ENABLING REMOTE PARTICIPATION AND COPRODUCTION OF EVENTS

INTERACTION DESIGN PROJECT III
IN III-69

BY
SOURABH PATERIYA
126330001

GUIDE
PROF. RAVI POOVAIAH

INDUSTRIAL DESIGN CENTRE
INDIAN INSTITUTE OF TECHNOLOGY BOMBAY
2014

Project 3 Report

IDC

IIT Bombay

"Enabling remote participation and coproduction of events"

Submitted by

Sourabh Pateriya

126330001

M.Des in Interaction Design

Guided by

Prof. Ravi Poovaiah

Dr. Ajanta Sen

INDUSTRIAL DESIGN CENTRE

INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

2013

Approval Sheet

The Interaction Design Project III entitled "Enabling remote participation and coproduction of events" by Sourabh Pateriya, Roll Number 126330001 is approved, in partial fulfilment of the Master in Design Degree in Interaction Design at the Industrial Design Centre, Indian Institute of Technology Bombay

Chairperson :

Project Guide :

Internal Examiner :

External Examiner :

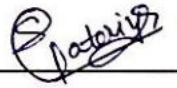
Date : 24/06/2014

Place : IDC, IIT BOMBAY

Industrial Design Centre, IIT Bombay

Declaration

I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/ source in my submission. I understand that any violation of the above will because for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.



Sourabh Pateriya
126330001

Date : 01 June, 2014

Industrial Design Centre, IIT Bombay

Acknowledgment

I would like to thank IDC, IIT Bombay, COSMIC team of National University of Singapore and Nanyang Technological University for giving me an opportunity to do this project as a part of our course curriculum. I would like to thank my honourable teachers, Prof. Ravi Poovaiah, Prof. Ajanta Sen, Prof. Anirudha Joshi and Prof. Pramod Khambete for guiding and preparing us prior to this project which helped us a lot during this tenure.

Finally, I am very grateful to my guides Prof. Ravi Poovaiah and Dr. Ajanta Sen for giving me invaluable feedback on the project whenever required, I learned a lot working under them and every discussion we had was like a lesson. Specially Dr. Ajanta Sen, for her constant support and expert guidance at every stage of the project. Her inputs helped me shape what was once just an idea into a meaningful project. She helped me address the issues from many dimensions I would have otherwise not considered.

I would also like to thank Lim Puay Ann for arranging our stay in National University of Singapore and helping us whenever required, Prof. Roger Zimmerman for giving his technical feedbacks on this project.

Index

1. Abstract

As many people and communities continue to be isolated in their own places and never go out to participate in events and festivals due to some factors, they are missing out lot of things in their lives. This project has looked for the possibilities of how these people can attend events and connect to each other remotely.

Giving specific direction to this wide spectrum of problem was important and hence specific problems were chosen to forward. We came up with a platform called “Human Connector”, by using which people can attend events remotely. Not only attend, this platform gives them power to organize event and make it available to remote audience easily.

Human Connector makes use of Crowdsourcing and makes content from various people available to everyone. By this, we will be able to attend an event live or even store it forever. So, even if you miss an event, you can attend it later on by using Human Connector platform.

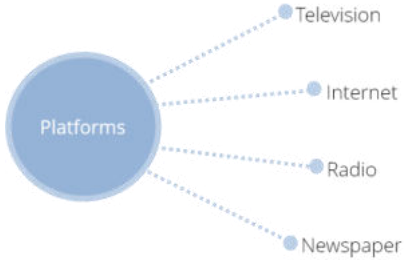
This project is a wide spectrum of possibilities and every person might attack this whole problem differently (explained in “possibilities section)”. The path chosen finally is selected only after trying out multiple paths and after rigorously having extensive brainstorming session with faculties.

2. Introduction

- Many people continue to be isolated and excluded from participating in live events and festivals due to factors such as mobility, costs and health and time etc.

- They lack adequate accessibility facilities as well as interactive platforms allowing them to participate in events.

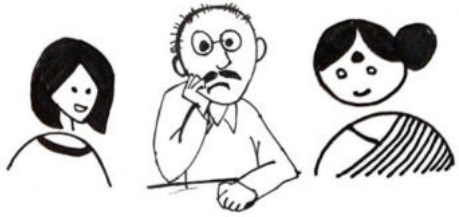
- Current media platforms available are one-way and do not include small events, such as school football matches and small concerts etc. Such small events are often very meaningful to people especially if they have a loved one participating in it.



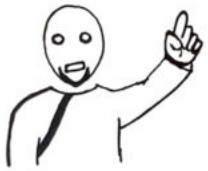
2.1 Explaining Problem by using a Scenario

Imagine Rohit, who is 16 years old

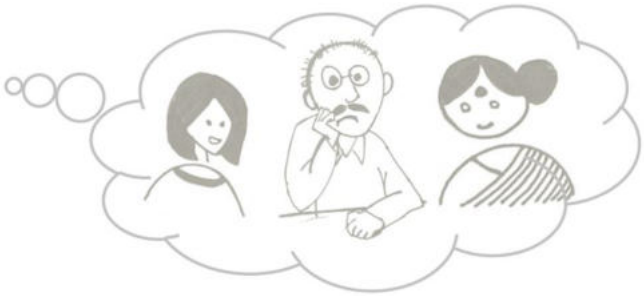
A beginner live musician who has gone out of city to perform for the first time



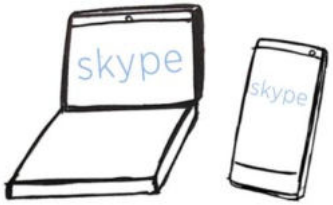
He never performed anywhere without his family before. His family couldn't accompany him because of travelling and health issues



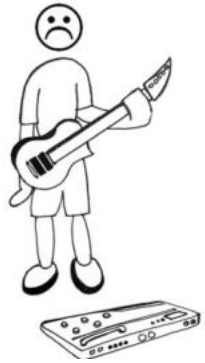
it is his first live performance outside the city, he wanted assistance from one of his friend, but he couldn't come with him. Rohit is unsure about some connections and settings, and is looking for help of his friend.



As this is his first event outside his city, he emotionally wants his family to be near him and see him performing



Skype and telephone call seems to be inappropriate choices at that situation



Because this will take someone to take care of it making him dependent

To conclude, Rohit as a Performer wants his family to see him performing. As, he is performing in a new city for the first time, he wants to get assistance from his friend for preparations.

This whole scenario looks tricky, but one would say, "Hey, I have Skype now!" or "I can do Google Hangout, what is so new in that!" But if you see sharply, all these apps are not solving all the stated problems which are described below.

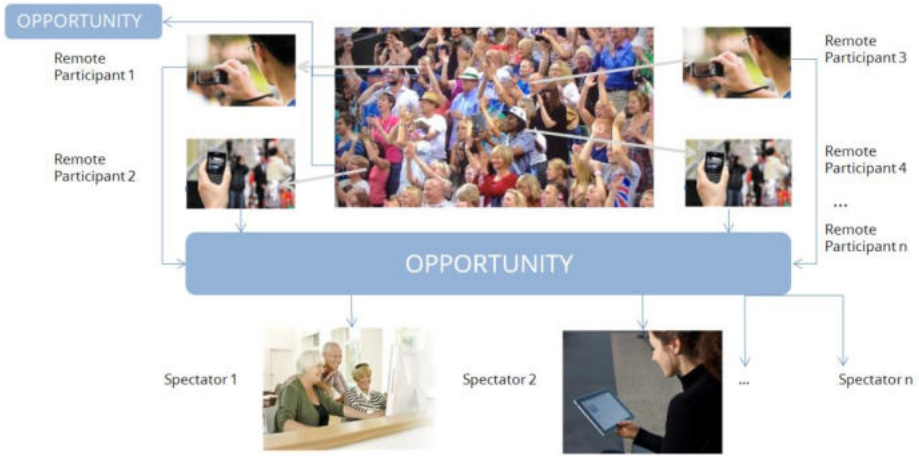
Let's breakdown the problems we have,

1. As Rohit is performing, it is practically not possible for him to capture visual/audio of himself while performing.
2. If you zoom out, and see from family's point of view, they might want to attend other important events too, such as Father's cousin's marriage, Mother's get-together event etc.
3. Biggest problem is, what if family doesn't even get to know about the remote events which they wanted to attend!
4. What if even after knowing the schedule of event, you are forced to miss an event because you have other priorities.
5. If you like some event and don't want to miss similar kind of event, what would you do?

Now there are some key players coming out of this scenario. There is a performer, spectators (who are there in venue), remote participants (family and friend who are not in event's location).

To get more information of key players, it became important for me to understand different kind of events (which we did later[1]).

Imagine a hockey match happening in a stadium.



Showing opportunities in this ecosystem

[1] Check Data Collection for that

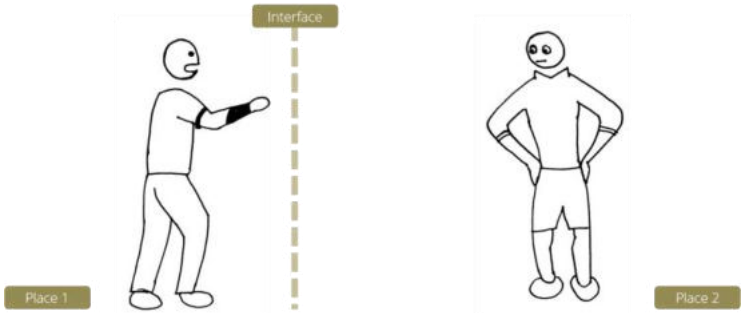
What really makes an event an event is “Involvement of People”. What if people who are attending an event help to source this event to remote location? What if somehow distant people see the happening of an event in real-time and also get to interact with participants, attendees? In this scenario of stadium hockey match, audience can help

We are living in an era, where possibilities are endless. Technology has always helped to bridge the gap between real world spaces. With the existence of online social media, physical distances are contracting and people are becoming more social. “Crowdsourcing” information is becoming very crucial and people are getting benefitted with it.

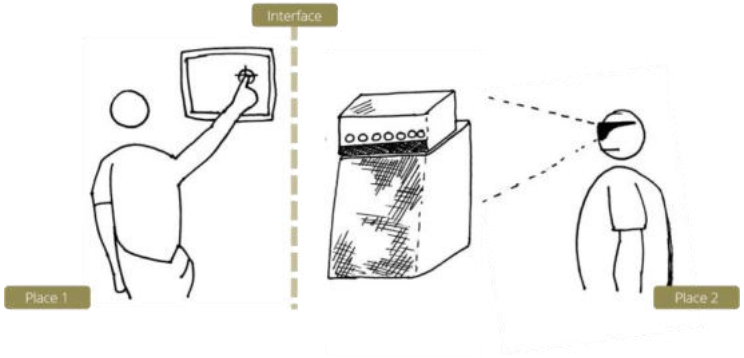
2.2 Directions within the Project

As this project progressed, it was noticed that it can take multiple directions. Briefly explaining different directions which were identified before going further;

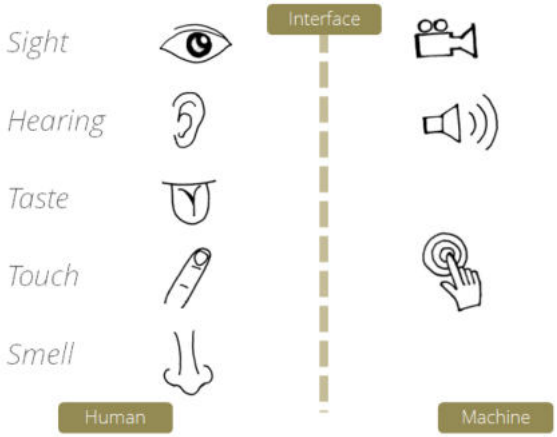
2.2.1 Manipulating and interacting with objects remotely



If two participants are in different places, and a participant needs help of another participant to manipulate certain objects, how will they do it?



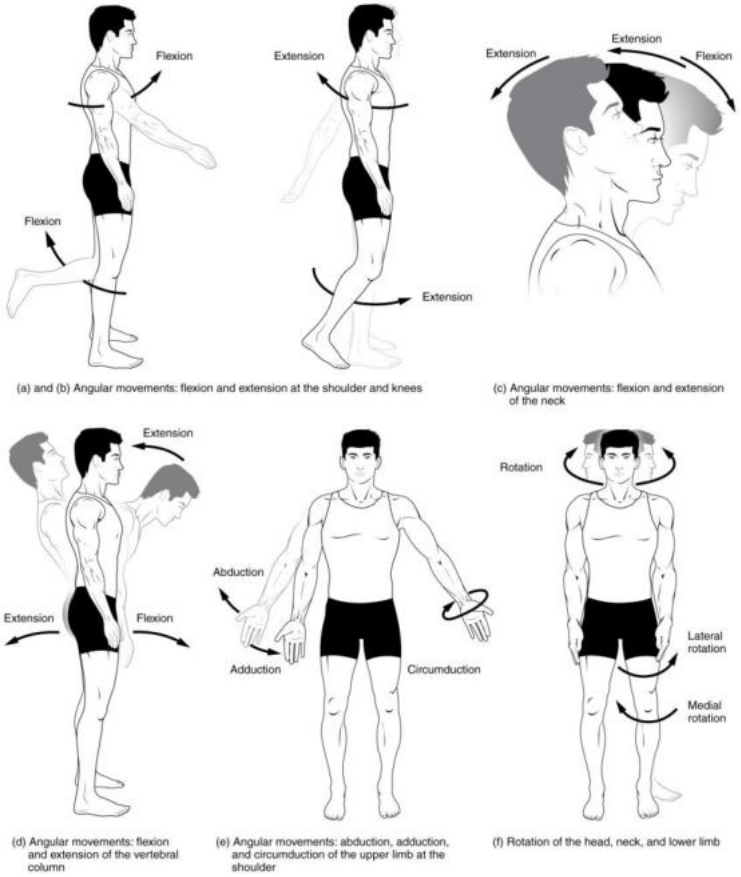
2.2.2 Capturing human sensorial information and improving remote participation



Imagine if we could capture all the possible human sensorial information and send it to a remote location where we map this information to a device/robot which is capable of imitating them. It will be similar to teleportation by using technology. Not just sensorial information, motor movements can also be captured.

Type of Motor Movements:

a. Angular Movements : Flexion and extension at the shoulder and knees
b. Angular Movement : Flexion and extension of the Neck
c. Angular Movement : Flexion and extension of the Vertebral Column
d. Angular Movement : Abduction, adduction, and circumduction of the upper limb at the shoulder
e. Rotation of the head neck and lower limb



(Image Source: http://en.wikipedia.org/wiki/Anatomical_terms_of_motion)

So, totally capturing sensorial information and motor movements, reflecting them virtually will help people reach in a different location and show their presence. They can shake hands, interact with people, and move around while sitting in a remote location. But this whole

direction is definitely not the starting part of this project as we need some kind of service before that, such things can be overlayed later on. Also, this is more of technological innovation rather than a design based innovation.

2.2.3 Improving Existing Services

A question which was worth pondering upon was, do we even need to come up with a new service or improving/re-designing some existing service will work for us? Do we need to evaluate some earlier services and why are they not sufficient or not working? Does it take too much of cognitive load for a typical family to use video calling services? As I got into more depth of this project and after rigorous discussion with my guides and Prof. Ajanta Sen, it was decided that we need entirely new system and hence, this whole direction of just improving existing service was insufficient as compared to the vastness of project.

2.2.4 Bringing small events to the map and making an ecosystem of them

"Do you know about all the events happening around you? How many of them are relevant to you or will interest you? " "What if it's your grandson's school tournament match and you are willing to attend it, but you end up not going there due to problems"

These are some important questions, and no existing platform can give answer to all these questions, but don't you think they are connected?

Events are integral part of our daily lives, and man is a social animal. To make more connections and to socialize, communities often organize festivals and events which help to unite people. Can you imagine a modern society in which there are no events? Events are timeless and will keep on happening until our civilization is there. They offer a sense of belongingness to religious, cultural, geographical groups. I find it really difficult to imagine a society without events, as most of the contacts I've made and friends I've earned are through events only. It is a basic necessity for modern society or any community to know each other and take collective decisions and move ahead. Without any force and urge to meet, how boring we'll become; hence, to keep on moving ahead we need to be part of events.

There are so many events happening around you right now of your interest but you don't really know about each of them. Even why you should know when most of them are not of your interest! But we often miss the most important events because of lack of knowledge, or other factors like travelling, money, health issues etc.

So, another direction which this project could that I found most interesting was,

- Ability to search for events local events and get notified whenever an event of your interest is happening.

- Help in organizing events (DIY[2] Events)
- Making small scale / local events appear globally,
- **Internet of Events**: While brainstorming in this direction, I came to a point where I thought about Internet of Events. Events have lot of parameters in common, and we can find out those parameters and help in standardizing them. As there are some limited type of event (Explained in Data Collection section), we can find out those unique parameters and build something over that. By this, for example, if a person is not experienced in organizing certain kind of event, he/she can use a "recipe" or technically framework from planning stage to the production of the event. This will have people to organize events easily and this way by Crowdsourcing frameworks, we can make an open source database for various kinds of events that anyone can use. Events will learn from each other. So for eg. there is a Literature Festival happening in Leipzig, Germany. Organizer of that event will create a framework to plan, interact with volunteers, and produce it. Once the event is done, people will give feedback about events. Now there is another person in Bangalore, who wants to organize Literature festival. This person can make use of framework used by Leipzig Literature Fest to organize his event and this makes it absolutely easy for him.

This way, we will be able to collect framework of various kind of events, which will be reused by anyone, anywhere.

To conclude, bring small events to the map and making an ecosystem of them was taken forward with intent to connect people facilitating them to attend events remotely.

[2] Do It Yourself is also known as DIY. In this type of events, no bigger producers are involved. All the work to organize an event from scratch is done by community of people only. These kind of events are usually not so complex and small in scale.

3. Data Collection

To understand events in detail, it was important to analyze them, categorize them, and find out common parameters.

But first of all, what is an Event?

According to eventeducation.com which gives information on event management and planning,

"An event can be described as a public assembly for the purpose of celebration, education, marketing or reunion. Events can be classified on the basis of their size, type and context." [1]

Now, events are classified by different people in different ways.

For eg. according to eventeducation.com [1], type of events are,

1) Social / life–cycle events
2) Education and career events
3) Sports events
4) Entertainment events
5) Political events
6) Corporate events
7) Religious events
8) Fund raising/ cause related events

So, people classify them in different contexts and hence there is no standard classification of events. To move ahead in this project, we

wanted classification with such parameters so that any kind of event falls under those categories.

3.1 Documenting Events

I started documenting different kind of events. Few of them include;

- Rock-im-Park : It is a multiday music festival happening annually in Nurnberg, Germany.
- IDC Open Air, it is a small scale DIY event by students of IDC, IIT Bombay with no fixed frequency.
- Mood Indigo : Annual cultural festival of IIT Bombay
- Street Cricket (Galli Cricket)
- Spaced Out: A DIY live musical event by students of SIES Sion
- Techfest : Annual Technical festival of IIT Bombay
- Parkway Drive Open Air: A small scale concert which was headlined by an Australian band called Parkway Drive.

As, I've attended events since my childhood, I've lot of learning and experiences of them too in my mind. These events are Holi, family events, birthday parties, business events, conferences, Diwali etc. Not to mention that I am an active concert goer and hence I could easily miss out the need of the project because of the cognitive biases. I've always considered brief of this project and hence walked into the shoes of people who are going to use it. User groups are explained in later section as till now I wasn't sure of my specific users.

After collecting data from various events, I started classifying them and finding parameters associated with events. Earlier I classified them in terms of complexity in Human Networks.

I also had conversations with lot of people who are involved in events, be as a spectator, organizer, coordinator or performer. To find out insights related to events, I created a questionnaire and people were interviewed.

3.2 User Studies

Talking to people is also very important when you have to get insights. A total of 9 people were scheduled to interview.

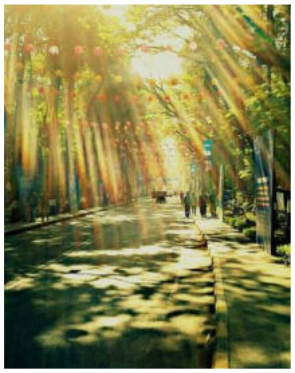
I interviewed them one by one as per their convenient time over e-mail, facebook and coffee shops. These people were related to events and 6 of them were from Mumbai, other 3 from different places.

Questions asked to them were,

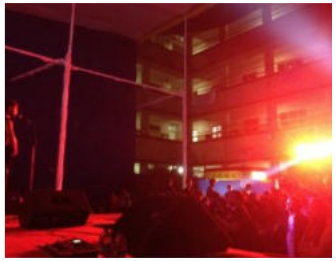
1. How frequently do you attend events[3]?
2. What kind of event do you really like attending?
3. Do you have any experience of attending live events?
4. Can you specify some of the recent events attended by you?

