Lecture - 10
Ethical Design and Technology

Good afternoon everyone. I am Karthik and this is Uttara and this is Satyawan.

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So we are looking at gig economy and we are trying to envision a tool, which is ethical in terms of their when it comes to workers. So we thought of something which is not just restricted to Uber or food delivery services like Swiggy. But, now let us see what it is.

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These are some of the ethical choices that we had in mind. So now you can ask specific questions if you want in each of the points, but I will just try and link them up. So now in terms of transparency, what we are looking it as now, see the drivers now in Uber let us say, when they are accepting a booking, they do not have enough information on like, where the ride is going, or how much money that they will get out of the ride.

They will just see, okay how far is the pickup point and then they can pass or accept it. That kind of thing. So then there is no informed choice over there. Because now if, now the platform says that, okay if it is a individual, the more you work, the more money you can make. You can make unlimited amount of money.

Then with the information that the software has and it can allocate in such a way that the number of rides that the driver has to take to make the same money would be more because we know Uber asks us where we are going, but it is not shown to the driver. So there is a lack of transparency. There is not enough informed choice on the part of the drivers.

Now and also we are all trying to look at how we can form a collective to increase the bargaining power of the workers be it Swiggy or Uber. So what we are trying to do is we are not pushing for a union, but at least to that common consciousness to arise, we are trying to provide a platform. So that is just a small step. And also now like usually what happens is this companies provide great offers in the beginning so that we are like we get attached to them, and then we later do not change.

So that kind, so they give promises, and then we look at whether they are actually keeping that promise later on. So in that way, we are also looking at their accountability for tools. And also the platforms. Now if we take Uber app or Swiggy, we as consumers, we rate the restaurants or the cab driver and the cab driver can rate the customer. But in that Uber or Ola, the service provider is entirely invisible.

So but they have the maximum amount of power also. At the time we are trying to also bring them like it is not let them hide behind a veil, let them come forward. So these are some of the choices that we had while coming up with our tools. So now let

us look into our tools. And we did not have any technologists among us. So technologists be kind to us, please. Okay.

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So now one of the things is that within the existing platforms, like we the same thing of how much money will you make, if you accept this task. Instead of just giving it okay, you either accept it or reject it, give the worker more a chance like how much money is per trip, like food delivery, or how much you travel. So within the app itself, like, let us try and make a platform where there is more information that is given to the driver.

So that is and then another tool we are making is outside the platform, that is a separate app altogether. So where we are trying to give them trends on income. Like for example, if someone is delivering food to from this restaurant to this place, and in that particular region, let us say in Mumbai or Chennai or Bangalore. So in that region, how much and how many trips it took for that person to get that much of income.

And this will be, this information will be voluntary. Like it has nothing to do with the companies but everything to do with the workers. So the workers can opt in and like provide voluntary information and this shall be accessible to everyone. So other workers can look at this data and decide okay, if Uber is giving this much of offer, Ola is giving this much of offer, this is the income that I can make.

So based on that they can do. Another thing is feedback and rating of platforms from the worker's perspective. Like let the Uber drivers rate Uber and Ola drivers rate Ola for how they are being treated, and let it be accessible to everyone so that if I want to become a cab driver, and then I have to pick between Ola or Uber, I know what other people have gone through.

And then through this app, which is obtained, which is coming from others who are in a similar situation like me, I can get that kind of information. So that is one thing which we thought about and then community and communication among workers.

So this, the thing is we will have, in the app itself we have opportunities for the members to chat, so that they can talk about their concerns, they can share their issues, they can share about the good things, they can share about the bad things so that a collective consciousness is formed so that like, in case it needs to unionize or in case they need to come together and put forth demands, so that avenue, as a first starting point, that avenue is possible.

