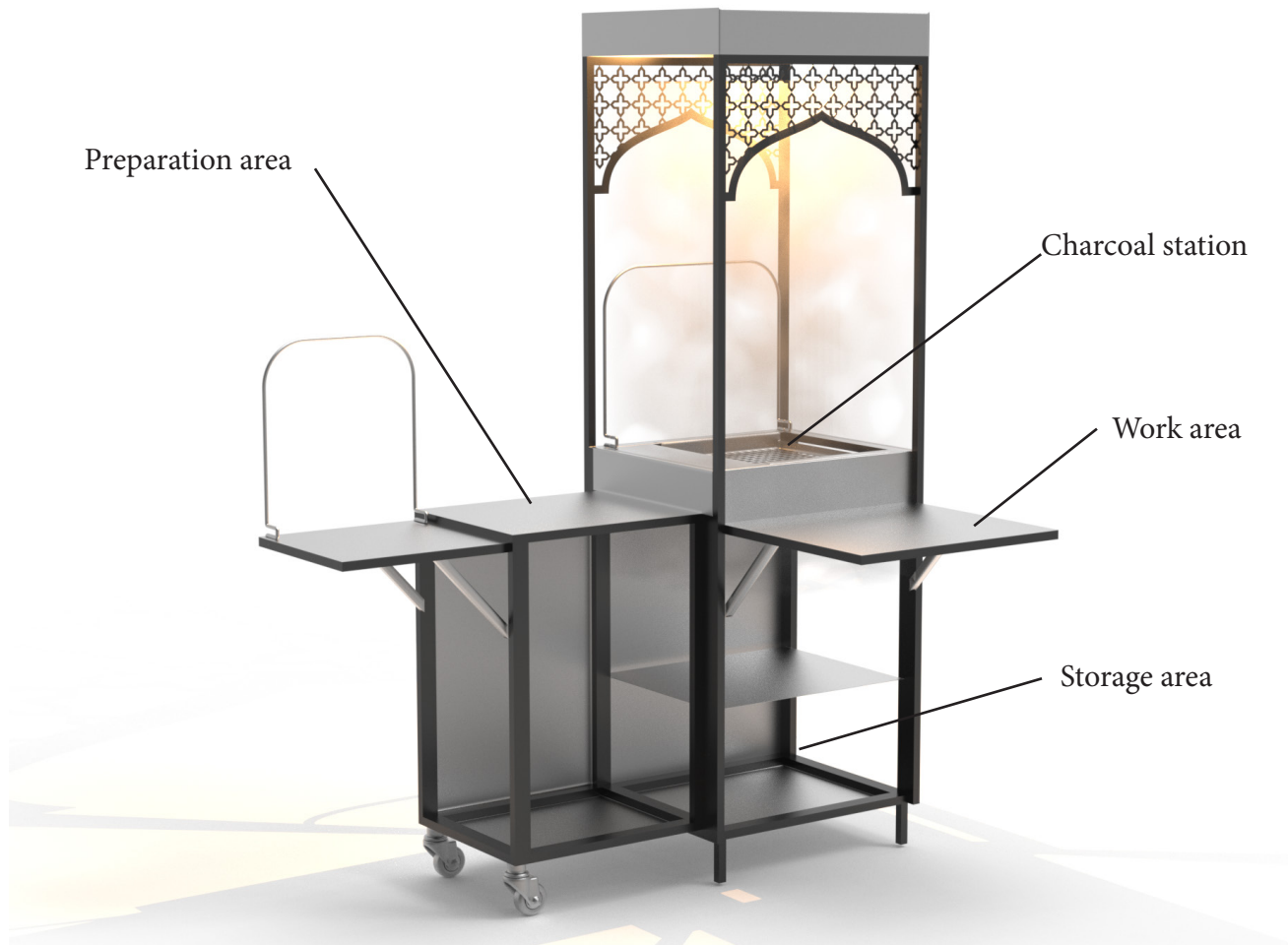
CONCEPT RENDERS



CONCEPT RENDERS



CONCEPT RENDERS



MATERIAL AND MANUFACTURING

For frame Mild steel 20X20 mm square section telescopic. Powdered coated black

For Sheets - Stainless steel AISI202 gauge 21 (0.8mm thickness). or Stainless Steel sheets, polished,

