HCI Requirement Specs + Sketch diary writeup

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REQUIREMENTS ELICITATION

1. Interviews

The intended user base lay outside our area of purview as this project made us look at food delivery platforms from an entirely different perspective.
We conducted interviews to find out their desired features and expectations, we used both open and closed ended questions to try and probe into what exactly would set our solution apart.

Some of the close-ended questions were -

- How many delivery orders do you get in a day?

Some of the open-ended questions were -

- What are some issues that you face on a daily basis with delivery orders?
- How do you deal with the said issues?
- What is your opinion about having a platform that would let you hire delivery personnel as per your need?
- What kind of services are you looking for from this platform?

We used these questions as a guideline but followed the natural flow of the conversation and stuck to getting an idea about the current delivery solutions and what is missing from an optimized solution.
Note: From our interactions we picked up on the need for helping out owners pick a perfect amount as most depended on the applications and the commission model. We are planning to add a prompt that would show the restaurant management an average price for the delivery. We would calculate this based on the distance and the locality. Restaurant owners would still have all the freedom to give their prices.

2. Surveys

To get a broader perspective about what exactly a good delivery solution should look like, we made a google form survey and sent it to as many restaurant owners or workers, who were aware of the problems as we could. The questions were modeled to give us a better understanding about how businesses work and what they are actually expecting.

3. Literature Review

The very first requirement gathering analysis that our team undertook was to get as much information about this peculiar perspective of building a solution aimed at restaurant owners. We took the tried and tested method of reading as much about it as we could, we reviewed several articles to comprehend why small restaurant owners are particularly unhappy with the services of established food delivery companies and we came across some glaring numbers:

- High commission rates (20-30 % commission)
- Activation fee (UberEats - 350$ activation fee)
- Tablet rental fee (GrubHub - 119 $ / month)

This is actually what made us come up with the innovative bidding system to cut back on the high commission rates eating up the business profits.

We took this step to its next logical destination and we reviewed several existing platforms that provide a similar type of services that our platform targets.

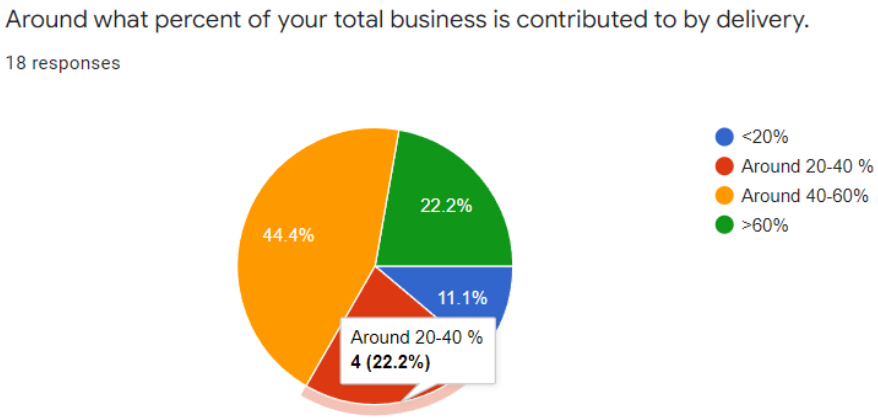
- Toast - platform devised only for takeaway services, no commission
- Chowbus - Chicago based platform for food delivery, only Asian restaurants
- Vromo - Ireland based restaurant delivery software, charges some commission per transaction

We looked at each unique solution and picked out what would work best for our platform from each.

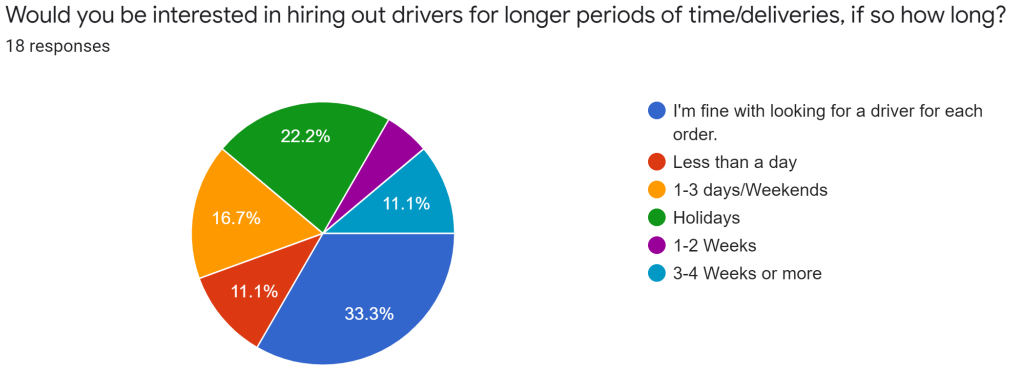
RESULTS AND ANALYSIS OF THE REQUIREMENTS ELICITATION

Survey

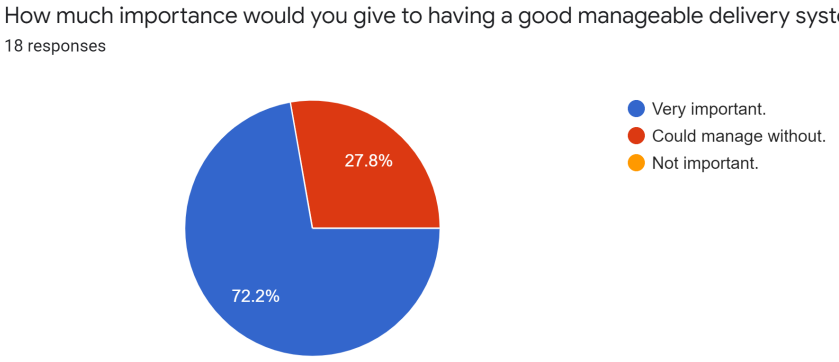
Question 1.



Question 2.



Question 3.



Question 4.

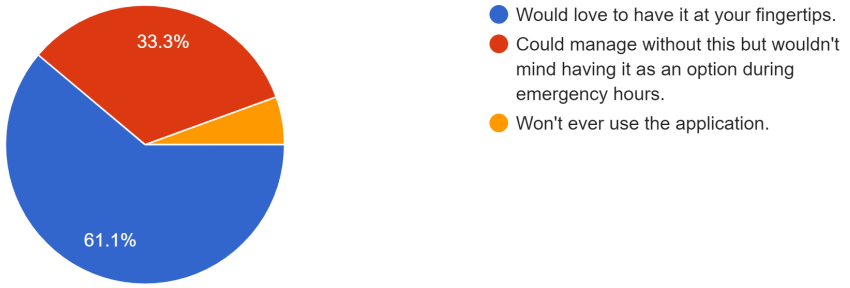
Would you prefer hiring delivery drivers as per your need or would you prefer hiring them out for full time?

18 responses

Question 5.

Would you prefer an application that would let you hire drivers for 1 or more orders whenever you want and at reasonable prices?

18 responses



Observations:

The survey was conducted and sent across to several restaurant managers and employees. We could observe that a lot of these restaurants have around half or more of their earnings from delivery. Quite a few of them give importance to having a good delivery system. Most of the managers would rather have drivers as per their need. Only one of them felt like they wouldn't ever use our platform.

REQUIREMENT SPECIFICATIONS

- Functional Requirements:
    - Users must be able to post bids/hire out drivers.
    - Users must be able to edit open bids.
    - Users should be able to access third party service providers(eg uber).
    - Users should be able to hire out drivers for a period of time(eg over the super bowl weekend)
    - Users must be able to track their orders.
    - Users should be able to communicate with the delivery personnel directly.
    - Users must be able to bookmark/favorite drivers.
    - User must get a mockup bid (for reference) when placing a new bid

- Non-functional Requirements:
    - Keeping a track of users history(past orders).
    - Keeping track of favorites and driver profiles with their ratings.
    - Data encryption on sensitive data fields(eg passwords).

- Usability Requirements
    - Order history dashboard to increase visibility while maintaining minimalism.
    - Use of metaphors such as call and message icons throughout to provide mapping for commonly used functionalities.
    - Color coded active order tracking to create new orders while looking at current active bids thus increasing the recognition while keeping it minimalistic.

DESIGN CHALLENGES

1. Bid Placing System

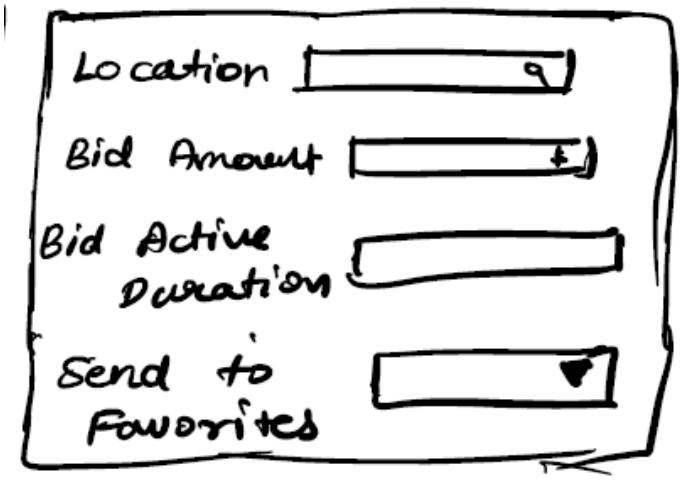
The challenge of creating a flexible approach to placing bids that provides good defaults to users ,while not overwhelming the user. Even implementing error recovery while improving the information available.

We tried to make 3 different alternatives starting from the same sketch, in order to fit user goals and make the page efficient.

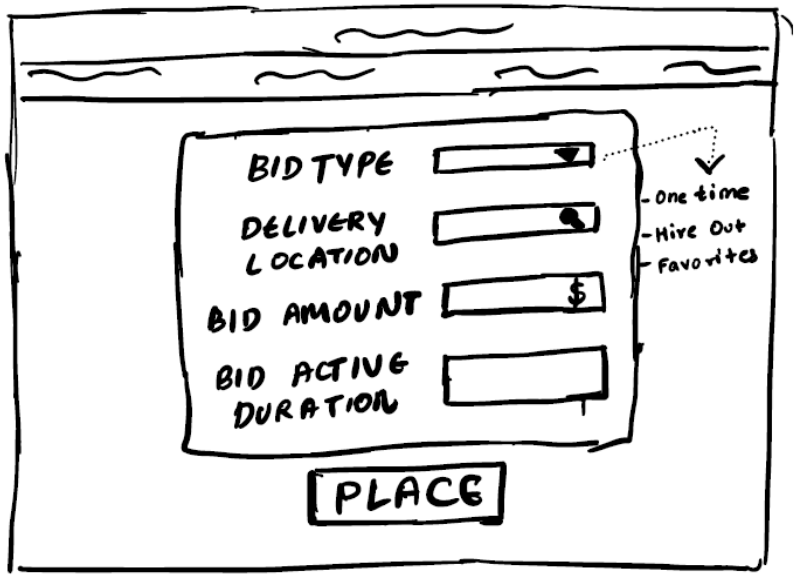
Alternative 1

This was one of the sketches that we selected out of several. We felt this sketch covered most of the micro-tasks and felt like the perfect one to expand upon.

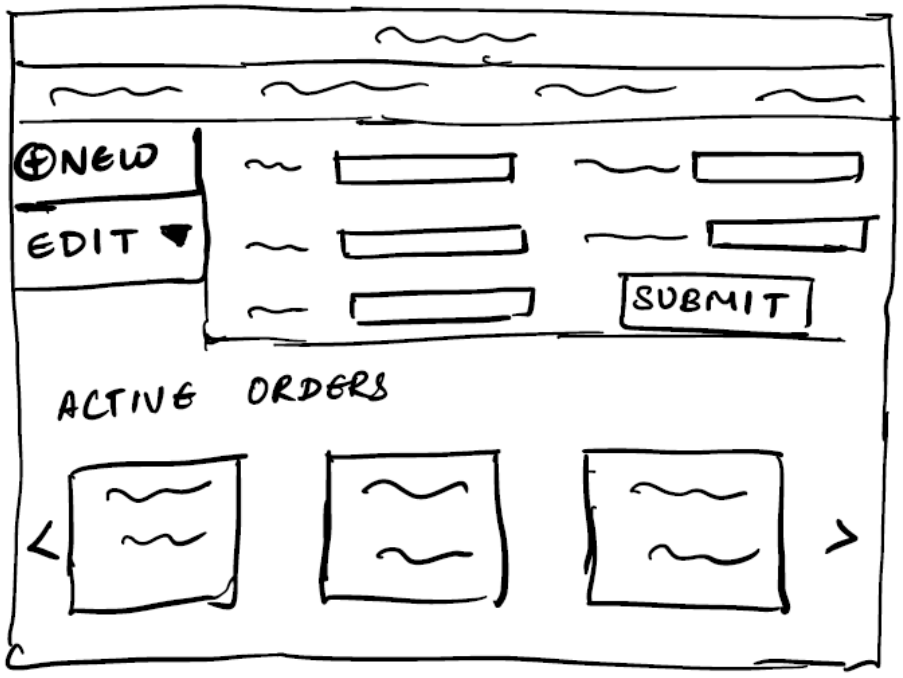
A basic form that had the necessary fields in the most basic layout.



We added the bid type functionality using a drop down field while expanding on the form layout.



We added an active order carousel for better management and an edit active bid functionality to increase error recovery.



