



United International University

Department of Computer Science & Engineering

**Title: Research Study and Development of user-friendly
e-commerce Platform**

CSE 4451: Human Computer Interaction
Section A
Group A

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Index

Section 1: Design Ideas

1.1 Idea 1	—	04
1.2 Idea 2	—	05
1.3 Idea 3	—	07
1.4 Idea 4	—	09
1.5 Idea 5	—	11
1.6 Idea 6	—	14
1.7 Idea 7	—	16
1.8 Idea 8	—	18
1.9 Idea 9	—	19
1.10 Idea 10	—	21
1.11 Idea 11	—	23
1.12 Idea 12	—	25
1.13 Idea 13	—	27
1.14 Idea 14	—	29
1.15 Idea 15	—	31
1.16 Idea 16	—	34
1.17 Idea 17	—	37
1.18 Idea 18	—	40
1.19 Idea 19	—	43

Section 2 : Idea Shortlist

2.1 Shortlisted Design Ideas	—	46
------------------------------	---	----

2.2 How Ideas Were Chosen	—	47
2.3 Why Ideas are Chosen	—	47

Section 3 : LoFi Prototype

LoFi Prototype	—	48
----------------	---	----

Section 4 : Initial user study

4.1 Introduction	—	59
4.2 Project Description	—	59
4.3 Opportunity for Questions	—	59
4.4 Introduction to Think Out Loud	—	59
4.5 Introduction to Scenarios and Tasks	—	59
4.6 Thank You and Questions	—	60

Section 5 : User testing

5.1 User testing	—	60
5.2 User testing	—	61
5.3 User testing	—	61
5.4 User testing	—	61
5.5 User testing	—	62
5.6 User testing	—	62

Section 6 : Evaluation of lo-fi prototype

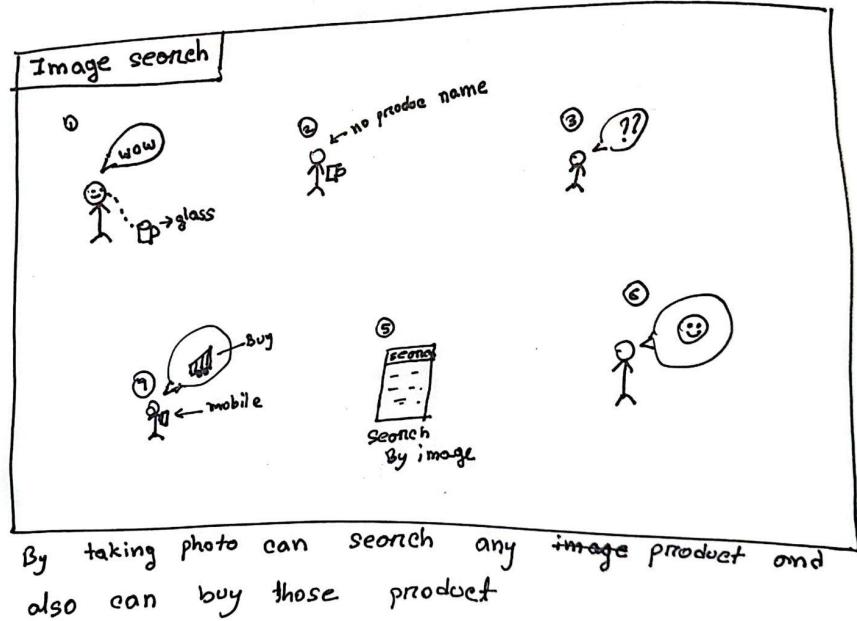
6.1 User evaluation 1	—	63
6.2 User evaluation 2	—	63
6.3 User evaluation 3	—	63
6.4 User evaluation 4	—	64

Section 7 : Updated lo-fi prototype

Updated lo-fi prototype	—	64
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Section 1 : Design Ideas

1.1 Idea 1 (Md Mushfikur Talukdar)



Title

Image based search.

Description

By tracking photos users can search any product and also can buy those products easily.

Insights

- Image based search

Strength

- Any item searchable
- No need to mention name
- No need to mention color also

Weakness

- Can provide duplicate product
- Can provide high amounts product
- Not able able current reason

Problem solving

By analyzing data we found that the user may have trouble finding products and also not be able to find those products whatever they wanted. Sometimes they don't know the name of the product so all these things are able to solve this design. The searching process will become more renewable so that any item will be search able even if they don't know the item's name.

Information

- If the design is implemented then the user will be able to search any item by taking only one photo of that product.
- They will take it as a good way for the system.
- Users will be able to search any item with the system.

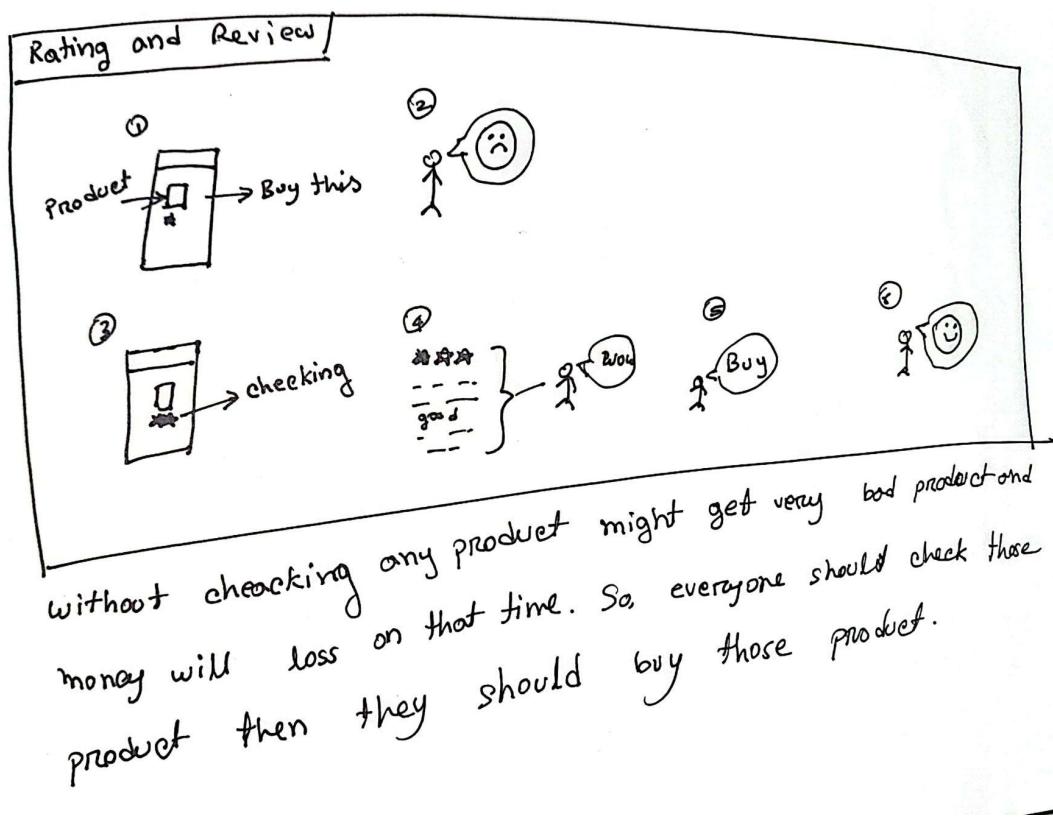
1.2 Idea 2 (Md Mushfikur Talukdar)

Title

Rating and Review

Description

Without checking, any product might get a very bad product and money will be lost at that time. So everyone should check those products then they should buy those products.



Insights

- Product quality
- Product review
- Product rating

Strength

- Identify good product
- Choosing right thing

Weakness

- Seller can give review ownself
- No one wanna buy without any review
- Challenges for first product selling

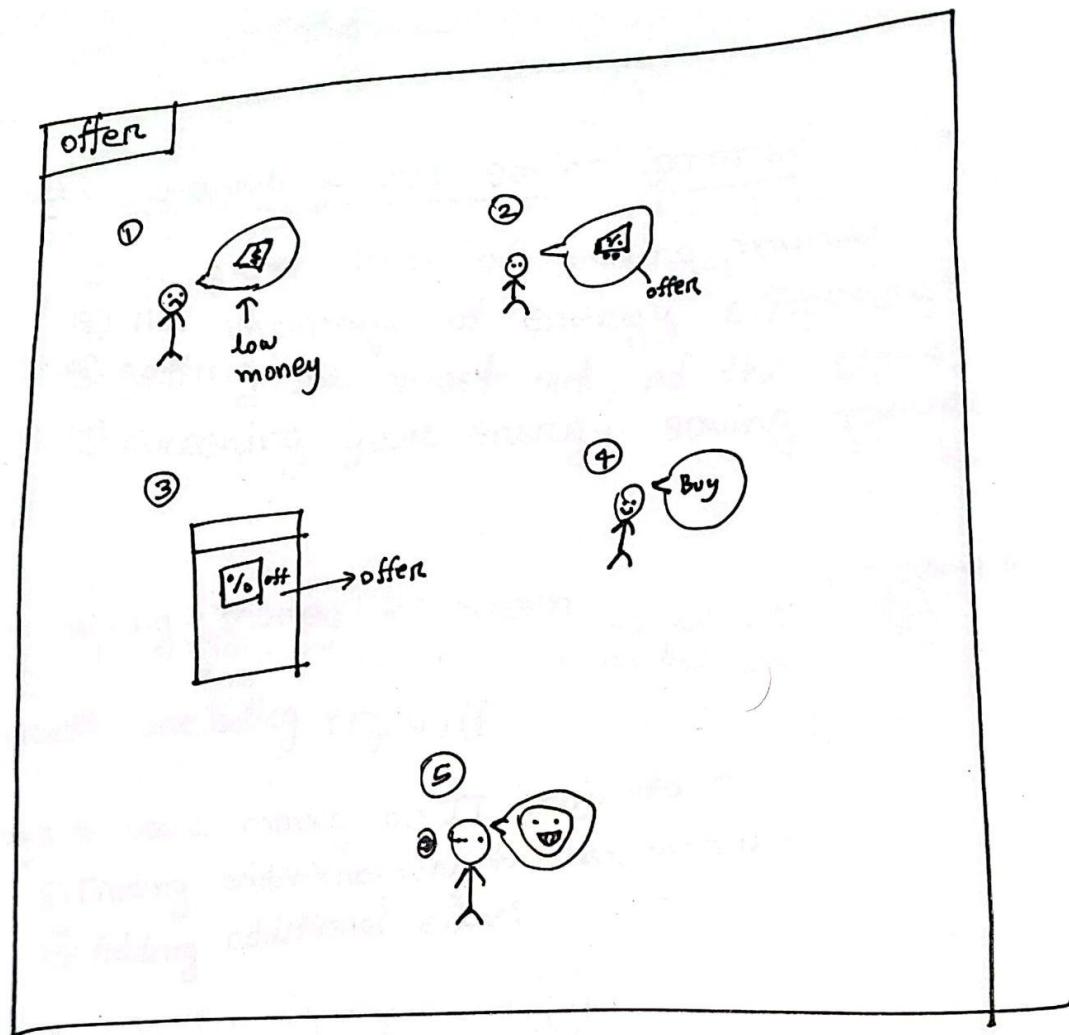
Problem solving

By analyzing data we found that the user buys the wrong product. So that they lose their money so they will not use the platform again. So day by day the platform will lose its users.

Information

- If the design is implemented then the user will be able to buy good quality products.
- They will take it as a good way for the system.
- Users will be able to see reviews and ratings to identify product quality.

1.3 Idea 3 (Md Mushfikur Talukdar)



Title

Offers

Description

Suppose users have a low amount of money or sometimes hunger for saving money. So if their offer exists then they will become interested in buying any product.

Insights

- Offer

Strength

- Save money
- Extra sell

Weakness

- While there is no offer, no one wants to buy any products.
- Less benefit for sellers.

Problem solving

By analyzing data we found that the user always wanted to buy at low cost or in search of an offer. So that they have to spend less money for the item. So this offer option will benefit those users.

Information

- If the design is implemented then the user will be able to buy by seeing any offer.
- They will take it as a good way for the system.
- Users will be able to buy by saving his own money.

1.4. Idea 4 (by Abu Saleh Md. Boni Momin)

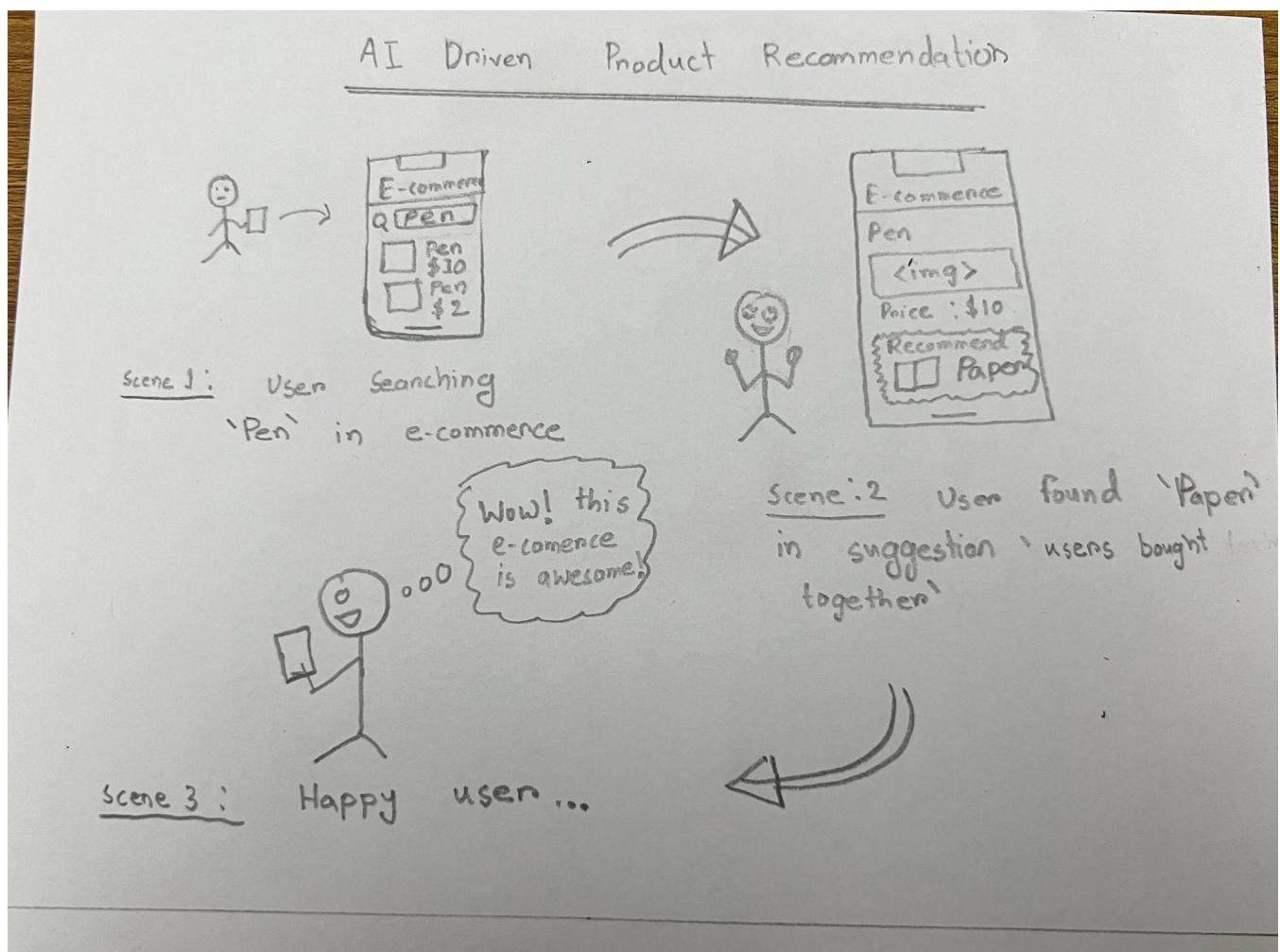
Title (Idea 4):

AI-driven 'Other users also purchased' Product Recommendations

Description (Idea 4):

Users in e-commerce demand flexibility and comfort in the e-commerce platform. As per our research study we figured out users loved the concept of AI-based suggestion of other products (i.e. suggestion appeared on Paper) which related to the current one (i.e. users searched Pen) and beneficial to be purchased together. The suggestions will also be generated from other users frequently bought together with history. Users claim implementation of this feature will be game changing for their e-commerce usage.

Sketch (Idea 4):



Insights from Affinity Diagram (Idea 4):

- *User Preferences:* The affinity diagrams revealed a strong preference for personalized recommendations tailored to individual users' interests and buying behaviors.
- *Convenience and Flexibility:* Users highlighted the importance of a flexible and user-friendly e-commerce platform, indicating a desire for features that simplify the shopping process.
- *Peer Influence:* The "Other users also purchased" concept gained prominence, indicating that users value recommendations based on the collective purchasing decisions of the community.

Strengths and Weakness (Idea 4):

Strength	Weakness
Personalization: The AI-driven recommendations provide a personalized shopping experience, increasing the likelihood of users finding relevant products.	Privacy Concerns: Users might express concerns about the collection and use of their data for generating recommendations, necessitating transparent communication about data privacy measures.
Increased Sales: By suggesting items frequently bought together, the feature has the potential to boost sales and increase the average order value.	Algorithm Accuracy: The success of the feature depends on the accuracy of the AI algorithm. Inaccurate recommendations may lead to user frustration.
User Engagement: Encourages users to explore more products, increasing overall engagement and time spent on the platform.	

Problem Solving (Idea 4):

The design addresses the challenge of helping users discover relevant products efficiently by providing tailored suggestions. It aligns with the identified user needs for flexibility and comfort in their e-commerce experience.