Grade: AISI304, Thickness: 0.8mm

Weight of the stall - approx 40kgs

The stall will be Batch manufactured from fabricator

MS square sections are welded and screwed to make internal frame.

SS sheets are bent and assembled with screws on the internal frame.

MOCKUP



Full scale mock up was made to understand space and arrangement. Role-playing with two chefs was carried out to understand of the stall accommodates the mughlai cooking process.

MOCKUP



MOCKUP



Customer, charcoal chef and the preparation chef roles were used.

Charcoal chef

Preparation chef

Customer

MOCKUP EVALUATION



Charcoal chef picks up the skewers



Adding marinated meat to the skewers



Spacing the meat on the skewers

Insights: Sufficient area for picking up and moving to the charcoal counter, Marinated meat , visibility not compromised Sufficient area for marination

MOCKUP EVALUATION



Placing the skewers back on the charcoal station



Waiting for the meat to get cooked



Adding oil to the meat while cooking

Insights: With sufficient spacing 8-10 skewers can be placed on the counter, Oil placement - sufficient area for oil placement, Sufficient visibility for meat

MOCKUP EVALUATION



Check if the meat is properly cooked

Take out the meat from the skewers and place it on table

The cooked meat is ready to be served.

Insights: Overall comfortable distance to get the meat out of the skewers

MOCKUP EVALUATION



Prep chef picks up the roti/khubus from the drawer under the table.



Prepares the table to make the roll.



Picks up meat from the counter to add to the roll.

Insights: preparation check proper size comfortable size. Picking up the Cooked meat accessible
Checked and validated the usage space.

MOCKUP EVALUATION



Add meat to the roti/khubus.



Add all the chutneys needed to the roll.



Adding the veggies to the roll.

Insights: Prepared meat comfortable Veggies placement
Chutney placement comfortable

MOCKUP EVALUATION



Rolling up and serving it in paper plate



Serving it with tissues etc.,



Handing over to the customer.

Insights: Serving plates counter near the display area, crowded need different placement. Handing over the customer too close. Need a delivery counter