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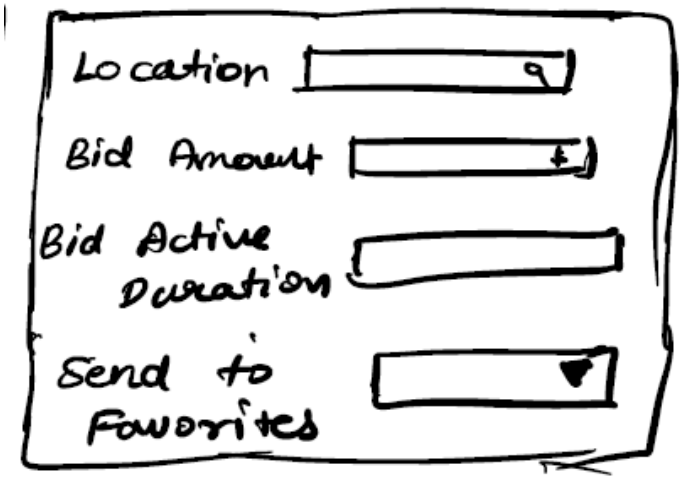
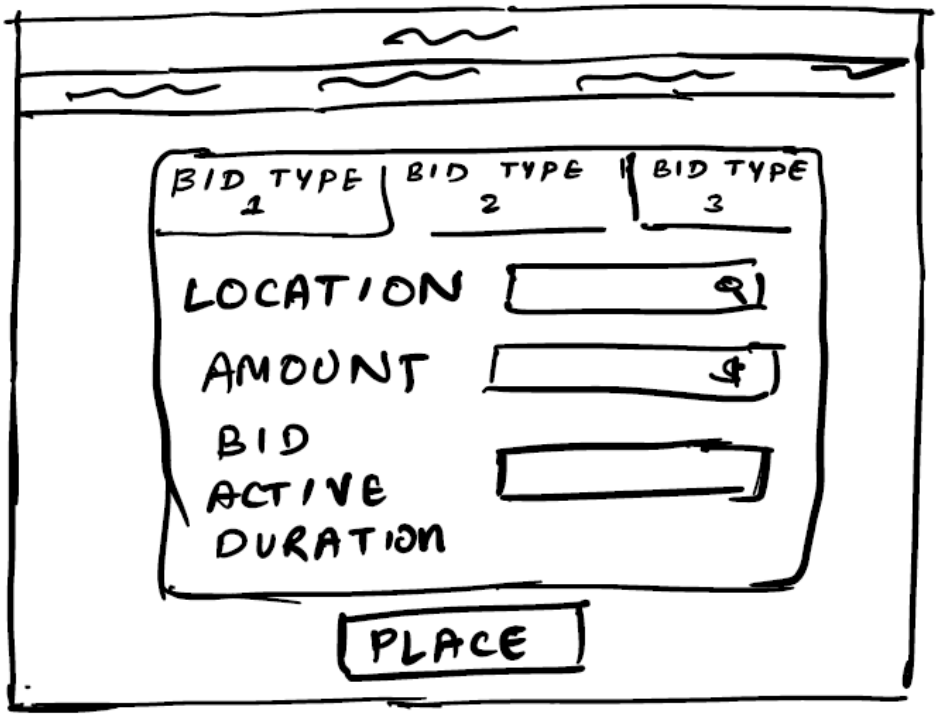
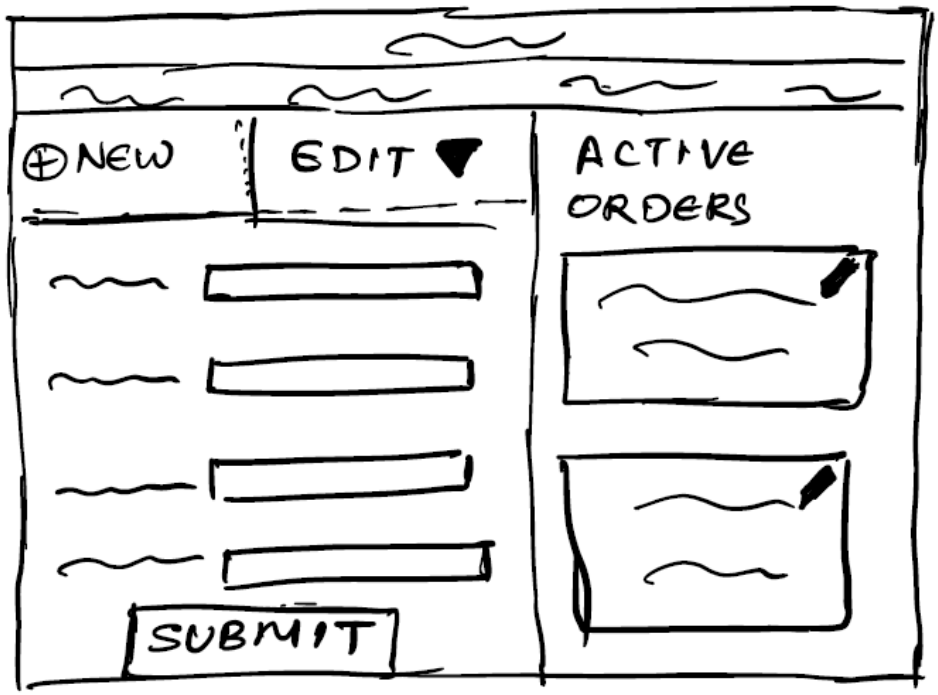


We expanded with adding tabs for each bid type with each fromm reflecting the bid type.



We used the form layout but added an edit option to increase error recovery. We also added an element that displays the current active orders to improve recognition.



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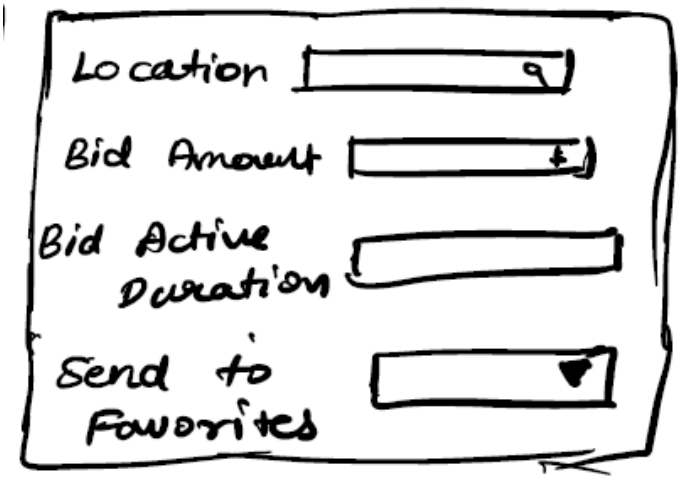
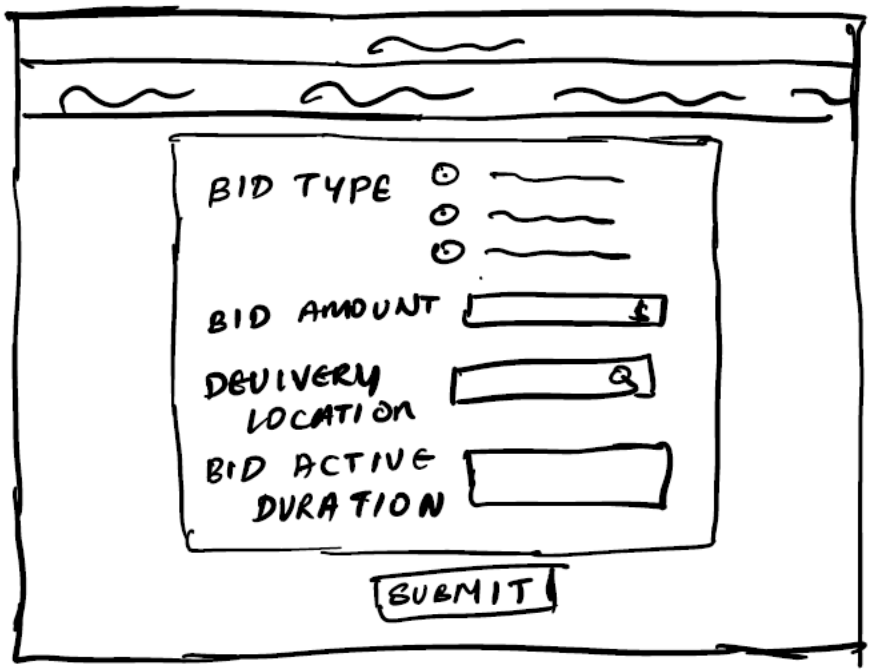
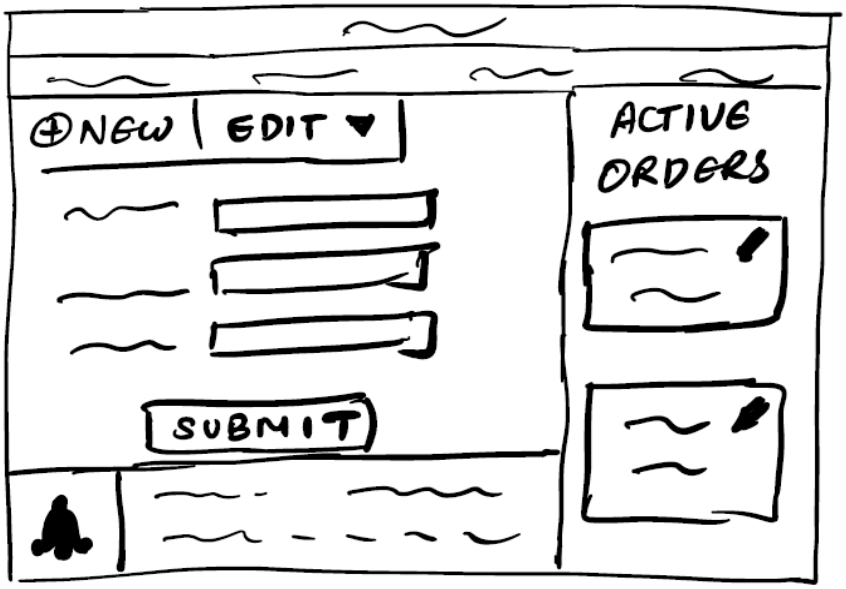


Expanding on this sketch we added radio buttons for the type of bid.



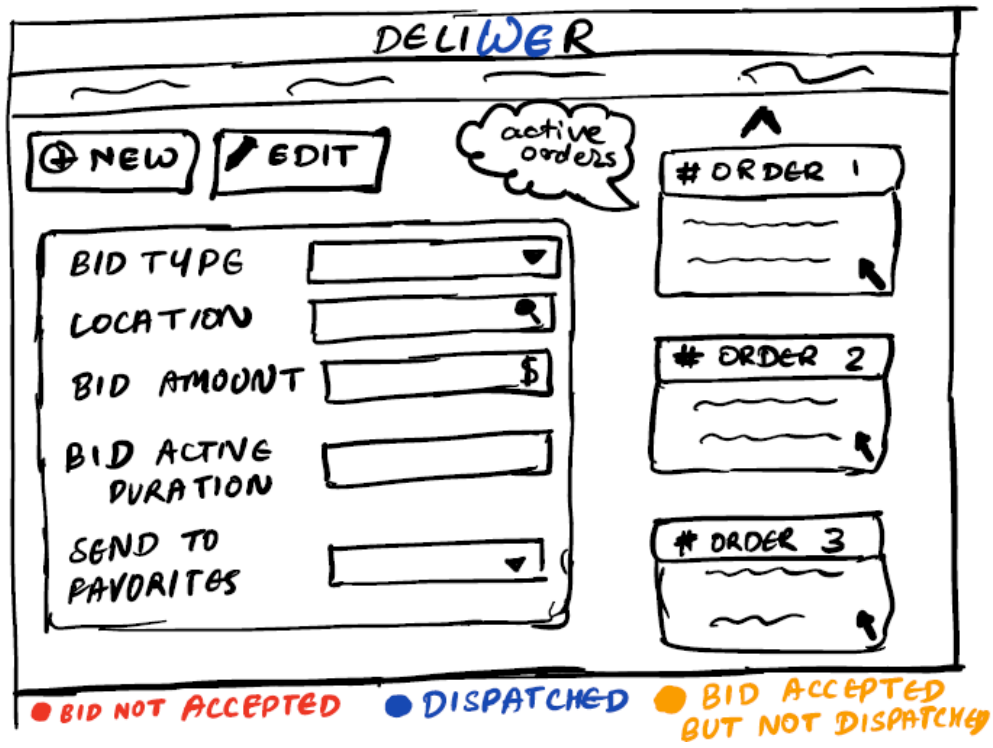
We added a notification tab to increase the information available at a glance such as a user might change the bid details based on the number of deliveries dispatched/delivered.We even used a pencil metaphor to signify the functionality to edit.



Final Sketch

Our final sketch combines all the previous layouts and even color coding the active bids so as to make the information easier to discover.

We use mapping to easily convey functionalities to new users while keeping the layout efficient by removing cumbersome steps and using an simple and efficient form layout increasing the flexibility.

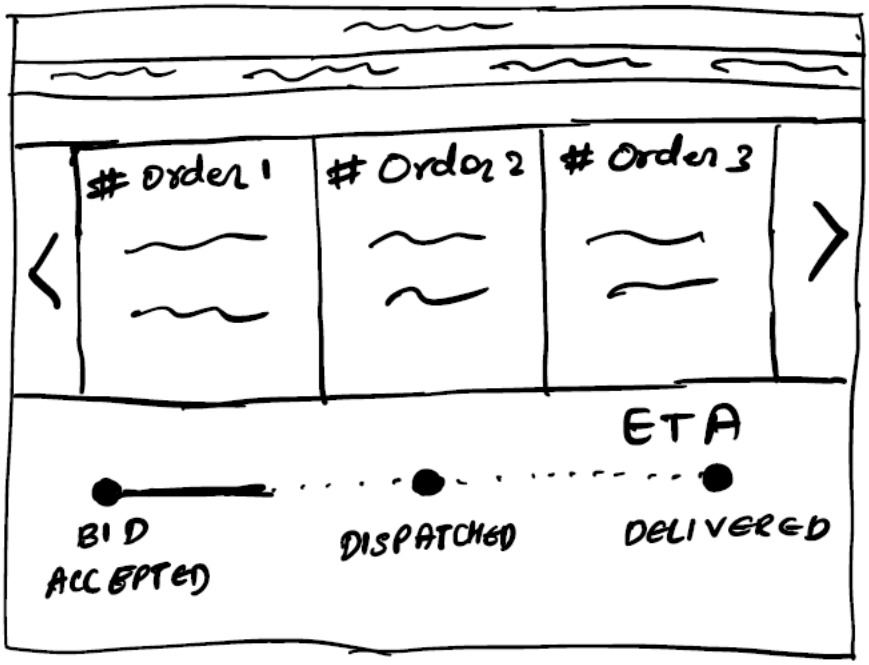


2. Live Order Tracking

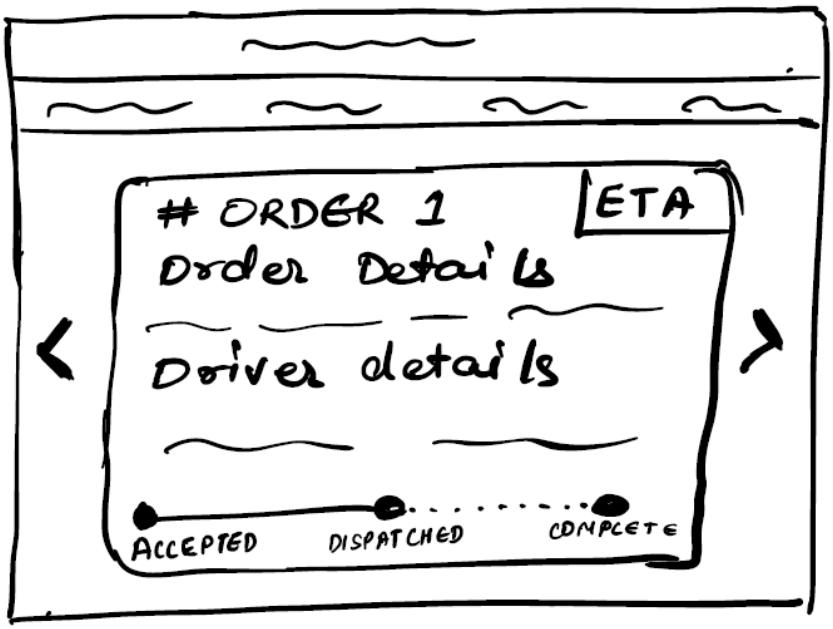
The challenge of displaying multiple order status with details about them,while not overwhelming the user, and minimizing the interactions required to track a large number of orders.
We tried to make 3 different alternatives starting from the same sketch, in order to fit user goals and make the page efficient.