[3] "Events" can be of any type like Family, business, music/literature/film festivals etc.













5. How do you get to know about which all events are happening around you? (Would be really good if you try to make it as exhaustive as possible)

6. What do you do if you miss an Event which was very important to you?

7. Have you organized/coordinated an event? (Of any scale)

- If "Yes"
  - Can you please describe the process you follow to organize them. Also try to emphasize on things which are really tough while organizing them.
  - How do you invitation to people
  - How do you maintain budgets?
  - How do you coordinate with other members?

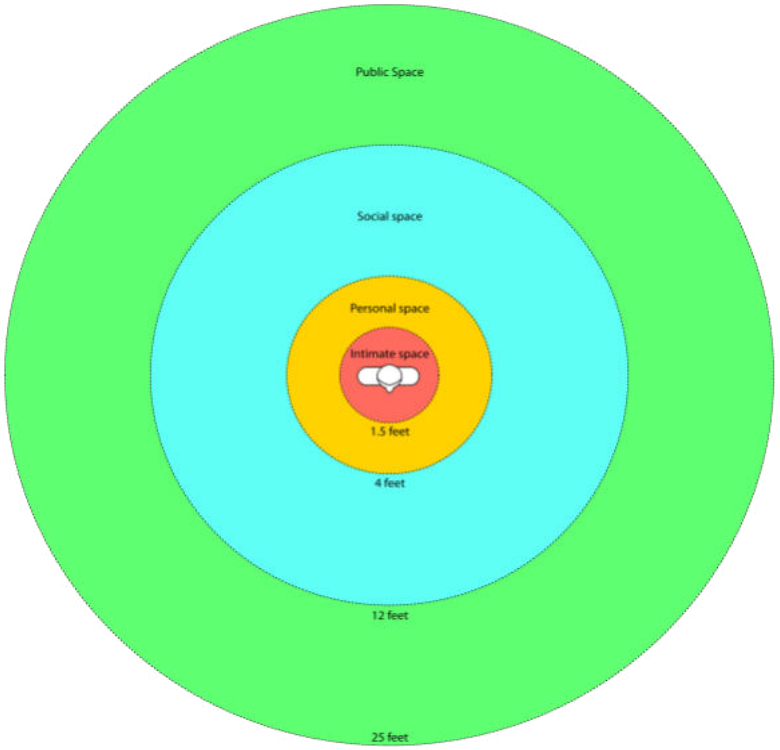
- If "No", why didn't you organize?

8. What kind of events are your favourite, and what is so special about them?

So, now I had data of documented events and user interviews. This data is used later on to come up with Need Gaps and problem opportunities. It also helped to understand events in great detail.

3.3 The Hidden Dimension

I was advised to go through this book by my guide. The Hidden Dimension is an extraordinary book written by Edward T. Hall. He has talked about spaces and "proxemics" in his book. "The study of set measurable distances between people as they interact' is called proxemics.



People like to keep distances from other people. And this invisible bubble of space that constitutes each person's "territory" is one of the key

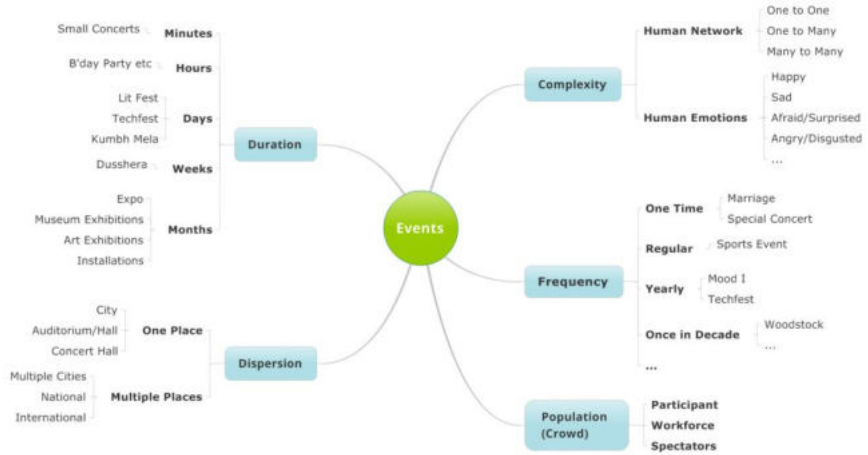
dimensions of modern society. Edward T. Hall, introduces the science of proxemics to demonstrate how man's use of space can affect personal and business relations, cross-cultural interactions, architecture, city planning, and urban renewal [2]

He has proposed radius for different kind of spaces. He has also defined Intimate, Personal, Social and Public Spaces in his book.

- Intimate Space is defined between 0 – 1.5 feet.
- Personal Space is 1.5 – 4 feet.
- Social Space is 4 - 12 feet and,
- Public Space is defined between 12 – 25 feet.

3.4 Classification of Events

These are the parameters found after data collection and documentation of events through which events can be classified,



Event	Event Type		Complexion	Frequency	Dispersion	Duration	Population
	Relative	Absolute					
School Hockey Tournament	Small Public	Small	Single Event combined with cultural programs	Yearly /Half Yearly Tournament	Single Competition Venue	3-4 Days	Medium/Low
Mood Indigo/Techfest	Big Public/Big Personal	Collective	Grp of events that run simultaneously with cultural program	Yearly Festival	Different venue for different competitions	3-4 Days	High/Medium
Kumbh Mela	Big Public/Big Personal/Big Intimate/Big Private	Collective	Grp of events that run simultaneously with cultural program	Irregular Frequency	Different venue for different events		Very High
Birthday Event	Small Personal/Small Public/Med Personal/Med Public/Small Private	Small/Medium	Single Event	Yearly	Single event at one venue	Few minutes to 1 Day	Medium/Low
Art Exhibition	Med Public/Med Personal/Small Public	Medium/Small	Single Event	Irregular Frequency	Single/Multiple Venue	Held over a number of weeks or months	Medium/Low
Rock Concert	Big Public	Collective	Grp of events that run simultaneously	Irregular Frequency	Multiple Venue	2-3 Day event	Very High/High/Medium
Ram Navami	Small/Med Public/Personal	Medium/Small	Single Event	Yearly	Single Venue	9-10 Day event	Medium/Low

Table showing the classification of events using these parameters

But as I had more rigorous discussions with Prof. Ajanta Sen, we found out that the parameters come under a bigger category of,

“People, Space and Time”

On the scale of high to low (except people which is low to high), we made permutations of People, space and time and tried to figure out complexity of those events (not in any absolute scale). This figure on the right side visualizes the complexity of events.

Complexity is depending on people, space and time. Higher the people [P-High], more complex an event becomes. Lower the space [S-Low], more complex an event becomes and lesser the time [T-Low], complexity will increase.

But there is an exception, if there are lot of people, less space and too much of time [P-High, S-Less, T-High], complexity will dramatically increase because it will be a multiday event with lot of people in very less space. You can imagine the condition.

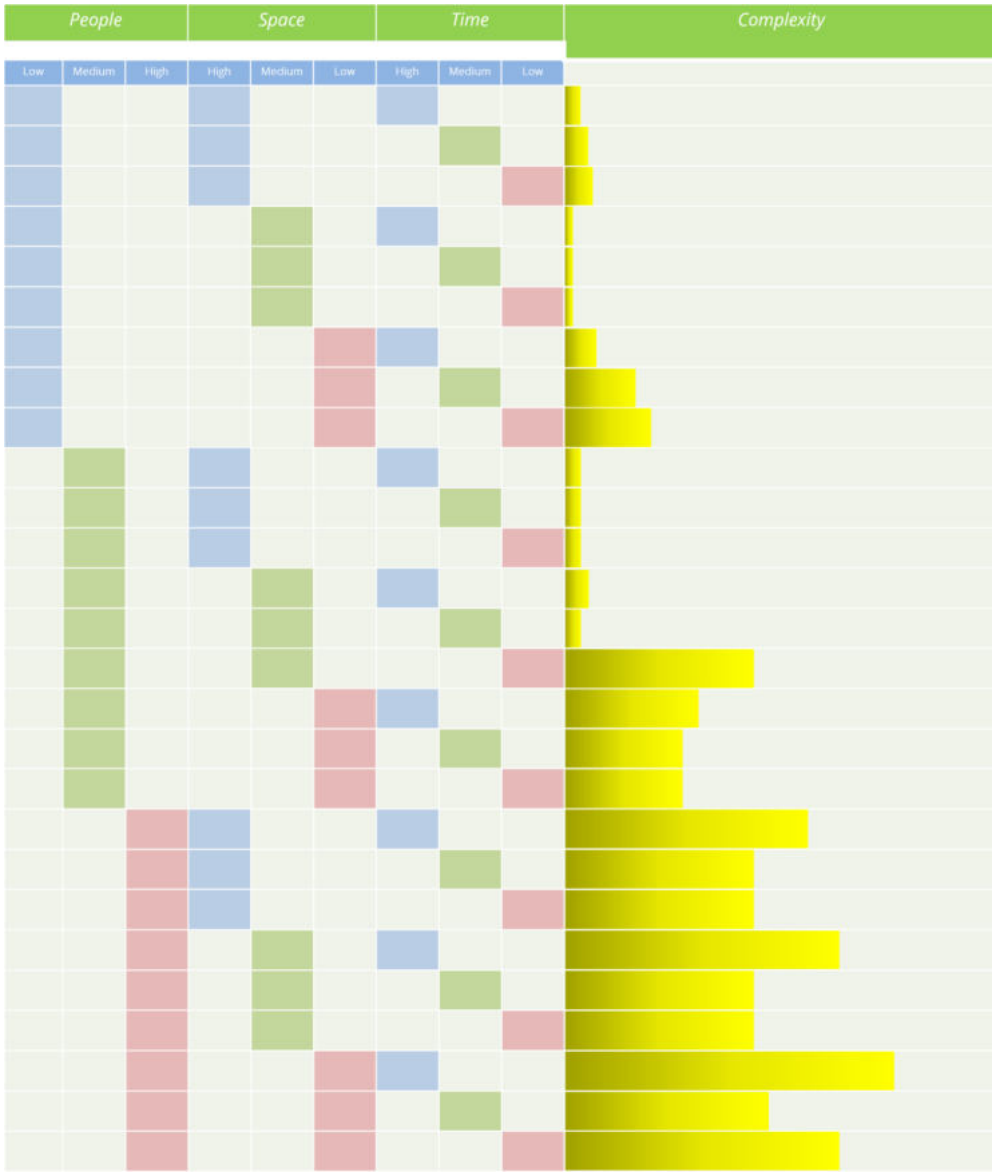
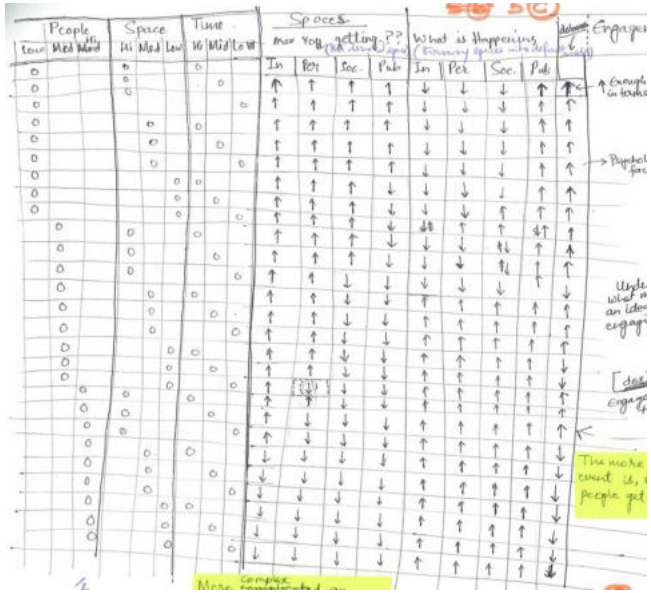


Figure showing the complexity of events on the scale of People, Space and Time

After thoroughly understanding complexity matrix of the Events, we understood a lot more about events. By getting idea of most primitive parameters Space, People and Time, we were able to map complexities with proxemics too.



As proxemics is well defined with exact figure, we were able to move from a vague point to something more prominent and we could see a pattern emerging from this matrix.

We tried to map 2 things in this matrix,

1. Are you getting intimate, personal, social, public space in an event?
2. What kind of space are you in.

These things were mapped to People space and time matrix. May be these things are sounding too technical or useless; let me try to explain them;
After this matrix we have these things,

1. For any kind of event in this world, we can find out what kind of spaces are people sharing in the venue.
2. For any kind of event, we can find out what kind of spaces people look for, but in the end they may get it or not get it.
3. More complex the event gets, more of your chances to get intimate, personal, social, public spaces will be reduced.

3.5 Understanding Network of Humans in Events

We found out 7 kinds of events, which are diverse enough in terms of complexity and tried to go into details of those events by making human network diagrams.

I came across Mark Lombardi's Sociograms's book [3] and was very much inspired by them. Those sociograms gave me a different vision to look at events from a more zoomed out view.

What is a Network Diagram: Network Diagrams are very common to depict nodes and connections in the field of computer networks. There are different kind of predetermined networks which makes it easy to make protocols.

Can we identify such networks in human connection in context of events? If not limited number of networks (as humans are much more free and connect in different ways unlike computers), we can still find interesting arrangements which will help us in designing.

The intention of making network diagram was to understand the underlying social structure of them, get a zoomed out point of view of how people interact, move, organize themselves in events. While making detailed network diagrams, a lot of ideas were ignited. I was getting a whole new chain of possibilities which were not enough detailed before.

Network diagrams of following diverse events were studied because these events are most diverse and cover the spectrum of any kind of event.

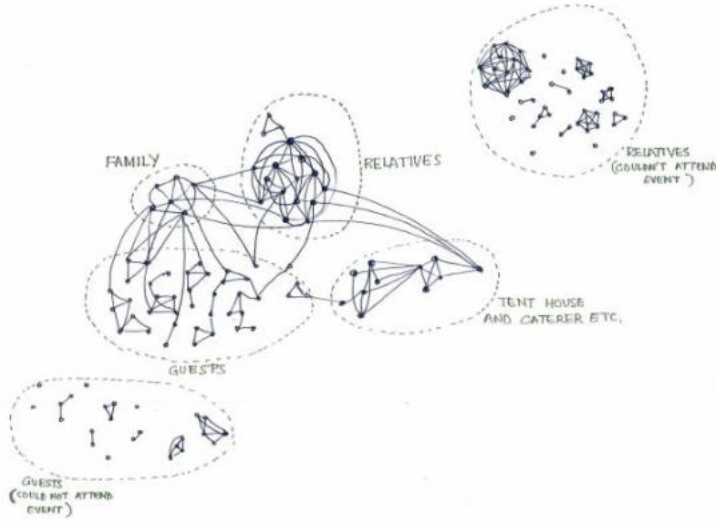
1. Family Event
2. TED Talk
3. Street Cricket/ Gali Cricket
4. Ram Leela/ Ramlila
5. Holi
6. Rock-im-Park
7. Techfest

Further after making detailed network diagrams, details like complexity, people/space/time, venue, technologies involved, media, sensory and motor responses involved, networks, merits/demerits of these events, need gaps and problems opportunities were analyzed in great detail.

(Please note that due to practical constraints, degree of connection of a person is restricted to a low number, otherwise it'll become highly complex and can't be comprehended. Note that People are represented by "dots" and relationship is represented by "lines".

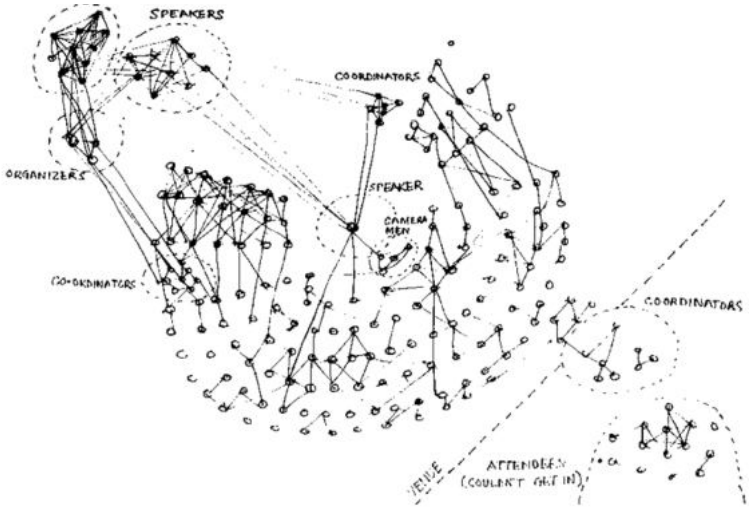
3.5.1 Family Event (Family)

Events like Birthday party, marriage, anniversary, bachelor party, ceremony, annaprashan, sacred kathas etc come under this category. These kind of events have people, space and time ranging from low to high. Venues are either Indoor/Outdoor. They are either single or group of events happening simultaneously. They are usually dispersed in single venue. Entry is by invitation through Phone calls, housecalls, cards etc.



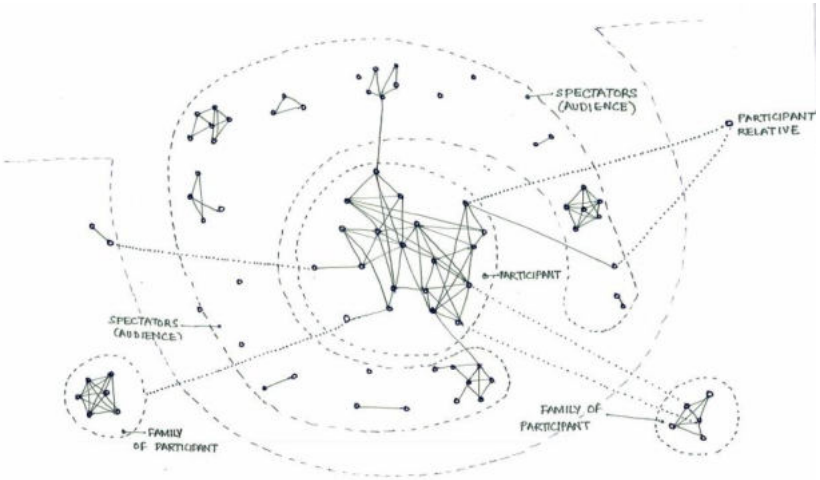
3.5.2 TED Talk (Professional Event)

It is a well known event global set of conference which has a slogan “Ideas worth Spreading”. Other events which have similar complexity cluster are, INK Talks, press conferences, debates, conferences, product launch etc. These events are Indoor/Outdoor and entry is through ticket/invitation only. These kind of events have limited spaces and entry. They are also well disciplined and highly planned and managed by professionals. Challenge here is, people with low/no budget can’t organize such events. Also undeserving communities usually avoid going to such kind of professional event.



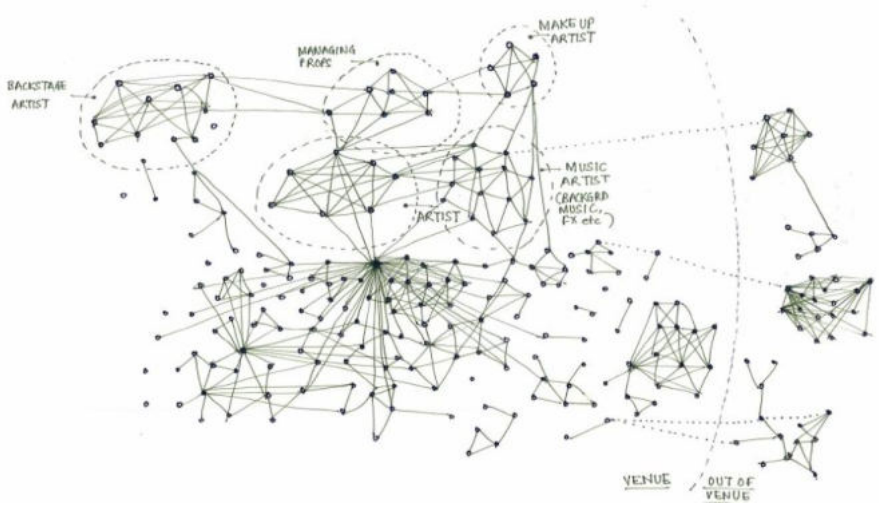
3.5.3 Street Cricket/ Galli Cricket (Sports)

Street Cricket/ Galli Cricket is local rendition of popular sport Cricket. When played in streets or small playground, it becomes local and small in scale. Other events of similar complexity are other street sports or school tournaments. These kind of events are usually unplanned. There is no assigned space for such events and they are also not scheduled. As these kinds of events usually happen in an outside area/schools etc, family can’t see them until they go to the venue. Such small scale events can’t be broadcasted easily for the families or audience which is interested as currently available platforms are not sufficient for that.



