

HCI Project: Nyaay

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1 Problem Definition

Lack of legal literacy is a huge problem in India. People who are unaware of the rights guaranteed to them by the Indian constitution have to often face exploitation because of that. The current legal system in India is so complex that it becomes very hard for ordinary citizens of the country to get the Justice they deserve.

2 Background of the problem:

Our national security advisor, Mr. Ajit Doval famously said that power is not as good as you have it but as much as you can exercise it. The same goes for our legal rights as well. It's not enough for our country's citizens to have certain rights, it's more important that our citizens are aware of those rights. Sadly, legal literacy has a long way to go in India. On top of that, the fact that our constitution is one of the largest ones in the world written in a language that's very tough for the common man to comprehend further adds to our problems. All such big problems which affect millions of people at a time also open the door for a revolutionary solution, and that is what we are trying to do here.

3 Motivation

When we were given this project, we had several brainstorming for deciding our topic. Our sessions would often go on for several hours at a time and with some breaks between them. During one such break, a team member of ours told us about an incident that happened with his Uncle. His Uncle is a diabetic and has to take regular insulin doses to keep his sugar under control. One day, when he went to the pharmacy to buy insulin, he was given an expired insulin cartridge, which resulted in him being hospitalized and his family having to pay a large sum of money for his treatment. When they filed a complaint against that pharmacy and its owner with the consumer redressal commission, their application was denied because his uncle had not taken the invoice for that insulin cartridge. The invoice serves as the proof of purchase of an article and a consumer cannot file a complaint without an invoice. Sadly, his uncle was not aware of that along with thousands and possibly millions of other people in India. His uncle was given certain rights under the Consumer Protection Act, 2019 but if you don't have basic legal literacy then these laws are not enough to protect someone from exploitation.

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This made us think more deeply on this subject and we realized that not only in consumer law, but lack of legal literacy is a problem in India regarding all sorts of laws. People are unaware of their rights as guaranteed to them by the constitution, people are unaware of what the appropriate legal course of action should be when their rights are violated and this is what made us choose this topic. We saw a huge problem with the way our legal system works right now, its complexity makes it very tough for an ordinary citizen to get justice and this is what we want to solve to some extent by our app.

Some apps that are trying to solve this problem: Some apps that provide online information on the Indian law or work as platforms for people to hire lawyers are as follows: Indiankanoon.org Indiacode.nic.in Devgan.in legalkart.com

4 Limitations of current products:

Platforms like Indiankanoon.org, Indiacode.nic.in and Devgan.in do try to give information on the Constitution and its specific laws but their user interface is difficult to use for a layman. The way the information is presented with several irrelevant information on their home and several ads flooding their website affects the user experience and makes it hard for the user to find the relevant law that he/she is looking for. Even when the user is able to find a specific law, they are unable to discuss it with a professional or get some legal advice on their specific case.

Similarly, legalkart.com works solely as a platform to hire lawyers. The way the platform presents itself is less about solving the problem of its users and more about selling their lawyers. It shows ads like fifty percent discount on lawyers on its website, which we believe is very unsuitable for a platform like this. The primary focus of the platform should not be to sell something to the user, for a lot of situations the user won't even need a lawyer, getting aware of the law and getting some legal advice would be enough and even when the user has to get a lawyer, the primary way to filter those lawyers should be based on their past track record or other such parameters and yes price would also be an important parameter but its important that such a platform does not come off as a platform just trying to force people into getting their lawyers.

5 Our Solution:

We want to build a three-phase solution to this problem.

In the first phase, we will present our users with the Indian constitution in an organized manner. The user would be able to easily search for and find the relevant laws, articles, and sub-sections of the constitution. We will present the laws in two ways, one being the original text of the constitution and the second would be a simplified but detailed version of that same law with several examples and cases if asked by the user. This phase would serve the purpose of making the user aware of his legal rights and responsibilities on various matters along with providing legal literacy in general.

If the user is not able to resolve his problem on his/her own using the first phase, he/she can move on to the second phase. In the second phase, we will build an online community of people interested in the law and those who are practicing the law. We will build a discussion forum where people can ask their questions and discuss their problems with other people of the community and get responses from other members in general as well as from the verified lawyer profiles of our platform.

Finally, the third phase would come when the user wants to hire a lawyer, we will present the user with various lawyer options according to their requirements and connect them with their desired lawyer. In this way, using a three-step process, we will build a one-stop platform for all legal problems in India.

6 Stakeholders and their roles:

There will be broadly 3 stakeholders- Any Indian citizen who wants to know more about his legal rights and responsibilities and become more legally literate. Then, people who are in a legal dispute and require legal advice or legal representation would be our stakeholders. People who are studying law in various law universities in India can also utilize our application for academic purposes. And finally, lawyers on our platform would who will give legal advice on our platform and also find clients for themselves via our platform would be our stakeholders.

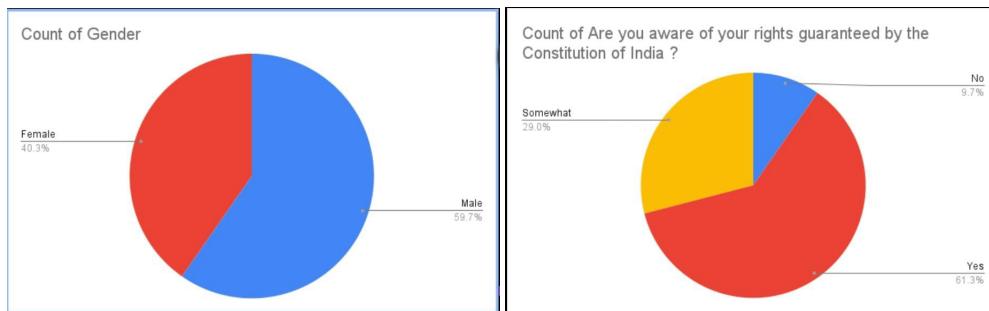
We understand that using an app like this would not be easy for everyone, the target users would be people from 18-40 years of age broadly speaking. The youth will find the app easy to use but with the growing internet penetration in our country in a few years time, are target users would increase to cover almost all people above the age of 18 (in most cases) who are in any sort of legal problem or want to increase their legal literacy in general.

