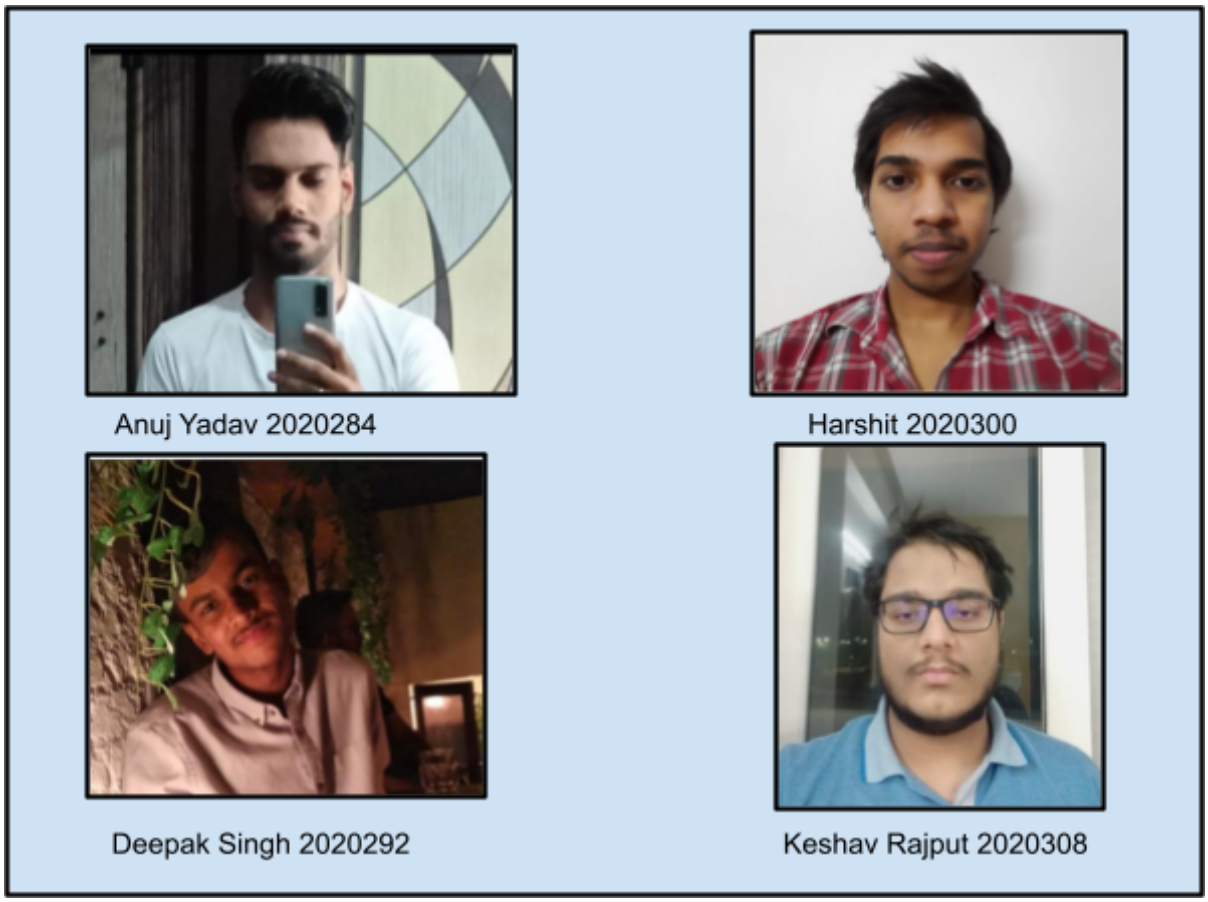
PROJECT REPORT

Meet The Team



Contribution

- **Anuj**- Ideation, Sharing the survey forms, High Fidelity prototype and Low-fidelity prototype,Evaluation group study.
- **Deepak Singh**- Ideation(Came up with the whole idea), High Fidelity prototype, Sharing the survey forms, editing the video.
- **Harshit**- Ideation,Sharing the survey forms, High Fidelity prototype, Logo Designing,Ppt for video presentation.
- **Keshav Rajput(Lead)**- Ideation, Survey designer, Project Record writer, Video Recording.

ABSTRACT

We have designed an app called *"Sprxts"* which will help users to find the most desired sports venue and manage all their subscriptions to these venues. This involves giving the user more freedom to choose from whichever venue they desire. This in turns helps owners of those venues as they get better price signals(price discovery, see (2)).

