

'Dump-It'

(by - iHCI Group 48)

Team Members

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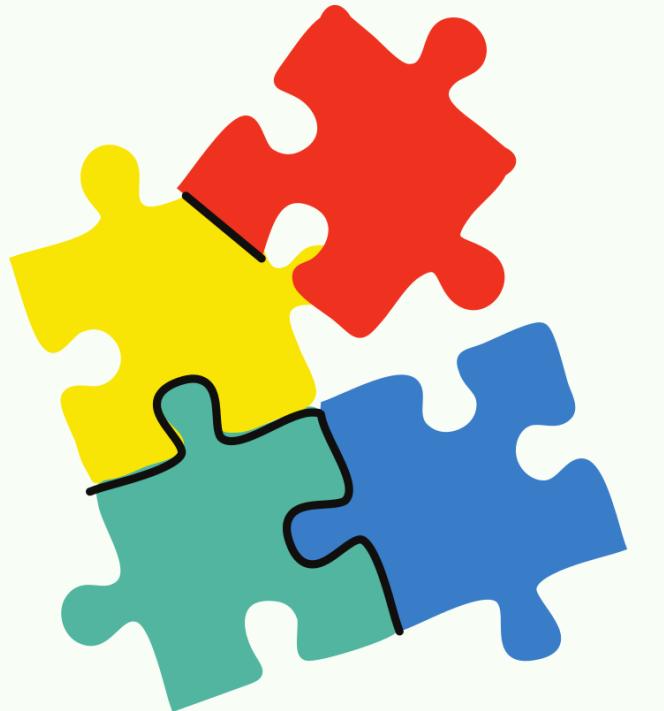
Project Title

'Dump-It' : A Comprehensive
Waste Management System

Project Title

Project Description:

'Dump-It' is a Comprehensive Waste Management System – it would collect all kinds of wastes (electronic, books, furniture, plastics, etc) from users – give them a quote for buying their waste – then either resell it for a profit – or if the condition of the item happens to be terrible (unusable) – it would sell it off to the recycling plant of that particular item.



1. Problem & Solution Statement

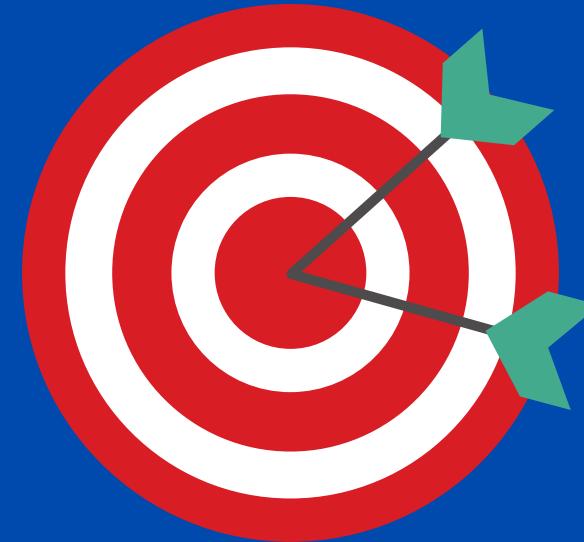
Problem Statement

As the world's population and economy grow, so does the amount of rubbish produced. This puts even more demand on already-scarce waste disposal systems, particularly in developing countries like India.



Time management is also linked to waste management because many people, despite their best efforts, do not have enough time to complete waste recycling due to their hectic lifestyles.

Another big issue that should be noted is that a great number of individuals have grown unaware of recycling/reusing, as a result of which good-condition products are discarded rather than reaching the needy because people have no way of learning more about NGO's.



SOLUTION



**How it provides solution to our
problem statement**

- on next page -

SOLUTION

Many individuals are unclear what to do with their old stuff but still want to contribute back to society, but are unable to do so owing to a lack of knowledge about what is recyclable and what is not, therefore we've incorporated an object identification tool that allows users to submit photographs and learn more about objects. We've also added a learn page to help you have a better understanding of the goods.

To keep users satisfied, we've built a reward system that allows users to purchase products in the app's marketplace after donation or selling of items. Having a community page that allows individuals to become more aware of local NGOs and aid them in their growth is another way of spreading awareness. People who try to sell their goods to the garbage collector do not receive a fair price. To address this issue, we've integrated a system that will determine the object's condition and provide the consumer with reasonable rates.

This also reduces the need for users to use an online selling website where anyone can sell their goods and users must determine the authenticity of the items themselves, which is time consuming and difficult. Furthermore, the vast majority of purchasers on these websites are con artists who waste people's time.

SO HOW DOES 'DUMP-IT' HELP?

This Project aims to provide a practical solution that makes selling / recycling old items a little less complicated & ensure a safe & secure user friendly experience





2. Personas



Ranvijay Singh

Occupation: Sales



If there was a better, faster way to tackle garbage disposal, recycling, and reuse concerns - one that didn't take up all of your time - I believe we could have fixed this mess a long time ago.

Age: 55

Status: Married

Location: Delhi

Income: 18 Lacs

Caring

Frugal

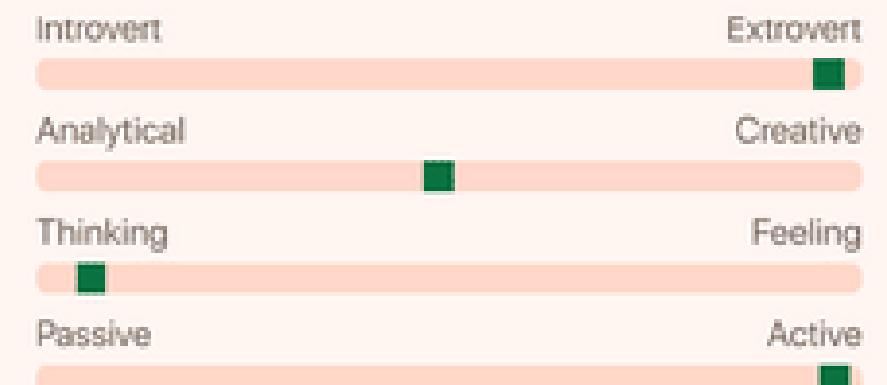
Self - Conscious

Very Busy

Bio

Ranvijay Singh works for a large Indian corporation as a Senior Manager in charge of Sales. He appreciates gardening as a hobby and recognises that waste disposal is a significant issue, particularly in cities like Delhi. He is a middle-class man who is working tirelessly to send his children overseas and pay their exorbitant education fees. He has amassed and stored a large number of items over the years that he considers valuable, and he is hesitant to simply toss them away in the trash can. Instead, he wants to sell such assets quickly and for a fair price.

Personality / Behaviour



Technology

IT & Internet

Mobile apps

Goals

- Sell his stuff that he finds valuable at a reasonable price. That would bring in some cash while also freeing up space in his three-bedroom residence.
- Contribute in some tiny way to solving the country's waste disposal problem and promoting the concept and practise of circular economy in India, which he believes is falling behind the rest of the developed world.

Frustrations

- Doesn't know how to properly dispose of items that have outlived their usefulness, such as old phones, china bowls, broken rocking chair, old leather shoes in out-of-style designs, and so on.
 - NEEDS: A reliable platform that will dispose of unusable junk in the most efficient and effective manner feasible.
- Doesn't have enough time to go on Olx and waste hours conversing with people about selling his valuables.
 - NEEDS: A platform that facilitates the sale of one's possessions swiftly and at a reasonable price.

Motivations

Price

Environmental Concern

Convenience

Saving Time



Raj Patel

Occupation: Student



'Away' is a concept that does not exist. Anything we toss away has to go somewhere.

Age: 17

Status: Single

Location: Delhi

Income: NA

Organized

Protective

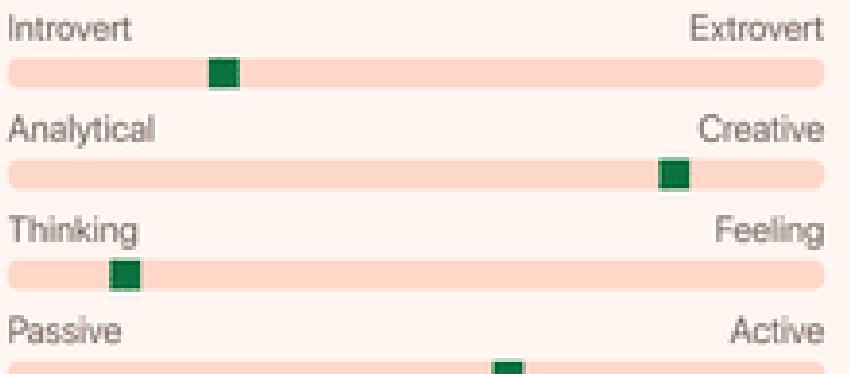
Practical

Punctual

Bio

Raj Patel is an environmental activist and IIITD student. He is socially minded and recognises that garbage disposal is a major issue in today's world, yet he finds it difficult to adopt sustainable behaviours. He is a tech smart guy who also enjoys reading and has a lot of used devices, books, and old clothes but he is uninformed of how to properly dispose of waste and lacks the time to do so. He desires for a solution that may assist him in managing waste and spreading awareness.

Personality / Behaviour



Technology

IT & Internet

Mobile apps

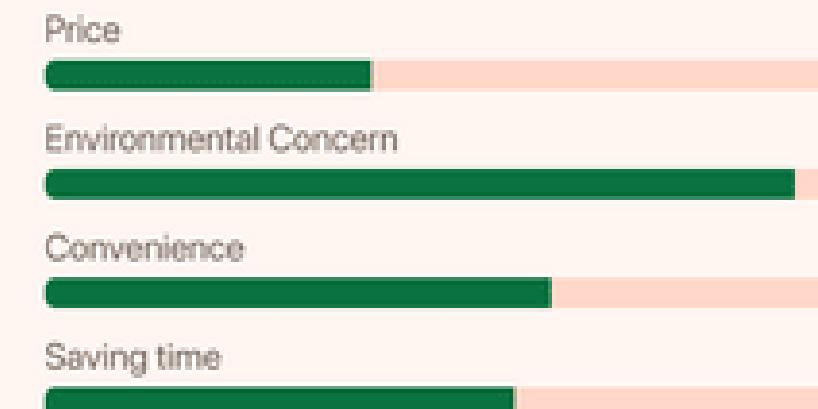
Goals

- Discover strategies to improve recycling habits and persuade others to prioritise sustainability above convenience
- Get rid of unwanted books and devices in a way that helps the less fortunate while also allowing me to purchase newer, better products.

Frustrations

- Frequently gets perplexed as to what can be recycled
 - NEEDS: A trustworthy source of information on recycling regulations
- Dislikes it when individuals are unconcerned about waste recycling
 - NEEDS: A platform that can help in disseminate trash management awareness
- Lacks the time to travel to the recycling centre
 - NEEDS: a more rapid and efficient way of connecting to recycling stations

Motivations





3. Scenarios

Story 1

Ranvijay Singh is a middle-aged man who works for a prominent Indian corporation as a senior manager in charge of sales. He is an extremely busy individual who does have a hard time balancing his personal life and his demanding sales profession. He is normally on the move 24/7, 6 days a week. Not to mention the fact that he is frequently on extensive tours, both domestic and international. He is a loving father and a family man who is working long hours to send his children overseas and pay their exorbitant college expenses.

He discovered one day that he had gathered a lot of stuff over the years, such as formal shoes, limited edition watches, rocking chair, custom suits, old laptops & computer, most of which he believes is useful and worth retaining. He does confess, though, that the majority of these products have either never been used or have been used very infrequently, which is why he is hesitant to simply put them in the trash can. Furthermore, he believes he has spent a significant amount of money on these items when taken together, and that discarding them would favour no one.

He tried Olx once but found it to be quite time demanding, which is something he is already short on. Not only that, but he discovered that closing a purchase at a reasonable price is nearly impossible, as the majority of people on olx these days are spammers. Chatting with everyone in order to sell an item turned out to be a bad move, so he called it off.

A fresh intern at his branch suggested him to give 'Dump-It' a try. Ranvijay tested out the app the same weekend and was utterly blown away by its features and functionality. It was set up in such a straightforward manner that he ended up selling the majority of his possessions on the app – and at a reasonable price to him.

He now has some extra cash, more free space in his three-bedroom residence, and, most importantly, a carefree mind. He was so pleased with his experience with Dump-It that he decided to use it in the following quarterly sales meeting as an example of the 'Win-Win' philosophy.

Story 2

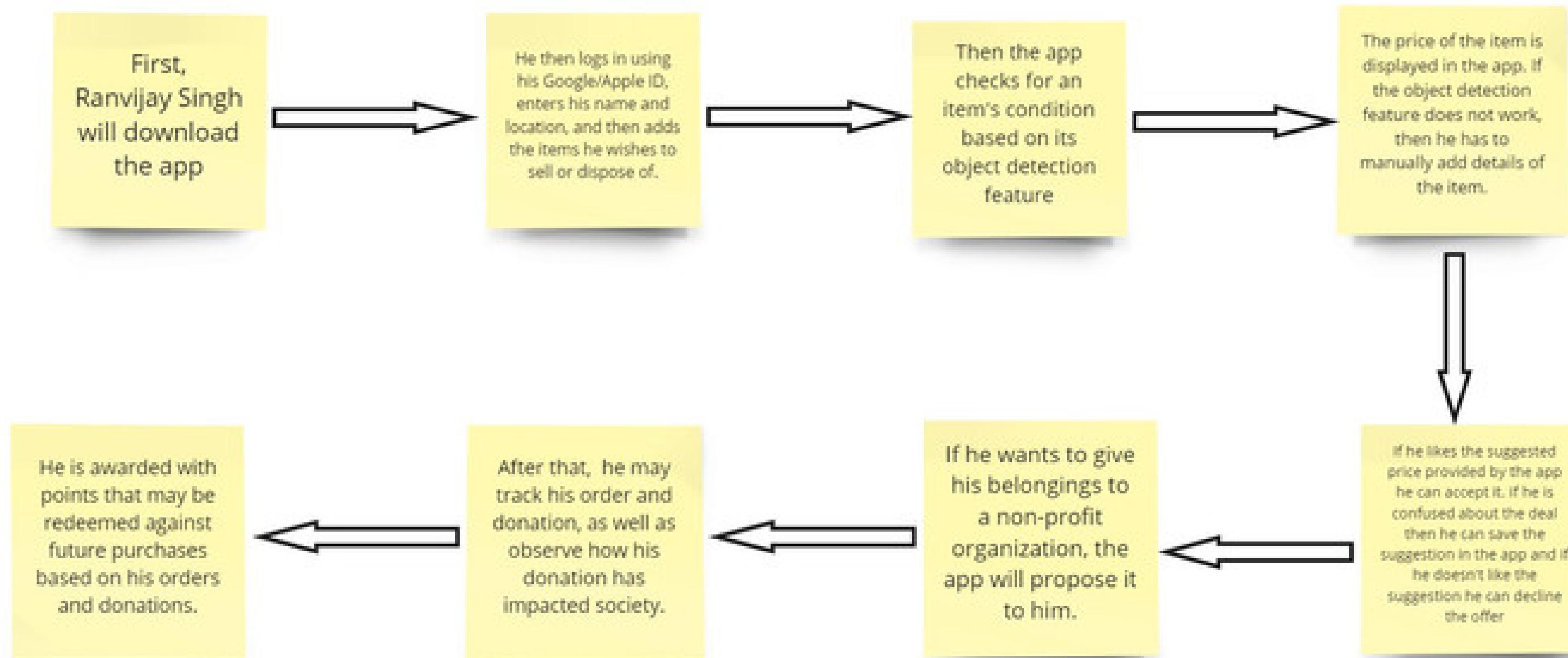
Raj Patel is a CSE undergraduate student at IIIT Delhi in his first year. Raj has always been a creative thinker who knows the value of resources and their optimal utilisation through activities such as Best out of Waste. However, after graduating from high school and enrolling in college, he was left with a large number of unused items such as old books, project materials, clothing, his old bicycle and electronics, which, despite knowing the fact that recycling is a much more eco-friendly way, he finds it more convenient to simply throw away his items at the end of the year rather than donating or reselling them because of time constraints & lack of waste disposal & management system.

Due to a lack of information about waste management in society, he and several of his friends are unsure how to recycle things and what should be adequately recycled. He also believes that everyday waste collectors do not pay a fair price for objects; They simply sell for scrap and do not fix them, decreasing their genuine value and incurring him financial loss.

He stumbled across 'Dump-It', a waste management application that allowed him to categorise different types of waste through scanning and supplied him with information on how to recycle those goods. It also allowed him to put his possessions on the website, and the application also allowed him to connect with 'Dump-it' and get a reasonable price for his items. As an environmental activist, he was able to connect with several (NGOs) that he was previously unaware of, which allowed him to spread awareness and provide items to others who could not afford them. It also earned him points for donating stuff for recycling, which he could use to purchase items on the website marketplace.

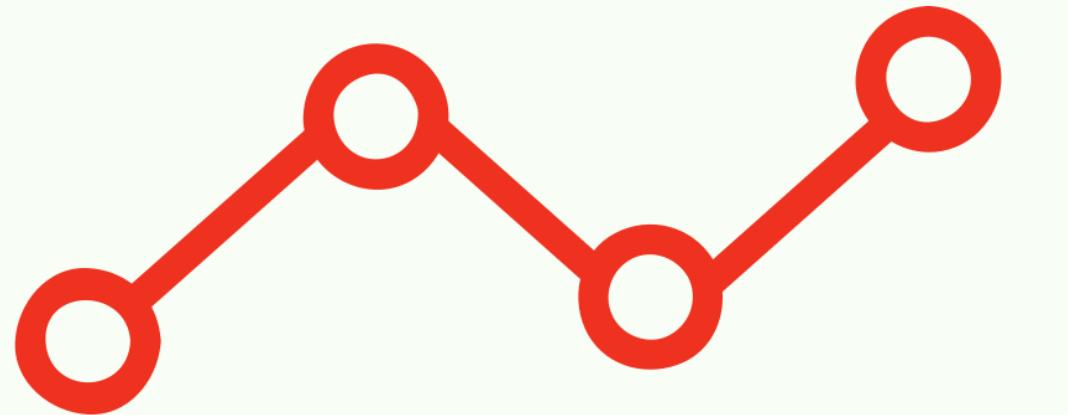
Raj now feels he no longer has to stockpile rubbish, and is pleased with himself since now he can now help individuals who cannot afford items and also raise awareness about the detrimental effects of inadequate trash management.

User Flow



Scenario Mapping

Step	Sign up/Login on 'Dump-It'	Using object detection - check for an item's condition	Sell your stuff on a digital market place or browse for items that have been listed already	Connect with Dump-It or NGOs for the purpose of selling / donating commodities	Track orders and donations, as well as the impact they've had	Receive and Redeem points
Doing	Login using Google / Apple ID This creates a new profile or loads an existing one	The app predicts if the item is in a usable condition or not If the object detection fails to work - then the user has to enter details manually	The user is allowed to buy things that have been quarantined and listed by the company. After providing information on the item, the user can list it for sale.	Sell your valuables for a fair & fixed price - and get instant payment via UP (TNC apply)	Additionally user can check the positive impact of their donations on the society & environment Click on 'Track' menu to track your orders and donations on 'Dump-It'	User can fully redeem these points on-the website during the final checkout while purchasing at item from DumpIt (TNC apply) Points can be earned based on user's past activity
Thinking	How will this app work? Could I sell my valuables quickly via this app?	What if object detection doesn't work? Can't I just enter details manually?	Wondering about the price they shall get after listing their item for sale	Am I supposed to directly contact an NGO? Is there any issue to reflect the payment in my account?	What if the app is unable to track my order / donation? What happens if my usual order is late and showing on 'Track' page?	Curious about how the process redeeming of points operates How long are these points valid?
Feeling	Interested Curious	Nervous Confused	Excited Optimistic Anticipation	Cheerful Hopeful	Anxious Proud	Rewarding Content Delighted
Questions	Is it possible to create an account on the app, and are there any other options for signing in like Facebook? Does the app require any additional information?	Is it allowed to carry object detection again for the same item?	Will the app tell me whether or not certain things are recyclable? If so, how can they be recycled?	Can I keep some items that I would like to buy in future on a 'wishlist'? Where will I receive my payment? What alternative modes of payment are in function on DumpIt?	Instead of buying - are we allowed to borrow items on rent? Can I change shipping address after placing my order?	Are these points redeemable on other sites? If yes, where? What kinds of things can I buy with these points?

