

Ethire (HCI Group Project: G5P1)

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1 Abstract

This is the Project Report for the HCI Group Project made by the aforementioned authors. Ethire, the name of our application is based upon various sustainable fashion practices that enable people to play their part in making the fashion industry more equitable and environment-friendly. Ethire is an integrated platform that brings different sustainable fashion practices together and aims towards developing itself as a one stop wardrobe shopping stop for the users. Fast fashion mainstreamed itself by building upon serving to the instant gratification need of the buyers. It's trendy, it's cheap and it's quite evidently, *fast*. It's rapidly growing with it's market cap projected to reach 38.21 billion USD in 2023. Ethire aims to launch a counter-movement against fast fashion by making sustainable fashion saleable on large scale and to a wider audience. Different components present on our platforms are- sale of clothes manufactured by sustainable brands exclusively, thrifting of old clothes by users and a *support* feature for these exclusive brands that help them stay cost effective in the long term and keep their products affordable simultaneously.

2 Introduction

2.1 Problem Definition

One of the most major obstacles that people face when starting out with sustainable fashion is that they don't know how to start. Sure, a simple Google search would direct them multiple resources but in a country like India, but concepts like that of thrifting are still very to the general population. Ethire aims towards filling in the need for an integrated platform that makes sustainable fashion available to everyone. We also offer multiple resources to sustainable fashion brands that would help them stay cost-effective in the long term.

2.2 Background & Motivation

In today's world, we see that every industry is aiming towards achieving sustainability. Researchers are emphasizing the adverse effects of the current manufacturing practices on our natural resources that are already being overburdened with their high demand. Let us take the example of the clothing industry. Fast fashion relies upon selling large quantities of trendy clothes to a global population with the sole purpose of maximizing profits. They're able to gather huge followings due to their affordable prices, which come at the cost of laborers being denied fair wages and humane working conditions. While we see buzzwords such as sustainable fashion and ethically made being thrown around quite often, only a few know how to create an actually sustainable wardrobe. Many people drawn towards ethical fashion are often disincentivized to partake in it by the lower prices of fast fashion products. We'd like to find the perfect balance between sustainability and consumerism so that the consumer can afford these ethically made clothes and change their regular wardrobe shopping practices.

2.3 Target Users & Stakeholders

- **Customers:** Our primary customer base would be everyday shoppers of whom we would try to gain the business of. Various types of customers:
 - **Conscious consumers:** Customers that are already conditioned to sustainable shopping practices. Gaining their trust would be a crucial task for us as they are the *gatekeepers* of the sustainable products' market. Our strategy to gain their trust would include displaying complete transparency about our processes and fashion partners.
 - **Consumers new to sustainable fashion:** Customers new to the world of sustainable fashion need to be convinced about why they should switch to it. A good marketing campaign for such customers would be important to help them realise that sustainability is the need of the hour.
- **Sustainable fashion brands:** These brands are the ones that are trying to make an impact by being transparent about their manufacturing practices and providing fair wages and working conditions to their workers. They would be our close partners through the entire process and provide their products to be put on sale on our application. We would also be providing them with an interface that would help them stay cost effective by asking their loyal customer base for funds. This would certainly enable them to make their products more affordable for the general customers.
- **Workers of these brands:** They'll be the ones actually making the sustainable clothes for our users. Their welfare is a topmost priority for us.

- **Thrifters:** People that would be engaging in our thrifting platform. They'll be able to put their clothes for sale on our platform for which other thrifters would bid for.
- **Logistical Companies:** The companies that'll facilitate door-to-door delivery services for our application.
- **Environmentalists:** They'll be the ones who would provide us with suggestions about how we should go on about making our application more in-line with environmental goals.

2.4 Competitors

- **Good On You:** Good On You built upon the lack of a major player in the sustainable fashion industry. They talked to people who wanted to indulge in ethical shopping but didn't know how to start.
- **Fat Llama:** Fat Llama is a rental marketplace for all kinds of clothes, ranging from street wear to expensive gowns
- **Depop:** Depop is a second-hand clothing marketplace for thrifters.