MOCKUP EVALUATION



For non contact serving, placing the prepared meal on the counter



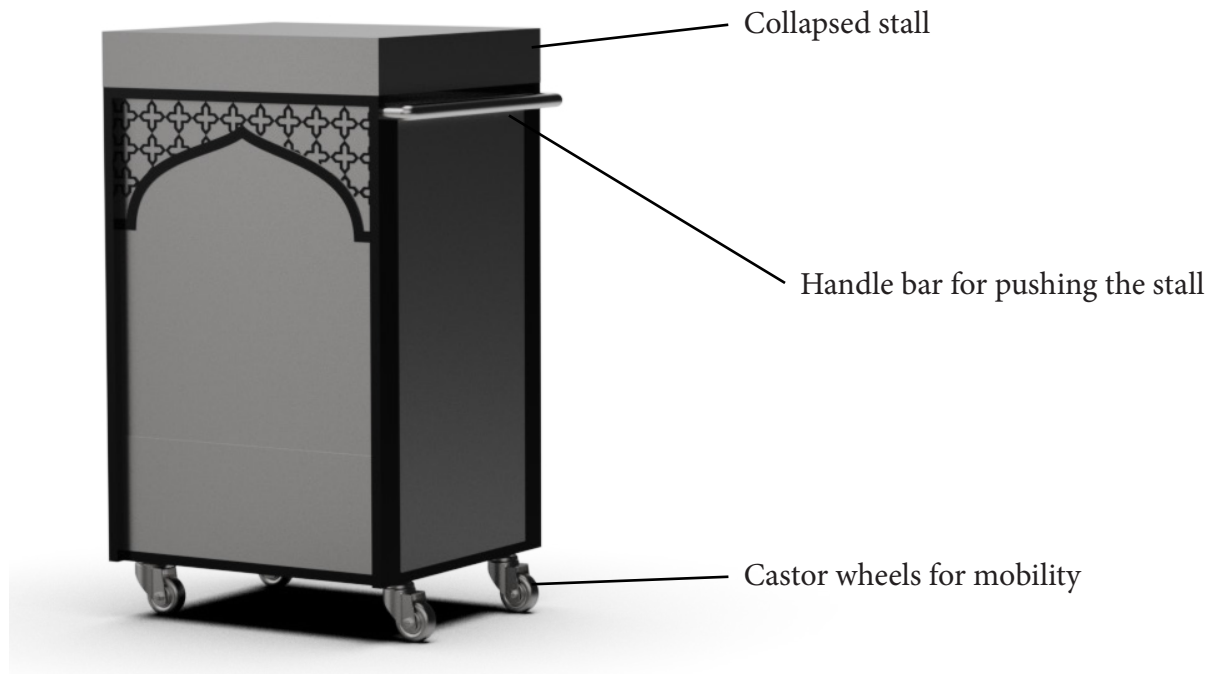
Customer picks up the meal from the counter.



Customers enjoys the food.