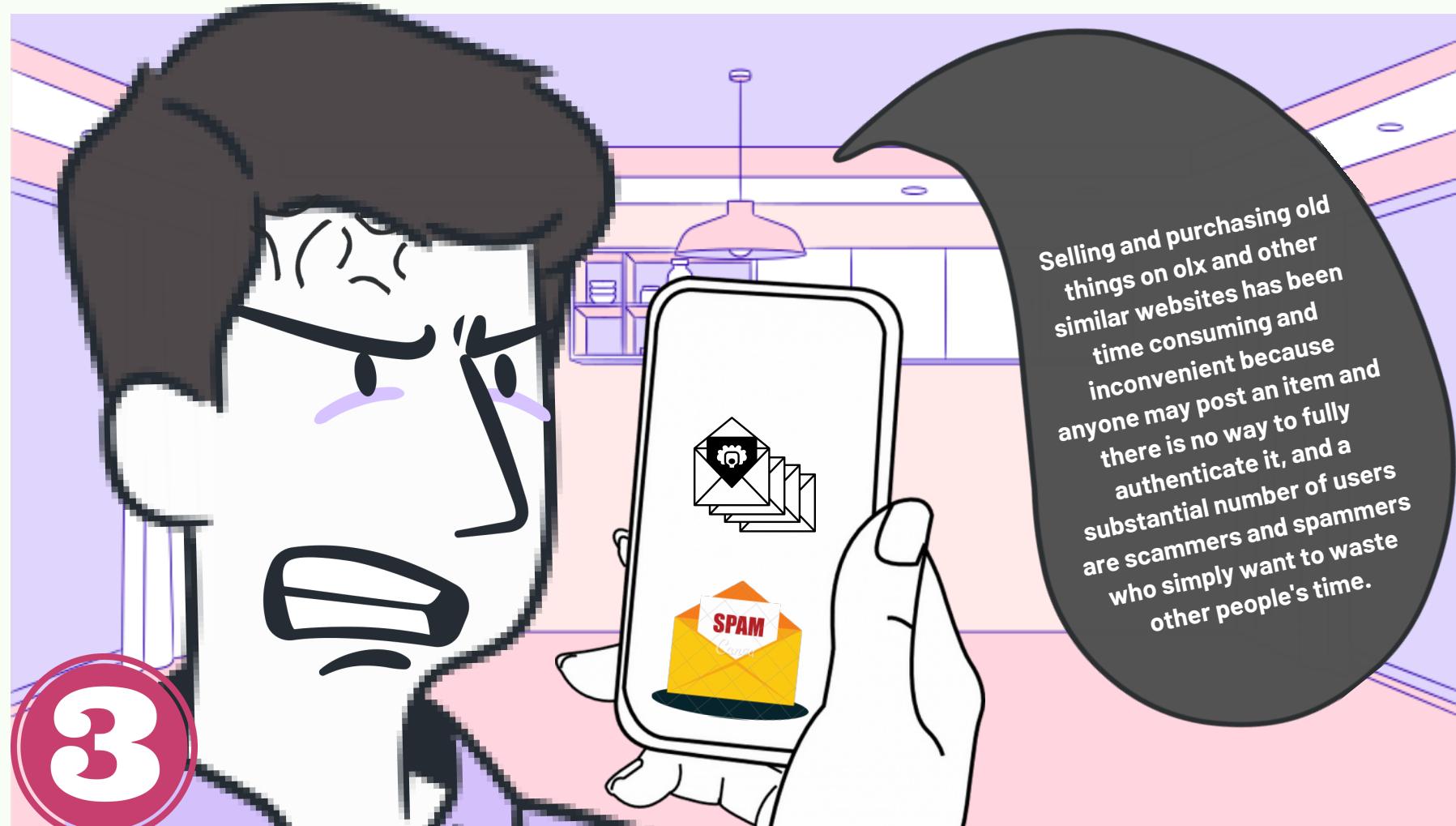


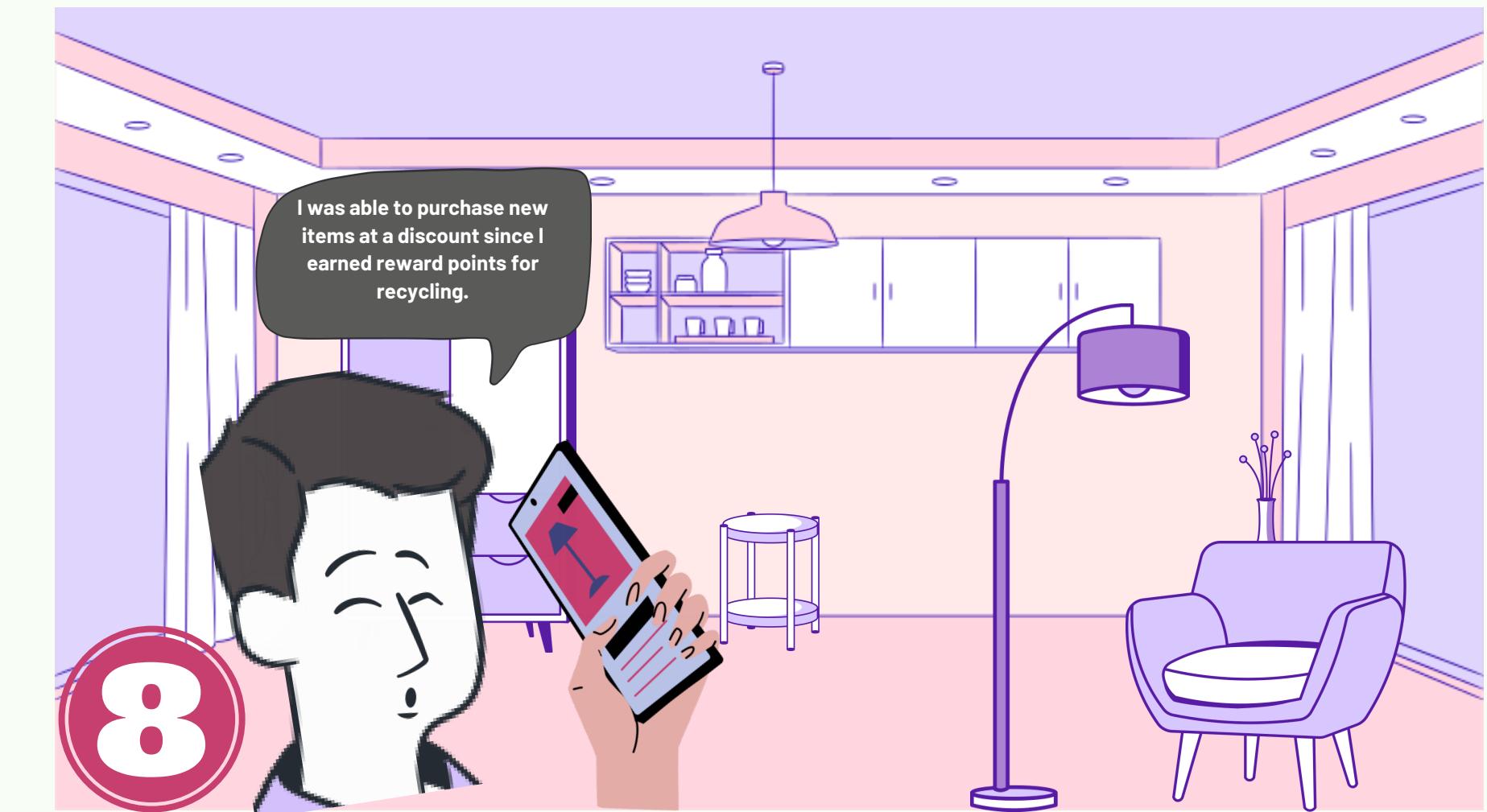
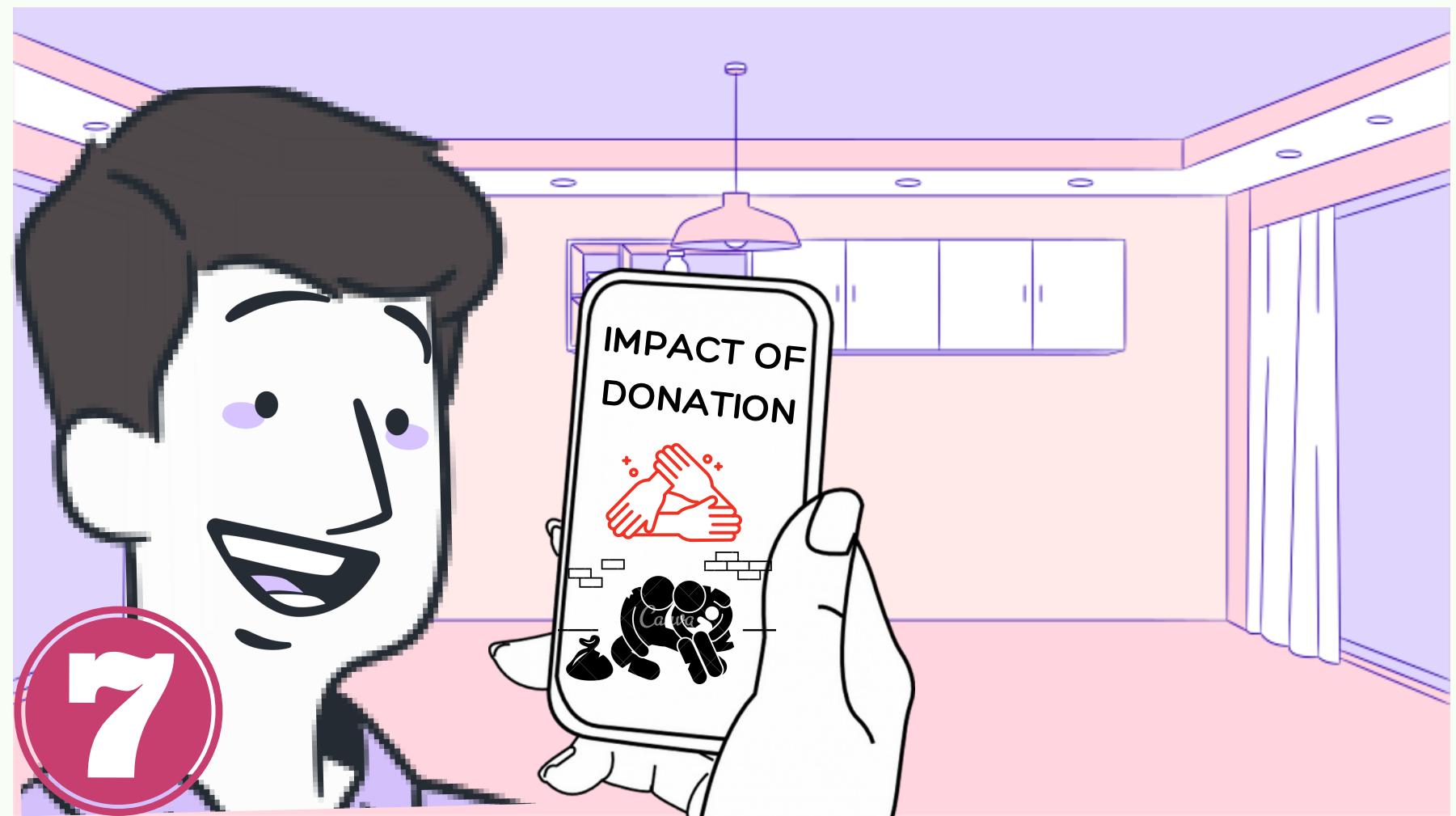
4. Affinity Diagram





