

Introduction to Human Computer Interaction
Department of Computer Science and Engineering
Indian Institute of Technology, Madras

Lecture – 28
No Whinge

Hi, we bring to you No Whinge. There are numerous design flaws all around us websites being no exception. Here are examples of a few web complaint forms.

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The screenshot shows a web form for filing a complaint with the Municipal Corporation of Delhi. The form is titled "Service Related Complaint" and includes a sidebar with navigation options like "Water Management", "Sanitation", and "Waste Management". The main form area is divided into several sections: "Complainant Details" (Name, Gender, Address, PIN Code, Phone Number, Email ID), "Complaint Location Details" (Zone, Ward, Colony, Address, PIN Code), "Complaint Details" (Priority, Problem Type, Category, Sub-Category, Subject), and "Complaint Description". The form is filled with numerous dropdown menus and text boxes, making it a complex and cluttered interface.

We feel that filling such a form is a cumbersome process.

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The screenshot shows a web-based form for the Municipal Corporation of Delhi. The top header includes the organization's name and logo. The form is split into two columns. The left column contains a 'Personal Details of Complainant' section with fields for Name, Gender, Address, Phone Number, and Mobile Number. The right column contains a 'GRIEVANCE REGISTRATION FORM' section with fields for Grievance Details, Date of cause of grievance, and a description of the grievance. The form is cluttered with various fields and instructions, making it difficult to navigate.

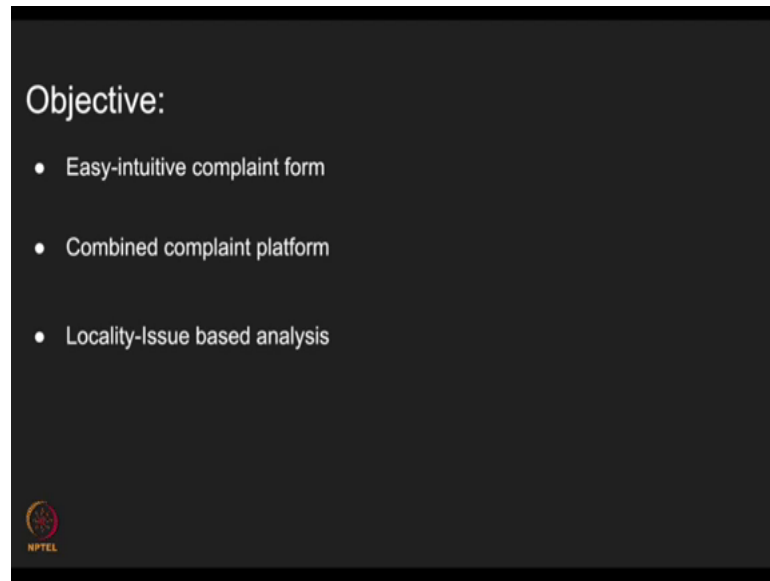
And, often leaves the user frustrated and annoyed. Such a form is not intuitive and can be made more user friendly. Another design flaw per say is the way authorities service issues. Each locality has it is own governing body within which various departments service different issues. The complaint needs to be sent in a particular department based on the issue.

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Figuring out which department of which authority we need to send the complaint to is user hostile and kinder toy users from complaining.

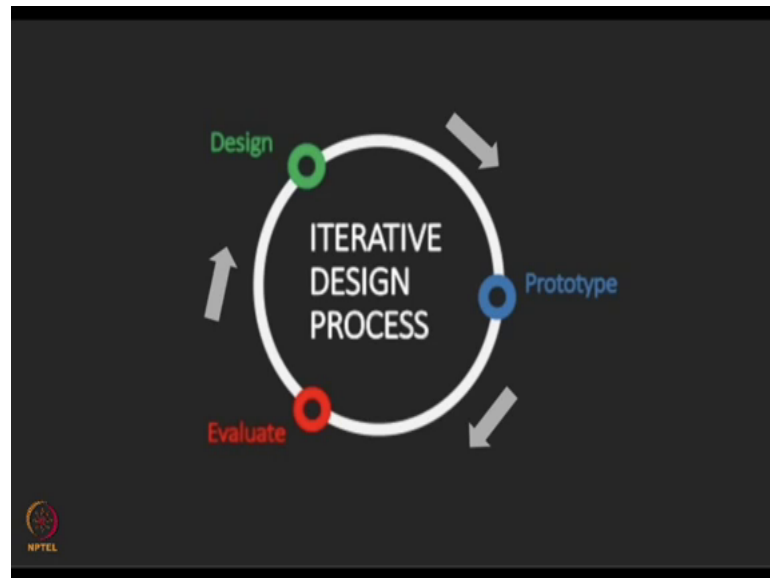
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Our objective is to build a web based platform for logging in complaints. Our foremost task is to make the complaint form easy to use and intuitive. We have automated the platform to differentiate whom to send the complaint to based on location and issue tags of each complaint. This is done to save time of users and to make the process more fluid. To keep the user more aware and in the loop we are building a locality issue based analysis platform that visualizes data of the complaints.

One of the use cases of such a platform can be people choosing localities for property rentals. Another feature that we thought may be helpful will be a user base review platform. Through this users can read the process of resolving of complaints in their locality. We build a web app as first to a mobile app because we wanted to be more inclusive of all devices as a web app can be accessed through any browser.

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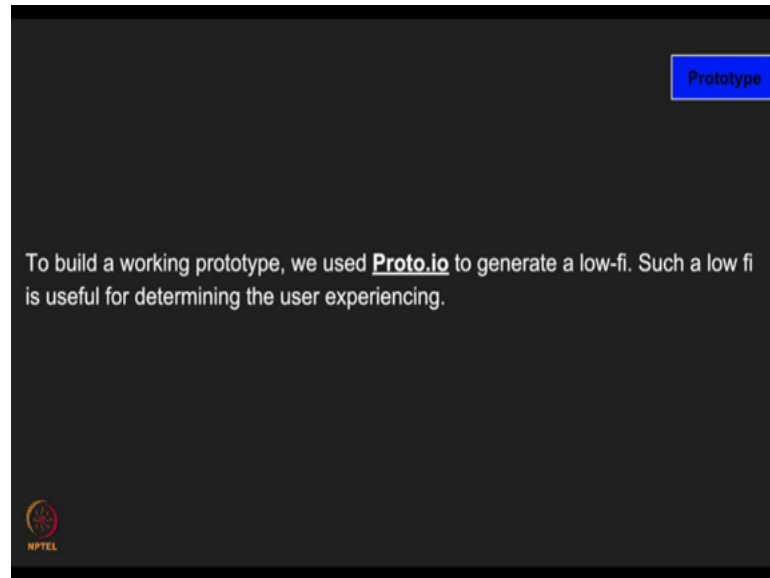
We follow an iterative design approach in all phases for building a website. The iterative design process includes three major steps; design, prototype and evaluate. We brainstorm ideas at each phase and build the design. As a physical manifestation of design ideas we performed with prototyping to validate our design choices. Such quick prototyping includes low fidelity and high fidelity representations. We evaluate our prototypes with users and ask and understand that thinking as well as interactions with our product through task analysis and contextual inquiries.