Alternative 1

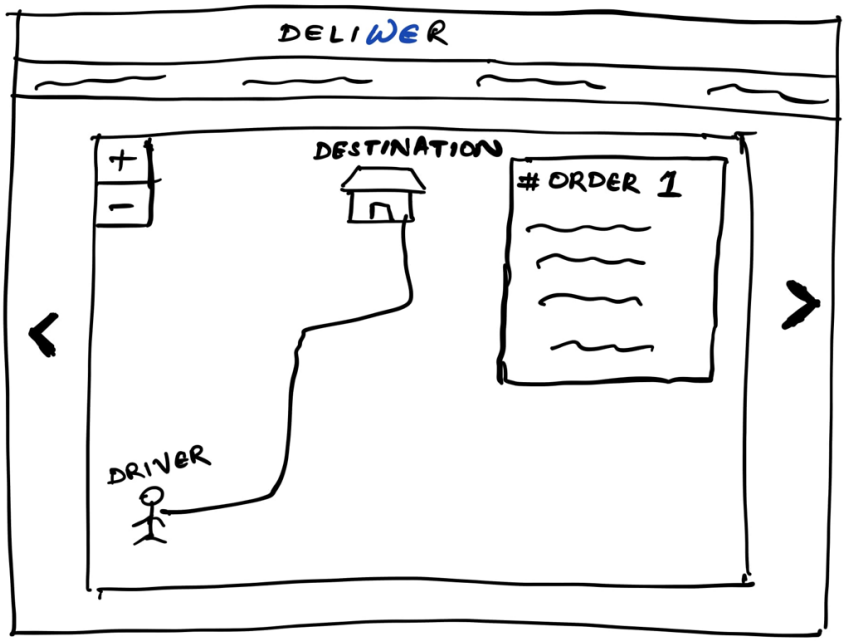
This minimalistic layout which tracks orders through a carousel with the details of the currently selected order was one of the ideas we selected to expand upon.
We used a timeline to keep the design minimalistic while not compromising on recognition.



Further improving on the concept we switched from displaying multiple components which changed based on swiping we settled on the component as part of the carousel.
This made the information easier to discover.

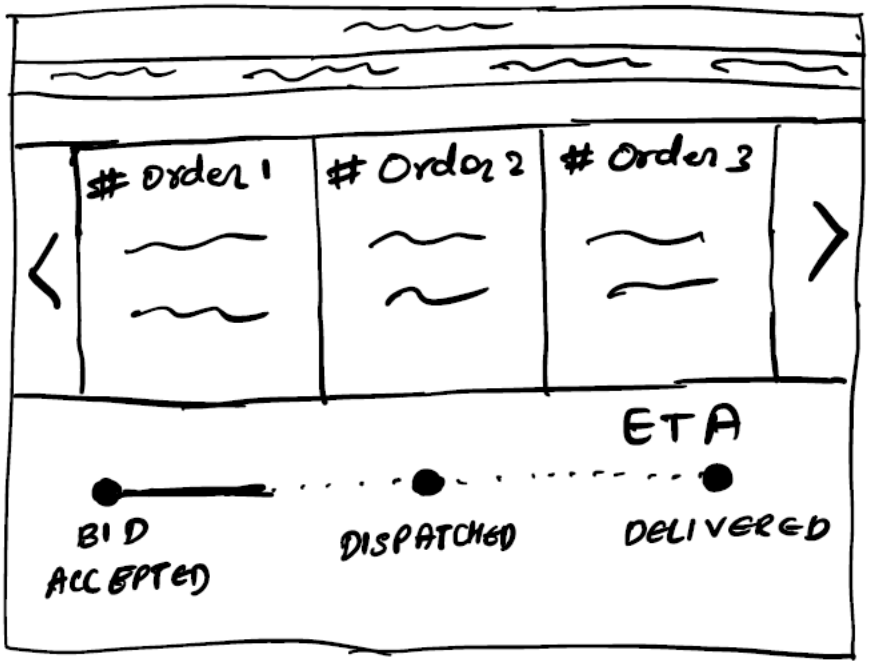


We even came up with an iteration that used maps as they are more informative while still implementing the carousel concept.

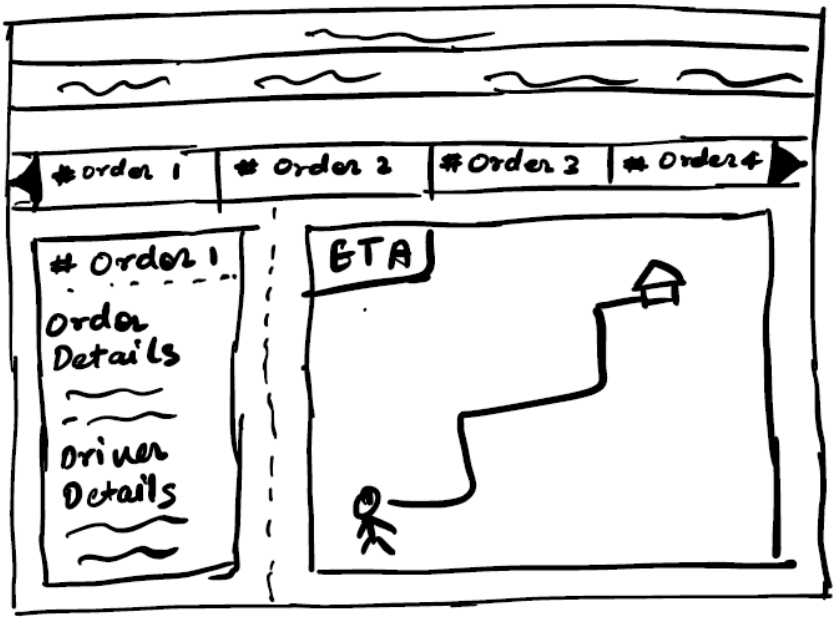


Alternative 2

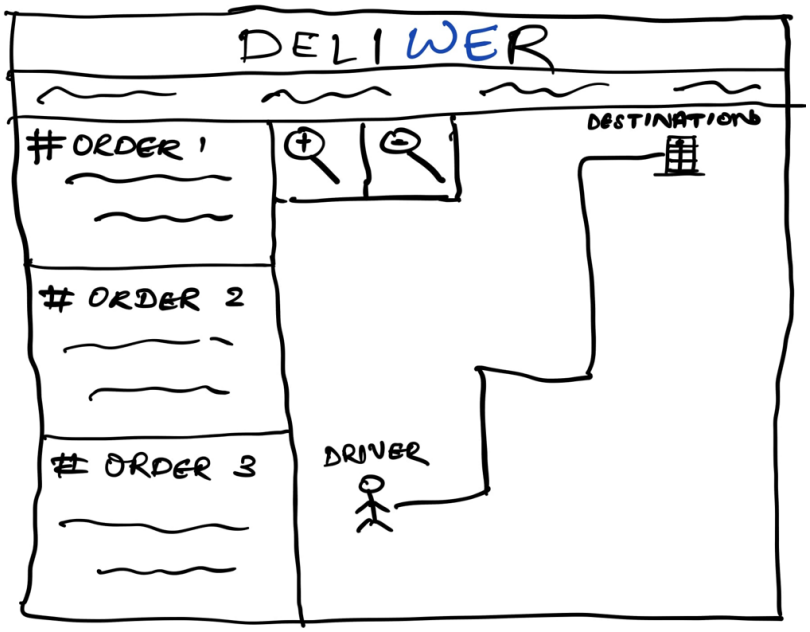
This minimalistic layout which tracks orders through a carousel with the details of the currently selected order was one of the ideas we selected to expand upon.
We used a timeline to keep the design minimalistic while not compromising on recognition.



Switching from timeline we added a map to improve the information available at a glance

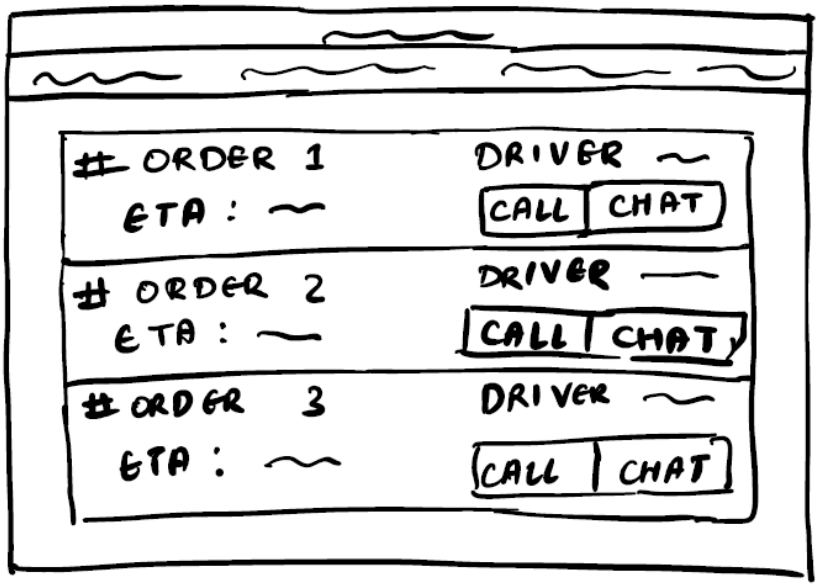


The above iteration had a drawback of not being able to display information for multiple orders without the need for user interactions so we switched to the layout seen below which improves recognition

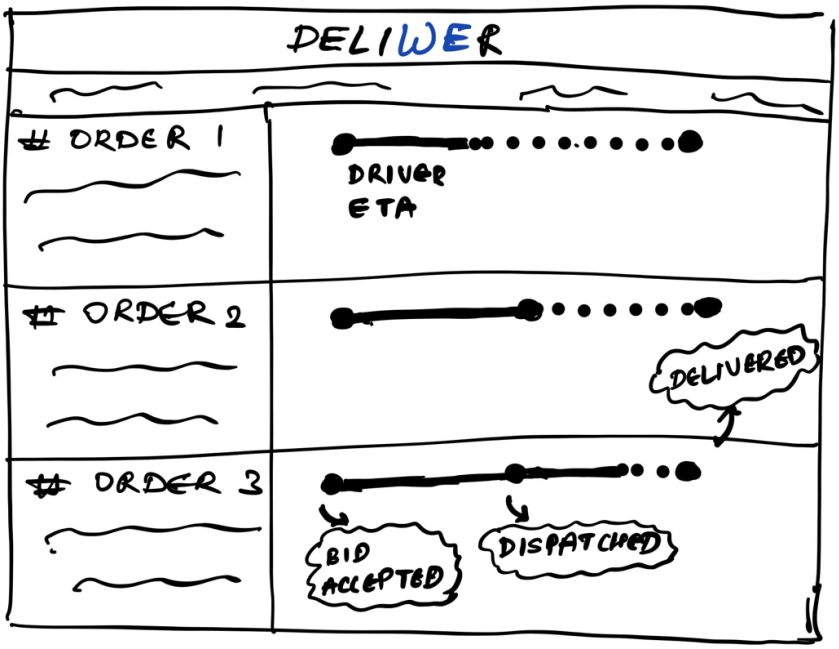


Alternative 3

This design alternative made use of list view; we could add additional functionalities while still not relying heavily on user interaction to track multiple orders.
We added the functionality to contact the delivery personnel.



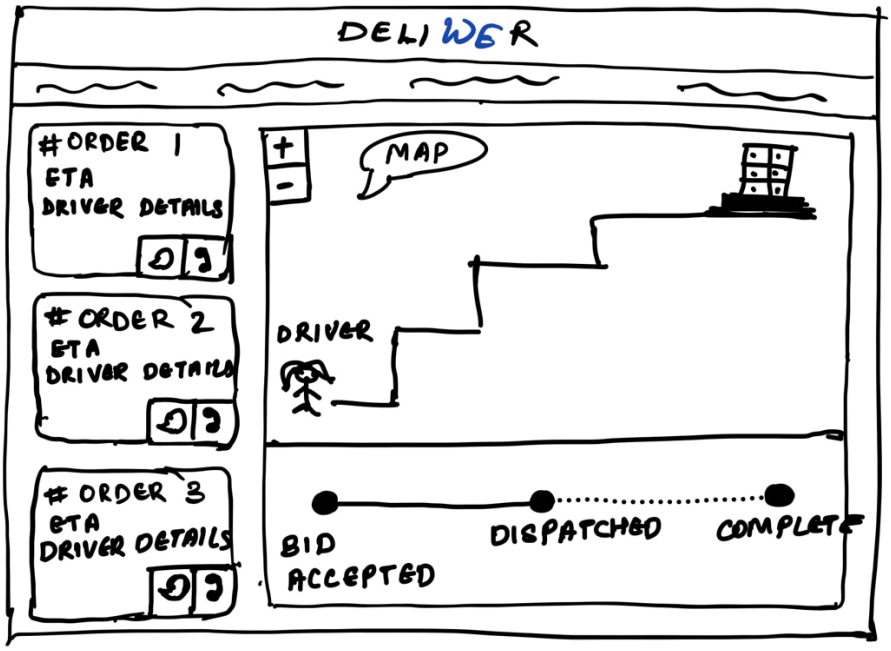
We expanded on this layout by focusing on improving the information available at a glance by adding the timeline for each order.



Final sketch

We incorporated the features from each iteration even expanding on them such as using metaphors to map common functionalities, increasing the information at a glance by providing ETAs and even having the expanded tracking through map and timelines.

We kept the grid layout for orders so as to decrease the need for interactions to get an overview on multiple orders while still not limiting the information available(map and timeline).

