

**Assignment 2** 

INF 2170H
Professor Olivier St-Cyr
Teaching Assistant Aditi Bhatia
Teaching Assistant Janessa Griffith

David Cho Wei-Ya Chen Vipasha Shaikh Rebecca Ju Jeong Jason Batten-Carew

# **Overview of Card-Sorting Study**

Study URL: <a href="https://8fboa658.optimalworkshop.com/optimalsort/mt21jkmd">https://8fboa658.optimalworkshop.com/optimalsort/mt21jkmd</a>

# **Description of Selected Participants**

As a team, we selected five participants in total to participate in the card sorting study. Three of the participants are stakeholders. Three of the participants are employees of the cafe who are also the participants in the Livelihood Project's work experience program. They included a manager and two baristas. Another participant was selected based on the recommendation of the Livelihood Project's owner, Parin Kothari. This participant is a loyal customer who works in the finance industry, and has been frequenting the Cafe for more than two years. They also represent the type of socially consciousness the new website will target. The owner of the cafe also expressed the desire to grow the cafe within the Kensington market community. In line with this, the fifth participant we chose is a frequent visitor to the cafe who also lives in Kensington market.

# Overview of Cards Utilized in Study

	•		
Crew	Values	Salads	
Events	Mission	Sides	
Contact Us	Startup Team	Hot Drinks	
Workshops	About the Livelihood Project	Cold Drinks	
Rental Space	Merchandise	Facebook	
Stories Behind Food	Gift Cards	Twitter	
Notices	Donations	Instagram	
Blog	Specialties	Visit Us	
History	Sandwiches	Join Us	
Future Skills	Soups	Cart	

Table 1: An overview of the labels used in card sorting

With the exception of some labels such as, "Blog", "Cart" and "Contact Us", we used entirely new labels for our card sorting study. We opted not to use the labels from the previous website as the focus of the website will change with the construction of the new website. In order to properly capture the scope of the new website we created labels that would properly identify key content that stakeholders wanted to include. When we were choosing labels, we also included synonyms to see which wording choices made the most sense to users. We also chose to err on the side of more granularity in case we decided to include another level of navigation.

It was decided that a hybrid open/closed card sorting study would be best, so all the participants were given three pre-set categories: "Livelihood Project", "Cafe" and "Online Store". This was done due to project constraints, as the owner expressed a desire to have a website that represented both the non-profit Livelihood Project and the Cafe, while also

integrating an online store for their future delivery/pick-up activities. This meant that we also recruited both customers and employees who participated in the non-profit's refugee-skills training program as part of the study.

### **Protocol**

We decided to meet all the participants at the cafe and conduct the card sorting sessions in person. The execution of the study involved asking the participants questions about their demographics, and also how they came to be acquainted with the Livelihood Project. We found that this latter question was necessary because there are people who know of the Project cafe from encountering the physical cafe, whereas there are others who became acquainted with the Cafe and the Livelihood Project through its non-profit activities (workshops, newcomer skills-training program, etc.).

After the participants answered the introductory questions, they were given a quick debrief of how the Livelihood Project functions as three parallel businesses: cafe, nonprofit, and start-up. This was particularly the case with participants who are not employees of the Livelihood Project's businesses in order to make sure everyone was at the level of understanding. From there, we instructed all participants to sort the cards into three categories, as well as to come up with with any categories they liked on their own.

After the participants completed the study, they were asked several debrief questions to gauge how their thoughts on the study. We also asked follow-up questions about particular categories, or labels, and asked them if they had any additional feedback.

# **Main Findings**

Figure 1 (right): A look at the times for the participants in the study. From Optimal Workshop.

We conducted the card sorting exercise over a week in the first week of November 2018. The participants completed the exercise within a median of 6.24 minutes as recorded via Optimal Workshop's tracking tools. The highest observed time was 27.65 minutes and the lowest was 3.43 minutes.



### **Frequent Card-Category Patterns**

Figure 2 (right): A table of card category groupings by the number of participants (out of a total of 5). The cards with the highest number of participants are highlighted in light blue.

"Livelihood Project" as a category had the highest frequency of similar card sorting patterns. A total of the same nine cards were put under this category by at least 80% of the participants. These cards all denoted topics about the Livelihood Project's nonprofit operations, so they indicated that users saw all of these topics as being under this non-profit umbrella (instead of being somewhere else).