User Adoption and Need Fulfillment (Idea 4):

- *User Adoption:* Users are likely to adopt the system eagerly due to the personalized and time-saving nature of the feature.
- *User Actions:* Users can explore suggested items, adding them to their cart or wishlist. The system learns from user interactions, continuously improving recommendations.
- *User Satisfaction:* The feature supports users in discovering products they may have overlooked, enhancing satisfaction and loyalty to the platform. Users adopt the system as it aligns with their preferences and simplifies their shopping journey.

1.5. Idea 5 (by Abu Saleh Md. Boni Momin)

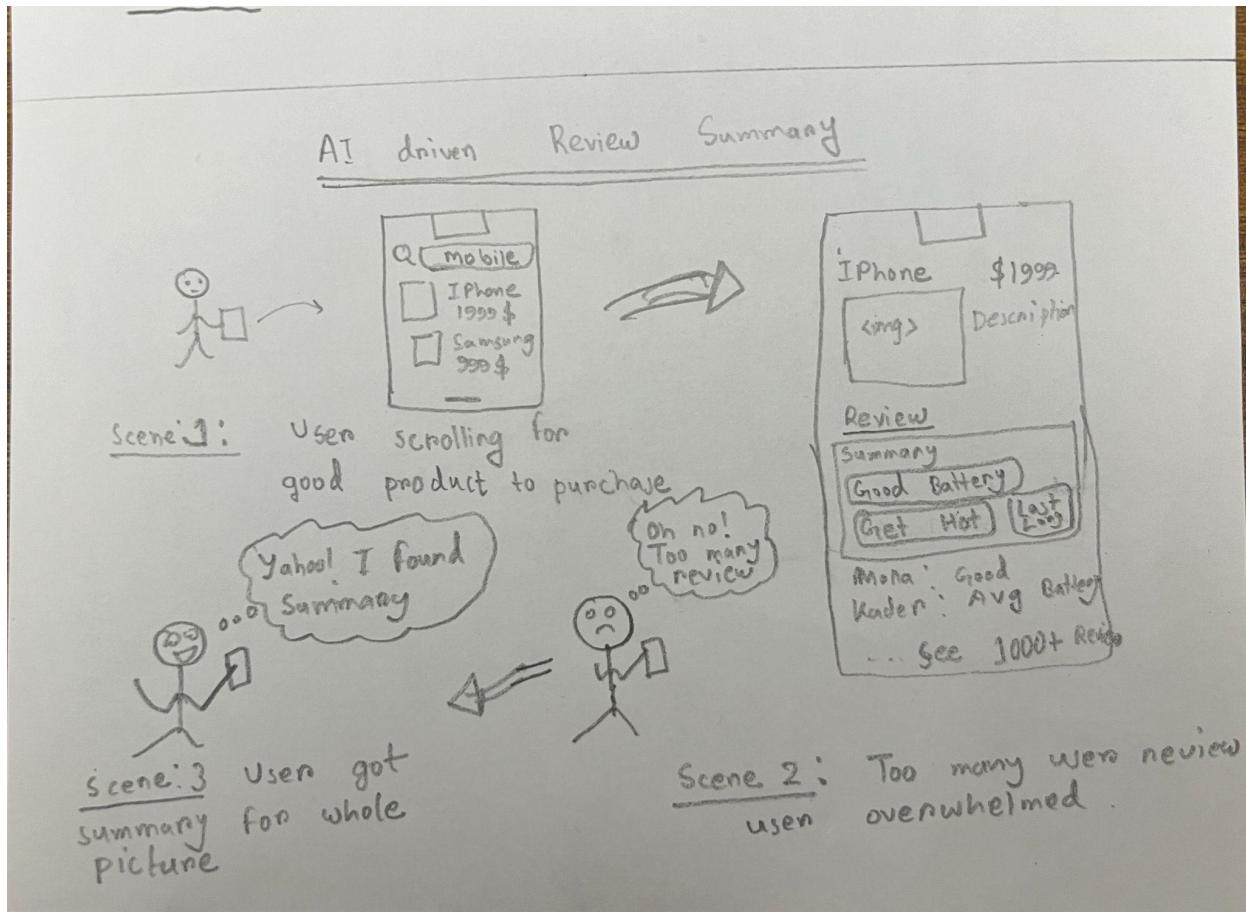
Title (Idea 5):

AI-driven Review (keyword-based positive & negative) Summary

Description (Idea 5):

In the realm of e-commerce, user's ease, security are the top two priorities. The AI-based Positive-Negative Review Summary feature recognizes users' desire for quick insights into product quality, service, and authenticity, the feature filters and summarizes reviews. Users are presented with concise summaries using keywords such as "Good Quality," "Long Battery-life," or "Bad Communication," eliminating the need to navigate through lengthy reviews.

Sketch (Idea 5):



Insights from Affinity Diagram (Idea 5):

- *User Priorities:* Affinity diagrams highlight user priorities, emphasizing the importance of quick assessments related to product quality, service, and authenticity.
- *Time Efficiency:* Users express a preference for time-efficient solutions, indicating a need for streamlined information consumption.
- *User Trust:* Users trust summarized information that captures the essence of reviews, facilitating quicker decision-making.

Strengths and Weakness (Idea 5):

<i>Strength</i>	<i>Weakness</i>
Time-Saving: The feature significantly reduces the time users spend reading reviews by presenting concise summaries.	Loss of Detailed Context: Users relying solely on summaries might miss detailed context provided in individual reviews.
User-Friendly: Users benefit from an easily digestible format that helps them quickly grasp the overall sentiments of other buyers.	Algorithm Accuracy: The success of the feature depends on the accuracy of the AI algorithm in categorizing reviews as positive or negative.
Enhanced Decision-Making: Empowers users to make informed decisions by providing a quick overview of both positive and negative aspects of a product.	

Problem Solving (Idea 5):

The design addresses the challenge of information overload from extensive reviews. It streamlines the review-reading process, presenting users with a clear summary to aid in their decision-making.

User Adoption and Need Fulfillment (Idea 5):

- *User Adoption:* Users are likely to adopt the system enthusiastically due to its efficiency in providing meaningful insights.
- *User Actions:* Users can quickly scan the review summary, focusing on keywords that matter to them. They may then proceed to make purchase decisions based on the summarized information.
- *User Satisfaction:* The feature enhances user satisfaction by aligning with their preferences for quick, yet informative, reviews. Users adopt the system as it supports efficient decision-making in their e-commerce experience.

1.6. Idea 6 (by Abu Saleh Md. Boni Momin)

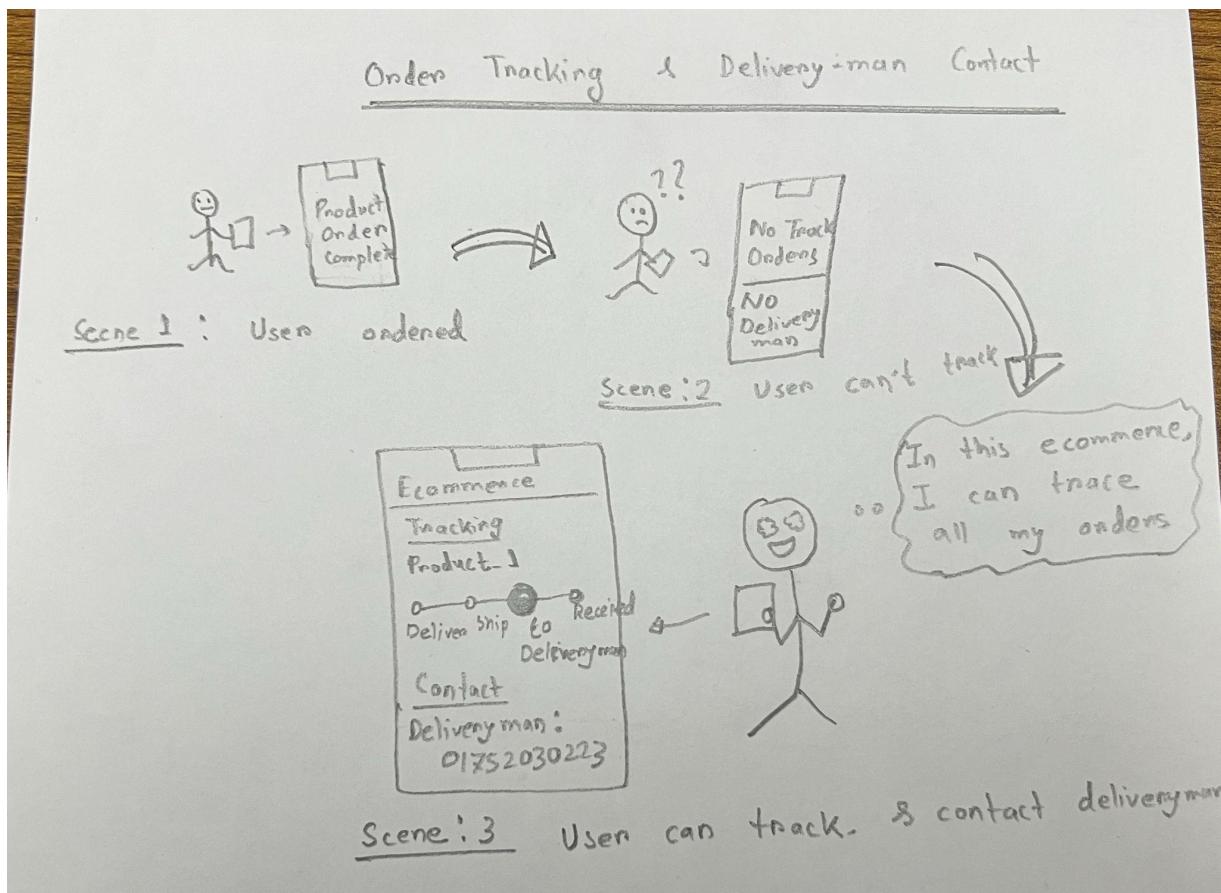
Title (Idea 6):

Tracking Order and Contacting Deliveryman

Description (Idea 6):

The Order Tracking and Contacting Deliveryman feature addresses two significant challenges identified during the research – the struggle with order tracking and the absence of deliveryman contact information. In our user-friendly e-commerce application, we aim to provide a robust order tracking system and early access to deliveryman contact details. This ensures users have transparency in their order status and the ability to communicate directly with the delivery personnel if needed.

Sketch (Idea 6):



Insights from Affinity Diagram (Idea 6):

- *User Frustrations:* Users express frustration over unclear order tracking, emphasizing the need for a more transparent and real-time tracking system.
- *Communication Gap:* Affinity diagrams highlight the absence of direct communication with delivery personnel as a pain point for users.
- *Desire for Control:* Users desire more control over their orders, seeking the ability to track in real-time and communicate with delivery-men.

Strengths and Weakness (Idea 6):

<i>Strength</i>	<i>Weakness</i>
Real-Time Tracking: Provides users with a real-time map displaying the location of the delivery-man, enhancing order transparency.	Privacy Concerns: Users may express concerns about the privacy implications of real-time tracking, necessitating transparent communication and privacy features.
Direct Communication: Allows users to initiate direct calls or messages to the delivery man, facilitating clear and timely communication.	Dependence on Deliveryman Cooperation: The effectiveness of direct communication depends on the willingness of delivery personnel to respond promptly.
Enhanced User Control: Empowers users with greater control over their orders, reducing anxiety and frustration.	

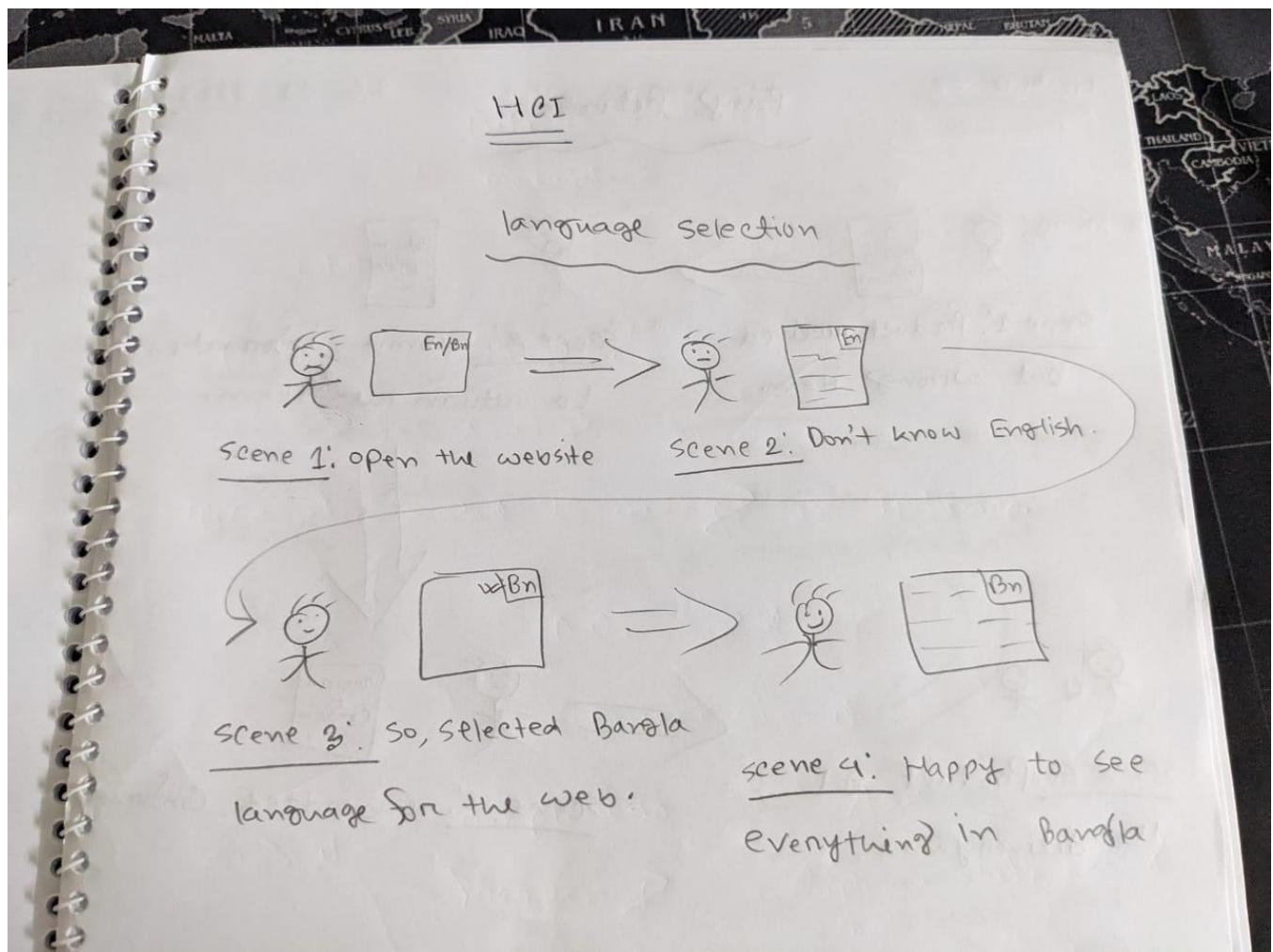
Problem Solving (Idea 6):

The design addresses the challenges of unclear order tracking and lack of direct communication by providing users with a transparent, real-time tracking system and the ability to contact the delivery-man when needed.

User Adoption and Need Fulfillment (Idea 6):

- *User Adoption:* Users are likely to adopt the system eagerly, appreciating the enhanced control and transparency in their order fulfillment process.
- *User Actions:* Users can actively track their orders in real-time, gaining insights into the delivery process. Additionally, they can use the communication feature to convey specific instructions or inquire about the delivery status.
- *User Satisfaction:* The feature enhances user satisfaction by providing a more personalized and interactive order tracking experience. Users adopt the system as it aligns with their desire for control and transparency in the delivery process.

1.7 Idea 7 (S M Nayem)



Title:

Language Selection

Description:

There are many customers who are not from our country and there are also many customers who are not comfortable with the English language. So, we are making a feature that customers can select the language which is preferable for them. There will be two languages for the website, Bangla and English.

Insights:

- Change website Language

Strength:

- Foreigners can choose their preferred language.
- Bangladeshi customers can choose Bangla and English whichever they want.

Weakness:

- Whoever doesn't know English, it can be hard to find the settings to change the language.

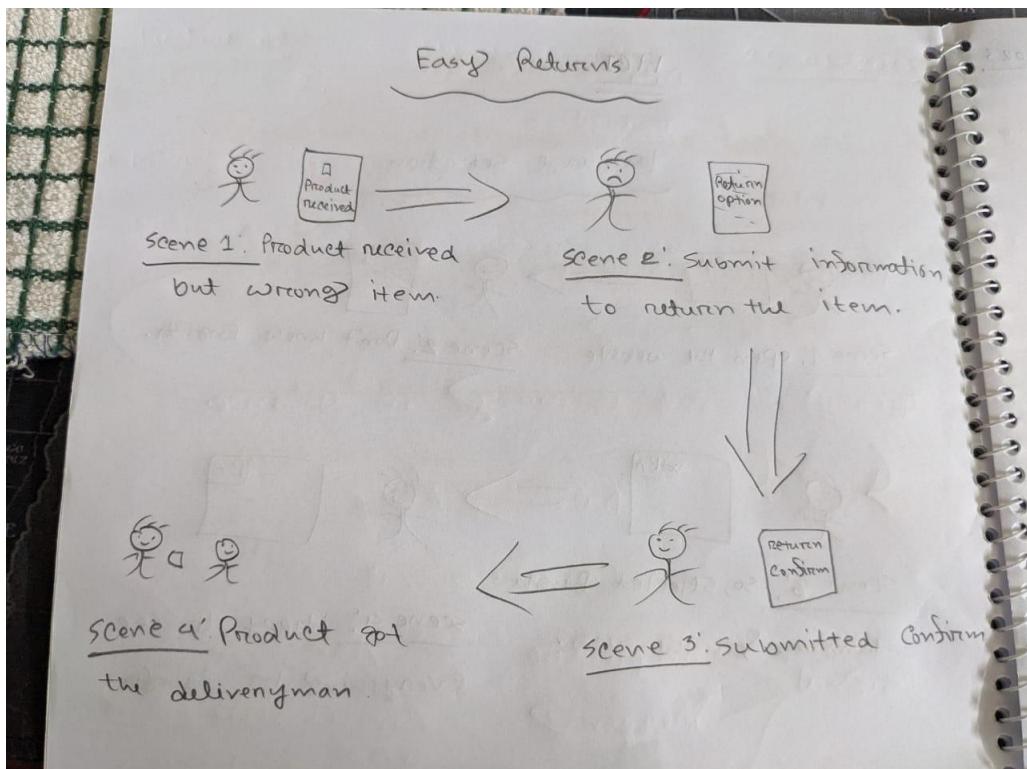
Problem Solving:

It will solve the problem of both the foreigners and native customer's language preference. The customer who doesn't know English, He/she can change the language to Bangla. In this way, this design is able to solve the problem identified during data analysis.