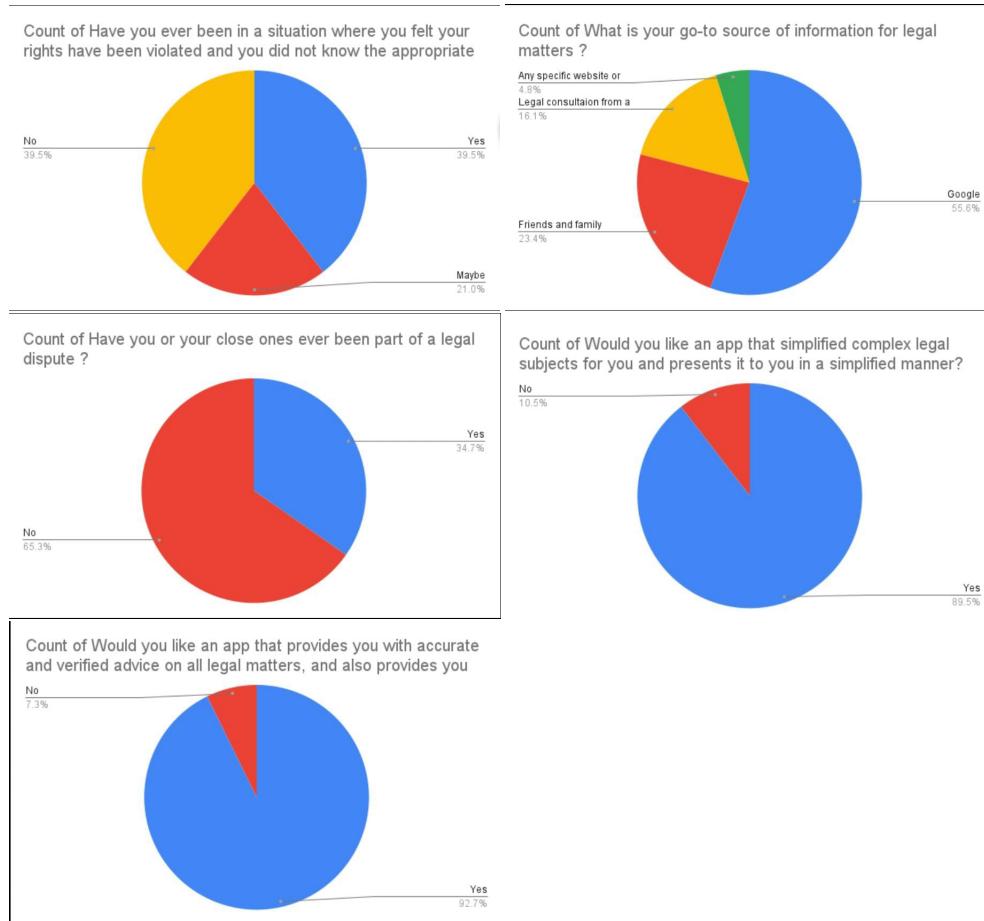
7 Challenges:

We would face the following challenges: Presenting a simplified version of the constitution without diluting the actual meaning of that law would be a tough task. We are trying to tackle it by presenting both the actual wording of the law and the simplified version of it so that the user can refer to both of them as per his/her requirements. We will also use plenty of examples to explain those laws if the user asks for them. Maintaining the quality of the discussion forum would be a challenging task. It's extremely important that the forum remains a place where people are able to get quality advice from people and it doesn't become just a marketing place for lawyers. We will try to tackle this challenge by using appropriate moderation to ensure that the sanctity of this forum is maintained. When we are presenting so much information and providing the users with so many options it would be important for us to ensure that the platform remains easy to use for everyone. Ensuring that in spite of having so many features and options, the user doesn't get a lot of cognitive strain and is able to easily navigate through our app would be a big challenge that would have to be tackled.

8 Survey Results:

8.1





8.2

We asked our users to list out the problems they faced during their legal processes. Some of the answers that we received in their exact wording are as follows:

“Many documents had to be maintained and court hearings spanning 1-2 years were very draining on the mental health.”

- “Lack of Transparency and accountability”
- “Insufficient knowledge of required documents”
- “Couldn’t get proper guidance”
- “Procedural delay”

8.3

The apps and websites that the participants of our survey have heard about or used for legal advice or for hiring lawyers are as follows:

- Legal services india - <https://www.legalserviceindia.com/>

- RTI, consumer forum
- Indian kanoon search engine- <https://indiankanoon.org/>
- IPleaders - <https://blog.ipleaders.in>
- Reddit r/legaladvice section

8.4

Some important recommendations that we received for our platform are as follows:

- “There should be a dedicated IT and legal support team with transparency, accountability and most importantly justice within time limit...because justice delayed is justice denied.”
- “A wayout be chalked out to reduce exorbitant legal cost The poor persons should be helped in fighting legal cases free of cost, if possible”
- “Lawyers hub type ka bana lo kuch, sab lawyers ke achievements ho jisme, so that customer can easily and remotely choose perfect lawyers”
- “It should be concise and thorough. The different areas of legal aspects should be well differentiated and easy to filter through.”
- “Connect with Govt and make it effective on the departments not only on government but private and NGOs also.”
- “keep an optimum ratio of free and premium services if the purpose is larger good and not just profit making”
- “Have a free initial consultation with an appropriate lawyer, then an option to choose course of action.”
- “Matter should be in simple language and in language that an individual can understand at his own”
- “Keep the interface minimalistic with good color pallet.”
- “1. Easy dial-ins with lawyers 2. Categorization of lawyers based on legal matter expertise”

9 Requirement Gathering:

9.1 Interview:

In order to gather more data on our users, we conducted 4 interviews which gave us some valuable insights for our application. To maintain the anonymity of our interviewees we will give them the names Mr. P , Mr. Q, Mr. R and Mr. S All 4 of them are college students between the ages of 18-24. In order to have a diverse set of interviewees, we chose people from several different colleges and regions, Mr. P is from Delhi Technical University, Mr. Q is from the University of Massachusetts Amherst, Mr. R is from Indraprastha Institute of Information Technology, Delhi and Mr S is from Manipal Institute of Technology.

We started on a lighter note in all our interviews asking some casual questions to break the ice in the beginning. Then we went on to ask them questions about how much they need to judge if they are aware of their basic legal rights and responsibilities. Their responses matched with the results of our survey, as most of them were unaware of their basic legal rights and those who were knew about them on a very surface level.

Then, we went on to discuss the instances where they or their close family members were in a legal dispute. Mr. P told us about a criminal case that one of his relatives were facing, Mr. Q talked about a property dispute in his family and Mr. R talked about a case of fraud in which one of his acquaintances was the victim and is now trying to get justice in the courts. One thing which all three of them agreed with was they had to deal with lack of options when they had to hire their respective lawyers.

Then we discussed the kind of features this app should have in order for it to be easy to understand for the average user. Mr. R suggested that we use an interesting colour scheme that highlights the important and most relevant portions of our page.

The general insights we gained from the interviews were as follows:

- 1 The app would have a far wider reach if the first two phases of our app remain free with fees being charged only when the user wants to hire a lawyer.
- 2 The application should be easy to use because the senior citizens and people who are not so tech savvy would otherwise not be able to use the app and help themselves
- 3 In general, people are very less aware of their legal rights and responsibilities this has been seen in both the interviews and our survey.
- 4 It's important that we are able to build trust with our users because legal matters are often very sensitive and it's imperative that the user trusts the authenticity of the information we provide.

9.2 Interview pictures :

Snippets from our interviews



9.3 Focused Group Discussion:

As a part of this project, we conducted a focused group discussion among a diverse group of young people who showed keen interest in our app and agreed to share their opinions as well as suggestions for our app. We had students from various institutes including IGDTUW, Thapar Institute of Engineering and IIIT Delhi. Once the group was comfortable, the topic for the discussion, "Thinking from the perspective of the developer as well as the user, what would you consider to be the essential feature that our app should have?", was presented to them. The group had time to ponder upon this topic and once they were ready, we asked opinions from each one of them. Many interesting insights came out of the discussion. Some of the suggestions provided were to include a user-friendly chatbot that can help the customers to ask a bot for their doubts regarding the constitution and their rights as well as to have a feature for 'Law of the Day' that educates users daily about an important law that may come in handy for them. There were suggestions for a quick resolve feature that helps users solve their everyday legal problems through a user-friendly and easy to use interface. The group also raised their concerns regarding how the payment system and premium features would apply to the app. This doubt was cleared by informing the group that most of the features of the app will be absolutely free for the users to use and the only payment that would occur on the app would be to hire lawyers. After all the doubts and concerns of the group were cleared, the discussion was brought to a close by assuring the members that all of their suggestions and concerns will be looked into and they can contact us for any further questions or suggestions.

9.4 Recommendations Received:

- There should be a dedicated IT and legal support team with transparency, accountability and most importantly justice within time limit...because justice delayed is justice denied.