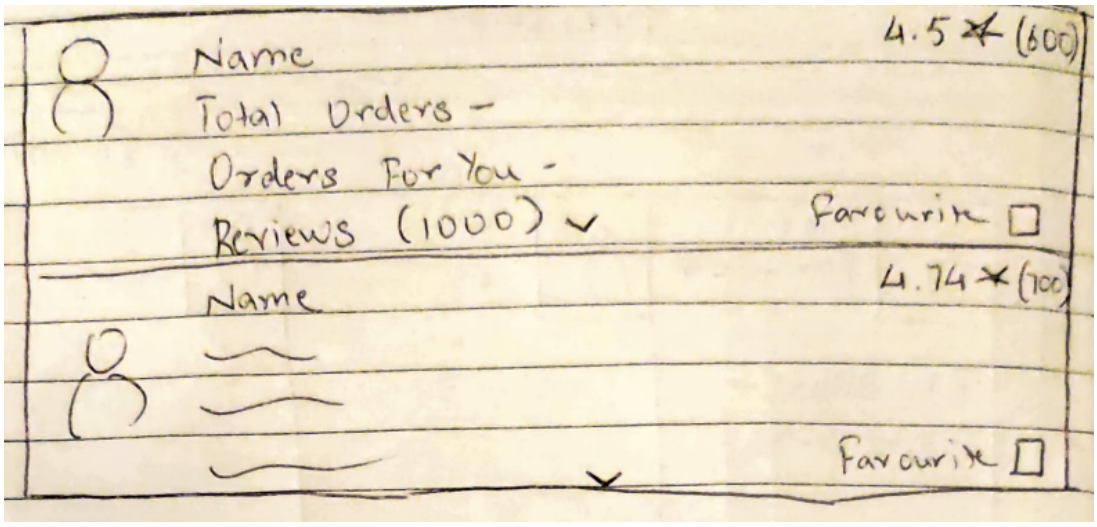


3. Rating/Reviewing drivers and Bookmarking

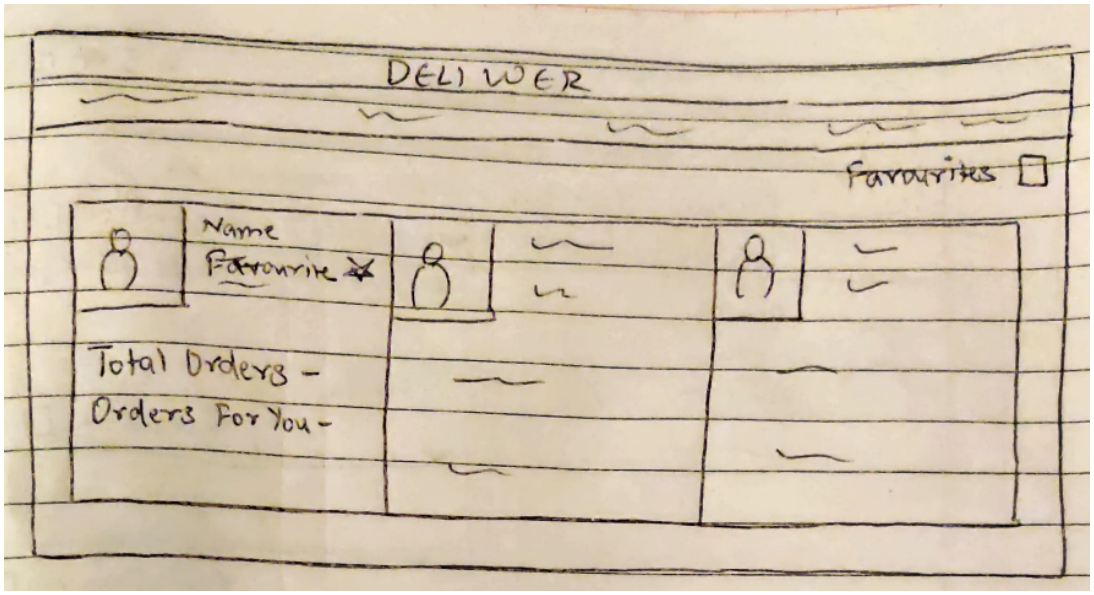
The challenge of displaying several drivers along with their details about them, combined with the fact that they need to be distinguishable for the user to quickly favorite them.
We tried to make 3 different alternatives starting from the same sketch, in order to fit user goals and make the page efficient.

Alternative 1

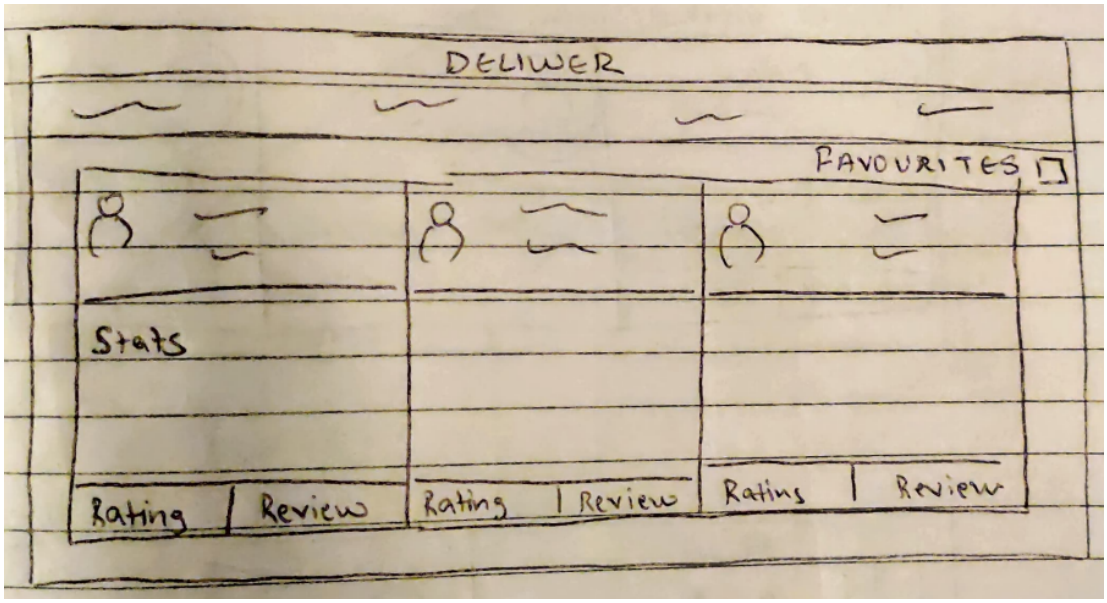
This was one of the sketches that we selected out of several. We felt this sketch covered most of the micro-tasks that the user had expected. However, we felt that the sketch lacked hierarchy and clarity, making it less efficient for the user, but it will be a good building base.



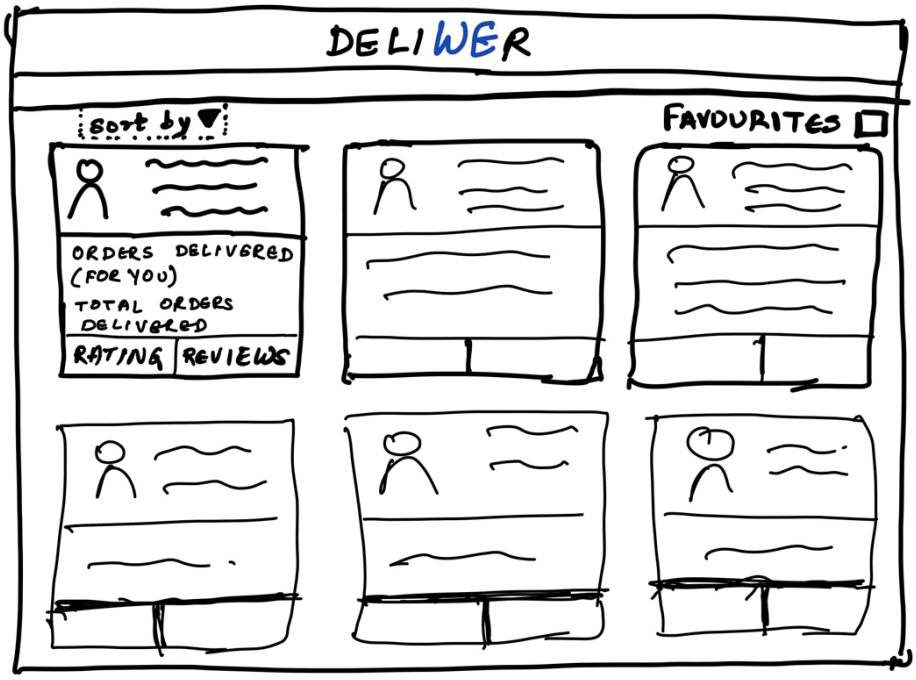
We moved the drivers into a table format. This not only makes it much more compatible with different types of screens, but also gives users more control and makes the interface concise.



We added rating and review buttons for each driver grid. We also split the driver information into details and stats. While doing so we hoped to make the UI more efficient for the user.



This is the last screen of this iteration. We switched from the grid UI design for the drivers to a card UI design, as the cards can easily scale down to any resolution. Card UI helps the user to navigate through the drivers easily while offering a rich display of all the information.



Alternative 2

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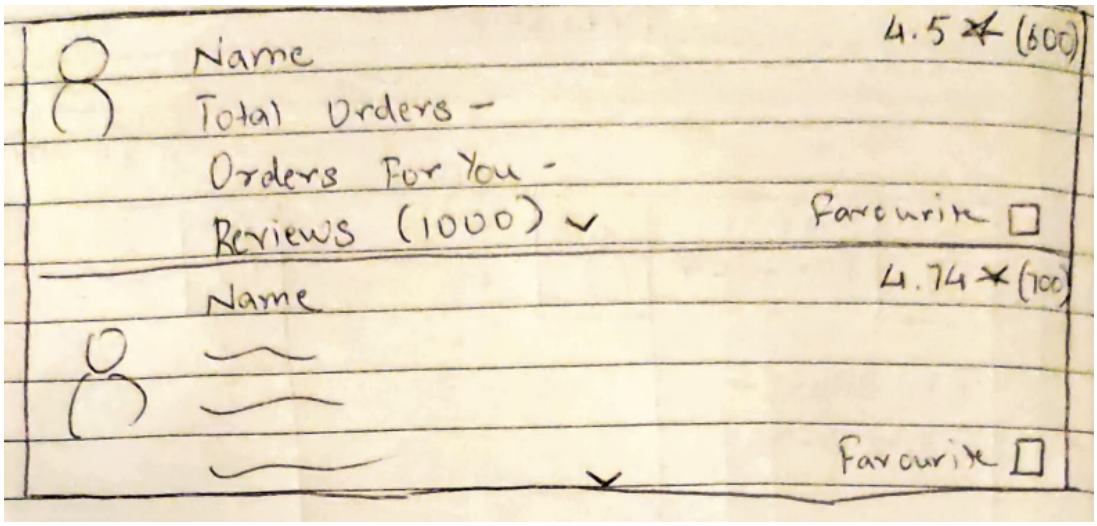
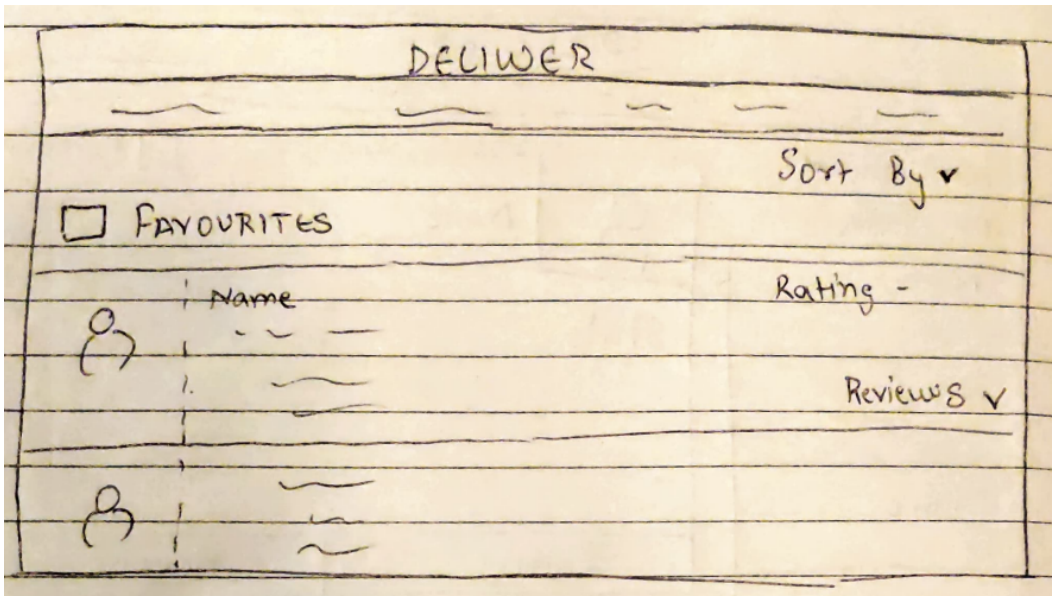
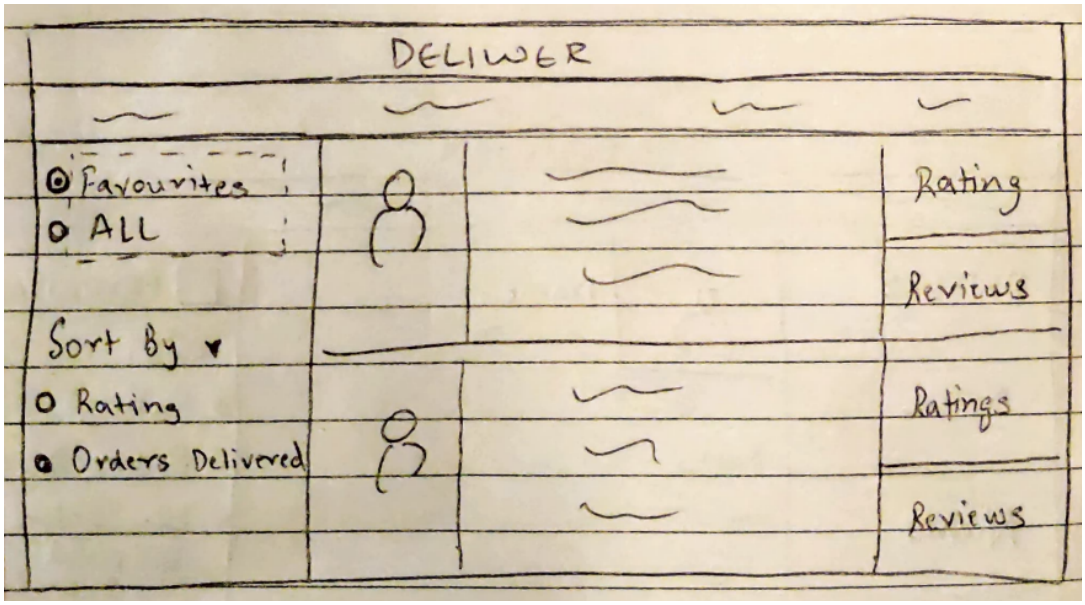


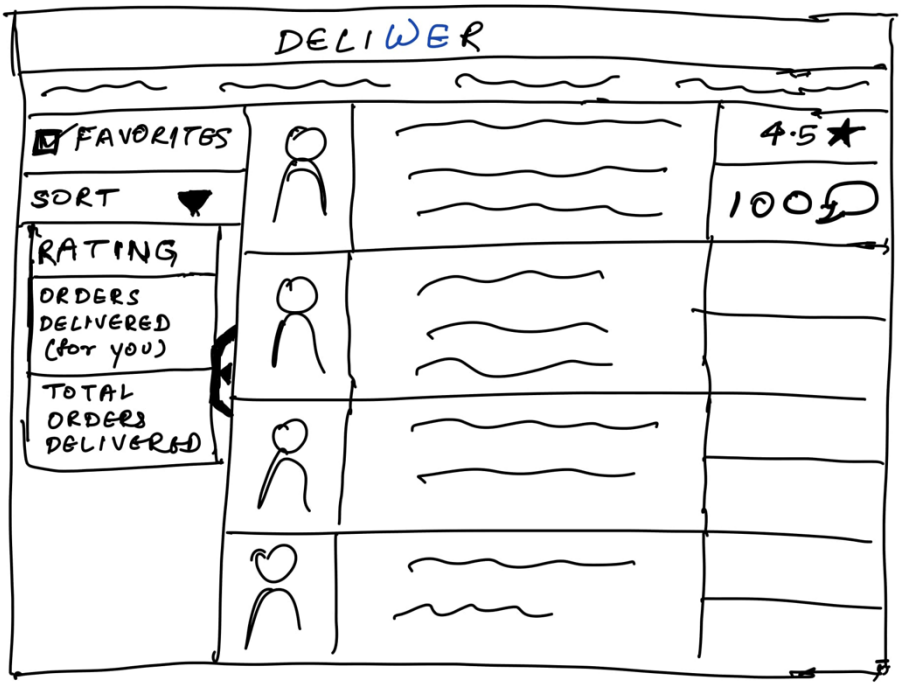
We added a Sort-By drop down menu. We felt it was important to allow the user to sort drivers based on certain criterias. We also added a Favorites checkbox, which would only show favorite drivers.