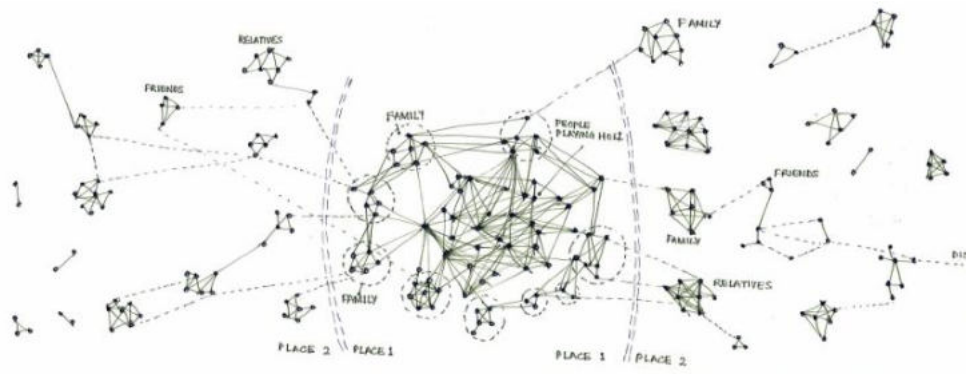
3.5.4 Ram Leela/ Ramlila (Community driven Event)

Ramleela is a dramatic re-enactment of Ramayana. This play is staged annually for over ten continuous days during the auspicious period of “Sharad Navratras” [4]. Number of people involved in such event is usually medium, and availability of space is low as it is staged in small open areas of streets, or small stages set up but locals. It’s an outdoor event with free entry. It is entirely self organized and is a great place for local communities to meet. It is an opportunity for people to show their talent. People even come from other districts/villages to attend this. This event is in regional language. Performers put in extra efforts to show their talent and get ready with costumes, but there is no easy way to broadcast this event to other places until you put money. As there are lot of families who are unable to attend Ram Leela, there is no way they could attend it later also by using any platform.



3.5.5 Holi (Cultural Event)

Holi is a well known festival also known as festival of colours or the festival of love. It is an ancient Hindu festival, but has become popular in South Asia. Events like Diwali, Christmas, Eid, Raksha Bandhan are of similar complexity cluster. This event has lot of people, lot of space and lot of time too. It helps to reunite people and make them feel more connected. As lot of families are dispersed from their native places, they are not able to celebrate such events with their families. The only way for them is to make a phone call, send greeting card etc. Distant relatives feel very far from their own families and friends because there is no way to be with them physically. This often result in bad relation as people start forgetting you.



3.5.6 Rock-im-Park (Entertainment Event)

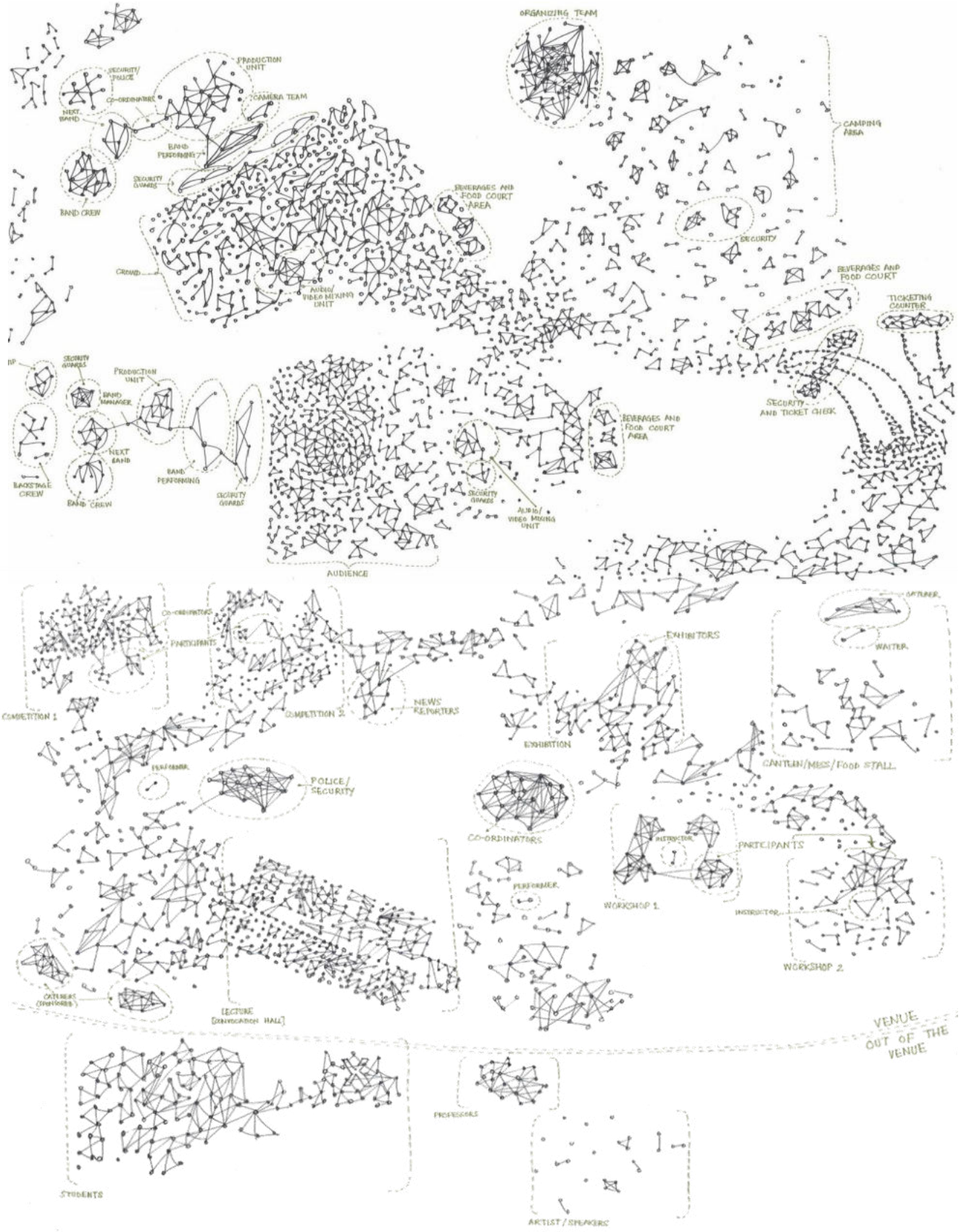
This was one of the most complex events as per my conception I had ever seen in my life. But after comparing it to people, space, time and seeing zthe kind of network it has, there is one more event more complex than this.

Rock-im-Park is one of the world's biggest music festivals which takes place at the Nuremberg, Germany. Average attendance ever year is around 150,000 people. [5] Other events which are similar to this events are Independence Rock, Woodstock, Glastonbury, Wacken Open Air, Sonisphere Festival etc. This kind of event is usually outdoor and multiple tracks happen in parallel. You won't be able to attend every musician performing, as there are multiple stages too making it gigantically huge. The amount of professionalism involved in such events is very high. There is usually too much of congestion in such events and tickets are very expensive. See the network diagram on the right side.

Network Diagram of Rock-im-Park

3.5.7 Techfest (Mainly Educational Event but is superset of all the events explained before)

The most complex event which I found during studying them was "Techfest" as it has very complex human networks, planning hierarchies, diversity, high number of people, too much of space, and it is a multiday


ORGANIZING TEAM
PRODUCTION UNIT
SECURITY/ POLICE
CO-ORDINATORS
CAMERA TEAM
NEXT BAND
BAND PERFORMING
SECURITY GUARDS
BAND CREW
BEVERAGES AND FOOD COURT AREA
CROWD
AUDIO/ VIDEO MIXING UNIT
CAMPING AREA
SECURITY
BEVERAGES AND FOOD COURT
TICKETING COUNTER
SECURITY AND TICKET CHECK
BP
SECURITY GUARDS
PRODUCTION UNIT
BAND MANAGER
NEXT BAND
BACKSTAGE CREW
BAND CREW
BAND PERFORMING
SECURITY GUARDS
BEVERAGES AND FOOD COURT AREA
SECURITY GUARDS
AUDIO/ VIDEO MIXING UNIT
AUDIENCE
CO-ORDINATORS
PARTICIPANTS
COMPETITION 1
COMPETITION 2
NEWS REPORTERS
EXHIBITORS
EXHIBITION
WAITER
CANTEEN/MESS/FOOD STALL
PERFORMER
POLICE/ SECURITY
CO-ORDINATORS
INSTRUCTOR
PARTICIPANTS
PERFORMER
WORKSHOP 1
INSTRUCTOR
WORKSHOP 2
CATERERS (SPONSORED)
LECTURE (INNOVATION HALL)
VENUE
OUT OF THE VENUE
PROFESSORS
STUDENTS
ARTIST / SPEAKERS

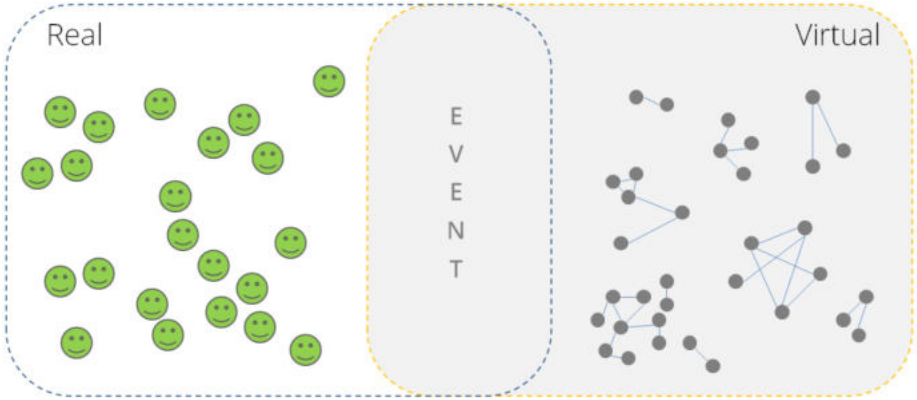
event too. Techfest is annual science and technology festival of Indian Institute of Technology. It is organized by independent body of students. It has now grown to Asia's lasrgest Science and Technology festival. [6]

Other events which are similar to Techfest are Mood Indigo, literature festivals, theatre/film festivals or entire college festivals. Number of people involved in such festivals are high, there is lot of space and time too. It has multiple events in parallel and venues are dispersed across the campus. It is highly planned and managed, though it is extremely difficult. It happens annually and is focused for students. People/students who are economically challenged can't make it to the event.

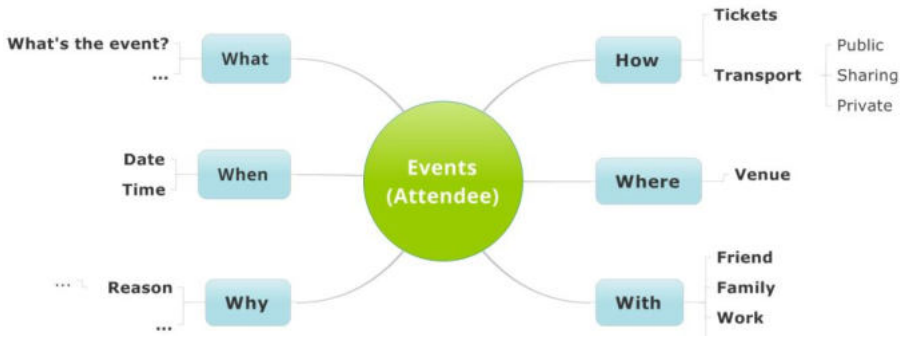
In order to further understand Techfest, its committees and how does it work, I talked to the last year's main coordinators and made mind map of their committees etc. They also told that it has multiple timelines. There are different stages before/after organizing this. They are planning, executing, organizing, feedback.

This gave me an insight that I should concentrate on different timelines too and put them in my design.

These human networks exist in both real and virtual realms.



3.6 What/When/Why/Where/With/How of Events



From Attendee's point of view

From Organizer's point of view

3.7 Need Gaps

1. Dealing with guests and relatives who want to attend event but are far from the event.
2. Some families are not much experienced in organizing events, telling them how to do it is important at times.
3. Some people are often less tech savvy and they have no idea of social medias too.
4. Families at times fail to send invitations to their relatives.
5. Not attending such important personal events often result in bad relations.
6. People with low/no budget can't organize events like TED, Concerts etc easily.
7. Economically challenged people can't afford to go to expensive ticket based events.
8. Some people despite of reaching venue if miss to enter inside the venue, feel really bad as even after being next to where event is happening they can't see what's happening inside quickly.
9. Marginalized people feel embarrassing in attending events.
10. Some events are very sudden and not scheduled. Due to this, it doesn't reach wider audience.
11. Sports bring sportsmanship and sense of togetherness to people. Due to limited spaces in colonies, streets and unavailability of playgrounds, popularity and activities of local strokes/street sports is decreasing day by day.
12. Good events require "Advertisement" so that it can reach people it is meant for, and "Advertisements" require "Money".
13. If event gets very crowded, "view obstruction" is a problem.
14. Venues are becoming expensive day by day, this is resulting in events seeing huge losses / no profit.

3.8 Problem Opportunities

1. Bringing those relatives/families/friends together who could not attend event.
2. Giving framework to organize events so that it becomes easy for anyone to organize events.
3. Making more space to the visitors who are not getting personal space.
4. Two way multicasting/broadcasting event to remote attendees allowing them to interact with each other.
5. Less cognitively involved ways to broadcast/multicast events.
6. Trigger starting events automatically which are scheduled.
7. Making local events available to people who want to attend them but are sitting somewhere far.
8. Locally broadcasting/multicasting a completely mixed event (with different camera angles) resulting in crowdsourced local channels.
9. Publicizing local events using some different media through which specific and directed crowd is targeted.

4. Project Brief

Designing a platform through which,

1. People can attend events remotely,
2. Explore and search for events,
3. It becomes easier to organize an event

Platform should be focussing on small scale events with less complexity of People, Space and Time; but should be open enough to accommodate any kind of event and can be scaled too.

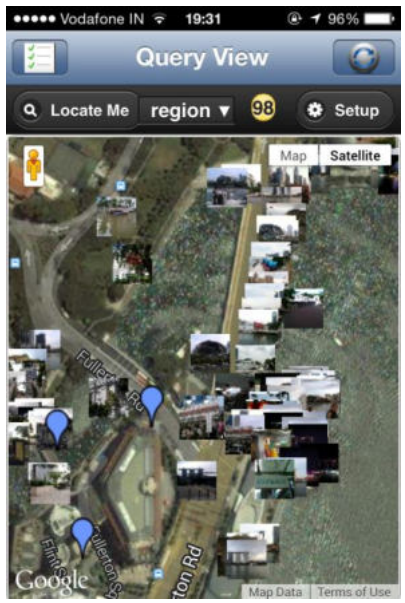
As core of an event is involvement of humans, trying to involve them by some means and helping others to show what is happening in the event who are not in the venue physically.

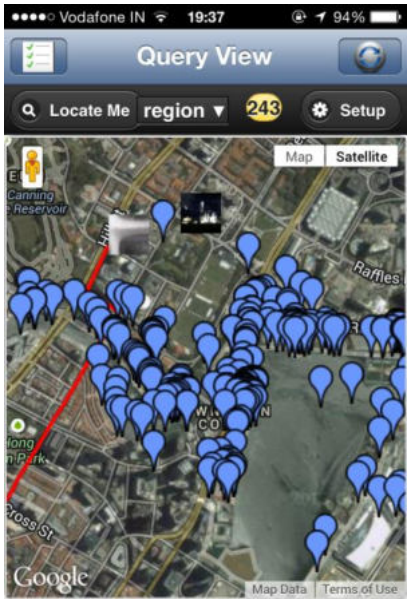
Project should also be making use of Geovid [7] technology.

4.1 Geovid Application

The **GeoVid** [7] project explores the concept of sensor-rich video tagging. Specifically, recorded videos are tagged with a continuous stream of extended geographic properties that relate to the camera scenes. This meta-data is then utilized for storing, indexing and searching large

collections of community-generated videos. By considering video related meta-information, more relevant search results can be returned and advanced searches, such as directional and surround queries, can be executed.



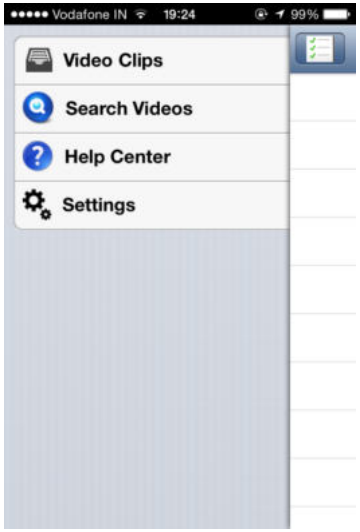


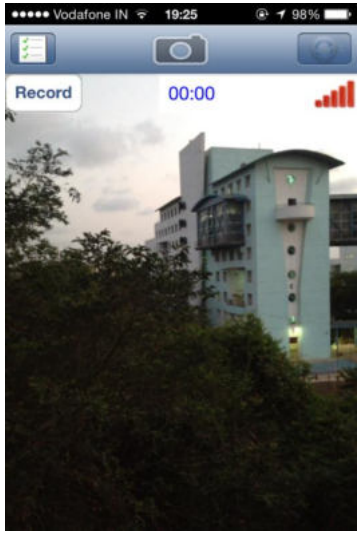
Geovid puts location stamp over the videos, hence making them geo aware. Not only location, Geolocation also finds out the orientation and field of those videos mapping them real-time in maps. It detects your location and show videos around you.

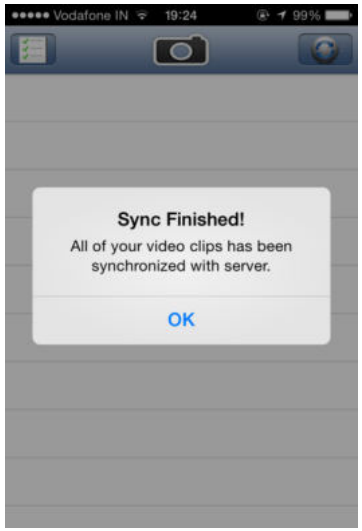
It also allows user to make their own geo-aware video clips and sync with the cloud.

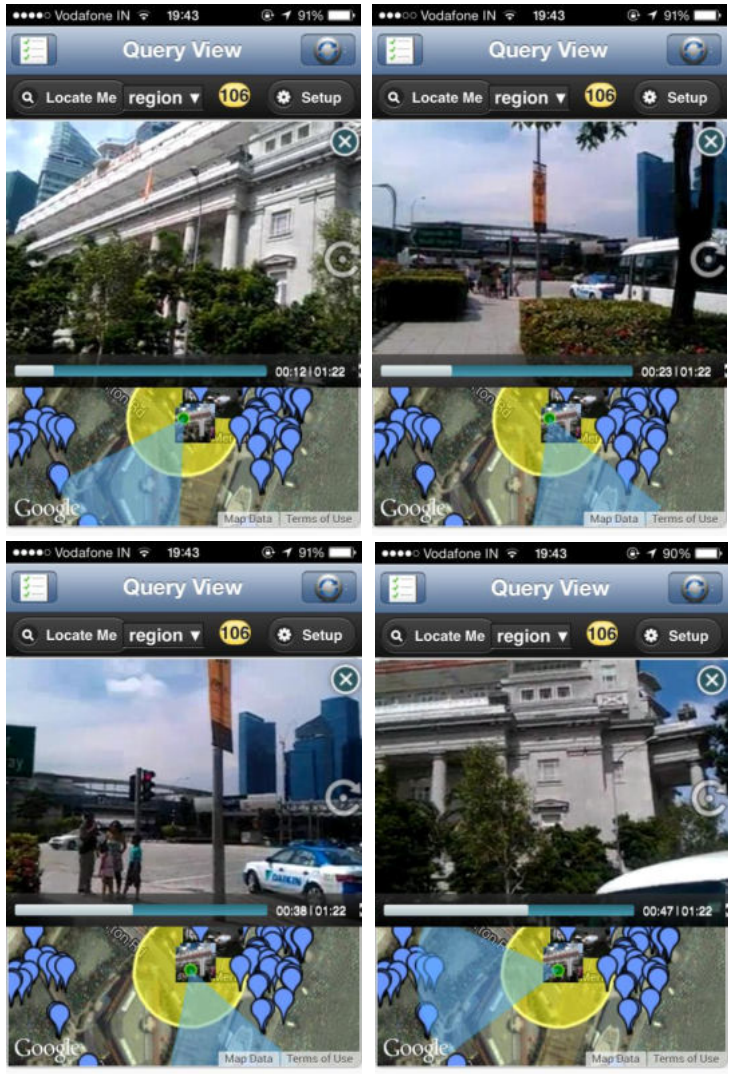
It supports two different views,

1. With image thumbnail
2. Without image thumbnail









Check on the left side, upper portion of the mobile screen shows the video and the lower half shows you map with the orientation and field of view of camera angle. Isn't this feature fascinating? There can be lot of application to improve the way we look at videos right now.