The category that had the least frequent pairings was "Online store", which only had "cart" as a unifying card

d Labels	Cafe	Livelihood Project	Online Sto
About the Livelihood Project	V	5	
Blog		2	
Cart			4
Cold Drinks			1
Contact Us			
Crew		4	
Donations		4	
Events		2	
Facebook		2	
Future Skills		5	
Gift Cards			
History		4	
Hot Drinks			
Instagram			
Join Us		4	
Merchandise			2
Mission		3	
Notices			
Rental Space			
Salads			
Sandwiches	3		
Sides	3		
Soups			
Specialties			
Startup Team		5	
Stories Behind Food	3		
Twitter		2	
Values		4	
Visit Us		1	
Workshops		4	

across all participants. For "Cafe", all users only put "sandwiches" and "stories behind food" together. This suggests some ambiguity on what topics differentiate the Cafe from the Online Store for the Livelihood Project.

This likely suggests that users would have an easy time navigating for information retrieval for the Livelihood Project's non-profit ventures but might have more difficulties with information gathering and shopping when it comes to the Online Store and Cafe aspect of the Project.

### **Frequent Card Pairings**



Figures 3 and 4 (top-left, top-right): Optimal Workshop's similarity matrix for the cards that were most frequently grouped together. On the left, there are the cards relating to various parts of the non-profit, with the most frequently paired cards underlined in pink. On the right, there are all the cards related to social media.

This matrix depicts that regardless of categories, cards such as "Future Skills", "Start-up Team", "About the Livelihood Project", "Crew", "Values" were frequently paired together in the same group by almost all the participants. Similarly, "Facebook", "Twitter" and "Instagram" were also all grouped together by the participants. All of this suggest a dendogram is fairly clear in terms of how participants perceive which topics relate to the non-profit aspect of the Livelihood Project (see Figure 5)

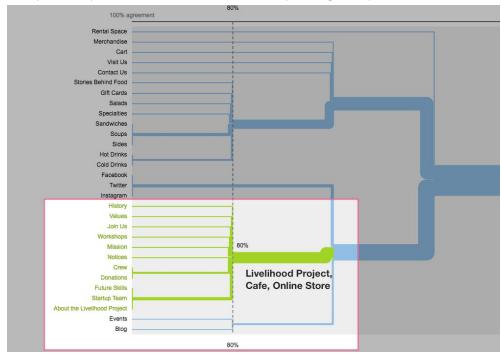


Figure 5: A dendogram generated from Optimal Workshop that depicts how 80% of participants view the cards from "History" to "About the Livelihood Project" as being under the following umbrella categories: Livelihood Project, Cafe, Online Store.

## **Debrief**

Three out of five participants expressed difficulty placing some of the social media and e-commerce labels, as two participants noted some confusion with the labels "Merchandise" and "Gift Cards" and another was uncertain whether to include social media as its own category or with the standard categories. In terms of cards that belonged to two or more groups, Participant 1 noted that cards such as "History", "Values", "Notices", "Events", and "Mission" could belong to the non-profit or the cafe. General comments included suggestions to further differentiate the cafe from the store (from both the customers), to further unify labels (i.e. combine "Mission" and "values") and to provide more information on the people who work on the front-facing part of the cafe.

#### **Additional Notes**

Most participants made an average of one additional category group on their own, with Participant 1 creating the most categories (3 - Events, Food, Social), and Participants 5 and 6 creating zero. These categories generally revolve around categorizing the cafe and online store in different ways: for example, Participant 4 created a category called "Retail (Online Store and Cafe) as a way to group the transactional aspect of these businesses together. Participant 1 grouped all the items together into a category called "Food", as a way to seperate the general Cafe information from its specific menu. Since there were only six total participants, there is no conclusive data on an overall information architecture that is similar across to all the participants.

# **Analysis**

#### Differing Mental Models Between Employees and Customers

One of the main insights gleaned from the user research was that that employees who were part of the Livelihood Project conceptualized the Livelihood Project differently than the customers of the Livelihood Project Cafe. Cafe customers largely viewed the Livelihood Project's non-profit as separate from its cafe and noted that the Project needed to either further differentiate the non-profit and cafe, or find a way to make the overall project more clear. In comparison, employees did not express any confusion over the connections between the non-profit, cafe, and store, as they work on all aspects of the project and view Livelihood Project as an integrated entity. The latter vision ultimately aligns with the stakeholder vision, as Parin in his card-sorting activity, saw the Livelihood Project as an overarching organization with a set of values around future skills, applied through parallel businesses -- the nonprofit, the cafe, the online store and future technology innovation.