- Links to common legal hassles can be given to speaking judgement's already existing in the matter in the app. An entry fee or using fee can also be put for the app.
- A wayout be chalked out to reduce exorbitant legal cost. The poor persons should be helped in fighting legal cases free of cost, if possible Lawyers hub type ka bana lo kuch, sab lawyers ke achievements ho jisme, so that customer can easily and remotely choose perfect lawyers
- It should be concise and thorough. The different areas of legal aspects should be well differentiated and easy to filter through.
- Connect with Govt and make it effective on the departments not only on government but private and NGOs also.
- Keep an optimum ratio of free and premium services if the purpose is larger good and not just profit making
- Have a free initial consultation with an appropriate lawyer, then an option to choose course of action.
- Matter should be in simple language and in language that an individual can understand at his own
- Make it short and crisp, to the point like inshorts (not too long)
- Keep the interface minimalistic with good color pallet.

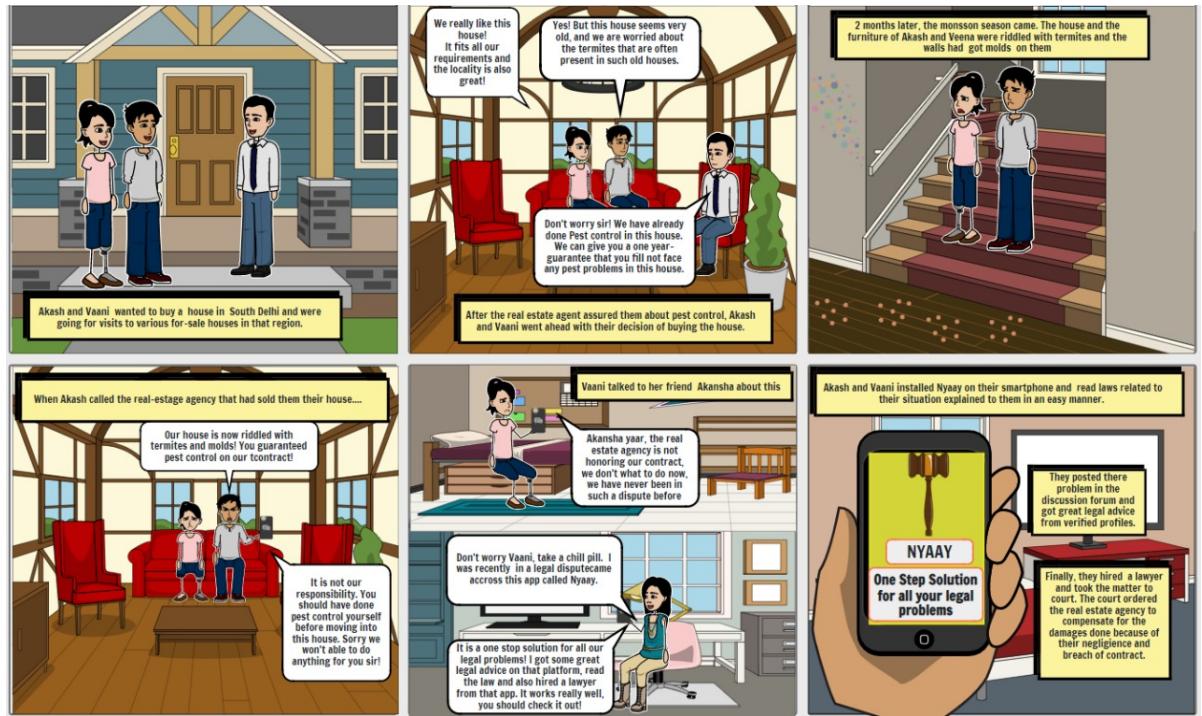
9.5 Ideation:

We started the ideation process by brainstorming in MIRO while talking on google meet. We analyzed the requirements of our userbase, our stakeholders, and the data we collected earlier by surveys, interviews, and FGDs from our requirement gatherings portion. Based on that, we discussed the features of our app and how we can design the app to make it easy for an average user to use. We wanted to design an app that would be useful for average day to day citizens and lawyers but also for law students and anyone else interested in gaining knowledge about the legal process that governs them.

We decided upon a rough list of the type of pages we would want in our application during brainstorming. Using that list, we built our information architecture, where we connected all the rough list of pages in an organized manner. Using our information architecture, we drew the rough sketch of the primary pages of our application; this was the low fidelity part of our project, and we created 14 low fidelity prototypes.

The 14 low fidelity prototypes were built to serve as the basis for all our subsequent high fidelity prototypes. Based on these 14 low fidelity prototypes, we created upwards of 30 high fidelity prototypes. After the process of designing, we worked on our evaluation plan. We decided to conduct 3 phases of evaluation and do iterative modifications in our high fidelity prototypes accordingly.

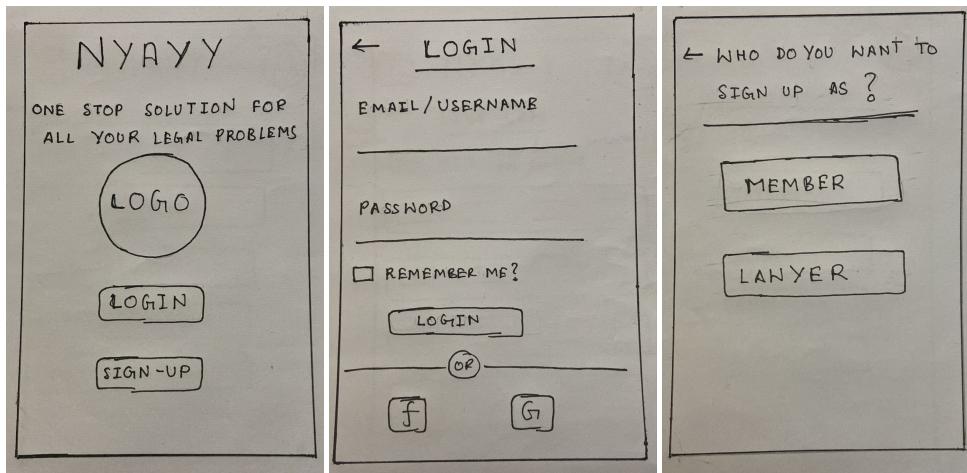
10 Storyboard:

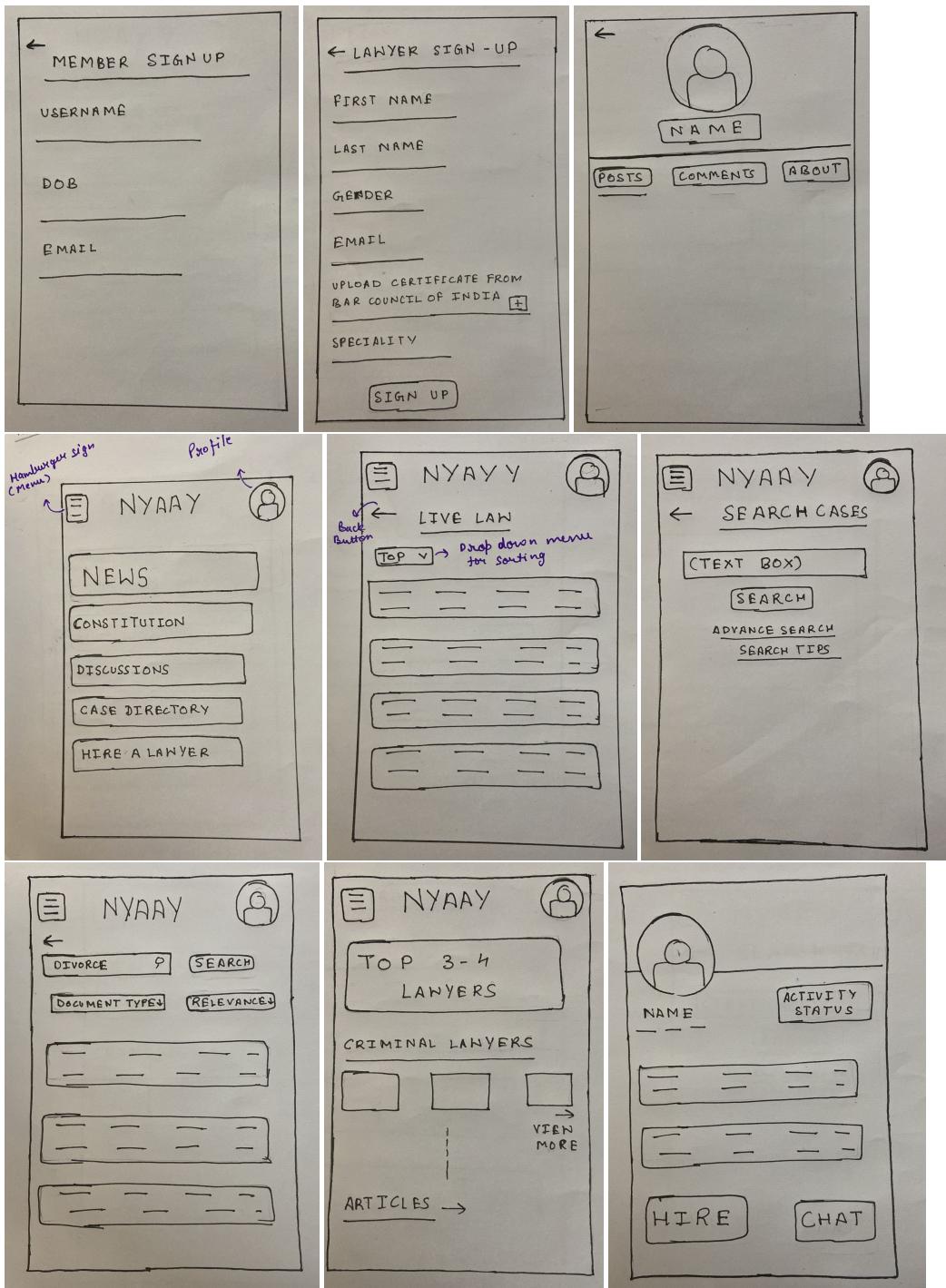


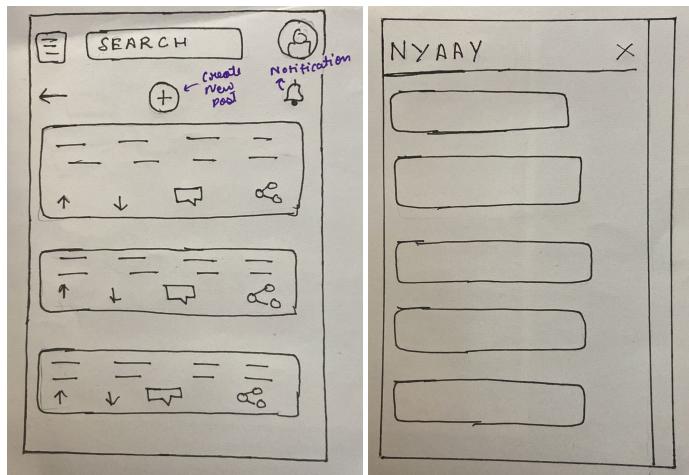
11 Information Architecture:

Miro link for information architecture: https://miro.com/app/board/uXjVO_ipiGo/?share_link_id=213927258216

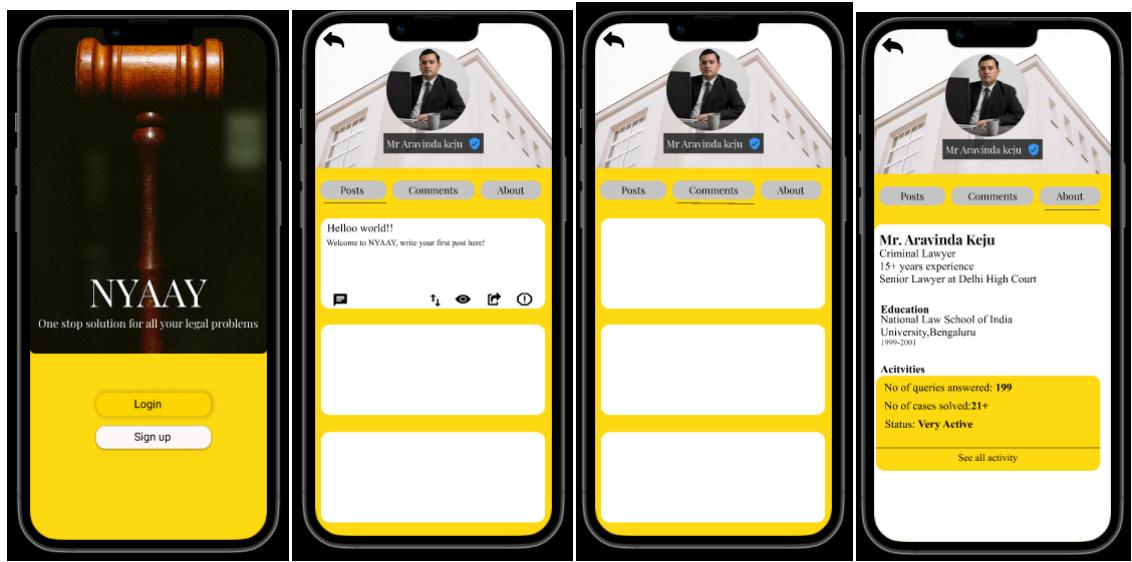
12 Low-fidelity Prototype:

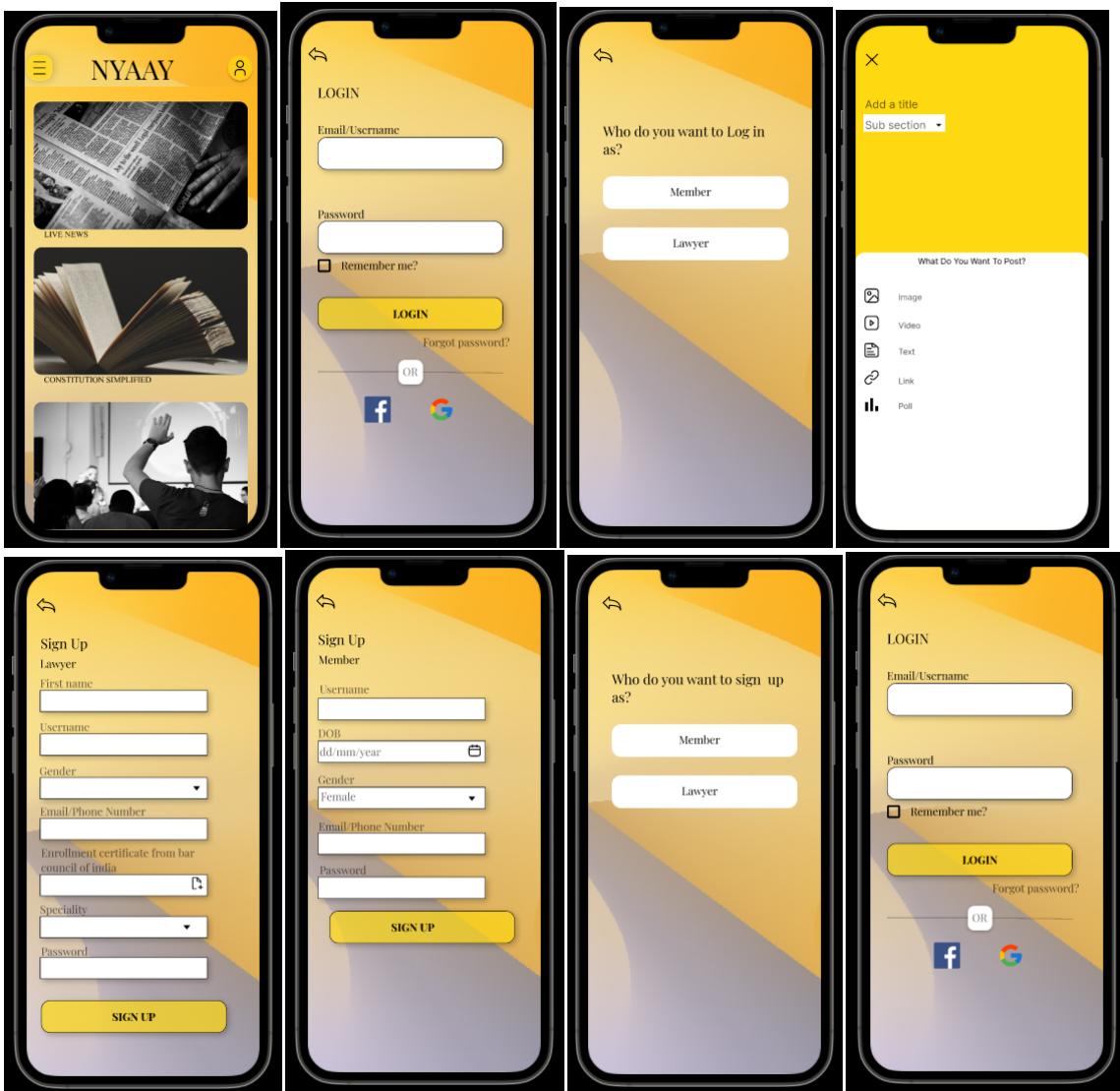




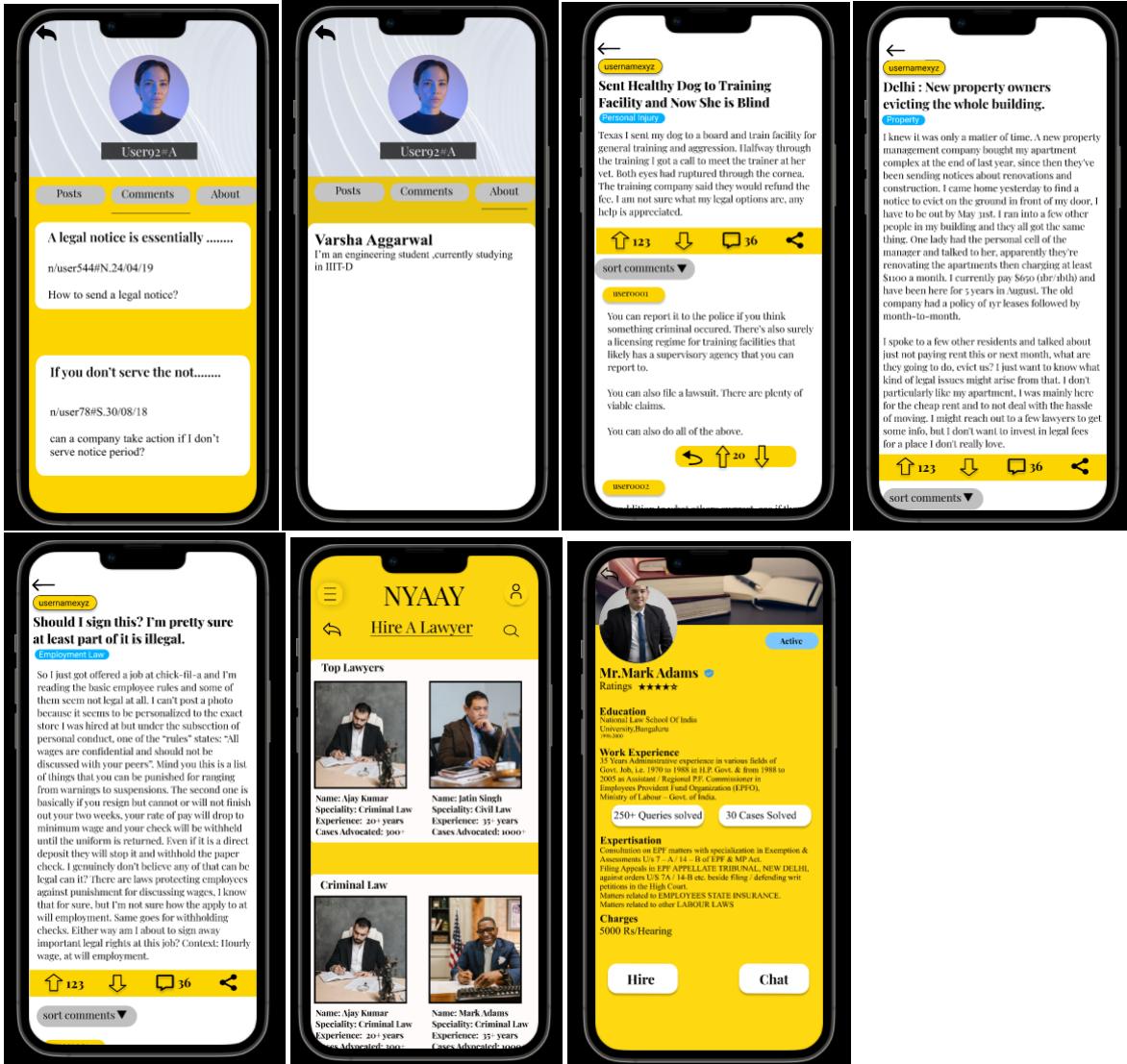


13 High-fidelity Prototype:









14 Evaluation Plan

valuation of conceptual designs the prototypes is an essential part of iterative design. We understand its importance; that is why we will conduct several cycles of design and evaluation.

14.1 Phases of evaluation:

14.1.1 For the first phase of evaluation: We will conduct a survey by floating a google form with our high fidelity prototypes. In that form, we will ask questions from the participants to evaluate how they perceive our prototypes.

14.1.2 For the second phase: We will conduct interviews with ordinary people who will be a subset of the large numbers of common people in our country that would be focussing on as our app's target userbase. We will try to accommodate a diverse group of people and ask them specific questions to judge their perceptions and opinions on our prototypes.

14.1.3 For the third phase: We will talk to lawyers, law students, and other people associated with the legal profession to get an expert opinion on our conceptual model.

14.2 Number of testers:

For the first phase, we will try to get around 100-150 testers; for the second phase, we will have 10-20 testers; for the third phase, we will have about 4-7 testers as our experts.

14.3 Type of testers:

As mentioned earlier, we will try to keep the type of testers as diverse as possible to get better results. Having said that, our app would be used more by the young population, 18-40, so that's where most of our testers would be from. For the third phase, the students would be part of the young age group while many of the experts will be the part of the elderly age group.

14.4 Timeframe:

Although it is preferable not to rush through evaluation when one wants to get an accurate analysis, we will have to conduct our evaluation process in around 15 days because of the time constraints.

14.5 Some Parameters for our evaluation:

Usability will be an essential parameter for our evaluation. We will ask several questions to assess the usability of our application for ordinary people. Based on the results, we will try to make our application's design as easy to use as possible by working on the issues faced by our participants. We will also try to assess the cognitive load the user will meet while using our app. To make our app more user-friendly, we will focus on reducing the user's cognitive load. Along with these two points, the focus will be placed on making the user experience as good as possible by giving them a feel-good factor and making the app direct so that the user doesn't waste time finding the required page and the required features in our app. Apart from these points, we will ask for user input and recommendations on all parts of our app design and implement them wherever we see fit.