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2. Health Services (NHS)

- *List down the ethical issues from the perspective of different agencies- patients, healthcare providers, organizations(both hospital and Pharma companies), technology developers, health policies*
- *Suggest a regulatory policy framework that can address these issues.*

So I am going to talk about the NHS health services. So the question is about the ethical issues from the perspective of different agencies like the patient, healthcare providers and organizations, and technology developers and health policies also. So and within that, we have tried to, like suggest a regulatory policy framework for the, for addressing these issues.

There are some ethical issues which we discussed among us and we have found out some. So as a patient, if I am a patient, and I am going to a doctor, so I am providing my personal information to him or her and I wanted to keep it anonymous that information. But what happen as a patient I do not know the information that is giving.

So how this will be like other organization who is selling that information to the other organization, and how that organization is going to use that information. So there is a like question of like consent question is important here.

Ethical Issues

- Hospitals
  - Who are the doctors working for? Hospitals, patients or pharma companies?
- Pharma companies
  - Information asymmetry
  - Targeted pricing
- Technology developers
  - Technology development needs data but why can't this be a collaborative process?
- Health policies
  - Who are these policies being designed for/ benefitting?

And then if I am providing data, then I am not getting any benefit, because I am providing my data and they are selling out. So that is the second one ethical issue. So and there are some healthcare providers, so they are providing health services, they are using our data and they are compiled it and try to use it to create more accurate and more appropriate solution for the particular diseases.

So but then also there is a question about the like, more about the consent, because, ultimately they are using the data of the patients. There are as well as hospitals who are ultimately linked with the higher authorities and pharmaceutical companies, they are linked with the hospitals and then, importantly the technology developers who use technology to create highly advanced medicines to create the diseases in a very less time.

So hospitals, we go to hospital and we talk to the doctors again and then we provide our information and the same things happen within this whole transaction with we are going to hospital, then doctors, then doctors is providing that information to the concerning organization and organization is collecting all the data and after collecting that data, they are like using it as a resource for the income generation.

So that will be the problematic. So then after technology developers, yes, obviously after using our data they are get to know what problems exactly there are and they are trying to the minimize that problem and cure the problem. But ultimately, they are the only beneficiaries of that and not that one who is provider, who is the data provider. So that will be again the question.

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So the, I mean these are basically these the ethical issues that we looked at from the points of view of different stakeholders, they were more of the ethical conundrums that might emerge in this changing frame of health policy using data. So in the context that was given in the case study that was given, there was the discussion between the NHS and pharma companies.

We also talked a little bit about insurance companies being able to then access this data. So these were, these were some of the issues that we discussed about what are the various stakeholders there? And what are the relationships between these various stakeholders. And how might the extraction and then monetization of data impact these relationships, and maybe balance or imbalance them further.

So based on this, we could not really come up with a regulatory framework, given the time that we had to discuss it. However, this did help us sort of think about what would be the issues that a regulatory framework really needs to consider when we now look at not just patient data being used within a certain context. So for instance, in within the United Kingdom where healthcare is free, where it is still considered a public and necessary social good.

But when then this patient data is being exported, is being used in different ways by different players outside the context of the United Kingdom, so then what are these aspects that a regulatory framework really needs to think about so as to keep these relationships between the various actors in a health setup sort of balanced at least.

So we then talked about like, Satyawan talked about what is patient, what is the patient consenting to when the patient shares their data? Who does the patient imagine they are sharing their data with? Is it then within the principles of healthcare that there is confidentiality maintained? So is the anonymization of data in this big data framework enough for maintaining confidentiality?

Or is confidentiality being broken because consent has not been sought to share data with other parties like pharma companies or insurance companies? Furthermore, if these are the actors across the world, if they are the actors that are going to be more involved in healthcare, then is the entire way in which research in medical care changing from this sort of opt in medical trial format, where if you have an existing condition, you say that okay, I want to be part of a certain trial.

And then you opt into that knowing the risks to a situation where maybe spurious correlations are come up with and there is a situation of medicating or over medicating, or there is a change in how insurance is provided based on the data that exists, which could be geographical, class based, gender based, race based, etc. So then who are the actors that we need to consider in this framework?