Instead of having a drop down menu for sort-by, we decided to move to a sidebar. Sidebar allows more information to be displayed and is very easy to scale and change, making all elements more noticeable.



We changed the radio buttons to drop-down menus. We decided to replace Ratings/Reviews text to icons, essentially to convey more information and to remove extra clicks.



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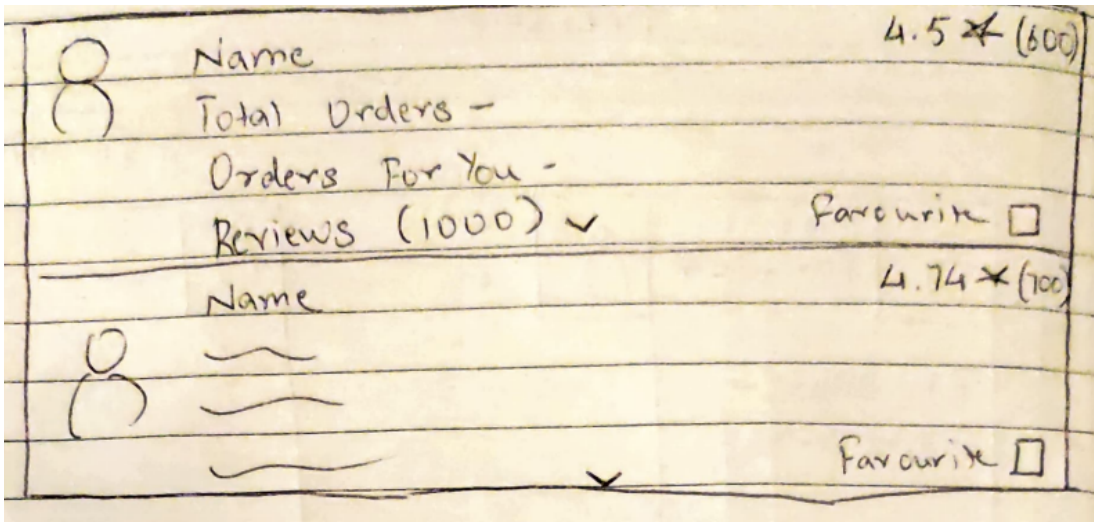
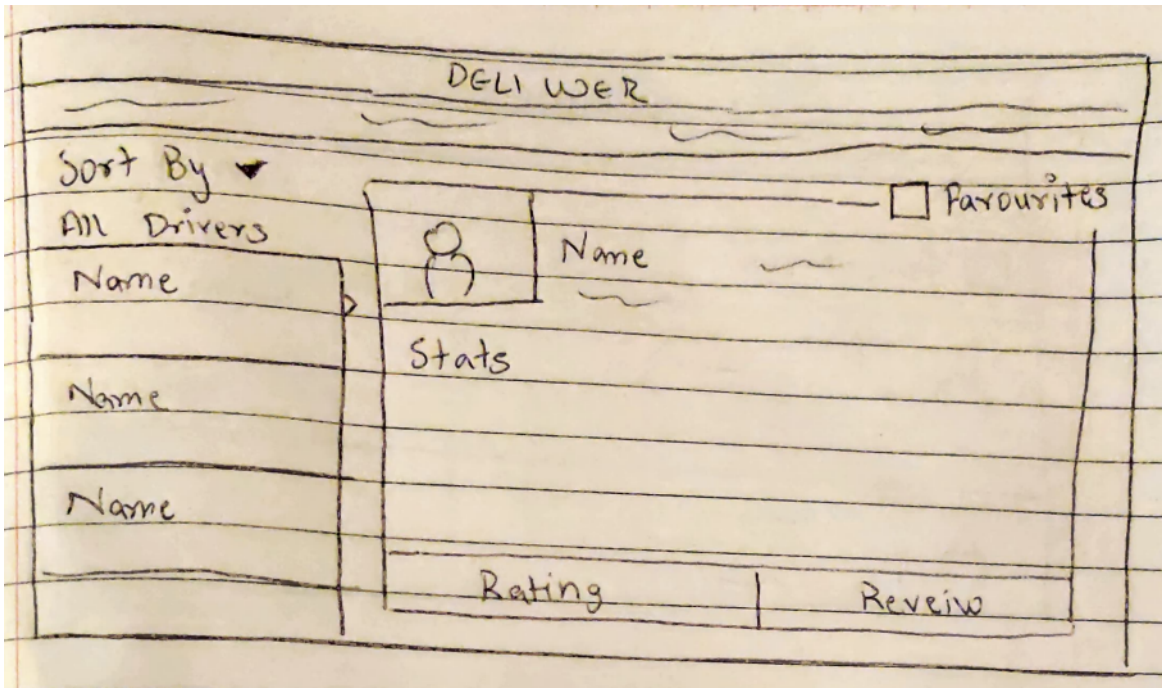
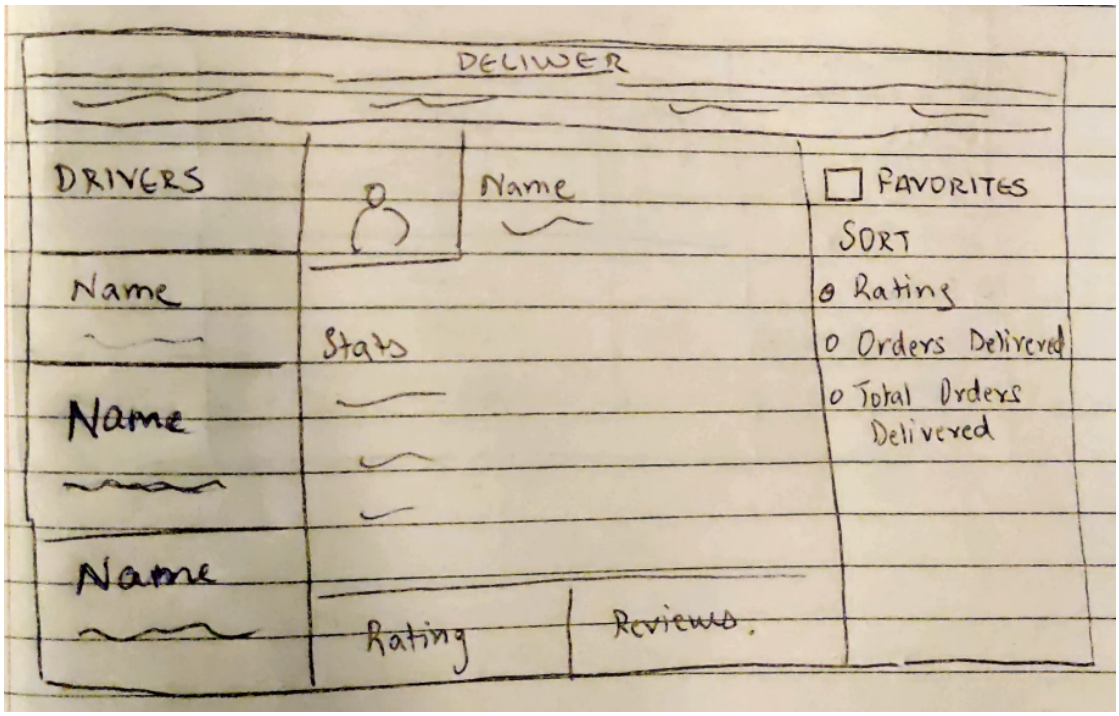


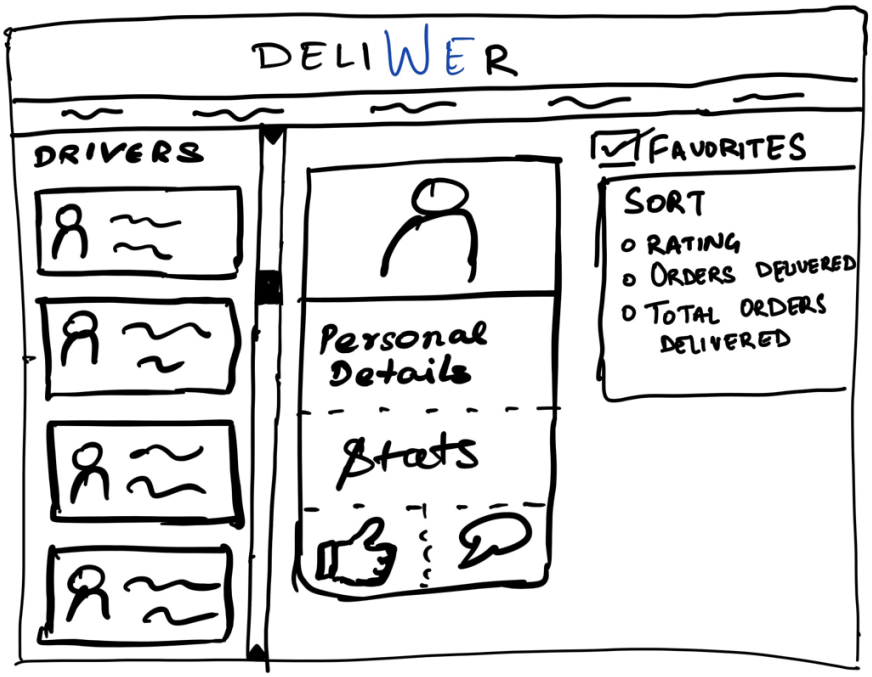
We added scrollable names on the left, and a card screen to show extra details about the selected entity.



We moved the Sort-By and Favorites to a sidebar on the right, essentially keeping the important information centered.

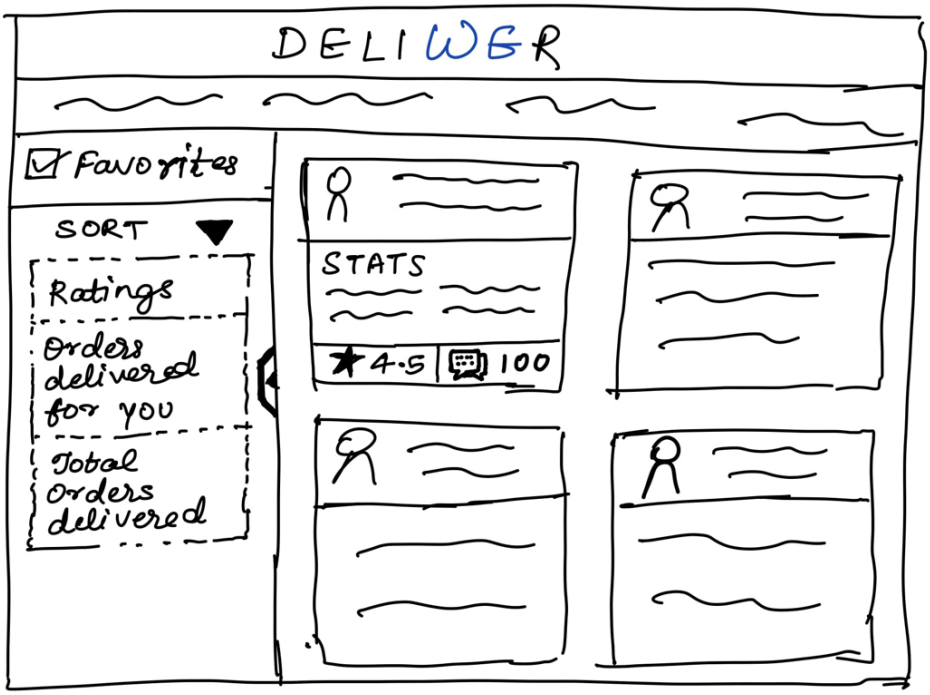


We changed the entities in the scrollable list to card UI form. This makes the elements more distinct.



Final Sketch

In the final sketch we preferred sticking with the Card UI design, as it scales down according to every resolution. We also decided on sticking with the sidebars. We added icons for Reviews/Ratings, as they convey more information in a concise way.

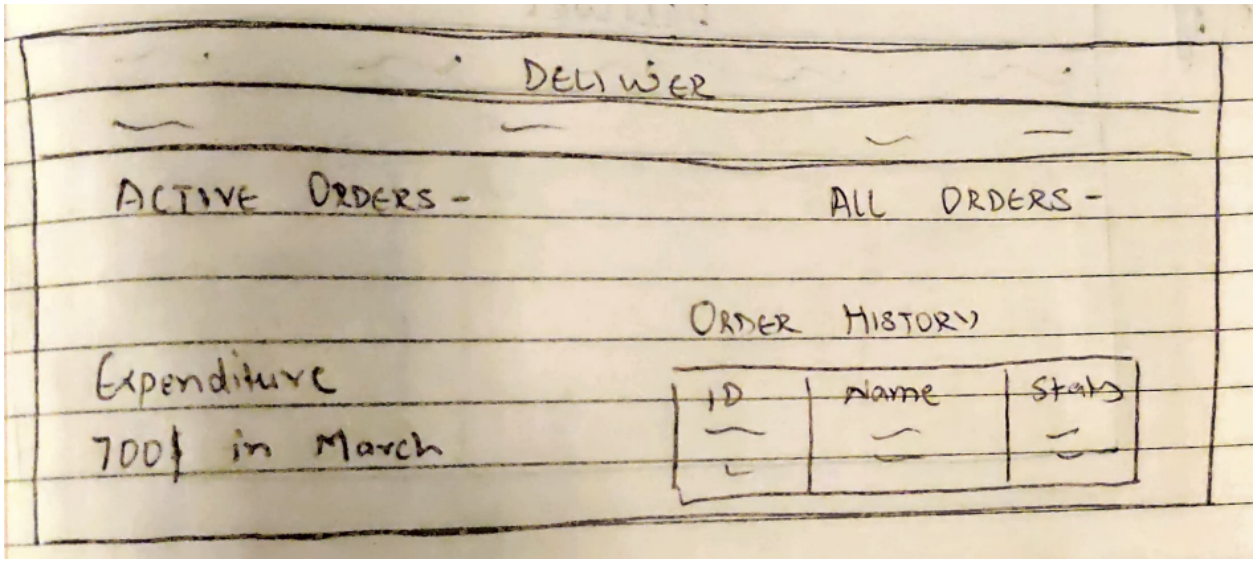


4. Complete Order Dashboard

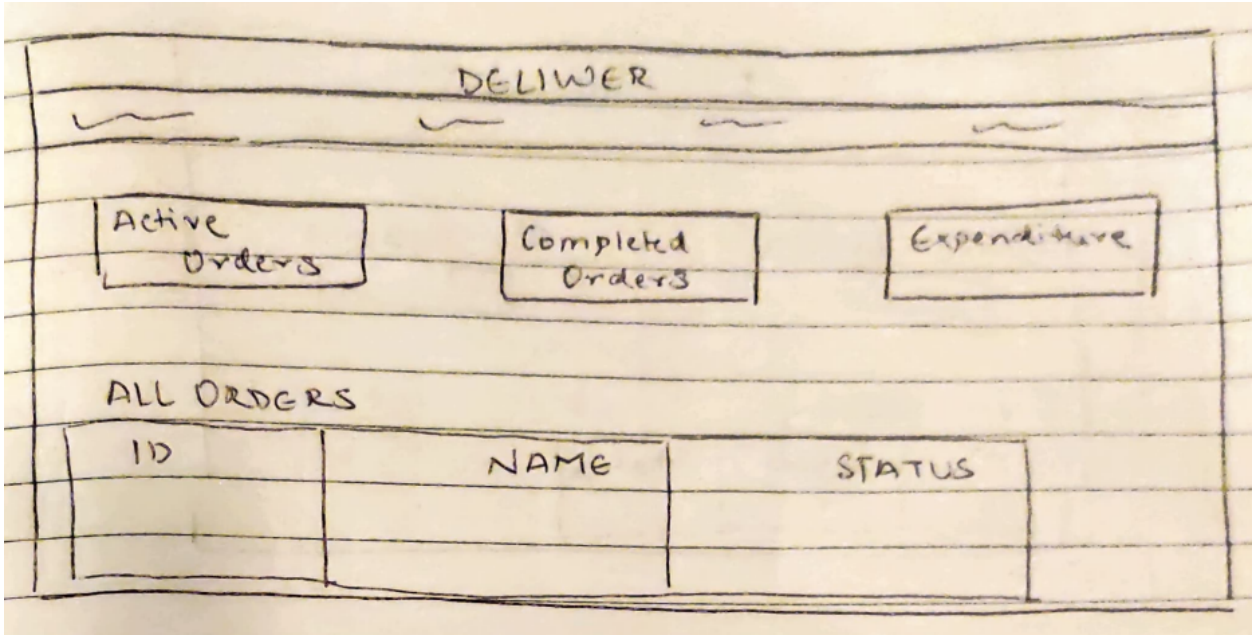
The user must be presented with an option to view all the orders in a dynamic and structured manner. As the owners will have multiple orders on different stages we need to make the dashboard as informative and minimalistic as possible. Too much information or too little information are both detrimental to this page.