The most fascinating part is, it doesn't just capture GPS, orientation data, it also captures Smartphone's sensor data in realtime mapped with the frames of video.

So, this app is aware of your movements, it knows when you are walking and making motor movements. It captures,

- Accelerometer
- Magnetometer
- Gyro sensor
- Thermal Sensor
- Light Sensor

Check Geovid's working demo at,

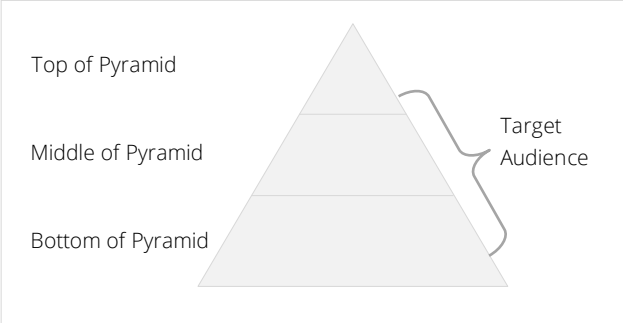
https://www.youtube.com/watch?v=m0lfxUvpSjo

4.2 User Groups

The potential user groups are,

- Marginalized People – People who feel embarrassing to go outside and meet people. Example of marginalized people are,
    - Handicapped
    - Acid Attack victims
    - Communities in the bottom of pyramid
    - People with contagious diseases

- Elderly people
- Distant Families
- Farmers
- Musicians
- Teachers/mentors/wellwishers
- Rape Victims
- Distant Soldiers
- Sports Person
- Indian Housewife
- Theatre Artists
- Parents
- Migrants
- Patients in Hospital
- This portion of Pyramid

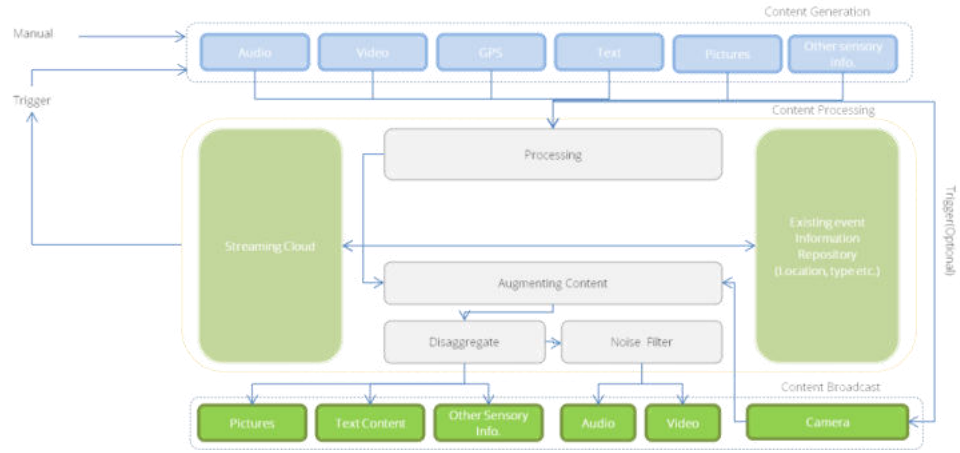


Out of all the potential user groups, I've taken "musician" as my user group for now, because concentrating on such a user base won't be a wise idea. I also took user groups like, Farmers, Sports person and worked on scenarios for them too. But concentrating on one concrete user group will stop distracting me from more specific ideas.

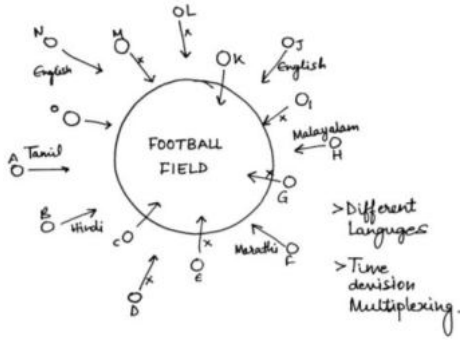
Note that my intention is to let my final design solution work for as many user groups as possible. Also, one of the reason why I took musicians as my user groups is that I am part of the underground local scene and have seen need of it. Also, I think taking musicians as a user group is a very challenging, as while attending a musical event, there is great detail of sensorial involvement.

4.3 Initial design Ideas

Idea 1 – Service (Backbone)



Idea 2 – Concept of Time Division Multiplexing

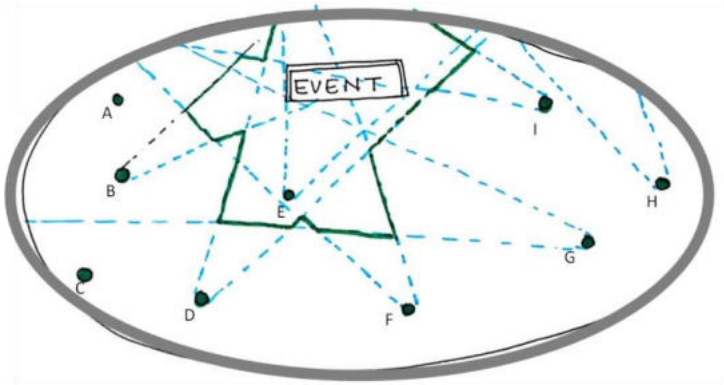


Suppose there are multiple people capturing football field from different angles and at different moments.

For eg. For a span of 1 minute this is the summary:

A : 00:02 – 00:19
D : 00-15 – 00:36
H : 00:02 – 00:50
K : 00:34 – 00:59
M : 00:40 – 01:00
So, we get recordings of 59 seconds from different cameras, with multiple camera options for the span 00:02-00:19, 00:15-00:36, 00:34-1:00
This way, by stitching content from different users, we can come up with whole event covered from different point of views.

Idea 3 – Multiple Point of View availability at a particular instant



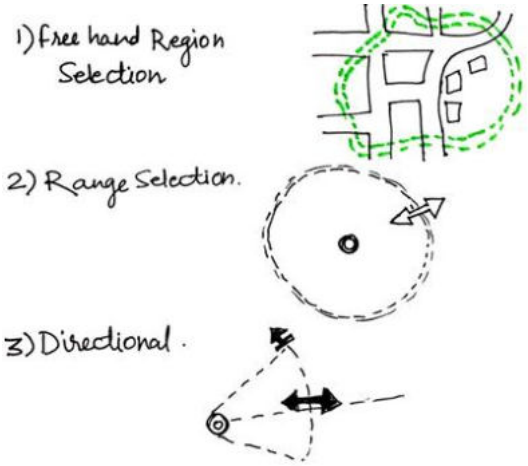
Outlined part is covered by 2 or more cameras.

We can make use of multiple camera angles. What if a remote user can select multiple camera angles on the go? Won't that be little interesting?

Idea 4 - Keeping content ready for bad internet connection is important :

- Rich Media + Sensory Info (For good internet connections)
- Augmented Media (For good internet connections)
- Images + Streaming Audio (For normal internet connections)
- Just Audio Streaming
- Tweets + Text based streaming (For bad internet Connection)

Idea 5 – Searching events by using geographical location of person and ways to select geographical locations



Idea 6 – Streaming local events by Crowdsourcing

Idea 7 – Starting streaming of events to a remote participant as soon as some conditions are met (For eg. Start streaming as soon as event starts)

4.4 Wishlist:

I was advised to make a wishlist by my faculty. And I really found it fascinating asit gave me complete freedom and look at everything I was working on from a wilder perspective. Everything which I had done till now was very calculative, but making wishlist is like letting yourself fly.

1. Teleporting – Won't that be like a magic if you could teleport to any location in the world anytime? If we see, technically, yes it is possible! By the help of technology, anything can be made possible. Imagine creating an illusion of teleporting by wearing oculus rift with haptic feedback. I wanted people to teleport to any event happening in the world so that don't feel alone anymore.

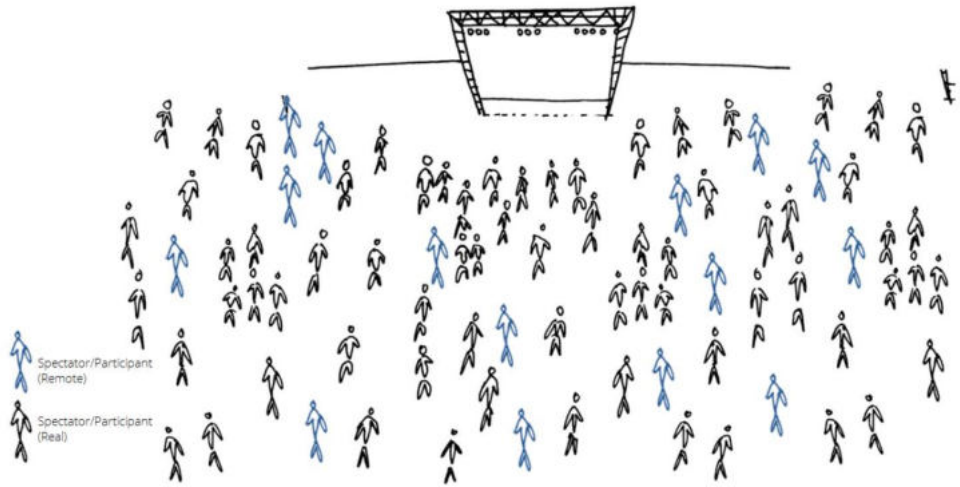
2. People who don't have experience in Event Organizing don't feel helpless anymore – As lot of people don't have much experience in organizing events, they end up organizing highly mismanaged events. Won't that be nice if somebody helps you all the time?

3. Events happening nearby are not unknown anymore – There are always some events happening around you, won't that be good if you are always well informed?

4.5 What is the ideal situation?

After creating wishlist, I came up with a ideal situations. What will be the ideal situation so that people don't feel isolated anymore?

Imagine a concert where real and remote participants[4] are attending an event together. They are also interacting with each other and it is like they are together!

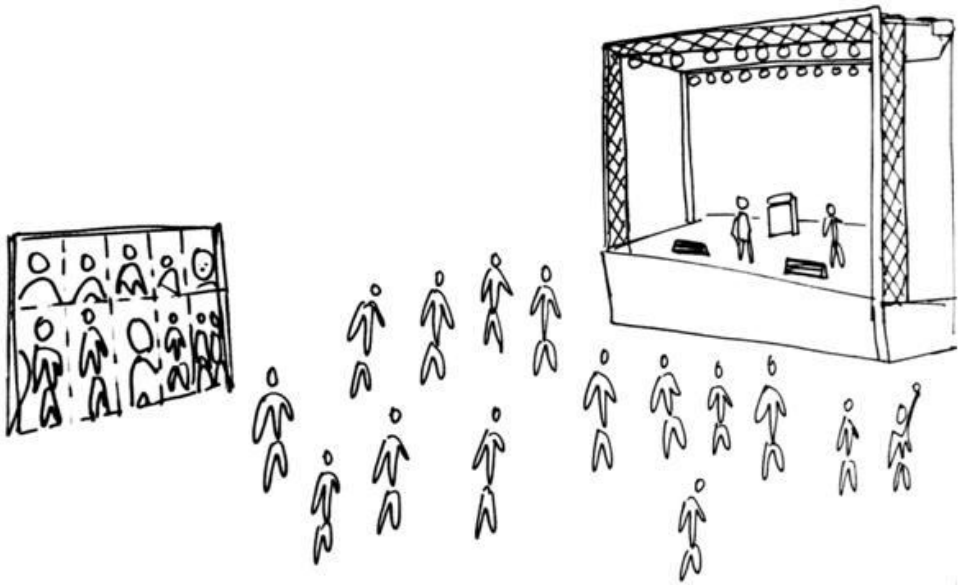


This sounds like a magic, but what are practical ways of accomplishing this by using current technologies? Let's look at some possibilities,

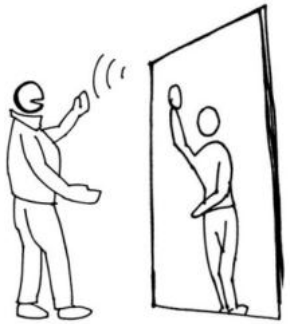
[4] Remote participants are people who are not in the physical venue but are attending the event

4.5.1 Project

What if we project all the remote attendees over a screen?

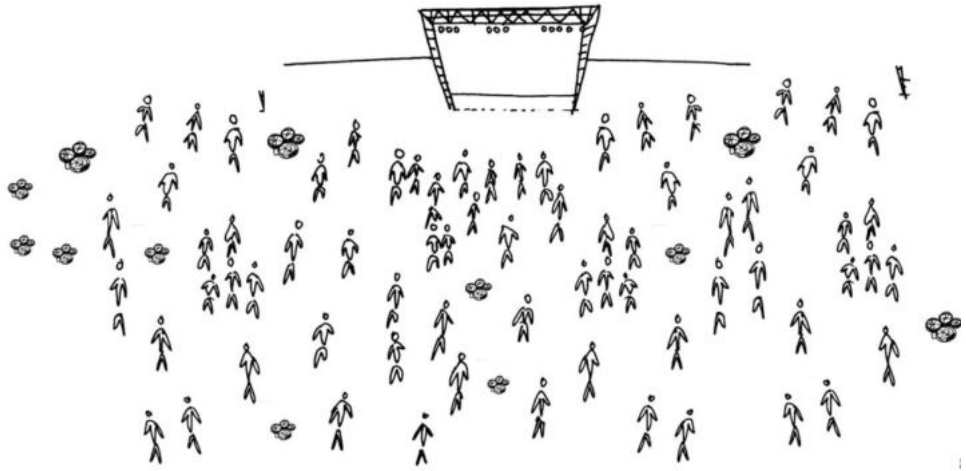


This way real and remote attendees will be able to interact in a much better way.

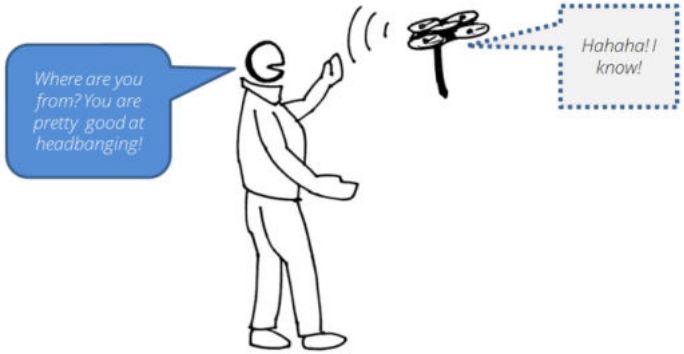


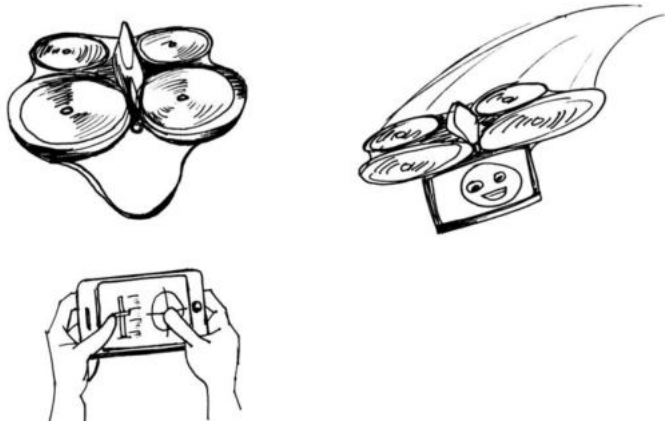
4.5.2 Flying Human

There are some restrictions with the last concept, but what if remote attendees can also move around the venue in a different avatar. Yes it is possible by mapping quadcopters to remote attendees.



Quadcoptor will display your face and you can talk to people and move around them. At the user's end will be an immersive 3-d streaming of the venue.





There are different ways possible to interact with a quadcoptor. This can be achieved by controlling it via your smartphone. It can also be synchronized with the head movements as demonstrated by Jun Rekimoto. [8]

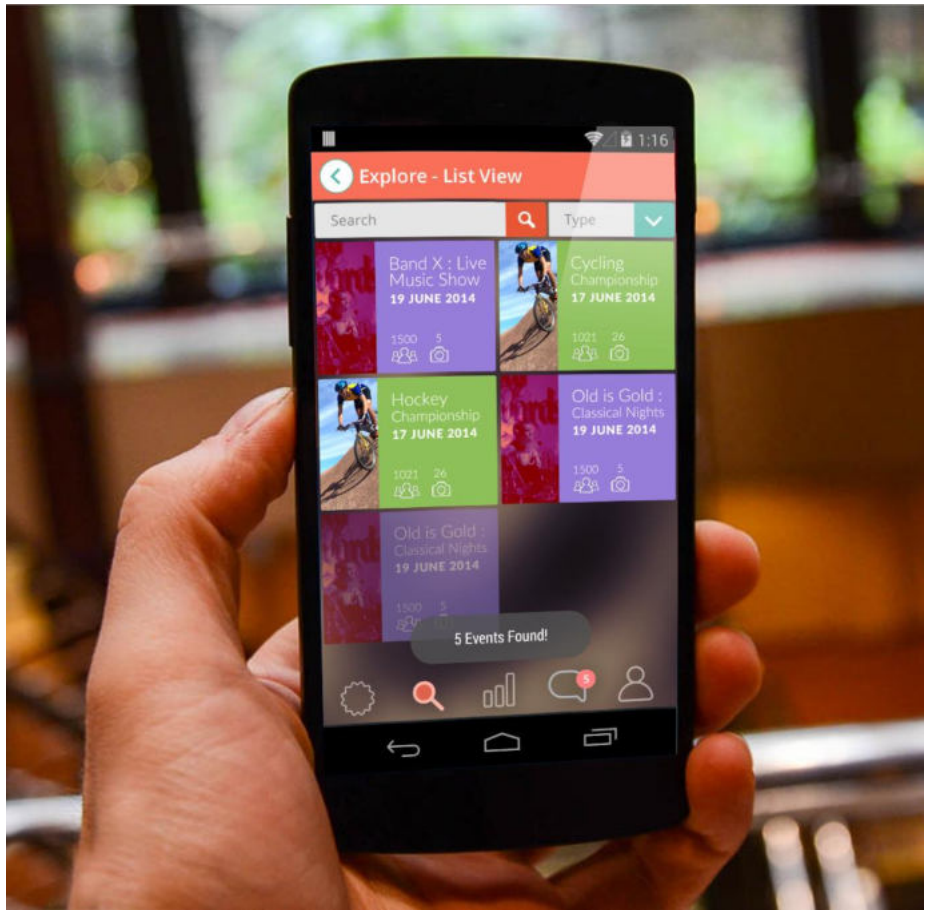
4.6 What can be achieved by this?

- Ubiquitous Social Telepresence service that enables community members to participate in live events remotely and act as co-producers of media stories
- Facilitates connections with family or friends who are attending events via live audio/video, enabling remote participants to alleviate social isolation
- Remote user can view the videos at the instant the event starts

You can't skip steps while climbing a ladder.

First step would be to get the whole concept ready and test it with currently available technology. We need a solution which can be scaled to any gigantic proportion too. Today the platform is Mobile; tomorrow it will be something else which may be more fascinating and dream like. So, my intention was to design a service first, which can be implemented on any available platform.

5. Human Connector Platform



Human Connector is a platform that helps people to,

1. Find out nearby events,
2. Attend event remotely,
3. Host event.

1. **Find out nearby events** – Events which are happening around you can be searched easily by using this platform. It detects you geo-location and show events. There are various ways to search for an event you are looking for. You can search an event by its Type, Location, Time, Date etc. Human Connector platform also gives you information of trending events. If there is no event happening around you, it'll show you list of past events.

2. **Attend event remotely** – Once user finds out nearby events or event they were looking for, they can join them. After joining, they will see what is happening at the venue. Not just seeing and listening, user can interact with the people who are attending that event by using shoutbox. Users can see event from multiple camera angles and switch them anytime.

3. **Host event** – If an user hosts an event by using this platform, everything becomes easier as it provides them with "frameworks". Every event has a different kind of framework. For instance, Annual Literature Festival is very different from small scale birthday party.

    1. Helps you in Creating/Hosting an event

2. **Promoting/Sharing event** – By inviting audience
3. **Managing Event** - By giving you an event framework by using which it becomes easier to host an event.