And what should be the priorities of these actors? So as a doctor or as a hospital, or as an organization, like the NHS that is providing health care what are my priorities and

who are my priorities to. Are they to only to patients who come in to the NHS system? Are they to the country in general and the healthcare of the country?

Or are my priorities aimed towards further monetization, and therefore then, towards building relationships with pharma companies, and maybe other insurance companies? So who are the actors that are then involved? And how do we sort of map out the priorities of these different actors in order to then come up with a more ethical regulatory framework? And then how do we ensure transparency in the entire process?

So what is really the process then? Where does data collection begin? What is necessary for that data collection? And then how is it used by different actors? So in this case study, there is a relationship between the NHS and pharma companies. But we do not know what might happen if that if data localization like is being lobbied for goes away. And then once pharma companies have this data, then what could happen with this data beyond the control of the NHS?

And then how can we fairly and equitably monetize data that is finally coming from patients that are accessing a public good, which is then being privatized and profited from?

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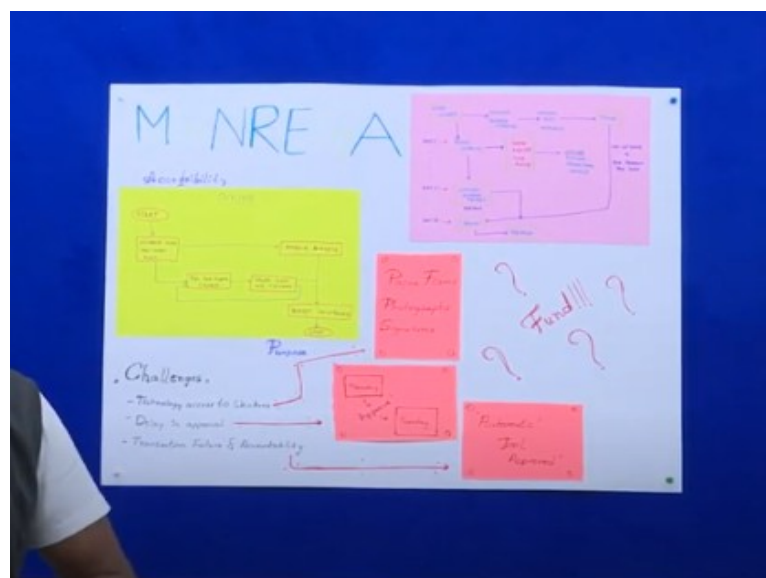
Good afternoon everyone. This is team four. Myself Prakash. We have Shiva, Kripali and Ruchika, who just left because she had a bus to catch. So we are presenting on

two case studies. One is MGNREGA and other one is a gig. I will start with the first one. I am not going to brief through again the problems, challenges and everything what we had.

I am just going to directly jump into our probable solutions, which we thought would be the most what to say, to be precise with the words, honesty, clarity and, **"Professor - student conversation starts"** Which question are you looking at? Are you working as policy makers or as technologist? **"Professor - student conversation ends".** We are going as a technologist, solution as a technologist.

So we have seen that the policy itself is going a lot of change over the time, not just in year but month wise as well. So we thought we came up with an alternate tech solution itself where we start, this is the outline where we say that gram panchayat is going to upload first a proposal every Monday saying that this is what is going to happen over the week.

Based on that a budget is going to be kept from the central site for that amount of work. Then what is going to happen is every Monday, that is whatever we have, every Monday, we thought we will go up with a paper based technology itself, because technology essentially does not mean that it has to be a sophisticated one where we say that we propose a solution and say that in next 10 years, it is going to be live.

But we thought rather we will use a paperwork where the gram panchayat is going to note down the serial number, the period of amount work sorry the amount of time worked and his signature. At the end of the day, he is going to scan that. He is going to take some pictures and upload it to the portal every single day. So that is going to happen for a week time. And once when the week ends on Saturday, the budget is going to be sanctioned.