Insights: Counter height could be increased a little, pickups for faster work

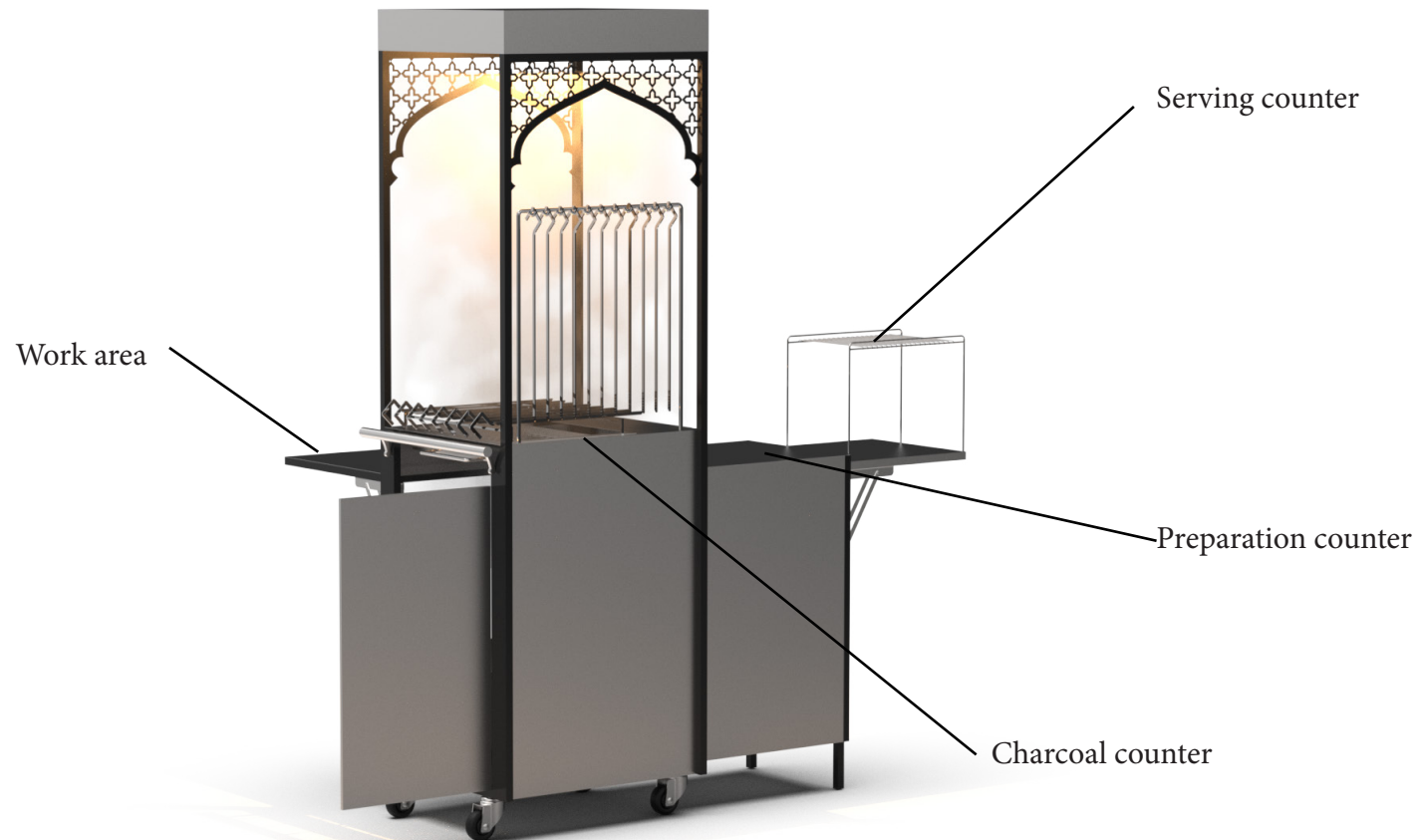