Information:

If implemented, this design supports the needs of the users as they can change the language just with the language change feature. The users will adopt the system as this feature is well seeable in the platform. The users would easily choose their preferred language.

1.8 Idea 8 (S M Nayem)



Title:

Easy Returns

Description:

Customers will be able to return any product if there is any problem or the product is not the exact he/she order. This feature will be very much helpful for the customer as they can order products without fear of getting the wrong product.

Insights:

- Return the product

Strength:

- The customer can return the product if there is anything wrong.
- For faulty products they can get another product.
- The customer can make sure that the product is right as they wanted.
- Security to their money that they get the product they wanted.

Weakness:

- Some customers can send back the product without any reason.
- Customers can damage the product and can send the product back, so loss can occur.

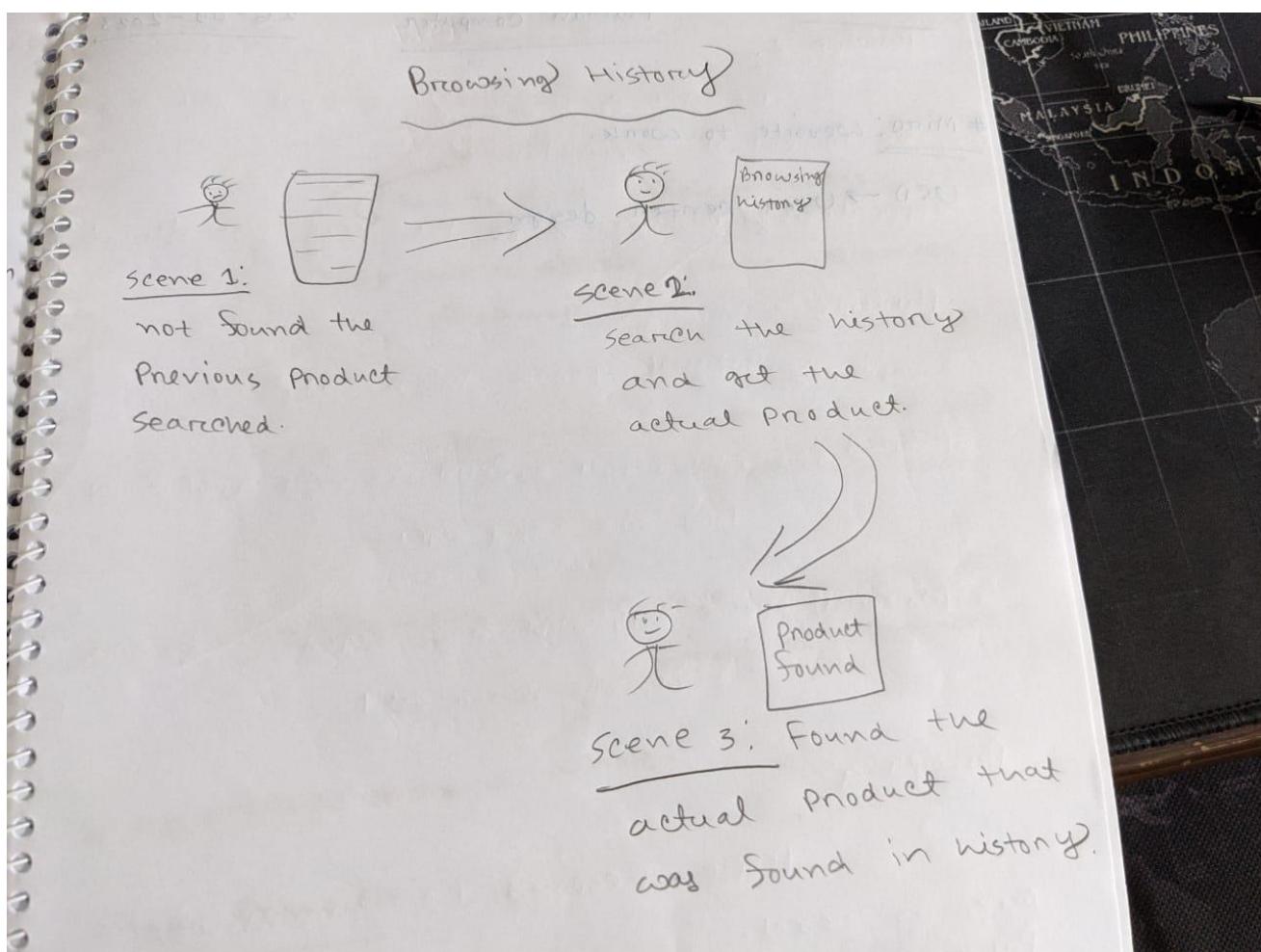
Problem Solving:

During data analysis we found that there are many customers that got their product but that was not they ordered, furthermore many customers got faulty products but nothing can be done as the product is delivered. So, This feature can solve these problems.

Information:

As there is an option to get their product back if there is any fault with the product so customers can ensure that they are getting their desired product. The customers can easily adopt this design as it is an easy procedure.

1.9 Idea 9 (S M Nayem)



Title:

Browsing History

Description:

The customers can easily find out their browsing history on our platform. That means they can easily find out their previous search history or product. This feature can save their time for finding their product.

Insights:

- Get browsing history
- Get previous product history
- Get previous search

Strength:

- Easily find their previous history
- Easily find their previous product
- Can find their search history
- Can't lose any product they found.

Weakness:

- Sometimes become messy to find an individual product within the history
- It is time consuming.

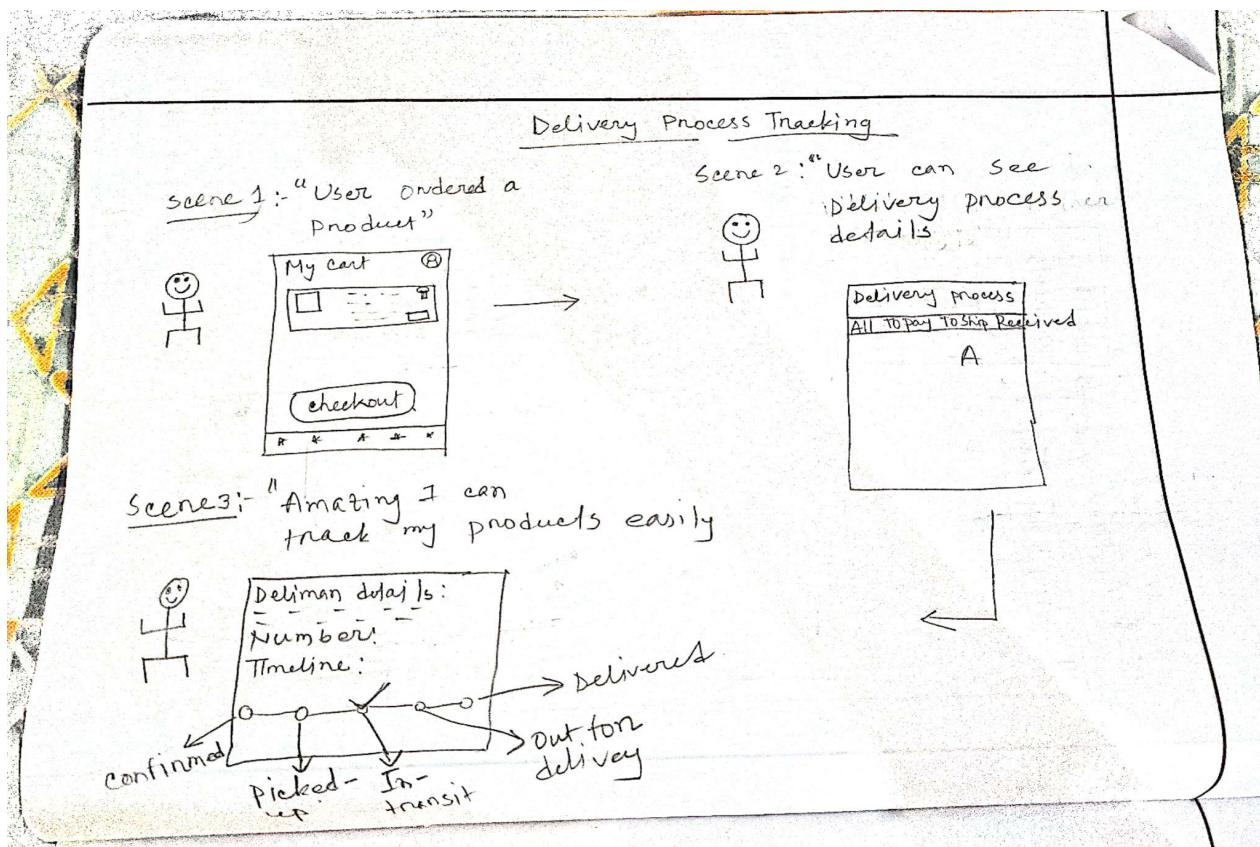
Problem Solving:

During data analysis we found that many customers lose their search product and it is very time consuming sometimes to find their lost product. So this feature can solve this problem.

Information:

This feature can make a solution of losing the previous product search and it is easy to find the product. Customers can see their previous search history also.

1.10 Idea 10 (Nahian Ahmed Rim)



Title: Delivery Process Tracking

Description:

A delivery process tracking component designed to display crucial stages—'All delivery,' 'To pay,' 'To ship,' 'Received'—providing users with real-time updates on their parcel's journey.

Insights:

- Real-time visibility into the delivery stages offers users a clear understanding of their package's progress.
- Enables anticipation and planning based on package status, enhancing the user's sense of control.

Strength:

- Provides a comprehensive overview of the entire delivery process at a glance.
- Helps manage expectations and reduces customer inquiries by offering transparent updates.

Weakness:

- Relies on accurate and timely updates from the shipping providers, which may sometimes lead to delays or inaccuracies.
- Might not cover specific nuanced details within each stage of the delivery process.

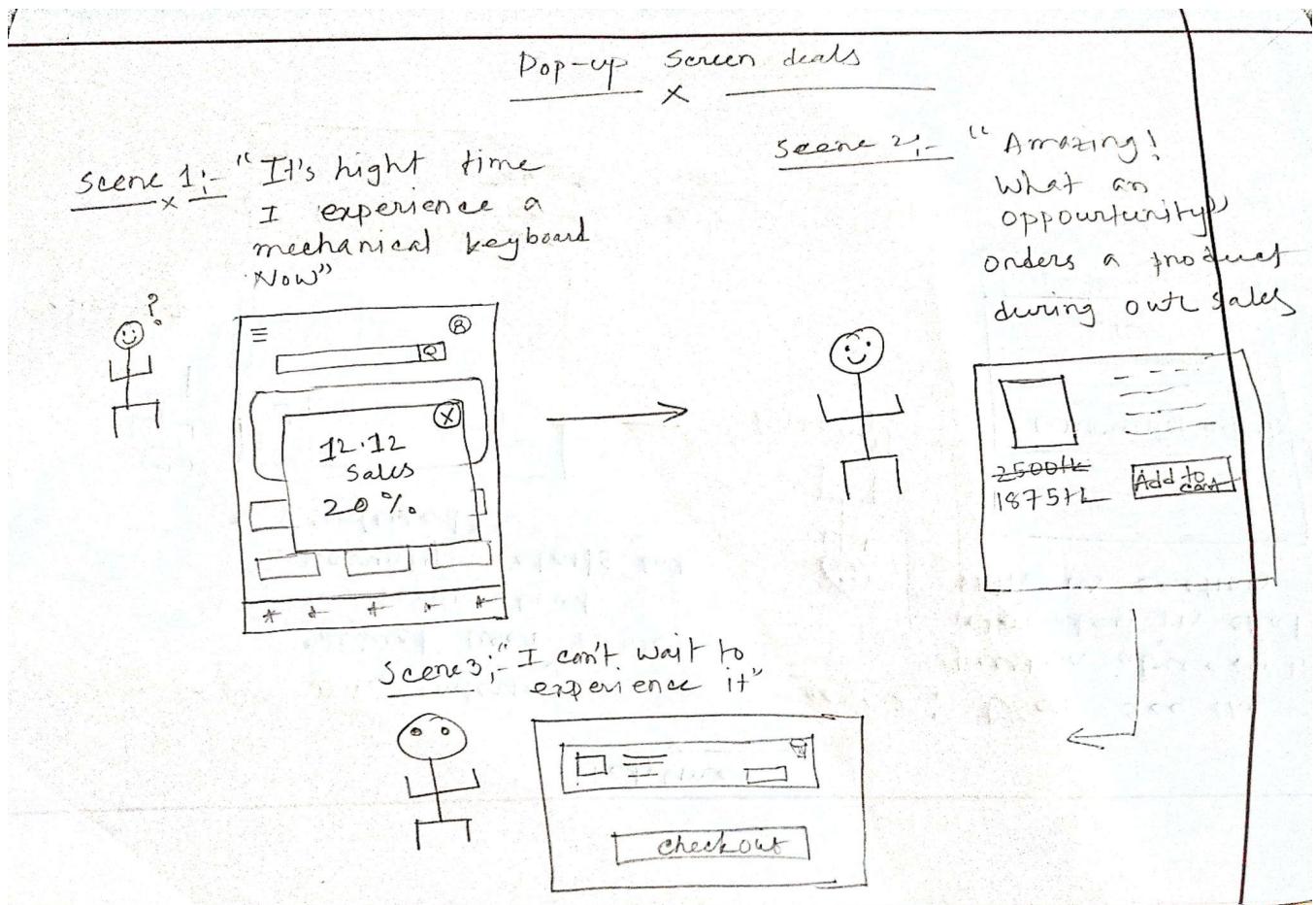
Problem Solving:

- Aims to reduce customer anxiety and uncertainty by offering clear, concise, and real-time updates.
- Enhances user satisfaction by providing transparency and control over their delivery experience.

Information:

- Tracks and displays key stages—'All delivery,' 'To pay,' 'To ship,' 'Received'—providing details on the parcel's current status within the delivery journey.
- Offers a snapshot of the package's progress, ensuring users are informed and engaged throughout the shipping process.

1.11 Idea 11 (Nahian Ahmed Rim)



Title: Pop-up screen offers or deals

Description:

Pop-up screen offers or deals strategically appear on landing pages, showcasing promotional content such as discounts, limited-time offers, or special deals to engage and entice website visitors.

Insights:

- Immediate visibility of enticing offers prompts user attention and encourages exploration.
- Effective in highlighting promotions, increasing user interaction and potential conversions.

Strength:

- Captures user attention promptly, increasing the likelihood of engagement with the offer.
- Provides an opportunity to showcase exclusive deals or promotions, potentially boosting sales.

Weakness:

- Overuse or intrusive pop-ups can lead to user annoyance or detract from the user experience.
- Might divert attention away from the main content or navigation of the landing page.

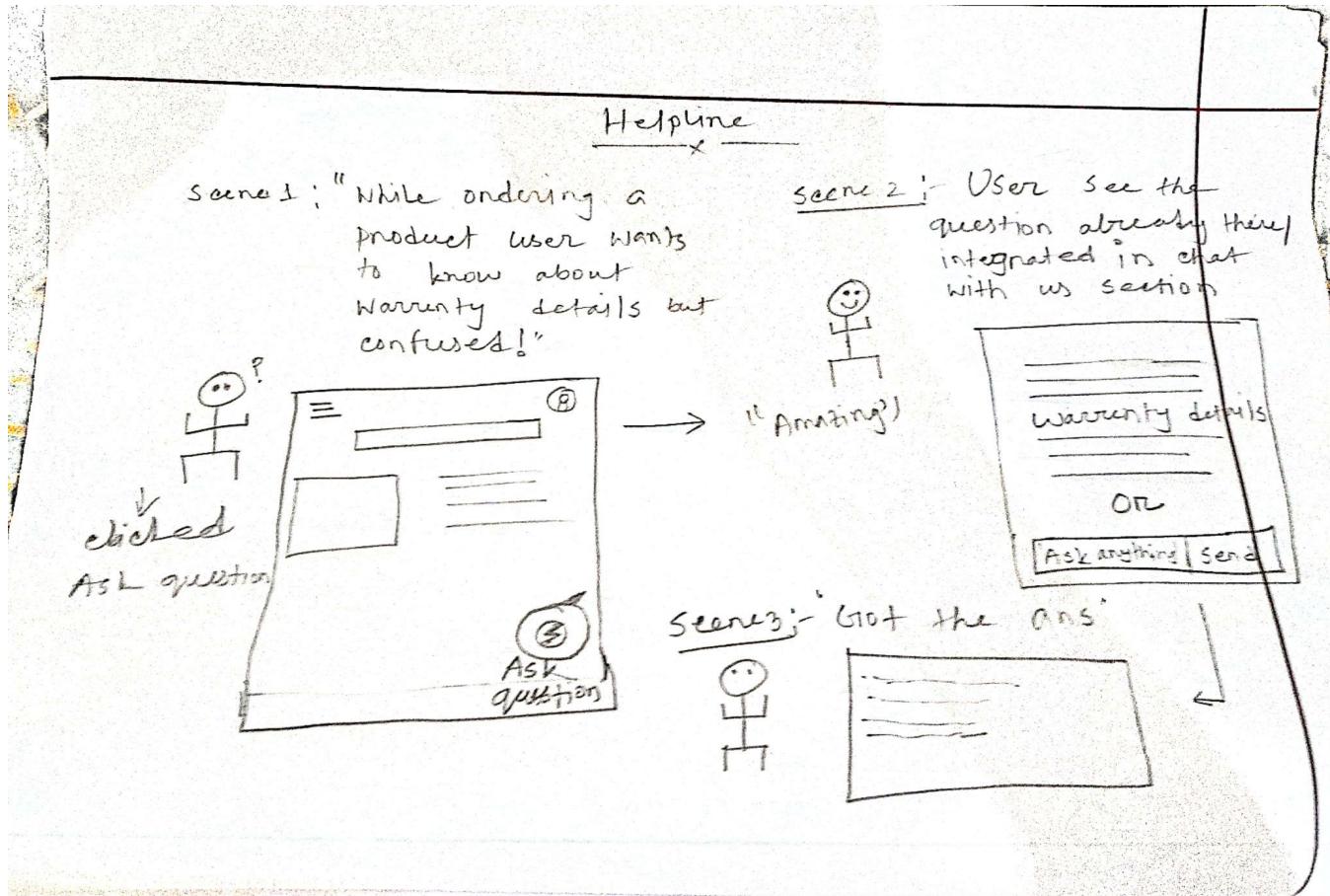
Problem Solving:

- Aims to attract and engage visitors by presenting appealing offers or deals at a prominent location on the landing page.
- Seeks to boost conversion rates by leveraging eye-catching promotions and incentives.