5. Story Board





9



Giving back to the community



Clearing out outdated items to make room for new items



Saving environment



Averting financial loss

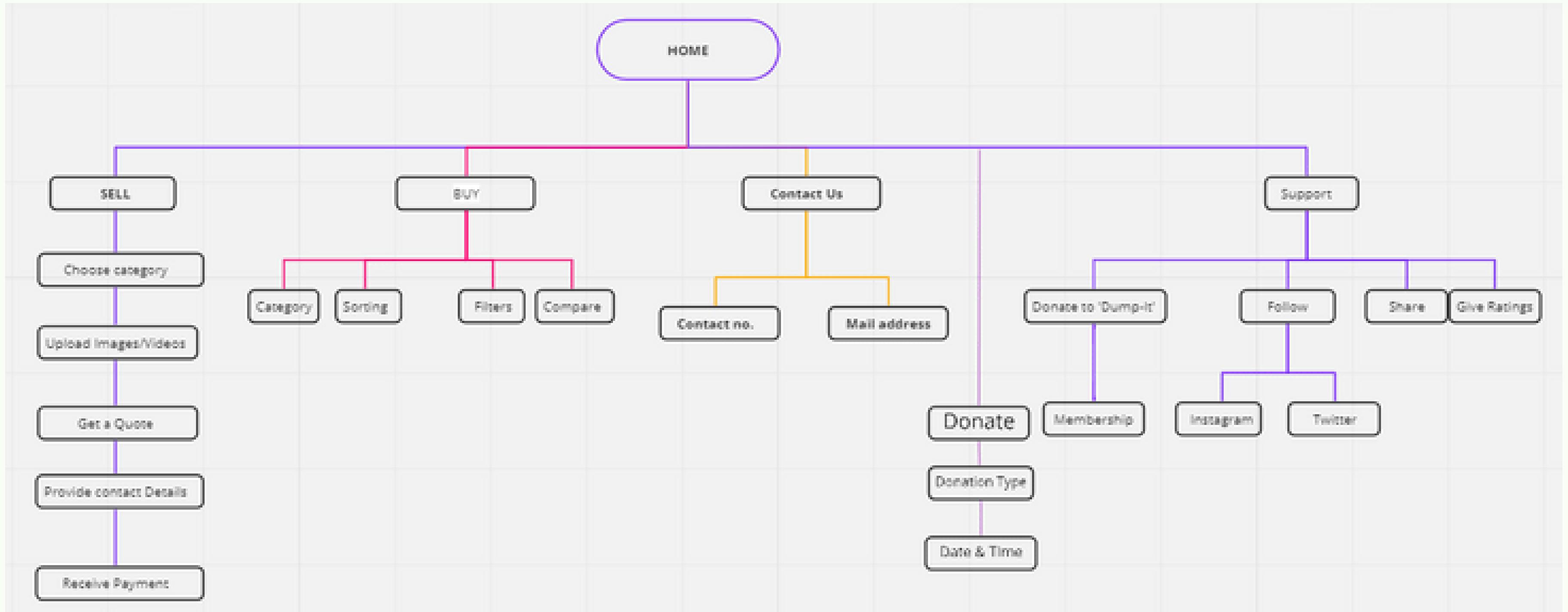


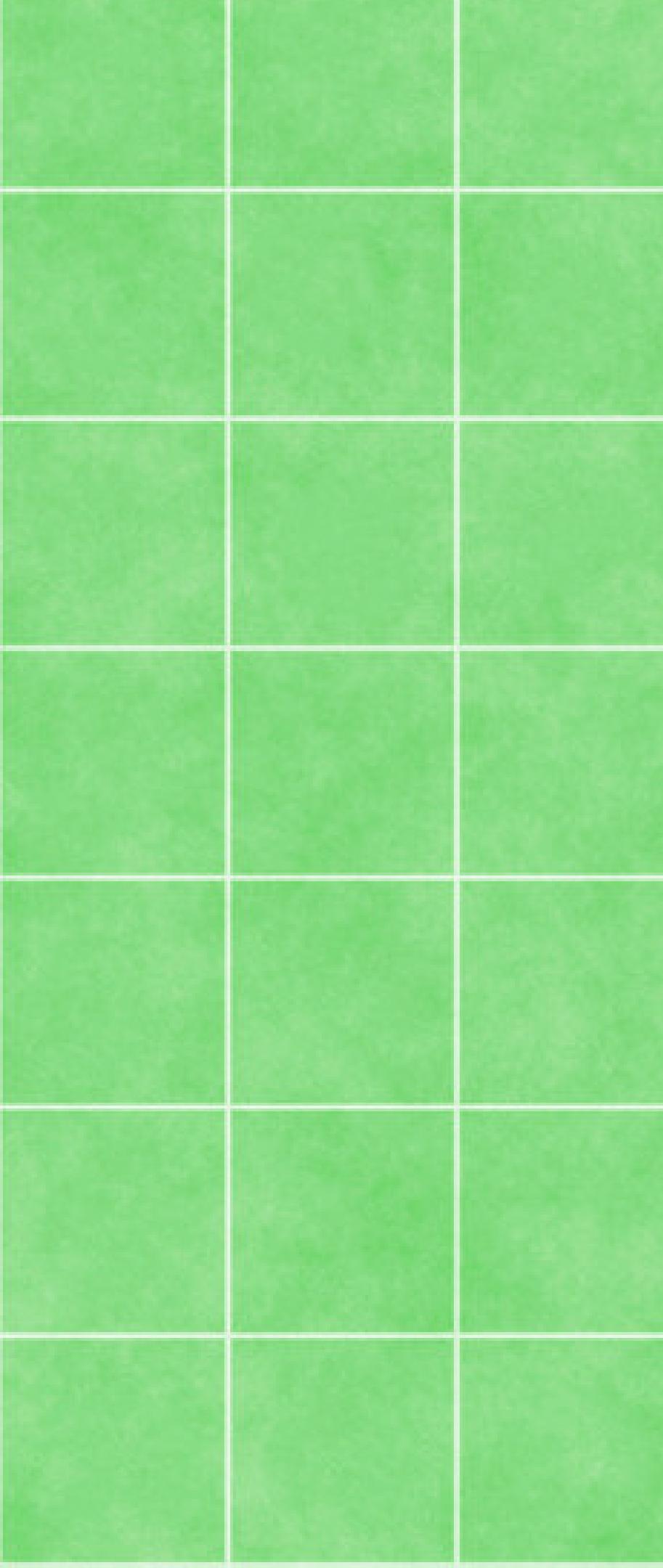
6. Information Architecture



**BROAD
AND
SHALLOW**

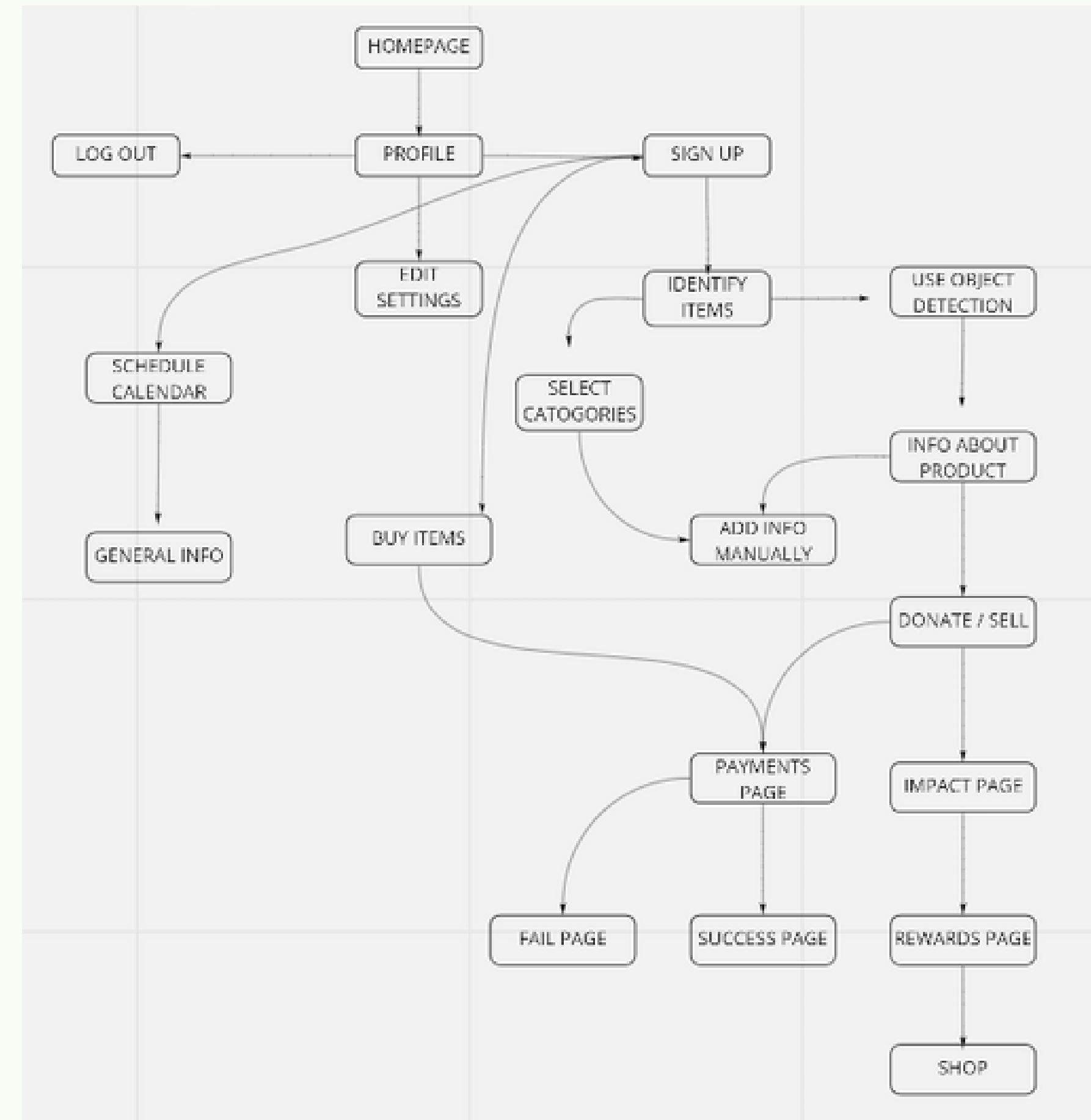
DIAGRAM





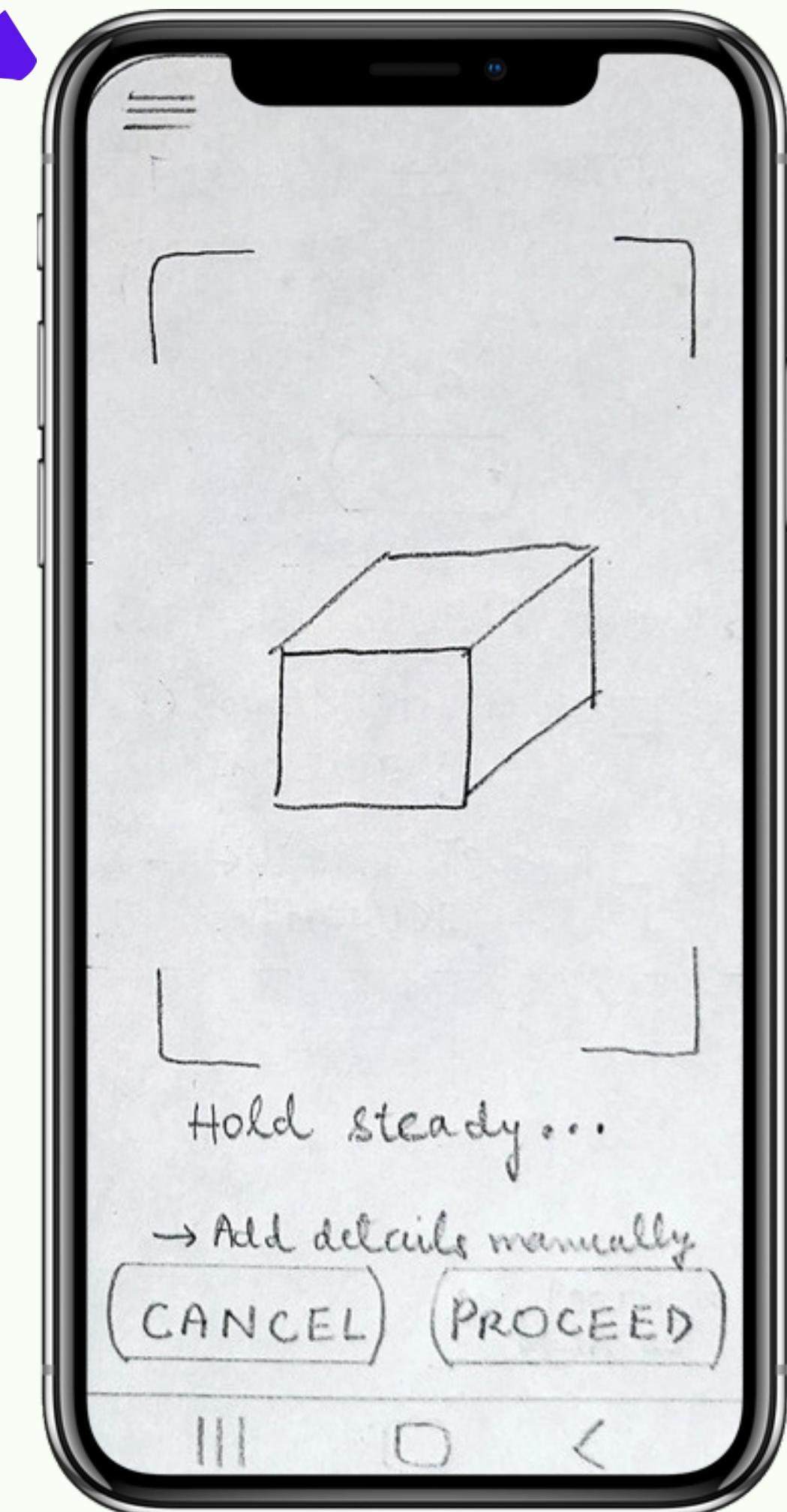
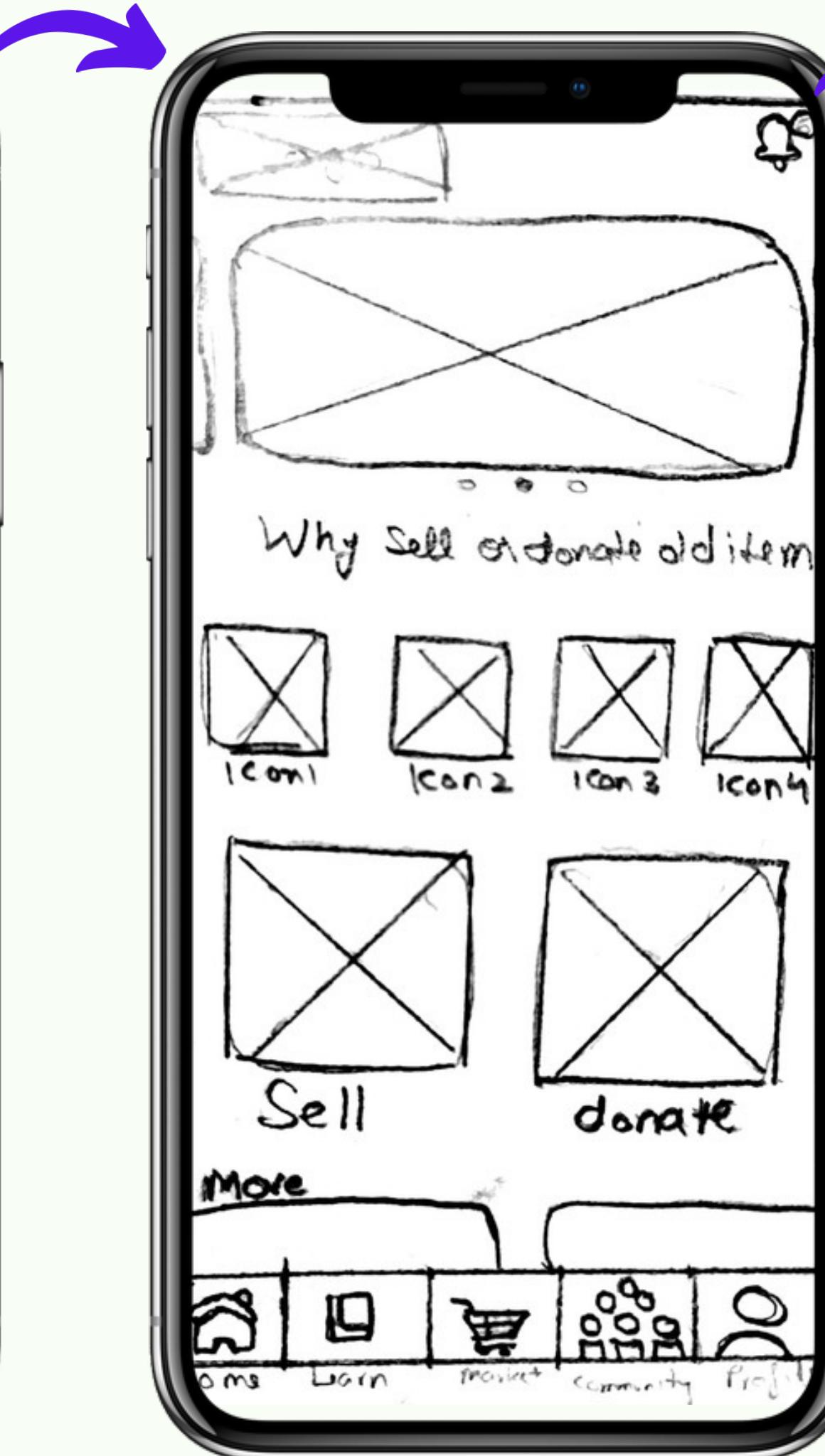
**NARROW
AND
DEEP**

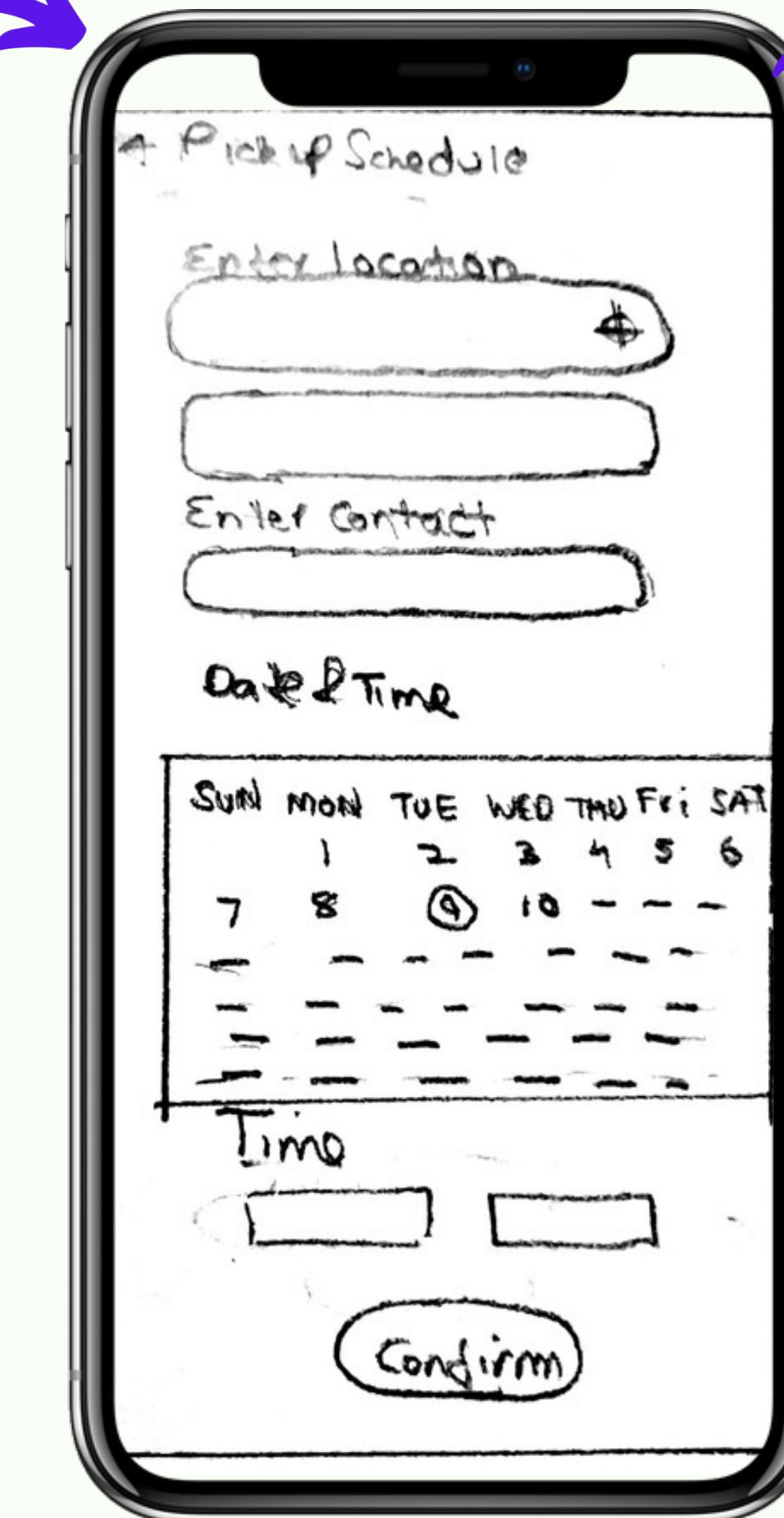
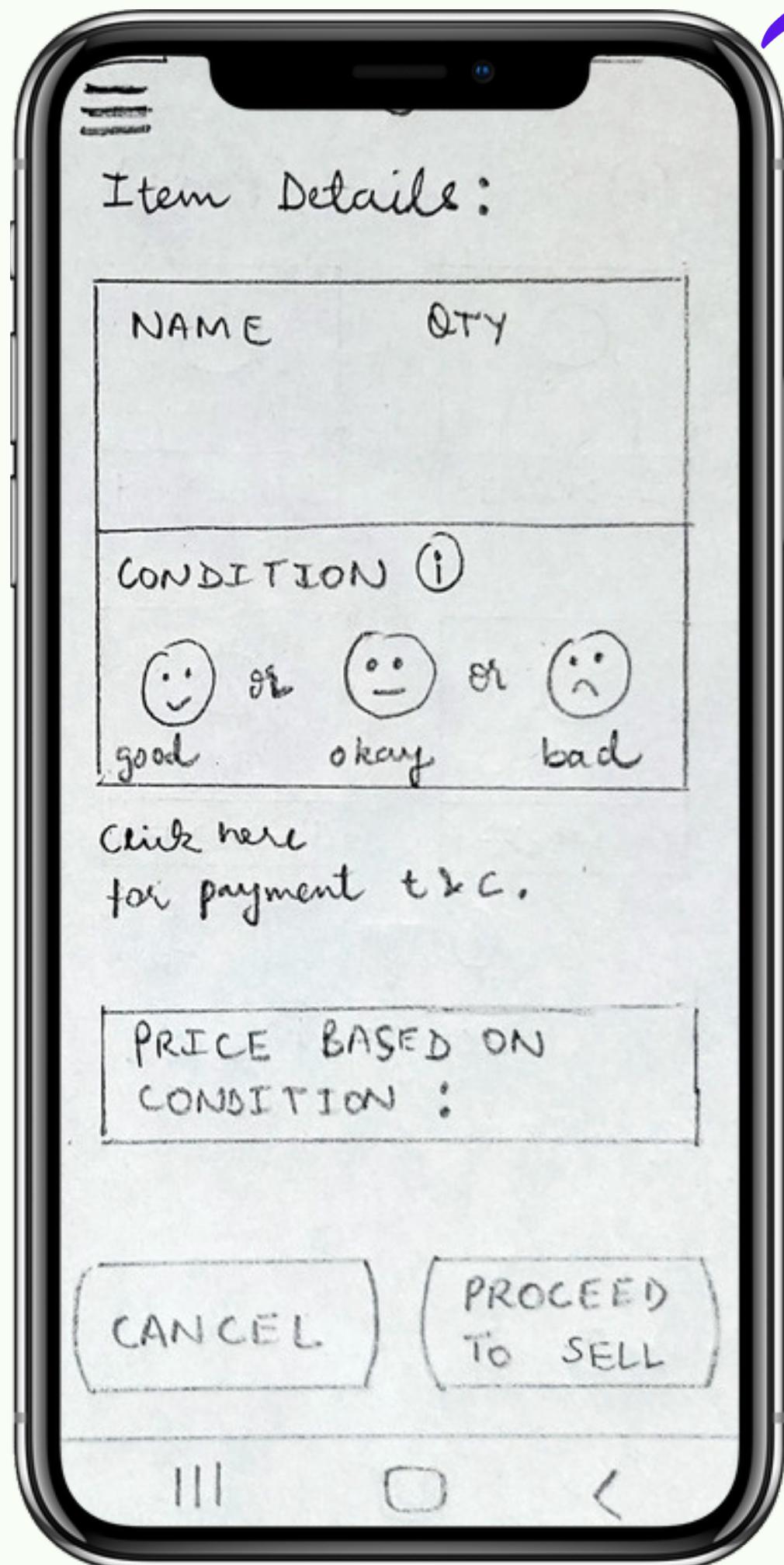
DIAGRAM



7. Low - Fidelity Prototype

Revised lo-fi UI prototype



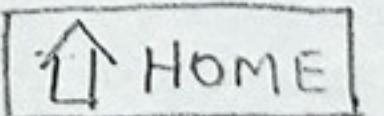


SUCCESS

You've successfully
sold your item!

You've received:

1000 Points



HOME

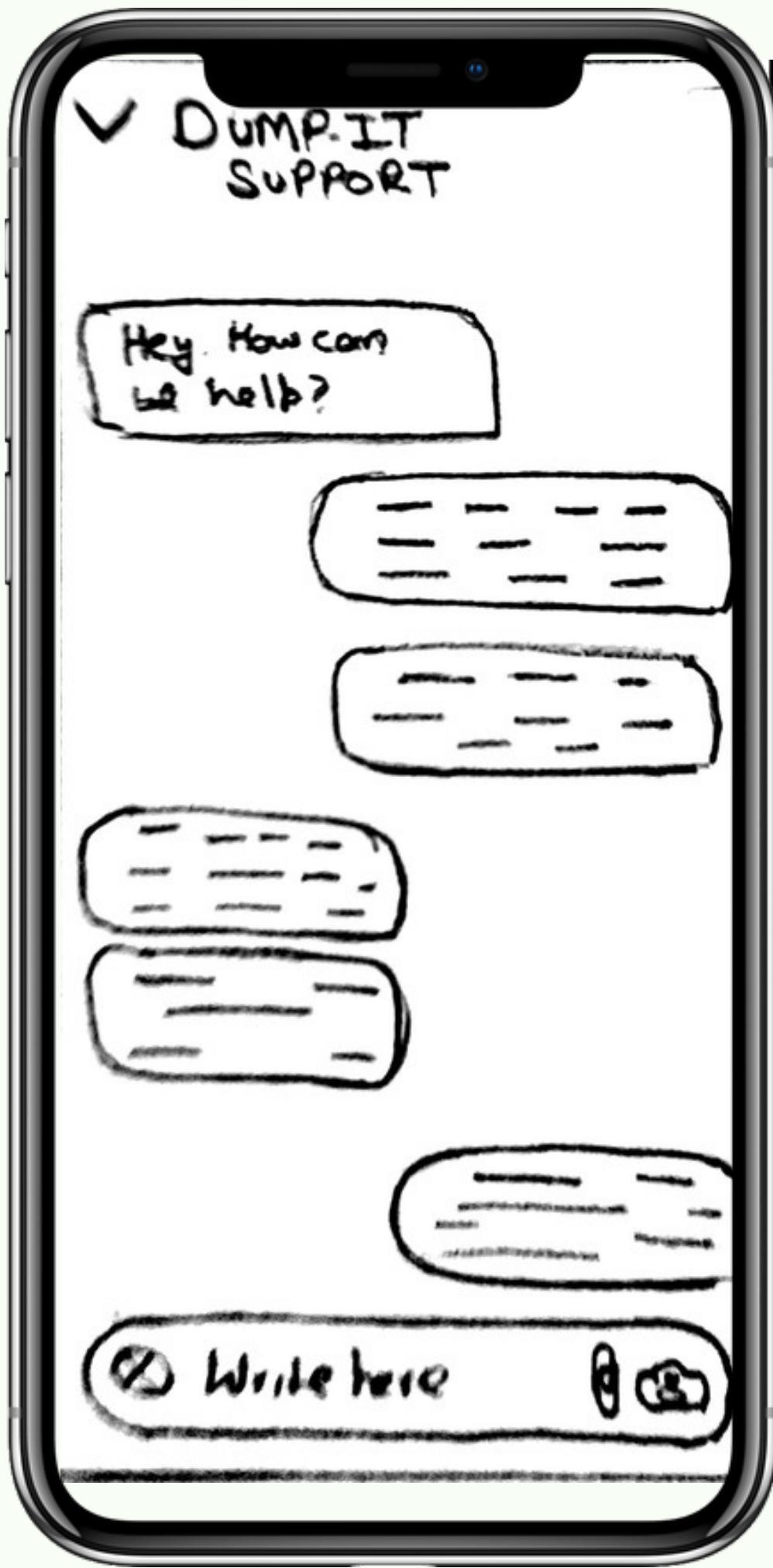
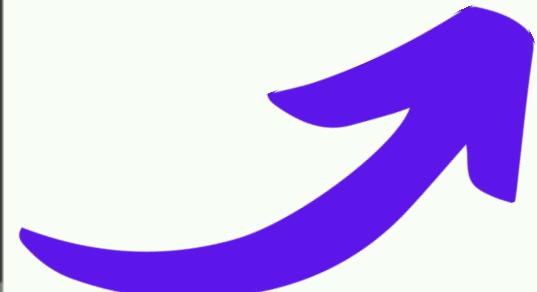
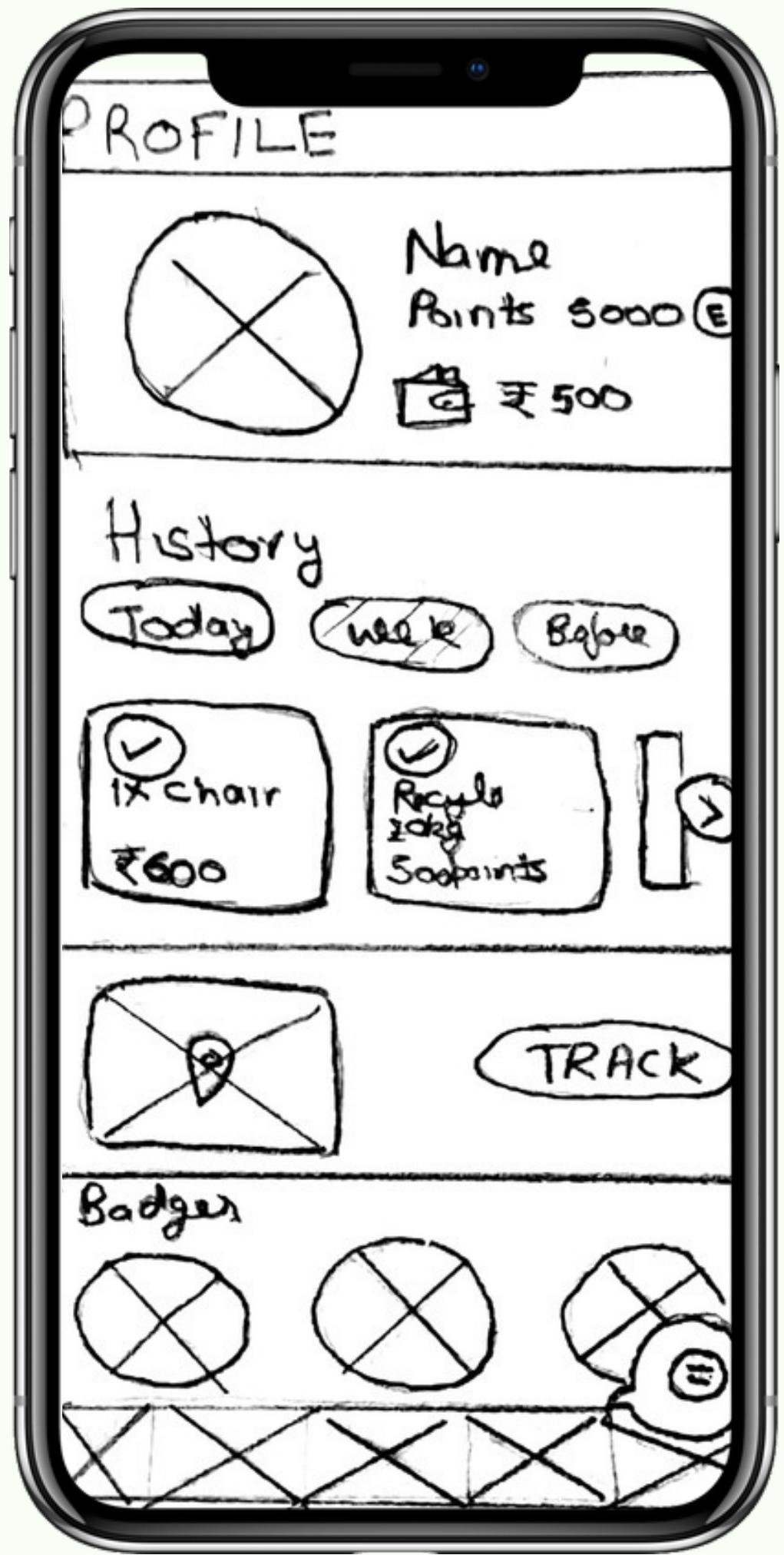
(Sell another
item)

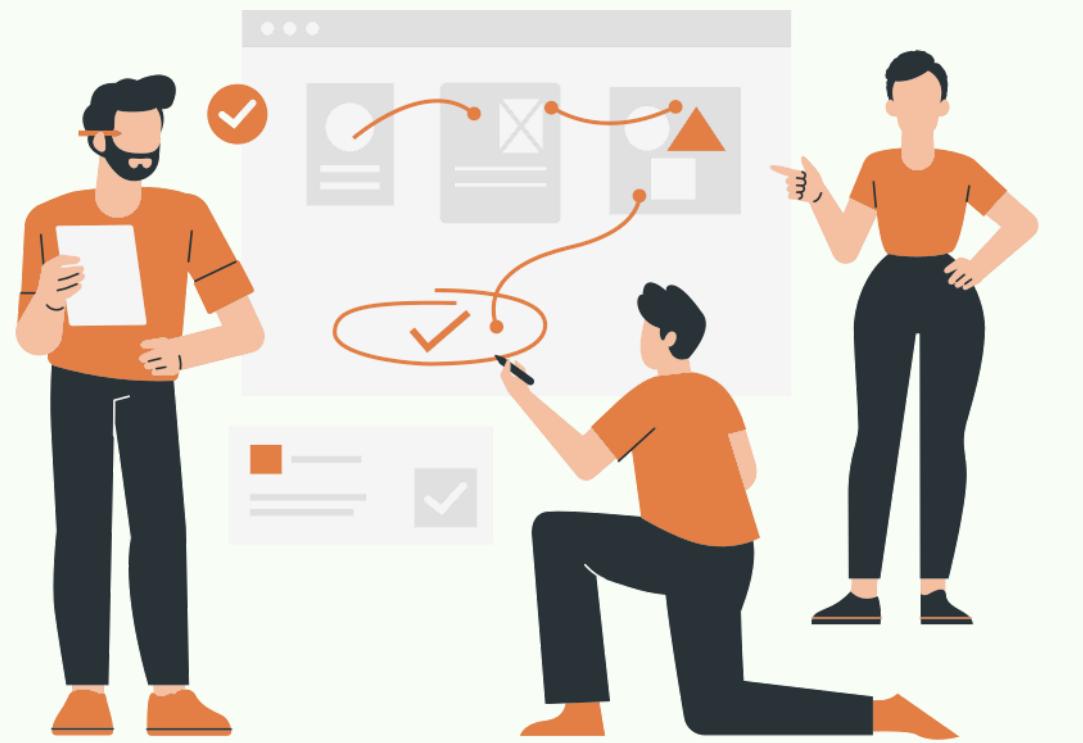
(Donate)