- Motivation: We noticed that it is often hard for us to find good sports venues let alone manage our subscriptions on them.
- Problem: To make the process of booking/managing subscriptions to sports venues a non-tedious and simpler task.
- Challenge: To gather data regarding all the venues in the user's area and present them in a user-friendly manner.
- Solution: Designing an app making use of design principles that we learnt in our human computer interaction course wherever possible.

The app will enable both the parties, i.e the user and the business owners to cater to each other's needs more easily. This report contains the analysis of existing alternatives and the methodologies(in great detail) employed to overcome the challenges.

INTRODUCTION

Summary: This project report is meant to summarise all of our design process. This includes how we started from thinking about the what,why and how of the problem. We have included links to the video of our presentation here:

https://www.youtube.com/watch?v=e_nDlANDx1c&ab_channel=DeepakSingh

We have given a detailed methodology highlighting various different aspects of our app with respect to design principles of visibility, feedback, constraints(navigability), consistency and affordances. We also discuss in detail about our survey findings, the responses and the pie-charts so obtained. This is followed by our evaluation where we have conducted group study over discord to ask users certain questions pertaining to the look and feel of our app. Conducting the group study was a lot of fun because it was a new experience which taught us many things(how to gather data, etc). Then we come to the end of our report where we do some final analysis and think about the future, what we can do to make our app better, how could "x" be done differently. Maybe even adding more features. This concludes the summary now we move to why and how we made *"Sprxts"*.

Motivation: The four of us have at some point wanted to go to a new gym or a new athletic track. It was often hard for us to even know whether the place is open, if so then at what time, not to mention we don't even know about any entry charges. We felt all this information should be available for us. "*When we can do the same for food why not do the same with such venues?"*.This is what motivated us to take on this project. In technical terms the "market signals" were distorted and the market is unable to cater to the needs of their customers.(2)

Problem: The problem here is clearly lack of information. To get such information the user has to find some proxy. For example, they may use google maps to find contact details and then call them up to find out all the information. Sometimes the contact details are wrong or even the

place searched for does not match with what we want. So even if one finds the desired information , people would still be reluctant to go to new places and instead settle for old places that might not provide the best services. Shy people would even be less likely to call the place. This is the fundamental problem. Lack of proper sources that are quick to find/easy to access.

Target Users: *Sprxts* app is targeted at a broad general audience. We are catering to anyone. Most people want to take care of their health. This app also caters to those who want to visit places for physical entertainment(waterparks,ATV etc) during their freetime. We seek to make their booking process smoother so that the users can focus more on the exercise/outing rather than spend minutes talking to someone on phone. We do feel that the number of people that will switch to our product will be mostly young people but it is certainly not only catered to them. Our layout design is minimalistic and age/gender neutral to account for this. This means that nobody feels out of place when utilizing our service. We feel that we have achieved a lot of accessibility in our app as we followed inclusive design throughout. Our app even allows those with disabilities to quickly find the desired place and we make sure that they are not cheated.

Existing Challenges: As we thought on how to solve this problem we figured out that the biggest challenge to overcome would be to gather as much data as possible and also presenting it in a user-friendly manner. It is very difficult to gather data of this type. For example, how will we get the data for opening/closing times, the prices/offers. We will also find it hard to find data on any special quirks of these venues and then having to put it forward in a generalized manner. These are all the myriads of challenges facing us.

Existing Solutions: They are no existing solutions to our current problem statement i.e there is no app for such services. But there are “solutions” to the challenges that we face, for example, Zomato has a voluntary partnership solution (1). They do this and their network grows overtime as more and more businesses join their program which in turn creates a positive feedback cycle. The registration process requires the business owner to provide some required information and a legal document. Since the cost of entry is so low, this in turn has led to deeper market penetration for Zomato. There are no other solutions to any other challenges mentioned in the previous

section, but implementing Zomato's solution(to basically gather data) is something we can learn a great deal from.

Proposed Solution: We have decided to implement one of the existing solutions to solve our biggest hurdle of data gathering and growing our network using Zomato's Idea. It is interesting to note that even OYO has the same solution(Voluntary Registrations). Our solution involves making an extremely efficient app where finding the correct sports/fitness venue takes less than a minute. This will greatly help those who want to find their favourite place to workout/enjoy and also help the business grow by bringing more customers for them. Our UI has a modern look and feel to it. It is very easy to learn and use. We have premium based membership service as well for those who want more. We allow users to write reviews to keep everyone accountable. Our home screen displays places which are the most popular until the user gives consent to share their location. The login process is streamlined, allowing the user to sign-up via already existing accounts or use their mobile number or sign-up normally. Every aspect of our app has been tuned to cater to quick use. We want the user to spend as little time as possible for such menial things.