FINAL CONCEPT RENDERS



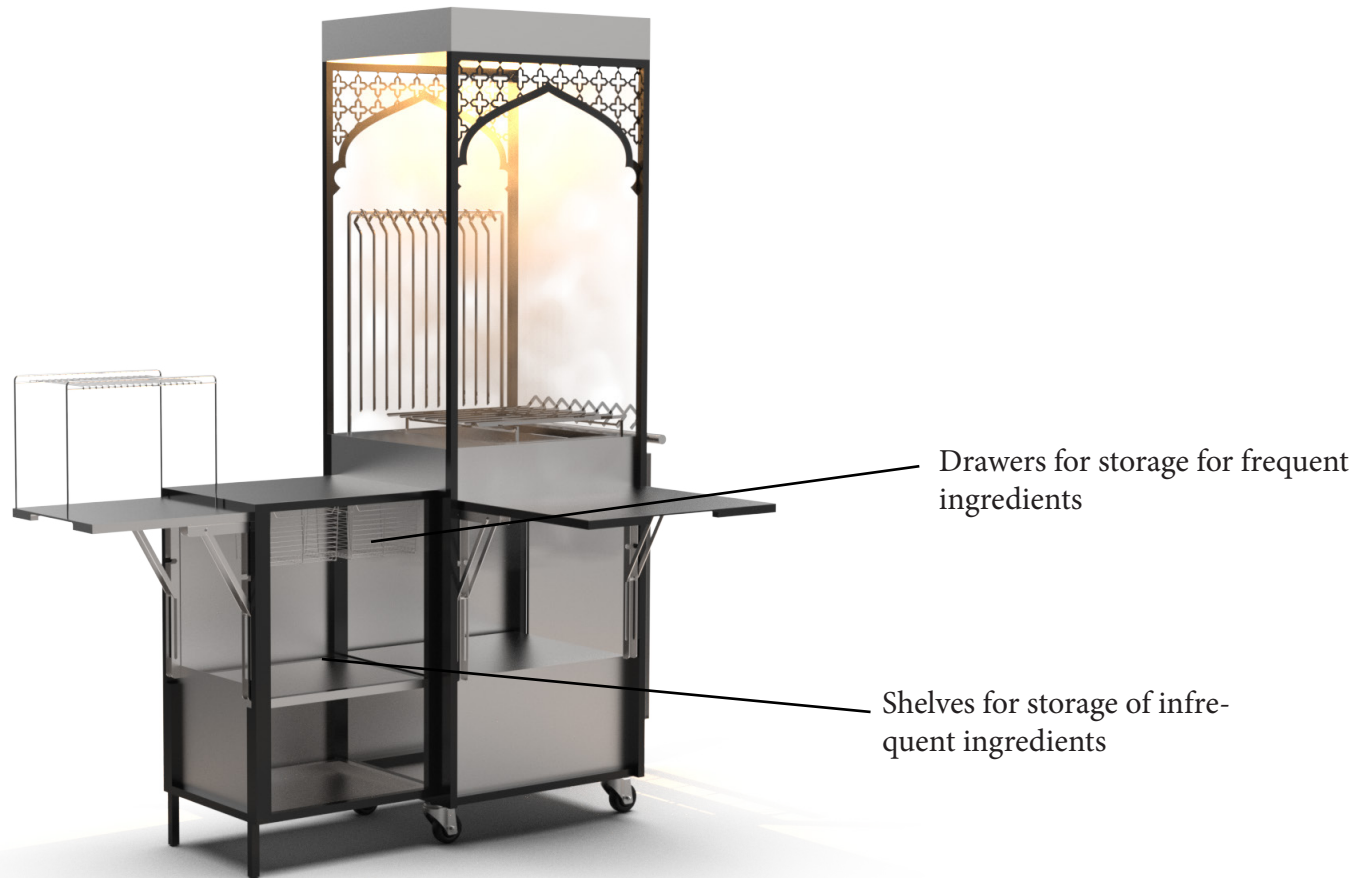
FINAL CONCEPT RENDERS