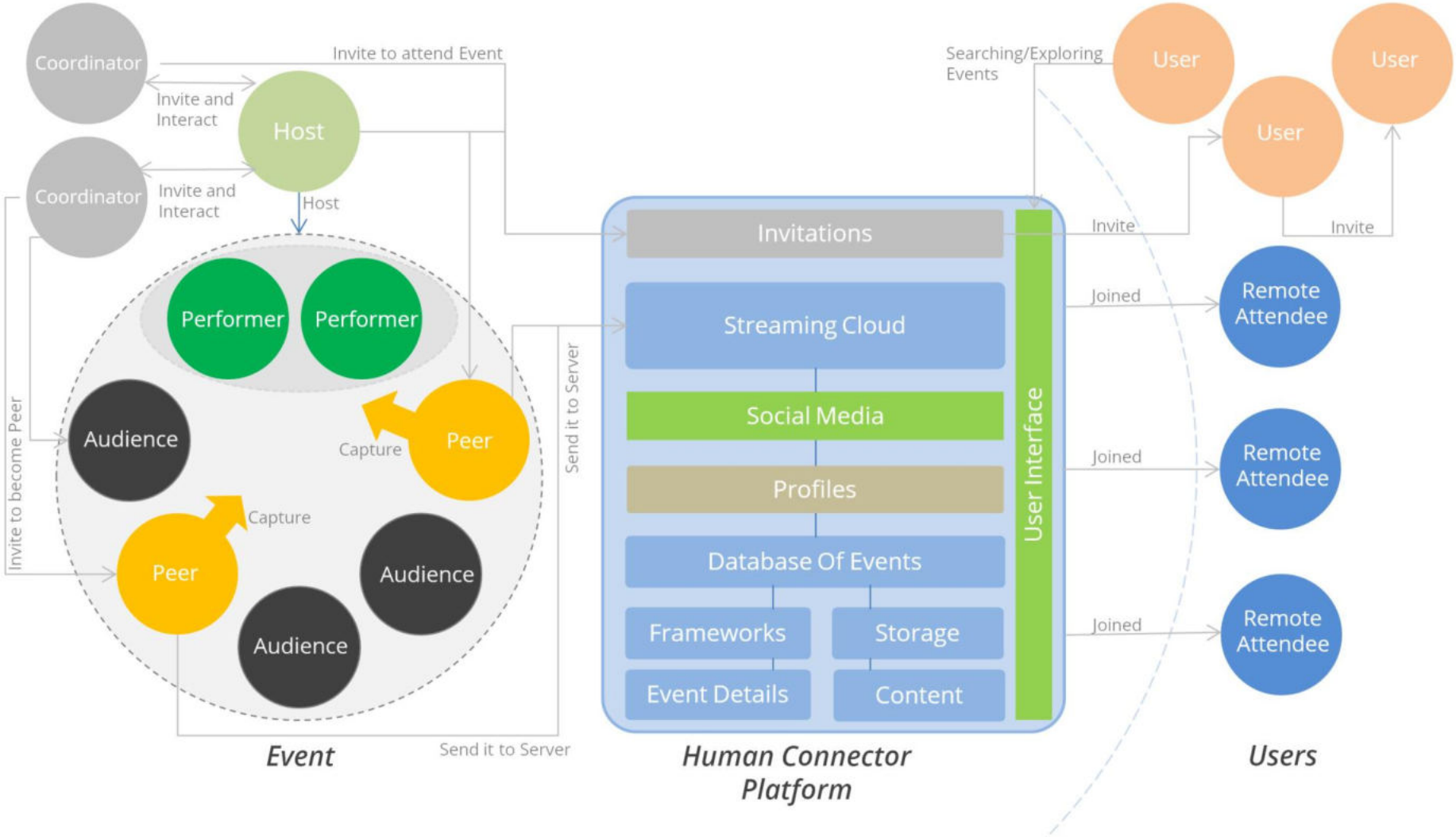
What I am not concentrating on!

It is always good to decide about the things you are not going to focus on in advance. I didn't focus on how immersive this whole experience can be made (Basically the experience of how realistic this whole attending mechanism can be made. Also what are the different devices through which a user can attend events remotely. My task is to come up with initial service that can be extended to any level). There are already lot of new devices in market including Oculus Rift, Google Glass, CENTR Cam etc which can be used to make experiences more immersive.

5.1 Concept Model of Human Connector Platform

As can be seen in diagram, it gives an idea of how various entities are interacting with each other. Explaining each of them

1. **Host:** Host is a person, who is the organizer of an event and is going to set up the event on this platform too.
2. **Coordinator:** Coordinators are people who help organizer in organizing an event. They are invited by host.
3. **Peer:** These people are present physically in the main venue and help in Crowdsourcing the recorded content of an event. Recorded content can be audio/video/real-time mobile sensor data/GPS etc (Depends on device). There can be multiple peers in an event. Anybody from audience can become a peer if he/she is invited,
4. **Remote Attendee:** People who are not in venue physically but are attending event by using this platform.
5. **Human Connector Platform:** It is a platform which contains following components,
    a. **Streaming Cloud:** Stuff captured by peer will be sent to users via this channel which helps in streaming content.
    b. **Social Media:** It manages your content, remembers the events you attended, missed etc. Gives you interface to interact with this whole platform.
    c. **Profile:** Every user will have profile in this platform.
    d. **Database of Events:** It remembers every event and how it was organized to come up with event framework. It stores detailed information of every event and stores content forever.


Coordinator
Invite to attend Event
Invite and Interact
Host
Coordinator
Invite and Interact
Host
Performer
Performer
Audience
Capture
Peer
Capture
Peer
Audience
Audience
Invite to become Peer
Send it to Server
Send it to Server
Event
Invitations
Streaming Cloud
Social Media
Profiles
Database Of Events
Frameworks
Storage
Event Details
Content
User Interface
Human Connector Platform
Searching/Exploring Events
User
User
User
Invite
Invite
Joined
Joined
Joined
Remote Attendee
Remote Attendee
Remote Attendee
Users

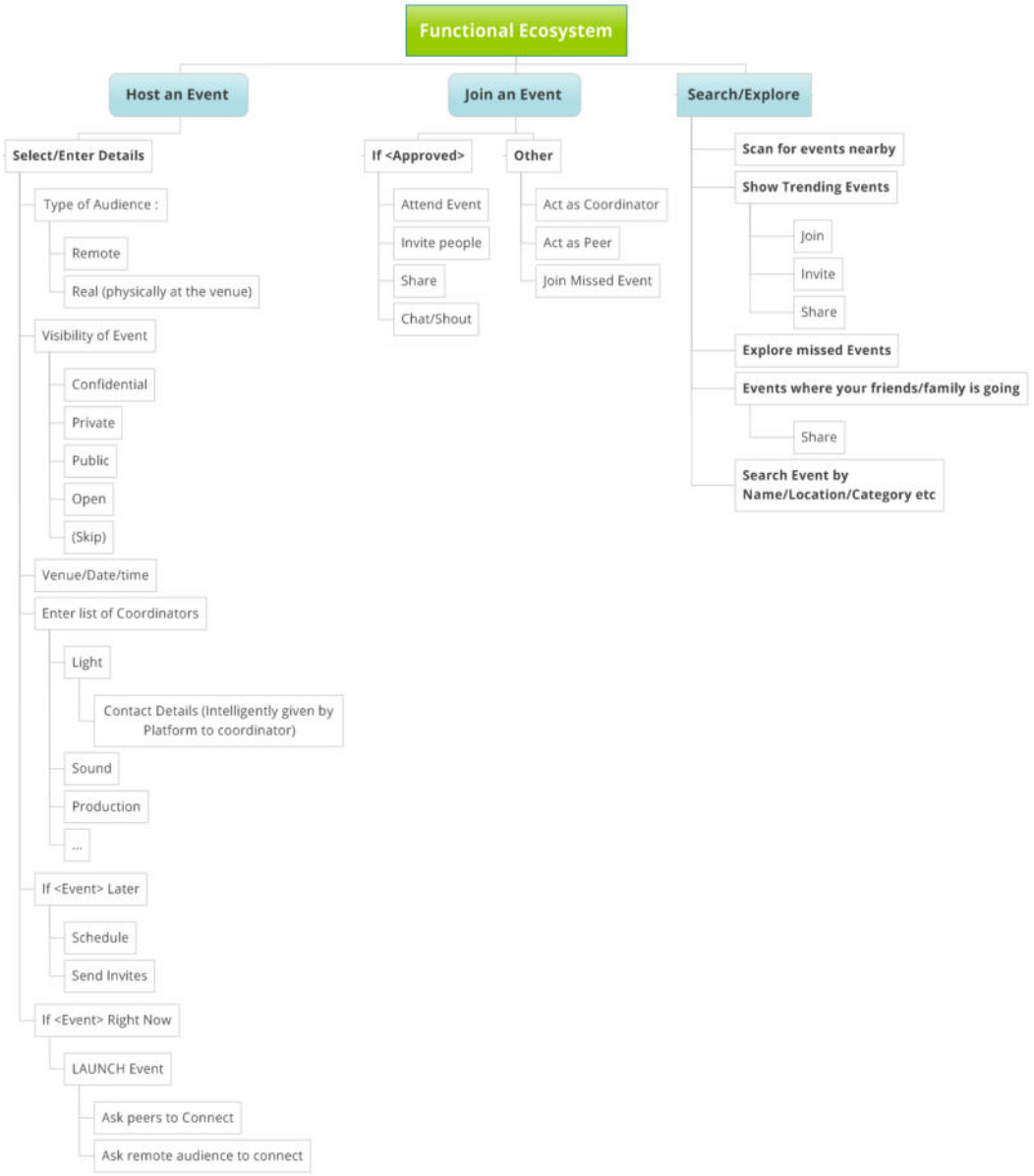
5.2 Functional Ecosystem:

There are 3 major functions of this platform:

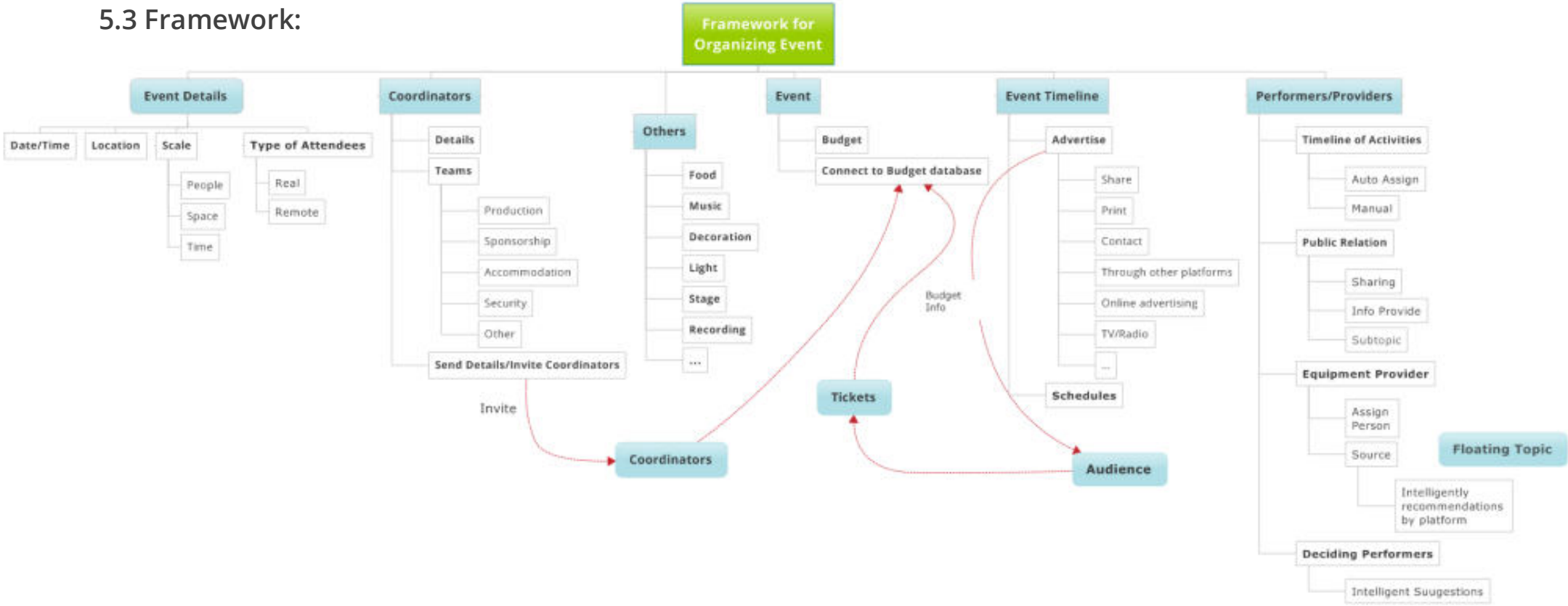
1. Hosting an Event: User can host an event using this platform. It will ask few basic questions to user. If something is not relevant, user can simply skip it.

2. Joining an Event: Once you find the event you were looking for, you can Join it. User can also join as a coordinator only if he/she is invited to get that role. Joining an event might also go through the approval process if the "Host" had set it that way.

3. Searching/Exploring an Event: Events can be explored randomly by moving across the map or list. They can also be searched. Various options available for searching are, type, location, date, time etc.



5.3 Framework:



Framework is a basic supporting structure which tells you “How to do an event” and provides you with the map of it. User will have to just enter details in required fields and assign roles, create budget sheet etc. The framework shown above is a master framework. By adding, subtracting or skipping few things, one will be able to organize any kind of event.

The basic idea of framework is to help inexperienced people organize events. It can also be used by experienced organizers to further improve an event by checking and using it as per the framework.

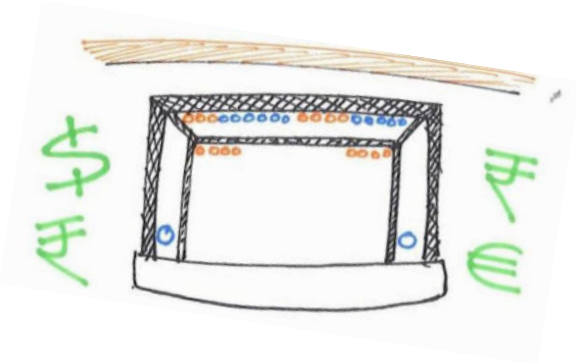
There are lot of new bands of different genres emerging every day. With the rate of formation, they are not reaching their audience because of various factors like,

- Advertising is expensive
- Venues are becoming very expensive specially in metro cities
- Production cost is lot
- Even after putting lot of amount/money, returns are negligible for most of the events
- Because of all this, talented bands are disbanding every other day.

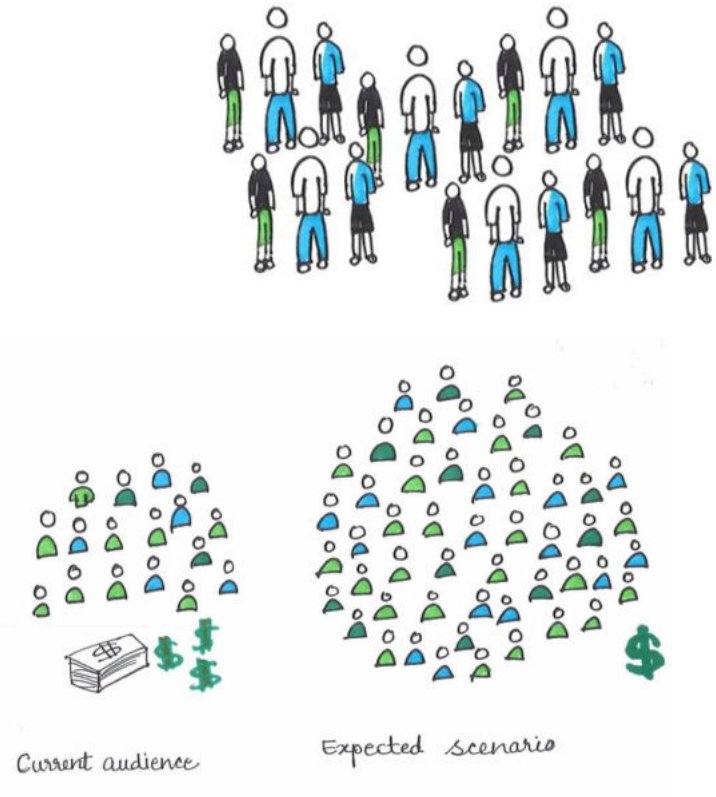
5.4 Scenario

A young Music band in Mumbai is looking for a venue for their next event.

They find that venues are very expensive and they can't afford to put so much of money.



Even after putting money they'll get less number of audiences, but they want to target wider audience by putting less money. They are stuck!



Right now, even after putting too much of money they reach very less number of people. But they want to reach more number of people somehow.

PROFILES

ASHISH (24)

- Staying in Mumbai
- Student of Engineering
- Energetic guy and likes listening to music, but doesn't play any musical instrument or sing
- Newbie manager of one of Mumbai's band called "Band X"
- Doesn't know much about how to organize events
- He is going to **host** a live music event

BAND

- A Live music band which plays a very less known musical genre called "Metal"
- Everyone in this band is studying and pursuing music at the same time
- This is not their earning profession
- They have experience of just 3 to 4 shows
- They want to perform in front of lot of people!

AMOL (25)

- Staying in suburban area of Mumbai
- Studying Dentistry from a local dental college
- He is fan of BAND X and keeps on following their work.
- As he is still a student he says, "I don't get much pocket money from my parents. So it gets difficult for me to buy CDs of BAND X and attend their every live show"

MR. SEN (67)

- Grandfather of the vocalist of BAND X
- He is already retired from his work and used to work in one of the leading Indian Bank
- Not very much accustomed with the current technologies, social media etc.
- Finds it difficult to walk now.
- Fan of classic rock

GOVIND (23)

- Staying in Mumbai
- Student of Engineering
- Classmate of ASHISH, the manager of Band X
- He is part of local music scene and known for supporting lot of underground acts
- Likes helping musicians in whatever way possible
- He is coordinating with Ashish to organize an event

ADITYA (20)

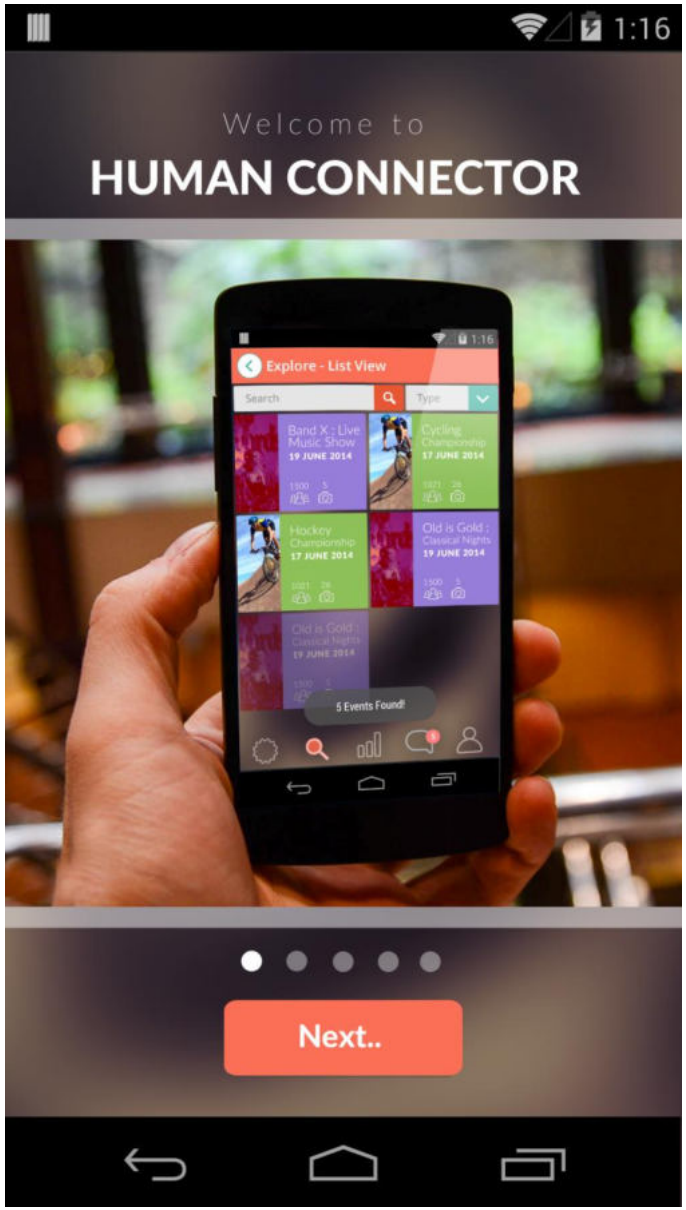
- Staying in Nasik
- Studying Computer Science Engineering
- Likes to listen to music and attend live events whenever possible
- Surviving with pocket money given by parents
- Likes to travel and is adventurous
- Recently broke his leg while Rock Climbing
- Since then his parents became too strict

Plot of Scenario:

Ashish (Manager of Band X) wants to organize a DIY event. He just wants to get help of his friends, book a small venue and make it happen.

Ashish is part of Mumbai's local music scene and know lot of people who can help him in organizing this event. One of them is Govind, who is the classmate of Ashish. They come together and start planning a live musical event in which Band X is going to play. As both of them are newbie in organizing events, they wanted some kind of help. Also, they wanted to inform more people from local circuit to join them and help them in organizing event.