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The slide features a dark background with a green rectangular box in the top right corner containing the word "Design". The main text on the slide reads: "We formed a paper prototype based user interface for initial feels of our website. We built these on paper. Such prototypes help us think of how to build the UX." In the bottom-left corner, there is a small NPTEL logo.

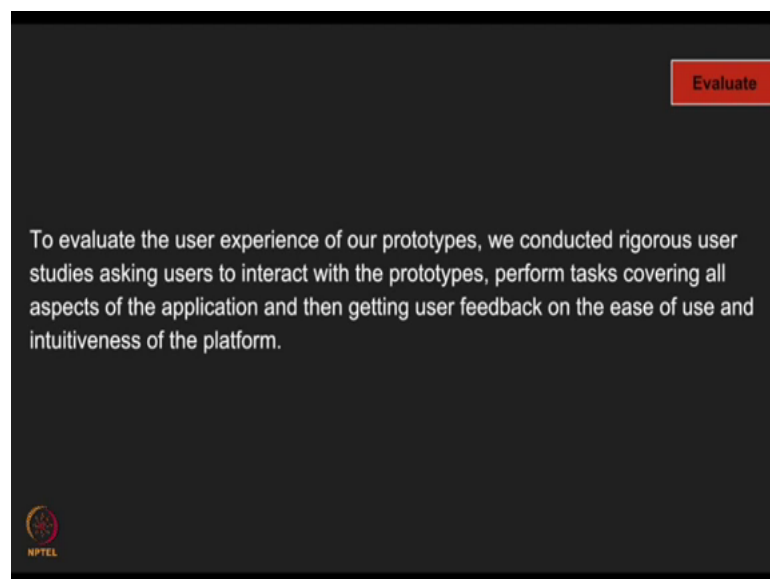
For doing the user iterative design process let us have a look at a first Lo-Fi iteration. We formed a paper prototype for the initial periods of a website. Such prototypes are best to think of how to build the user experience.

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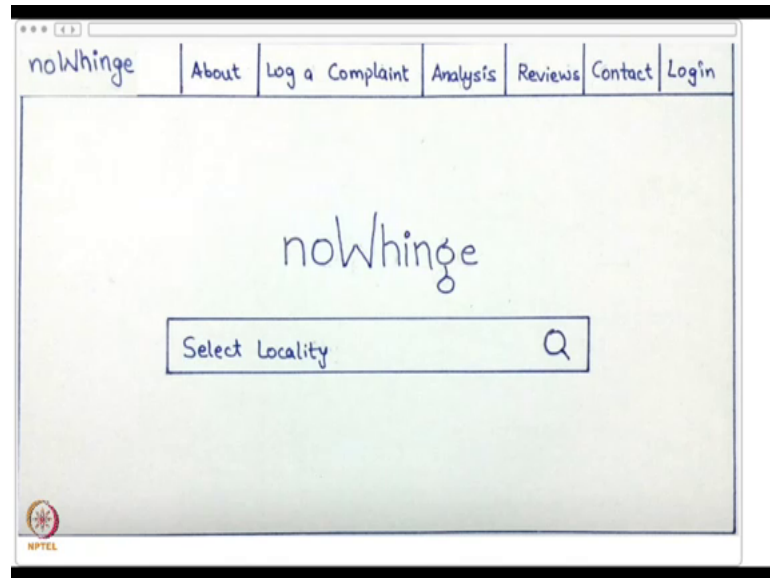
To build a working prototype we use proto dot i o. Such a low-fi as used for determining the user experience.

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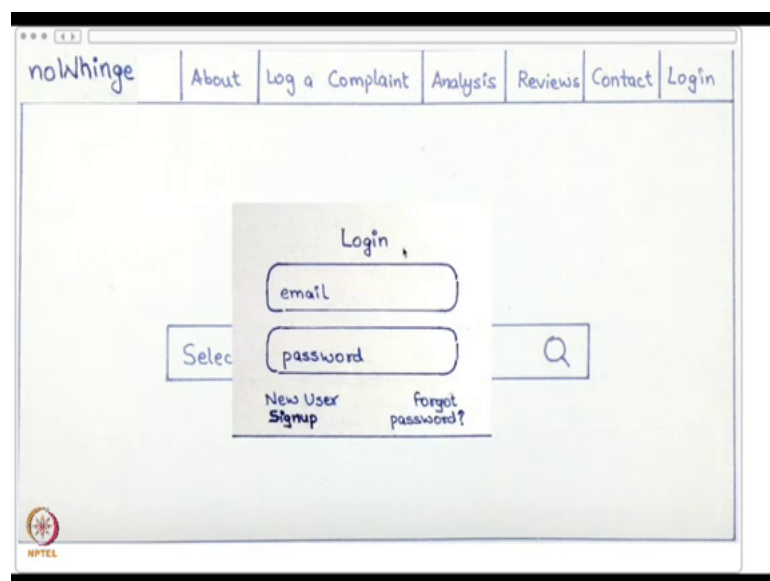
To evaluate the user experience of prototypes we conducted rigorous user studies asking users to interact with the prototypes perform tasks covering all aspects of the application and then getting user feedback on the ease of use and intuitiveness of the platform.

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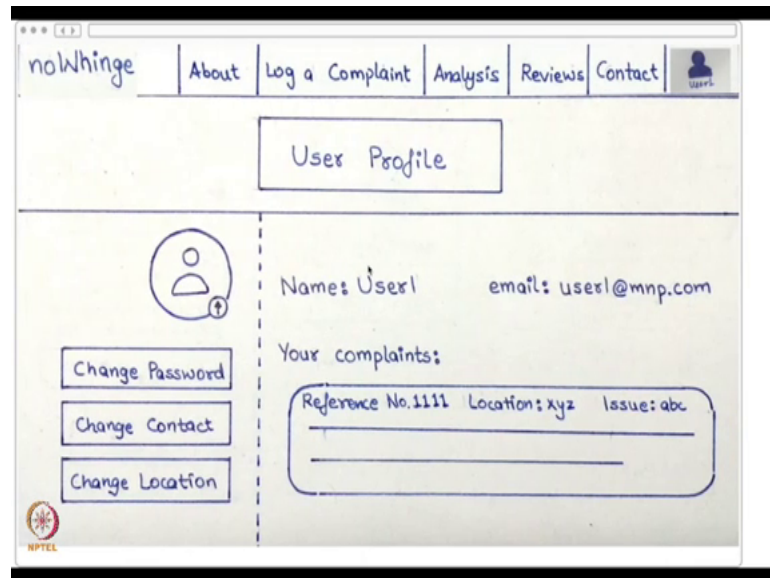
Here is a first low fidelity prototype on proto dot i o. We are using proto dot i o to capture all the user experience and also how different elements of the UI are interacting with each other.