2.5 Limitations

- **Lack of an integrated platform:** While these individuals are key players in their own domain, not one platform has been able to live up to need of an integrated platform to combine different sustainable fashion practices.
- **Scalability:** These applications haven't been able to mainstream themselves in order to compete with their fast fashion counterparts.
- **Geographic domain:** Most of these applications are specific to either North America or the USA. There isn't a significant player in the sustainable fashion market that provides its services in India

2.6 Novelty of Solution

Our application, as mentioned earlier, is a *one-stop shopping solution* for sustainable fashion. At the same time, we provide shoppers to have a direct impact on their clothing manufacturers by allowing them to support the brands that they love to purchase clothes from. This enables the brands to stay cost-effective and sell their products at an affordable price at the same time

2.7 Challenges

- **Shopping Platform:**

- Convincing brands to collaborate with us rather than other competitors in market place.
- Creating and changing mindset of customer that are attracted towards big brands.
- Rethinking of customer experience
 - * The impoverishment of experience and the lowering of consumer expectations, with price as the first motivational lever, is something that has already happened in other industries: in Food Grocery, when the Retail major brands have gained power and relevance over the product brands.
 - * High-profile people have started to shop in discount stores, and brands have moved to the background.

- **Donation Platform:**

- How to approach people with mass numbers.
- Contacting logistic for supply in whole country.
- Creating strong marketing team for catching people who wants to donate clothes to people with needs.
- Creating eye catching app for attracting people towards us.

- **Thriftng Platform:**

- Convincing people that thrifting is actually a viable option for wardrobe shopping.
- Tackling the cleanliness, hygiene and sanitation issues related with thrifting.
- Defending online thrifting and tackling the difference in quality/colour/ condition from online pictures to the actual product arriving at doorstep.

- **Rental Marketplace:**

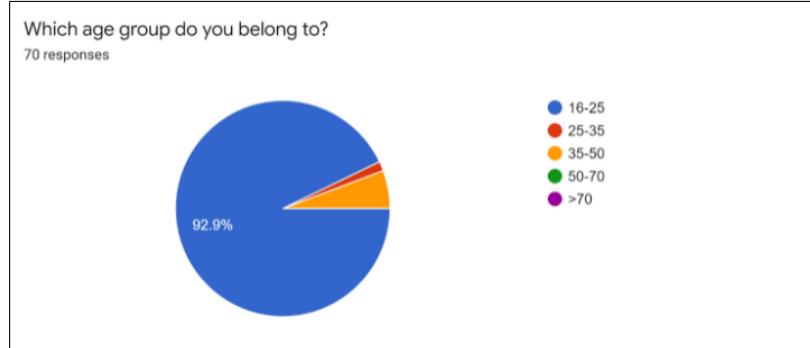
- The rental clothes market is already filled with major competitors offering all kinds of different clothing option which will make it hard for a newcomer to enter the market offering limited options (from sustainable brands).
- The issues with refundable fees, return condition of clothes, etc (in case of online rental marketplace).

3 Requirements Gathering

3.1 Surveys

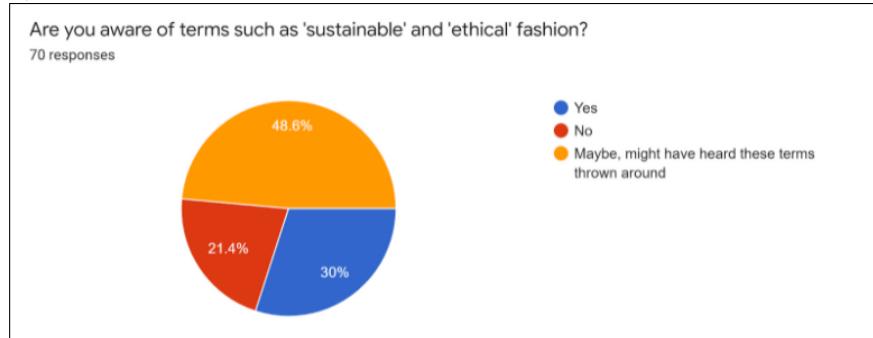
- [Link to Google Form](#): Click Here

- **Question 1.**



Based on the survey results, we find out that the majority of responses come from the age group 16-25.

- **Question 2.**

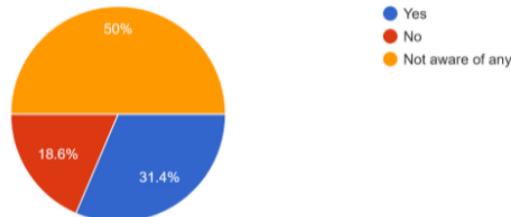


While the majority are unaware of the terms ‘Sustainable’ and ‘ethical’ fashion, a few have a slight knowledge of the aforementioned terms.