METHODOLOGY

- ***Problem Definition And Target Users***: The problem involved as defined in the Introduction section is as follows: "*To gather information regarding venues/facilities and present them in a user-friendly manner*". In simpler terms we have to create a marketplace which is accessible and allows for quick exchange of services(fast booking). This means we also need to show all the data regarding different places in a consistent and logical manner.

  As we explore the problem space: we find out that currently the user if they choose to book a venue have to go through multiple steps by either calling via phone or using the business's website to find the required information(prices,timings,age restrictions etc). This makes booking a venue tedious which in turn makes the customer go away and also reduces the number of potential customers the business can attract. This makes everyone worse off.

  We feel that a change is needed as that will empower the users and people will be able to make better decisions about where to go and this in turn will allow them to have more options available to them when working out. The change has the potentiality to revolutionise the fitness/sports industry which currently does not have any central sources of information. *If cabs/hotels/food can have well compiled sources of information(Uber,OYO,Zomato) why can't fitness/sports/entertainment venues also have the same?* Essentially we want to enable better price discovery in the market(2). As that benefits buyers and sellers in the market.

  Our target user base is everyone, we are catering to everyone regardless of their age, gender and physical conditions. Inclusive design has been a very big priority and so we have used colours and designs that are mostly universal in this day and age.

Understanding our target user base also allows us to understand the various stakeholders for our app. It is often hard to tell who all are the possible stakeholders because modern economies are so well connected and every business is heavily dependent on each other. But for our design aspects we have narrowed down our stakeholders to two sets of people. *1) Urban Customers*, *2) Business Owners* of various sports/fitness/entertainment venues. We have focussed on Urban customers for now as there is still lack of such facilities themselves in rural areas. Inclusion of Business Owners is obvious as they are the ones being benefitted. Notice that this category could contain many people including gym owners, athletic field owners, all the staff(coaches and otherwise who work there),various arcade owners as well the government officials who might be managing certain parks and facilities. So these are the two vast user bases whose needs we must satisfy in order to provide a good solution.

Once we identified our target bases and have given a comprehensive problem statement we can finally move on to explaining how we gathered our requirements.

- ***Requirements Gathering***: Before we start gathering data for requirements we had to define what exactly we are collecting data on. For example, there are many things we already know, for example, we know how to follow design principles. So we ideated and thought that we need to gather knowledge on what the consumer base currently thinks regarding fitness and health in general. This involves taking various perspectives and taking into account their preferences.

  So our requirements were of social nature that is, we wanted to know the social perception regarding sports and sports facilities. Our questions probe the users on how much they workout, whether they will choose quality over distance and what kind of activities they would prefer. In asking these questions we have made sure to keep the variables of study under control. For example we have kept money as a variable out of the study as much as possible. We have also found out what people

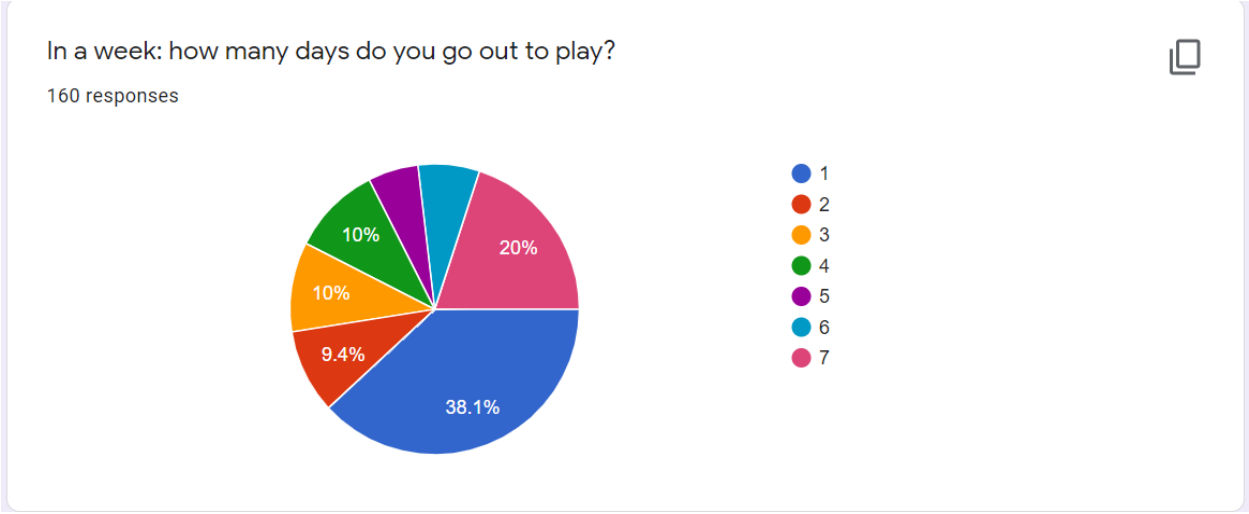
do in their homes for staying fit. So based on these criterias we set out to make our survey form. Seeing the results we feel that we have achieved the above objectives.