Despite this differentiation, it became clear that on a broader level, everyone was differentiating the cards based on the non-profit versus the for-profit aspects of the cafe. Topics such as "Future Skills" were grouped together with "History", "Mission", and "Join Us", and created a relatively cohesive group of similar labels that was consistent across all participants. Participants who opted to create new categories, did so to further differentiate what was part of the cafe versus the online store. This suggests a relative uniformity for how people are understanding the non-profit part of the Project, but that redesign needs to be done on various aspects of the IA that relate to the Project's Cafe and proposed online store business.

Additionally, in the re-design, there would need to be a way to account for the differences in the employee mental model and the customer mental model, as the customers in their debriefs had extensive comments on on how to make the Livelihood Project's future website more clear from their perspective. In particular, one of the customers talked about the cafe and nonprofit encompassing different worlds that could be easily navigable through sub-sites. They stated that this would also make it easier for users to find information, based on whether they wanted cafe hours or non-profit. Another customer also asked why the online store was not a subset of the cafe -- another comment that suggests that the integrated model of parallel businesses is not something that translates easily to a consumer.

# Proposed Global Organization, Navigation, and Labelling Systems

Organization System

Based on the research, we decided to develop an organization system that accounted for the cafe's future direction and the customer's need for clarity to portray the Livelihood Project as an integrated enterprise. This meant that, on the global level, we organized the Livelihood Project's menu bar based on a hybrid organization scheme that was both topical and task-oriented. This meant that the topic-oriented aspects of cafe would be presented to the user first through labels such as "Project" and "Cafe" (placed to the left), whereas labels such as "Online Store" and "Visit Us" are placed afterwards and more to the right.

The reasoning for adopting a hybrid scheme was to accommodate the Cafe's future goal to have the website be a hub for further information retrieval. Specifically, Parin, the stakeholder, mentioned that the cafe will be converting one of their large chalkboards to further advertise to customers that they can go to the website to learn more about Future Skills and the Project as a whole. Additionally, customers in the card-sorting sessions mentioned a need for clarity and finding information quickly. "Visit Us" was placed as part of the global organization system as a way to accommodate the task-oriented customer who simply wants to find the Project's physical location quickly, along with its hours of operation.

#### **Navigation System**

The global navigation system for the redesign is a global navigation bar with the headings "Project", "Cafe", "Online Store", and "Visit Us" that is present on every page the user is on. There would also be a pathway indicated at the top of the page, which would outline to the user exactly where they are on the website and situate them accordingly.

However, since the Livelihood Project is a fairly small enterprise, our focus was also on designing a cohesive local navigation system for the user, especially in terms of its online store. This was done in response to usability testing feedback, where users indicated that they found it fairly cumbersome to buy an item on the Livelihood Project's website. In response to this, each section of the online store would also have back and front arrows (with an outlined sub-menu to the side) at the bottom of the page, which allows users to click to back and forth between various items. There would also be an embedded local menu that highlights to the user where they are . With this in mind, a user can easily go from the home page, to the item itself to make an order.

#### Search System

Additionally, to support breadcrumb trail wayfinding, we decided to propose multiple ways for users to get to the "Stories About Food" page (which details the stories behind the cafe's house-made specialty items). As these specialty items appear on both the cafe's menu and also the store's product page, arrows with the label "Learn More" are included in the short descriptions of of these pages, which leads the user to the "Stories About Food" section. This not only supports modern search engine indexing and general browsing, but also provides a way to further highlight the Livelihood Project's physical branding initiatives, which include postcards that detail recipes and general information about the Cafe's specialty items.