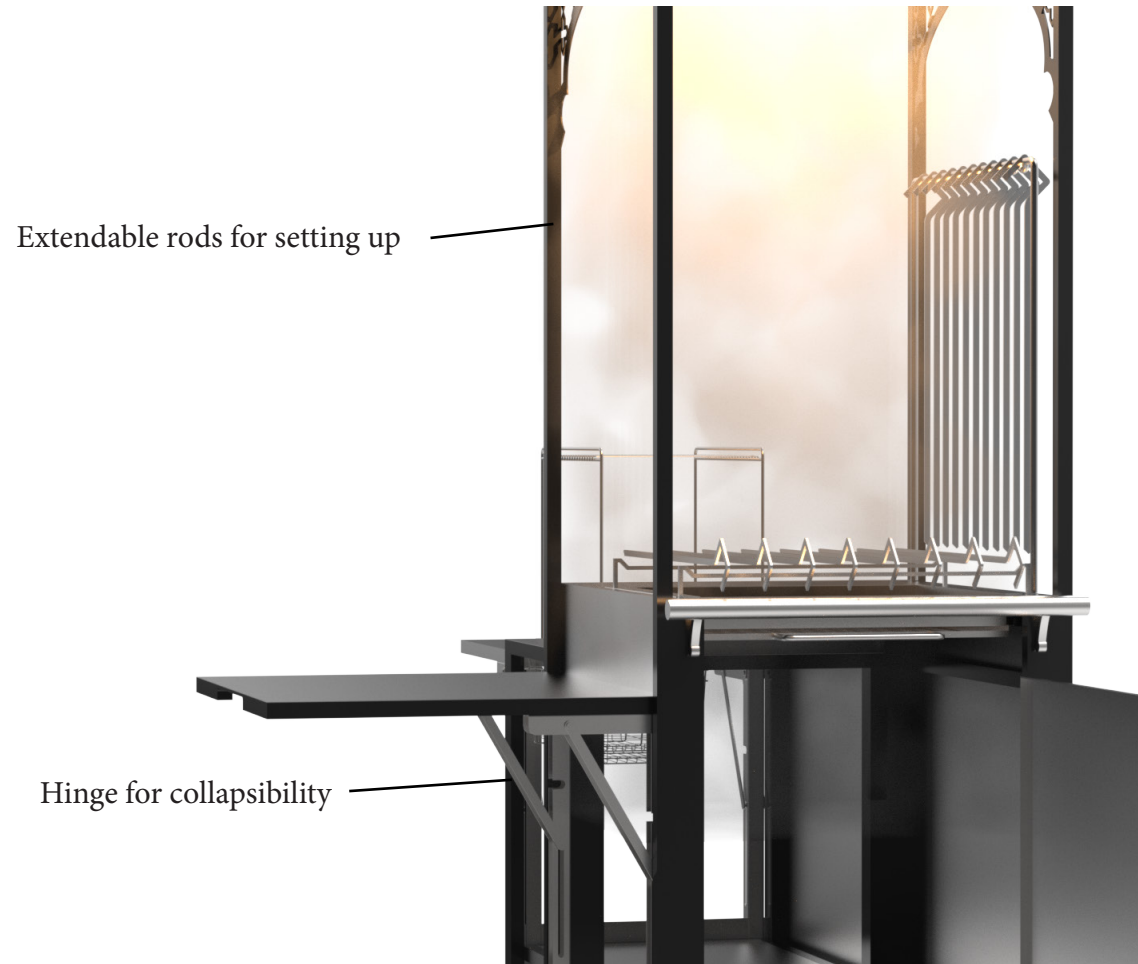
FINAL CONCEPT RENDERS



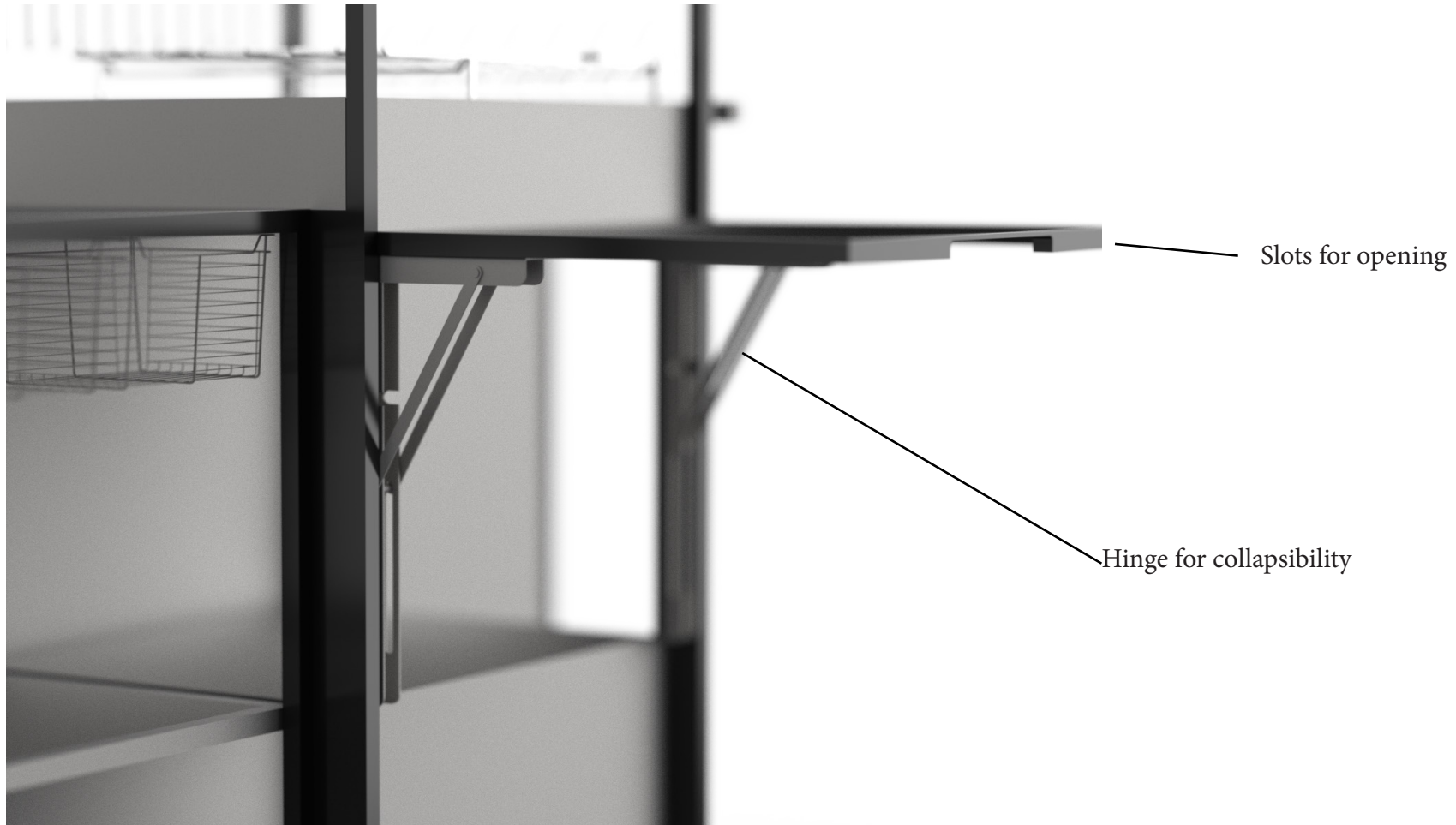