Survey Description

We made sure the title of the survey look distinct so it stands out .There were a total of five questions with only one of them optional and subjective. We have taken full care of the responder's privacy. We don't have any personal information regarding any of the survey participants. We only know that one person can only fill the survey per account once. We don't know which account was used. We made sure to float the survey forms in as many diverse groups as possible, for example, most of us floated the forms in our family groups, IIITD groups and various groups of other colleges. Some even went out of their way to go on reddit and post the survey on r/Fitness.

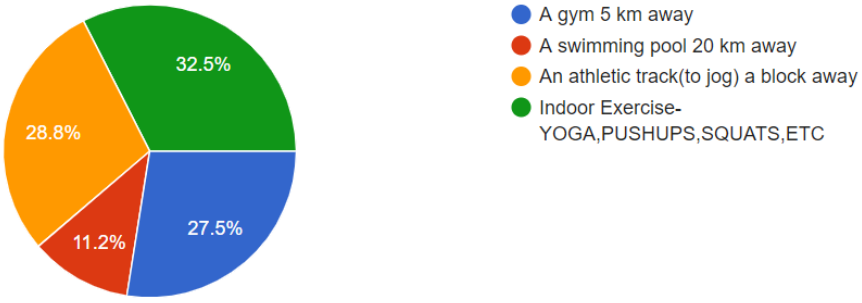
In the end, we got a total of 160 Reponses.

The response for each question is as follows:-



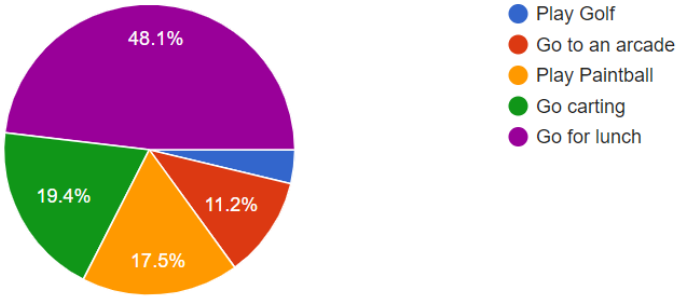
Which one of these will you choose for exercising?(*ASSUME FREE OF COST)

160 responses



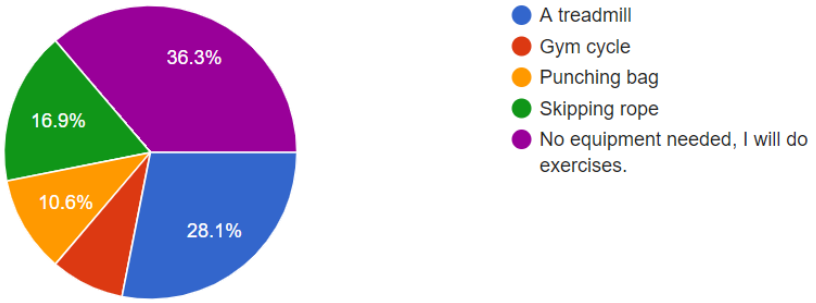
You want to hangout on the weekend with your friends. Which of the following activities will your prefer to do?(*ASSUME FREE OF COST)

160 responses



Which of these items at home will help you stay fit?(*ASSUME FREE OF COST)

160 responses



*(OPTIONAL) What do you do to take care of your health? (In 3-4 words)

78 responses

- Eating Balance Diet as it is very good way to be healthy and doing gym and exercises daily to be fit and fine.
- Eat healthy, exercise /gym daily
- Eat healthy, stay hydrated
- I do bodyweight exercises at home
- Want to play every day , dont have time
- Sleep deprivation
- Eat healthy as much as possible.
- Exercise for 1,2 hours
- Play football

https://forms.gle/PHB83s7Tu3nvfQSP6 -> Link to survey

Survey Analysis

I. Over 60% of the people go out to play for more than 1 day. Which means that there are a significant number of people who may use this app to make their life easier. We also see that 38% don't go out often. Maybe once they use our app, it's easier for them to select an appropriate place so they would go out more often.