- **Question 3.**

Have you ever bought clothes from sustainable fashion brands / slow fashion brands?

70 responses

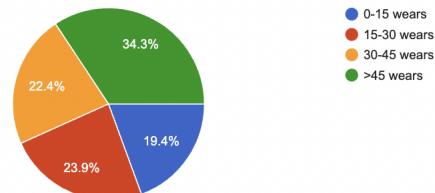


Although 30% of the customers have purchased clothes from environmentally friendly brands, fast fashion still has an edge over it.

- **Question 4.**

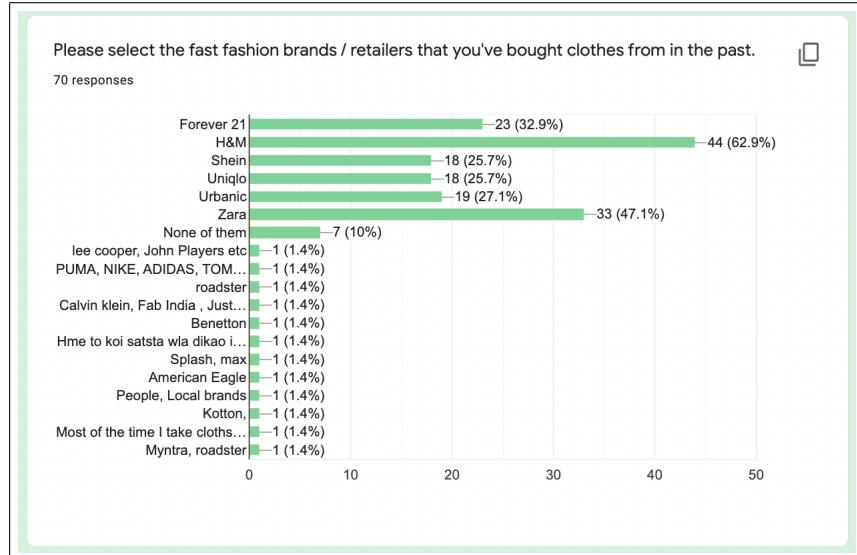
If you do purchase their clothes, how many times do you wear them before you make a mop out of them (or wear them on Holi, same thing)? We only require a ballpark figure.

67 responses



More than 65%, only wear there clothes less than 45 times with around 20% wear them less than 15 times before throwing them.

- **Question 5.**



We find out that 70-75% people buy from these fast fashion brands.

- **Question 6.**

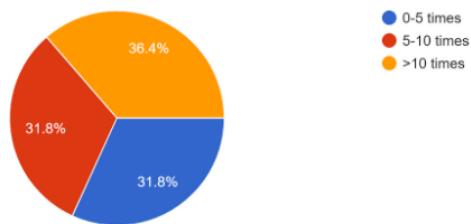


Thrift shopping i.e., buying pre owned clothes at a reduced price. While many didn't know how it works, some knew it and have done this before too. So, it is essential for our app to make people aware of it and provide them a trusted platform for this kind of service. But there were some users who weren't comfortable with the idea of buying used clothes, making us conclude that this is not going to be used by every customer.

- **Question 7.**

For expensive clothes that you wear only on special occasions (for example: gowns, suits, etc.), how many times do you wear them before getting rid of them?

66 responses

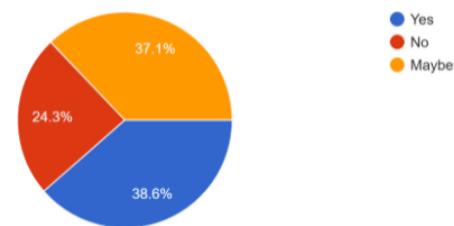


We enquired that how long do the participants sustain clothes the more expensive side of the spectrum such as gowns and suits. We got balanced answers for each of the option.