Now coming up to the loopholes, challenges and the questions. The first challenge we had was technology access to the workers. That is being solved now because they do not need to have a technology with them because all they need to do is sign on a paper where definitely the gram panchayat is going to have access to it. So they are going to do that part of taking photographs and everything.

The second major challenge was delay in approval. So we thought we will introduce a small change in a system where he needs to upload the proposal every single day. So day is going to move to Tuesday only if Monday's work is completed. So Monday moves to Tuesday only if approval happens. Otherwise, it does not move at all. That is how we tackle the second challenge.

The third challenge is transaction failure and accountability. Now we want to reduce that three to four levels of intermediate approval. Rather, anyway you are uploading pictures and the work proposal in the tool. So once when it is verified that the document is not empty, and there are some irrelevant pictures, the tool automatically approves it so that we are not left with those challenges.

So that is how we tackle the three major challenges. The other major challenge, which we saw was the funding. That is, is there sufficient fund released? So we felt if, one reason why probably the fund was not concentrated, because there are many challenges to tackle with. They do not know which one to start with.

So if we solve everything else, and if fund release becomes a major problem, then that is going to be the next immediate attention, which will be tackled on to. So we thought that becomes automatically the next priority and people are going to work on it. So that is our whole workflow of the system what we have.

So anybody has any questions with this? Yeah, so what is going to happen is, at Monday, he is going to estimate, it is like a Gantt chart where he is going to propose a whole week's work. Every Monday, he is going to say that this work is to be, we can say it in this way, at the end of the day, he is going to take up all the signatures, the people who have worked in, and upload it to the system along with the photograph. So that happens for the whole week time.

Now if there is a delay, that the system is not logged with all the work or something Tuesday appears to him in the console only if Monday's work is completed. So there is no delay from his side saying that the work was not done or the monitoring of the work or the accountability of the work is taken care of. We have the systems in simple

Google Forms, where we cannot move to the next one or the accessibility is controlled based on unless you finish the first you cannot go to the next one.

It should not actually because at one side, you already know that when the Saturday has arrived, work until Saturday is already submitted to the portal. So you already set your target. If you have not reached your target you go to the government saying that as an employee I have failed myself. It is your duty to go to the scheduled or your target. So we have this at the more decentralized level.

In a way we are almost to eradicating the state level hierarchy. So instead of three tier of the government we are going with the central and the decentralized panchayati raj. And we believe when every Monday, the proposal goes in the state sorry, the committee has time till Saturday to already approve the budget, because they know that this is estimated work for everything.

We did discuss about that in lengths on what could be the case and what if the photographs uploaded are not right. If someone falls sick and if they are not able to work and I think the written forms can handle such comments so that they are taken care of because that will become a minor issue. We do not want that to hinder our whole solution to be part of it just to cater those small things.

It is like again a leave system in any working environment. How does it, sort of address the ethical dilemma? There is corruption in the system. Nobody is denying that. And centralization came as a solution to that. That if the corruption is happening by the panchayat for people who are close to the panchayat, so we bring in centralization, and hence the production can be eliminated.

So here the problem that we brought in here to say that to what extent that is an ethical decision to make to curb corruption in local level and sort of take the autonomy from the local, local elected body and make a centralization mechanism. How do you resolve over what you are proposing how does that resolve, that ethical question.

As per the discussion we had, we had noticed that though it was at a central level, there was still an engineer, or we do not know what exactly is. He is going to come in, or a gram panchayat is still going to monitor all of the works apart from the money transfer. Otherwise rest of the things were still in the control of gram panchayat itself.

So we could not clearly understand how the role of now the ethics is actually making a huge impact, because the only thing which was taken away was the monetary aspects. And we thought solving that probably would lead to a solution where the whole other system is still intact. So where is the delay happening? Could you find that? Yeah.

See because of the structure, every structure I mean every person has to go through multiple levels of structure in the hierarchy. So he will be cut short of many hierarchies, in a way the number of approvals get reduced. **"Professor - student conversation starts"** So that is my question. Are you sure that this delay was happening because there were too many processes involved or the what is the cause of the **"Professor - student conversation ends".** Yes, one was that.