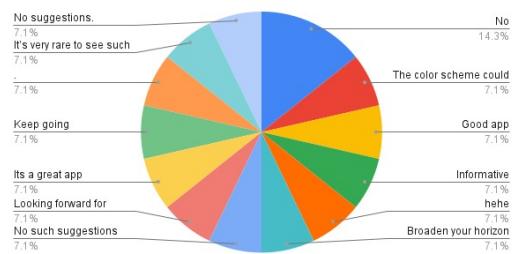
15 Evaluation Process:

As given in our evaluation plan, we conducted our prototype evaluation in 3 phases:

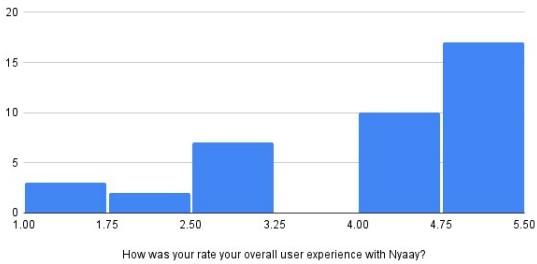
15.1

For the first phase, we conducted a survey with willing participants to whom we showed our prototypes and their working. Based on that we asked them certain questions to assess their user experience. Our analysis from that survey is as follows:

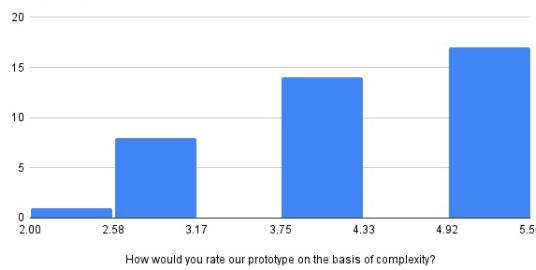
We would love your valuable feedback! Any suggestions for us?



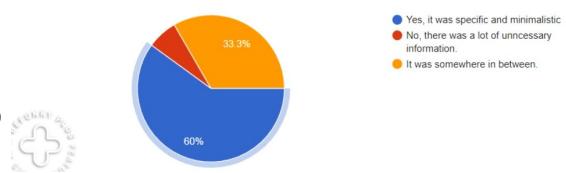
Histogram of How was your rate your overall user experience with Nyaay?



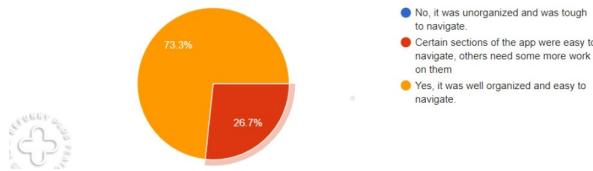
Histogram of How would you rate our prototype on the basis of complexity?



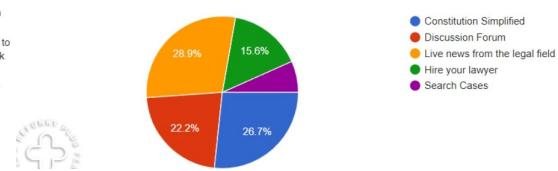
Do you think the app was specific and to the point in the information it provided to you?



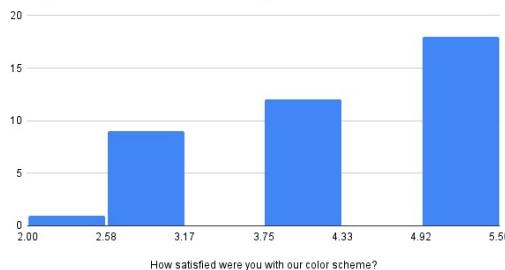
Did you find our prototype well organized and easy to navigate?



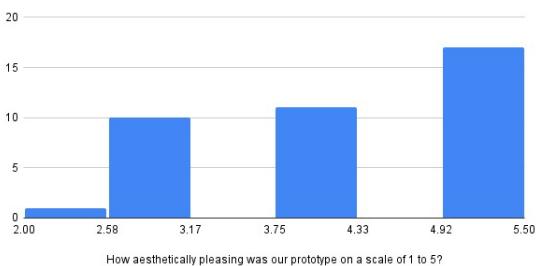
What feature of Nyaay did you like the most?



Histogram of How satisfied were you with our color scheme?



Histogram of How aesthetically pleasing was our prototype on a scale of 1 to 5?



15.2

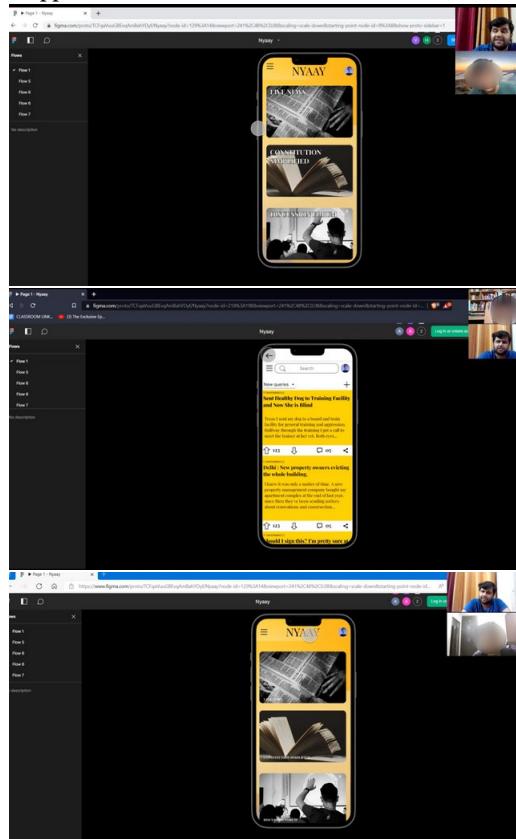
For the second phase, we conducted 4 semi-structured video interviews from our target user base. The participants of those interview were mostly college students. We are going to refer to them as E1, E2, E3, E4.

We showed them our prototypes and allowed them to explore it for sometime, once they were done with it, we asked them some questions related to their user experience in the following areas mainly:

- Aesthetics of our prototypes
- Cognitive load of our prototypes
- Functionality and usability goals of our prototypes
- Color scheme of our design
- Organization of content in our design
- General feedback based on their experience with our prototype

Now, while allowing our users to explore our prototypes by themselves, we were also conducting a usability testing in a semi controlled environment. For our final interview with E4, instead of letting our participant to just explore our prototypes, we tried a different approach, we first showed our participant the general working of our prototype and then based on that we asked to him to perform 3 tasks in front of us.