II. 32% prefer to work out indoors, this proves our prior assumption where people would prefer to stay inside even when they can go outside to avail better alternatives(Because of tediousness). By using our app, they can benefit themselves and support their local venues if only finding and managing their subscriptions was made easier. It is also important to note that the rest are already going outside whose work will be made easier directly.

III. 48% chose to only eat with their friend even when every activity was free of cost. This was a very weird statistic. People prefer to *only* eat when they can hangout with their friends and even then *also* eat. This shows that people have a perception that the only way to enjoy with friends and family is lunch. We believe our app which will provide a wide array of entertainment venues to choose from will change this perception. The rest will be very happy to easily book a paintball/carting /arcade venue.

IV. This last question was to see what people typically use to stay fit during times such as ours (pandemic). Over 64% would prefer to exercise using equipment/facilities. We asked this because provision of such equipment may be considered as a future update to the app or certain venues might be interested in distributing equipment for a good price.

V. This was used to get a general sense of what people are doing as of now in their own words. People wrote about jogging, playing badminton,football, the importance of a healthy diet, gyming, sleeping and so on and so forth. Once again it was good to see how the majority of responses showed concern regarding their health. So there is definitely growing consumer demand which is what solution is designed to satisfy.

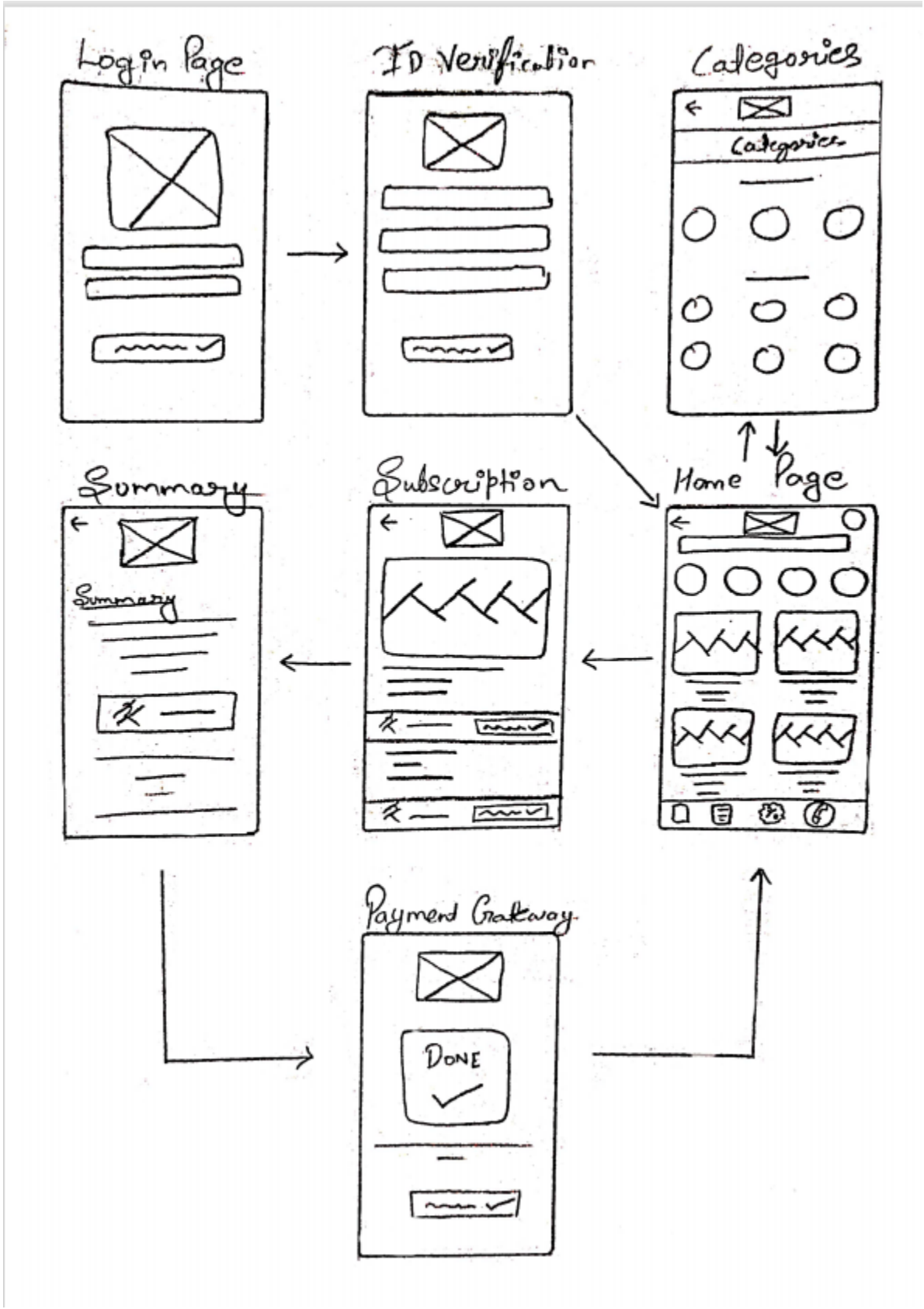
IDEATION AND LOW FIDELITY PROTOTYPE

During our ideation process we brainstormed and all of us only said to design an app with certain features. We were trying to think of an economically feasible, technologically sound and socially acceptable design for our app. We thought of the now industry standard login page,home page. We thought the user might want to find(sort) venues using types so we included a categories page.We made a page to manage subscriptions. We made a rough sketch of the Payment Gateway and booking summary. We also agreed on the pricing model and how we will empower sellers to show all their information on the app.

Our low fidelity prototype consists of the following key features:-

- Login Page
- Home Page (Greeting)
- Summary of the Order
- Support
- A Search feature on home page

We managed to create a quick sketch on paper which looks like this:-


Login Page
ID Verification
Categories
Categories
Summary
Summary
Subscription
Home Page
Payment Gateway
DONE

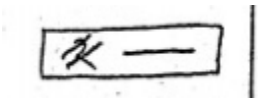
Design Principles used in making the prototype:

- **Visibility:** Our pages are uncluttered and all the important buttons have been highlighted this means associating different labels and text fields becomes intuitive. Consider how the home page contains the 4 important buttons on the taskbar bar at the bottom from left to right (home,subscriptions,offers,contact us). The payment gateway has a simple confirmation message "DONE" to assure the user. The categories page has the logos being shown clearly.