The other one was we knew that the third party who was actually building it was not accountable and no one was knowing like, whom to blame next if a transaction has failed. So we decided that the committee which actually approves a third party contractor should be held responsible in that case, because if he had picked a poor technology, which does not have a network service in that area, or always blames for the failed transaction.

And if they say we are not part of accountability, then definitely it has to be a person who has approved these contractors to be part of the solution, because that is why they promised to build a ethical system with respect to accessibility in progress. That is what we majorly solve.

"Professor - student conversation starts" And how does cutting out the state help with your ethical dilemma because you are still looking at a very centralized system and one of thing is because the centralized system might in a democracy (()) (23:12) for example if the government in the state and the government in the centre do not see

eye to eye, then they could just say, you know "We'll withhold your payments". That happens a lot. **"Professor - student conversation ends".**

Can we say in this way that central is also not accountable with our solution. Okay, how? Yeah, in the sense that because there is a corruption, because we do not want that to happen the approval, which was supposed to be done by central is now done by a tool. The upload, which was supposed to be done by gram panchayat is also now done by a tool.

So in that way are we still preserving that integrity between those two that they are still involved, but the tool has a major role in it. **"Professor - student conversation starts"** So obviously, you are delegating the responsibility to the technology. **"Professor - student conversation ends".** Correct. Technology then because they could be corrupted by technology. Yeah there are

"Professor - student conversation starts" So that is what I was getting at. Yeah, I wanted you to go there that you are now shifting the responsibility to the technology so that the technology will not discriminate. Correct. So is it not something that you find a problem? But is that the right way to start with?

That is my question that if you think that if I shift delegate what is supposed to be human responsibility, like delegation to the technology and just hope so that it will go on. **"Professor - student conversation ends".** Considering we have built a neutral technology, which is not going to be, last few days there is no technology which is neutral. Okay, I will not poke you any further. Okay, anybody else? I know.
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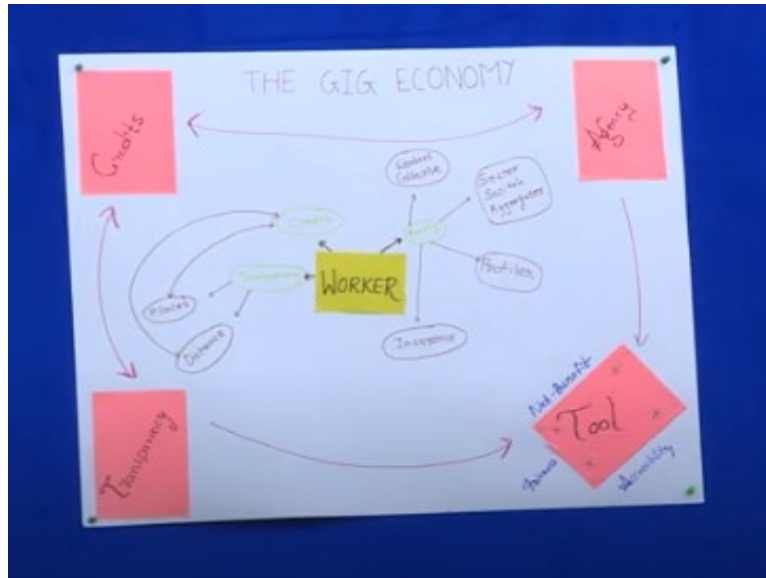
So the next topic will be about a gig economy. So we would be dealing, so it would be dealing about the ethical and technological framework, how would it help in gig workers especially. So we propose to create a ecosystem where there would be an agency and there will be transparency and there would be credits. So when we say an agency, so this I mean, this on the guidelines of NASSCOM.

See, NASSCOM was formed out of the due to the interaction and the integrity between the various service and software companies where they agreed upon few common principles and they worked out that you know there would be transparency when a employee joins a particular IT sector or a company and he all the information in regard to his profile would be transferred across the companies which agreed upon that NASSCOM.