Alternative 1

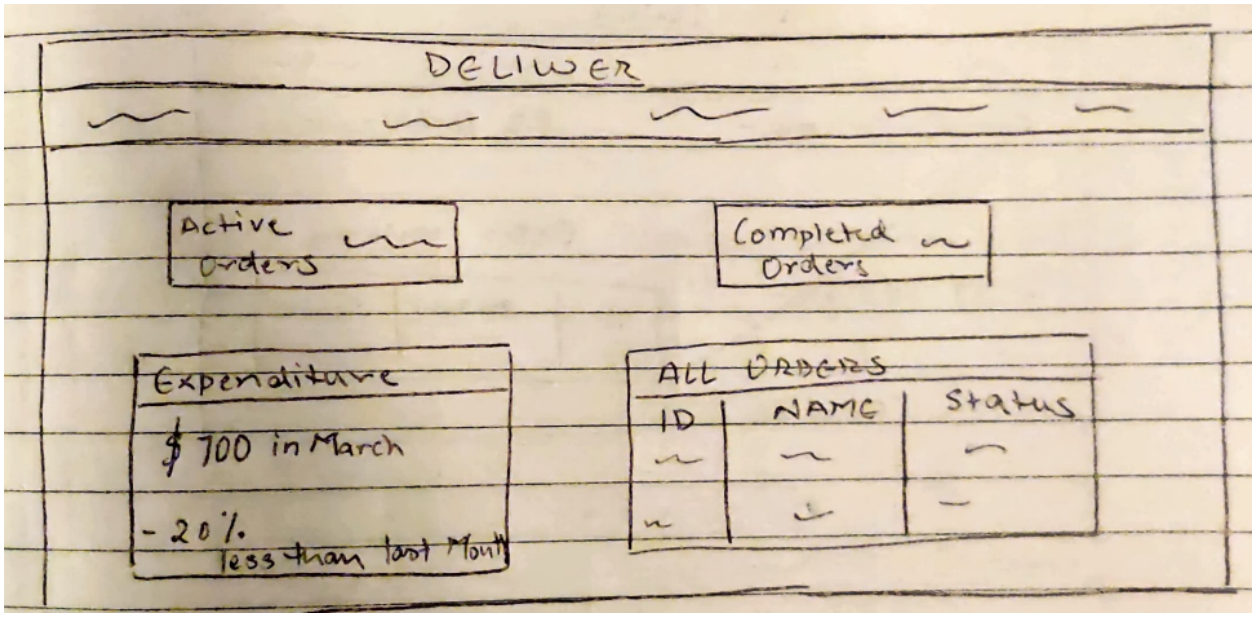
This was one of the sketches that we selected out of several. We felt this sketch covered most of the micro-tasks.



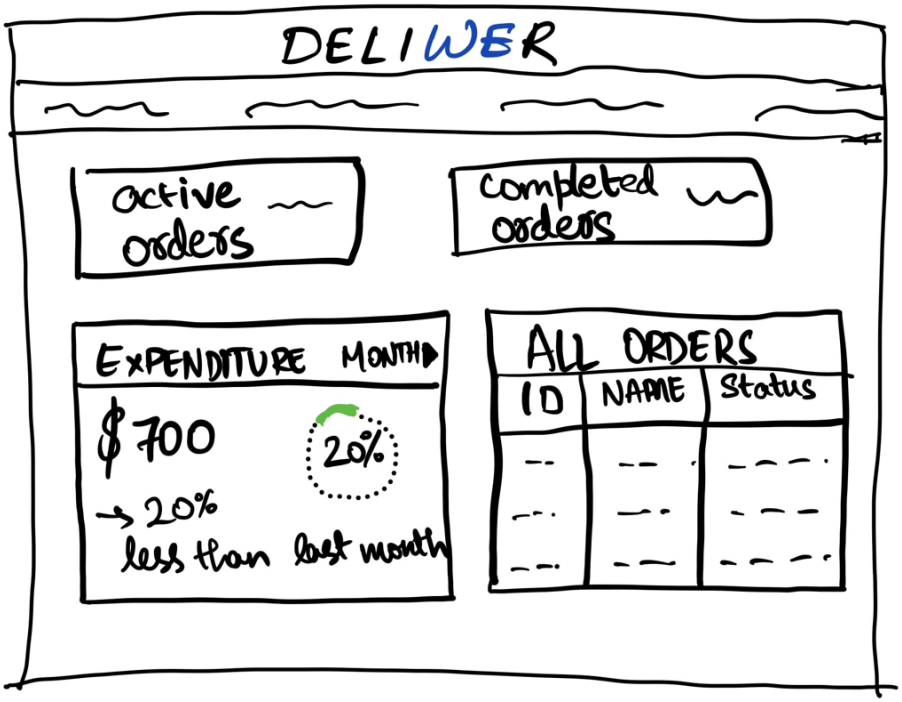
We identified that Order History was important to the users, and wanted to move it to a more prominent location. We added a separate box for expenditure.



In order to convey more information on expenditure, we decided to move it into a separate card entity and display statistical information.

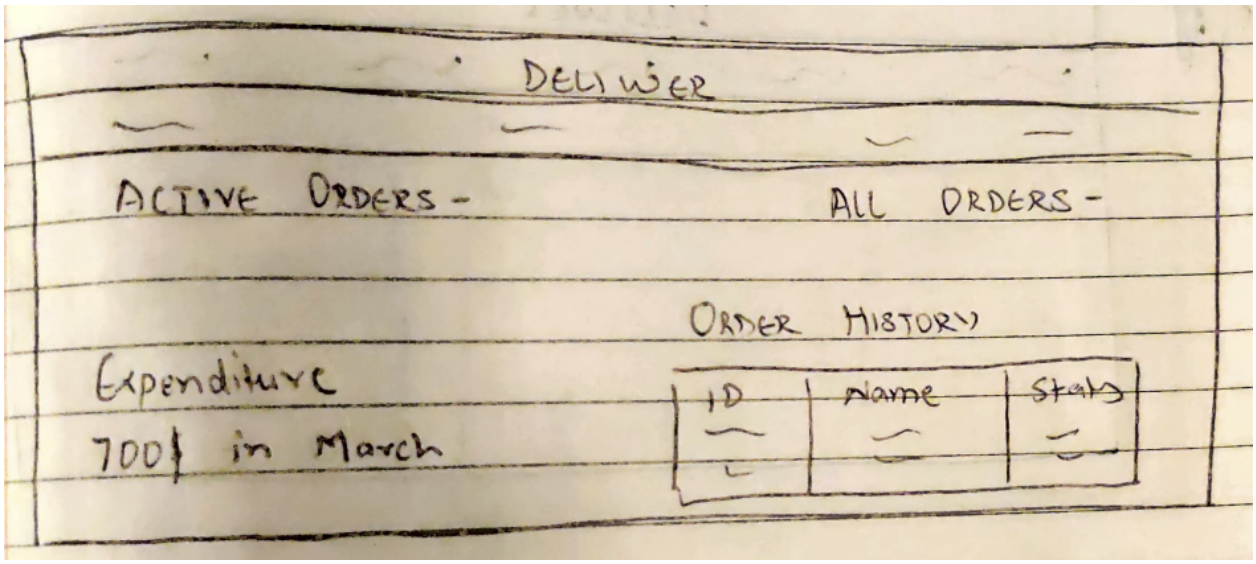


Further, we added a small color coded chart that tells users if they're doing better or not. We also added an extra clickable option('MONTH') that shows more information on monthly expenditure.

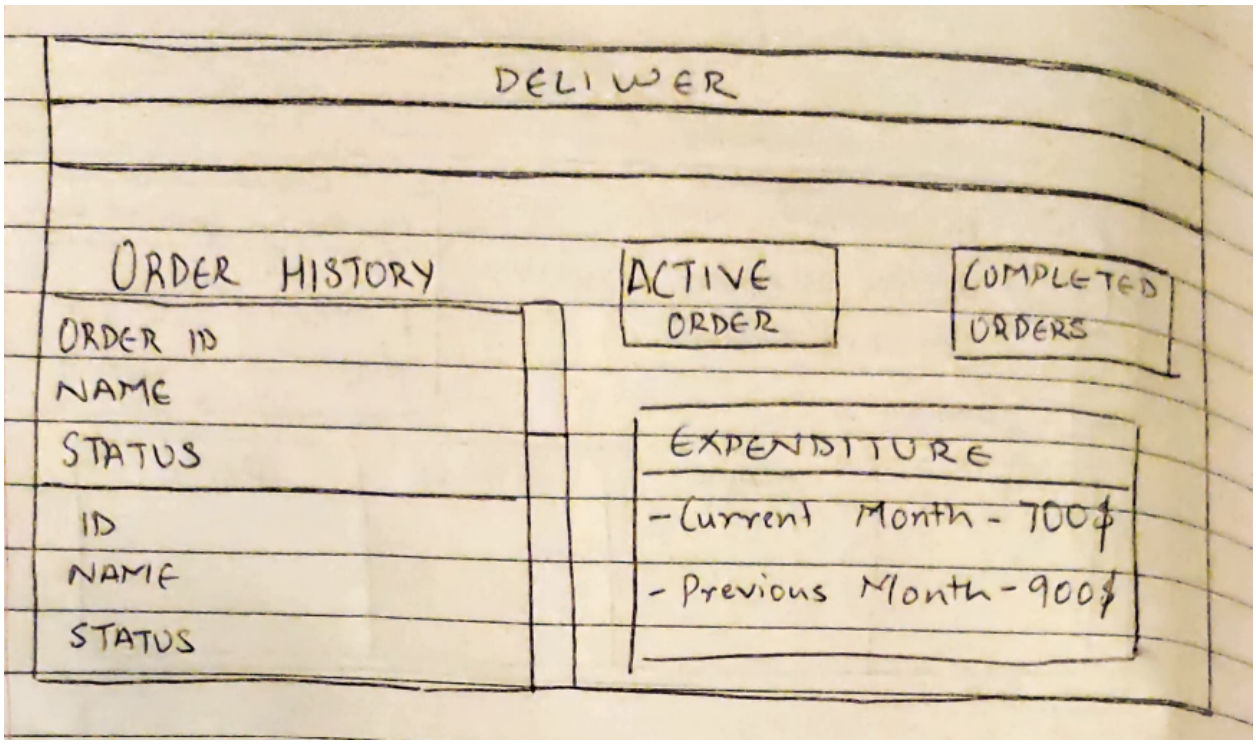


Alternative 2

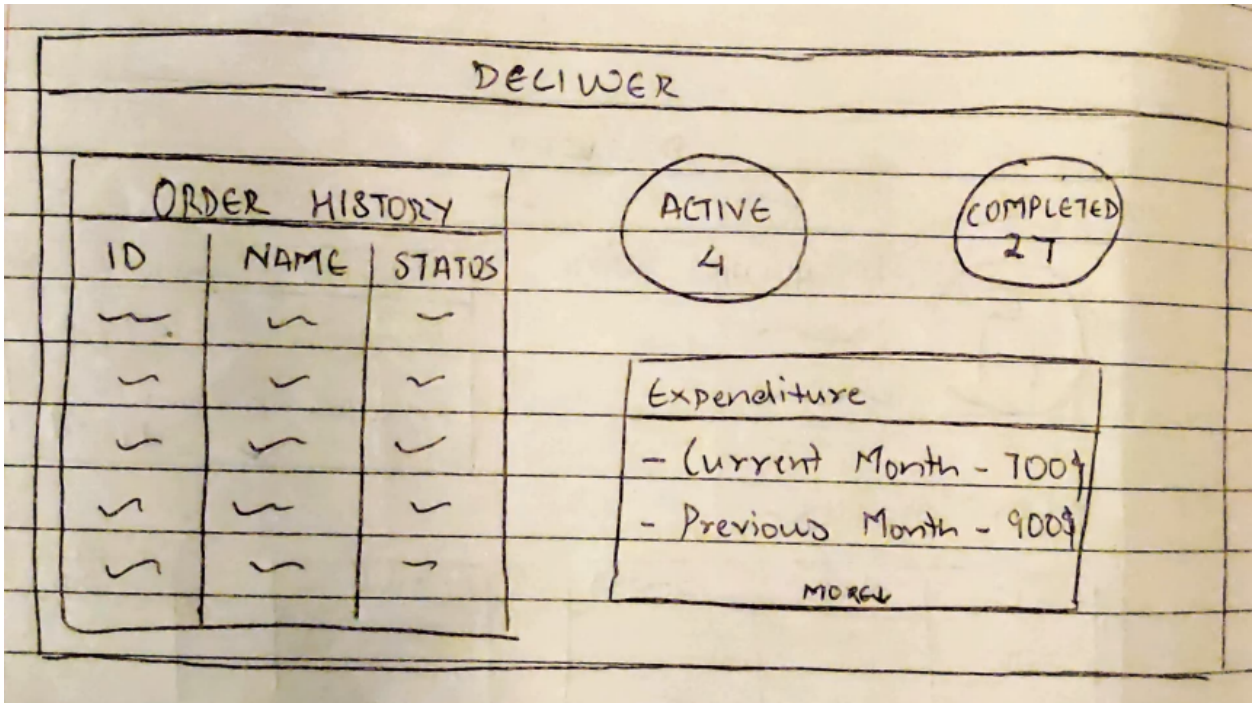
This was one of the sketches that we selected out of several. We felt this sketch covered most of the micro-tasks.