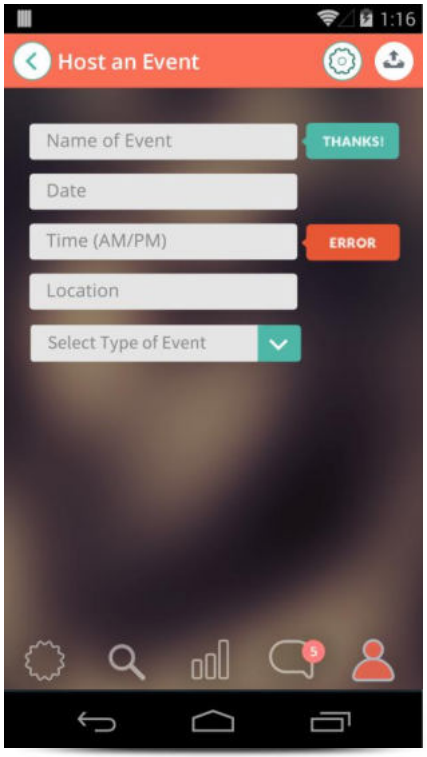
Host Ashish uses Human Connector app for the first time.

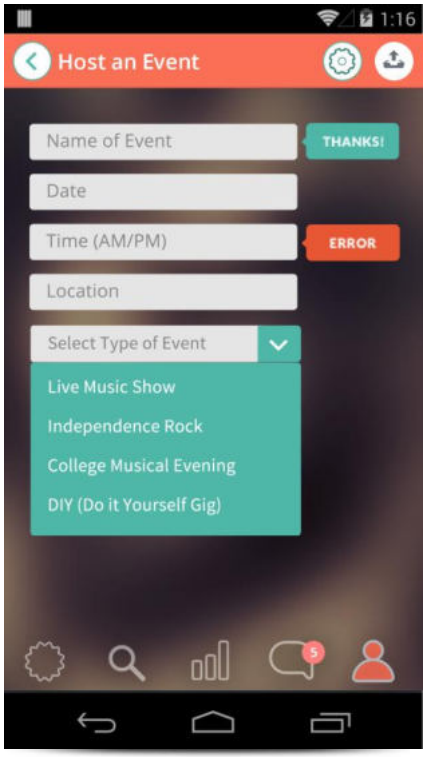


This scenario is divided into two parts.

- Part 1 is organizing and coproducing event
- Part 2 is about enabling remote participation while the event is happening.

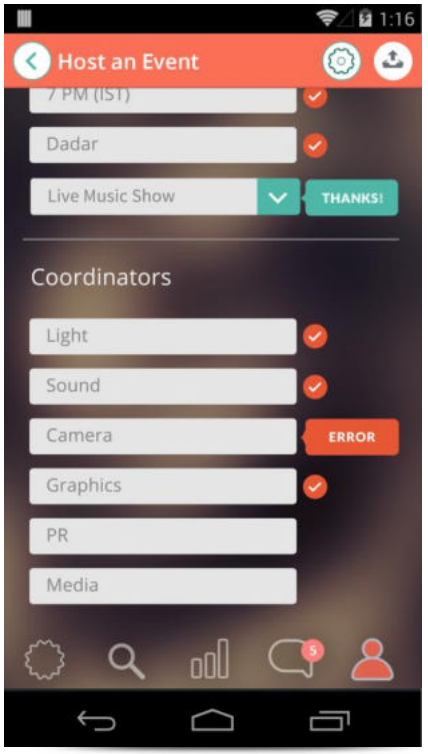
Ashish by using Human Connector app, hosts an event for the first time. He clicks on host an event and start putting details.

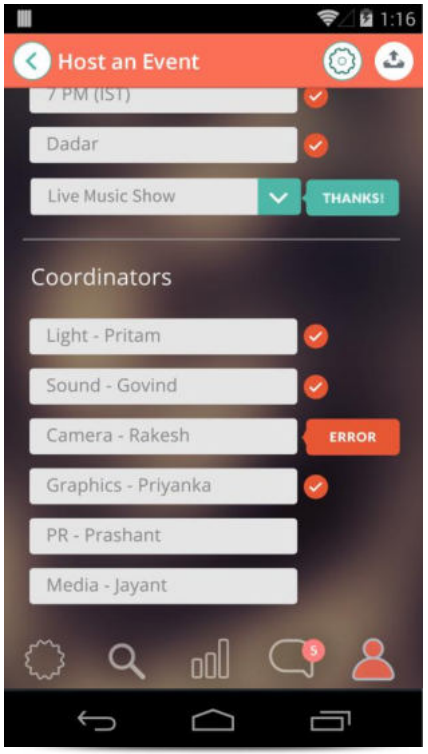




He fills all the required information and as he start writing inside type of event column, he starts getting suggestions of "frameworks", which will help him in organizing event. Here, as he entered Live Music Show, he got framework to organize live music show. All these frameworks are opensource and people can share them too.

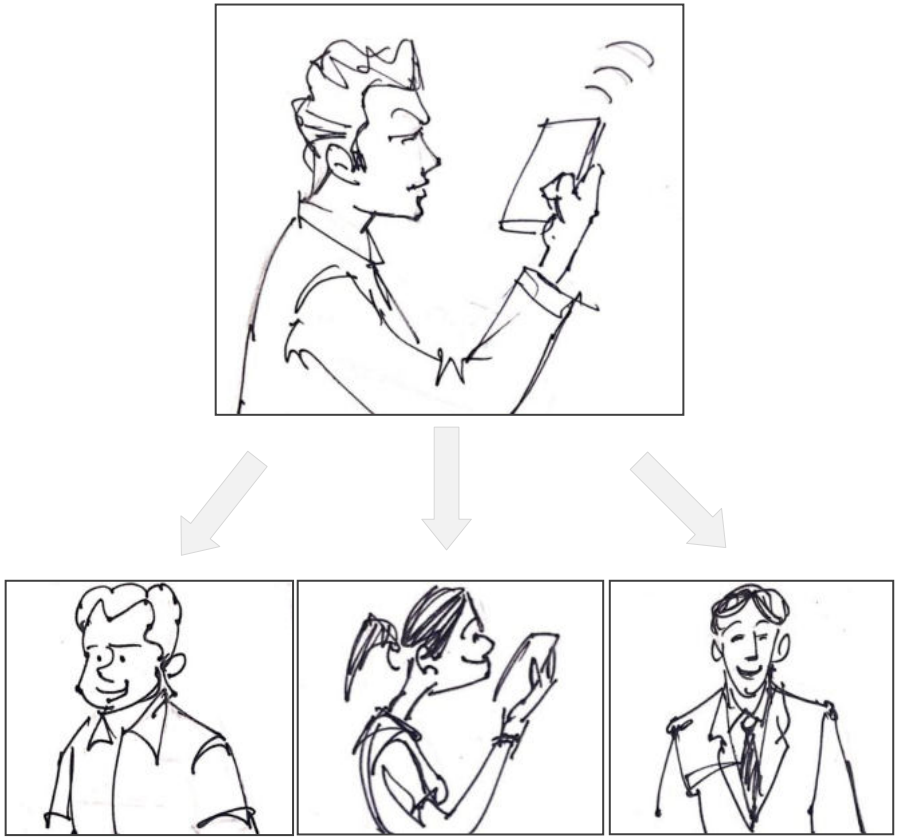
To organize a live music show, we'll need people to handle light, sound, camera, media duties etc. It'll ask for all these details, and if you don't want to enter something, just leave it.





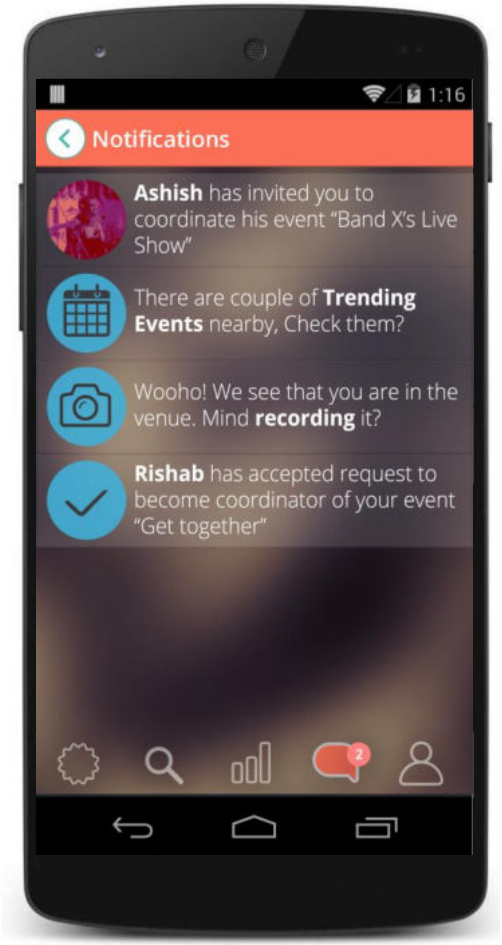
Once you enter name of coordinators, app will notify them via notifications/ sms/ whatsapp/e-mail etc depending on what you choose.

As Ashish entered name of coordinators, people started getting notifications.



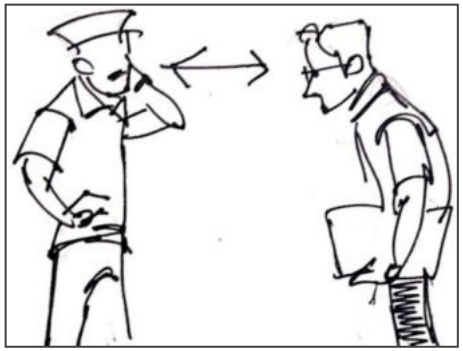
Govind, Ashish's classmate and good friend also accepts the invitation.
(People can also deny a request if they don't want to contribute)

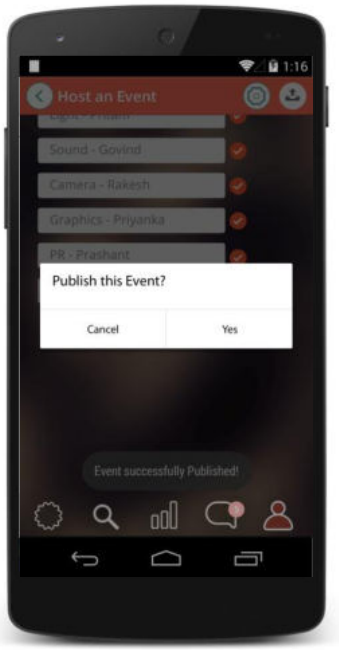
Govind (coordinator) was allotted work to look after sound duties.
He gets a notification that Ashish has invited him to become coordinator.

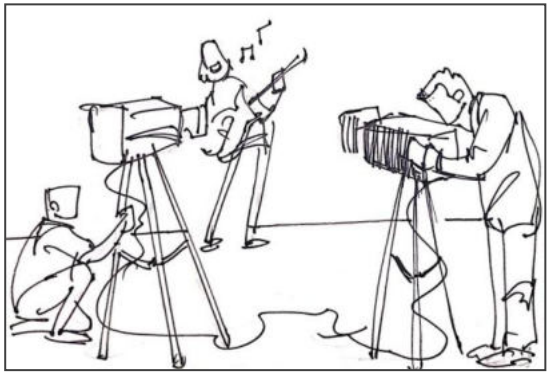


Govind gets name of local sound providers and contacts them to get a better deal. He finalizes deal with one of the vendors and reflects on app that he has done his duties.

Host Ashish checkes that like govind, everyone has done their allotted works, and hence makes the event online inviting people.

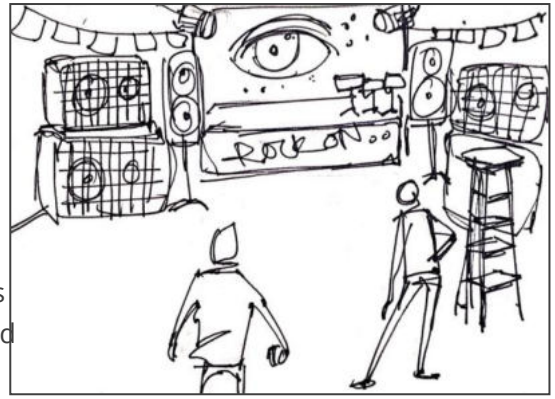






Host books a small venue where band ill perform and finalizes all the production work. He sets up 2 cameras to capture whole concert from 2 different angles.

Finally after all the checkups, he finds out that the venue is ready, production is done and they are ready to go live.



Till now, scenario was about planning, hosting and coordinating/ coproducing events. Now this scenario will show how it'll help remote participants while the event is going on.

Ashish checks that there are around 1500 people who are attending the event online.

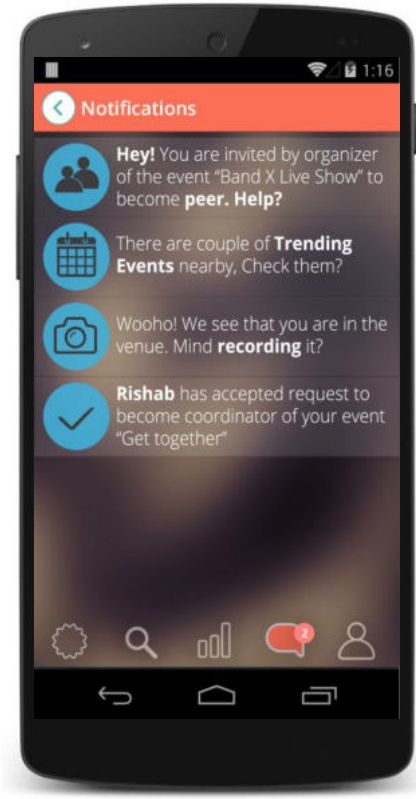
"This show is HIT!"

Finally the day of show comes and people start coming to the venue. Though people attending online are much more than people there physically.

Ashish invite peers, who can capture whole event on the go. It is like Crowdsourcing the videos streams, so that people can see videos from multiple point of views and switch according to their needs.

People who are physically in venue get a notification that coordinator wants them to help as a peer and help crowdsource the whole event to the global crowd.

Out of that crowd, Amol and Ram accept the

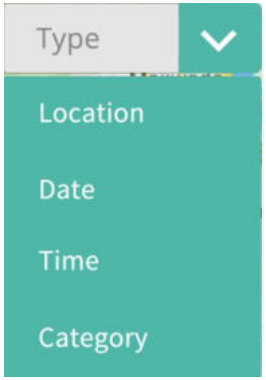


As the event starts, Amol and Ram start capturing the event using his human connector app. As they capture, this recorded content starts syncing with cloud and is made available for virtual attendees.

Aditya stays in Nasik, he was exploring events happening in Mumbai and finds that Band X is performing. He eagerly wanted to attend live event, but there is always something better than nothing.

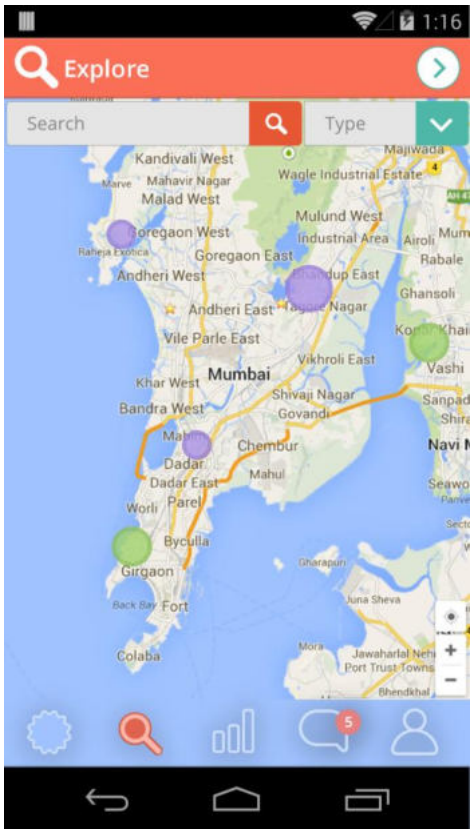
He makes use of Human Connector app to be part of the whole event and enjoy it from various point of views.

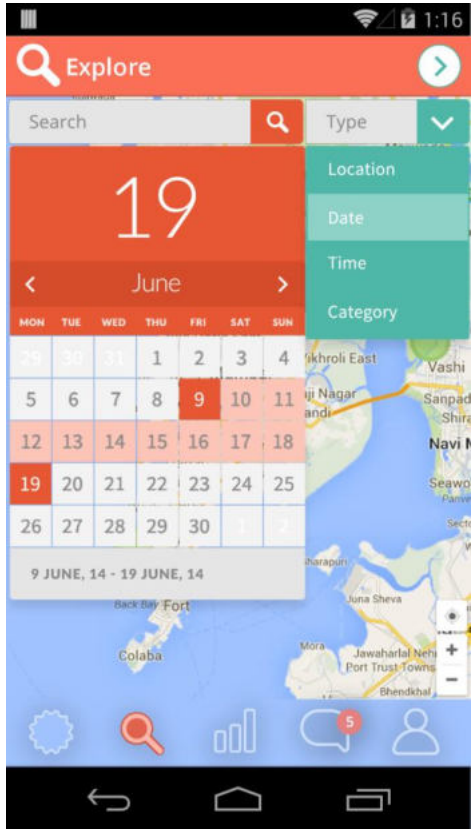
By using this app, people can find out about the events which are happening nearby. This won't just show the events which are going to happen, but if app finds that there is no event happening nearby that location, it fetches out events have already taken place. This means, it stores everything forever.



Events can be searched based on Location, Time, Date, Category etc.

User can apply multiple filters at the same time. For eg, *"events which already happened in Bhopal area between 3PM-10PM"*

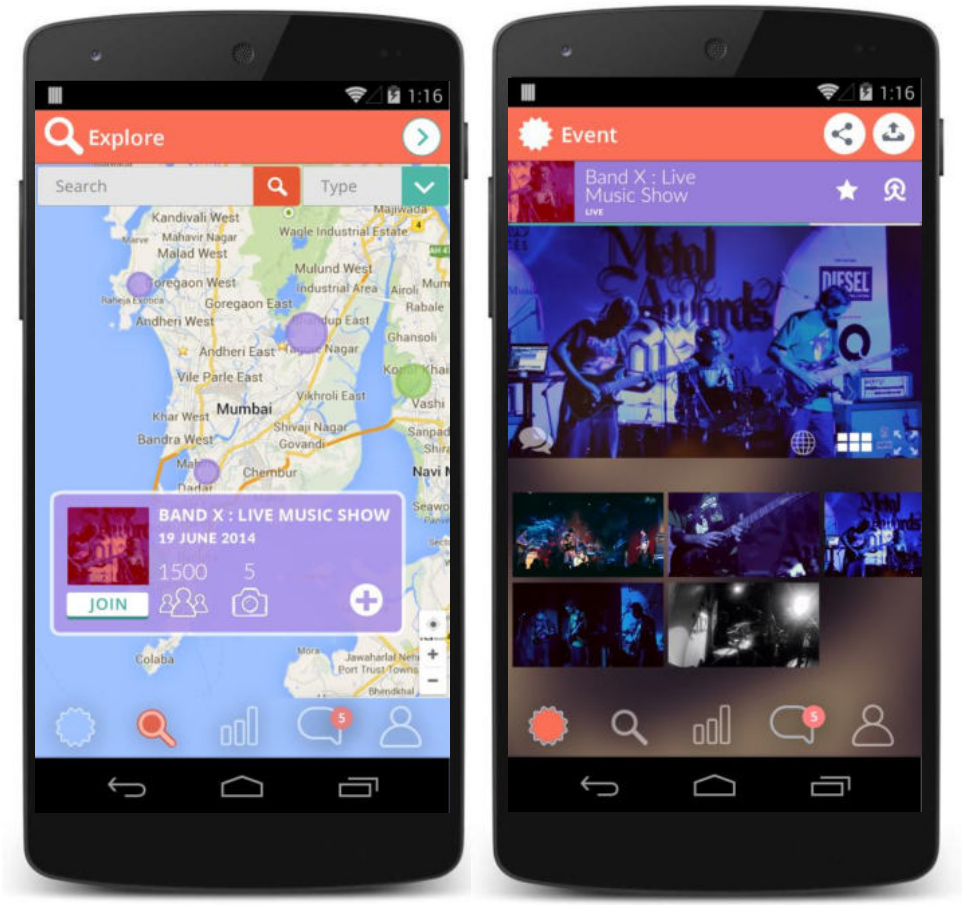


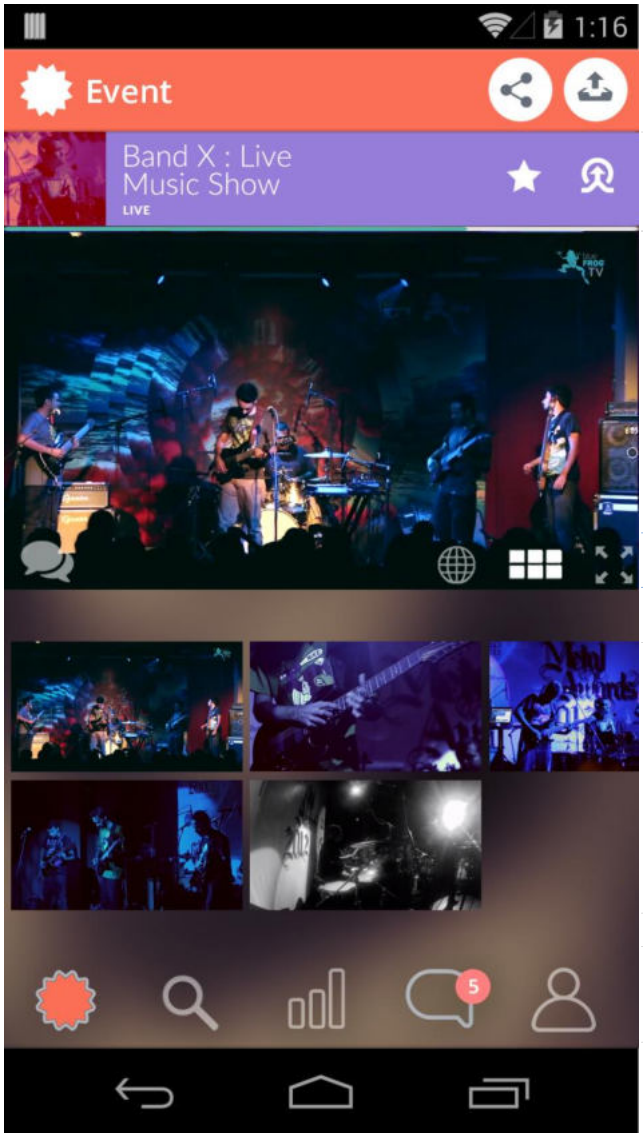


Screenshots showing events happening in Mumbai, size of the circle is based on the number of people attending it.