- **Question 8.**

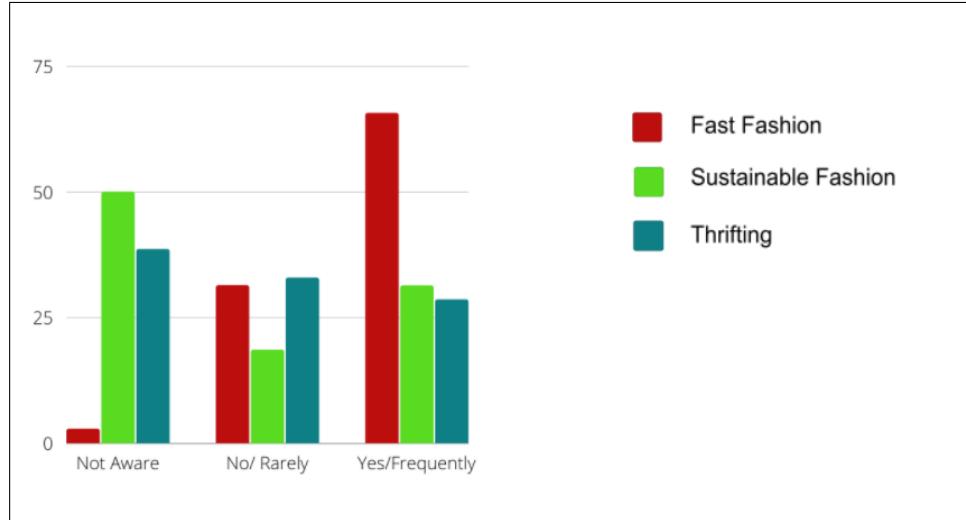
Would you prefer if there was a rental market for such clothes?

70 responses



We followed up on the earlier question and asked the participants whether they would like and prefer a rental market for such clothes over one-time purchase system. Majority of the people agreed with the need for such cloth rental system with some of them still at being at the edge about it.

- **Summary :**



- While almost everybody purchases from fast fashion brands, the above graph shows that nearly 70 percent people do not buy from sustainable fashion brands or are not involved in thrifting.
- We concluded that the majority don't wear their expensive clothes more than 10 times. And this is a huge wastage of resources. Solution: Giving a platform where they can have an option of rented clothes.
- Thrifting concept is also new to some and we found that majority showed interest in it.

3.2 Interviews

- **Consent Form (Filled by everyone before the interview) :**

- I confirm that the purpose of the study has been explained to me and that I have had the opportunity to ask questions about the research and have had these answered satisfactorily.
- I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.
- I am allowing the project team to audio/video record me as part of the study. The recordings will be transcribed. I understand that images and quotes may be used in presentations or publications stemming from the project including in ways that allow for the identification of individual participants.
- I understand that if I have any concerns or difficulties I can contact a project team member.
- I can request a copy of the transcript of my interview and may make edits I feel necessary to ensure the effectiveness of any agreement made about confidentiality
- I agree to take part in this study.

Timestamp	Name	Gender	Age	Do you consent to the above mentioned points :-	Do you wish to contribute further towards this project (if the need arises) ?
3/19/2022 22:17:08	Shobhit Pandey	Male	18	Yes	No
3/19/2022 22:32:44	Saksham Sharma	Male	18	Yes	No
3/19/2022 22:55:07	Dev Mittal	Male	18	Yes	Yes
3/19/2022 22:58:52	Sakshat Sachdeva	Male	16	Yes	Yes
3/19/2022 23:24:14	Chehak Malhotra	Female	17	Yes	No

- Sakshat Sachdeva

- **Recording:** [Click Here](#)
- **Notes:**
 - The interview of Sakshat Sachdeva is being conducted by Shivam Dwivedi.
 - He is aware of the term sustainability and correctly described what it means.
 - He was however not aware of what fast fashion meant. He was somewhat aware of the harmful effects of the mass production of clothes.
 - He doesn't know what thrifting is and hasn't tried it before.
 - Doesn't prefer sustainable brands because of worse material (Misinformation) and because of no brand name.
 - He would be interested in using our app. No barrier to using our app and no special feature is suggested.

- Chehak Malhotra

- **Recording:** [Click here](#)
- **Notes:**
- The interview of Chehak Malhotra is being conducted by Shivam Dwivedi.
- She is aware of the term sustainability and correctly described what it means.
- She was also aware of what fast fashion meant, how it works and how it is harmful to the environment.
- She has tried thrifting before, although in offline mode and not in India. Doesn't prefer thrifting because of cleanliness, hygiene, and sanitation.
- The unavailability of style and trendy clothes is stopping her from buying from sustainable fashion brands.
- She would be interested in using our app. Nothing is given in reasons to not use the app.
- She also suggests the feature of donation of old clothes.
- She finds the idea “really good”.