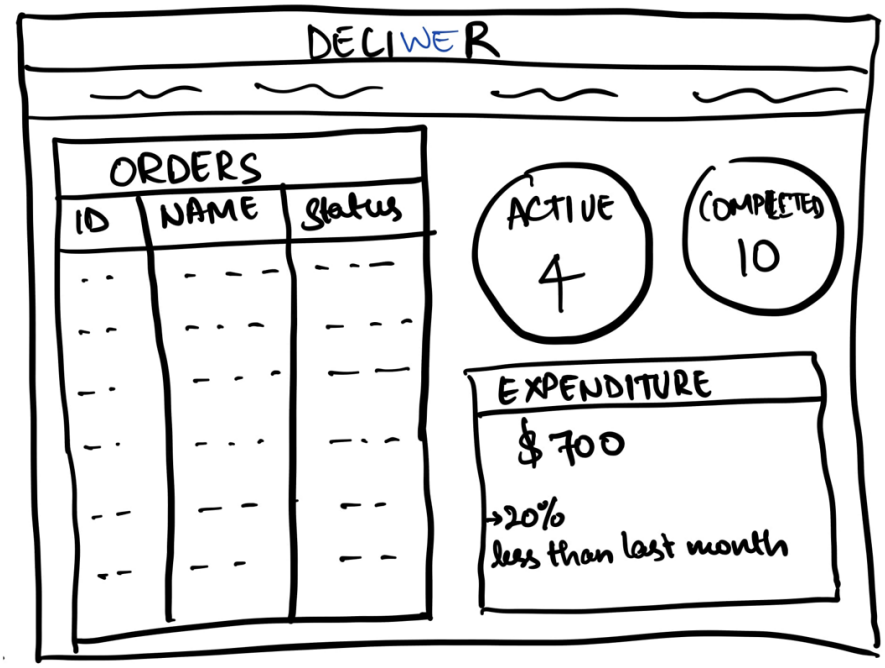
We moved the order history into a scrollable list-like format. We made expenditure into a separate card entity, to convey more immediate information while maintaining separations.



Further, we converted the list into a tabular form, while also adding an option to know more information about the expenditure.

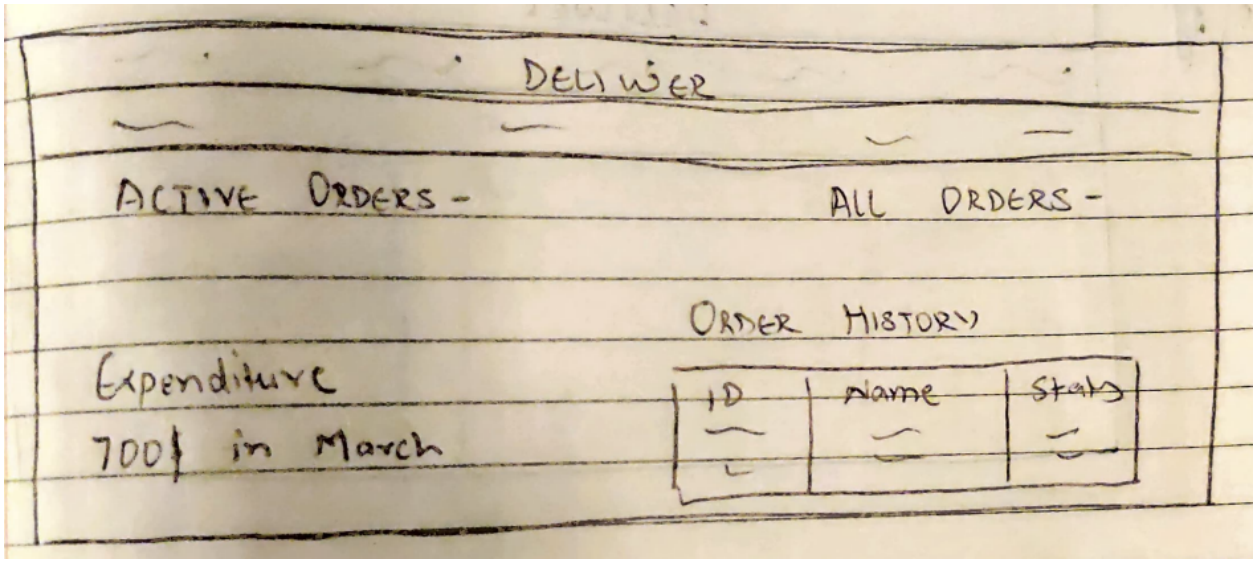


We plan to color code the active and completed tasks. We modified the expenditure card to convey better information at a glance, while it shows more information upon click.

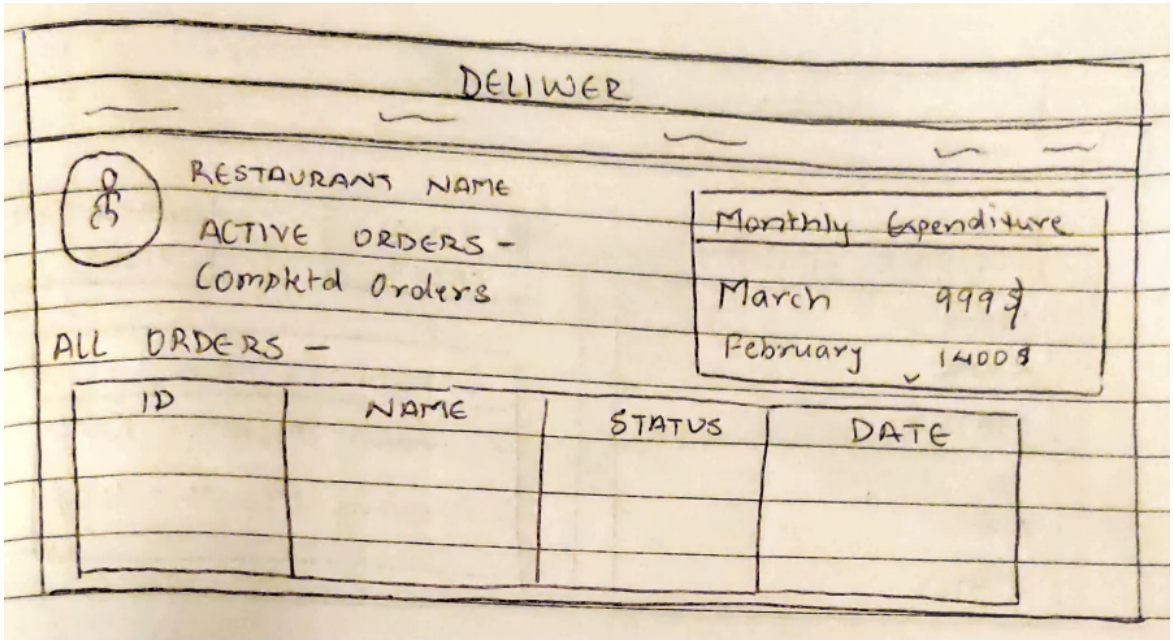


Alternative 3

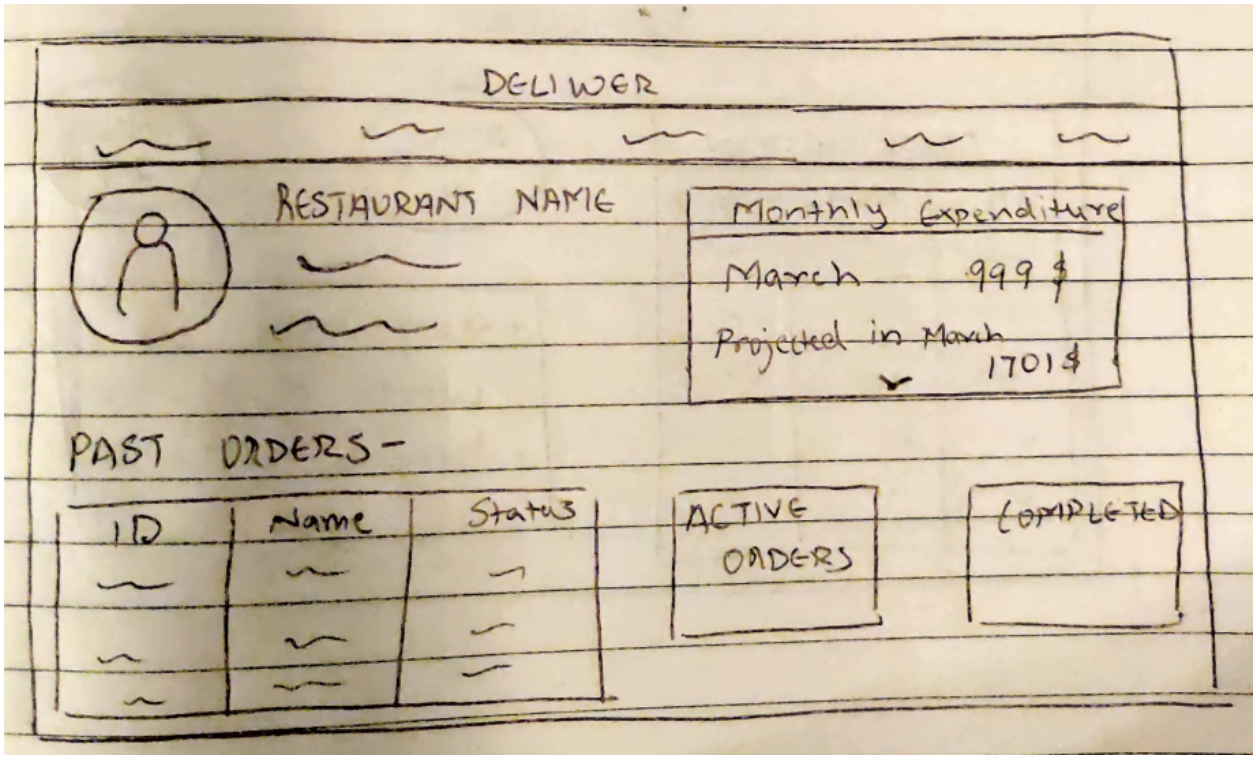
This was one of the sketches that we selected out of several to build upon. We felt this sketch covered most of the micro-tasks.



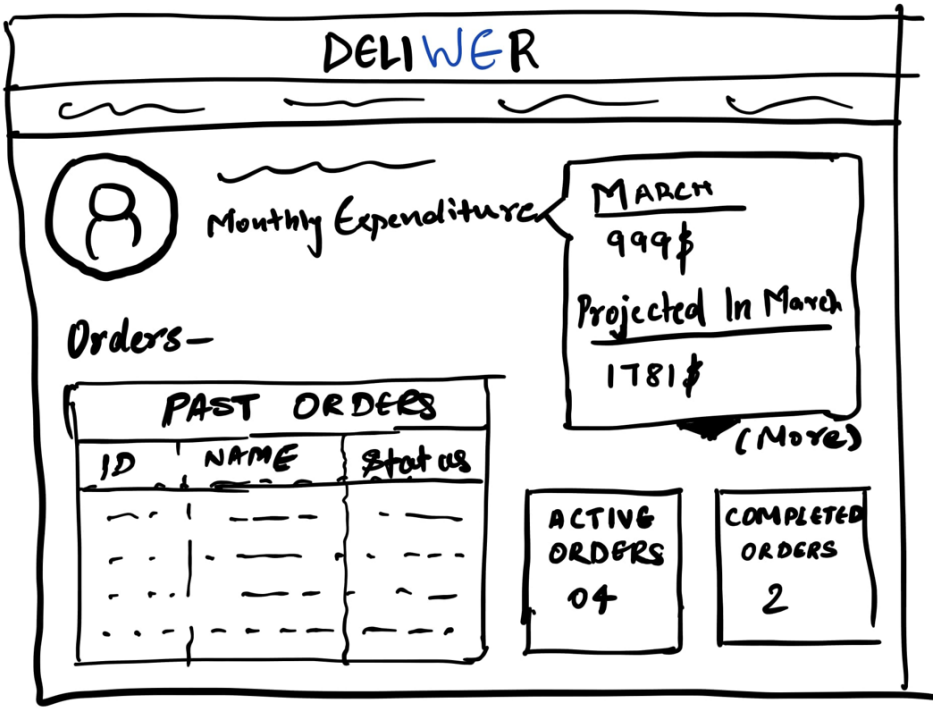
The approach here was to add a restaurant profile. We try to show order details in a text format. Monthly expenditure is made into a different entity.



Further, we move the orders into separate entities. We improve upon the expenditure entity adding an option to see more information.

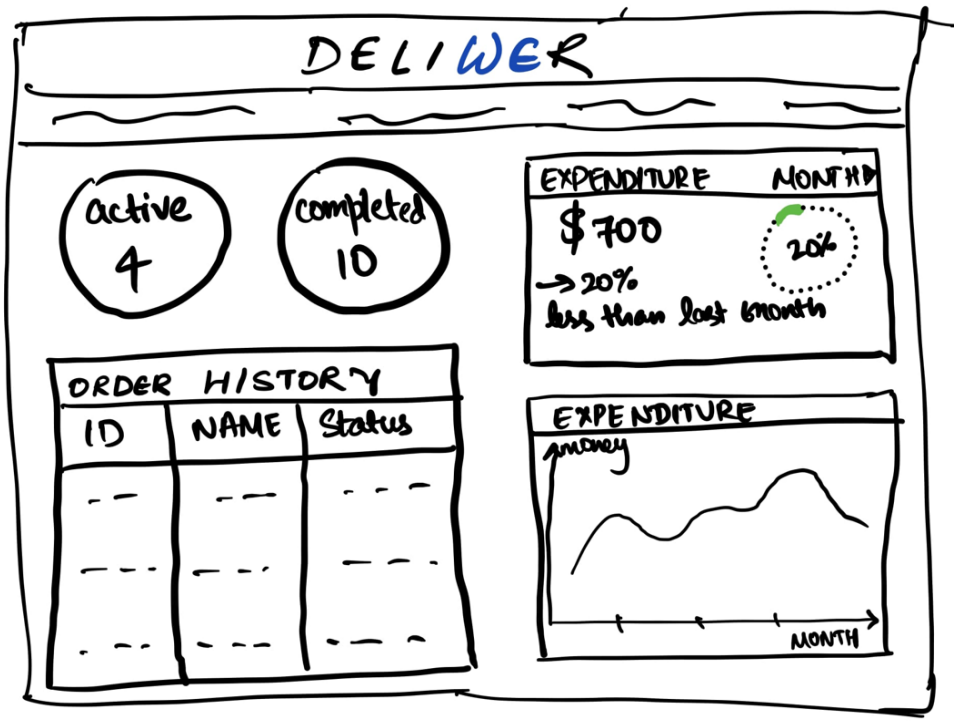


We added a pop-up shaped entity for monthly expenditure and made it branch out of the restaurant details page. This made the whole page seem more connected and in sync.