- **Feedback:**Since this is our low-fidelity prototype we could not make a feedback system but we thought about how one button would lead to another, in fact the slides show the workflow of the app in its most basic form. From login to payment it will take the user 4 slides minimum to book the venue. This aspect will be worked upon heavily in our high-fidelity prototype.

- **Constraints**: There is not much scope to have aspects of this principle in a low fidelity prototype but we thought of adding constraints regarding payment options and payment gateway to smoothen out user experience.

- **Consistency:** The layout of each of our slides is consistent. We have the logo at the top, the "go back" button is at the top left on each slide. All text-fields look the same so that from the login page itself the user will get a good idea of how the app will take input Each of the slides showing prices contains the amount written in a particular format like this:



The logos and layout of the app is very similar to that of most modern app startups. This means that our app is also externally consistent. All these aspects greatly increase the learnability of the app.

- **Affordances:** The arrow for going back acts as a clue for what has to be done to. The design of clickable/selectable(its a circle) objects is also the same which helps connecting consistency and affordances. The taskbar bar on the home page contains a telephone icon which signals “contact us”. The coupon logo button indicates “offers” the list-logo indicates “subscriptions” and the home logo references the home screen. All these aspects serve as clues to guide the user. Most of them are similar to various other apps also , so this in turn increases the ease with which this app is utilized.

HIGH FIDELITY PROTOTYPE

To see all the changes that we have made in a visual manner visit the link below:

https://www.figma.com/file/ePLjx8c83xAlwMsYMDJBIG/HCI-Project?node-id=0%3A1

We made inferences from low fidelity prototype and came up with a different design for our home page. We thought of making the taskbar bar more akin to an actual taskbar than providing features like offers, contact us like it previously did. We added a search bar and various sorting tools to filter out relevant places as per the user’s needs. We can now sort on the basis of prices,categories and filter(strong search function).Filter basically allows the user to check via price ranges. The bell icon is used for configuring notifications. The search bar when used for the first time will prompt the user for location privacy settings. The bread menu consists(top left corner of home page) of the previous low fidelity taskbar where the user can manage their

subscriptions, payment methods, get help, change language, access account settings, view offers and join the referral program. These features are not implemented(functionally) but are visually there as placeholders for a higher level prototype. We have made the home screen scrollable. Each location on the main working page will show the locations with it's address, ratings and the number of people who have visited that place.The summary page of any facilities also shows the same but with the additional information about amenities and facilities. On clicking on any of the subscriptions choices we go to the order summary page where we finalise payment. Those were all the features added explicitly.