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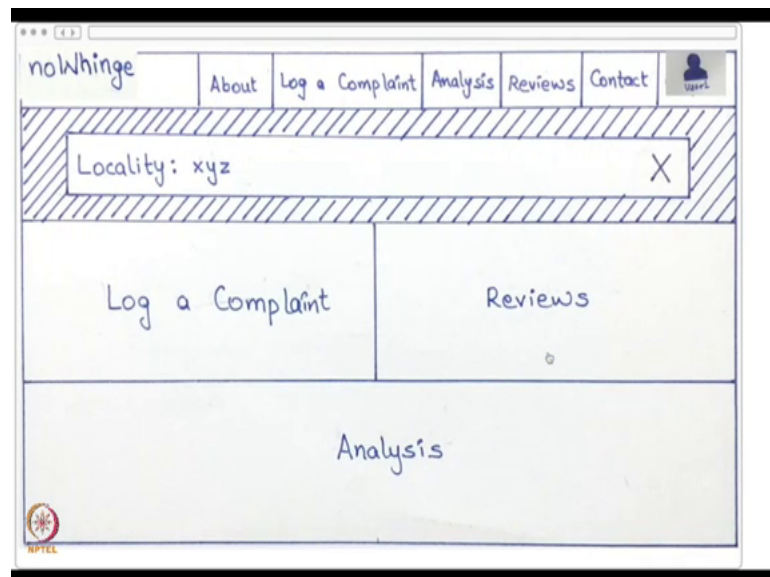
Let us login to our system.

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It takes us to our user profile page from here if I go back home.

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And, try to search for locality it takes me to a page from there I can log in the complain few reviews or look at analysis.

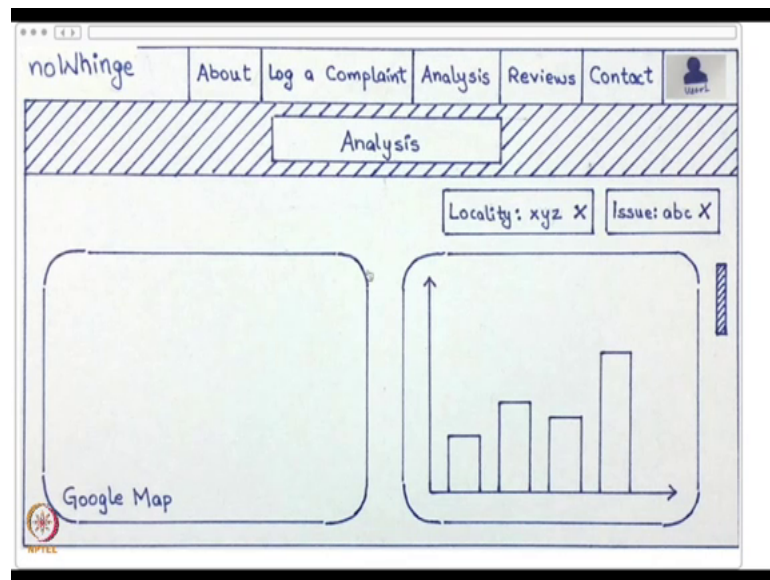
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See, I want to log a complain now from here I over here I chose an issue and fill in the rest of the details I can also choose the location from this map over here.

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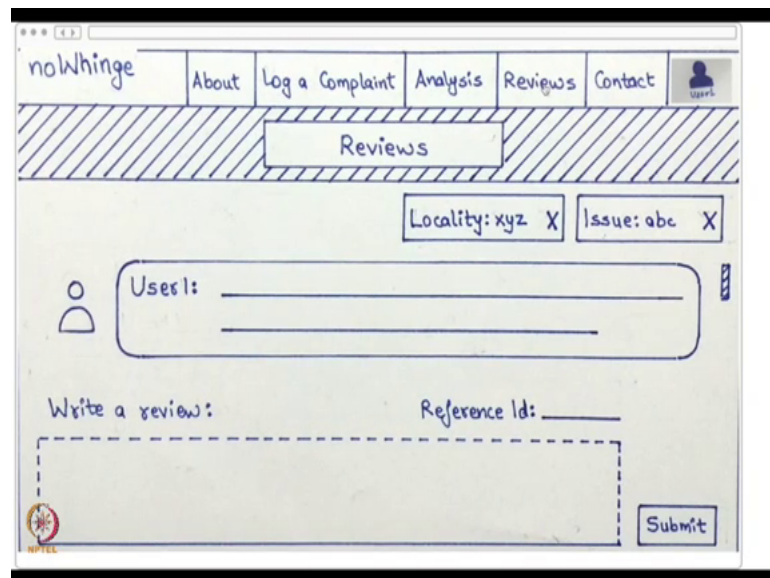
I submit my complaint which gives me a reference ID and the option to port my complaint to different social media platforms. This taking this takes me back to the user profile page. Over here I have got a list of all my past compliance with the reference number locality information and the description. I also have option to change my default contact or the default location.

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The analysis page contains data representation of complaints and issues as heat maps or as graphs I can filter this out based on locality or issues.

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The review platform is a platform which reviews from multiple users. Over here I can post reviews for any issue that I have faced based on the reference ID and writing my own review here. I can also sort out reviews based on locality and issue.

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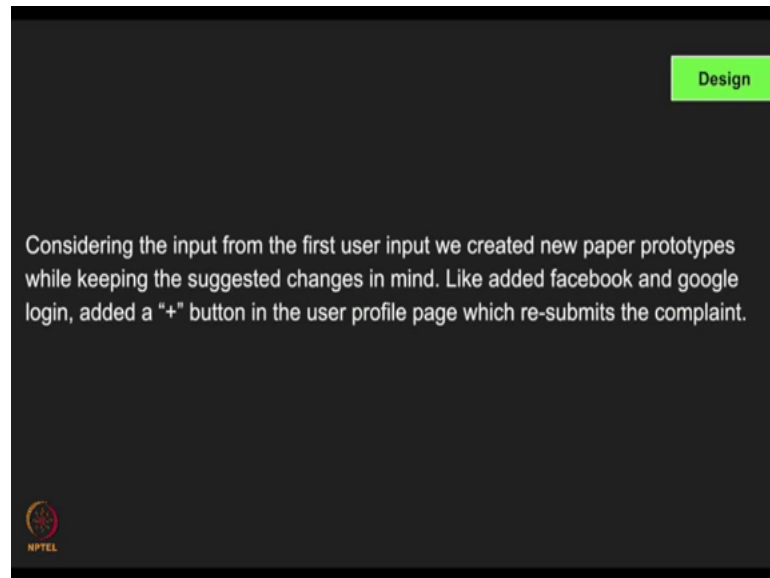
<u>What we thought the users wanted</u>	<u>What they actually wanted</u>
Stand alone signUp and login for website	Also add option for facebook and google+ login
Reference number to a complaint to track it	Agreed
Option to share the complaint on social media	Agreed
Analysis page for problems related to locality	Agreed
Guest User Login	Agreed
NA	Add the option for re-submit button for past complaint

The task analysis is followed by questions regarding aspects of the portal that we had doubts as to which approach to take following are the results for the same. We were initially keeping a standalone sign up and log in for our website. Users believe that we should have the option for logging in from Facebook or Google. Since, they already have their accounts on such platforms.