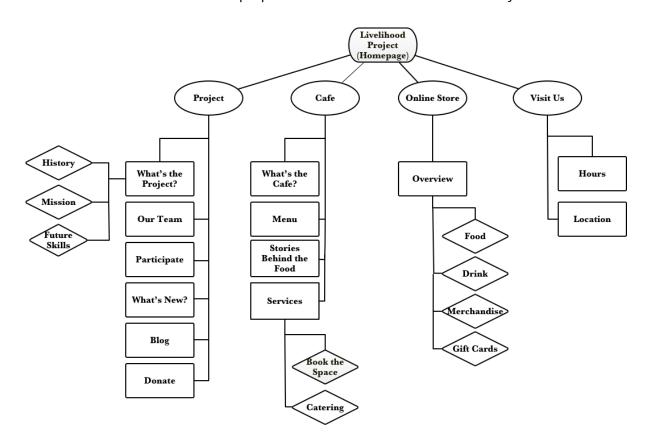
#### Labelling System

Finally, it was decided that the proposed redesign would have mostly textual labels, with a few iconic labels to support social media links. The labels of the current website's labels were redesigned as a way to ensure further clarity about the socially conscious aspect of the Livelihood Project. This meant that some previous contextual labels that could be construed as tech jargon (such as "Start-up Team") would be kept to a minimum. This aspect of the redesign was undertaken to resolve issues about labels brought up with the first assignment's interview and usability testing research. Furthermore, it served to clarify the Project's intentions, as this was a concern voiced by the debriefing interviews for the card-sorting studies.

More specifically, the top layer of the IA schematic diagram represents heading labels that would be a part of the global navigation bar. Branching from there, are index terms that represent the content on each page. The third layer of branches represent contextual labels that hyperlink to the different parts of the page. This also serves as a way to make it easier for the user to situate themselves in a place on the website, making them also navigation system choices.

# **Preliminary Schematic Diagram**

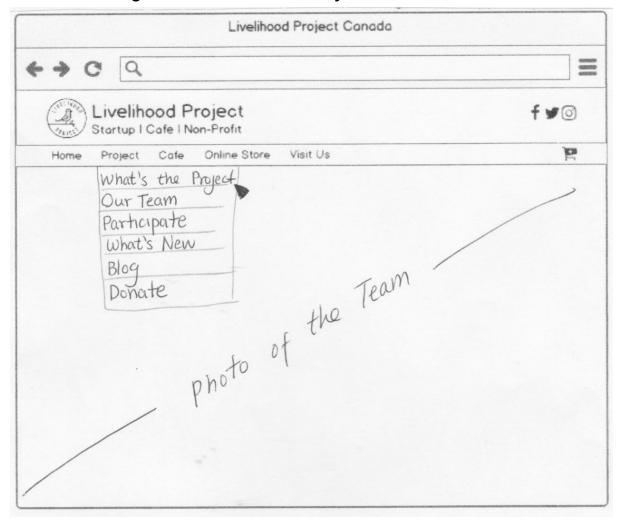
Below is an outline of the proposed schematic of the Livelihood Project's website.



# **Preliminary Sketches**

Three tasks were chosen to demonstrate the main activities a user would perform under the new IA schematic. The proposed user is a cafe customer, which we determined to be the main demographic of the website's visitors. The first task for users is to retrieve information about the Project and its related topics like Future Skills. The second task is to browse the Cafe menu and to learn about menu items like Syrian Tea. This is a typical function of our website as several of our users have indicated it as their main reason for visiting any cafe's online presence. The final task requires users to select an item to purchase, which is a task that aligns with our stakeholder's goal of an online store that communicates the value of the Project beyond just another cafe. Shown below is our annotated preliminary sketches arranged in a vertical sequential storyboard to preserve the size of each image hence its details.

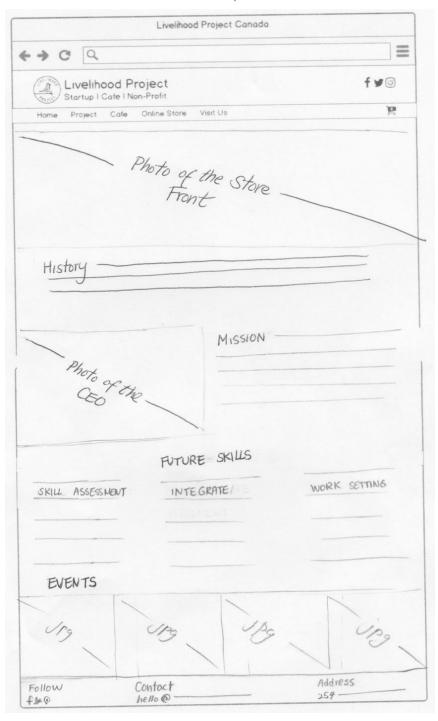
Task 1: Retrieving information about the Project