Low - Fidelity Prototype

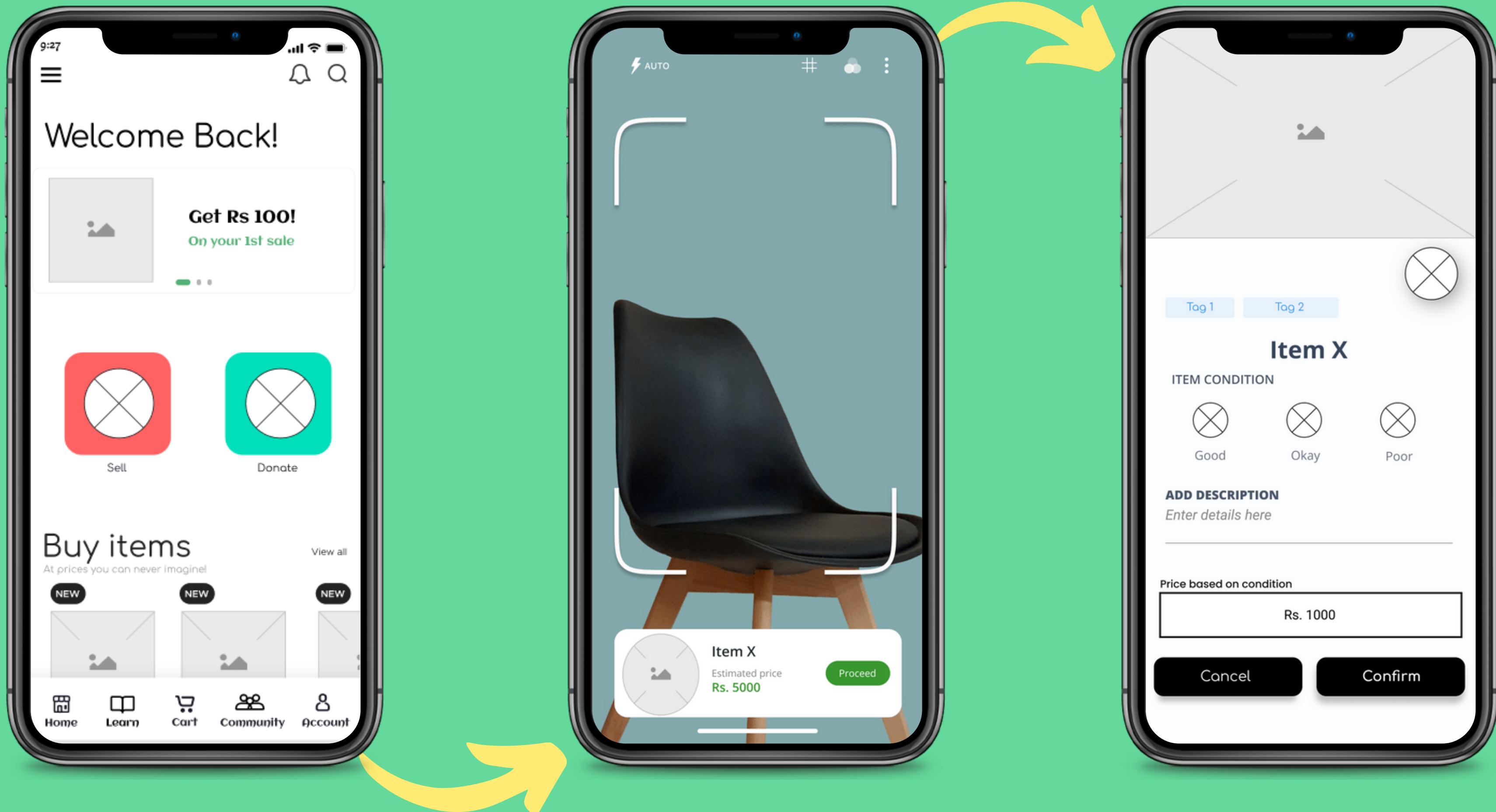
Miscellaneous



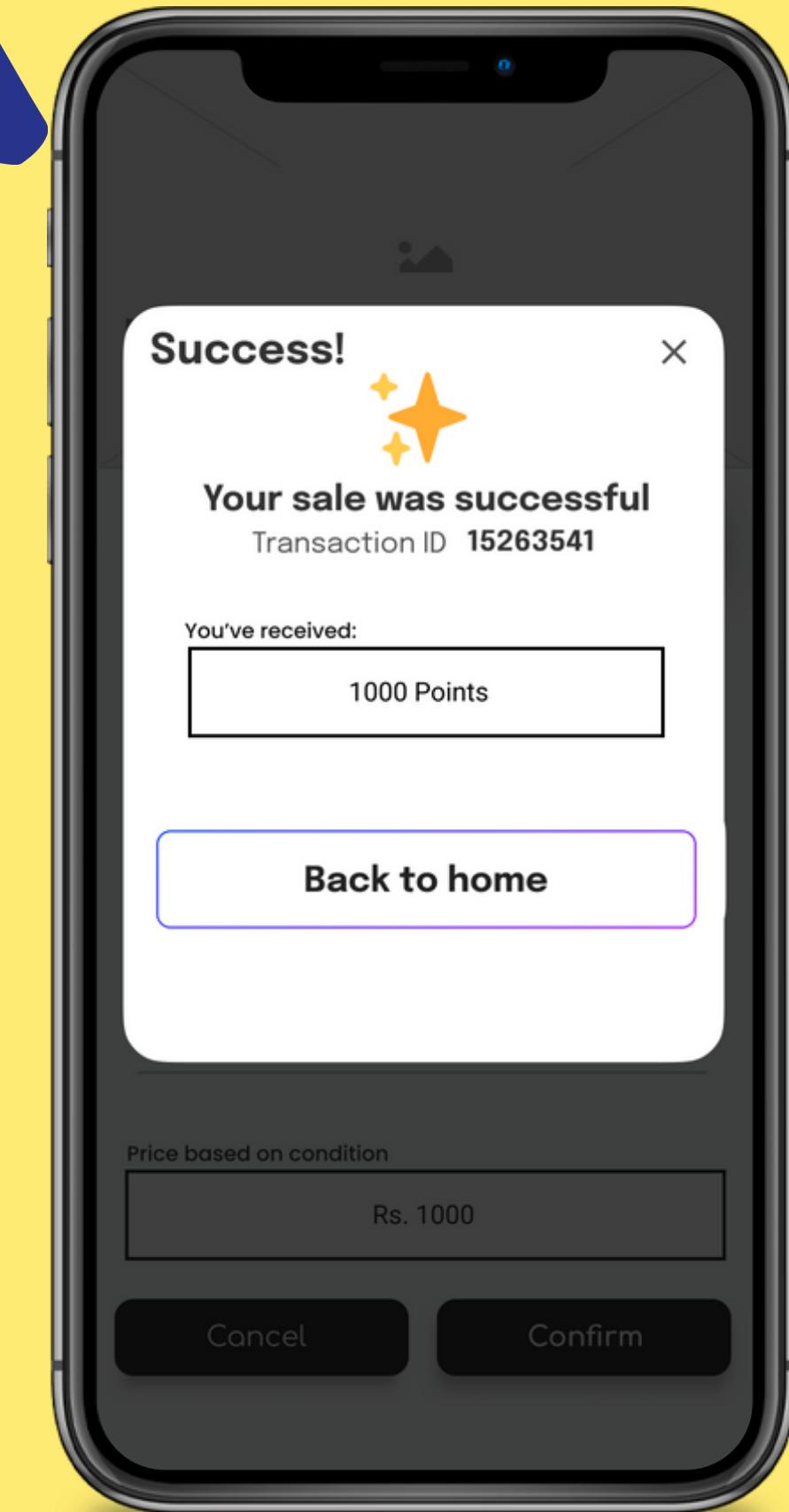
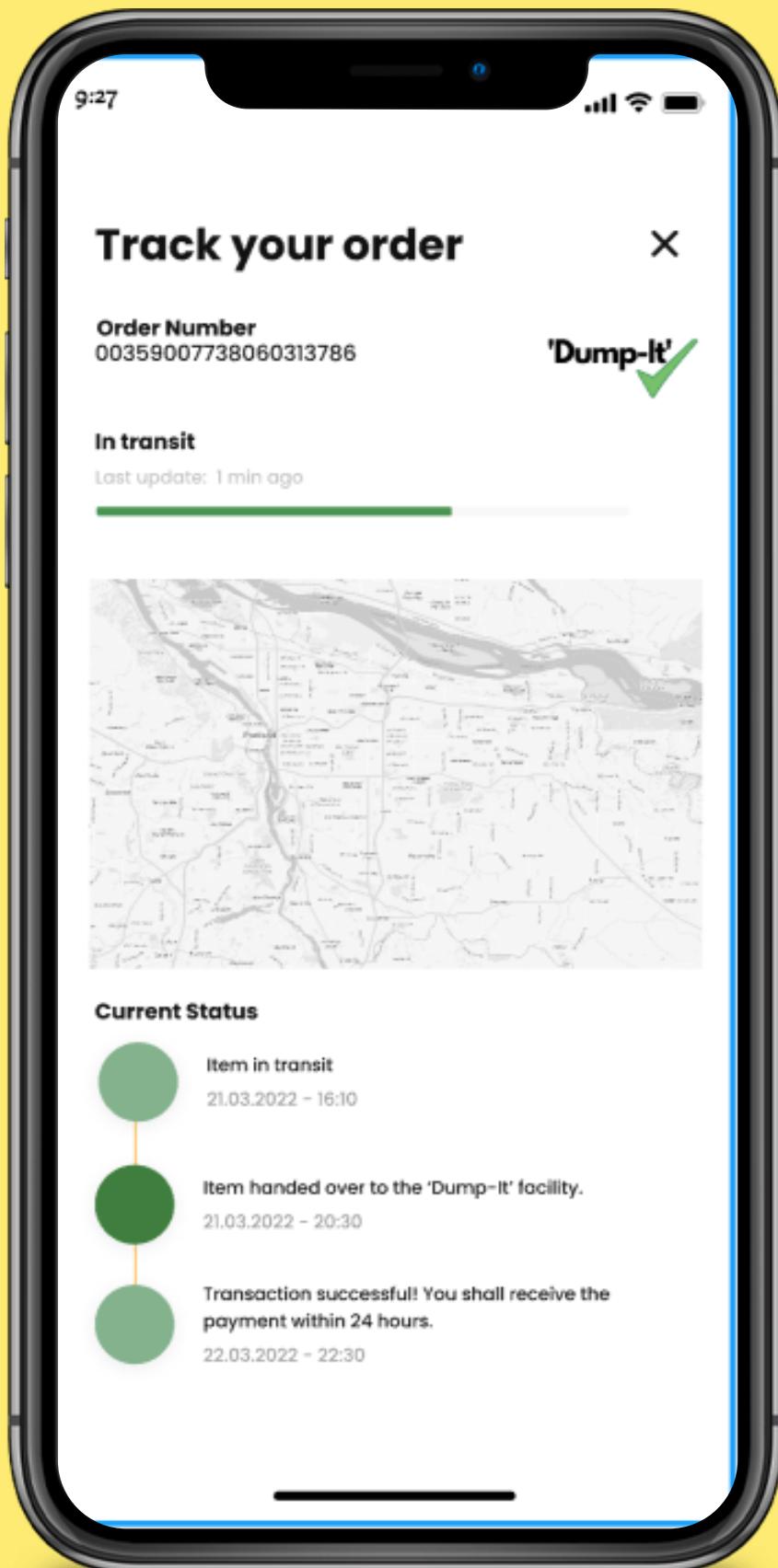
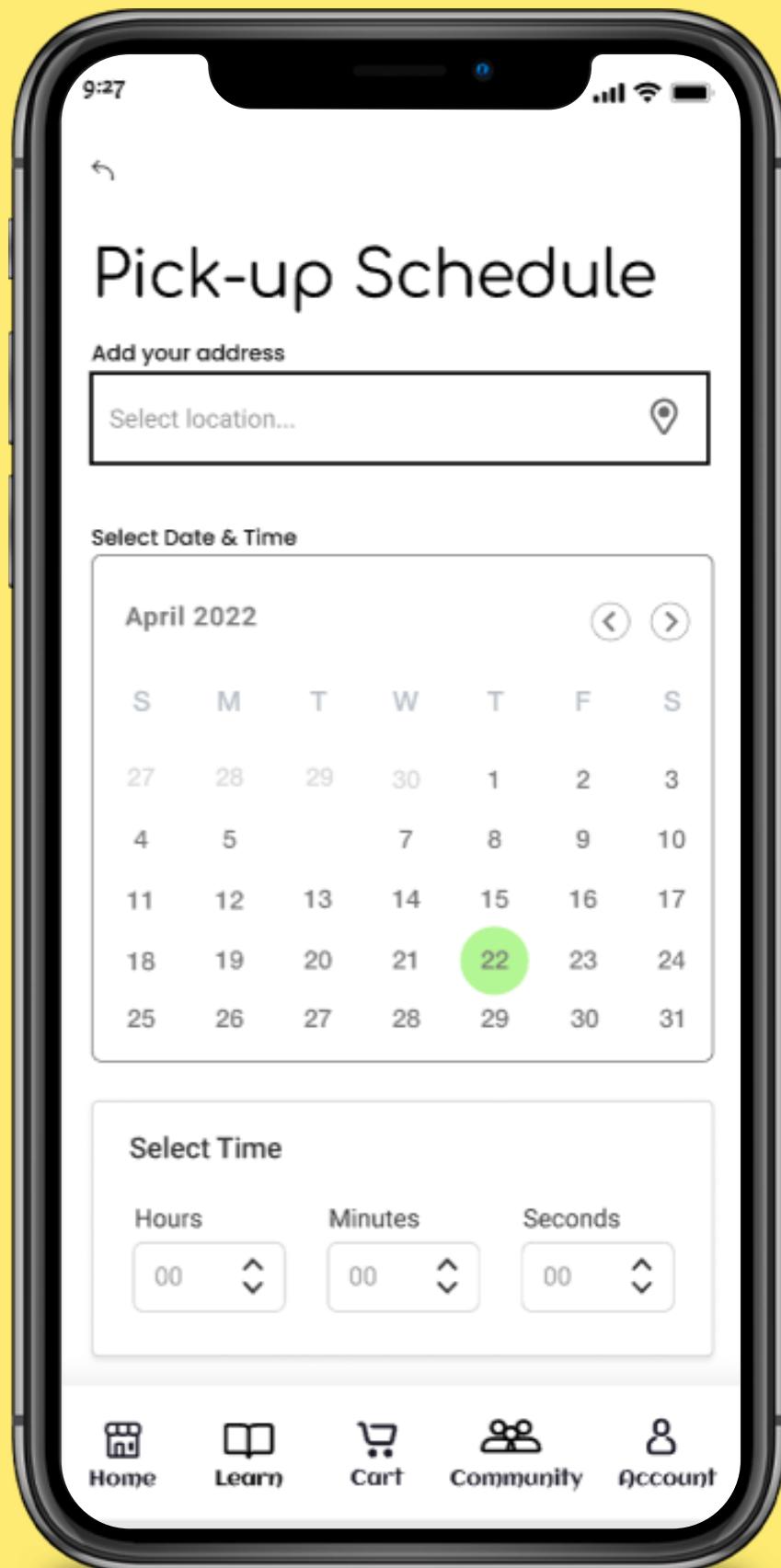


8. Mid-fi Prototypes

WORKFLOW

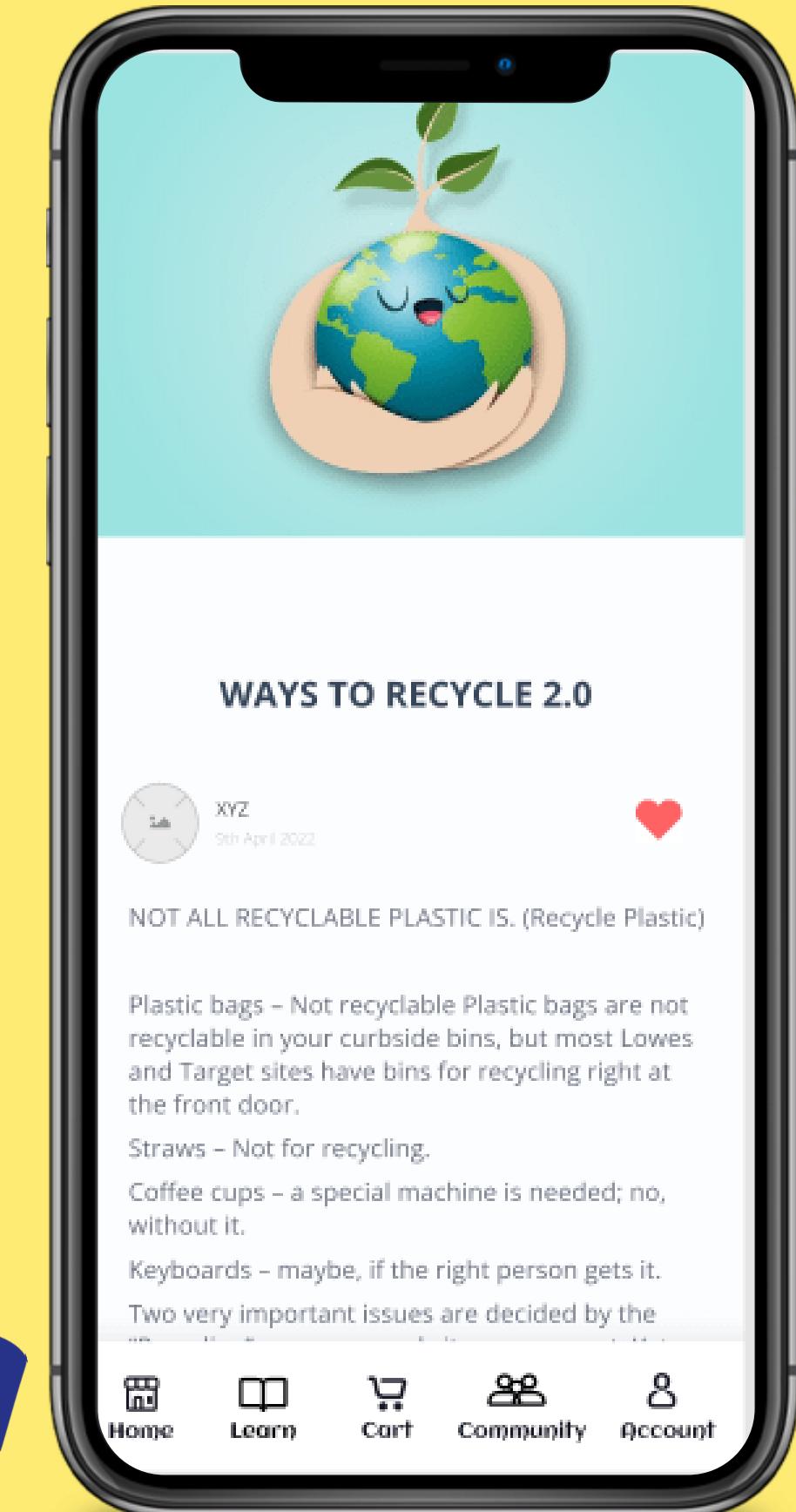
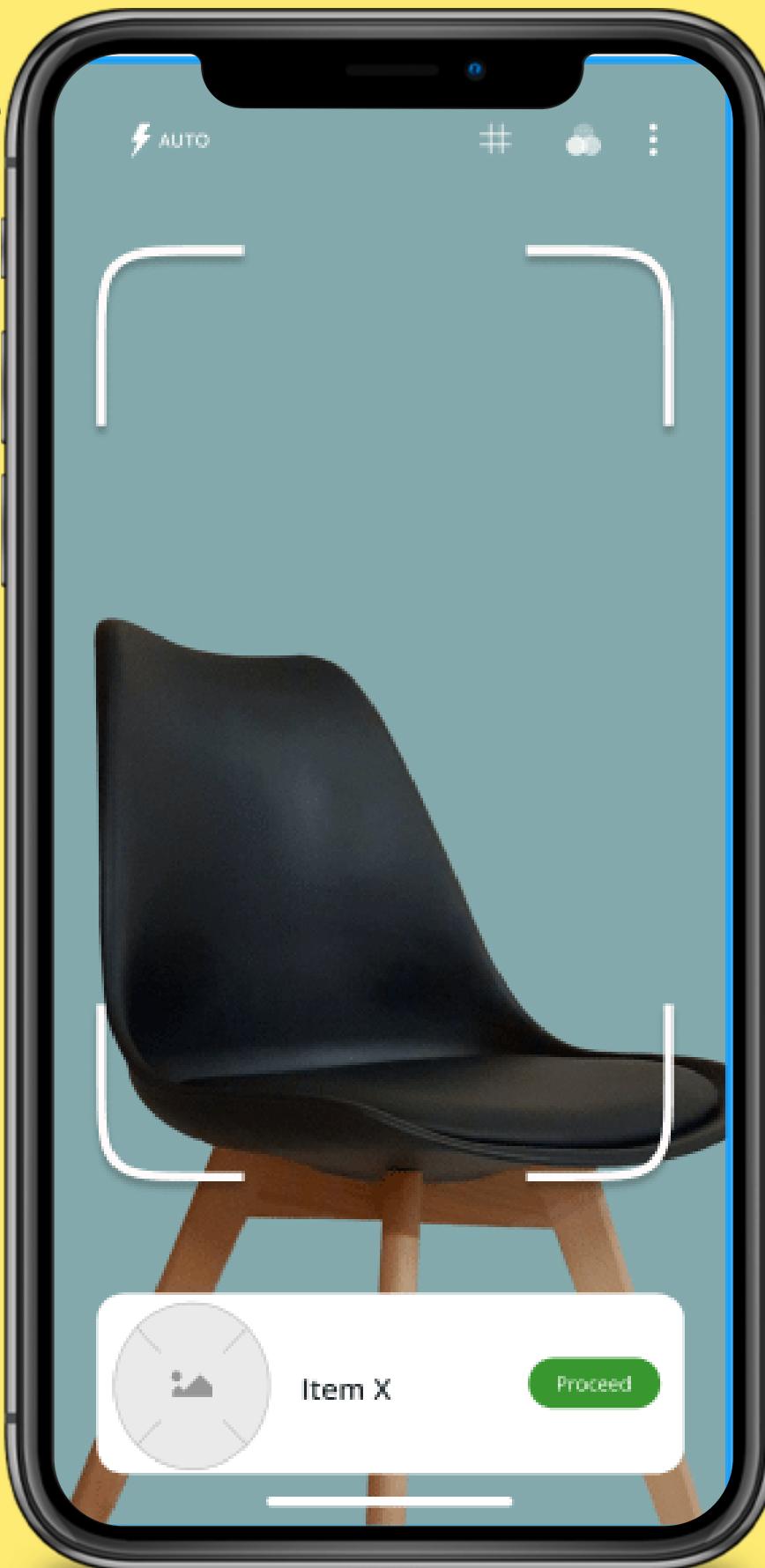
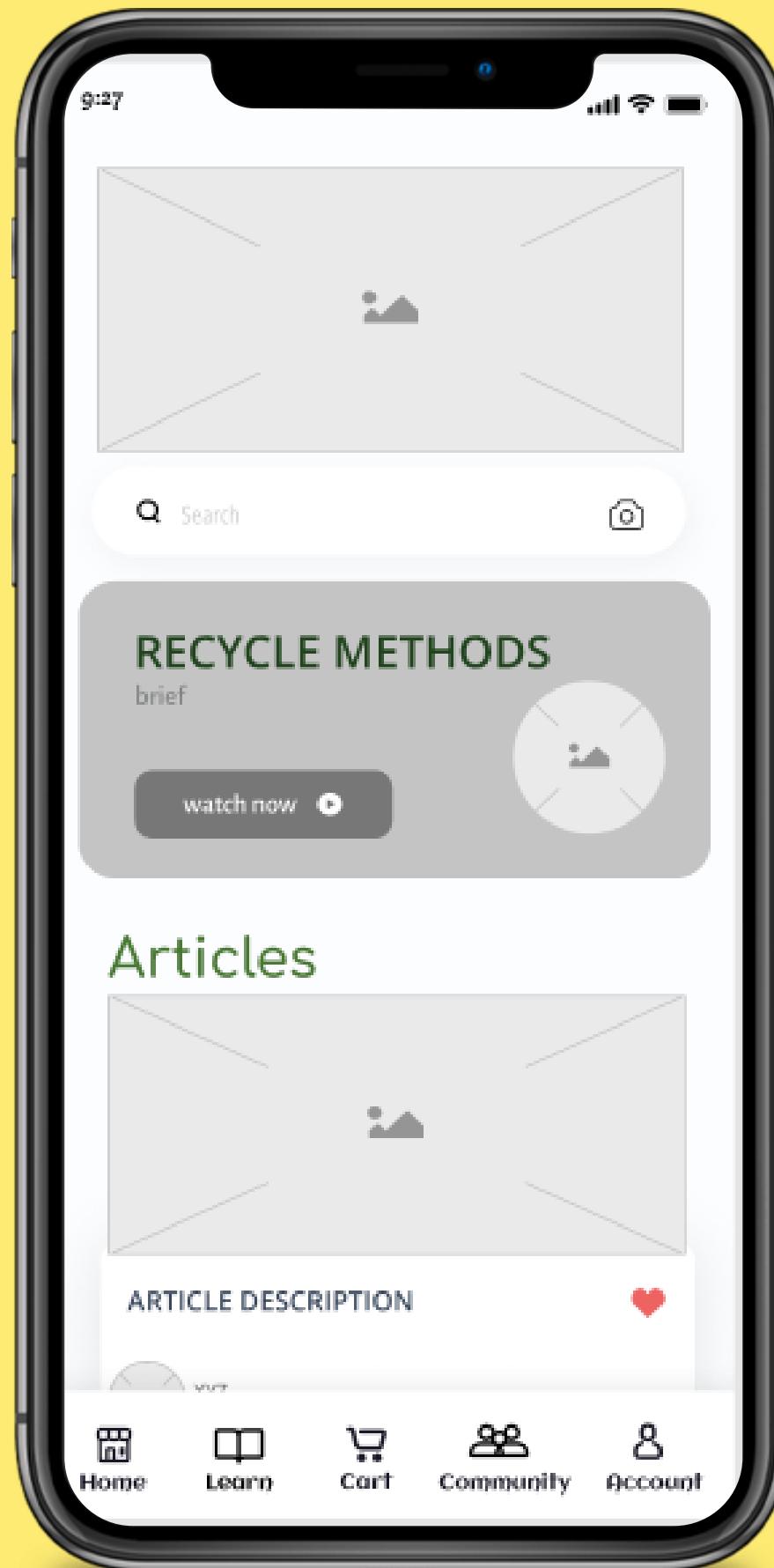