Information:

- Displays time-sensitive or exclusive offers in a pop-up format upon landing on the website.
- Intended to swiftly capture user interest and prompt action, encouraging exploration and potential conversions.

1.12 Idea 12 (Nahian Ahmed Rim)



Title: Helpline or "chat with us"

Description:

The helpline or "chat with us" feature integrates AI and machine learning to provide immediate assistance to users by utilizing a dataset comprising frequently asked questions (FAQs). This automated system aims to offer quick and accurate responses to user queries.

Insights:

- Employs AI algorithms to analyze and interpret user queries, matching them with existing FAQs for relevant and precise responses.
- Reduces the need for human intervention in addressing common inquiries, enhancing efficiency and responsiveness.

Strength:

- Enables 24/7 availability for users to seek assistance, promoting convenience and accessibility.
- Improves user experience by swiftly addressing common queries, minimizing wait times for responses.

Weakness:

- Might face limitations in understanding nuanced or complex queries that deviate from the existing dataset.
- Initial setup and training of the AI system require meticulous curation and continuous refinement of the FAQ dataset.

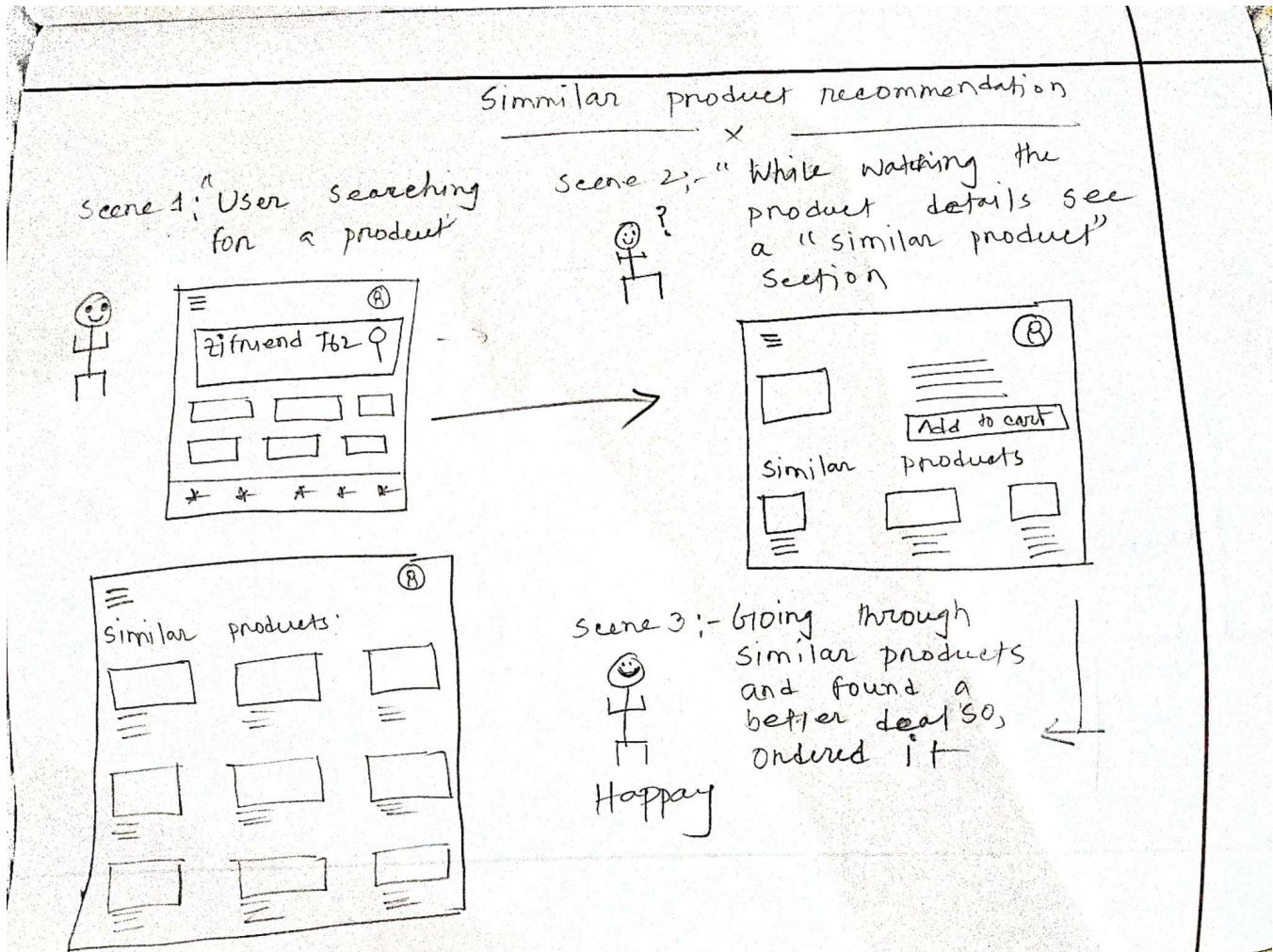
- **Problem Solving:**

- Aims to swiftly address user queries by leveraging machine learning to provide accurate responses based on an extensive FAQ dataset.
- Seeks to enhance user satisfaction by offering instant solutions to commonly encountered issues or questions.

Information:

- Utilizes AI algorithms to match user inquiries with a structured dataset of frequently asked questions.
- Strives to provide accurate and relevant responses by leveraging machine learning capabilities to understand and address user queries effectively.

1.13 Idea 13 (Nahian Ahmed Rim)



Title: Similar product AI recommendation

Description:

The similar product AI recommendation component enhances user experience by utilizing AI algorithms to suggest relevant products when a user searches using specific keywords. It aims to provide users with options closely related to their search query.

Insights:

- AI algorithms analyze user search keywords to identify patterns and similarities among products in the inventory.
- Offers users a curated selection of items akin to their search, potentially increasing the likelihood of finding desired products.

Strength:

- Enhances user engagement by presenting a variety of products aligned with their search intent.
- Increases the possibility of conversions by showcasing alternatives or complementary items the user might be interested in.

Weakness:

- Accuracy relies on the effectiveness of the AI algorithm in understanding user intent based on search keywords.
- May occasionally present recommendations that do not align precisely with the user's search expectations.

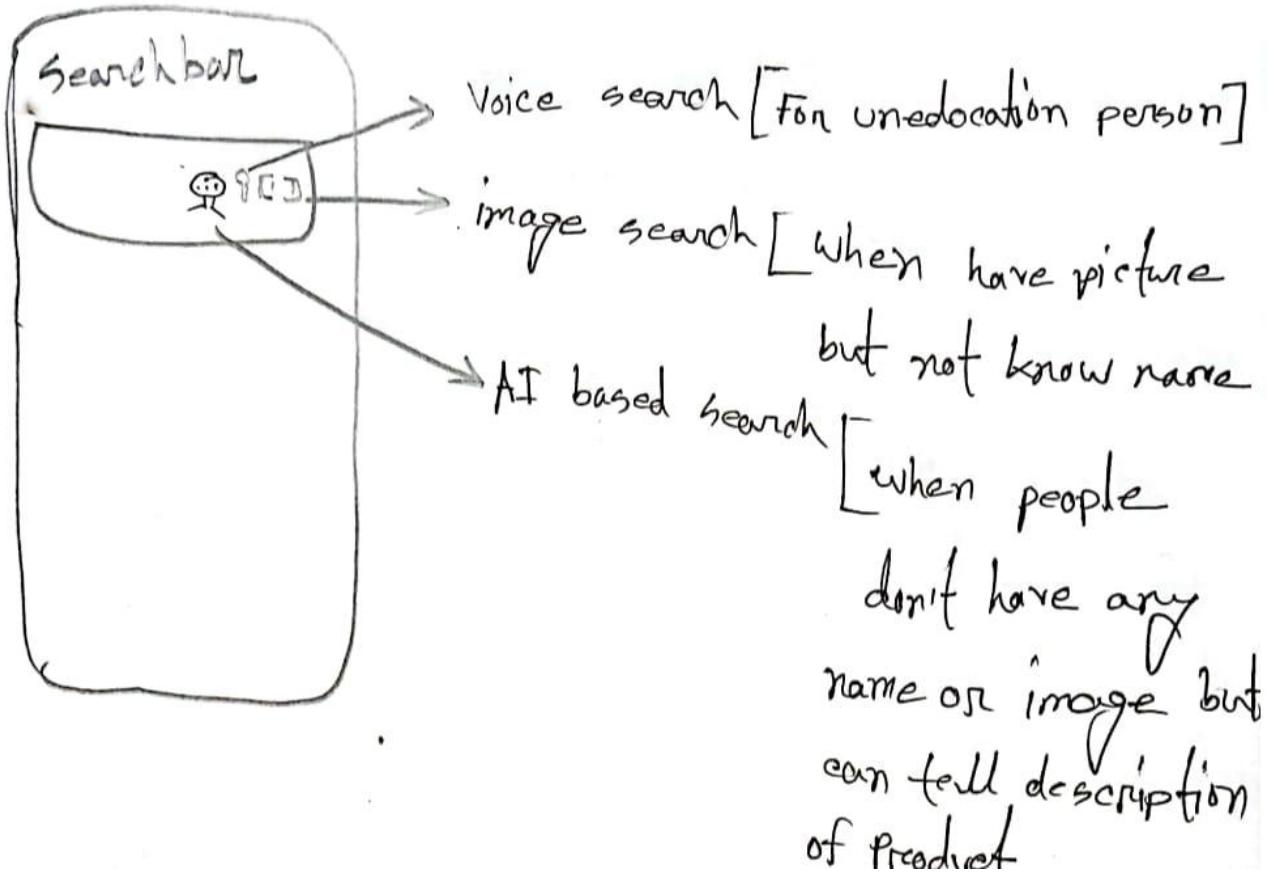
Problem Solving:

- Aims to assist users in discovering relevant products by employing AI algorithms to suggest items closely associated with their search keywords.
- Seeks to optimize user satisfaction and conversion rates by offering personalized and relevant product recommendations.

Information:

- Utilizes AI algorithms to analyze search keywords and match them with product attributes or categories in the inventory.
- Intended to provide users with a tailored selection of similar products based on their search query, optimizing their browsing and shopping experience.

1.14 Idea 1 (Abu Hasib Muhammad Nanzil)



Title

Search with Image, Voice, AI.

Description

For uneducated person it is not easy to type , so they can search with their voice. If someone don't know the product name but have an image of that then he can search with that image.If someone don't have any name or photo but he can give a description of that product then the ai maybe help them to find out that product.

Insights

- Image based search
- NLP based search
- AI based search

Strength

- Any item searchable
- No need to mention name
- No need typing
- Every user can use these search (educated/ uneducated)

Weakness

- Can provide duplicate product
- Can provide high amounts product
- AI miss guess
- NLP properly not recognize the word

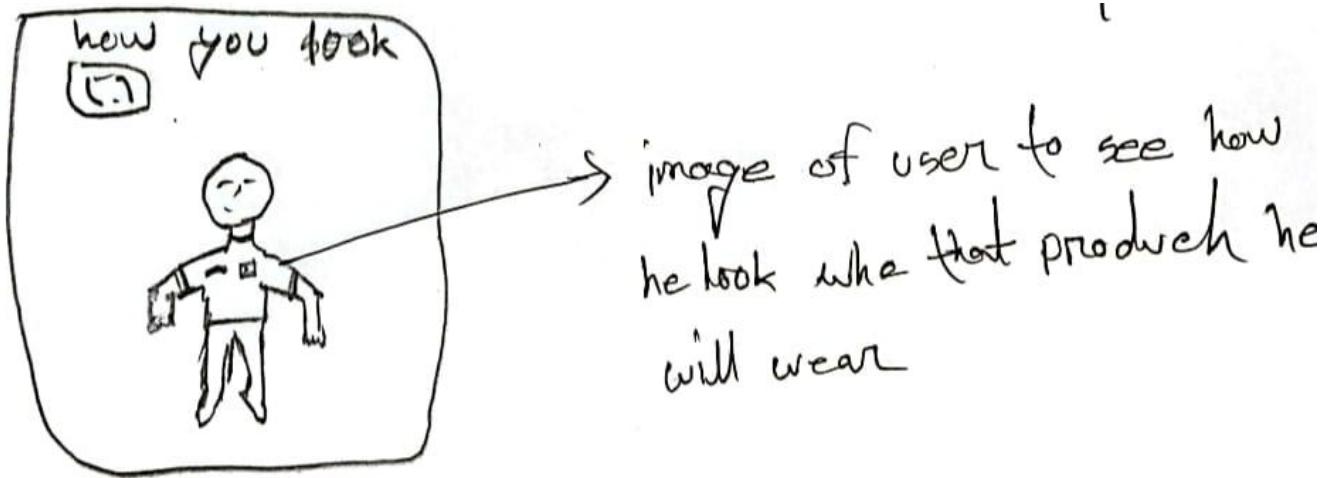
Problem solving

The integration of image-based, NLP-based, and AI-based search capabilities addresses diverse user needs by providing a seamless and inclusive search experience. Users of varying educational backgrounds can effortlessly search for any item without the need for specific names or typing, overcoming barriers for those who may face challenges with traditional text-based interfaces. This innovation ensures universal accessibility, allowing every user to harness the power of technology for efficient and intuitive information retrieval. The elimination of naming constraints and typing requirements further streamlines the search process, making it a versatile solution for a wide range of users, ultimately fostering a more inclusive and user-friendly search environment.

Information

- If the design is implemented then the user will be able to search with voice if he can't type, blind people also can search with their voice.
- Just only one image, product will appear if it's available in system.
- Users will be able to search any item with the system with help of AI.

1.15 Idea 1 (Abu Hasib Muhammad Nanzil)



Title

Virtual Try-On Experience

Description

Every product not suitable for every person. People choice is different and also their body shape height, color vary person to person so all product isn't suitable everyone. So if anyone choose a product and want to see how he look like after he wear the product then he can try it in virtually before purchasing. This feature will be helpful for choose correctly for looking good.

Insights

- Enhanced Decision-Making: The Virtual Try-On feature provides users with a more immersive and personalized shopping experience, allowing them to assess the suitability of a product based on their individual preferences and body characteristics.
- Increased Confidence: Users can make purchases with greater confidence, knowing exactly how a product will look on them, reducing the uncertainty associated with online shopping.
- Reduced Returns: By virtually trying on products, customers are less likely to be dissatisfied with their purchases, leading to a potential decrease in product returns.

Strength

- Personalization: The feature caters to the diverse needs and preferences of individuals, offering a highly personalized shopping experience.
- User Engagement: Virtual Try-On enhances user engagement by providing an interactive and enjoyable way to explore products, encouraging repeat visits to the platform.
- Risk Mitigation: Users can minimize the risk of making unsatisfactory purchases, contributing to increased customer satisfaction and loyalty.

Weakness

- Technical Limitations: The accuracy of the Virtual Try-On feature may be influenced by the quality of the technology and the limitations of current virtualization capabilities.
- Limited Applicability: Certain products may be challenging to virtually try on, particularly those with intricate designs or complex fitting requirements.
- Implementation Challenges: Integrating Virtual Try-On features may require significant development effort and investment, potentially posing challenges for smaller businesses or platforms with limited resources.