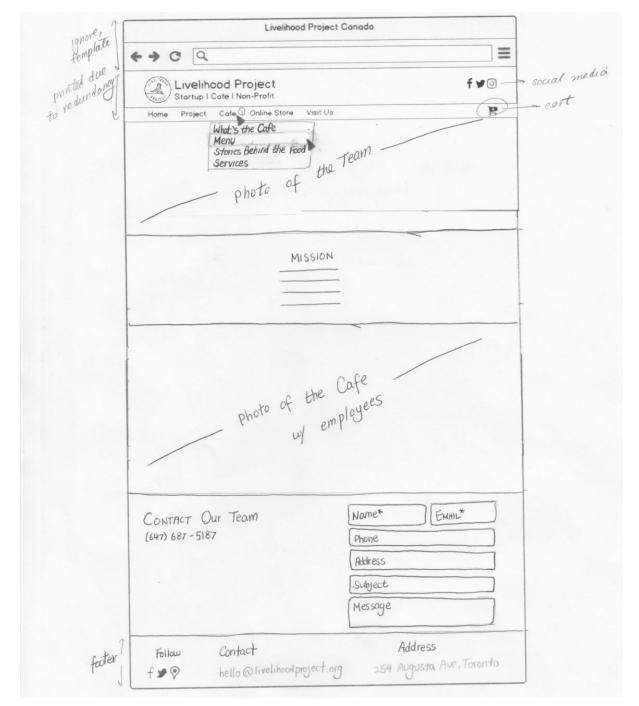
**1-1** Homepage of the Livelihood Project when "Project" is selected: The website has a global navigation bar that is sorted into topics and tasks. Its header contains the website title, subtitle, as well as social media links to the right. The footer also contains social media links and other means of contact. Previously, when a user clicked on a heading label, such as "Project", it would sometimes redirect to a new page . For the re-design, when the user

chooses a heading label (such as "Project"), it leads to a dropdown local navigation with options like "What's the Project". The black triangles indicate what the user has selected.

From the homepage, the user selects "Project" in the global navigation bar then chooses "What's the Project" in the local dropdown menu.



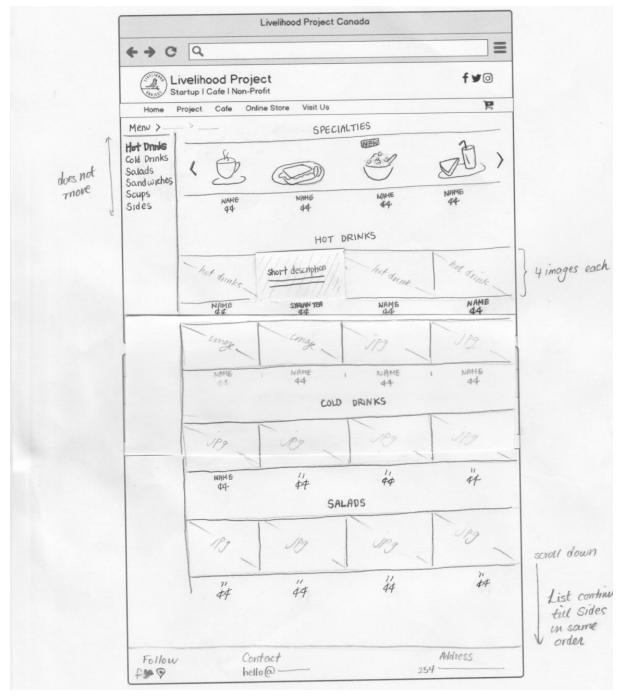
**1-2 What's the Project page**: The "What's the Project Page" is sorted with sub-local labels "History", "Mission", "Future Skills" as well as "Events".



Task 2: Browsing the Cafe menu and learning about items like Syrian Tea

**2-1 Homepage of the Livelihood Project website with "Cafe" selected**: In our global navigation re-design, when the user chooses "Cafe", it doesn't redirect to a new page, instead a dropdown local navigation with "Menu" is presented. The black triangles indicate what the user has selected.

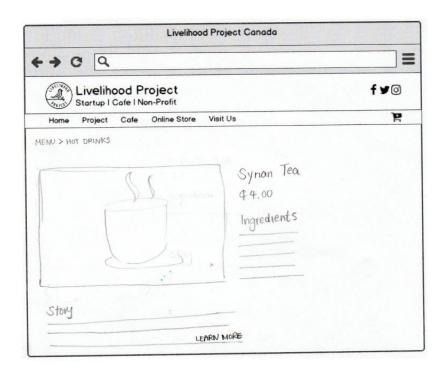
From the homepage, the user goes to "Cafe" in the global navigation bar then selects "Menu" in the local navigation dropdown.