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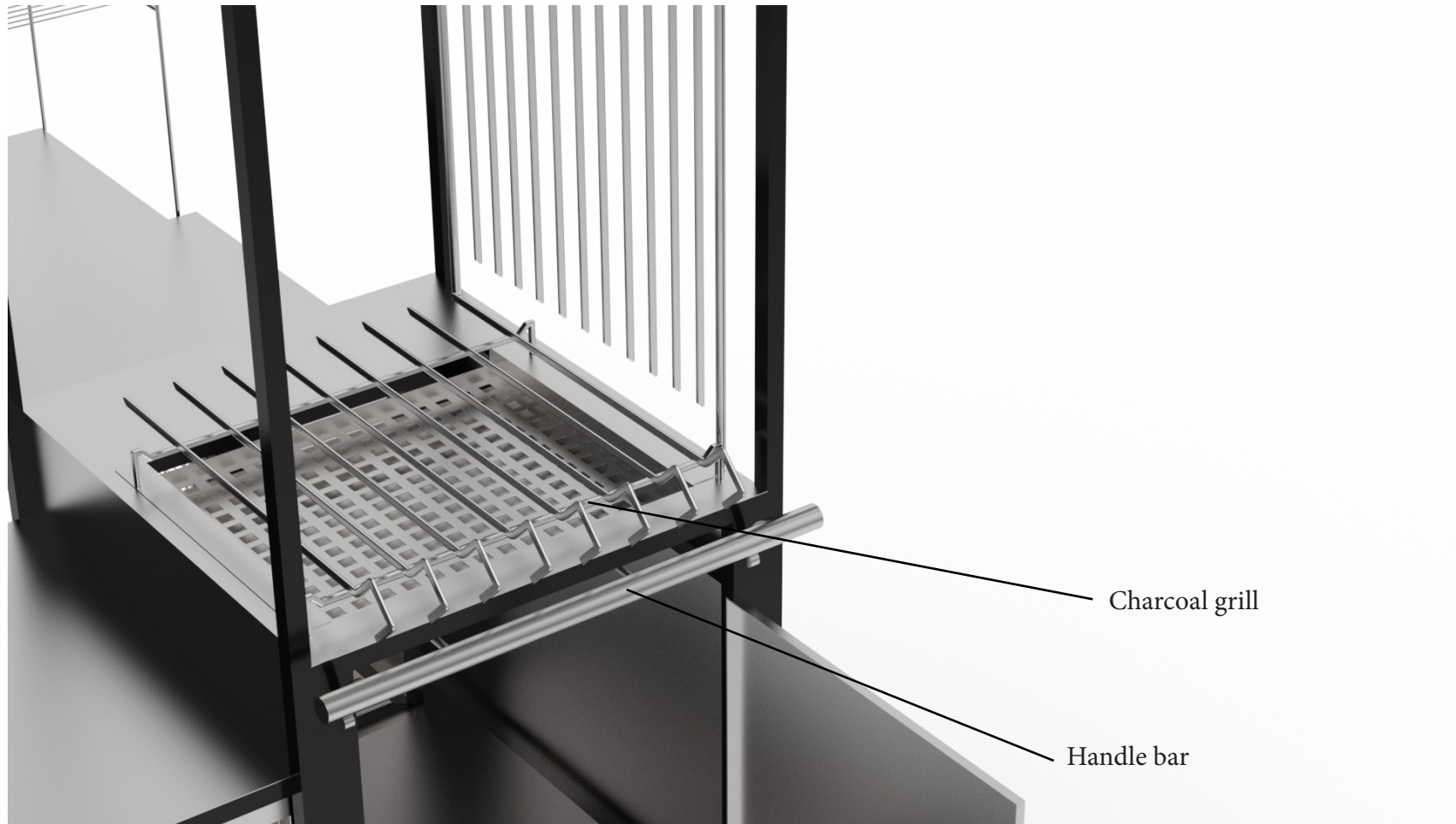
FINAL CONCEPT RENDERS