Design Aspects of our High Fidelity Prototype

- **Visibility:** Building up from our low fidelity prototype, we followed a good contrast of black and white so that the user can focus on the important things like the subscription button when needed. The color coding in our app has remained the same everywhere to give it a more professional look. On the home page the user sees the most popular sports in their country at the top(below search bar) and they function as sorting by sports. Categories allows the user to filter via more number of sports/

- **Feedback:** Whenever the user clicks on some logo it will immediately bring up the next slide with a cool transition effect that signals to the user that the change has taken place properly. Otherwise it would look abrupt. The user can now scroll through the various options and choose the desired one.

- **Constraints:** We have disallowed the user to choose for more than one payment option, or choose more than one subscription. We also don't take microphone input in the search bar if the user has not consented for the use of mics. The use of features in the home bread menu are disabled(except language and contact us) if the user has not logged in. Those are some of the constraints that we have implemented.

- **Consistency:** We made a few changes to the way arrows function. For example, before all of them were pointing left, now the one on the home bread menu points right. We think this does not break consistency as it only reinforces the meaning of the arrows. The basic layout containing the taskbar remains the same for each and every searching screen. Rest has remained the same.

- **Affordances:** We now have tick boxes(terms and conditions on sign-up). We have used bells to represent notifications, used the appropriate sports logo to represent the correct sport. Our search bar has a magnifying glass which people associate with "searching" and a microphone symbol which is now industry standard for voice search. The taskbar contains all sorts of such symbols which contain such meaning, for example a filter is represented using a filter cup. When we choose "sort by" we see "popularity" represented by fire. We think all these affordances make the learning curve of the app less steep.

Most of these assets were picked up from Figma community kits.

Evaluation: We conducted an informal type interview-cum-group study where we get the general opinion from the users to evaluate our app. They were all consented for their data privacy. The questions asked were the following:

1. Do you like the layout of our app?
2. Do you want to use this app more often once the pandemic is over?
3. Any change you would like to see in our app?

Anuj(Interviewer) started off by showing the high fidelity prototype to the users, the problem statement was explained to them. The purpose of the interview/group study was explained to them beforehand. The setting was controlled and the answers were recorded.

For the first question: All six of the participants said they liked the layout of the app, Aditi(one of the participants) mentioned that the consistency is maintained.

For the second question: Five out of the six participants said they would like to use the app once the pandemic is over and things return back to normal. Vasanth(a participant) said he would like to use the same but then gave a suggestion which could be added in any future prototypes.

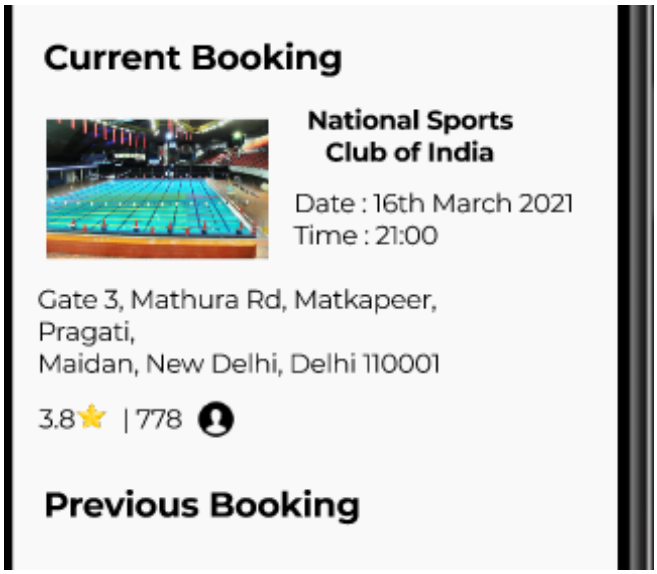
For the third and most open-ended question: We received the most valuable feedback right here: Manideep and Lokesh suggested adding a club Alumni.

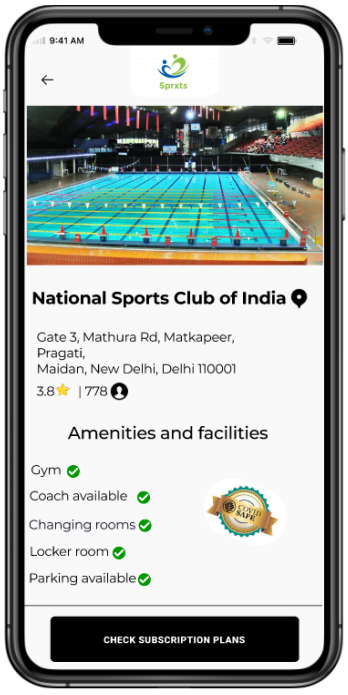
Aditi suggested adding a more comprehensive way of adding a booking system.