We wondered if it would be a good idea to give each complain a unique reference number to track it. Users believe this is actually a good idea. We were unsure if social media would play an important role in such a platform. Users believe that if we give them the option to put their compliance to such platforms it might get these problems into limelight. We were not sure about the usability and the effectiveness of an analysis page. The users believe that such a page might actually be helpful. We were wondering if a guest user login is a good option if someone does not want to sign up to our website, some people agreed.

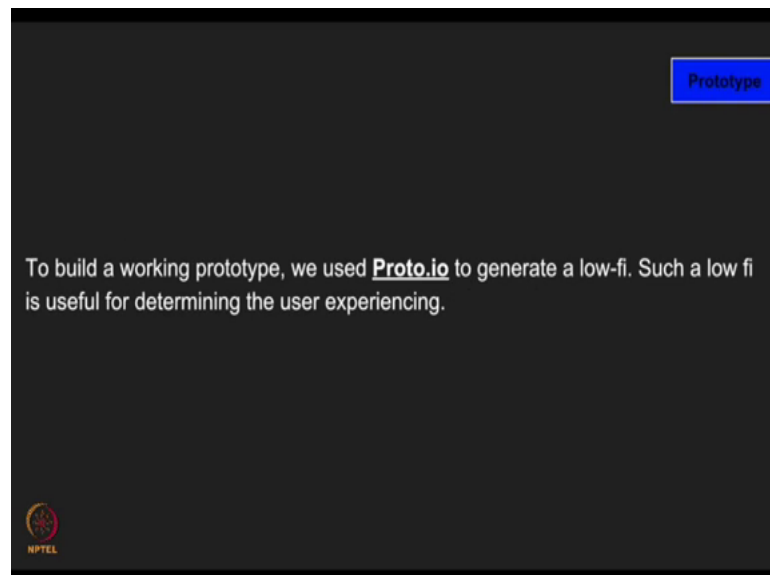
Multiple users suggested that we have the option for the resubmit button for a past complaint so that we do not have to create a new complaint for the same issue which we have already encountered in the past.

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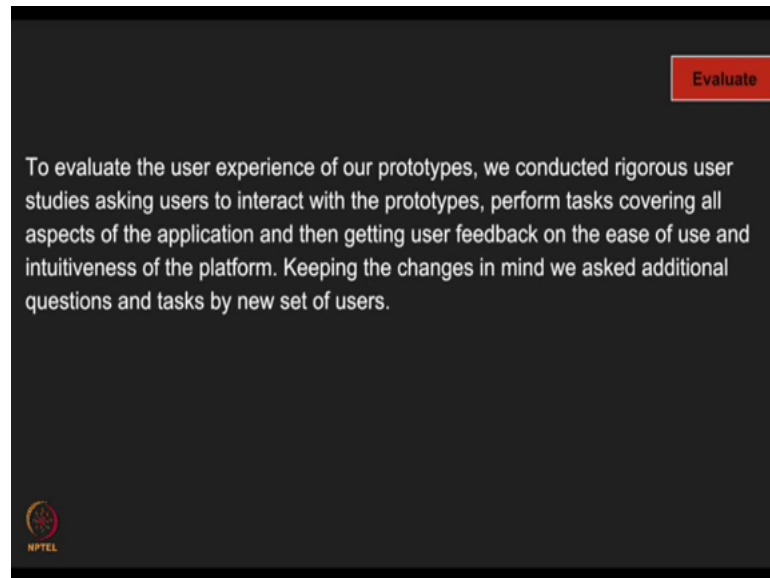
Following the iterative design process let us have a look at second lo-fi iteration. Considering the input from our first user enquiry we created new paper prototypes while keeping the suggested changes in mind. Like adding Facebook and Google login we also added a plus button in the user profile page allowing people to resubmit old complaints.

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To build a working prototype we again use photo dot i o.

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To evaluate the user experience of a prototype we conducted rigorous user studies as well as conduction inquiries.

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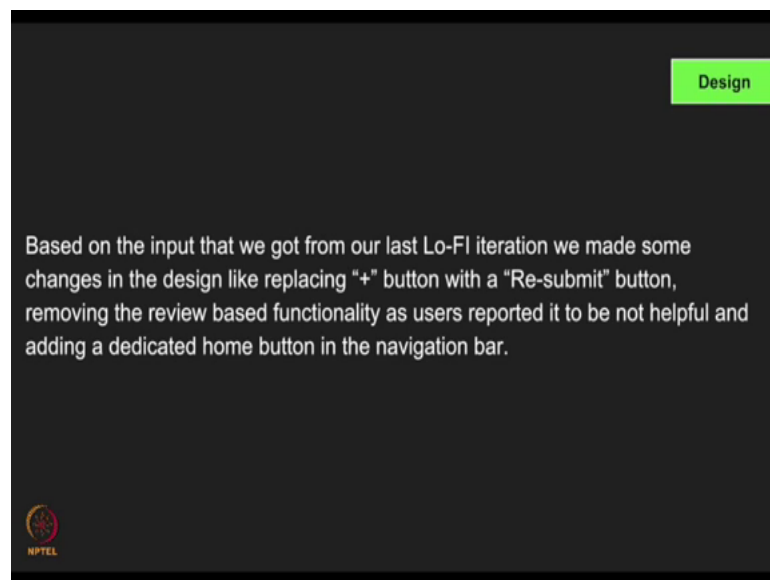
The table is presented on a dark background with the NPTEL logo in the bottom left. It compares user expectations with their actual needs. The first row shows that users thought clicking the site logo would take them home, but they actually wanted a dedicated home button. The second row shows that users thought clicking a plus button in the user profile page would allow them to re-submit a complaint, but they actually wanted a button labeled 'Resubmit'. The third row shows that users thought a review platform for each locality and issue was needed, but they actually did not need such a feature.

<u>What we thought the users wanted</u>	<u>What they actually wanted</u>
Clicking the site logo to go to home	Having a dedicated button to go to home
Clicking the plus button in the user profile page to re-submit a complaint	Change that button from "+" to a button which says "Resubmit"
Having a review platform for each locality and issue	No need for such a feature

Here we describe our output from the user study. We believe that clicking the site logo we should go to home, users believe that we should add a dedicated button to go to home in the navigation bar. As using the logo to go to home was a little ambiguous. Clicking the plus sign in the user profile page to resubmit a complaint was not very clear to a lot of users. So, we made changes of converting the plus button to an actual resubmit button.