- Saksham Sharma

- **Recording:** [Click Here](#)
- **Notes:**
- The interview of Saksham Sharma is being conducted by Shivam Dwivedi.
- He is aware of the term sustainability and correctly described what it means.
- He was however not aware of what fast fashion meant, nor the harmful effects of the mass production of clothes.
- He hasn't tried thrifting before.
- He doesn't know about sustainable fashion brands and therefore is not buying from the same.
- He wouldn't be interested in using our app because of lack of time and his preference of an offline mode of shopping for clothes.

- Dev Mittal

- **Recording:** [Click Here](#)

- **Notes:**

- The interview of Dev Mittal is being conducted by Shivam Dwivedi.
 - He is aware of the term sustainability and correctly described what it means.
 - He was also aware of what fast fashion meant, how it works and how it is harmful to the environment. He further describes what fast fashion brands are and how they work.
 - A good balance between price and quality is what he looks for when buying clothes.
 - He hasn't tried thrifting before because of the unavailability of proper thrifting in India.
 - He doesn't think he needs to buy from sustainable fashion brands as he wears his clothes for at least 6 months. (Misinformation as the quality of clothes matter as well in addition to wearability)
 - He would be interested in using our app. He gives the price as a probable reason to not use the app (buying sustainable clothes) and hygiene as a reason for thrifting.
 - He suggests the ability to list clothes on the app (which is already a proposed feature of the app).

- Shobhit Pandey

- **Recording:** [Click Here](#)

- **Notes:**

- The interview of Shobhit Pandey is being conducted by Shivam Dwivedi.
 - He is aware of the term sustainability and correctly described what it means.
 - He was however not aware of what fast fashion meant, nor the harmful effects of the mass production of clothes.
 - Suggests reusing of clothes on listening to the disposal problems related to fast fashion (Point comes to thrifting, to be offered by our app).
 - While buying clothes, he likes to find out about the color and how they look on him.
 - He hasn't tried thrifting before and has no intent to do sustainable shopping.
 - If the price is comparable to other normal brands, he would be interested in using our app.

- He suggests generic features like filters to the app (which is already a proposed feature of the app).
- He finds this to be a “nice initiative” and wishes the best of luck to our team.

3.3 Focus Group Discussion

- **Consent Form (Filled by everyone before the interview) :**

- I confirm that the purpose of the study has been explained to me and that I have had the opportunity to ask questions about the research and have had these answered satisfactorily.
- I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.
- I am allowing the project team to audio/video record me as part of the study. The recordings will be transcribed. I understand that images and quotes may be used in presentations or publications stemming from the project including in ways that allow for the identification of individual participants.
- I understand that if I have any concerns or difficulties I can contact a project team member.
- I can request a copy of the transcript of my interview and may make edits I feel necessary to ensure the effectiveness of any agreement made about confidentiality
- I agree to take part in this study.

Timestamp	Name	Gender	Age	Do you consent to the above mentioned points	Do you wish to contribute further towards this project (if need arises)
18/3/22 23:20	Saumya Trivedi	Female	18	Yes	Yes
18/3/22 23.20	Chaitanya Dua	Male	18	Yes	Yes
18/3/22 23.20	Mansi Mishra	Female	18	Yes	Yes
18/3/22 23.20	Ayush Chauhan	Male	19	Yes	Yes

- Link of the FGD Recording: [Click Here](#)

- Notes:

- Mansi did not know about sustainability so Saumya trivedi explained to her very well.
- No one knew about the term fast fashion so Rudraksh explained it to them all.

- Prompt 1: Harmful effects of over production of clothes:-
 - * Saumya Trivedi- Told about water pollution
 - * Mansi Mishra- Pointed about wastage of resources
 - * Ayush Chauhan- Gave his input air pollution
- Prompt 2: Number of times clothing is worn before discarding it:-
 - * Chaitanya Dua- 60-65 Times
 - * Saumya Trivedi - 50 Times
 - * Mansi Mishra - 50-60 Times
 - * Ayush Chauhan- 70 Times
- Ayush's Friends are involved in thrifting so he explained the concept to all the participants

● Feedback:

- Ayush Chauhan- He gave a positive feedback as we are avoiding wastage of resources
- Saumya Trivedi- Also gave a positive feedback for the same point as of Ayush's
- Mansi Mishra - She asked the following questions-
 - * Difference between our app and instagram stores
 - * What are some different brands that follow ethical practices
 - * Why would the consumer use our app instead of buying from a sustainable fashion brand directly
 - * Why would not these brands not go to Amazon and other companies as they have already built their customer base why would they come towards your application
 - * What are the unethical services followed by Amazon and other companies like it

Feedback given by her- The app focuses on narrow prospects and we need to expand it and will fail in the long run.