Debijit suggested to add a Coronavirus Safety Indicator

Vasanth suggested adding directions(map) that will get the user to the venue.

We considered all of the above inputs and decided to implement Debijit and Aditi's inputs. We have now added a sticker that shows whether the place adopts virus safety regulations or not. For aditi's input we have added timings and date details of any booking in the subscriptions menu. We rejected the club alumni proposal because we think it will violate user privacy. Vasanth's suggestion was not performed because adding such a map is beyond our technical capabilities.





The changes above have been implemented based on user feedback. This was done to take care of the iterative nature of design where we have to take into account user feedback at each and every step. We feel these changes are just stepping stones for bigger ones.

The link to the full interview cum group study is here:-

https://www.youtube.com/watch?v=XIE_OdIbVeo&ab_channel=AnujYadav

ANALYSIS AND FUTURE WORK

The survey and the group study serve as critical analysis on our various assumptions. The group study taught us that even if our layout was good, we need to work on adding various additional features that the user wants. We observed that the final product is very different from our starting solutions that were suggested, for example, We have not been able to implement a “register your business solution” this is because we couldn’t decide what legal data would be required to do so and time constraints.

Our high fidelity prototype varied differently from our low fidelity prototype even in terms of basic design structure. For example, the home pages varied vastly(the taskbars are different). The prototyping process is a difficult one where the decision to include something or not can often take more time than the implementation itself. Each decision has to be well thought-out so that none of the design principles are abandoned.

We found a very interesting datapoint from our survey, this was the fact that many people would like to go to lunch even when other activities that are often judged as being more fun are available for them. We still feel that this perception could be molded if booking venues/facilities was made easier.

The question to be asked now is as follows: “*Are there any limitations of the proposed solution? If so,how do we overcome them?”*. The answer is yes, currently even our high fidelity prototype misses many desirable features such as directions to the venue,giving notifications properly and making minor tweaks to privacy and layout. A couple of more ideating sessions can probably help overcome these limitations. But we also want to add many additional features that were missed out during the making of this application.

For example, a premium membership of our own which will offer the customers discounts at various places. We initially thought of having a marketplace for buying fitness related gear like Decathlon but this was far beyond our technical scope. Not to mention it may even make the app

look cluttered and also increase the operation costs for the company. We wanted to implement the new forms of payment methods such as cryptocurrencies. We thought of having a public stories type side-feature where people could potentially post videos of themselves working out at various places. We thought that this could motivate people to go and workout themselves.

We also thought of potential gamified solutions whereby the user can climb a leaderboard based off of how much they are working out each day. This will also serve as a motivation for people to work on their health. Basically we were trying to broaden our scope unfortunately this was hard to do as time limitations also hampered our ability to implement such constructions.

One thing is for certain, that despite all the failings to add new features or being unable to make the best possible solution. We have succeeded in two things, one, we increased price discovery in the market which will encourage businesses to compete which in turn will lower the prices, thus benefiting everyone.Second is that we have encouraged users to look after their health. When it's easy to do such bookings and manage subscriptions people are more likely to take the decision(to whether workout or not). So the end conclusion of our analysis is that: we have succeeded in making an app that allows the user to quickly do a booking and manage it, but it still lacks additional features which can make the app more v*iable, enjoyable and soothing to use.*

CONCLUSION

We have thoroughly enjoyed making this app. It has been a great learning experience. We had to apply many design principles consistently to arrive at a satisfactory end product. The evaluation is mostly positive and we have received a lot of feedback which will allow us to improve further. We are glad that we have made a technological and economical feasible solution. Our app can be implemented into a fully functioning prototype in a week if we learn how to code apps for Android/iOS. The app also revolutionises the relationship between consumers and sellers, with various fitness venues now competing against one another. Gone will be days of calling/waiting/making accounts on different websites whenever they want to visit a new place. We also realised that the businesses using our app will not have to invest in advertisements as the reviews will speak for themselves. The scope of additional features is very high. We did a self evaluation of our app and the scores were as follows (out of 10) - Harshit : 9, Deepak : 10 , Anuj : 8, Keshav:8. We all think that we did a good job but need to provide more features to completely fulfill our vision.

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For any queries/questions feel free to reach out to us :)