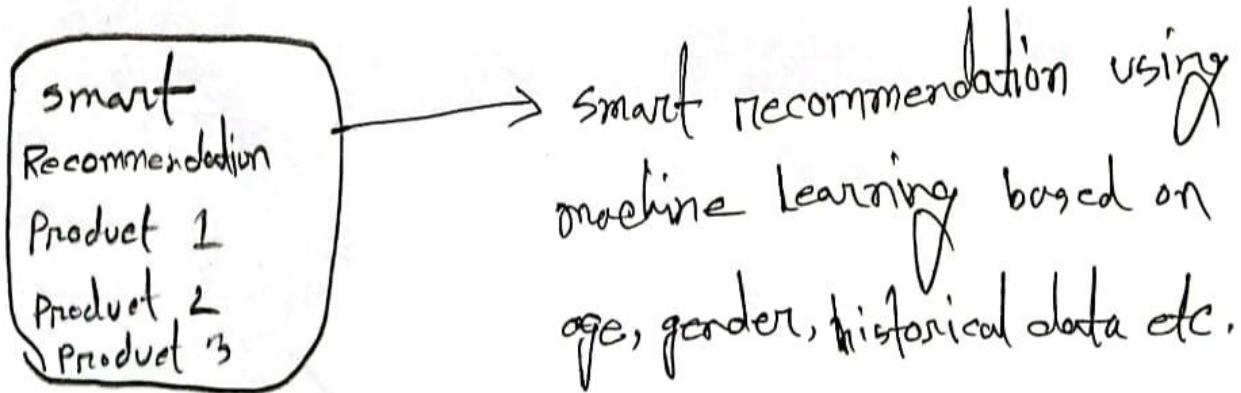
Problem solving

To optimize the Virtual Try-On Experience, continuous technological advancements are essential to improve accuracy and realism. Ensuring comprehensive coverage for a diverse range of products, particularly those with intricate designs, fosters user confidence. A user-friendly interface, robust data security measures, and collaborations with brands enhance accessibility and trust. Implementing responsive customer support, integrating user feedback, and creating scalable solutions ensure widespread adoption, making the Virtual Try-On Experience a transformative solution for personalized, informed online shopping decisions..

Information

- If it implemented in system then user can see himself in real time how he look like after wear the product.
- There is no need of return policy if product is fresh

1.16 Idea 3 (Abu Hasib Muhammad Nanzil)



Title

Smart Recommendation

Description

The Smart Recommendation Engine leverages advanced artificial intelligence to provide users with tailored suggestions based on their preferences, behavior, and trends. By analyzing user data, it offers personalized recommendations for products, services, or content, enhancing the overall user experience.

Insights

- User Personalization: The Smart Recommendation Engine taps into user data to understand individual preferences, ensuring a customized and relevant experience.

- Behavior Analysis: By analyzing user behavior and interaction patterns, the engine identifies trends, helping to predict and recommend items aligning with evolving interests.
- Enhanced Discoverability: Users can discover new and relevant offerings, fostering engagement and satisfaction while reducing the time and effort spent searching for suitable options.

Strength

- Increased User Engagement: Personalized recommendations enhance user engagement, encouraging prolonged interaction with the platform and increasing the likelihood of conversions.
- Time Efficiency: Users benefit from time-efficient and effortless discovery of items they are likely to be interested in, creating a seamless and enjoyable browsing experience.
- Adaptability: The engine can adapt to changing user preferences and trends, continuously refining its recommendations for an up-to-date and relevant user experience.

Weakness

- Data Privacy Concerns: The collection and analysis of user data may raise privacy concerns, necessitating robust measures to ensure user information is handled securely and ethically.
- Algorithmic Biases: If not carefully designed, recommendation algorithms may inadvertently introduce biases, potentially limiting the diversity of suggestions and influencing user choices.
- Over-reliance on Historical Data: The engine's effectiveness relies on historical user data, which might not fully capture sudden changes in preferences or new trends.

Problem solving

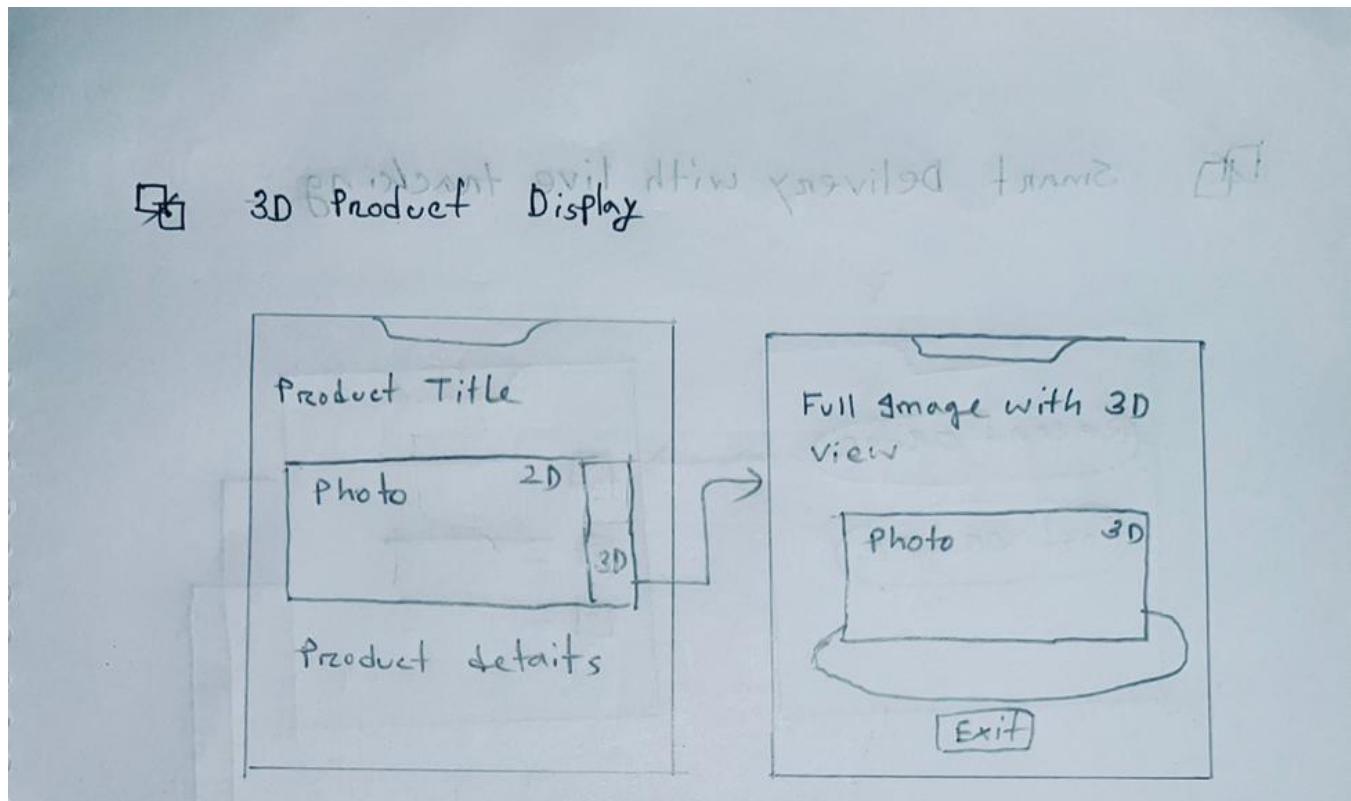
To address potential concerns, the Smart Recommendation Engine prioritizes user privacy through robust data protection measures and transparent communication. Continuous algorithmic refinement mitigates biases, ensuring diverse and fair suggestions, while the integration of real-time machine learning models enhances adaptability to evolving user preferences, fostering a trustworthy and responsive recommendation system.

Information

- It's a smart recommendation system using AI to show the suitable product in front of user.

1.17 Idea 17 (Arif Billah)

Title: 3D Product Display



Description:

Enable users to rotate and zoom in/out on 3D models of products on the e-commerce platform. This feature can be particularly useful for showcasing electronic gadgets, furniture, or any items where detailed examination and visualization are essential for making a purchase decision.

Insights:

- 3D product display allows users to view items from multiple angles, rotate, zoom in/out, and interact with them virtually. This enhanced visualization capability provides a more comprehensive understanding of the product, mimicking an in-store experience.

- Interactive 3D displays tend to captivate users, encouraging them to spend more time exploring products. This increased engagement can lead to better conversion rates as users are more likely to make informed purchase decisions.

Strength:

- 3D product displays provide users with a more engaging and interactive experience compared to traditional 2D images. The ability to view products from different angles, zoom in/out, and interact with them creates a more immersive shopping experience.
- 3D displays offer a more accurate representation of products, allowing users to better understand their features, dimensions, and details. This can reduce uncertainty and increase confidence in purchasing decisions.

Weakness:

- Implementing 3D product display requires specialized software, skilled professionals for 3D modeling, and potentially significant investment in technology. This can result in higher initial setup costs compared to traditional 2D imaging.
- 3D models can be larger in file size compared to 2D images, potentially leading to slower loading times on web pages. This can negatively impact user experience, especially for users with slower internet connections or less powerful devices.

Problem Solving:

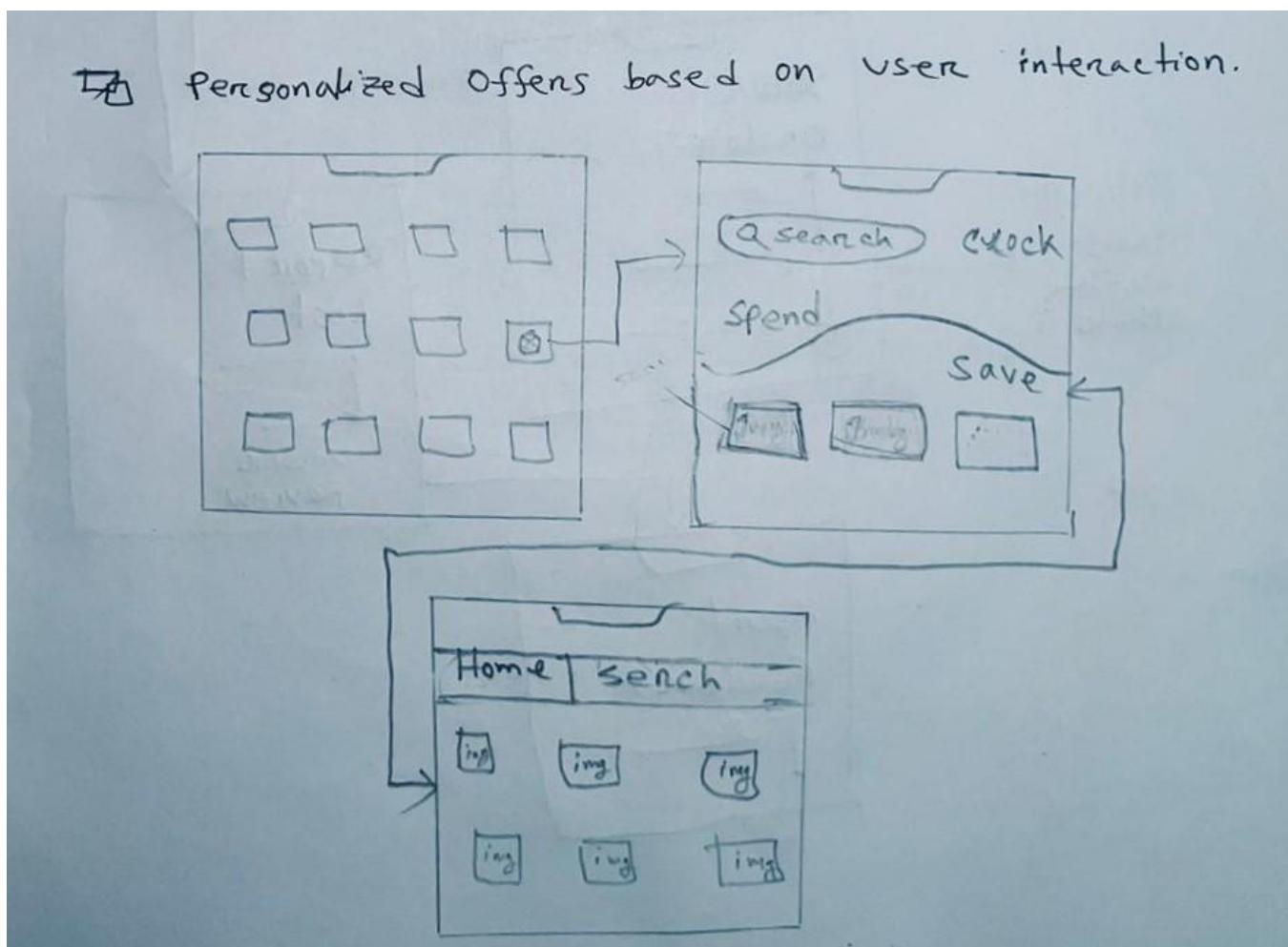
- Pinpoint the specific problem encountered with the 3D product display. This could range from rendering issues, slow loading times, compatibility issues, or inaccuracies in the display.
- Gather details about the problem, including when and how it occurs. This might involve checking user complaints, examining error logs, or running diagnostic tests to understand the root cause.

Information:

- Users can explore different categories, filter items based on preferences, and view detailed product descriptions, images, and specifications.
- Users can create accounts on the platform to access personalized features such as wishlists, order history, saved payment methods, and preferences. They can manage their profiles by updating information, setting preferences, and adjusting communication settings.

1.18 Idea 18 (Arif Billah)

Title: Personalized Offers Based on User Interaction



Description:

This feature would use machine learning algorithms to analyze user data, such as past purchases, items added to carts, search history, time spent on specific product pages, and demographics. It would then generate tailored discount offers, exclusive deals, or targeted promotions for each user.

Insights:

- Personalized offers capture users' attention by catering to their specific interests, preferences, and past behaviors. This targeted approach tends to resonate more with users, increasing engagement levels.
- Tailored offers make users feel valued and understood, leading to higher satisfaction levels. When users receive offers that align with their preferences, they are more likely to perceive the platform positively.

Strength:

- Personalized offers resonate with users' preferences and behaviors, capturing their attention and encouraging active participation and interaction with the platform.
- Tailoring offers to match individual preferences leads to higher conversion rates. Users are more likely to respond positively to offers that align with their interests, leading to increased sales and transactions.

Weakness:

- Collecting and utilizing user data for personalized offers can raise privacy concerns. Users may feel uncomfortable if they perceive their data is being used in ways that intrude upon their privacy, leading to distrust or opting out of engagement.
- Relying on user behavior data for personalization requires accurate data collection and interpretation. Inaccurate or misinterpreted data can lead to incorrect assumptions about user preferences and potentially deliver irrelevant offers.

Problem Solving:

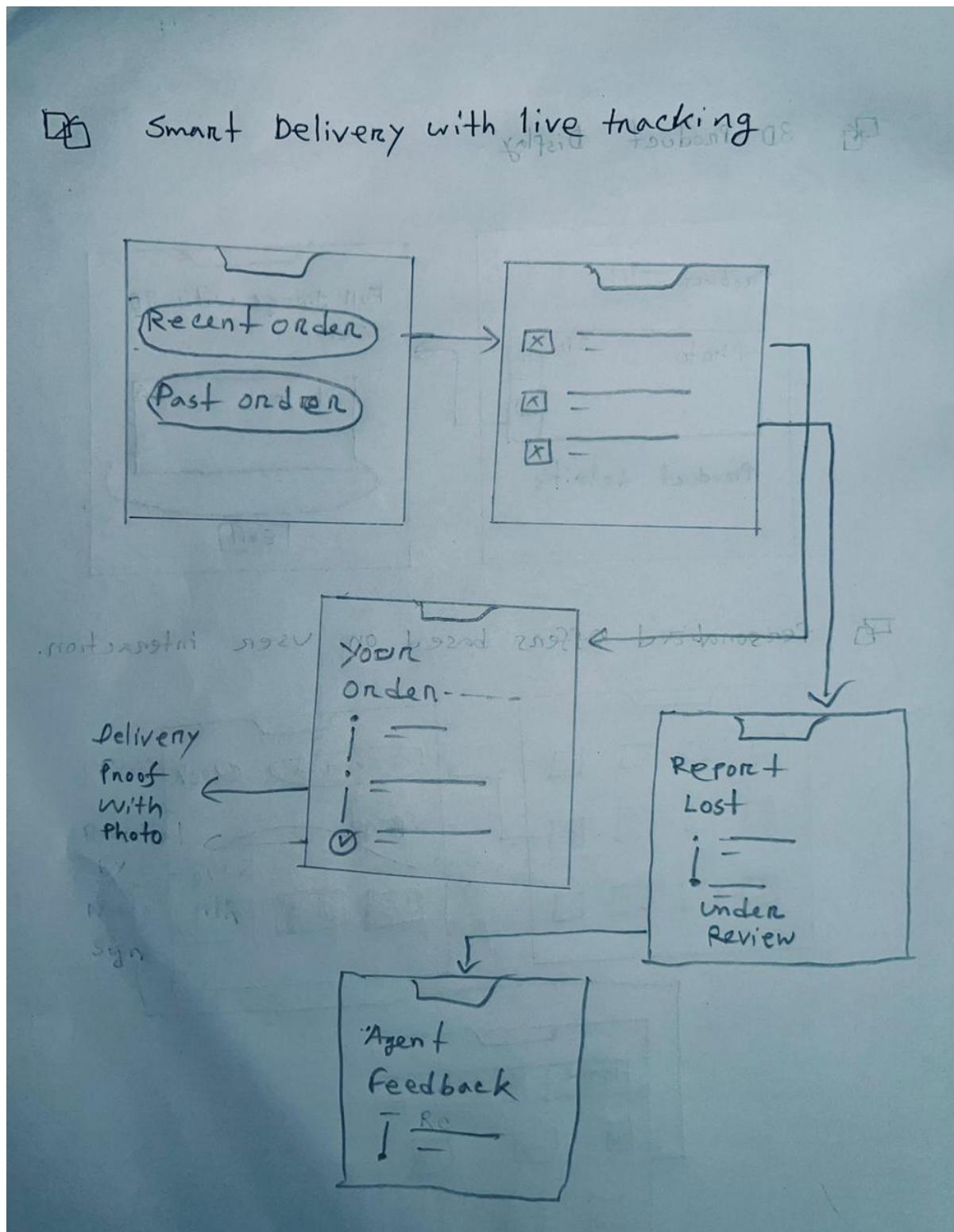
- Clearly define the issue or challenge faced by the e-commerce platform. This could be related to user experience, technical glitches, low conversion rates, high cart abandonment, etc.
- Collect relevant data and information about the problem. This may involve analyzing user feedback, conducting usability tests, reviewing analytics, or examining system logs to understand the root cause.

Information:

- Data generated by user interactions with the platform, including browsing history, items viewed, products added to cart, search queries, time spent on pages, and clicks.
- Information related to user accounts, such as usernames, passwords (encrypted), account preferences, purchase history, saved payment methods, wishlists, and other settings.