Snippets from our interviews for evaluation and usability testing :

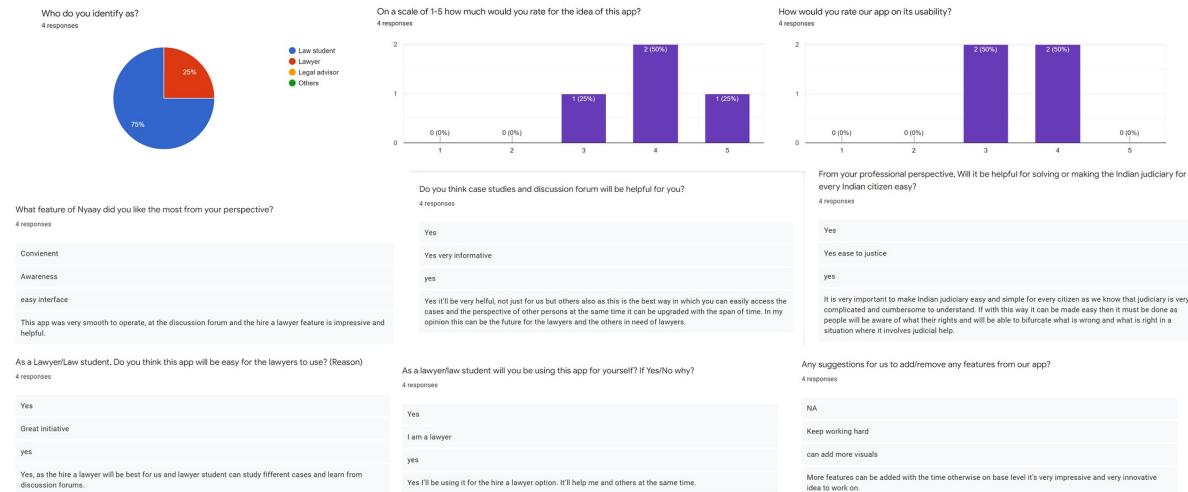


15.3

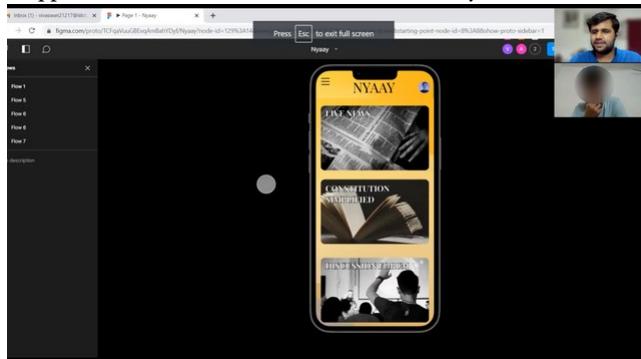
For the third phase, we required expert opinion. So we tried to connect with people from the legal field and get their feedback on our application in general and also on the designing of our application specifically. We conducted one

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detailed interview with a 4th year law student from Jindal Global Law school, in order to maintain our participant's confidentiality we will refer to him as Exp1 We also conducted short semi structured interviews with 4 participants associated with the legal profession using a survey questionnaire. For the semi structured questionnaire interviews our analysis is as follows:



Snippet from our detailed interview with a 4th year law student:



16 Prototype Revision :

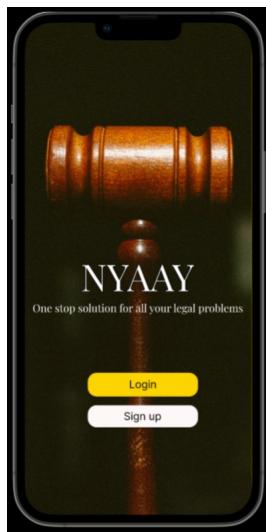
We made the following changes in our design based on our evaluation results:

1. We changed our launch page to make it more aesthetically appealing based on our evaluation feedback.
 2. We added a language option in our application's hamburger menu.
 3. We improved visibility of icon texts in our home page. Earlier the text was not very clear and was adding to the user's cognitive load, so we made it much more highlighted and clear.
 4. We fixed the alignment issues in our prototypes and in doing so we solved the issue of the screening unintentionally moving towards left or right when scrolling.
 5. We overhauled our search cases page. We made it more easier to use for our users by providing them with options to search legal documents based on several categories like Supreme court judgements, High court judgements, etc.

6. We changed the opacity and brightness of colours in our our pages, in various phases of our evaluaiton, we were given the feedback that the colour was too bright and it would be better if we toned down the yellow colour and reduced its opacity to make it more aesthetically pleasing.
7. We made all our text, logos and icons evenly spaced everywhere in order to have more consistency in our design.

17 Final Prototype After Evaluation:

17.1 Landing page:



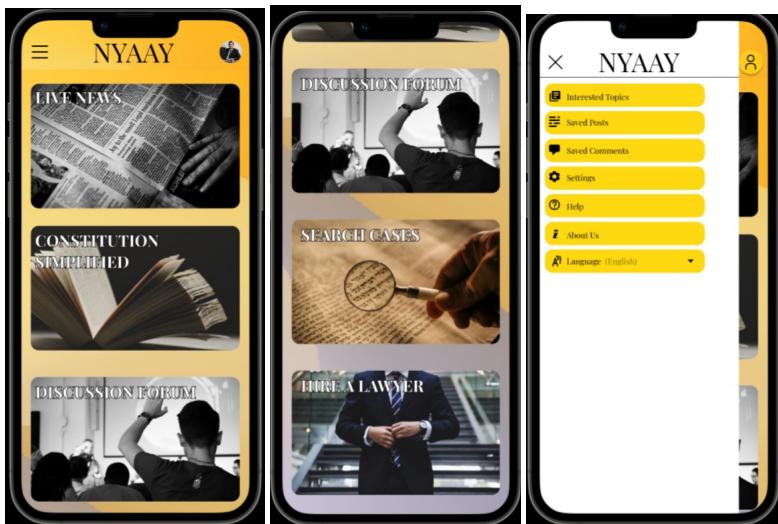
17.2 Login:



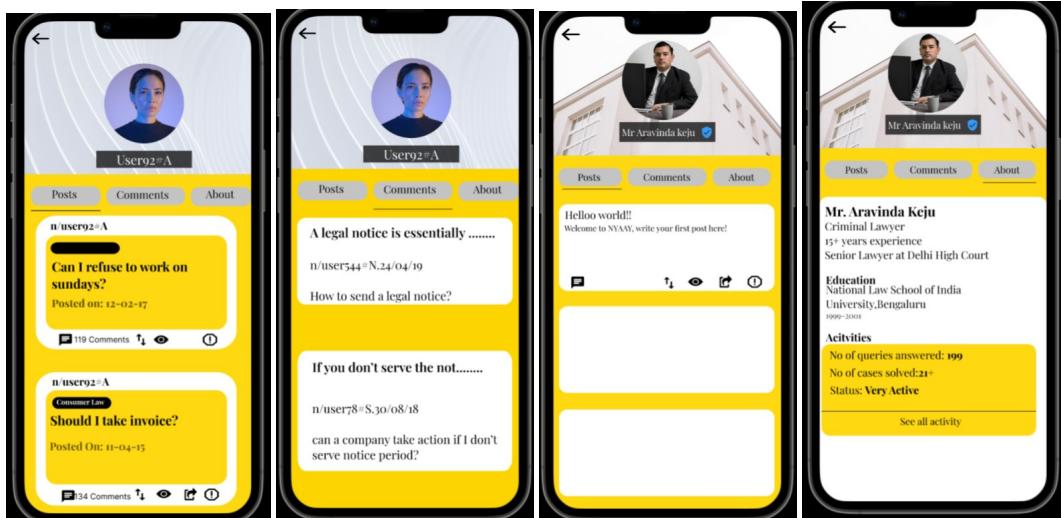
17.3 Sign up:



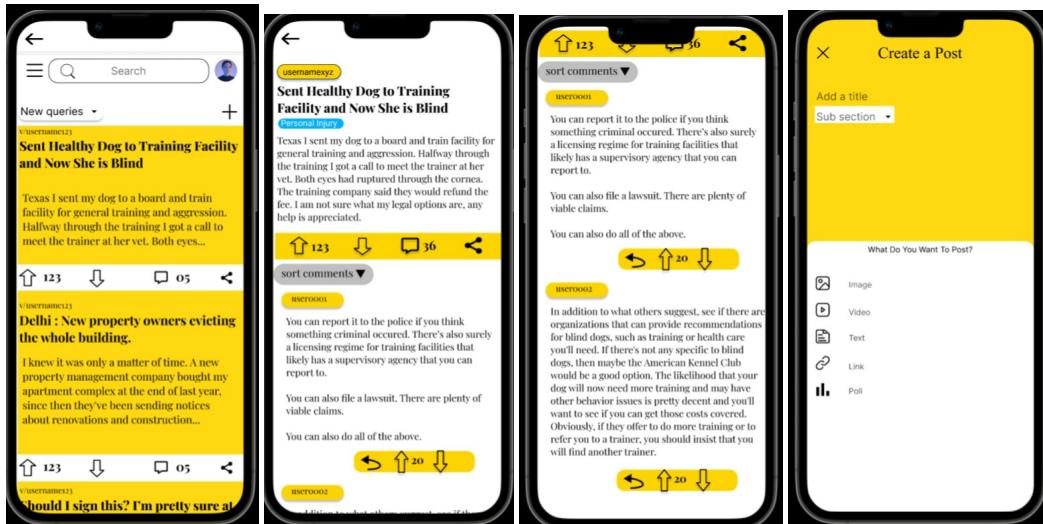
17.4 Homepage and Menu:



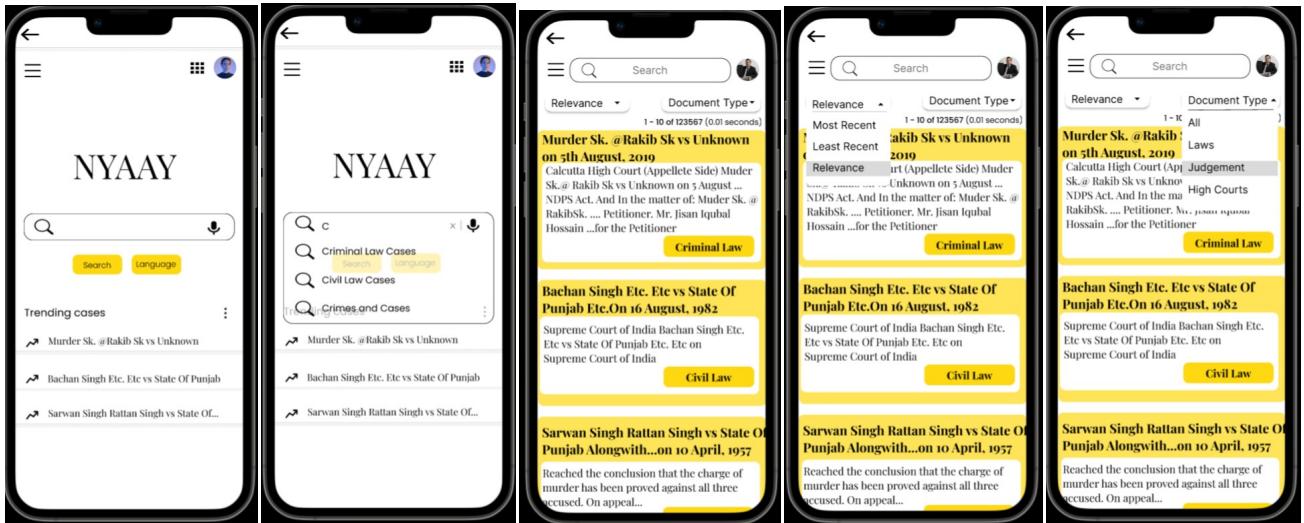
17.5 Profile:



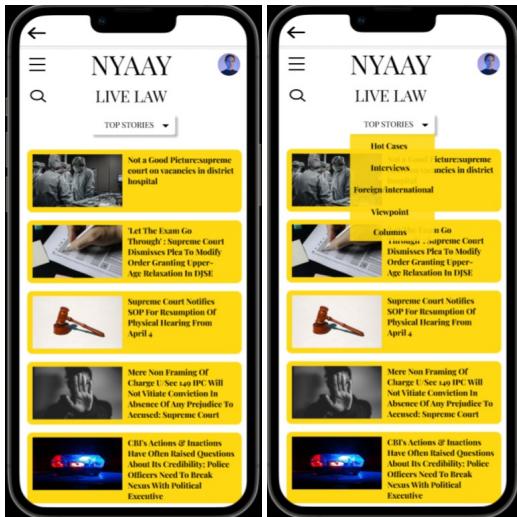
17.6 Discussion Page:



17.7 Search Cases:



17.8 Live Law:



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17.9 Constitution Simplified:



17.10 Hire Lawyer:

Top Lawyers

Name	Specialty	Experience	Cases Advocated
Ajay Kumar	Criminal Law	20+ years	300+
Mark Adams	Civil Law	15 years	1000+

Mr. Mark Adams

Ratings ★★★★

Education
National Law School Of India University, Bangalore

Work Experience
33 Years Administrative experience in various fields of Govt. Job. Ic. 1970 to 1988 in I.I.P. Govt. & from 1988 to 2005 as Assistant / Regional P.F.

Experiential
Consultation on EPP matters with specialization in Exemption & Assessments U.S.A / I.M.R. - B of EPP & M.P Act. Filing Appeals in EPP APPELLATE TRIBUNAL, NEW DELHI, against orders U.S.A / I.M.R etc. beside filing / defending writ petitions in the High Court.

Charges
5000 Rs/Hearing

Hire **Chat**

17.11 Figma Link:

This is the figma link for hi-fi prototype : <https://www.figma.com/file/TCFqaVuuGBEvqAmBahYDyf/Nyaay?node-id=0%3A1>

18 Summary :

Now, that we look back at this project, we remember all the effort time, and hardwork that all five members of our group have put in for this project. On some days, we worked together on Zoom or Google meet for several hours at one stretch, brainstorming about various ways in which we can solve a particular problem or on what kind of features would be most suitable for our application or what kind of design would seem most aesthetically pleasing to our users.

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Now that we have come at the end of our project, we realize the importance this project had in our learning process of Human Computer Interaction. It has developed a new dimension of thinking for us. Being able to practically work on a project trying to solve a real world problem helped us to grow in which no 1 or 2 hour exam ever could and we are grateful for getting this opportunity.

We would like to thank our Course Instructor, Dr. Rajiv Ratan Shah and our Teaching Assistant Mr. Shivang Saigal and Ms. Aditi Gupta for if it had not been for their consistent guidance to us would have never reached here. Finally, we would like to thank all those participants and especially people of the legal field who took part in our project's gathering requirement's stage and our final evaluation phase by filling up our surveys, giving us interviews and being part of our focus group discussions.

19 Future Plans:

We intend to work further on this project as we see a lot of potential in it. We would like to see our app being launched solving the problem that we envisioned it to solve. Apart from that, the knowledge and the experience in the field of designing that we gained from this project would help us moving forward while working on projects and designing applications.

20 Contribution of Members

Ashhar Aziz (2021137) -

Overleaf, Interviews, Solutions, Ideation , Lo-fidelity(design and sketching) , Hi-fidelity(design) , Evaluation

Himanshu Shekhar (2021152) -

Overleaf, Focused Group Discussion, Brainstorming, Ideation, Hi-fidelity(implementation and design), Video recording and editing

Kanishk Kukreja (2021393) -

Case studies, Analysis, Interviews, Brainstorming , Information Architecture(miro), Hi-fidelity(implementation)

Raj Choudhary (2021409) -

Survey collection , Case studies , Limitations of current products , Brainstorming , Hi-Fidelity(design and implementation)

Vivaswan Nawani (2021217) -

Problem statement, Motivation, Interviews , Focused Group discussion , Storyboard, Ideation , Evaluation , Video recording