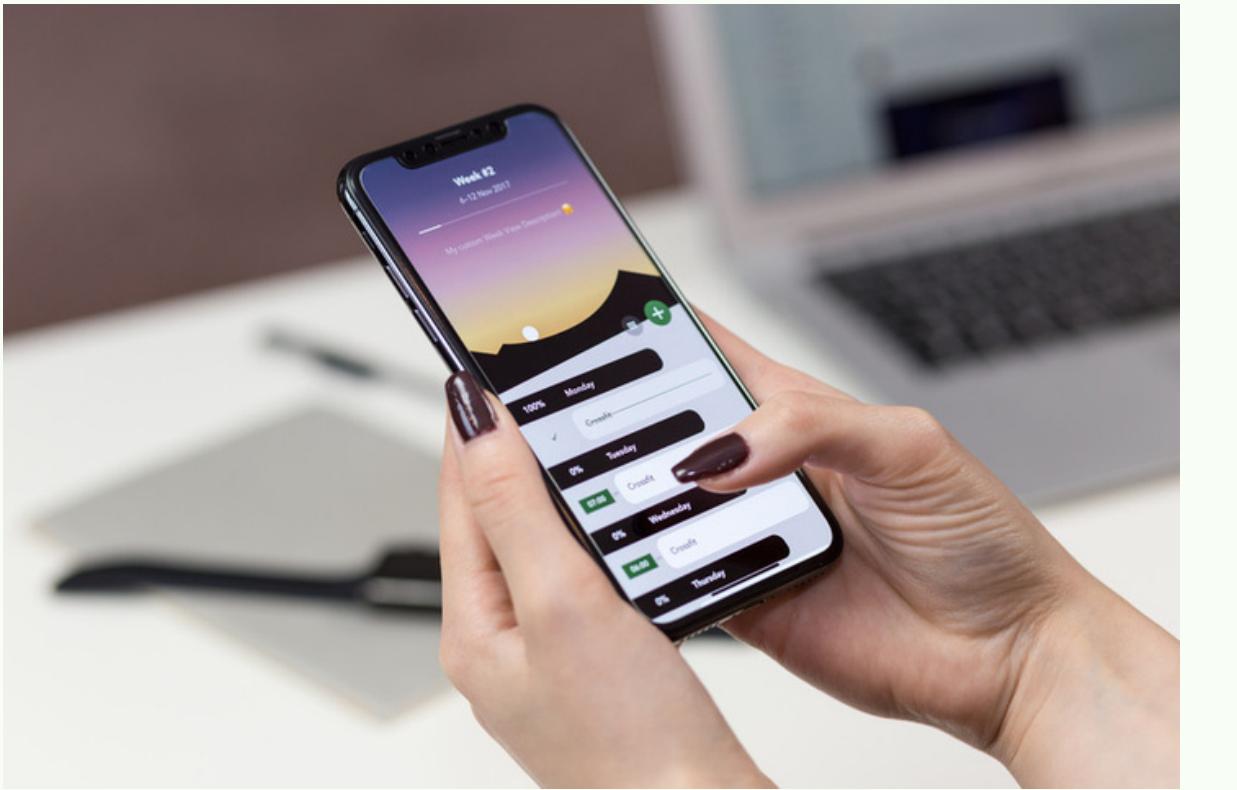
WORKFLOW



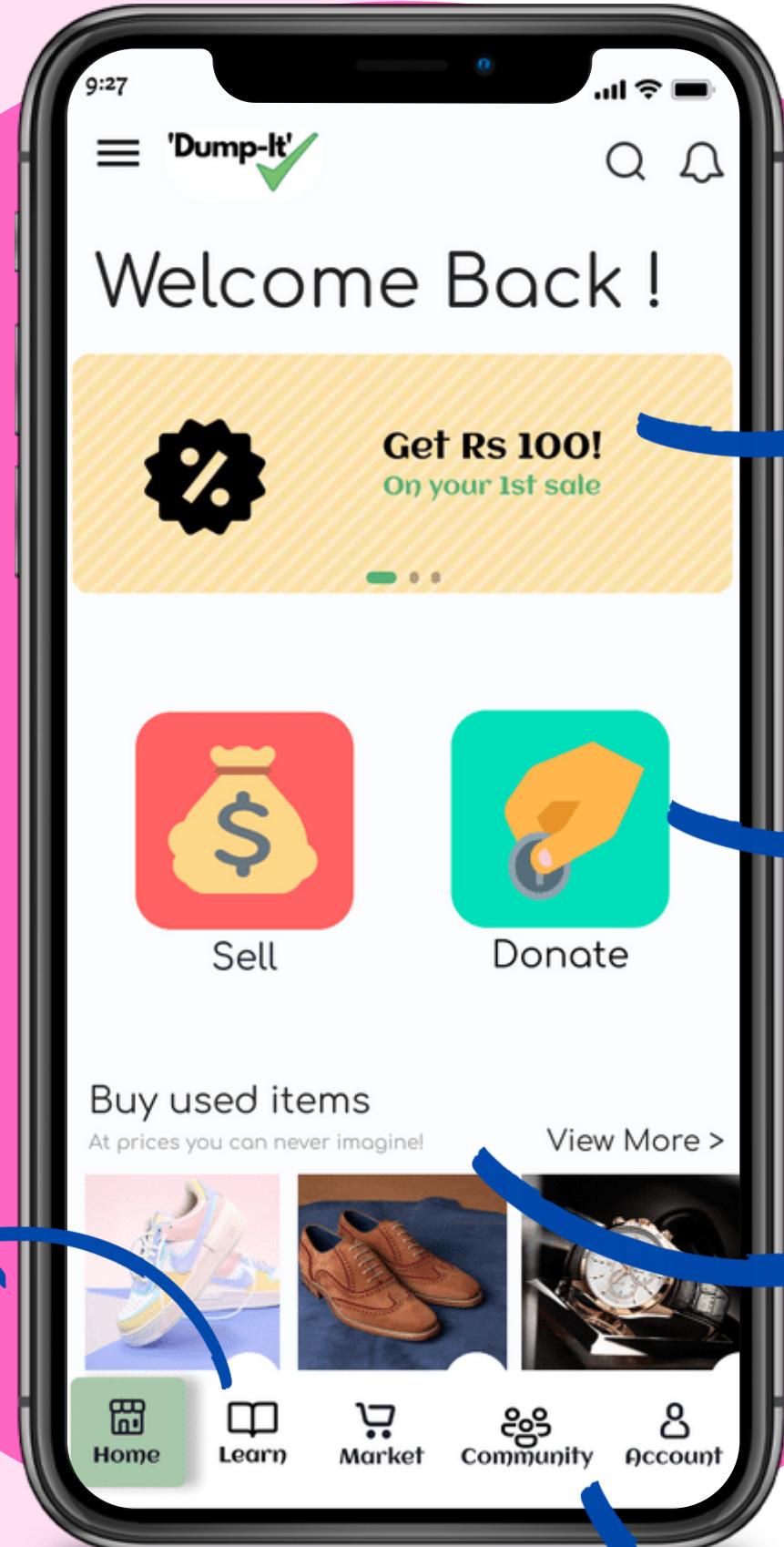
Miscellaneous Wireframes

WORKFLOW (Miscellaneous)





9. Hi-fi Prototype



Coupons / Offers

Option to chose 'Sell' or 'Donate'

Home Page

Option to 'Buy' used items from 'Dump-It'

For spreading awareness about recycling through NGOs - connect with NGOs

Opens 'Learn' Page

General FAQs about recycling pertaining to various goods

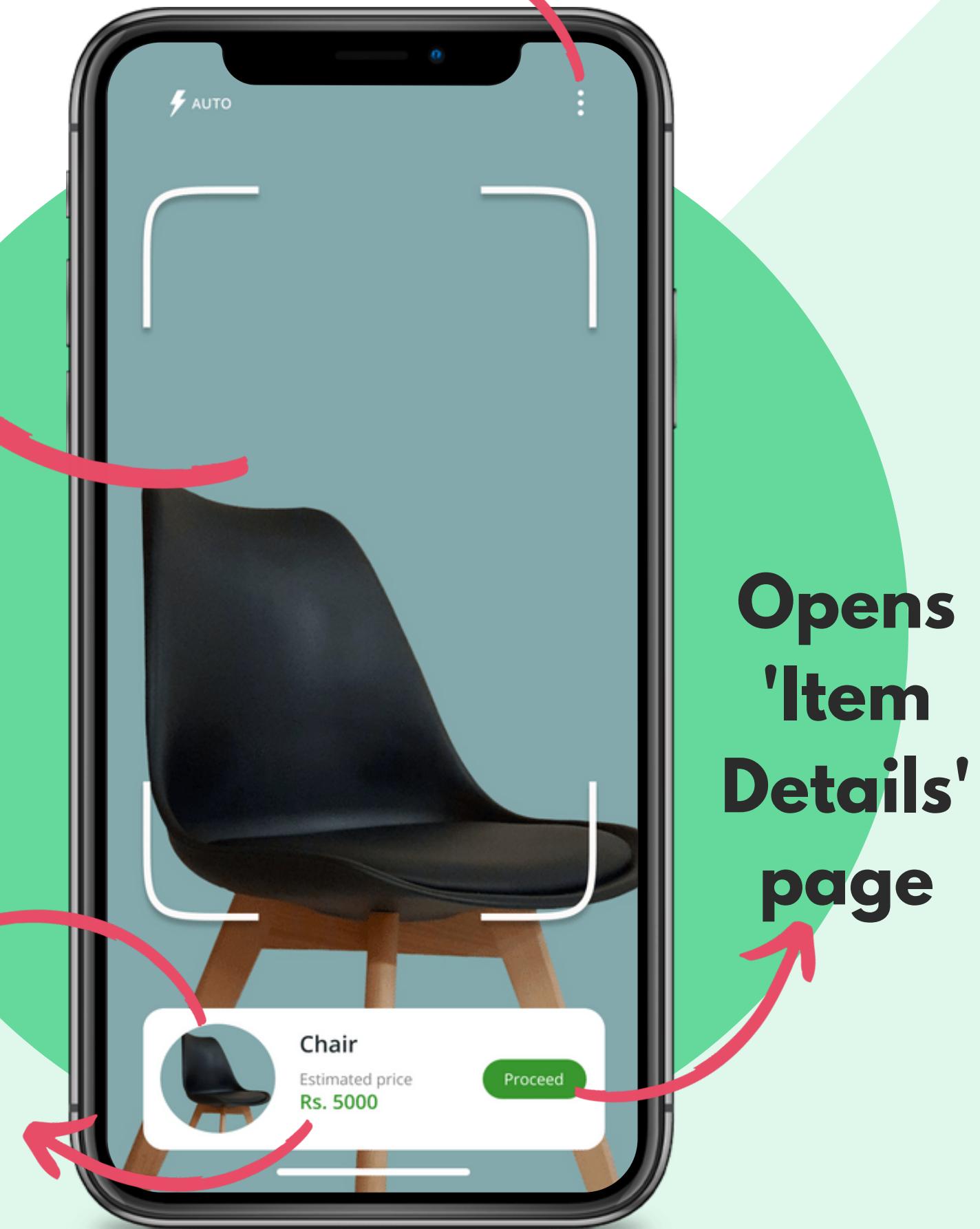
Also has an option for manually entering item details - after clicking on it

Object Detection

Offer an illustration of the item's kind

Offer an estimate price

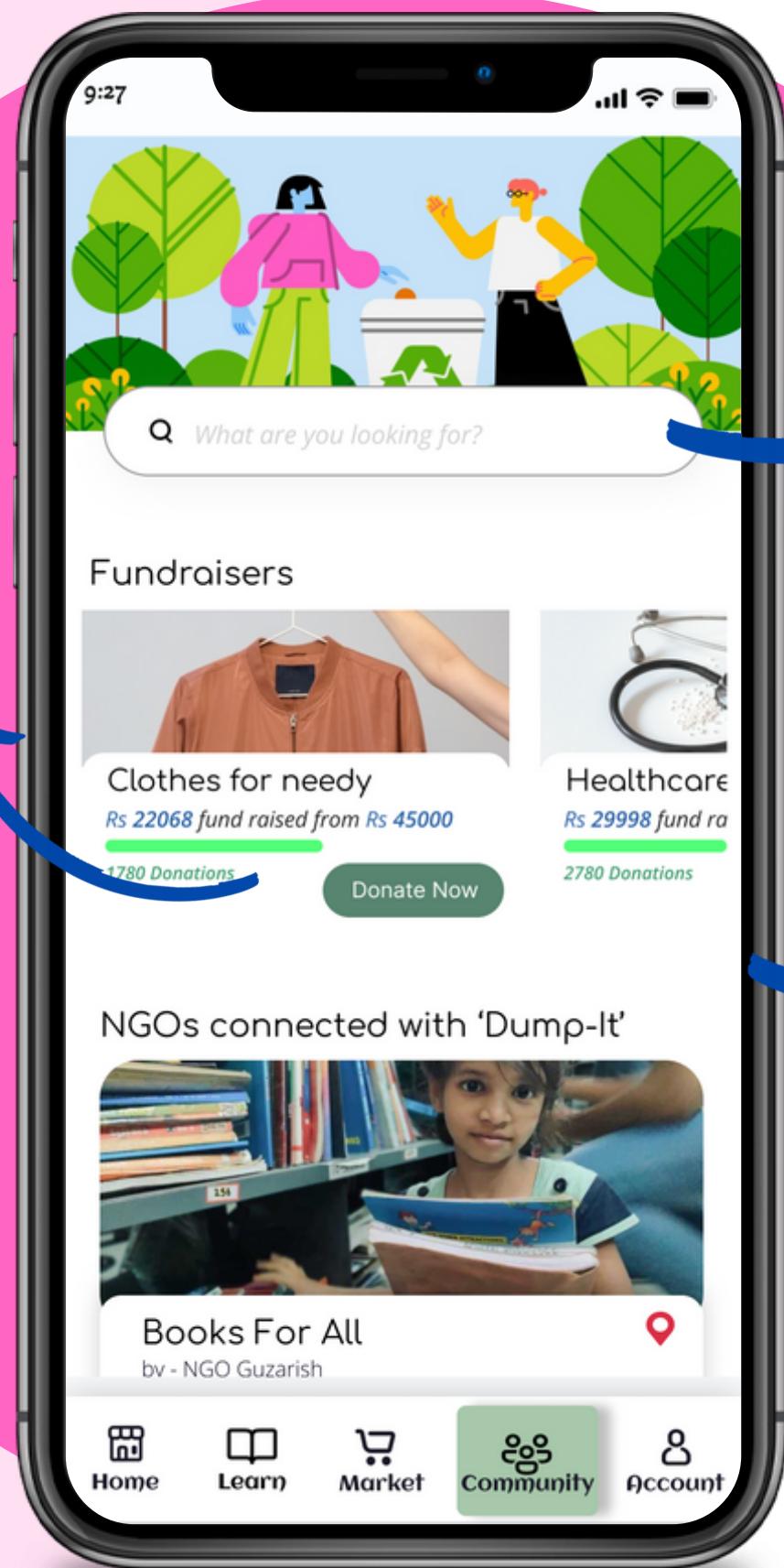
Detect the kind of item and estimates its condition



Opens 'Item Details' page

Provide the address of a local NGO

Allow users to donate



Gives location of nearby NGOs on a map

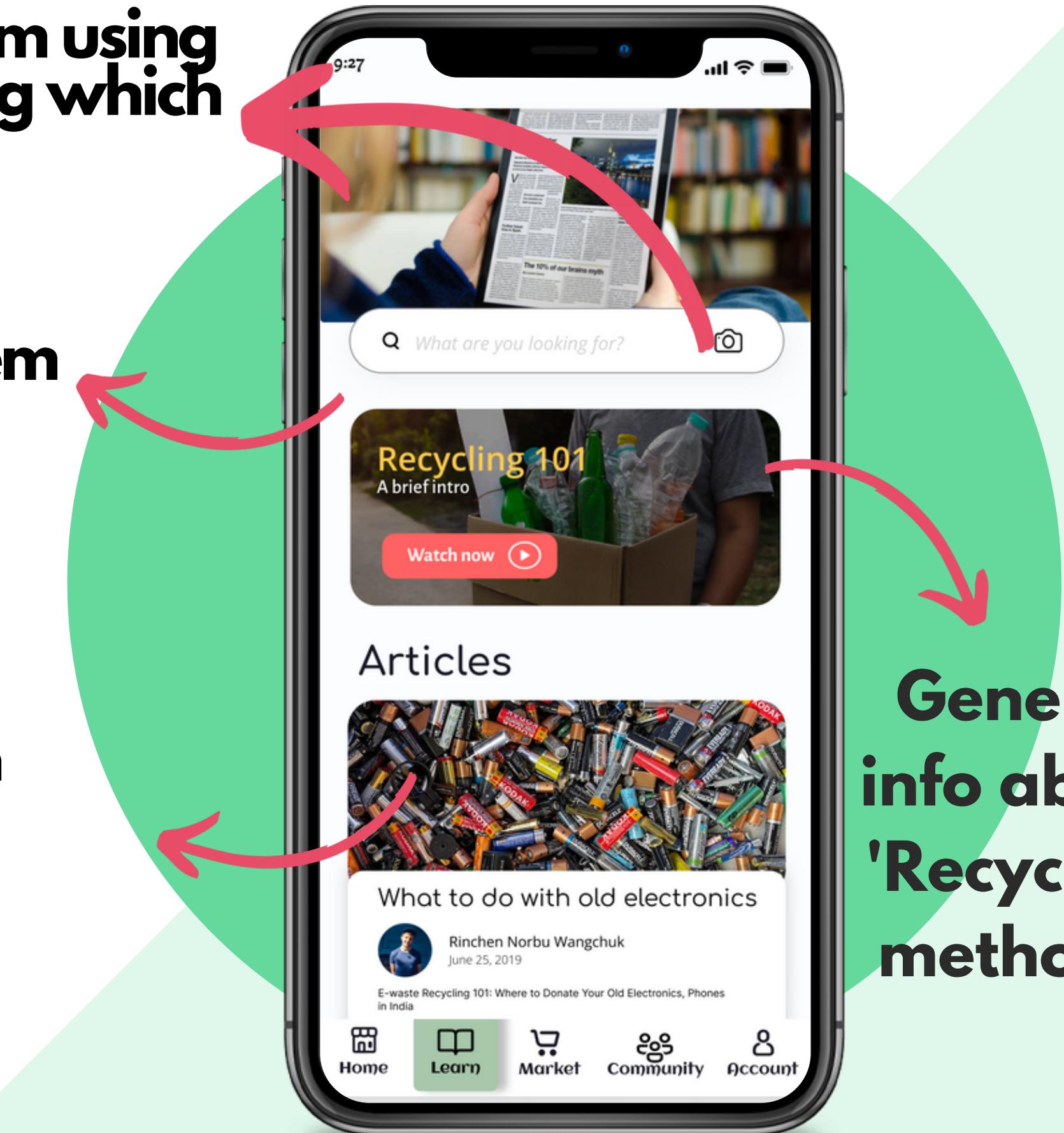
COMMUNITY

Learn Page

Look up the recycling information for a known item

Gives articles on 'recycling'