1.19 Idea 19 (Arif Billah)

Title: Smart Delivery With live tracking



Description:

Smart Delivery with Tracking System This system would allow users to choose from various delivery time slots based on their preferences and availability. Additionally, it would employ machine learning algorithms to optimize delivery routes, taking into account factors like traffic conditions, package sizes, and proximity to other deliveries, to reduce delivery times and fuel consumption.

Insights:

- Live tracking provides real-time visibility into the delivery process, allowing users to know the exact location and status of their packages. This transparency enhances the overall customer experience by reducing uncertainty and increasing trust.
- Improved Customer Satisfaction: Users appreciate the ability to track their orders live, leading to higher satisfaction levels. It also helps manage user expectations regarding delivery times, leading to a more positive perception of the platform.

Strength:

- Live tracking provides users with real-time visibility into their deliveries, improving their overall experience by offering transparency and reducing anxiety about order status and estimated arrival times.
- Offering live tracking capabilities positively impacts customer satisfaction levels. Users appreciate the convenience and reassurance of knowing the exact location of their packages during transit.

Weakness:

- Reliance on technology for live tracking can be subject to occasional technical glitches or system downtimes. Interruptions in tracking services might lead to user dissatisfaction and frustration.

- Live tracking heavily depends on network connectivity. Poor or unstable internet connections in certain areas might hinder accurate real-time updates, impacting the reliability of tracking information.

Problem Solving:

- Clearly define the problem or challenge faced with the smart delivery system and live tracking. This could include issues like inaccurate tracking information, technical glitches, or user dissatisfaction.
- Collect relevant data and information about the problem. This might involve analyzing user complaints, examining tracking data, or conducting system tests to understand the root cause.

Information:

- This includes information that a user submits or provides to a system, platform, or service. It encompasses personal details (name, email, address), preferences, account settings, transaction history, or any other information voluntarily shared while interacting with a service or platform.
- This refers to the data, content, or features available to a user within a system or platform. It involves access to product details, account settings, search functionalities, support documentation, user-generated content, or any information accessible based on user permissions or preferences.

Section 2 : Idea Shortlist

2.1 Shortlisted Design Ideas

1. Photo-based and Nlp Search:

Users can utilize the Photo-based Search feature to find products by snapping photos or uploading images, streamlining the search process through visual identification and also can search with their voice if they don't know typing or don't want to type.

2. AI-driven Recommendation ('Users Also Bought Together'):

This feature employs AI to deliver personalized recommendations based on user preferences, presenting “*similar products*” and items frequently bought together.

3. Order Tracking & Contracting Deliveryman:

The Order Tracking and Contacting Deliveryman feature offers a comprehensive order tracking system with real-time deliveryman location and direct communication capabilities.

4. Occasional Discount Offers:

Users can access Occasional Offers to discover promo codes, discounts, and special deals, enhancing cost-saving opportunities during their shopping experience.



2.2 How Ideas Were Chosen

The selection process involved a multi-faceted approach, primarily driven by user feedback and preferences. As the creation of an affinity diagram, which meticulously documented user recommendations and insights gathered from surveys and focus-group interviews. Each design idea was assigned weights based on the significance attributed to them by users.

Subsequently, another 15-minute focus-group interview session was conducted with 5 users. This interactive session allowed users to vote for their preferred design ideas out of a pool of 18 concepts that we have designed in this milestone.. The top 4 ideas, as determined by user votes, were shortlisted and considered.

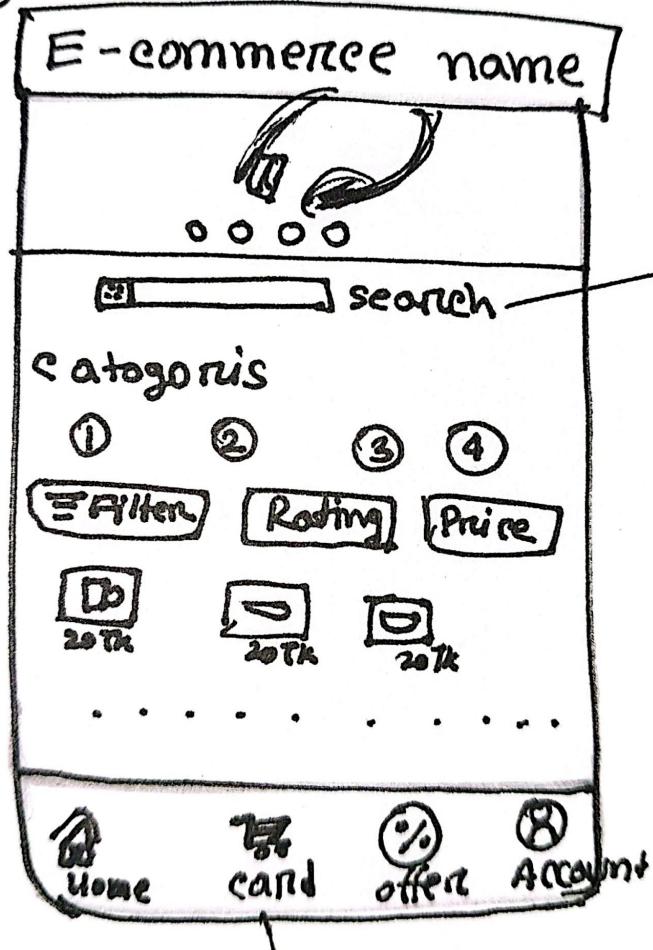
2.3 Why Ideas are Chosen

The decision-making process prioritized aligning with stakeholder needs, user suggestions, and overall recommendations for enhancing the e-commerce platform. To maintain objectivity and eliminate potential bias, designers consciously refrained from participating in the voting process.

The chosen ideas resonated strongly with users due to their perceived utility, user-friendliness, transparency, and overall benefits. Users conveyed a collective belief that these features have the potential to revolutionize their e-commerce experience, generating high anticipation for the development of a next-gen platform. The positive and constructive user feedback served as a pivotal motivating factor in the final selection of these designs.

Section 3 : LoFi Prototype

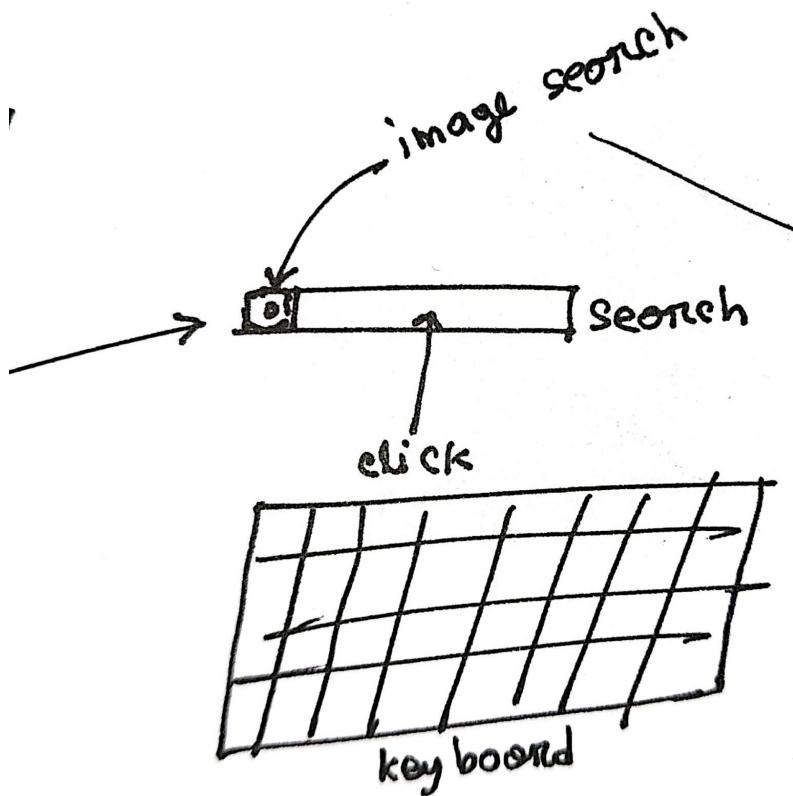
(1)



Label : Home page

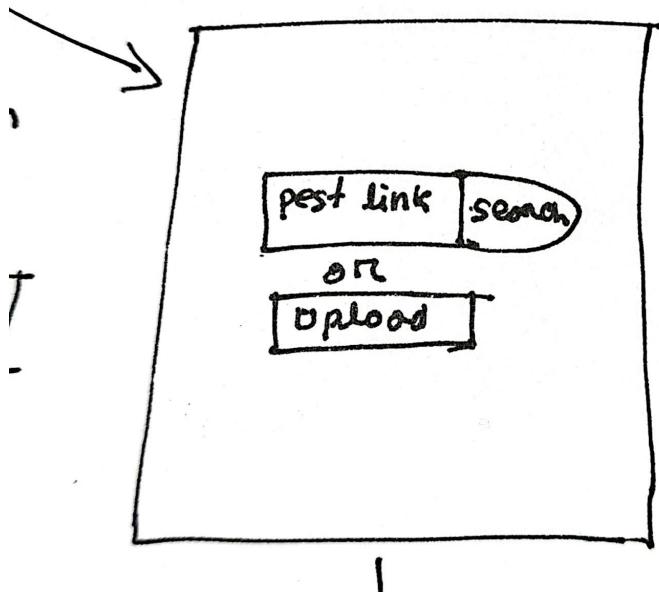
Description : The homepage is like the starting point for users, offering a bunch of useful things. There's a big search bar to find stuff quickly, different categories to explore, and filters to sort things out. You can also check ratings to see if things are good, pick a price range that fits your budget, and easily go back home with a special button. There might be cool deals, and you can manage your account. The page also suggests things you might like based on what you've looked at before. It's a nice mix of pictures and info to

make it all look good and easy to use. Overall, the homepage has everything you need for a smooth and fun shopping or browsing experience.



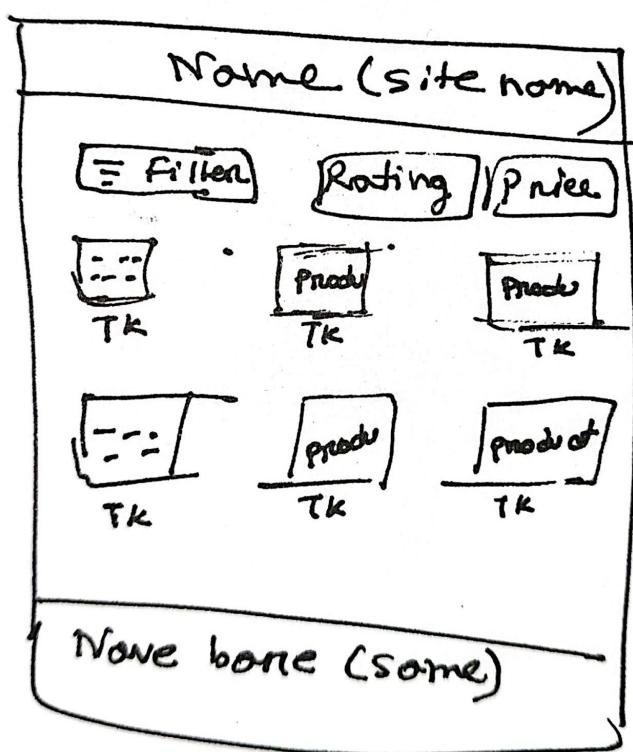
Label : Search bar, pop-ups keyboard and image search option

Description : When the user taps search space, a handy keyboard pops up, letting you type in whatever users are looking for. Users can search for anything he want, just like typing a message. But wait, there's more, users can even upload a picture, and the smart system will try to find similar things. It's like talking to the app in two cool ways – typing or showing a pic.



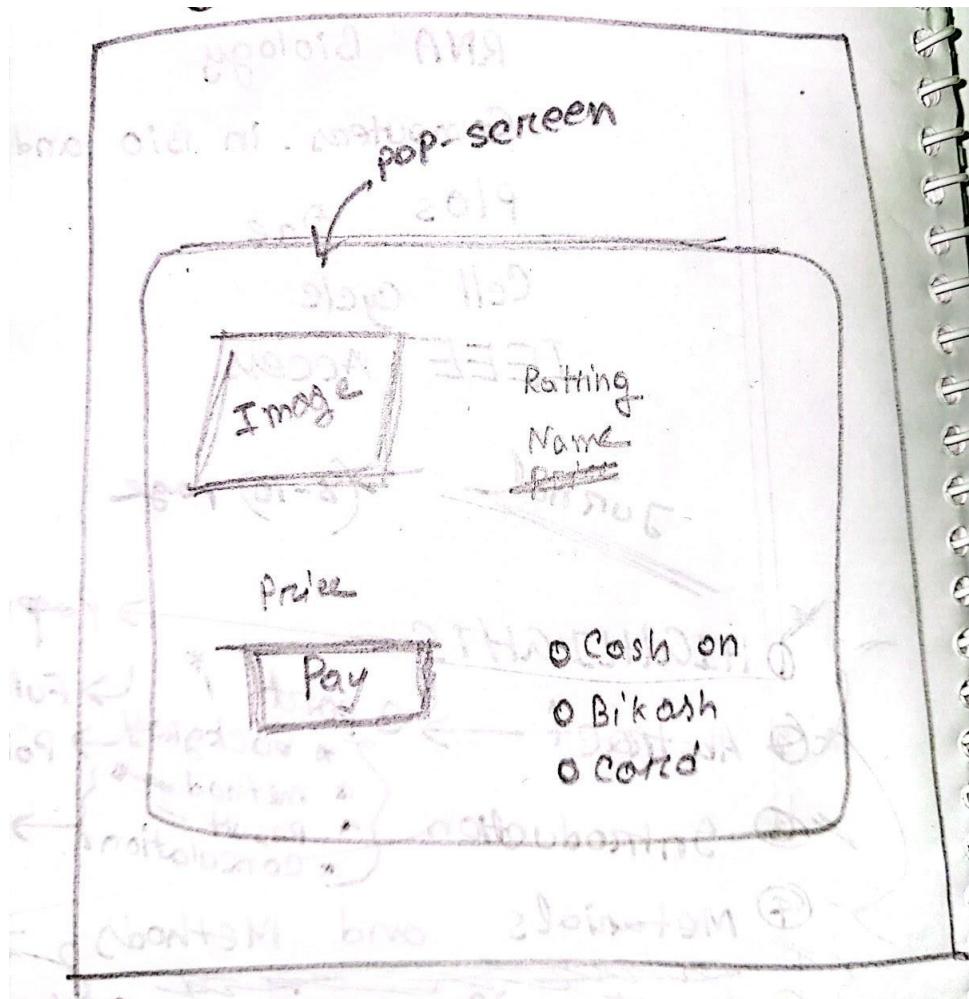
Label : Picture upload option and picture's link upload option

Description : User will get this page after clicking the search by image button. In the page there are two options one is for the link and one is for the image. The option which is placed to pest the link there user can pest any type of any image's link and then they can search them and another option is for uploading the image here they can upload their image which one they wanted to search so after uploading the image they will be able to search those easily.



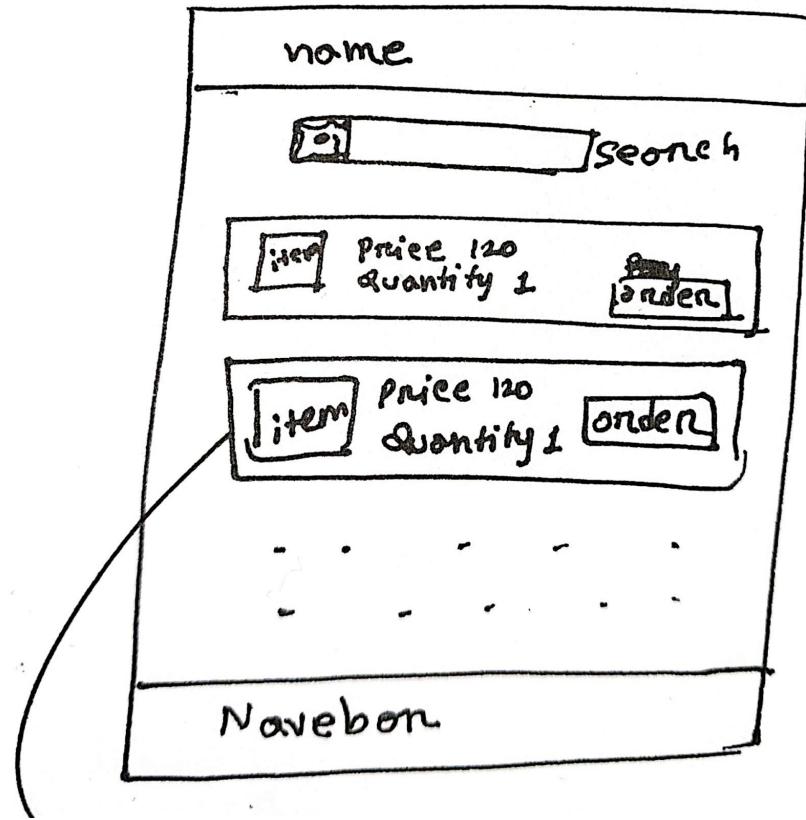
Label : Result showing of searching

Description : The user will be able to see the result of their searching.