So this agency will act as a profiler. So the guys who works in gig economy, they can be either transportation sector guys or food sector guys. For example, Ola, Uber, or Amazon sorry Zomato, and Swiggy. So the profile will be created in such a way that a particular employee of the gig economy can switch across the sectors. Like you know, a guy working in Ola can also be a Swiggy deliverer.

Because see, this agency works as a profiler in such a way that know whether that perfect, I mean, the individual has the capability at the same time, he has the skill to work, I mean to do the multitasking. So this particular agency will create a tool in such a way that we can have a sector switch aggregator.

So we will create a tool which looks upon the location of the particular employee or sorry, I mean to say the worker, where using the location, he can at the same time work as an Ola employee, at the same I mean employee in the sense Ola partner, at the same time as a Swiggy partner. So using the location, if he is traveling in the same direction of the food delivery, he would continue the role as a Ola partner at the same time a Swiggy partner.

So there would be a sector switch aggregator concept. So there is no conflict of interest, because an Ola employee need not have any conflict of interest when he works as a Swiggy employee, I mean partner. So at the same time, this agency works as a worker's collective.

It will have a board of management where it would comprise of Ola management, Uber management, and representative of the management of Ola, Uber, Swiggy and Zomato at the same time, the elected representatives of the workers thing. And it would provide them with insurance benefits or anything like health services, social security net, other things.

And this worker will be provided with the aspect of transparency. So whenever a booking is done on Ola or Uber, he gets to know the places where he is going to travel, and the distance he is going to travel. So if he is not comfortable with traveling to a particular place, he could directly you know deny the thing. But right now it is not the case. Only at the last moment, the guy calls up asking like ma'am where do we want to go?

Sir, where do you want to go? When we say that we want to go to Yelahanka, if he is not comfortable he would just bluntly say that, no, I am not comfortable. Either you cancel the ride. And he would give like, no sir, please cancel the ride. And we are not in a comfortable situation to cancel the ride, then he bluntly denies the ride. So till the last moment, the user is in such a frustrated situation that he is not sure he will be able to reach his location on time or not.

So when we clearly tell him that, you know you are going to travel this particular place, and for this particular distance of time, he had a choice. So we are providing the worker with a choice, transparency. So we are giving him the fairness and the accessibility, whether he is comfortable in taking such a aspect of work, which he is comfortable with.

So when we are denying this, there might be a situation where everyone would be denying a particular place or like you know Yelahanka. No one would be taking a ride from Electronic City to Yelahanka, because there might be a list prospect that know, he gets a ride back from Yelahanka to Electronic City. So we come up with a system called as credit system, which deals with the employees or I mean sorry partners who look into the aspect of places and the distance.

See, this tool will work on such a way that you know dynamic and the real time mapping of the location is taken into consideration. Taken on a weekday, most of the people who would like to commute from Yelahanka to Electronic City for example, take a hypothetical situation. But on weekend they would like to travel to Koramangala.

If that is the case, see on a weekday if more people are wanting to move to Electronic City and less people to Koramangala this aggregate I mean this tool will work in such a way that you know the credits will be given to the persons who want to travel to Koramangala because the surge will be in the more in the direction of Electronic City. In case of weekend, it would be vice versa.

So when the probability of going to a situation or a place is very less, the credit will be more. So this way, we propose to say that, you know a worker would be given incentive for traveling to a place, which is less probable to travel to. At the same time, the distance, the more longer distance he travels, he gets an extra benefit.

And also like, you know working on a sector switch aggregator he would also have an added advantage of having the net benefit. You know he can maximize his benefits income. At the same time, he also has all the benefits of fairness, accessibility, and

fair I mean benefit, that is what. Am I clear or something I need to explain in much detail. Yeah, I mean elected person in case of the workers.