User can tap over any of listed event to get more details about it. Also, past events are shown by green colour and Present/Future events are shown by bluish colour.

Aditya taps over popup and he becomes part of the event. He can now talk to other remote attendees, favourite events, share them and also switch to another camera angle on the go.

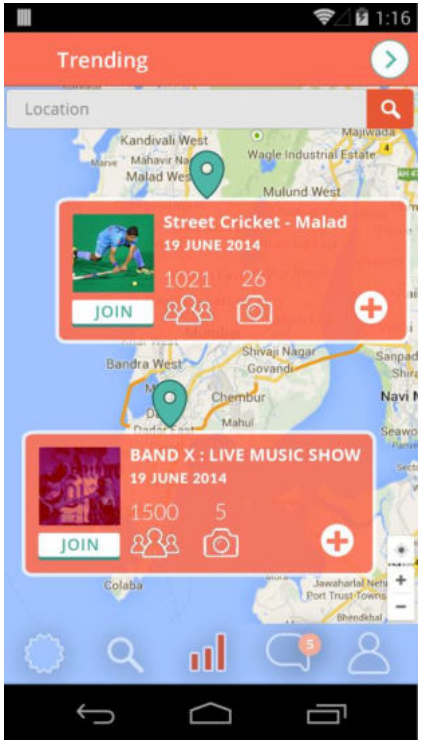


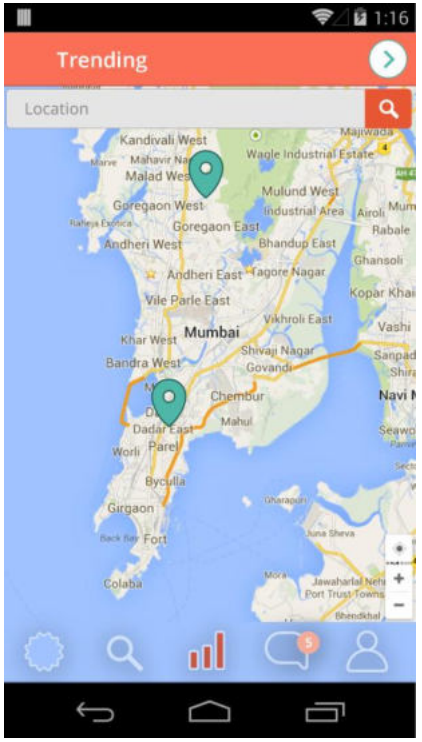


By tapping on option, app will remember the entire camera angles changed by user, so that next time if he opens the same event, he will be able to see it without hassles. By clicking on or pinging out, user will be able to see all the available camera angles.

By tapping on , it becomes full screen, and hence even while Aditya is sitting in Nasik, he can attend all the events hosted by Human Connector and interact with people.

Users can also check trending events nearby by clicking on the middle one (3rd) icon. Events with lot of attendees, camera angles usually become trending. There are various ways to decide trending events, but I haven't gone into the details of it.





Trending events could've been merged with Explore events category, but after card sorting it was found that users would like to quickly find out trending events. In the context of events, trending becomes important and hence it shouldn't be difficult to be discovered. While in explore events category, there are already enough options and filters, adding trending events there will add to the complexity.

Tapping on Globe icon (highlighted on above screenshot) will switch it to the directional view.

What is Directional View?

As we already have following information of every user who is uploading content to the server,

1. GPS Information (Position)
2. Directional Data (Direction)
3. Field of View (Area covered)

So, as we already have this information for every content uploading user, a directional map of venue can be created algorithmically.

As seen above, each circle has recent thumbnail of video content, and circles are arranged according to direction (basically top view).

There are 2 challenges here,

1. How to find out stage?
2. What if there are too many users?

From direction and GPS information, we can find out where most of people are pointing their camera at. Every user becomes a vector, and vector summation gives a new vector (Stage).

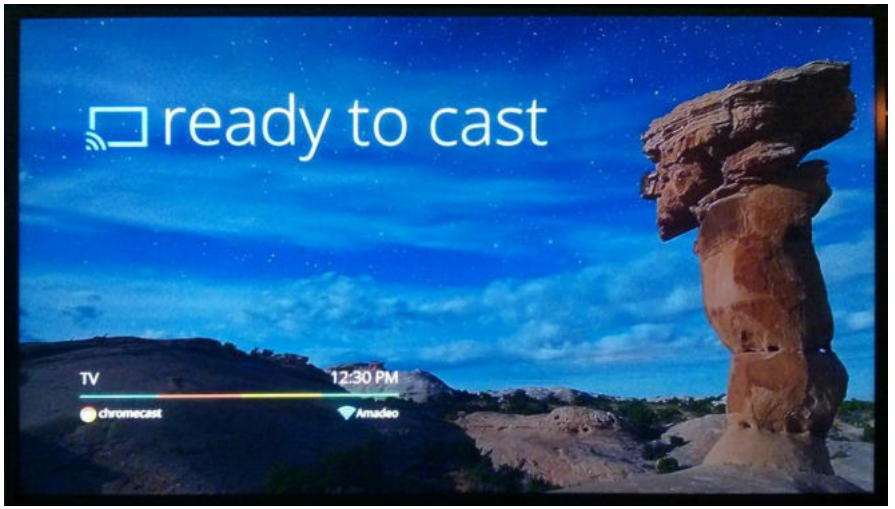
For various kinds of arrangements, stages can be found out algorithmically. To support this statement, 8 events with varying

complexity of arrangement were studied and their arrangements were taken into consideration as a single event can have multiple points of importance too.

For the question, “What if there are too many users”, definitely there will be too much of clutter over screen. Small devices can’t accommodate such number of touch points and hence there is a need of new interaction through which switching cameras and moving around the venue becomes easier.

As the result of cluttering, I came up with “Swipe Gesture as a way to move camera”, which is explained in “Additional features” section (5.5)

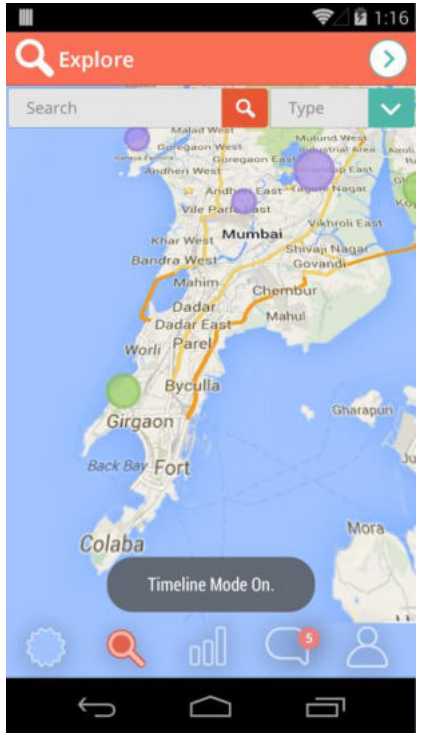
This app also sends the mobile content to TV Screen using Chromecast [9].



Mr. Sen can also enjoy music and attend his grandson’s shows while sitting at his home peacefully. (By extending android phone’s display to TV using chromecast [9])

5.5 Additional Features

5.5.1 Timeline Mode



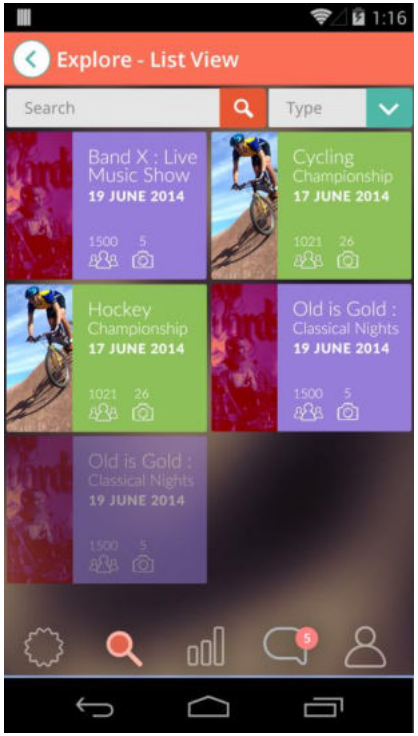
User can activate this mode by two finger swipe up/down in Explore navigation tab

Once it gets activated, user will get a short message “Timeline Mode On”.

To check past events, swipe up.
To check recent events, swipe down.
(Map will be locked once this mode starts, and only events of that place will be shown)

Also, only event circles will move up and down.

5.5.2 Explore – List View



By tapping on white arrow icon on top bar of Explore, user can see List View.

It gives more information about events and uses the same colour coding.

By tapping on a box, it will expand to give more information and user can tap on join button.

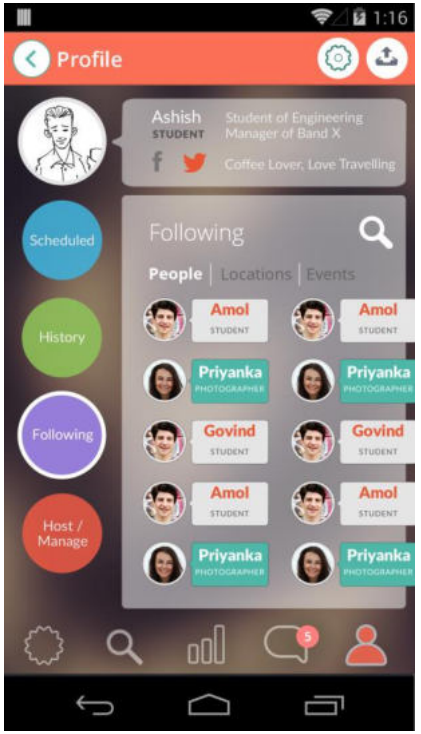
5.5.3 User Profile

In profile, you can,
- See events which are scheduled by user

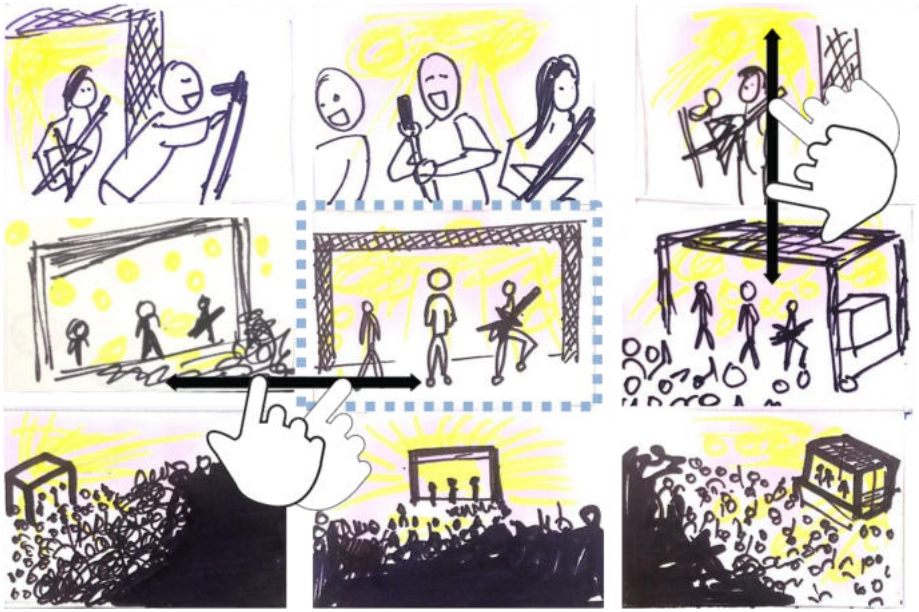
- See history of events attended by user

- User can follow people, venues, locations etc

- Host and Manage events (Explained already)



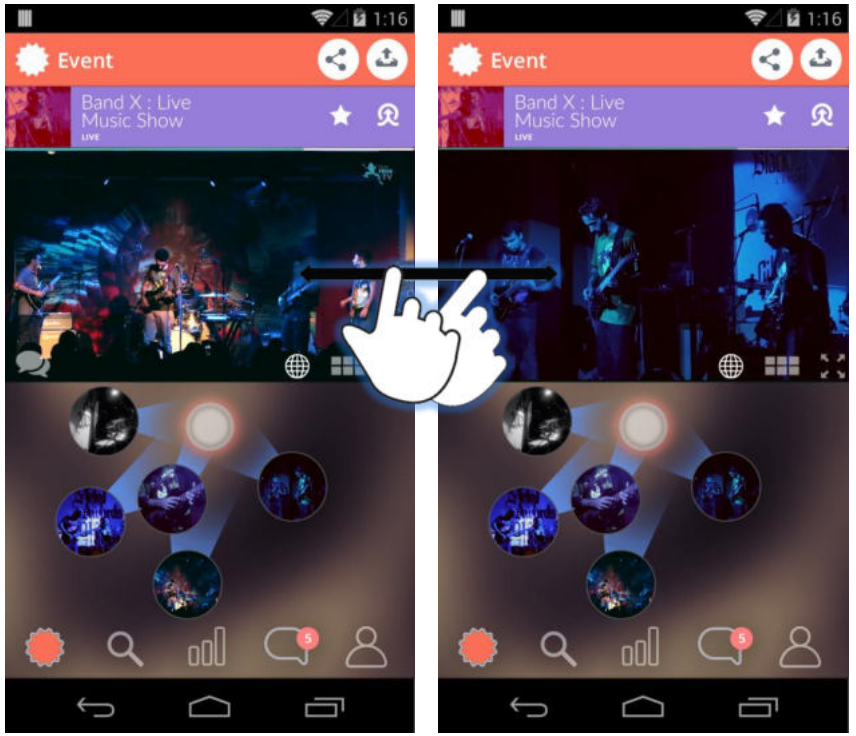
5.5.4 Swipe as a gesture to change camera angles



As shown above, suppose we have multiple camera angles available. Let's assume, we have 9 camera angles and they are sorted according to the distance from the stage while being directionally aware too.

By swiping left, camera angle will change to nearest camera available on the right side. This way, navigating around the venue will become super easy. User can also swipe up down to move closer and farther from the venue.

For eg. Screenshot of Interface when user is watching an event,



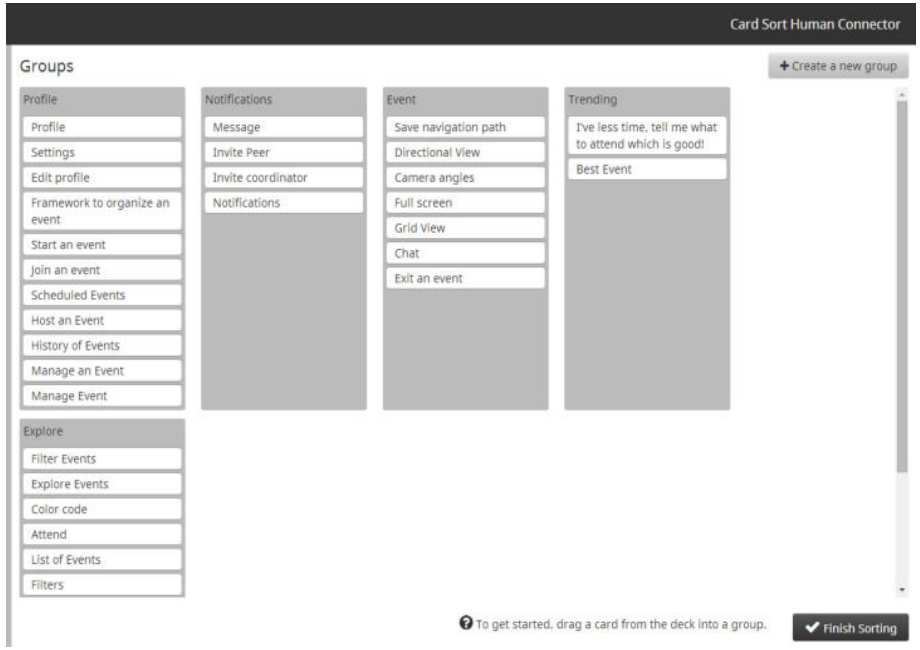
By swiping left on the playing video, it will switch to the nearest camera available on the right side. Similarly, by swiping right, user can come back to the same camera angle. It makes interaction with multiple viewpoints really easy for users.

5.6 Process

In this section, process followed to come up with user interface is explained.

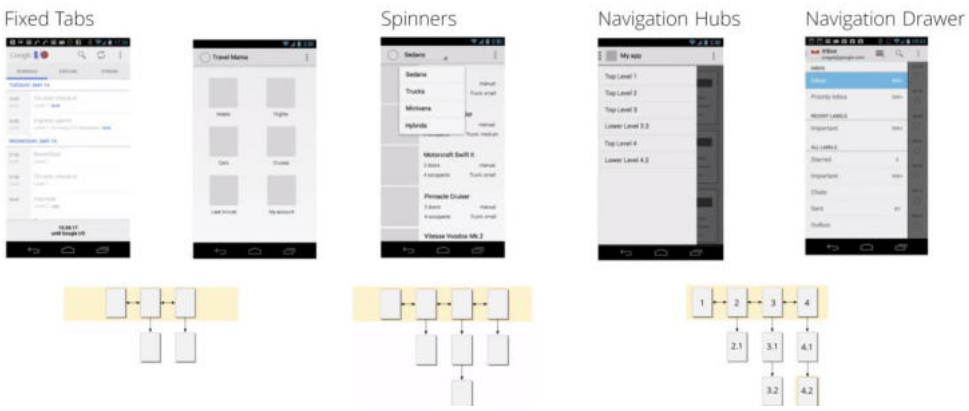
5.6.1 Information Architecture

- Figured out the elements required.
- Used Card Sorting technique
- Used online tool conceptcodify.com to card sort

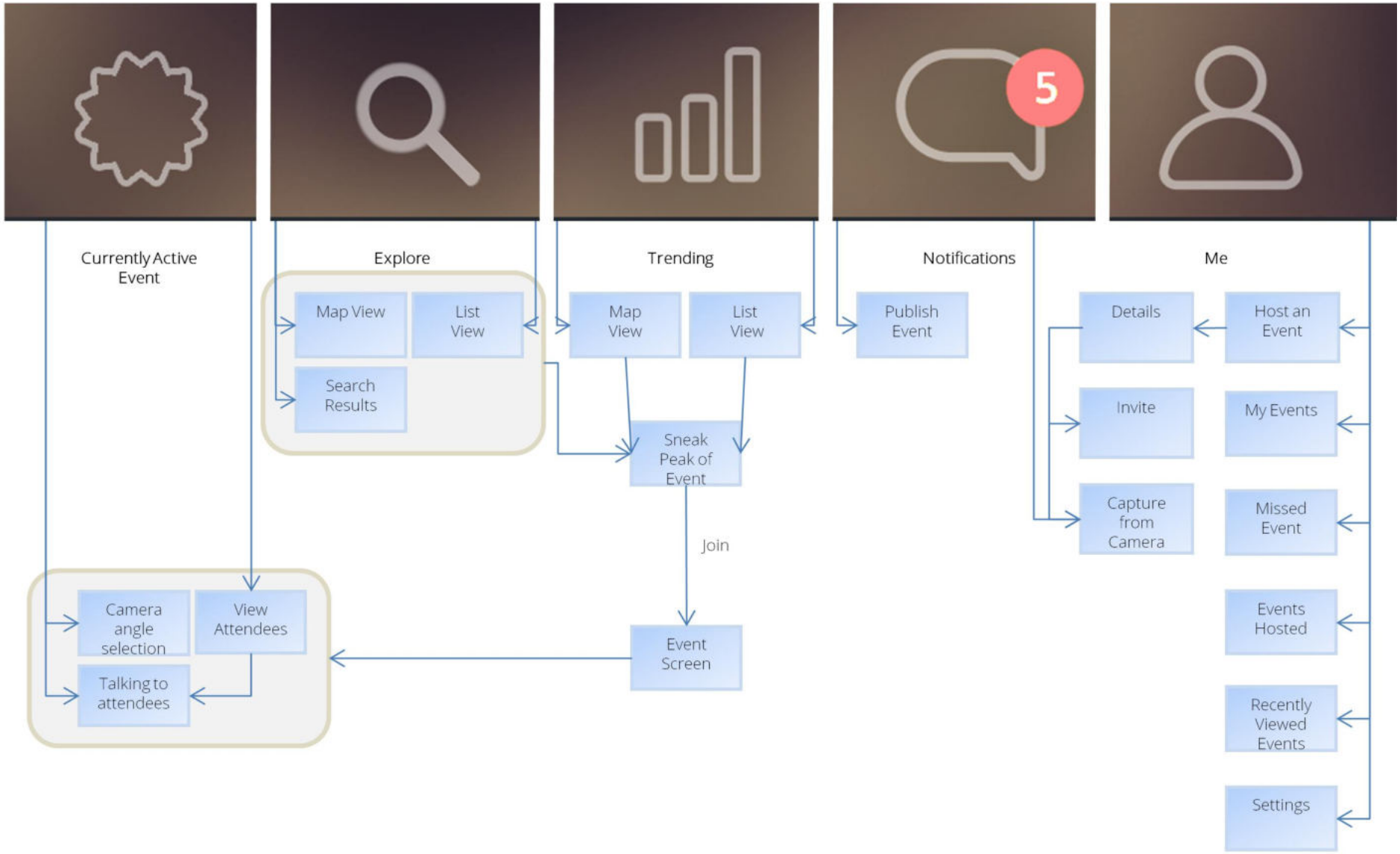


5.6.2 Android Design Guidelines [10]

As I was designing an android app, it was important to go through design guidelines by Android itself. Android design guideline helped in designing navigation. I already had chunks of information which was grouped by using card sorting, and best way to navigate through them was by using fixed 5 tabs. Android encourages putting fixed tab on top of the screen, but I've put them on the lower side because I wanted user to interact with those tabs frequently, as while holding a phone, lower side is more easily tappable.