**2-2 Menu page when hovered over Syrian Tea**: The "Menu" landing page allows the user to browse all the items the Cafe has to offer. It contains two breadcrumbs that support bottom-up navigation, which are the embedded categories to the left representing an attribute-based breadcrumb and the trail at the top (Menu > ) showing a location-based breadcrumb. The menu items are sorted into different categories and presented in a grid view with no margins surrounding the images, with a short description of the item

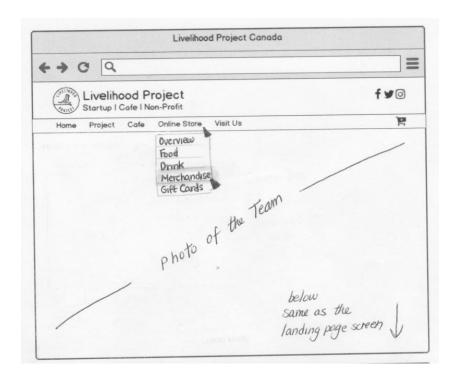
overlaying each image when hovered over. The item name rests below each image along with the price underneath it.

From the menu, the user hovers over the Syrian Tea image and clicks on the overlaying text.



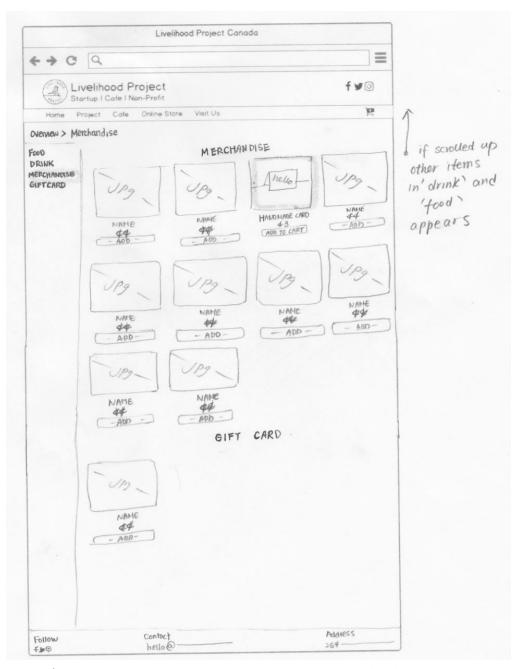
**2-3 Item page of Syrian Tea:** The landing page for each item shows its title, price, ingredients as well as its story. The "Learn More" button leads to the item's corresponding page under another local navigation option "Stories Behind The Food". The breadcrumb trail at the top (Menu > Hot Drinks) allows the user to know their location with regards to the "Menu" page.





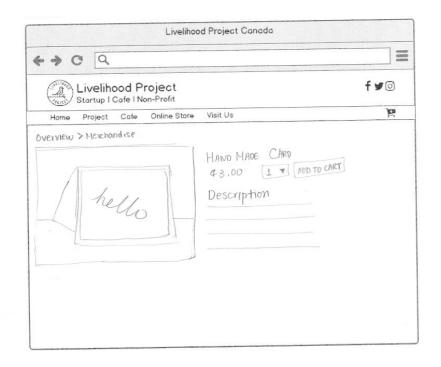
**3-1 Homepage of the Livelihood Project when "Online Store" is selected**: For our global navigation re-design, the selection of the global button "Online Store" does not redirect to a new page, but instead shows the dropdown local navigation menu including "Merchandise".

From the homepage, The user selects "Online Store" then "Merchandise" from the dropdown local menu.



**3-2 Merchandise page**: Similar to the "Menu" page in task 1, "Merchandise" is laid out in a grid view of categorized item images listed with names and prices. It also has the embedded and top breadcrumb trails present in "Menu". To distinguish "Online Store" from "Menu", the images are aligned with margins whereas they are not in "Menu". Two other distinguishing factors are the absence of hovering text overlays on the images and the presence of an "Add" button to facilitate a task central to the "Merchandise" page.

On the "Online Store" page, the user clicks on the image to select Handmade Card.



**3-3 Item page of Handmade Card**: Image, title, price, description along with specifications of number of items to purchase and the "Add to Cart" button are shown. A location-based breadcrumb at the top (Overview > Merchandise) shows where the user is relative to the entire online store.