- Feedback given by Chaitanya was also similar to that of Mansi's

4 Ideation & Low-Fi Prototyping

4.1 Brainstorming

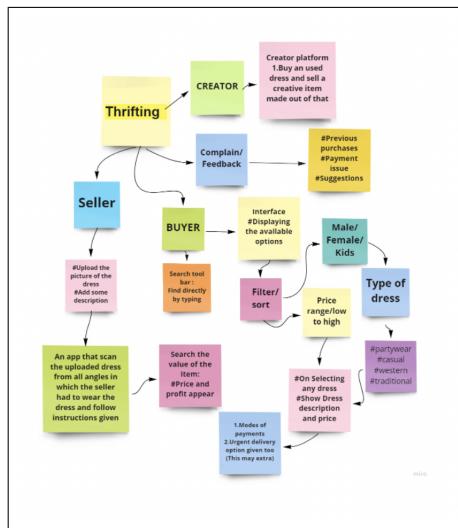
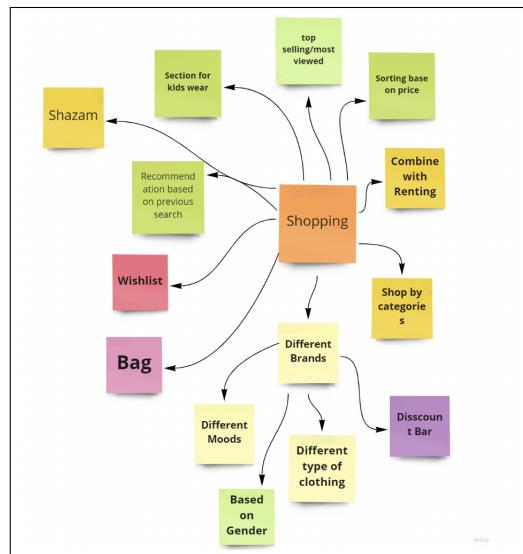
In order to get started with ideation of our product, our group held a brainstorming session in which each member gave their inputs about what they wanted our project to have.

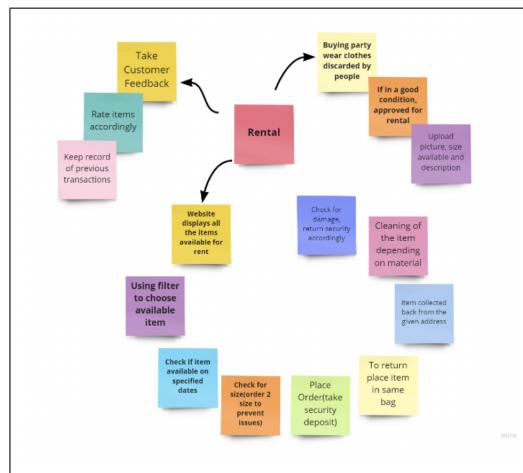
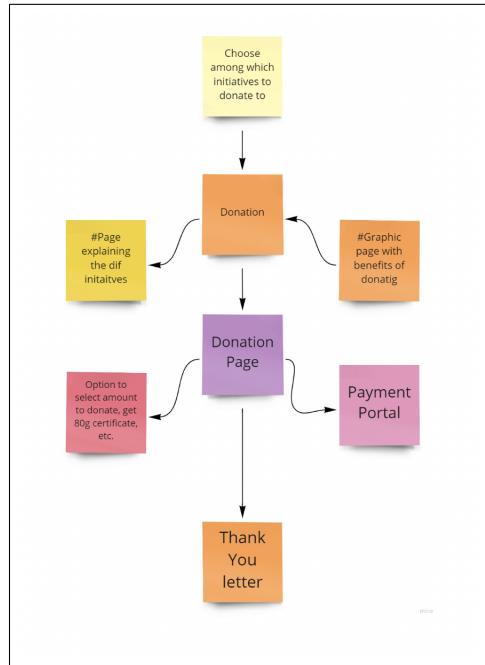
Attached below is a snippet of the same.



4.2 Ideation

We gave a more organized look to our above session in order to give our product a more structured ideation. Here's what it went like!