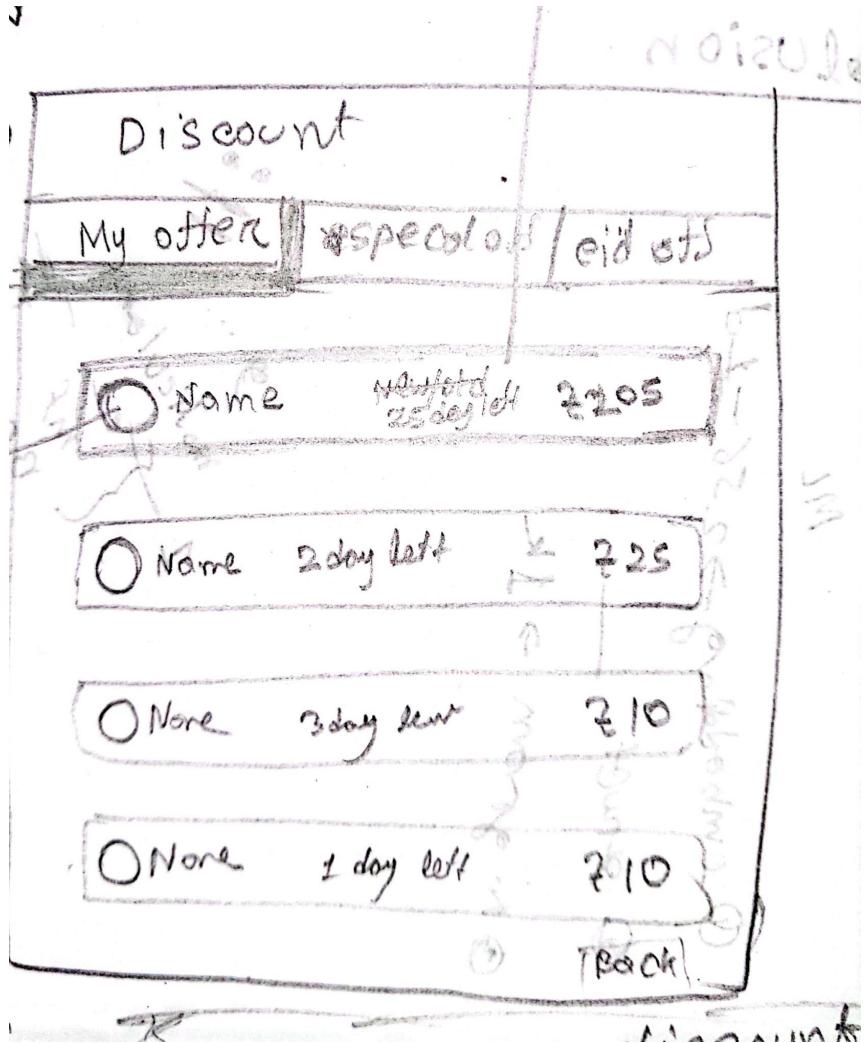
Label : Pop-ups screen for the product

Description : The screen will show the items image and rating and also other details from here users are able to buy or add cards for buy later.



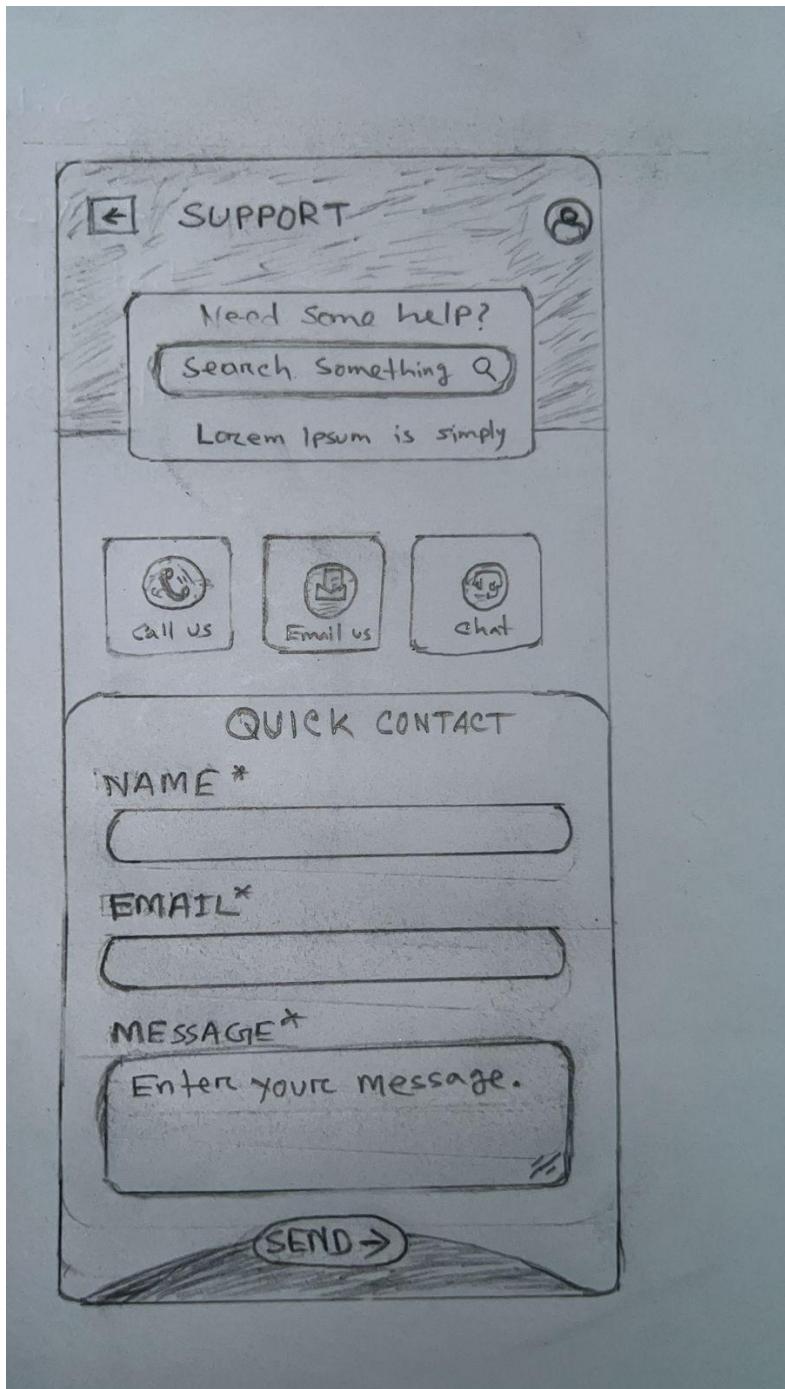
Label : Cart items list

Description : Here all the items those user selected will store here as serially and sequentially. And also can order them.



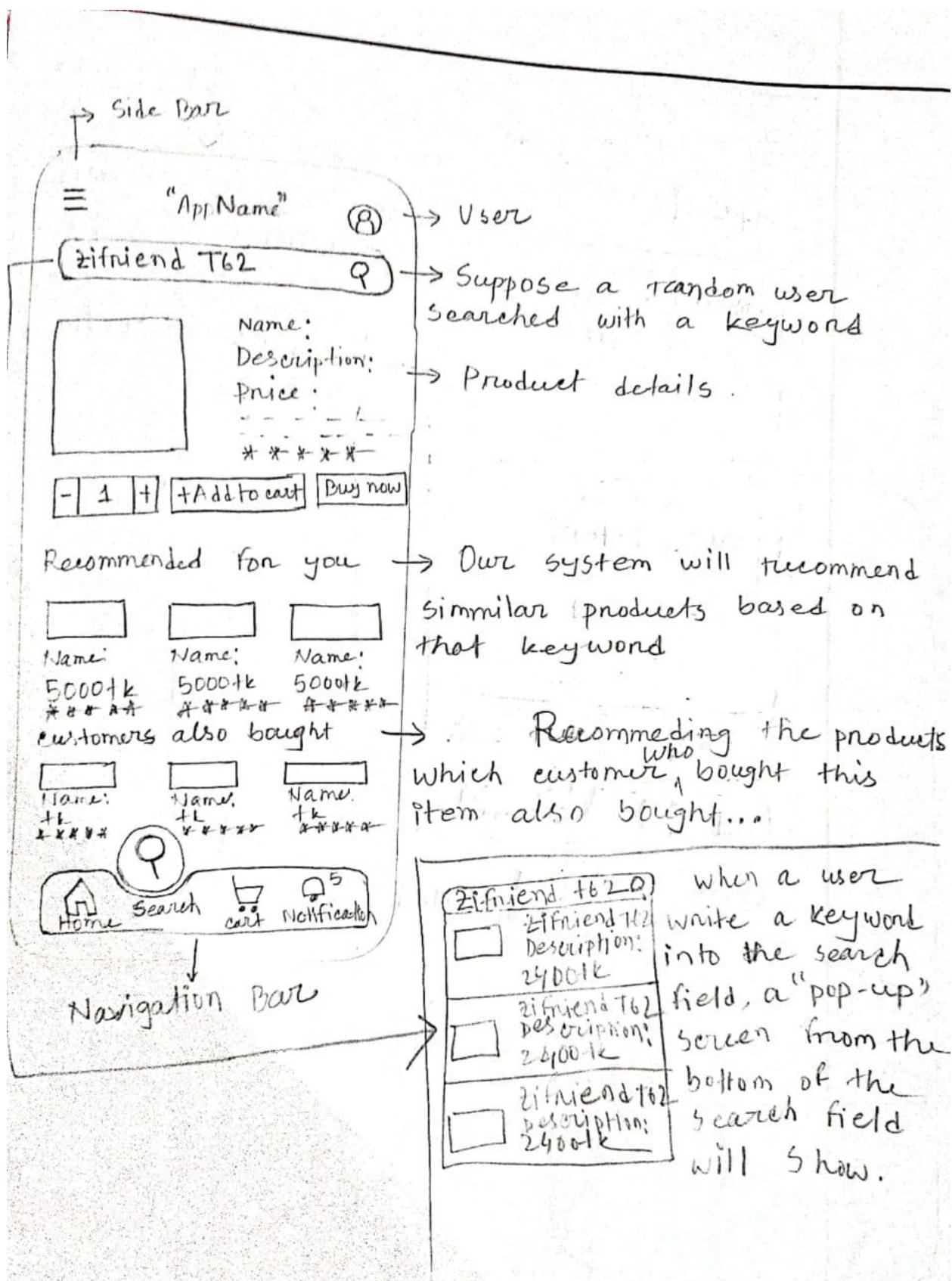
Label : Discount or offer

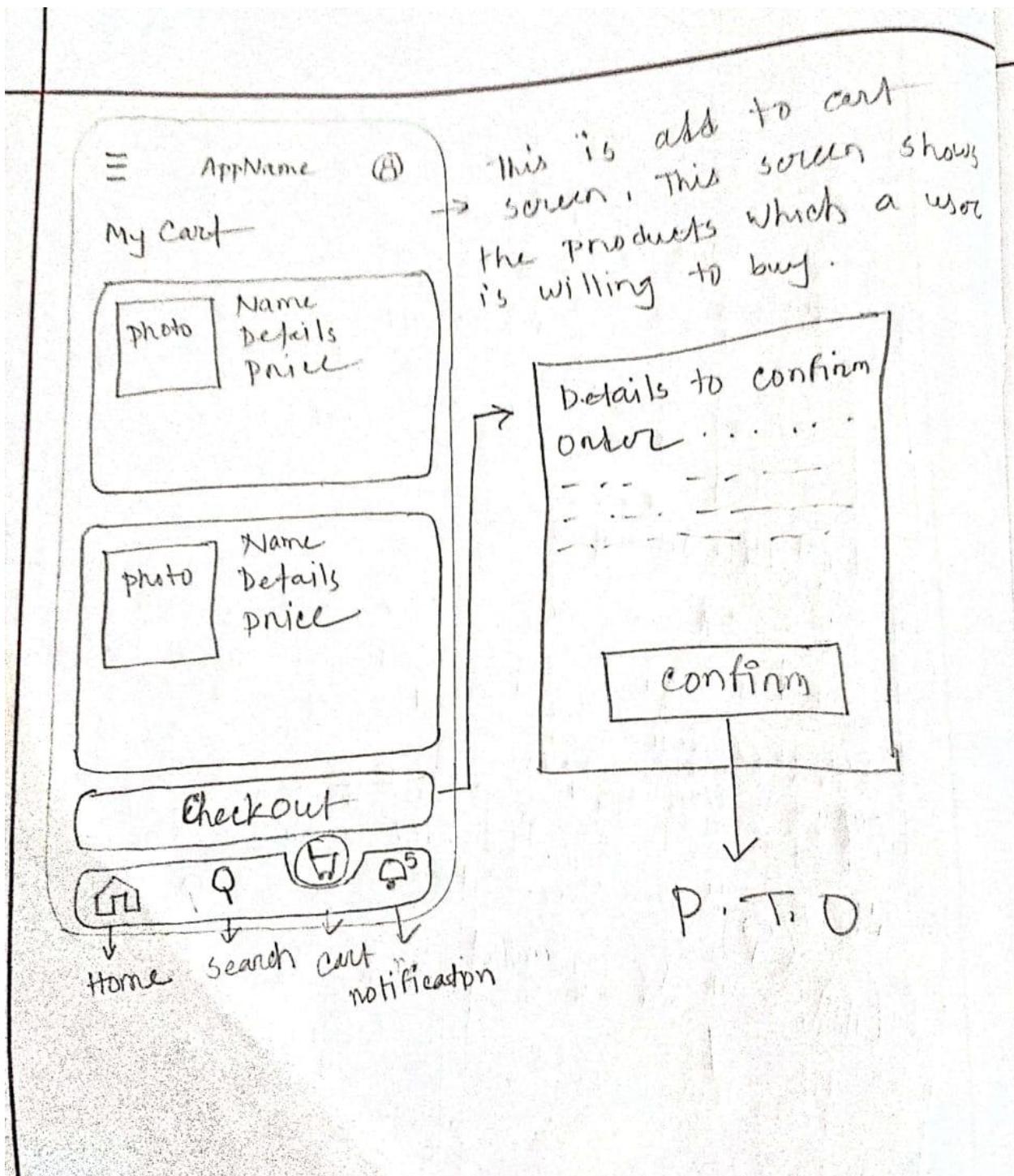
Description : Users will be able to see all the offers from here and they will be able to choose their offer.

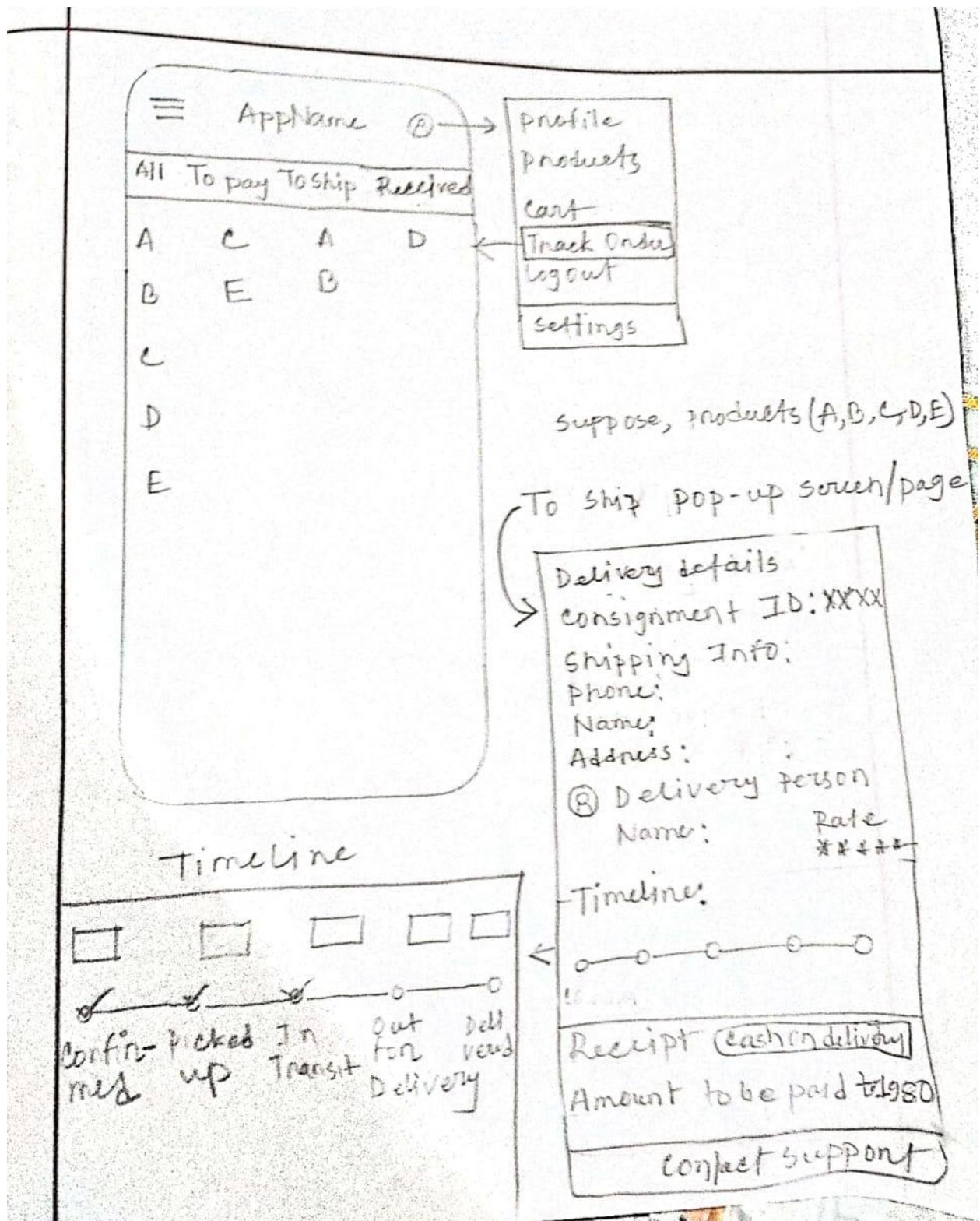


Label : Support.

Description : This is a support or help page for users, here users will be able to search any question for ask and also able to ask any question by adding name and email.







Section 4 : Initial user study

4.1 Introduction:

Hello and thank you for being a part of our study today! We are Group A in HCI, and we're a team from United International University working on developing an exciting new e-commerce application. Today's session revolves around improving user experience.