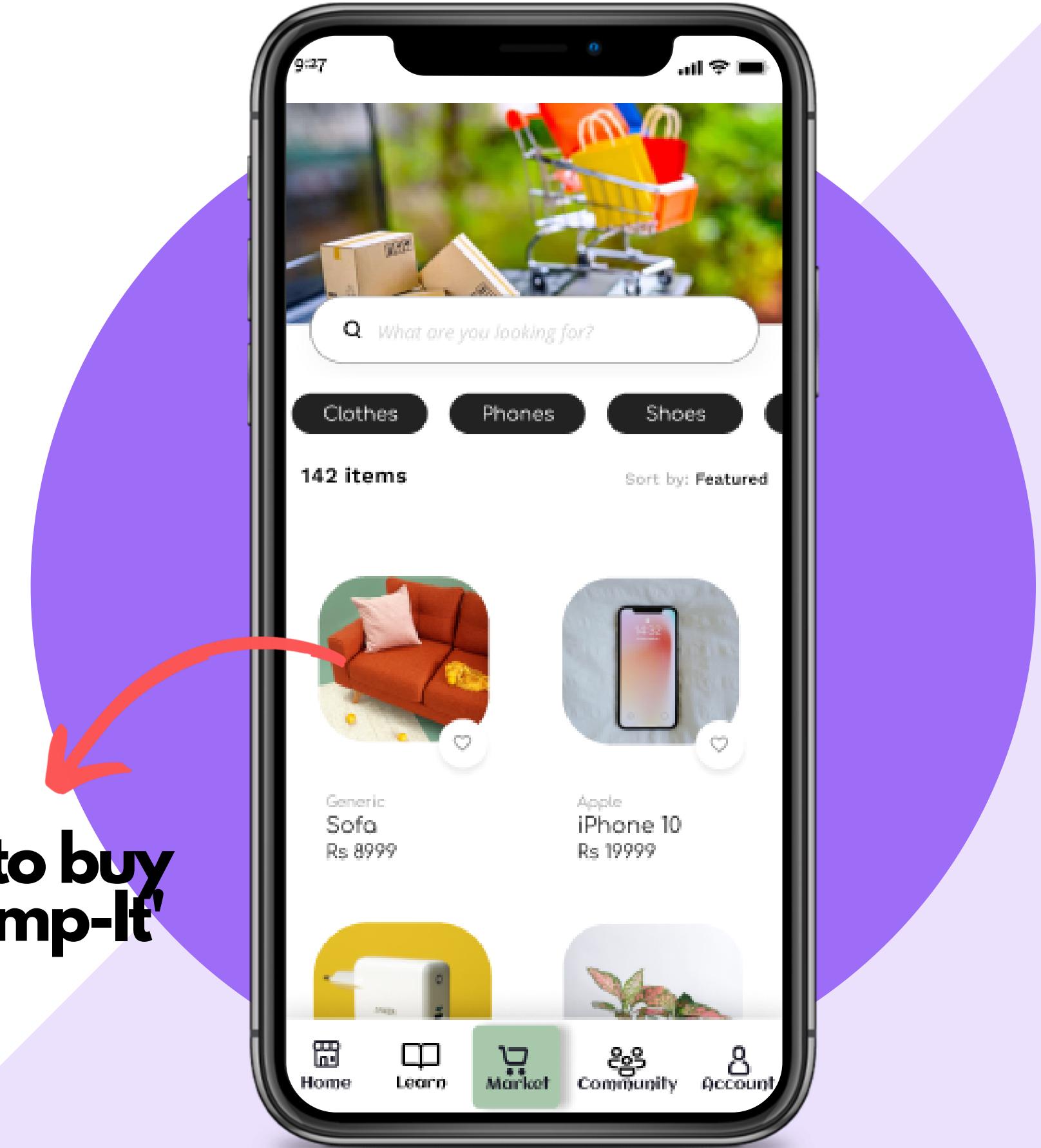
User can detect type of item using object detection - following which recycling info is displayed



General info about 'Recycling methods'

Marketplace

User can choose to buy
an item from 'Dump-It'
Inventory

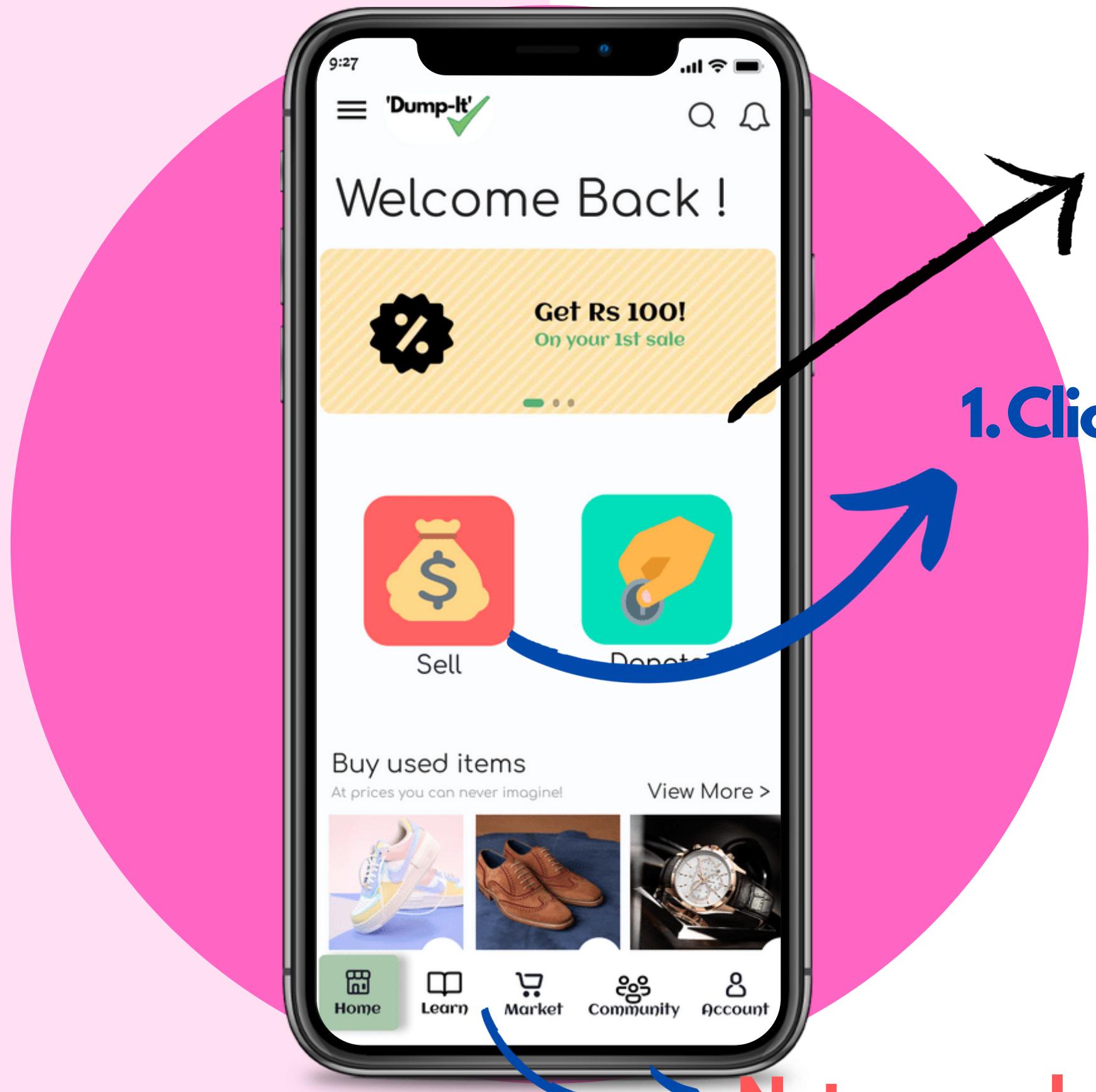




10. Prototype Evaluation

Task Flow 1

Sell



Improper alignment of the
'highlighted tab' and
'Donate' icon

Push 'Donate' icon to the
left & lower the 'bottom
bar'

1. Click on 'Sell'

Home Page

Not many options on the
homepage

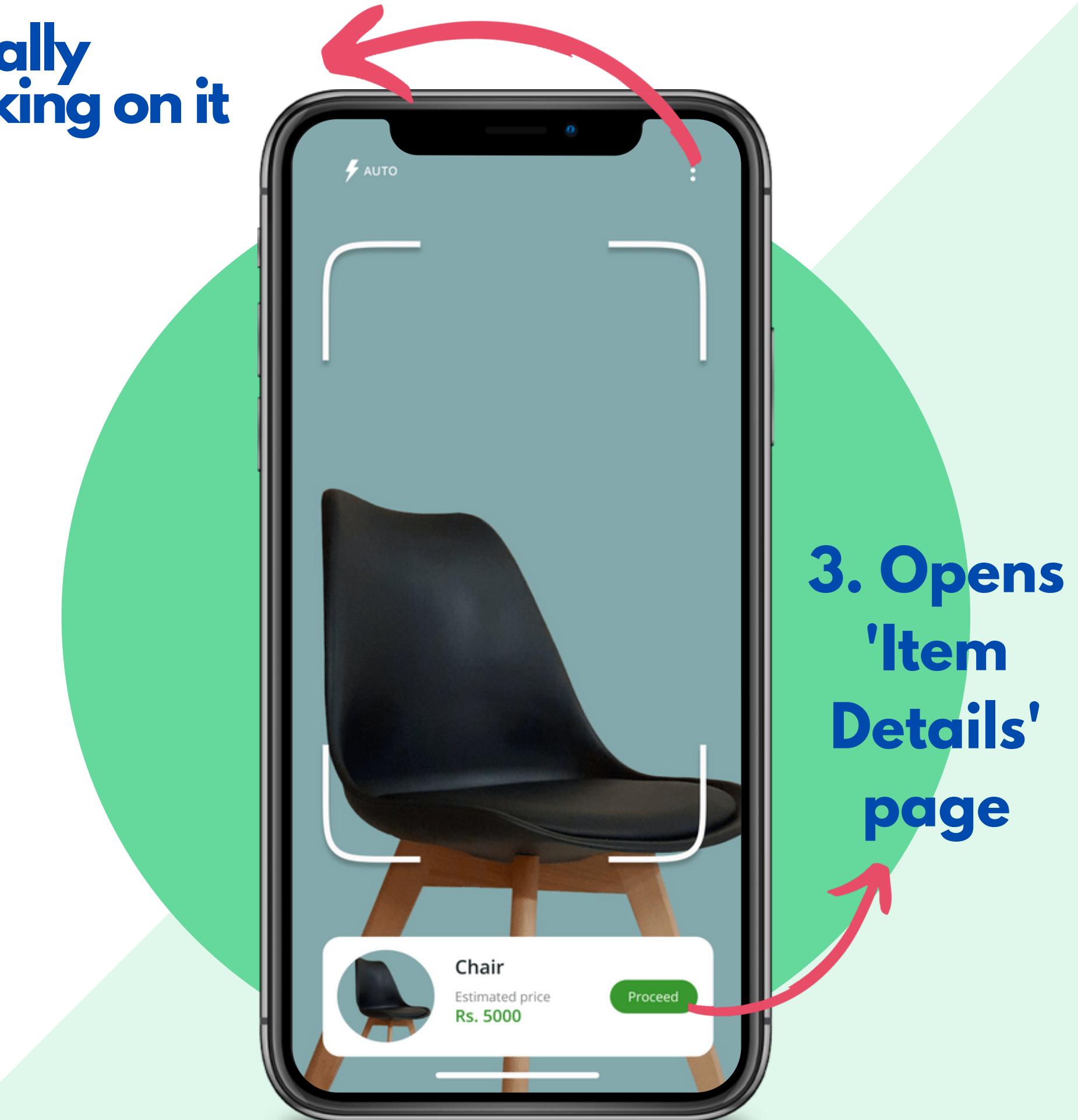
Although it looks simple
and clean - a few more
options might be beneficial
to some

Not sure what 'Learn' & 'Community' are about
Add an FAQ page explaining them

2. Also has an option for manually entering item details - after clicking on it

Object Detection

No Issue Reported



Item Details

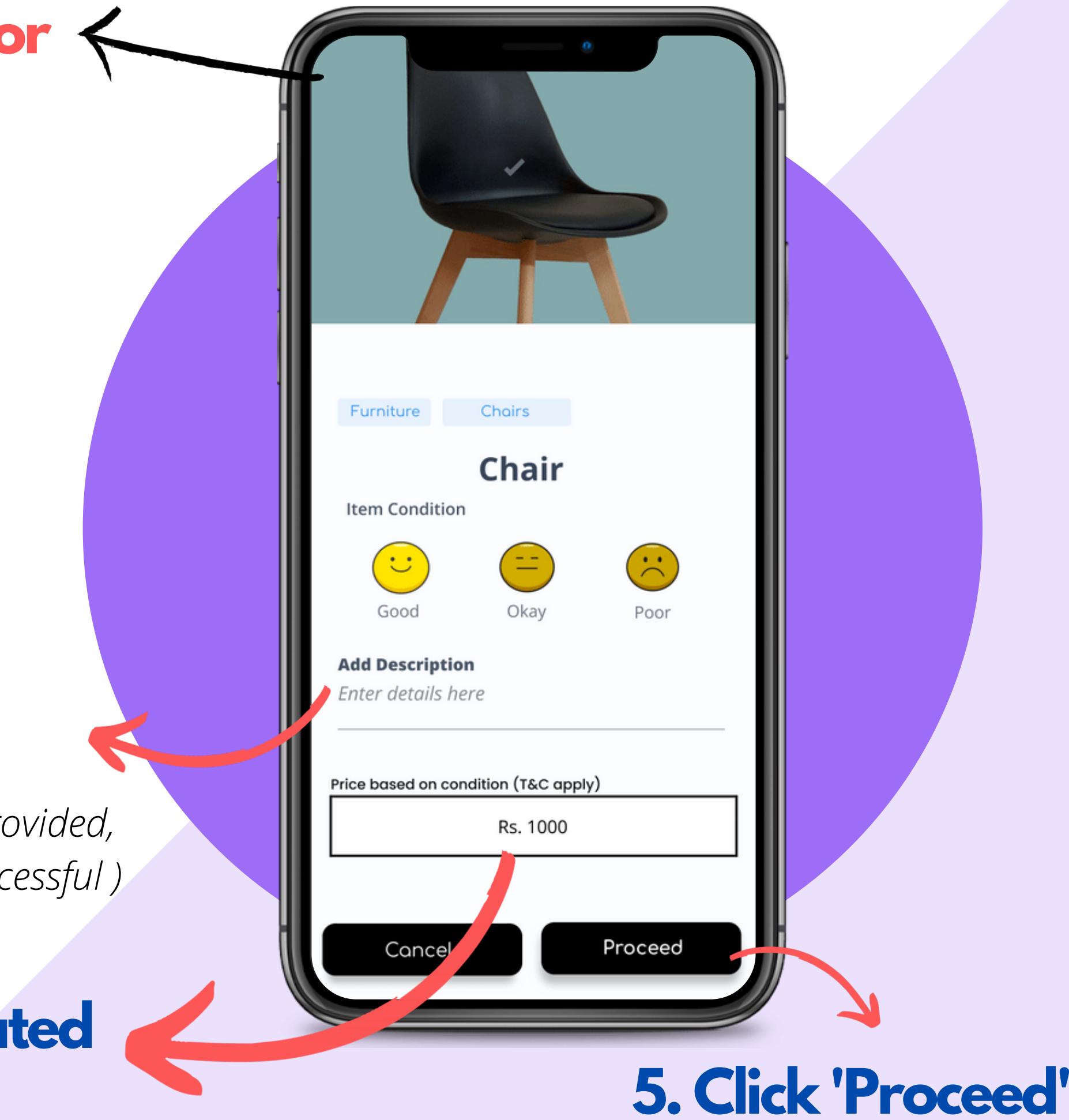
4. Option to manually enter details

(Some basic info must be provided, even if object detection is successful)

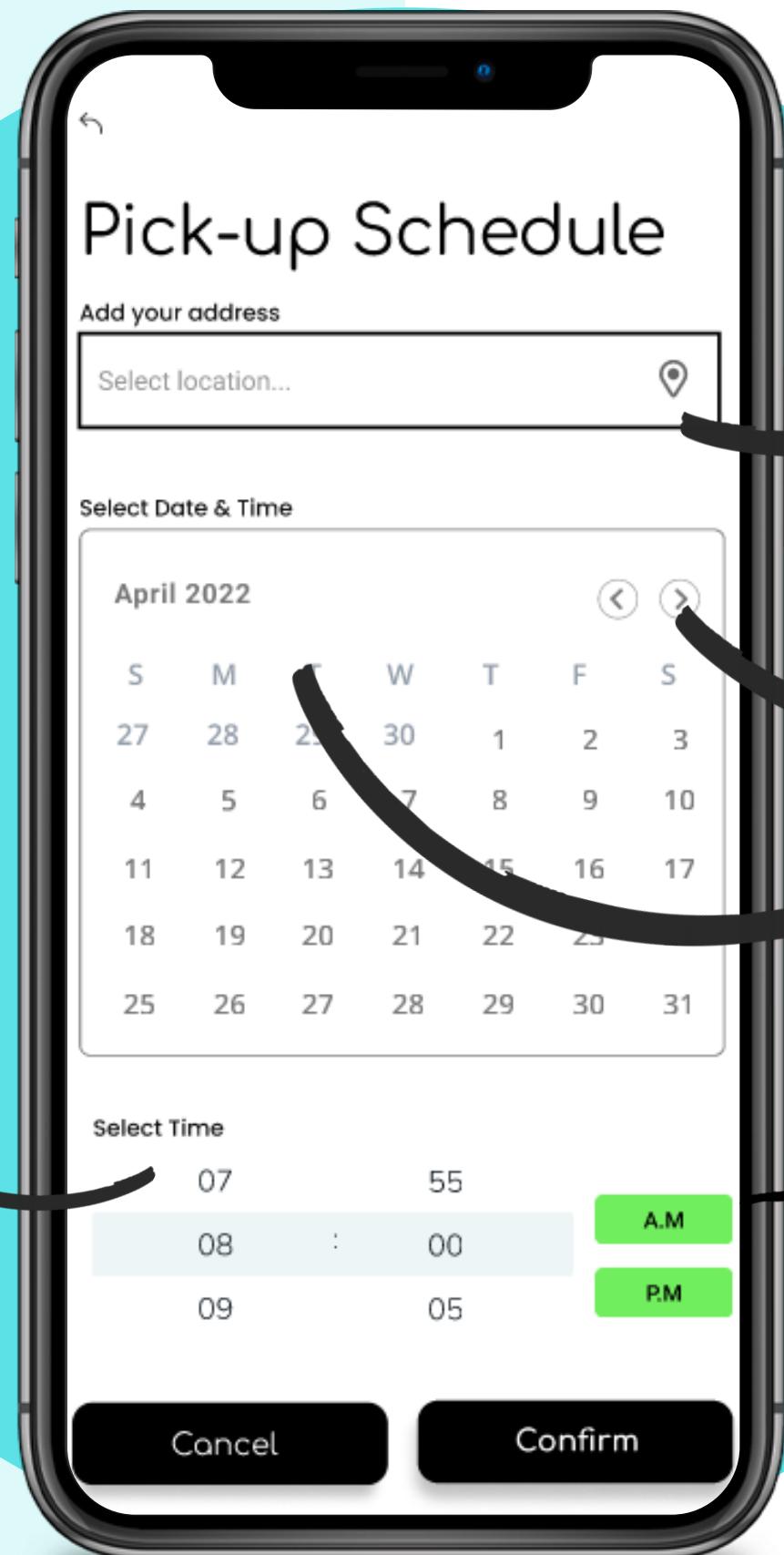
5. Check estimated price

No back button available for choosing different object

Add a visible back button



5. Click 'Proceed'



6. Enter 'Location'

7. Set month

8. Set Date

9. Set Time

Pickup

**Allowing users to select both
the options which must be
invalid**

**Add restriction on selecting
options**

(AM & PM)



'Track your order' isn't obvious - whether it's a button or just a piece of information.

Instead of just text, make it a button.