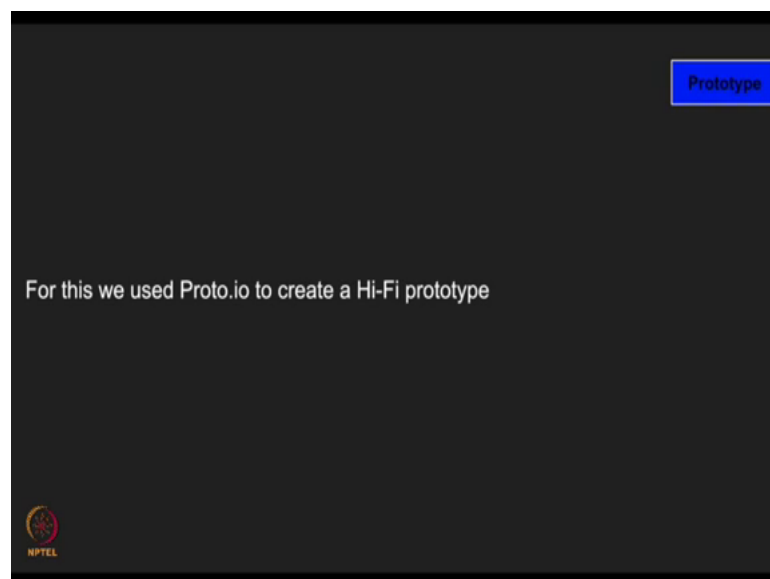
Having the review platform for each locality an issue we believe if we had a review platform this should be helpful to users. Users believe that this feature was kind of redundant and was not needed in such kind of a platform following the user iterative design percepts let us have a look at our first hi-fi iteration.

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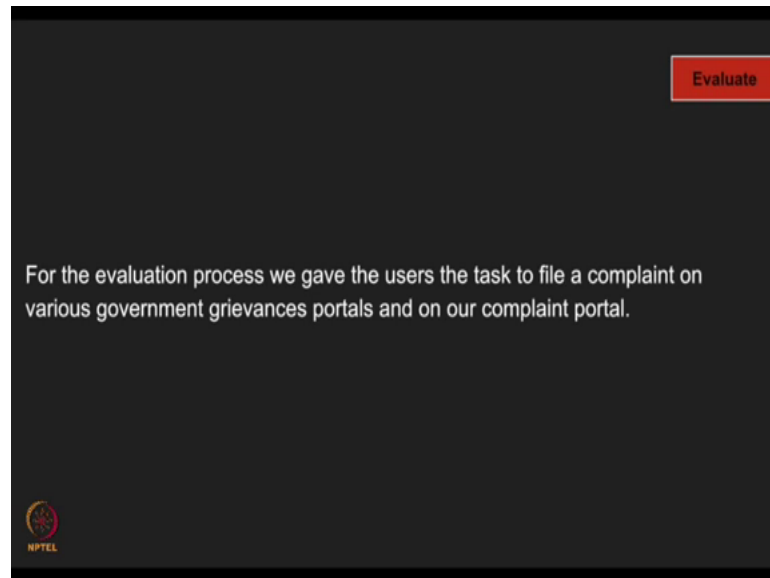
Based on the inputs from our last user inquiry we may change this to our website.

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For this we use proto dot i o and created a hi-fi prototype.

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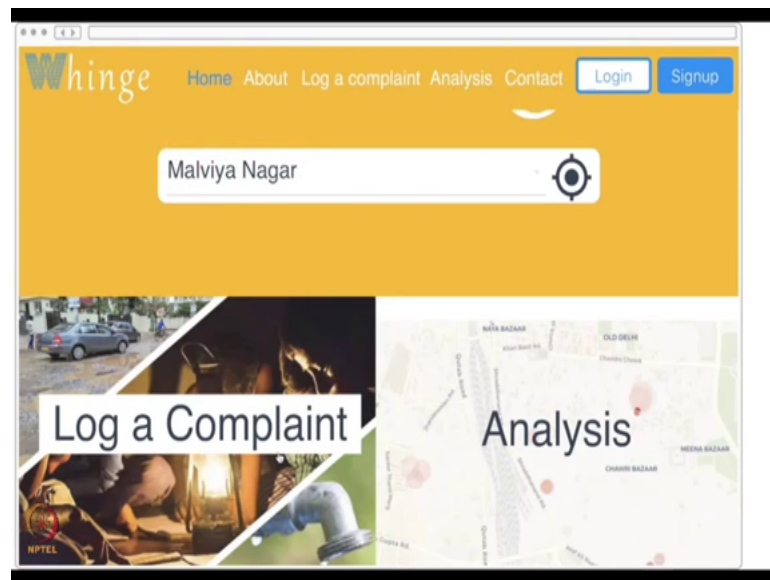
For the evaluation process we give the users the task to file a complaint on various government grievances portal and on our complaint portal so that they could compare them.

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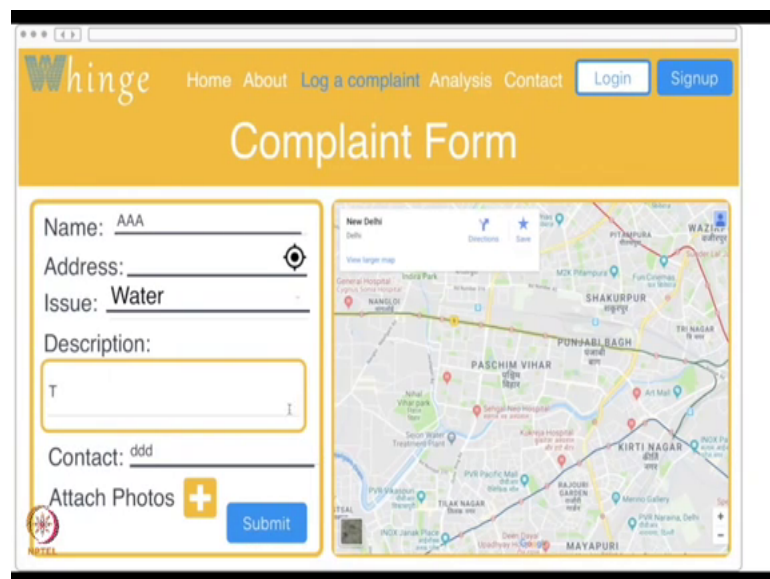
Let us have a look at a demo of our high fidelity. Here is a high fidelity prototype which we built using proto dot i o. This is a much closer abstraction to what a site would actually look at it captures the user interactions and user experience better. From the homepage I can search for a specific locality.