And a company representative from Ola or Uber or something like that. See, they are here to not to go on a like, you know trade union strikes. They had to coordinate with each other. As of now we do not have a platform, which discusses gig economy employees as a collective. It works in such a way that know Ola Employees Union, Uber Employees Union, or sometimes know rare combination of Ola, Uber employees.

It is not like, you know Ola, Uber, Swiggy, Zomato. Yeah. Okay, yeah just go ahead. Yeah. So in case of Ola, Uber they are elected representatives. So obviously, they had to do work. Once like you know you have a monthly review meetings or max to max in a worst case scenario you might be having you know weekly review meeting, which might happen on weekend. So they would have their own earnings and they would be an elected representatives.

Same like you know trade union concept. We have know just you know customized in to fit such a situation. Yeah. So that is what we were discussing about you know, sector switch aggregator. There would be few people who would be working at the same time as a Ola service provider and also as a Zomato provider.

So when you take up the multiple tasks, you know you are associated with both the organizations with the pain and you know grievances of both the organizations. So you would be in a much more better place to address these things.

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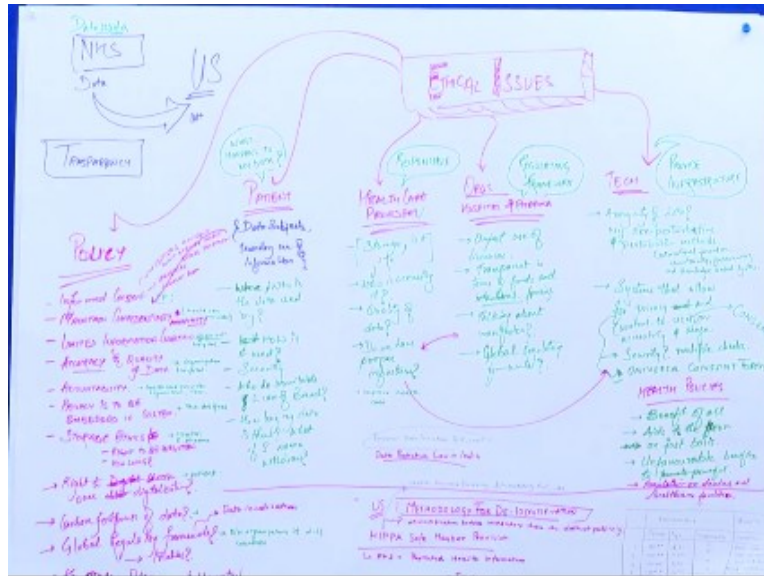
So we were taking the second case from the first team. And it is not a proper framework, but it like their's. We were able to think around the situation. So we were given the task of like, thinking from ethical point of view from different stakeholders. So we were thinking around from patients it is more around data, where my data is going and stuff. So because they become data subjects, and like where, who is using my data, how it is used?

What is the security of my data? Who is accountable if in case of any breach? How long my data is there and if I do not want my data to be there, can it be taken back? So things like that. From healthcare and providers, okay, so basically, this is about NHS, which is collecting the data. It is basically a US based healthcare organization, which is providing which is providing free health care services, almost free health care services to UK citizens.

But the problem is they are selling data to US. So we are looking at the ethical issues from the perspective of different actors, what are the ethical issues? So for the patient she has already mentioned. For the healthcare provider, it is about the storage. So basically, for how long are you going to store my data is a concern. How long the person is going to store the data? What if my ailment is cured?

And now how for much time you are going to store my data? Who has access to my data? Like who can who all can access? We all say that we want human intervention to protect data related things, but who is accessing my data is a big question. Now the

quality of the data. Is the quality collected is accurate. And if not, is it corrupted? And how can we find if it is corrupted or not?

And do we have a proper infrastructure for all of this? Some proponents of data collection might say that it is to improve healthcare. But the thing is, we cannot ignore all these facts. Anyway, coming to organizations, hospitals and farmers, a major thing that we saw was around regulation, issues were around regulation. Like if the data is being stored, what is the way it is stored. Then use of licenses.