10. Go 'Back to home'

Success

There's no way to double check the order before finally placing it

Add a 'Review your Order' page

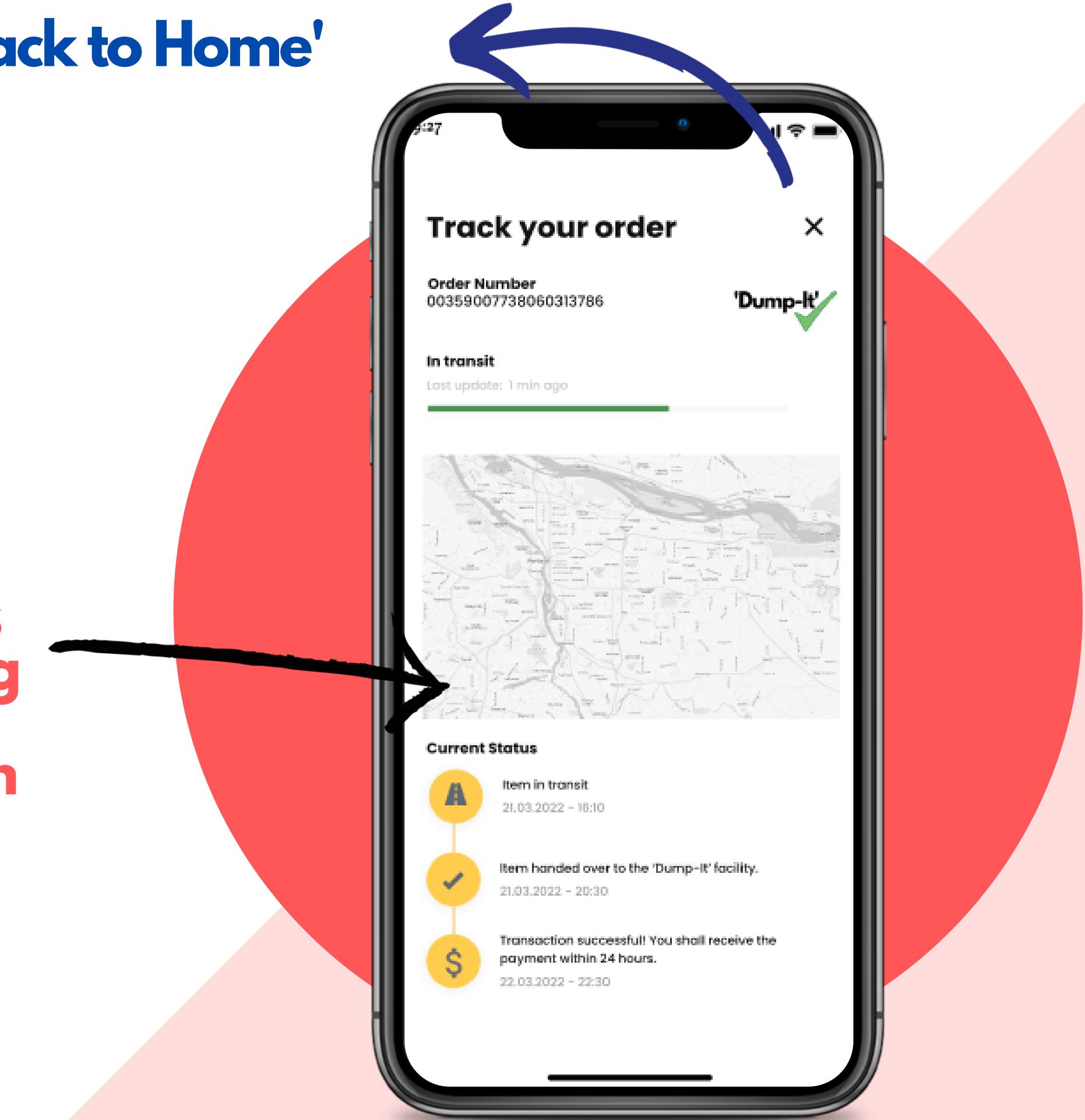
11. Click 'Track your Order' (optional)

12. Go 'Back to Home'

Track Your Order

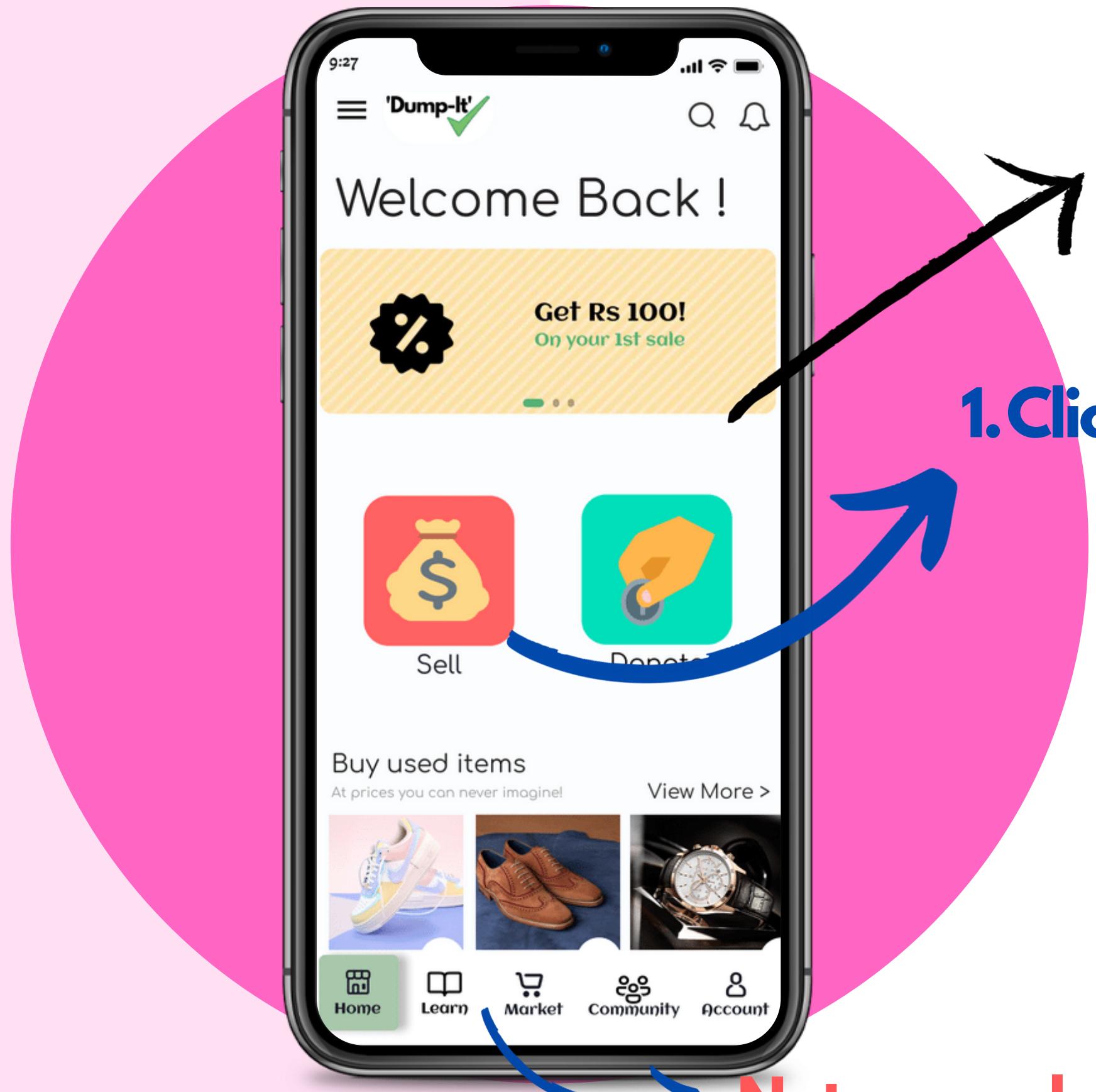
There is no way to know who is going to be delivering or picking up your order - the track your goods page only shows the item location.

Display info of the person handling the shipment



Task Flow 2

Donate



Improper alignment of the
'highlighted tab' and
'Donate' icon

Push 'Donate' icon to the
left & lower the 'bottom
bar'

1. Click on 'Donate'

Home Page

Not many options on the
homepage

Although it looks simple
and clean - a few more
options might be beneficial
to some

Not sure what 'Learn' & 'Community' are about
Add an FAQ page explaining them

2. Also has an option for manually entering item details - after clicking on it

Object Detection

"Options' buttons not visible due to white background of the image

'Option' button should change colour to black according to background



3. Opens 'Item Details' page

Item Details

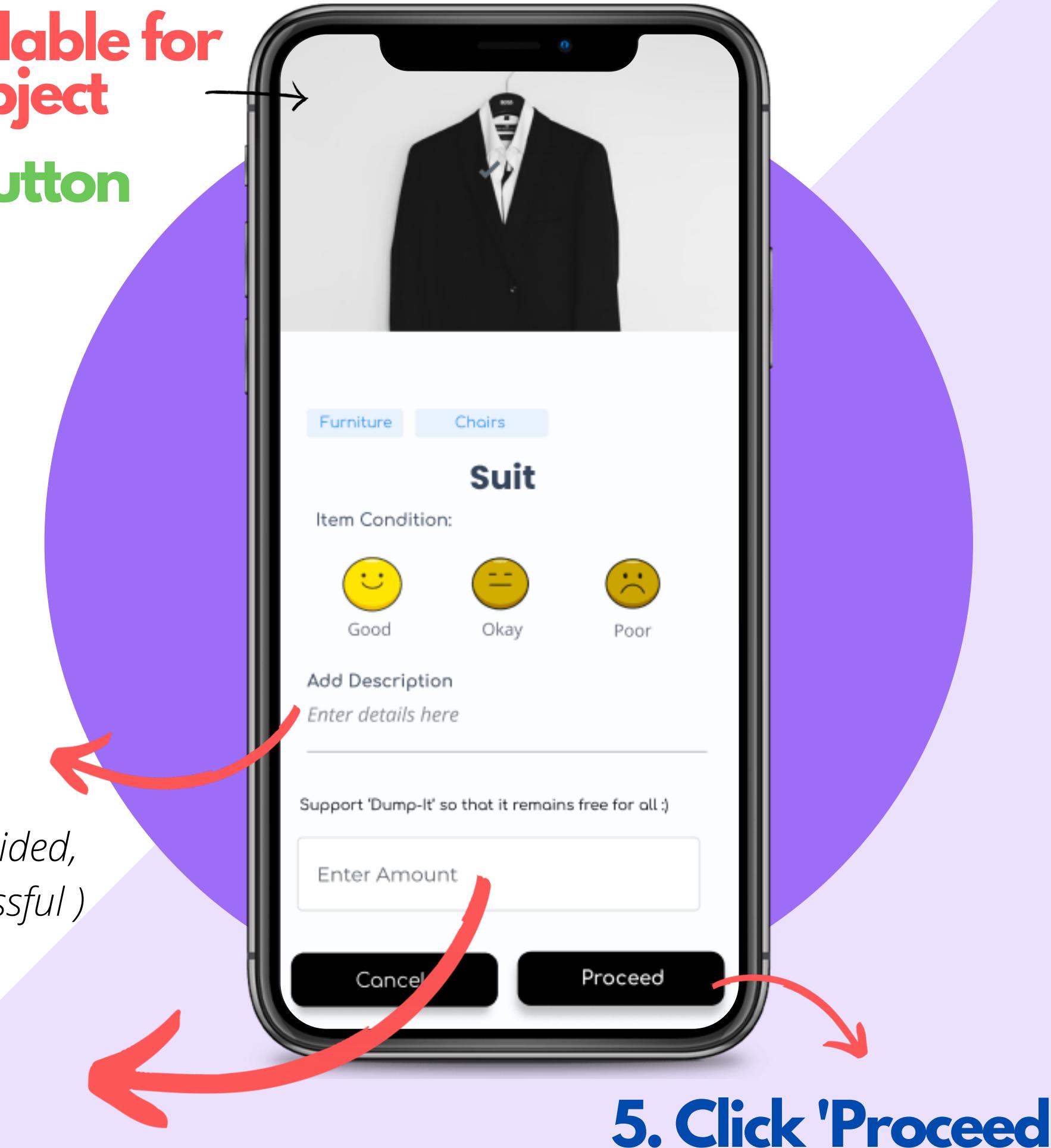
4. Option to manually enter details

(Some basic info must be provided, even if object detection is successful)

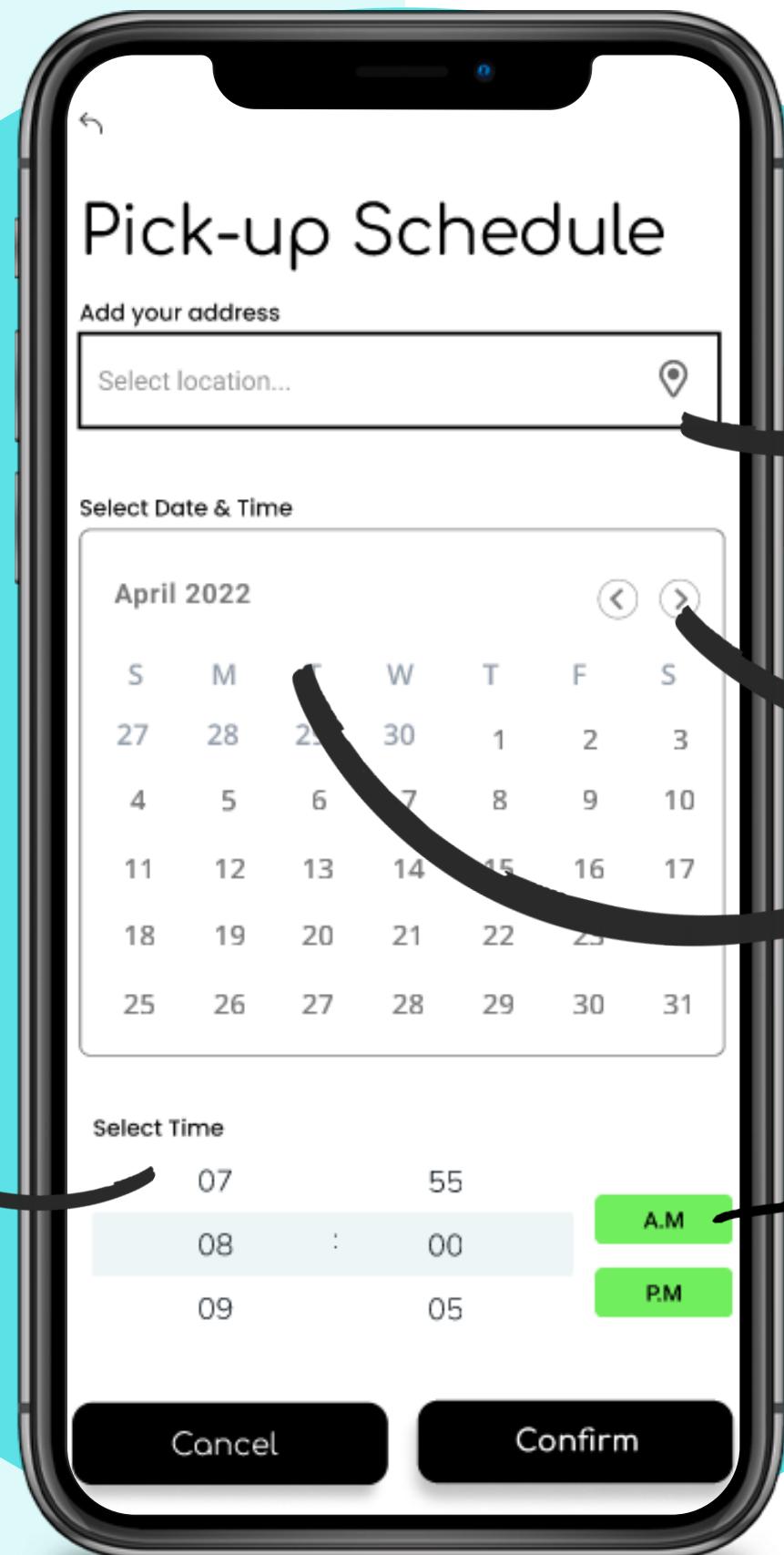
5. Add Donation

No back button available for choosing different object

Add a visible back button



5. Click 'Proceed'



6. Enter 'Location'

7. Set month

8. Set Date

9. Set Time

Pickup

Allowing users to select both
the options which must be
invalid

Add restriction on selecting
options

(AM & PM)



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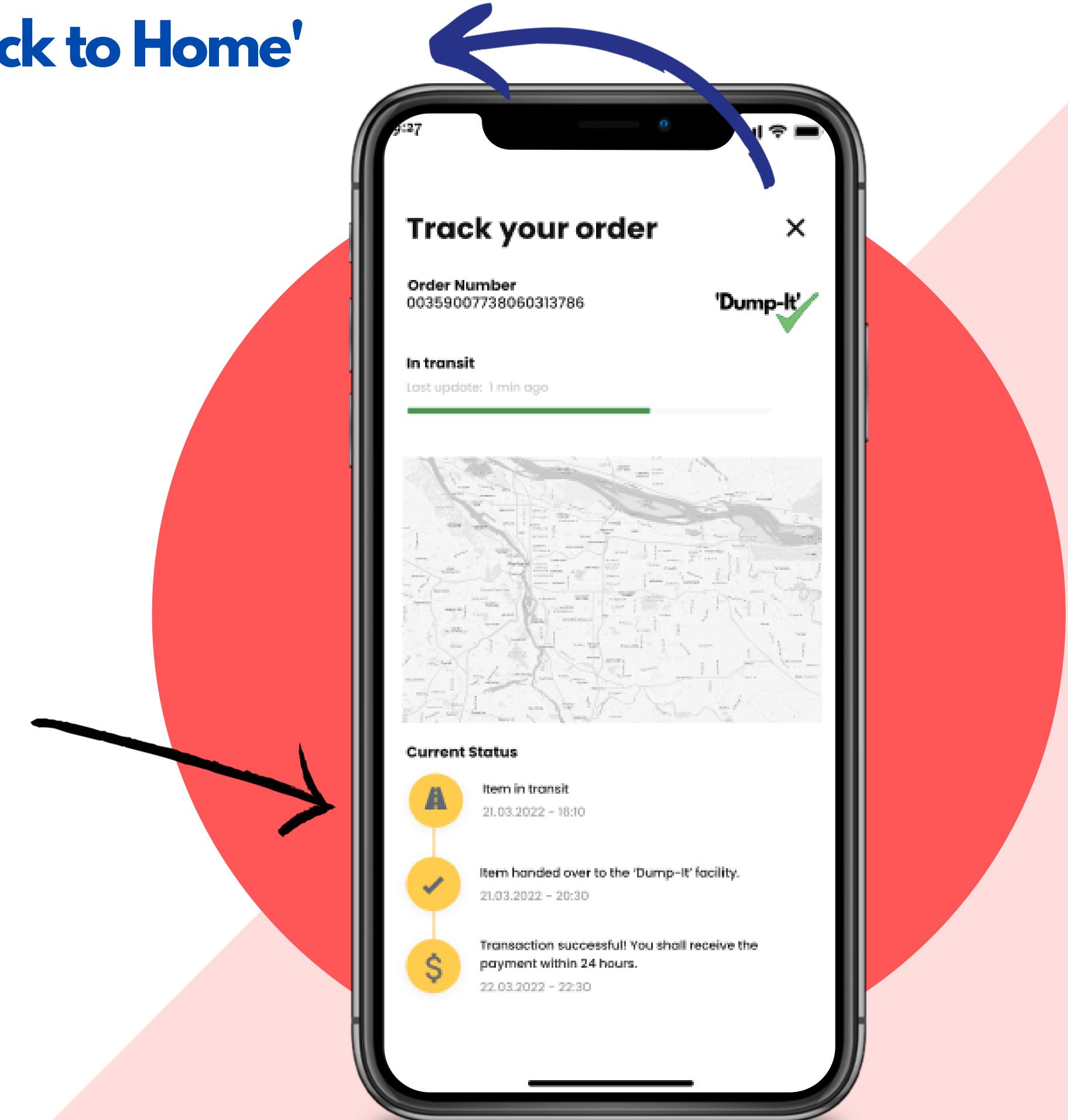
11. Click 'Track your Order' (optional)

12. Go 'Back to Home'

Track Your Order

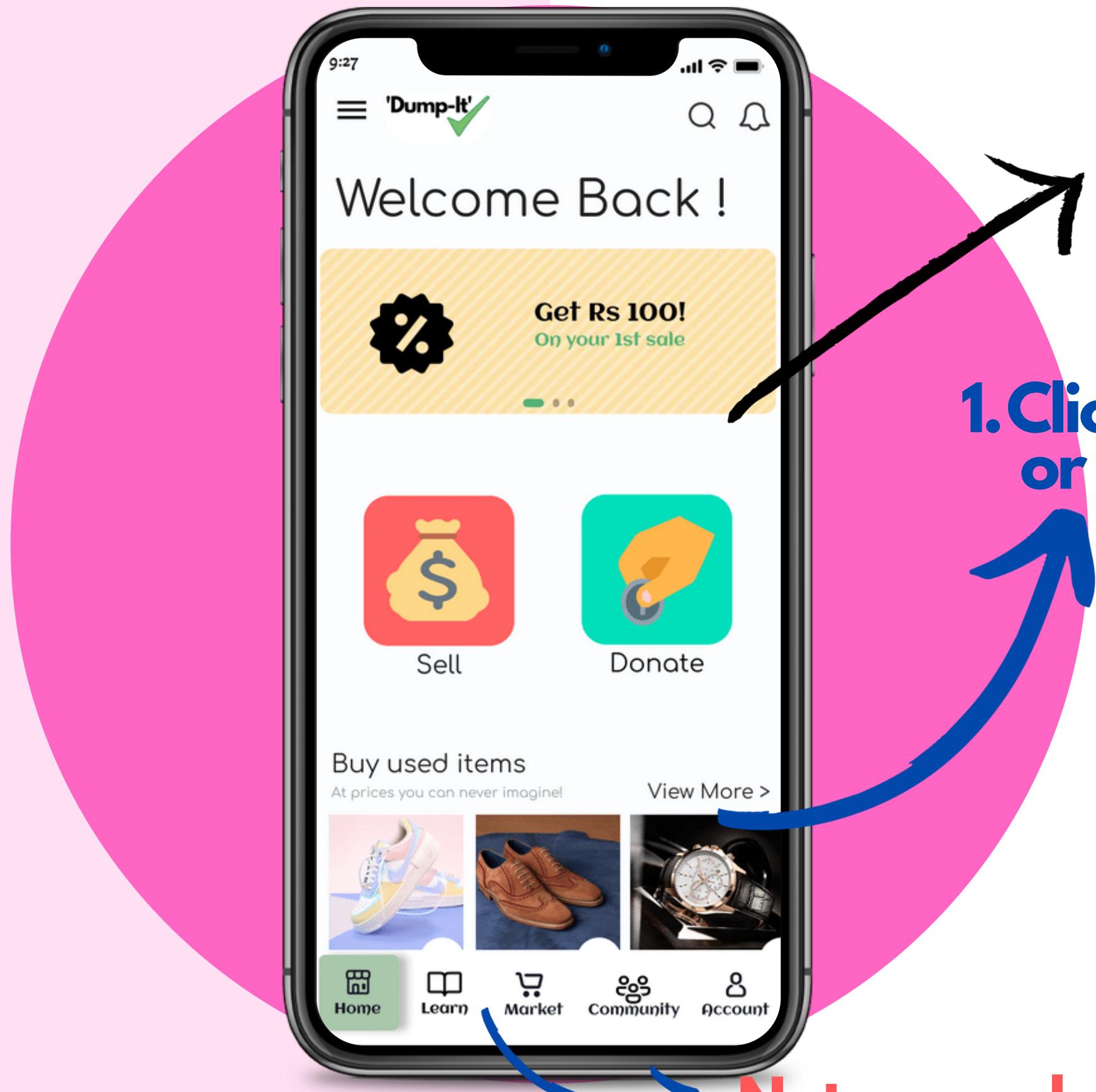
There is no way to know who is going to be delivering or picking up your order - the track your goods page only shows the item location.