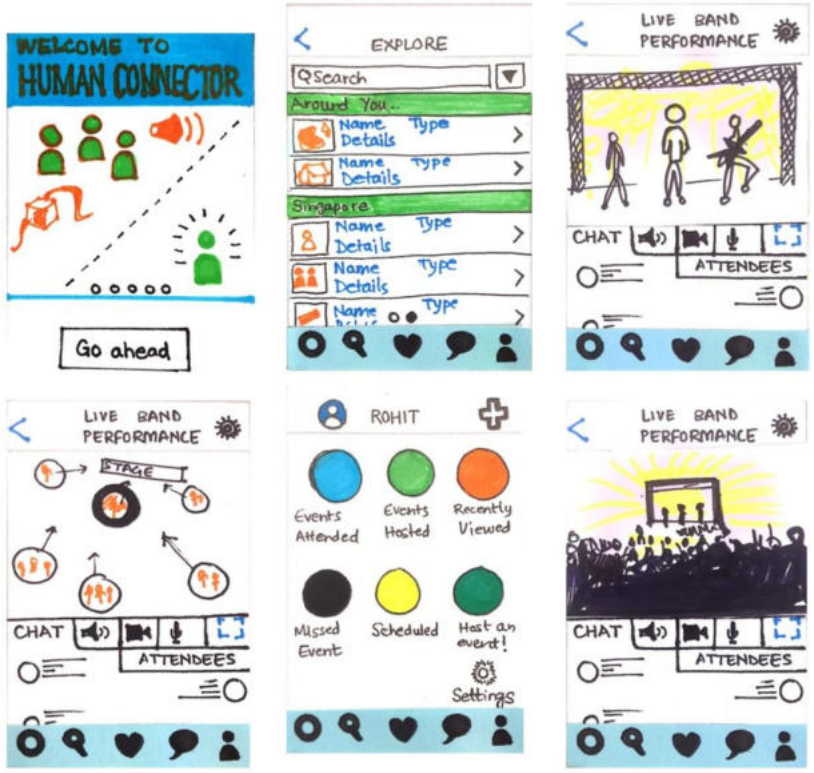
5.6.3 Navigation Design



5.6.4 Prototypes

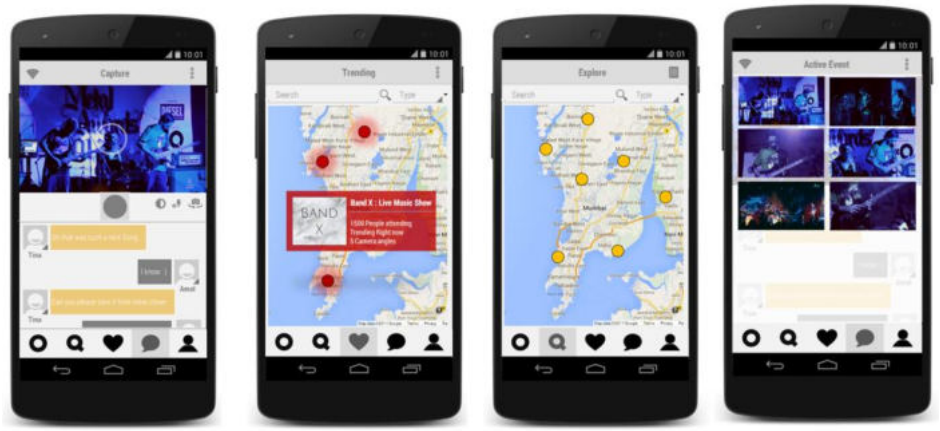
5.6.4.1 Low Fidelity Prototype

A Low Fidelity Paper Prototype to test navigation flow with users was made. 4 users were asked to do think aloud.



5.6.4.2 Clickable Prototype

Right after low fidelity prototype, next version was made with least importance to visual design as my focus was more on navigation design.



5.6.4.3 Iterations in Prototype

Iteration 1 :

- After feedback changes in Navigation Path
- Added slight more details in visuals and got into the depth of navigation.

Iteration 2 :

- Worked on visual identity of the app with very well defined navigation path
- Took feedbacks and worked on mapping of icons.
- Events are generally full of colours; earlier version looked very neutral and dull. Added Colours to give it richer look and feel.

Iteration 3 :

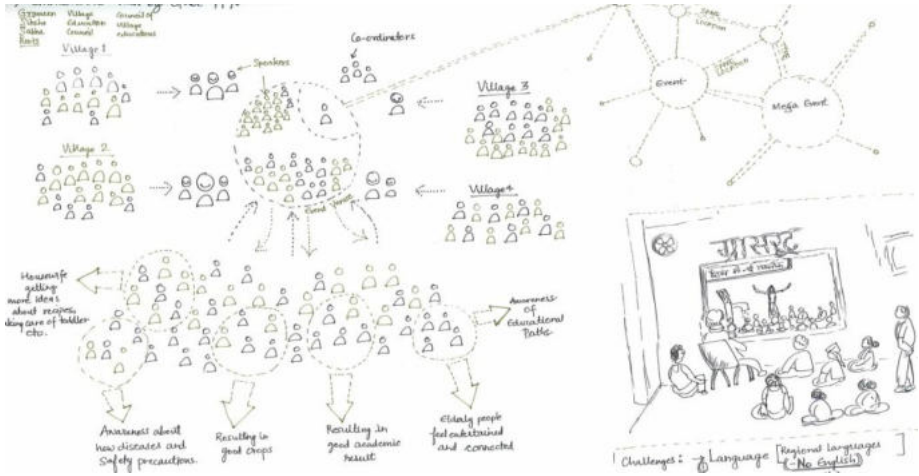
- Restricted the number of colours used as they were not looking very smooth.
- Reworked on icons.
- Gave fresher feel and made better spaces for icons based on the feedback.

5.7 Exploring More Scenarios

As, this app is not specifically designed for Live Music Concert scenario, some more scenarios were considered while coming up with the design solution. Out of all the potential user groups considered, sports scenario and farmers were also considered for using as base scenario. Every scenario was different from each other and what I understood from them is, we need a common initial service which can work for any kind of event.

Street Hockey Scenario

Grassroots



5.8 Earlier Iterations

Before coming up with the final design solution, papers prototypes were made, which were later tested on mobile for some flaws.

Initial low fidelity prototype was tested with 4 people and they gave some important feedbacks. This initial concept was presented to Prof. Zimmermann (Owner of Geovid technology and Professor at National University of Singapore working in COSMIC Project.)

Before coming up with the final designs, I worked constantly on these initial designs and iterated multiple times by testing them and getting feedback.

5.9 Problems and Suggestions

- **Indoor Localization** – Wifi/ GPS can detect location with an error of +-10/20 meters, so it will get difficult to show camera angles and locations accurately. Therefore, concept of changing camera angles by swiping left/right/up/down to switch cameras will induce some error at times.

- **LAG Designing –** As current internet technology still has lot of lag, it's good to consider it and design according to that, such that when a request is sent or while it is processing, it should react and should show animations, texts etc.

- **Clever tricks while audio/video stream gets processed** –While checking a stream, it might be fluent; but once you change camera angles, there will be a delay in between that. Once you change a camera angle, there will be a slight delay too which will lead to misalign of audio streams too.

- **Aligning different streams –** As every video stream has its own sound track, when we change a camera angle, music might get jittery or sound quality may change completely. A mechanism is required to tackle misaligning of video streams. One of the possible solutions is using music to align stream.

- **Smalls clues** telling that you are still connected to the internet.

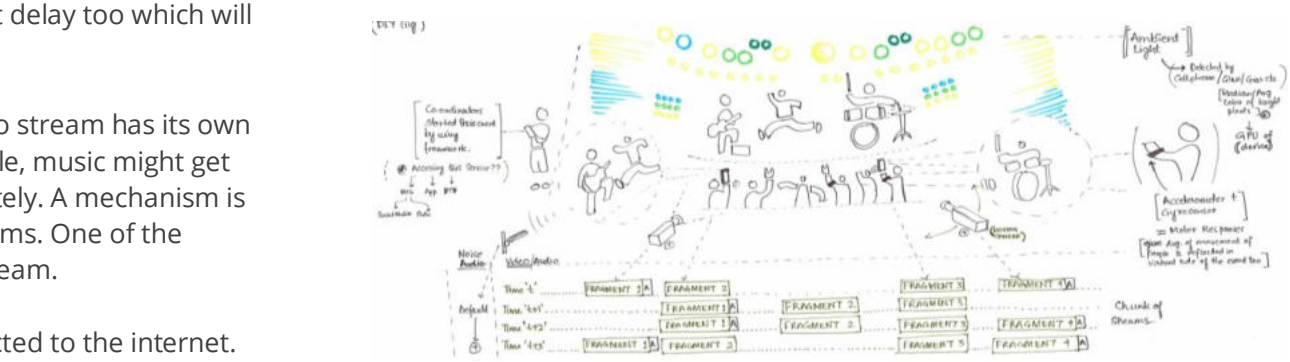
5.10 Future Possibilities

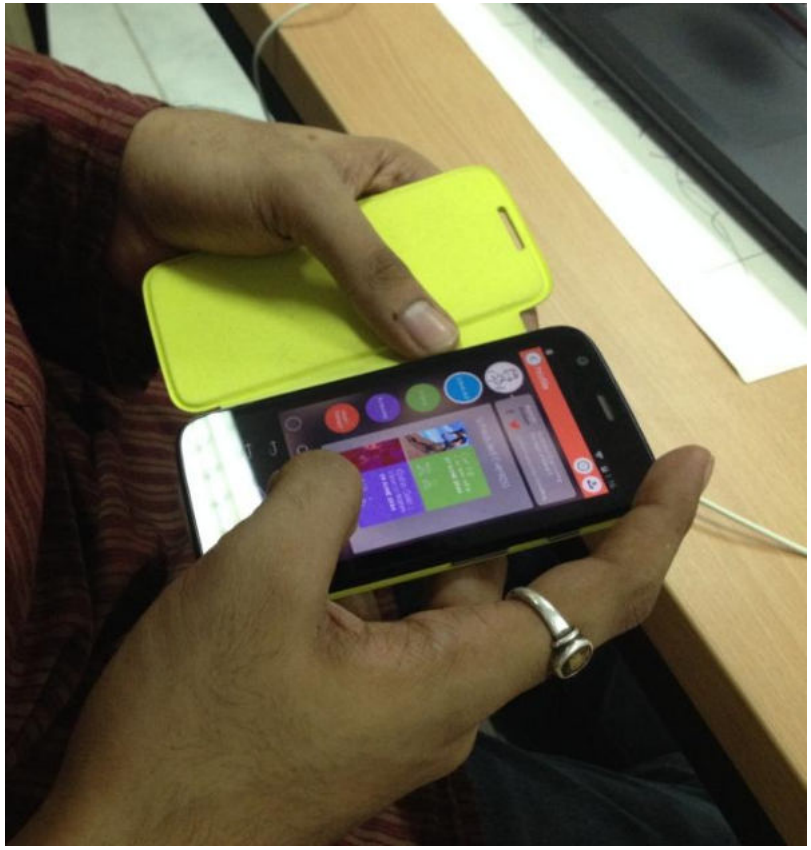
- Adding review/rating mechanism for organizers and virtual attendees, so that people who are not organizing quality gigs or sabotaging the system are rated less or even blocked.

- Making experiences as immersive as possible. This can be achieved by wearing 3d glasses playing live 3d feed; reflecting concert lightning patterns with an ambient light at remote user's place. Also reflecting information like, heat, crowd movement, etc. (Some of them are explored already but not included as they were out of scope of this project.)

- Figuring out Mood of Concert and reflecting it to remote users.

- Concept of Ambient Light –





6. Testing

For each iteration, testing was done with users. It started with the paper prototype where 4 users gave their feedbacks.

Number of users tested in each phase:

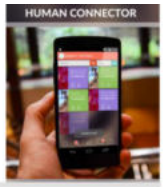
- **Paper Proto** – Think Aloud with 4 users
- **Clickable Proto (Final Design solution)** Think Aloud + 10 Tasks Given - 11 Users

Criteria – Mumbai Residents, Cellphone user (Non smartphone users were also tested)

Mumbai residents were selected because this clickable prototype had map of Mumbai only. Showing this map to resident of some different city might confuse them.

Rules for testing were as follows,

- Each user was given 5 minutes to use the application.
- After exploring, they were given 10 tasks to complete.
- As not every function of clickable prototype was working, assistance was given.



User Feedback Sheet – Human Connector

Basic Details

User No : _____

Name : _____

Age : _____

Occupation : _____

Tasks

	Difficult				Easy
1. Explore some events happening around you.					
2. Find the events which are trending around you.					
3. Find out past events which happened between 9th June-19th June.					
4. Check events scheduled by you.					
5. Join an event					
6. Switch to Directional View					
7. Attend event from rightmost camera angle.					
8. Switch to Grid View					
9. Chat with someone while attending the event.					
10. Start hosting an Event.					
	Poor				Good
11. Overall Feedback					

12. Other Feedback :

6.1 Results

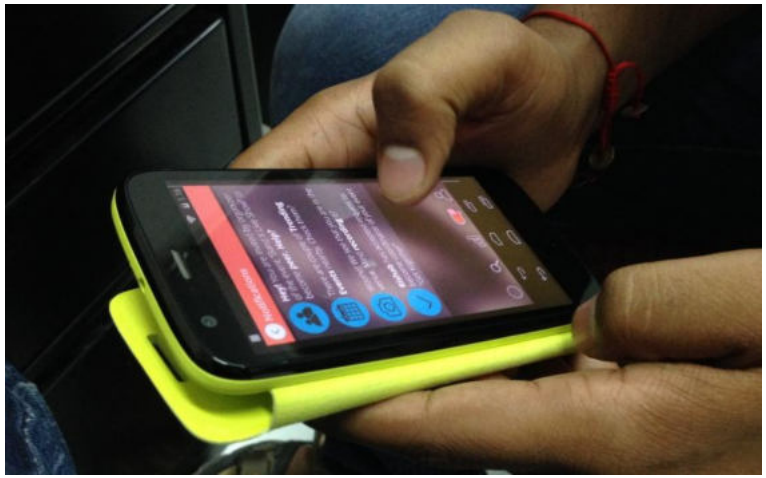
- The average most difficult tasks faced by Smartphone users were,
  - Find out past events which happened between 9th June-19th June.

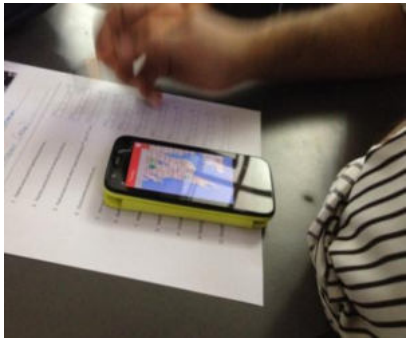
    And
  - Switch to Directional View
- The average most difficult tasks faced by Non Smartphone user were,
  - Find out past events which happened between 9th June-19th June.

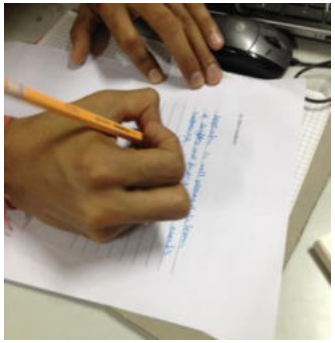
    And
  - Switch to Directional View
- Rest 8 tasks were rated nearly easy.

6.2 More Feedbacks

- Navigation is smooth.
- Difficult to figure out Icons – replace some with texts.
- Event details icon is not self explanatory
- Confusion between chatting icon and Notification icon
- Well planned to explore and attend events remotely.
- Colour mapping of event icons is not clear.
- Directional View feature is amazing.







7. References

[1] eveneducation.com, "What is Event?," eventeducation.com, [Online]. Available: http://www.eventeducation.com/what-is-event.php. [Accessed 28 05 2014].

[2] E. T. Hall, "Anthropology," in *The Hidden Dimension*, Anchor Books Editions, 1966, 1982.

[3] F. Lucarelli, "Mark Lombardi's Narrative Structures and Other Mappings of Power Relations," Socks, 22 08 2012. [Online]. Available: http://socks-studio.com/2012/08/22/mark-lombardi/. [Accessed 30 05 2013].

[4] "Ramlila - Wikipedia," [Online]. Available: http://en.wikipedia.org/wiki/Ramlila. [Accessed 29 05 2014].

[5] "Rock_am_Ring_and_Rock_im_Park," Wikipedia, [Online]. Available: http://en.wikipedia.org/wiki/Rock_am_Ring_and_Rock_im_Park. [Accessed 29 5 2014].

[6] "http://www.techfest.org/home/info/about_us," Techfest, [Online]. Available: http://www.techfest.org/home/info/about_us. [Accessed 28 5 2014].

[7] R. Zimmermann, "geovid.org," [Online]. Available: http://geovid.org/. [Accessed 28 05 2014].

[8] "Flying Head: A Head Motion Synchronization Mechanism for Unmanned Aerial Vehicle Control," Rekimoto Lab, [Online]. Available: http://lab.rekimoto.org/projects/flyinghead/. [Accessed 30 5 2014].

[9] "Chromecast," Google, [Online]. Available: http://www.google.com/chrome/devices/chromecast/. [Accessed 14 07 2014].

[10] "Android Design," Android, [Online]. Available: http://developer.android.com/design/index.html. [Accessed 14 07 2014].

[11] T. Grahl, "The 6 Types of Social Media," out:think, [Online]. Available: http://outthinkgroup.com/tips/the-6-types-of-social-media. [Accessed 29 5 2014].

More References which are not used in this Report but helped in the project:

[12] Anklam Patti, “Creating and Sustaining Successful Networks, [Online]. Available: http://www.slideshare.net/panklam/net-work-creating-and-sustaining-successful-networks. [Accessed 30 5 2014]

[13] Social Media, “Network Structures, [Online]. Available: http://socialmedia.wikispaces.com/Network+structures. [Accessed 26 5 2014]

[14] WOLFRAM, “Social Network analysis, [Online]. Available: http://www.wolfram.com/mathematica/new-in-9/social-network-analysis/. [Accessed 20 5 2014]

[15] Fever Bee, “The online community guide, [Online]. Available: http://www.feverbee.com/2013/02/how-to-build-an-online-community.html. [Accessed 27 5 2014]

[16] New Zealand Teacher’s Council, “What is Social Media, [Online]. Available: http://www.teachersandsocialmedia.co.nz/what-social-media. [Accessed 26 5 2014]