If they have the license to sell certain things, how is it being used? What is the ethical framework behind it? Transparency in terms of funds and intentions and pricings. How are the pricings being made if they are deciding the prices? Where are the funds coming from? We were thinking around if there could be a more transparent way of telling where the funds are coming from and how are they using it, sort of that.

Talking about manifesto, they can talk about manifestos. A global regulating framework maybe because we are talking about two countries, right. Information is flowing from one country to another. It is not possible that a regulatory framework in one country can solve this problem. So it has to be a mediator or you know a global kind of a thing.

Coming to tech, basically, the ethical issues which a tech person should solve is the anonymity of data, how are you going to contain anonymity of data. So basically, the commonly used two ways perturbative and non perturbative. In perturbative you add some noises to the data. This might lead to data inaccuracy, but it is ultimately serving the purpose of anonymity.

So let us say I am going to say this Shweta, who attended CITAPP from 9th to 11th December got headache. So I am going to change her name. I am going to change the name of the place. I will say just IIIT Bangalore or just Bangalore. I will generalize the data. And then I am going to say that she suffered from ailment, a headache. So I am generalizing the data, adding some noise onto it, so that she cannot be identified.

And another thing which people do is non-perturbative. So you generalize it in such a way that people are not able to identify it. So if I am not adding the zip code, if I am adding a range, instead of adding an exact age number, if I am not disclosing the nationality, then data cannot be identified. So adding so many I can say, removing the identifiers can lead to data anonymity. So then there is healthcare policy.

Also one more thing that the tech people can do is, you can design an app in such a way that when the hospital, people from the hospital are accessing your data, you can get a notification whether you want to want the authorities, or whether you want the hospital authorities to access your data, or you want to deny that. So that if that can be done then people would have the consent, whether you really want them to use your data or not.

From health policy's point of view, if you are making a policy that has to benefit all of the people, is it actually happening there at the ground? So that could be one question to ask. If we are providing aids to people to poor people, lower economic background people, then is it like equitable or not? That could be a question. Like what I have seen in US as the unfavorable benefits that the pharmaceuticals are getting there, the oligopoly that is happening there.

So things like that, if your policy itself is aiding those pharmaceuticals. So is there a situation happening around like that? So these were some ethical issues that we were thinking from a different point of view. Coming back to policy, how can policy give a solution to these things would be something around informed consent, if we can have like we were already discussing.

Maintaining confidentiality or anonymity like she was talking about. Limited information collection, like only the information that is required is being collected, not a full set of data, right? Accuracy and quality of data. What quality of data are you maintaining? Yeah, maybe. Accountability, who is accountable. Privacy to be embedded in system. So we were talking about privacy should be an embedded thing.

It should be there. It should be an integral part of a system. Yeah. Exactly. And then storage ethics. We also like talked about it before like right to be forgotten, how long

it is being stored and stuff. Right to choose over digitization. Do I want to be digital? Do I want my presence to be there on digital? Like, if I am given a form to sign, should it be on paper or on digital. It is all like, do we have that right?

We were thinking of what would be a possible solution around those key points like carbon footprints of data. If there could be a system where we can see all the places where the data has been gone? Or people who have accessed data, can there be a log of all the people who have accessed and then it again, comes down to Commons also because then only they will have the access to all this information of laws that we are talking about.

So can there be something around those lines? Global regulatory framework, if there could be global organizations like UN or something like that can have a policy around a regulatory framework. Like that. Yeah. I think that is all. So these are mostly questions around ethics not a particular solution that we could find right now in the given time, thank you.

The thing is to make this data public we should add public to it because these health tracking services, they release a heat map of people who are using it. So somebody looks at that heat map of a particular locality. Somebody looked at it and knew that few people were in that area and knew that the person was out in his office and he got into his house and showed itself.

So basically when you are making the public domain when you are releasing the data you should anonymize it. The thing is that. And for the research purpose I believe anonymity is important.