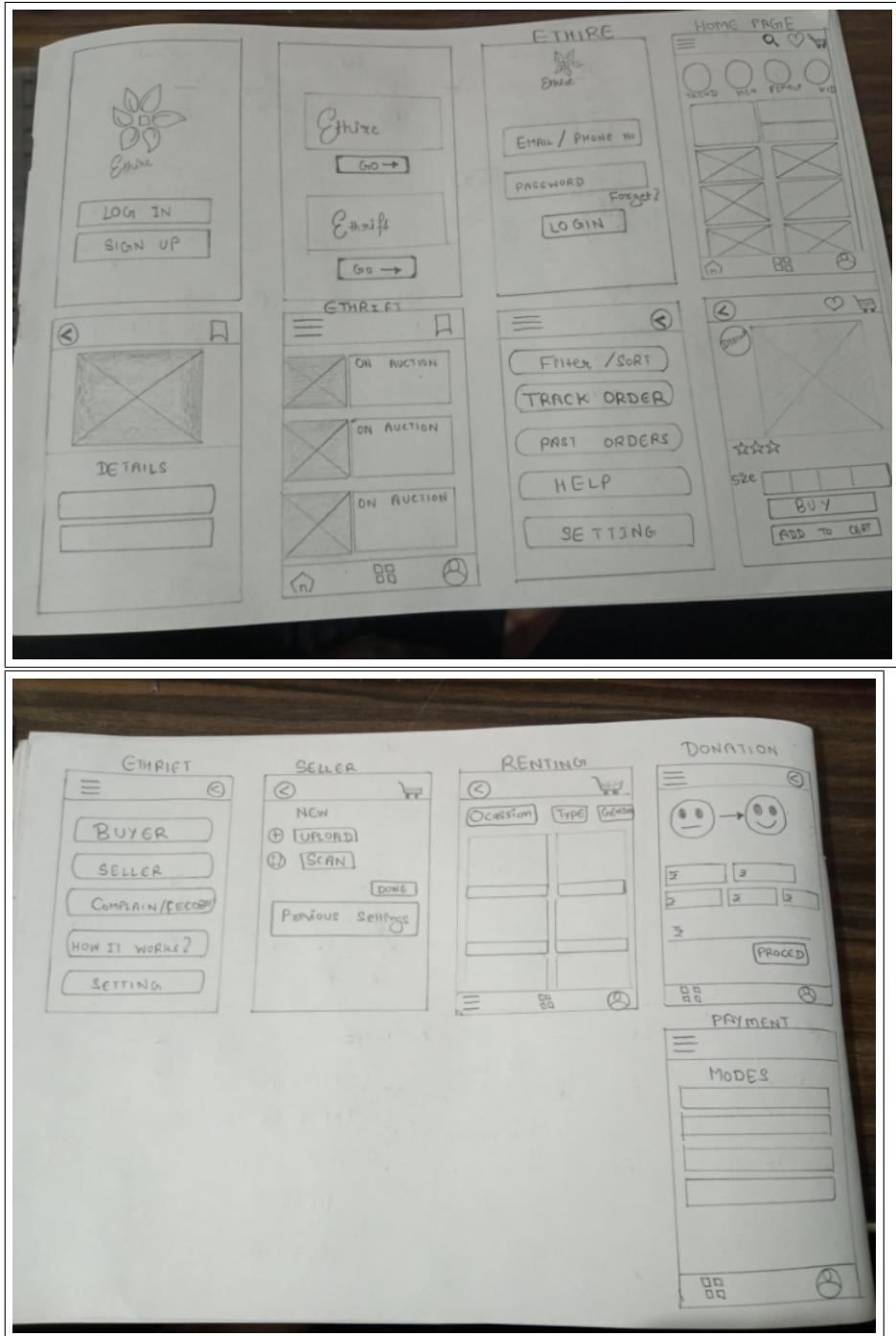


4.3 Low-fi Prototyping

For the lo-fi prototype, We tried to bridge the gap between the user's mental model and the conceptual model in order to make it seem more familiar with something a user would already be comfortable using.

- To create an easy and simple medium of communication between the seller and buyer we added a complaint and feedback feature.
- We have used interfaces similar to popular online shopping apps like myntra, meesho, etc. This will prevent users from putting in a lot of effort while navigating through our app.
- Low cognitive load: We made sure that we do not confuse or increase the cognitive load on the user while using our application. Example: When they select a dress and proceed, the new page will only display that particular dress unlike many other applications that confuse the user with 'Other similar options'.
- Used Fitts law: We used large buttons most of the time so that they are clearly visible and easily clickable.
- For Thrifting and Rental, we have to make sure that the clothes are in good condition, and all the claims made were right. And that was a challenging part. So, for the initial stage we added a feature for scanning the dress from every possible angle and then deciding whether it's good for auction/renting or not. But still,it needs a lot of work.Ensuring what was uploaded and what was delivered to the buyer are the same.
- We decided to divide the app into two sections. One for shopping and the other for thrifting.That will make it easy for the customers to recognise it and also it makes the navigation easier.
- Donation:This feature is a unique and much needed one.We tried to encourage the customers to donate even a small amount to support these brands and the employees working in them.