4.2 Project Description:

This study aims to enhance our understanding of user interactions and preferences within specific area or contexts. Our goal is to gather insights to refine our product/service for better user satisfaction. You'll play a crucial role in shaping our improvements today.

4.3 Opportunity for Questions:

Before we start, do you have any questions about the study, your role, or what we're hoping to achieve? Your input is valuable, so feel free to ask.

4.4 Introduction to Think Out Loud:

During this session, we'd love for you to "think out loud." This means sharing your thoughts, feelings, and reactions as you navigate through the tasks. Your commentary helps us understand your decision-making process and any difficulties you encounter.

4.5 Introduction to Scenarios and Tasks:

Here are five scenarios and tasks you'll be engaging with today:

1. **Scenario:** Suppose you go to your friend's house then you see a fountain pen on the table of your friends. Now you wanted to buy that fountain pen but you don't know anything about the pen.

Task: Buy a pen.

2. **Scenario:** Imagine you're looking for a specific product/service, please find it using our website/app.

Task: Add the product to your cart and proceed to the checkout.

3. **Scenario:** You've encountered an issue with a specific feature, try to troubleshoot it using our support section.

Task: Find the relevant FAQ or guide that addresses this issue.

4. **Scenario:** You want to inquire about the return policy for a specific category of products.

Task: Find and review our return policy for this category.

5. **Scenario:** You're interested in discovering deals. Explore our platform and find an ongoing promotion.

Task: Apply this promotion to any product you choose.

4.6 Thank You and Questions:

Thank you for your valuable participation! Before we conclude, do you have any questions, feedback, or thoughts about your experience today? Your insights are incredibly valuable and will help us improve.

Section 5 : User testing

5.1 User Testing

1: Similar Product Recommendations

Scenario: You're interested in a specific type of laptop bag. Explore our e-commerce platform to find similar products recommended based on this item.

Tasks:

Search for a "laptop bag" using the app's search feature.

Explore the section showcasing "Similar Products" or "Recommended for You" related to the selected laptop bag.

Note how accurate and relevant these recommendations are based on your initial search.

5.2 User Testing

2: Pop-up Screen Deals

Scenario: You're visiting our platform to buy a smartphone. Look for any pop-up deals or offers while navigating through the app.

Tasks:

Browse through different sections or products on the app.

Observe and interact with any pop-up screens offering deals or discounts that appear during your browsing.

Evaluate the appeal and relevance of these pop-up deals concerning your search or interests.

5.3 User Testing

3: Users Also Bought

Scenario: You're considering purchasing a yoga mat. Use the app to explore the "Users Also Bought" section to find complementary items.

Tasks:

Find and select a yoga mat product on the app.

Scroll down to view the section displaying "Users Also Bought" or "Frequently Bought Together" items.

Assess the relevance and usefulness of these recommended complementary products.

5.4 User Testing

4: Image Search

Scenario: You're interested in a specific type of handbag but don't have its name. Use the image search feature in our e-commerce app to find similar handbags.

Tasks:

Access the app's search function and look for the image search feature.

Take a picture or upload an image of a handbag style you like.

Evaluate the accuracy and relevance of the search results generated by the image search feature.

5.5 User Testing

5: Delivery Tracking

Scenario: You've ordered various items and want to track their delivery progress. Use the app's delivery tracking feature to locate your orders and their assigned delivery statuses.

Tasks:

Navigate to the delivery or order tracking section within the app.

Find your recent orders and check the status of their deliveries, including details on where they are in the delivery process and the assigned delivery personnel.

Assess the clarity and accuracy of the delivery tracking information provided for each order.

5.6 User testing :

First task

- Finding the section for search.
- Taking image from mobile
- Uploading image
- Searching those image
- Select target pen
- Adding to card
- Now going to card
- Buying those item

Second task

- Completed

Third task

- Enter any product
- Viewing rating

Forth task

- Complete

Fifth task completed

Section 6 : Evaluation of lo-fi prototype

6.1 User evaluation 1

- Need help section as bottom icon, which one will stay all the page as icon.
- While adding any item, you need to keep the quantity increase and decrease section.

6.2 User evaluation 2

- In front of the site, I need a banner system which will show the percentage of discount.
- In cart there should be able select and delete and also all select buttons.
- Order list is very complex.

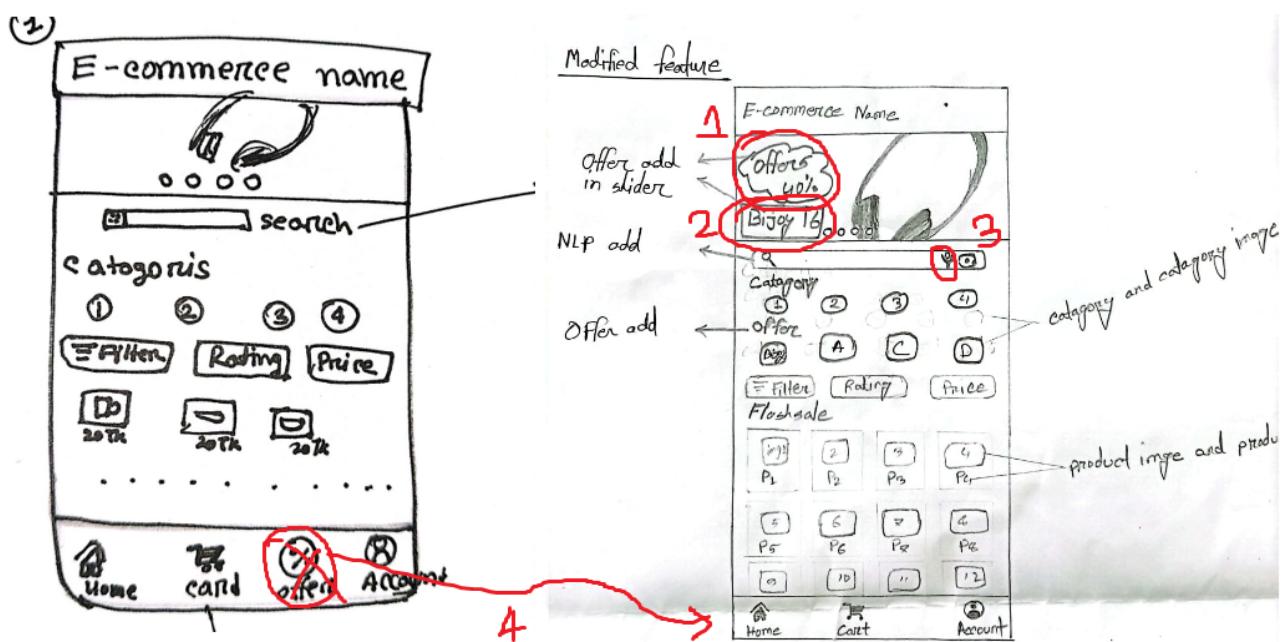
6.3 User evaluation 3

- In the place of the image uploading section there needs a submission button for submit.
- Need to show percentage on the top of the item in the font's page items.
- While buying any product from cart on that time

6.4 User evaluation 4

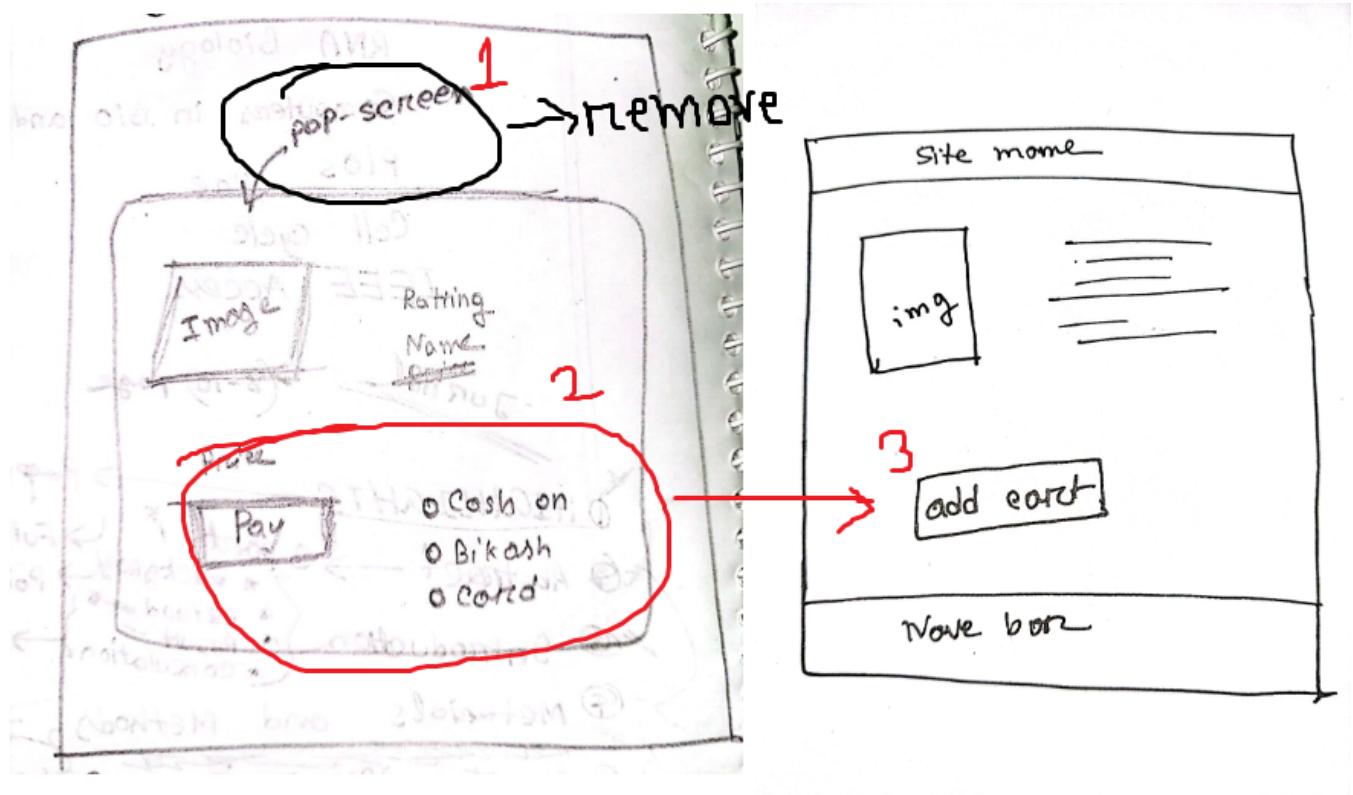
- Need to show like 60%, 50% like this type of percentage in the items image.
- In the bottom of the navbar there is no need for an extra button for the offer section. It makes other sections not visible for me.
- Need voice based search.
- After selecting any item it's neet to be single screen output not pop-ups screen.
- In selecting the screen there is no need for any payment option, there need only add a cart option for further buying that item.

Section 7 : Updated lo-fi prototype



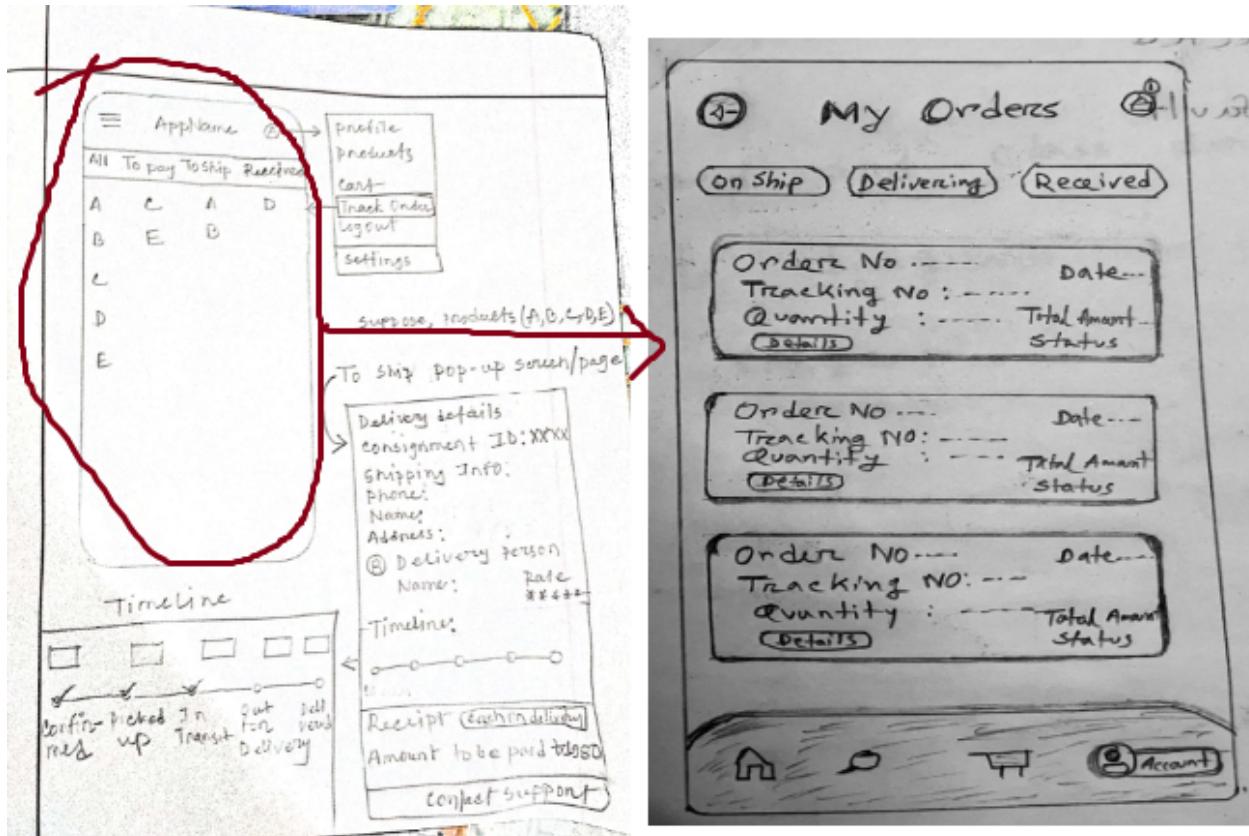
Here,

- 1st change for **user 1**
- 2nd change for **user 1**
- 3rd change for **user 4**
- 4th change for **user 4**



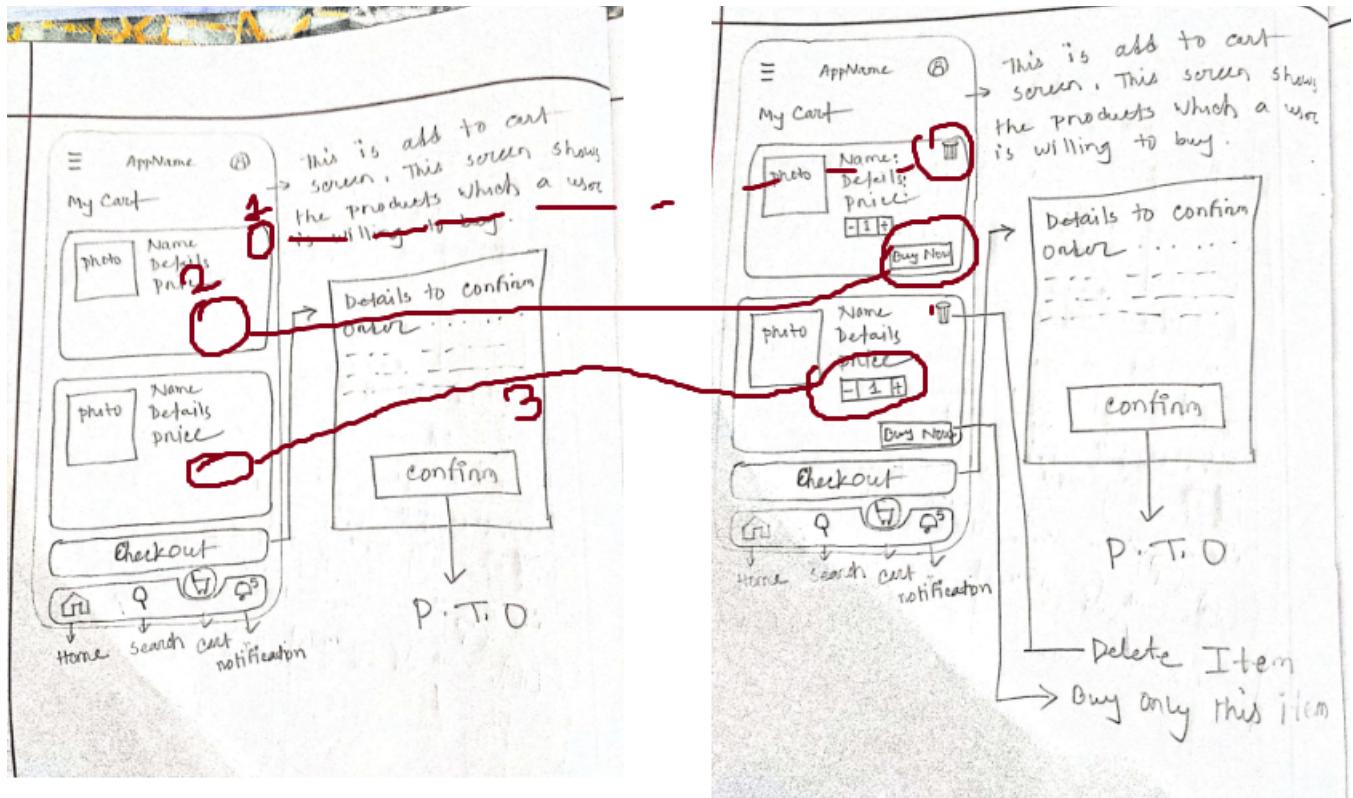
Here,

- 1st change for **user 4**
- 2nd change for **user 4**
- 3rd change for **user 4**



Here,

- Whole changes for user 2



Here,

- 1st change for **user 2**
- 2nd change for **user 4** and **user 3**
- 3rd change for **user 2** and **user 1**