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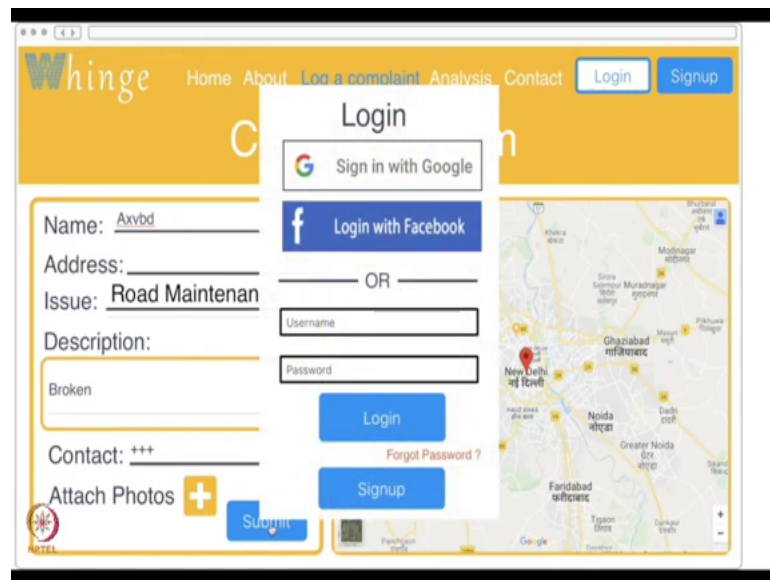
This gives me the option to log a complaint or look at the analysis for that locality.

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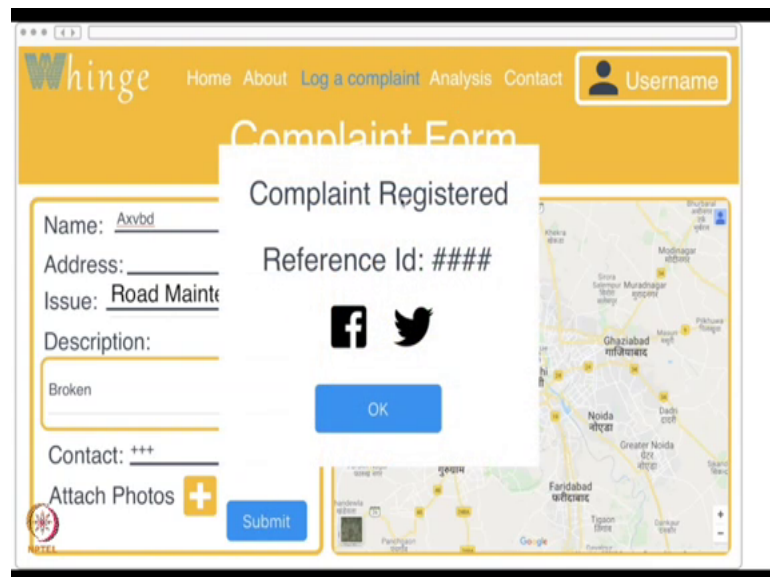
Say, I want to log a complaint over here I can fill my name, select the issue, describe about issue little bit and make a contact details and choose my location of the problem from this map present here. I can then submit my complaint.

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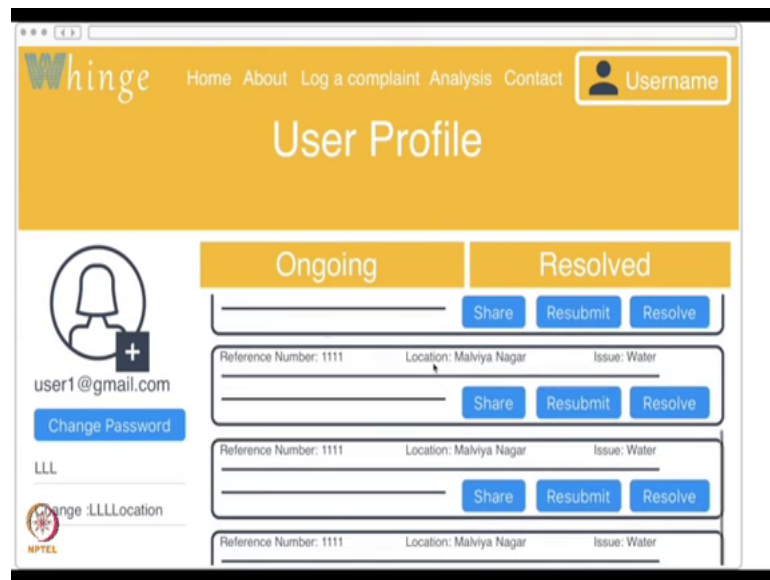
which asks me to log in.

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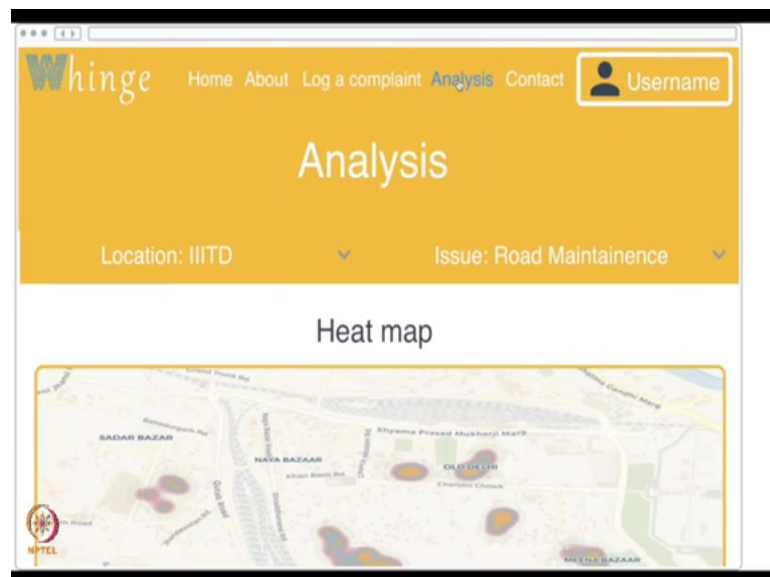
Now, if I try to submit it generates a reference ID and gives me the option to port my problem to different social media platform. I can always have a look at my past complaints on my user profile page.

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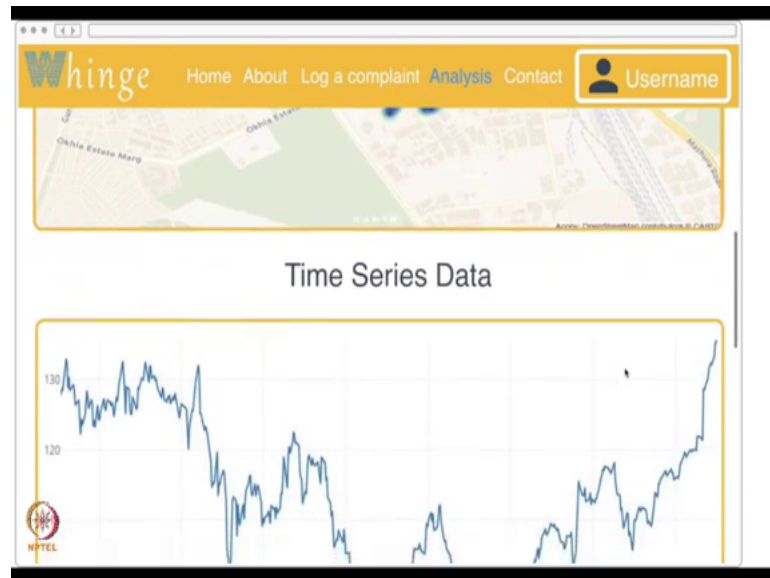
These are the ongoing complaints if I want to mark a complaint as resolved I can do so by this button. Also, I can resubmit a complain if I feel my voice is not being heard. This is the resolve tab this shows me all my past complaints that have been resolved.