Below are the images of our low-fidelity prototype.



5 High-Fi Prototyping

Link to High-Fi Prototype: [Click Here](#)

We chose the solution implemented in our high fidelity prototype because:

- It gave us space to try out a minimalist approach that is rare to find in most the shopping/e-commerce applications
- It helped us integrate most of the components that we felt were of utmost importance for our application
- It gave the users an easily navigable interface to interact with.
- It gave us an opportunity to combine the main ideas and thoughts of all group participants.

Here's a brief description of our high-fidelity prototype.

- For the front page, went for a minimalist solid green background with a logo and 2 authentication options, namely Log In and Sign Up.
- If the authentication is successful, the user is prompted to select one platform out of Ethire and Ethrift. We decided upon to divide our application into two components, a general shopping platform that inherits the application name and a thrifting platform that goes by the name Ethrift.
We took this step in order to reduce the cognitive load for the user and improve the application's information architecture.
- The front page of the application, essentially the page that ties everything together, has various components that greet the user:
 - The top panel is occupied by the latest deals and discounts.
 - The middle panel is occupied by the currently popular categories
 - The rest of the page is occupied by currently hot and new deals on specific pieces of clothes.

The user is also introduced to the header bar and bottom navigation bar for the first time.

The header bar has:

- A hamburger menu that leads to different locations within the application
- The logo
- A search option

- A saved/wishlisted option
- A cart option

We'll come to these later.

- If the user clicks on a product that they're interested in, they're directed to the product page. The product page has the following components:
 - Images of the product from different angles
 - Rating
 - Price and what discount is being offered
 - Whether the product is available for rental or not
 - Available colors and sizes
 - Three buttons: Buy Now (directly leads to checkout), Add to Cart, and Rent it
 - Description of the product
- We did our best to prevent the cluttering of the product page as it has the highest chances of having high cognitive load. In future versions, we aim towards integrating other features such as reviews, AR for trying the dress in a physical world and an AI-supported recommendation system for products.
- The cart page redirects the user to all the items present in their cart, where they can give a final review to all the products before checking out. The checkout page lists out all the details regarding the product and delivery.
- The search bar is a strong feature of our application as it enhances the navigation to a great detail. The user can also sort and filter the search results using different criteria.

Coming to Ethrift, it has a similar structure to Ethire but is based more upon the interaction of sellers and buyers.

- A potential buyer is greeted by a list of products sorted by the amount of clicks that they're getting. They can then go to the product's page and make a bid for the same.
- The seller can seamlessly post their clothes for sale using clear-cut instructions provided by us.
- We also aim to facilitate contact between the buyers and sellers and weren't able to do so currently due to privacy concerns.

6 Evaluation

- We chose to evaluate our app 'Ethire' because it focuses both on the usability of the application as well as the user experience. Being an integral part of the design process, it gives the designers an opportunity to make suitable changes in the present prototype so that it can cater to the needs of the user.
- In order to evaluate our app 'Ethire' which is based on Sustainable and Ethical Fashion we circulated a Google Form. As our app primary focuses on creating a sustainable wardrobe for the user, we have included platforms like thrifting and rental in our application.
- The prime motive of the evaluation is to get a feedback from the user regarding the usability, interface and the functionality of our application.
- The following items were required to be tested:
 - Firstly, we would like the user to check the colour scheme of our application. As our app focuses on sustainability, our interface is majorly Dark green in colour with our app logo on the very first page.
 - Then we wanted the user to give a feedback on the interface of our application, whether they are satisfied or not. Along with this we provided them with a section where they can freely tell about the chances they would like to see.
 - We have also asked the users about the intuitiveness of icons (wish list, cart etc.) that is shown on the screen
 - Coming to the functionality of our application, we have asked the users if they like the flow of our application that is the way screens are proceeding.
 - In the end we had a few questions open to the user regarding their overall experience with the app and if they want to see any particular changes in the app.