Final Sketch

We added all the orders as circular entities that are color-coded. We added two separate entities for expenditure. We show important information directly in the main expenditure entity. While the other entity has a graph showing expenditure over several months. Order history is a separate entity.



DESIGN EVOLUTION REFLECTIONS

- Aakash Jain

  Being new to the HCI design process I was skeptical that the steps would lead to such retrospection, so I started out designing the order tracking page by just using a simple map interface or a timeline. At the first convergence I was genuinely surprised by what you learn by converging ideas and picking out the best of each iteration. We came up with design alternatives ranging from tracking one order per page (cumbersome and increasing the required interaction but visually the most informative) to a split screen with all the orders on one side with the map for the currently selected order taking up the rest. But on thinking about the usability heuristics the one I thought up was using a timeline to show the tracking information for each order beside it, this made the information easier to discover at a glance thus increasing recognition. From these the final sketch we settled upon picked the best of all the alternatives combining the most informative map with the minimalistic approach of using a timeline, we even tried to minimize the interaction by further increasing the visibility by adding ETAs and also integrating the contact functionality by using commonly used metaphors to map them. I was genuinely invested in the design processes completely and the outcome speaks for itself. Using the usability heuristics learned and repeating Laseau's funnel iteratively we stumbled on a design that encapsulates the best of each idea.

- Vedant Maheshwari

  I have been a developer since I graduated, improving my UI skills has been at the forefront of my to-do list and I got just the opportunity by this project. Tackling the challenge that is displaying several drivers along with their details about them, combined with the fact that they need to be distinguishable for the user to quickly favorite them. I set out making the most of the freedom that rough sketching provides and set out to make the most basic idea of a layout, a simple horizontal list of drivers with the necessary details. When we started sharing, I came across a similar concept but it used the cards and a vertical design concept that we used throughout our other designs thus maintaining consistency, the third alternative was a mix between both but it improved by adding more functionality to each card while still maintaining a minimalist design. We finally reflected on the 10 usability heuristics and settled on a design that expands on each, a minimalistic layout that increases the information displayed in an easy to recognize layout that makes use of familiar metaphors. We even used appropriate defaults for improving the sorting capability. I learnt that focusing on generating ideas and converging them leads to a better base that can be further expanded upon. The 10 Usability Heuristics are a solid base to expand upon and focusing on each lead to significant improvements in any design step.

- Mayur Mule

  I had prior experience on creating a dashboard so I was pretty confident in my design. But reflecting back at the design process I learnt in our lectures I wanted to try out the elaboration and reduction process. At first, I thought we would land at pretty much what I had envisioned at the start of the process, I was in for a surprise. As soon as I started the design process and elaborated and converged ideas, I landed at a design completely different from what I envisioned. I tried to keep my sketch open ended at first with the freedom to create and add new elements; this turned out to be a boon. I started with adding a table which was the most intuitive way to track past orders, I added an element to show the current active orders and the total number of orders the restaurant served. The final element to it was a tab showing the current expenditure of the eatery on delivery through our application. Most of our design alternatives used similar design elements with a few tweaks. What we settled upon was a design which incorporates the most suitable usability heuristics for a dashboard recognition and minimalism. We tried to increase the information available at a glance while still keeping the layout as conservative as possible, we struck a balance between minimalism and making information easy to discover. Swapping out the redundant all orders element for active and completed orders, as the complete order history was present in the table, even improving upon the expenditure idea by providing an easier way to compare and discover trends in the expenditure. The Laseau's funnel is a brilliant concept which when used with the usability heuristics helps us be better at designing and creating layouts which are functional and have a positive impact on a user's experience.

INDIVIDUAL CONTRIBUTIONS

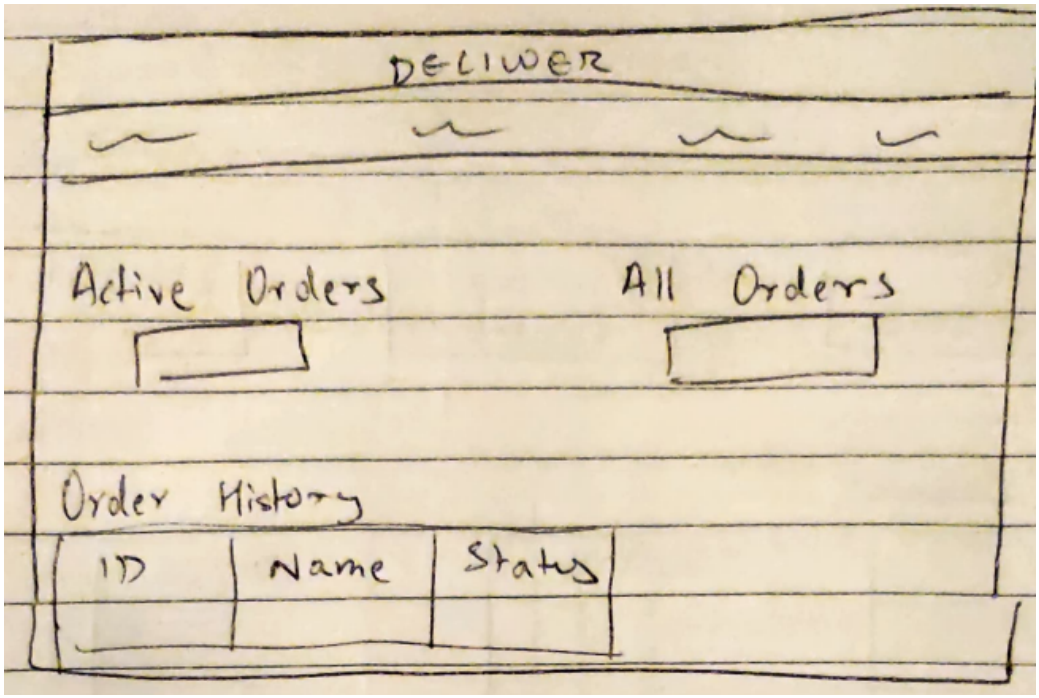
Aakash Jain - Interviews, Usability Requirements, Alternate sketches #1 for all the design challenges

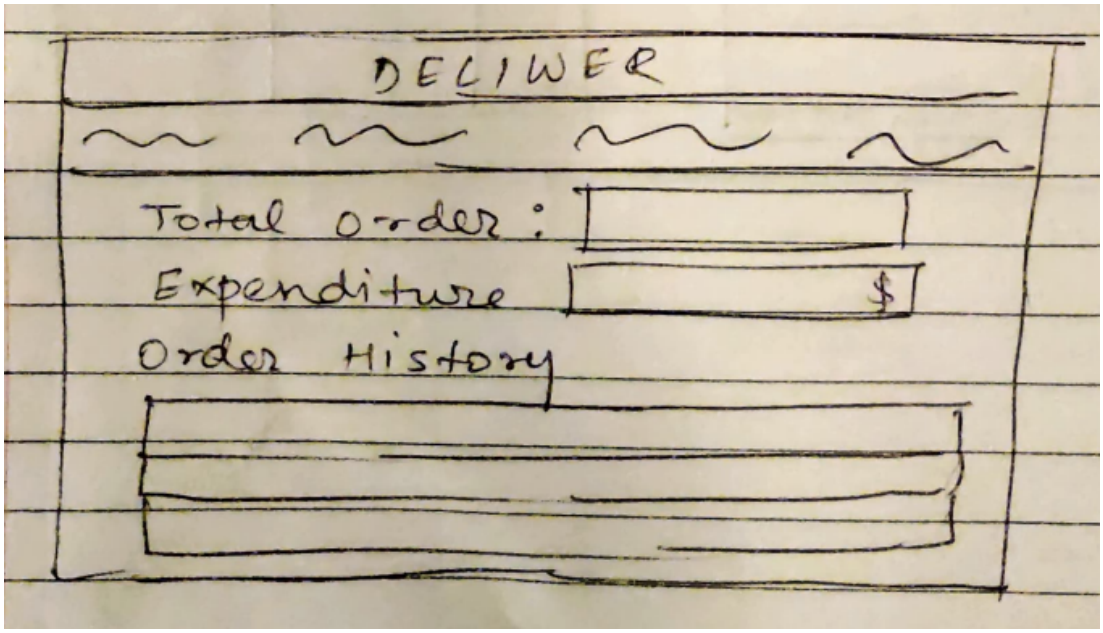
Mayur Mule - Literature Review, Non functional requirements, Alternate sketches #2 for all the design challenges

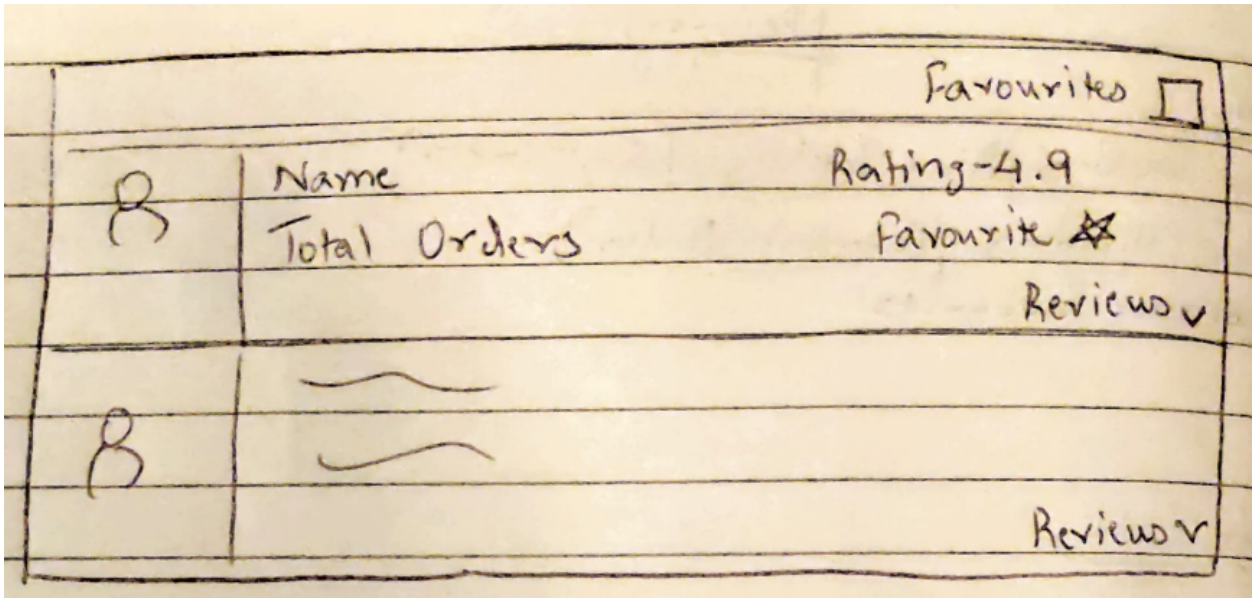
Vedant Maheshwari - Surveys, Survey Conclusion, Functional Requirements, Alternate sketches #3 for all the design challenges

Three of us collaborated for the final sketches of all design challenges.

APPENDIX


DELIWER
Active Orders
All Orders
Order History
ID
Name
Status


DELIWER
Total order :
Expenditure
$
Order History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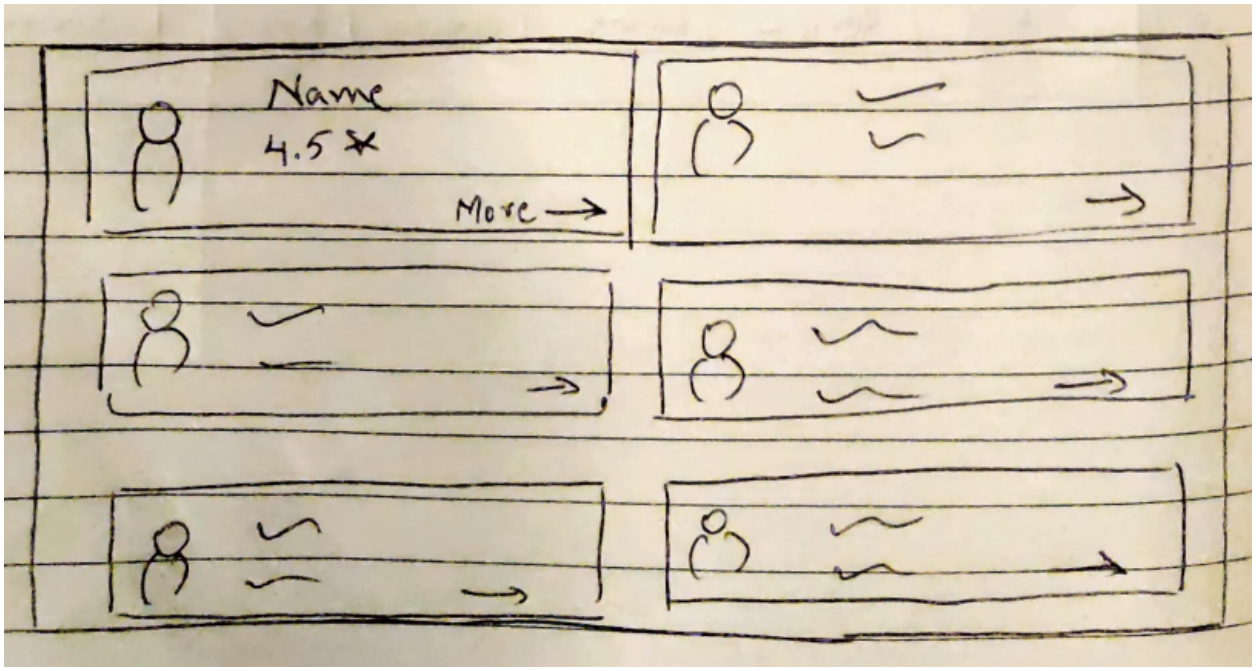
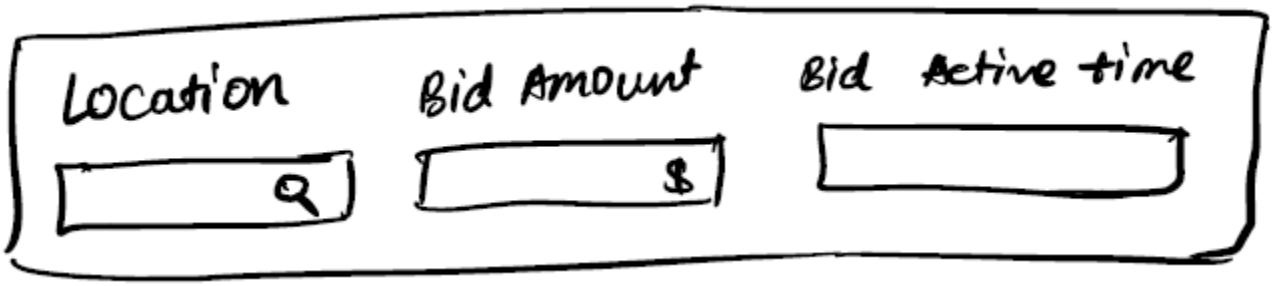
Name
Rating-4.9
Total Orders
Favourite
Reviews
Reviews


Name
4.5
More


Location
Bid Amount
$
Bid Active Duration
SUBMIT


Location
Bid Amount
Bid Active time
$