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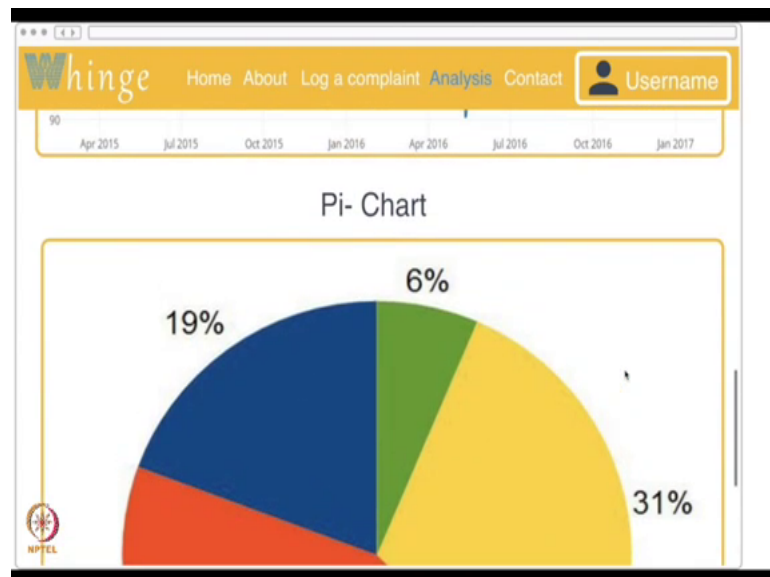
Now, let us have a look at the analysis page. Here I can set a parameters to filter out what location and for what issue do I want my analysis to be done this is the heat map.

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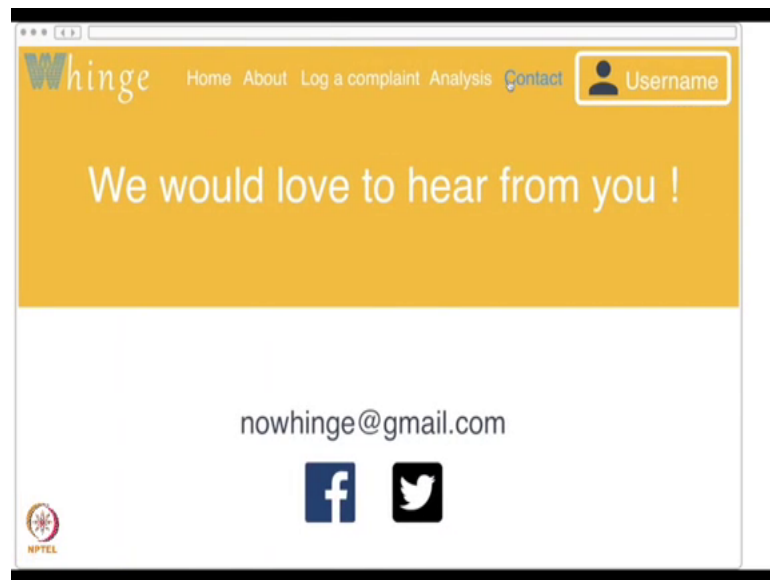
This is time series data and we can have a look at the pie chart as well.

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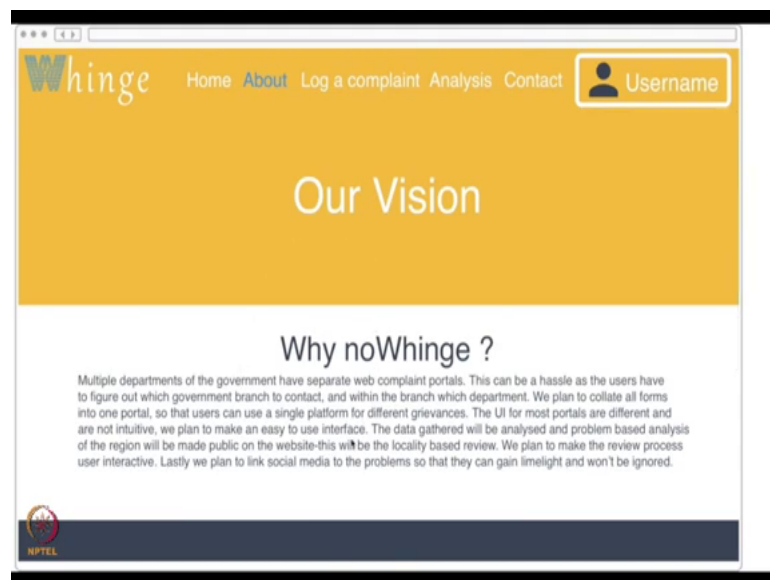
Our website also contains the contact page that makes it easier so you to contact us.

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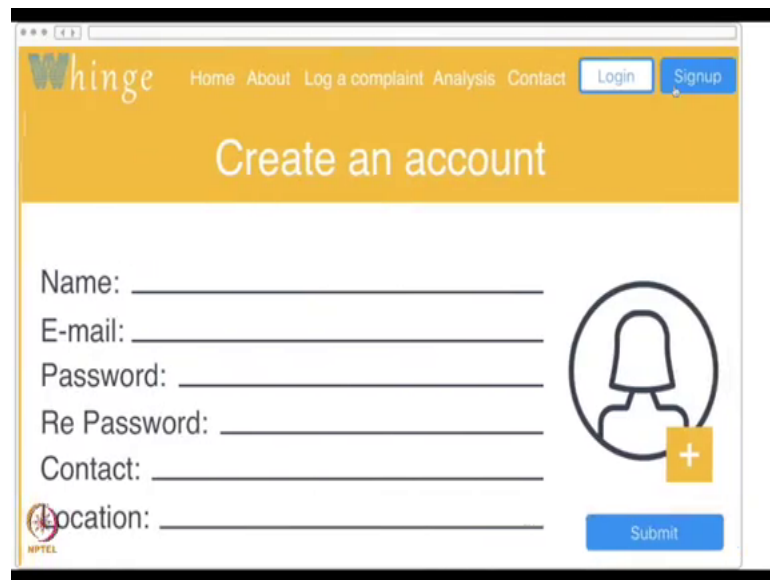
If you have any queries and also about page which talks about our team and also about a vision and what why we built no whinge.