FINAL CONCEPT RENDERS



FINAL CONCEPT RENDERS



PROCESS AND ERGONOMICS



Loading the closed stall

Weight: 40kg

Castor wheels for mobility

PROCESS AND ERGONOMICS



Lifting the closed stall

Human factors:
Lifting capacity for infrequent loads is 105kg (Height - 89 cm)
from floor to bench

PROCESS AND ERGONOMICS



Loading all the necessary equipments and food

Apart from usual cutlery, the vendor carries food to serve customers based on the requirement

Average footfall:
400 customers
Timing: 6PM - 3AM

PROCESS AND ERGONOMICS



Each box contains food that serves up to approx 50 customers

Each box contains
20kg meat approx
10kg of veggies/chutneys approx

Volume of the box
Approx: 90 liters

The boxers are carried to the stall location every 50 customers

Approx no. of times carrying in a day - 8

PROCESS AND ERGONOMICS



Setting up the stall

The box is unloaded and all the ingredients are reloaded in their respective places.

Approx number of times vendor bends and loads the ingredients - 8

PROCESS AND ERGONOMICS



Operating the stall

The chefs stand in the shown positions for operating the stall. All the main ingredients are always insight of the chef.

This is the customer's view-point.

PROCESS AND ERGONOMICS



Operating the stall

The chefs has comfortable space around the stall to operate.

The chefs can also rest one of the leg on the stall for comfort.

PROCESS AND ERGONOMICS



Reach of the stall

The chefs has comfortable reach around the stall to operate

PROCESS AND ERGONOMICS



Reach of the stall

The chef can reach the comfortable reach around the stall to operate

PROCESS AND ERGONOMICS



Reach of the stall

The charcoal chef can reach out to the non frequent ingredients/equipments loaded in the shelf at his side.

PROCESS AND ERGONOMICS



The preparation chef can reach out to the non frequent ingredients/equipments loaded in the shelf at his side

BRANDING FOR THE COMPANY



DELIVER

HOW?

Orders will be taken through website. The branding will be done by the company.

WHAT?

Businesses can order the stall and add ons if any.

WHY?

Online platform will enable the product to reach all the businesses all over India.



REFERENCES

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