Display info of the person handling the shipment



Task Flow 3

Buy



Improper alignment of the 'highlighted tab' and 'Donate' icon

Push 'Donate' icon to the left & lower the 'bottom bar'

1. Click on 'View More' or 'Market'

Home Page

Not many options on the homepage

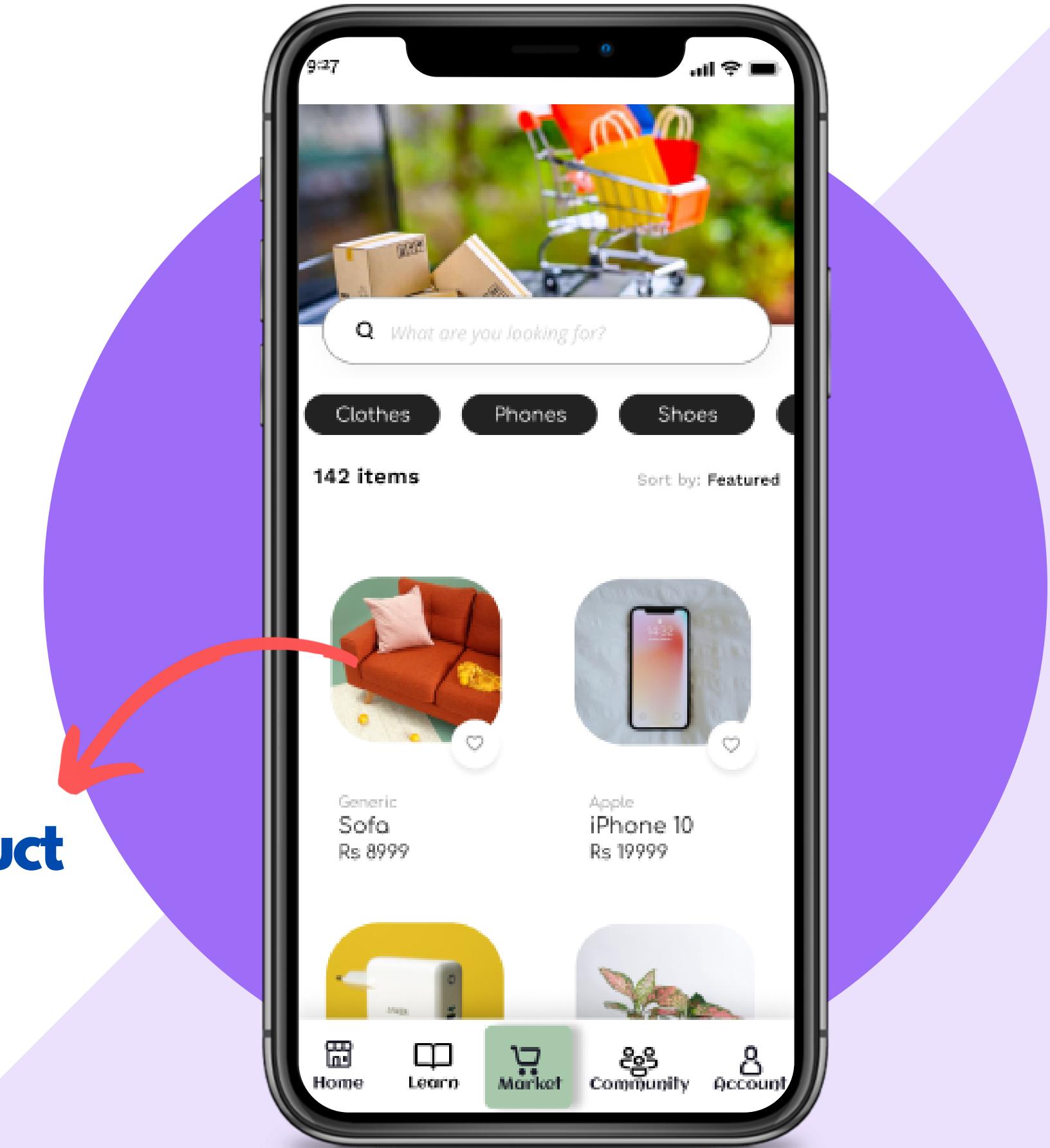
Although it looks simple and clean - a few more options might be beneficial to some

Not sure what 'Learn' & 'Community' are about
Add an FAQ page explaining them

Marketplace

No Issue Reported

2. Select a product



Item Description

Buy

It's unclear whether the support option is for a donation or for personal assistance.

Clearly define what support is for

3. Click on 'Add to cart'

Narrow margins for item description make it harder to read - also back button is at the extreme left

Increase the margins & shift back button to the right





4. Modify quantities

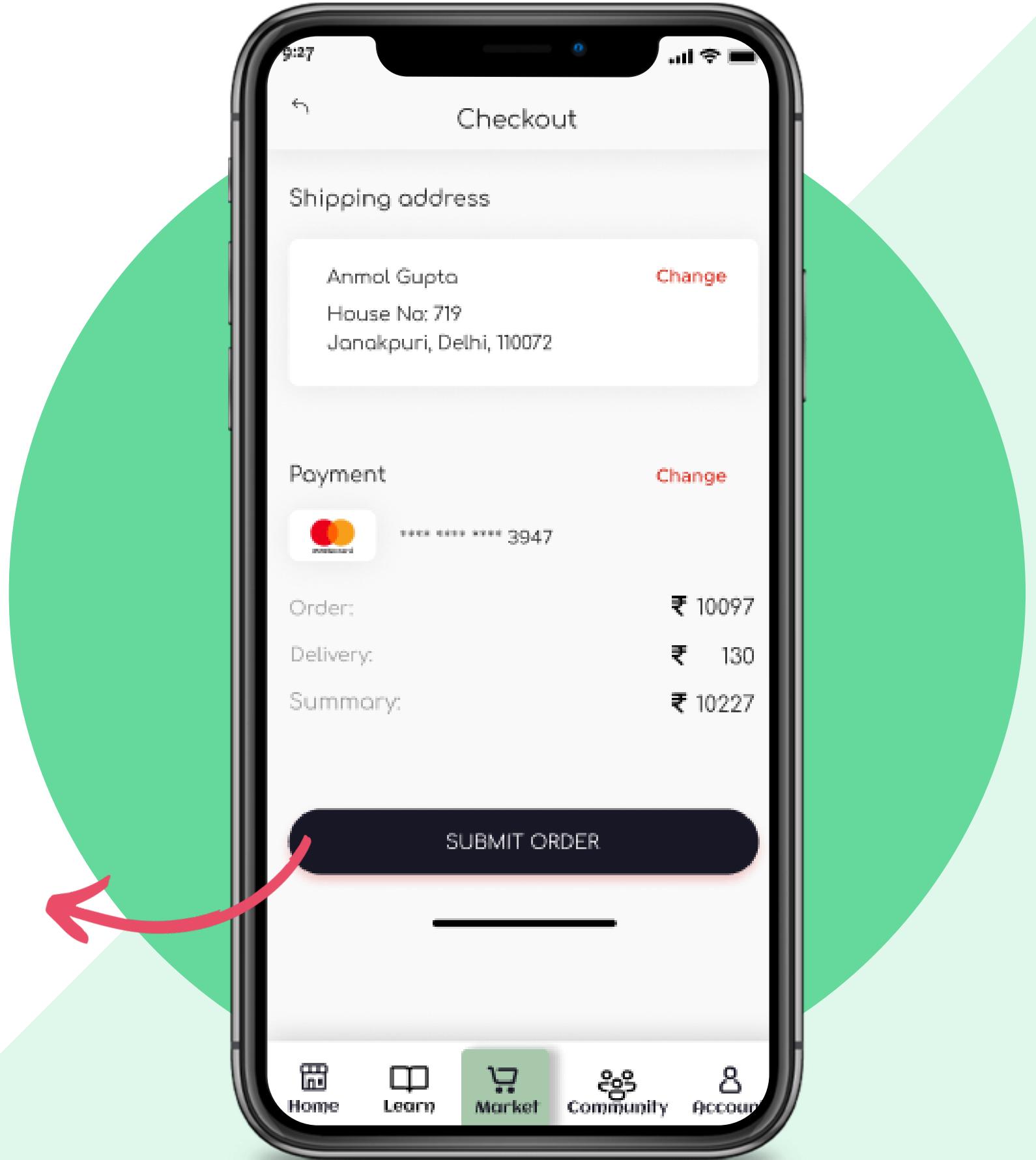
Cart
No Issue Reported

5. Click on 'Checkout'

Check Out

No Issue Reported

6. Click on 'Submit Order'





'Track your order' isn't obvious - whether it's a button or just a piece of information.

Instead of just text, make it a button.

10. Go 'Back to home'

Success

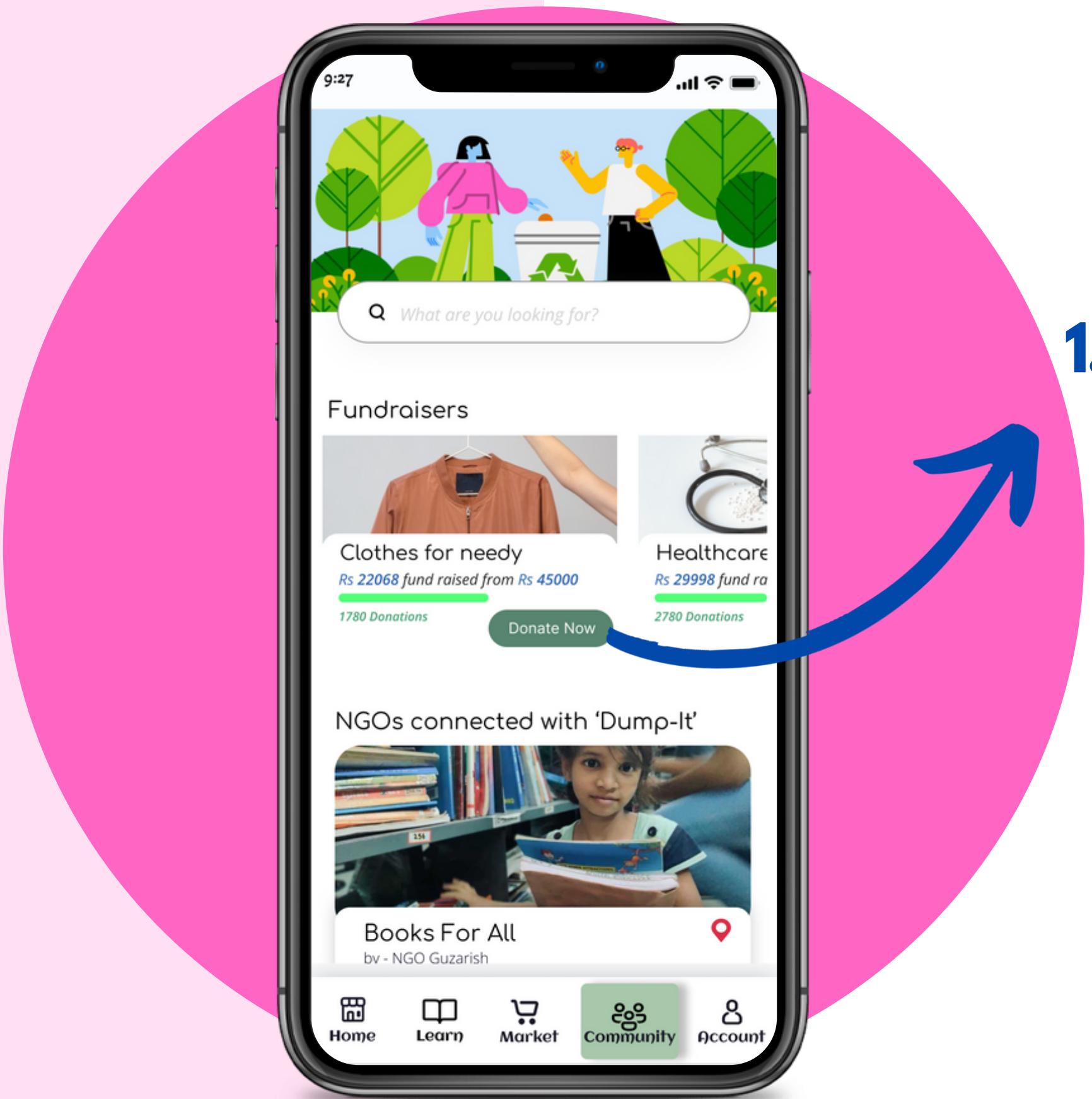
There's no way to double check the order before finally placing it

Add a 'Review your Order' page

11. Click 'Track your Order' (optional)

Task Flow 4

Community



1. Click on 'Donate'

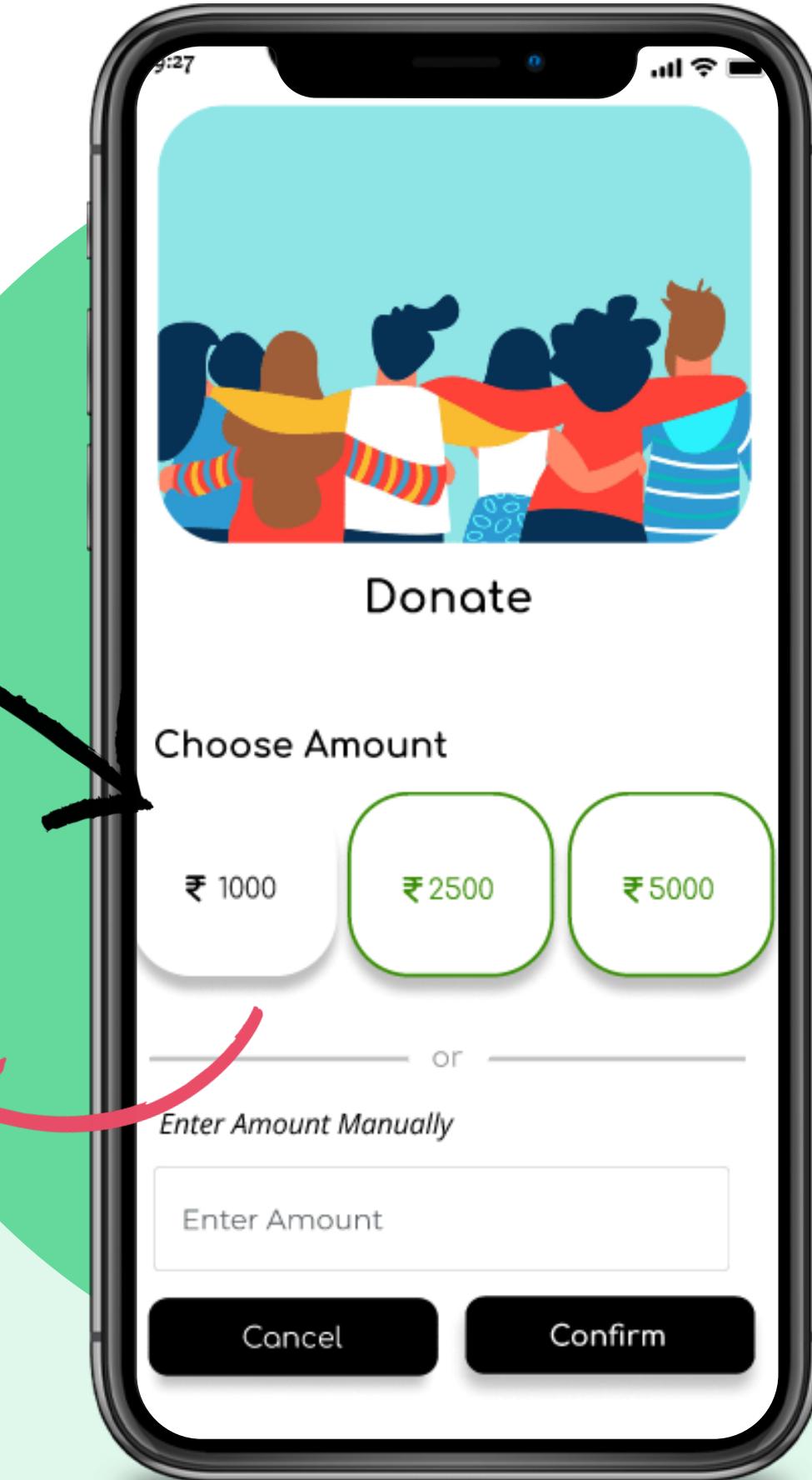
COMMUNITY
No Issue Reported

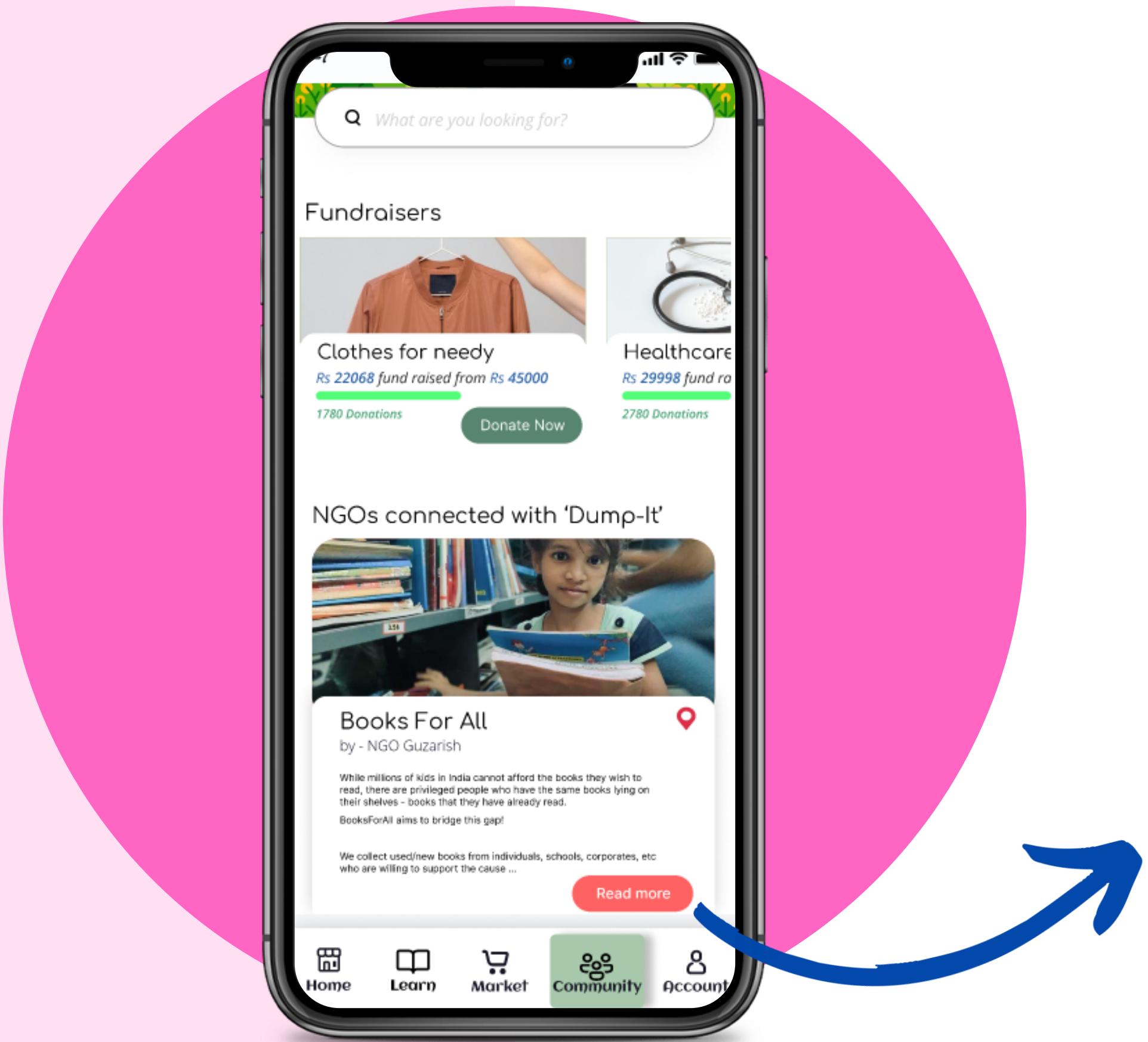
Check Out

No restriction for selecting more than one options

Add restriction to prevent user from selecting invalid options

2. Choose amount

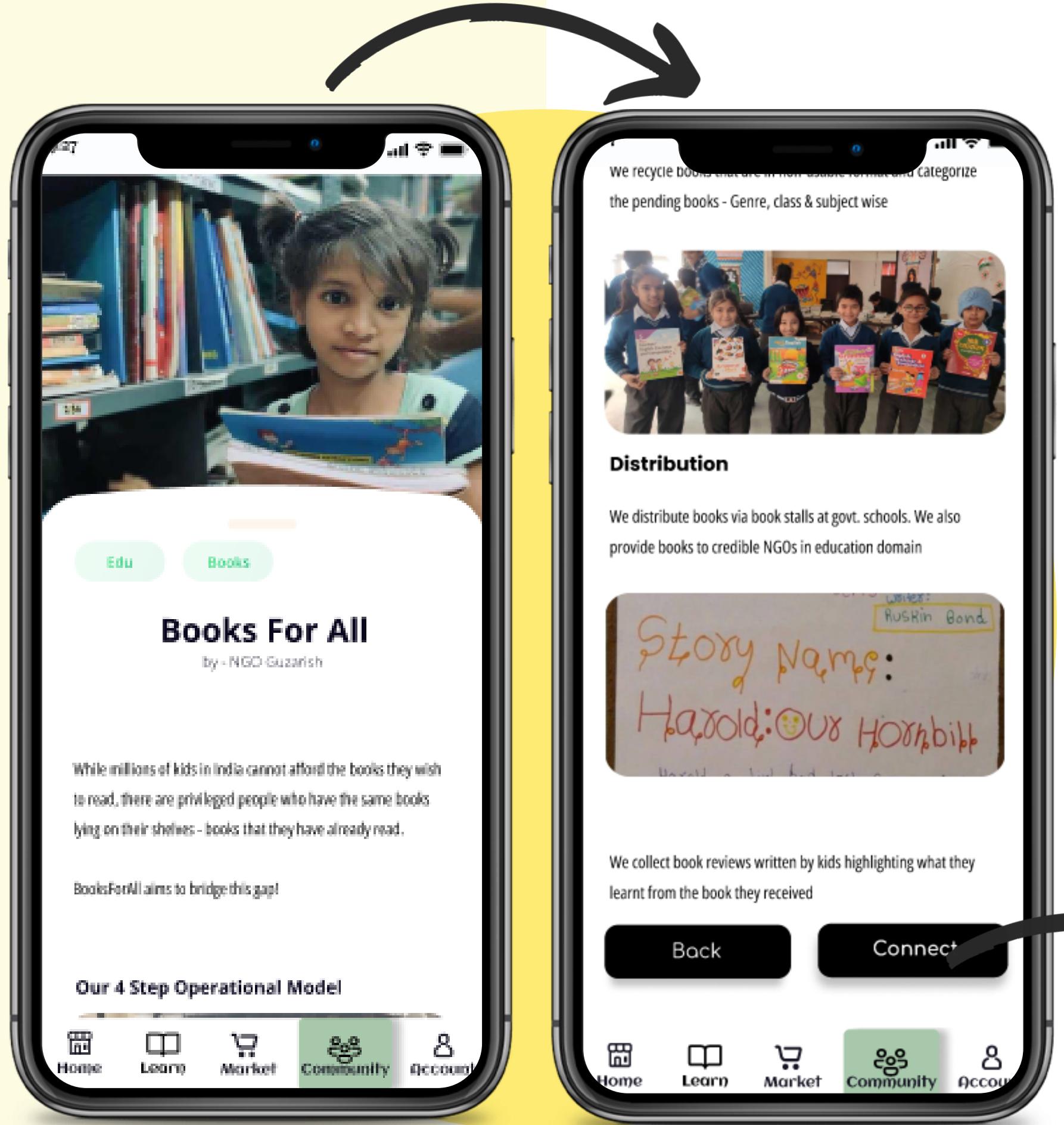




COMMUNITY

No Issue Reported

1. Click on 'Read More' for an NGO



NGO Details

There's no back button - one has to scroll all the way to the bottom

Add a back button

2. Click 'Connect' to go to NGOs website and connect with them

That's a wrap!

o o o o

Thank you for
listening!