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We also have the option for you to sign up if you are a new user.

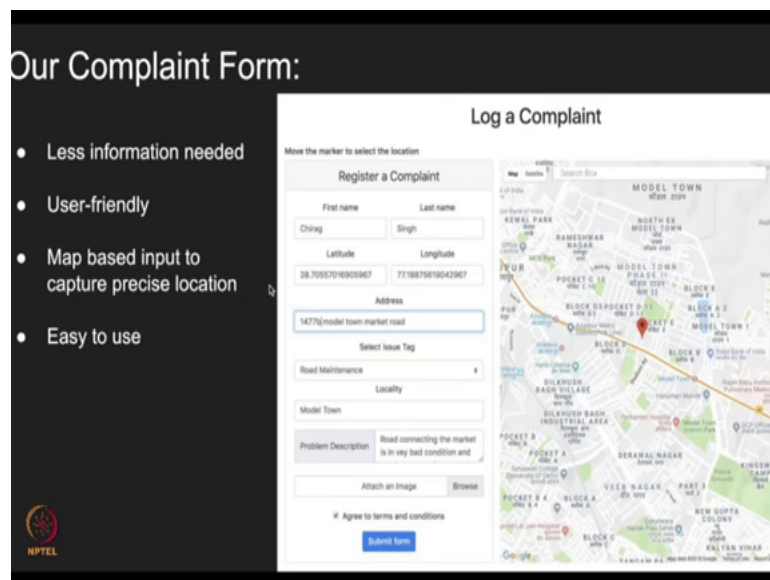
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The screenshot shows the 'Create an account' page on the Whinge website. The page has a yellow header with the Whinge logo and navigation links: Home, About, Log a complaint, Analysis, Contact, Login, and Signup. Below the header, the text 'Create an account' is displayed in a large, bold font. The form consists of several input fields: Name, E-mail, Password, Re Password, Contact, and Location. To the right of the form is a circular icon representing a user profile with a plus sign, indicating a profile picture upload option. A blue 'Submit' button is located at the bottom right of the form. The NPTEL logo is visible in the bottom left corner.

You can always set your default location or your default contact from a user profile and change the password anytime you like.

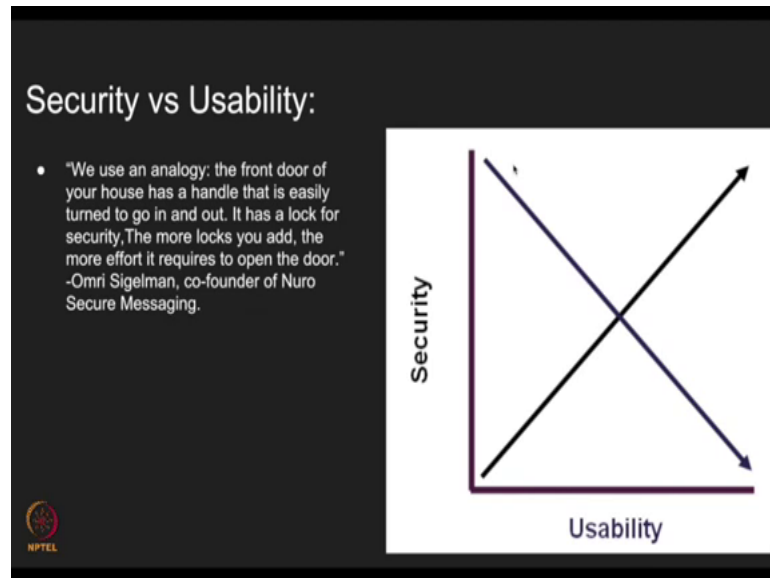
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The screenshot shows the 'Log a Complaint' form on the Whinge website. The form is titled 'Log a Complaint' and is divided into two main sections: 'Register a Complaint' and a map. The 'Register a Complaint' section includes input fields for First name, Last name, Ching, Singh, Latitude, Longitude, Address, and a dropdown menu for 'Select Issue Tag'. The 'Address' field contains the text '1477(model town market road)'. The 'Select Issue Tag' dropdown is set to 'Road Maintenance'. The 'Locality' field is set to 'Model Town'. The 'Problem Description' field contains the text 'Road connecting the market is in very bad condition and'. There is an 'Attach an Image' button and a 'Browse' button. At the bottom of the form, there is a checkbox for 'I Agree to terms and conditions' and a blue 'Submit form' button. The map section shows a Google Map of Model Town with a red pin indicating the location of the complaint. The NPTEL logo is visible in the bottom left corner.

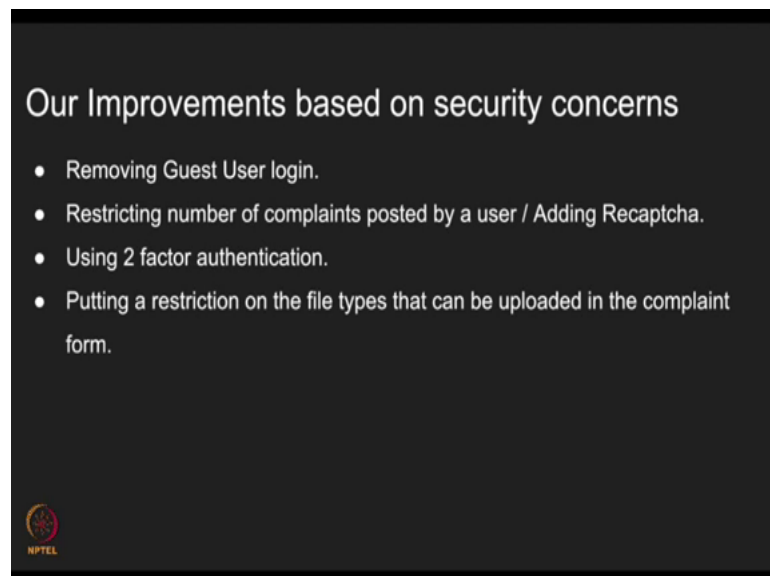
Here we present you a sample of a complaint form. There is less information needed here similar information has been grouped together, so, it is a little more user friendly. Also, the input of location is map based this is more intuitive to the user as they can simply search for the location in the search box, but actually search for the location using the pin.

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Now, we would like to talk about security versus usability, let us look at an analogy say I put lots of locks on the door of your house. It would be tough for you to enter your house every time, but if I do not put enough locks or if I do not have enough security they might be of concern to your safety. Similarly, the systems that I build I can if I make them very secure then the user experience may be tarnished, but if I do not provide you with enough security then your privacy may be in question.

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Here are our improvements based on security concerns. We will remove the guest user login. This was a very user friendly approach, but the security was in question. We restricted the number of complaints posted by a user and we added recaptcha captcha. We are now doing a 2 factor authentication during signup. We are now putting the restriction on the types of files that can be uploaded in the complaint forms.