Triggering Ride Sharing through Socialisation

Semester IV Project

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M.Des (2014-2016)

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Semester IV Project Report

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Declaration

I declare that this written document 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.
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Approval Sheet

The project titled *Triggering ride sharing through socialization* by Prasad Ghone, is approved for partial fulfilment of the requirement for the degree of 'Master of Design' in Interaction Design at Industrial Design Centre, IIT Bombay.

Guide: 

Chairperson: 

Internal Examiner: 

External Examiner: 

Date: 29th July 2016

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Most importantly, my family for all their love, patience and encouragement.

Prasad Ghone

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Abstract

Metro cities in India are flooding with masses travelling to these cities for better employment because of growing IT sector. High income group people travel to these parts of city in large number everyday using their private vehicles. The infrastructure of these cities is unable to cater to the increasing number of vehicles. This is resulting in worsening the traffic conditions in these parts of the city.

Hinjewadi IT Park in Pune is no exception. More than 4 lakh people commute here everyday. It has been observed that more than 90% of the cars have maximum 2 seats occupied. Ride sharing can be a potential solution to reduce traffic in these areas. But, people are not motivated to share their ride for various reasons. In this project, socialisation is used as a medium to motivate people to share their ride.

A mobile application was designed which be can used to connect to people of similar interests and who are staying and working around. Gamification and social bragging about the carpooling is also used as a motivator in the application. These indices bring out the information of how users of the application are contributing to make a greener city.

By using the solution, users can create groups based on the interests. These groups will bring together like minded people.

Attempts were made to create a ride sharing community of Hinjewadi as a ride sharing solution will only work if there are enough number of ride offerers in the solution. A group was created who travel on the same route, have similar commute timings and have a common interest. This group was studied and analysed to test the idea. This group was active and running for 3 months. Their experiences are captured and documented in the report.

Pilot Heuristic evaluation was conducted with the group of interaction designers to test usability of the solution. The insights from the evaluation were used to iterate prototype. The prototype was evaluated with actual users for different tasks in Hinjewadi. A think a loud test along with qualitative feedback from users was conducted.

Introduction

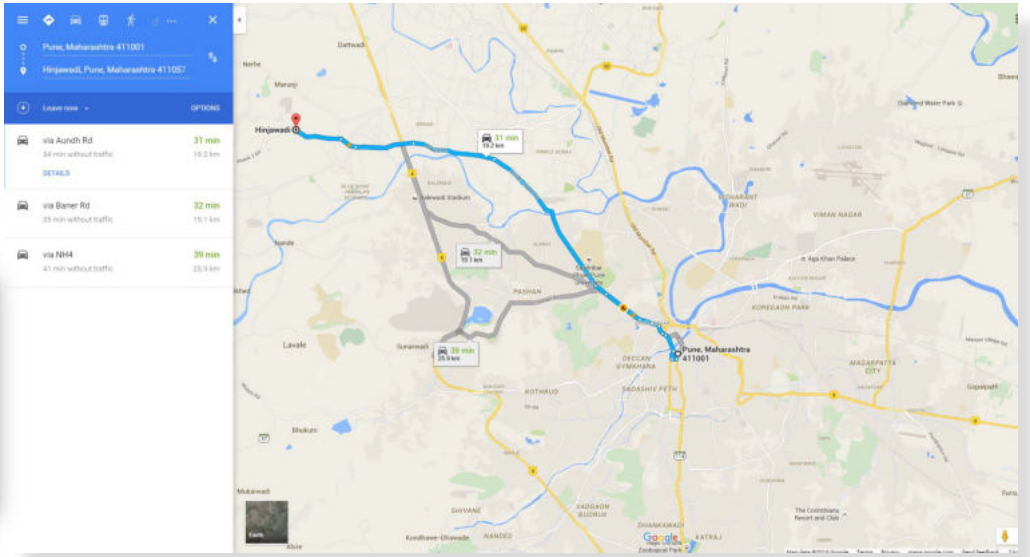
India is going a major urbanisation. More employment is being created in urban areas and to avail these opportunities, more people are moving to cities. Rapid increase in population in urban areas demands improvement in transport services. Changing the infrastructure is not always the solution, as the demand of better transport increases exponentially. Sustainable solutions should be thought of to meet these needs.

Cities like Mumbai, Bangalore, Delhi, Hyderabad and Pune are becoming the IT hubs of country. In each city, lakhs of people travel to these IT sectors every day. As a result, number of private vehicles coming to these places are increasing rapidly. In this population, buying a house and a car is considered as an achievement. Owning a car is a status symbol in society. This increasing vehicle count results in heavy traffic jams on daily basis to roads connecting to these IT parks.

Hinjewadi IT Park, Pune is no exception. More than 4 lakh people work in Hinjewadi and travel to Hinjewadi from different parts of the city everyday. The vehicle count is around 3.5 lakh per day[5]. It has been observed that more than 90% of the cars have maximum 2 seats occupied. Ride sharing can be a potential solution as it does not involve infrastructural changes to the city. Ride sharing can reduce traffic and in turn reduce carbon emmision. However, people in India are not switching to ride sharing. Can socialisation be used as an motivation to bring people together and share a ride? The project not just tries to reduce traffic by ride sharing but also tries to make the long traffic journeys producive for commuters.

This project aims to solve the motivation problem to help people switch to car pooling.

Ref 5,6,9,10 & 11: Articles on severity of traffic problem in Hinjewadi



Source: maps.google.com

The above figure shows the distance of Hinjewadi IT Park from the centre of Pune city. Hinjewadi IT park is around 20kms from Pune.

Design Process

Will socialisation motivate people to share ride and people might get interested in ride sharing? Can the time they waste in commute used productively in this way? I started the project with this hypothesis.

Secondary Research

Initially, secondary research was conducted to understand the reasons why ride sharing is not working in India. Also, various ride sharing apps were reviewed to understand what exactly is lacking in the current solutions.

User Studies

A User study was carried out with people commuting to Hinjewadi. The intent of the study was to find needs of actual users and also generate insights on the way people socialise and their views on ride sharing.

It was observed that the real problems for even the users who want to share rides was they could not a find a ride on the available ride sharing solutions. This is a classic community problem when there are not many users in the community, people won't find rides. This will eventually induce people to take detours, manage with timings to share their ride. To create a sustainable ride sharing solution, a bigger community is required, so that lot of rides are available.

Building community

Next I tried to create a community of ride sharing. An online form was created which was also printed an distributed in Hinjewadi which captured home locations and work locations of commuters with their interests. The intent was to create community and then manually create groups of people who live near-by and have some common interests. To reach out to more people in Hinjewadi, a facebook page was also created which was shared with people in Hinjewadi. Also, various promotional material like posters, posts were created to get more users to sign up and build a bigger community. 66 users signed up for the initiative.

Prototype Solution

Based on the entries got from activities done for building community, a ride sharing group was created. The group was asked to quit individual commute and share ride. Experience of commuters was captured and documented.

Ideation

Ideas were generated on how the groups would be created, who will create the group, does a group need an admin to monitor, should the size of the group be limited, should interests alone be a joiner, what should be the model of payment, how do we motivate people to use the solution, should common interest be just an ice breaker or should it have something to do in commute (some activity based on the common interest),etc.

Final Concept

Based on the ideations, a final idea was selected which catered to defined problem. Early prototypes and final prototype was created.

Evaluation

Task based usability tests were conducted with the real users. Also, the product was evaluated heuristically with a group of interaction designers.

Secondary Research

The main problems identified for people not using ride sharing from literature are as follows:

Issues with current ride sharing platforms:

- Safety[4]:

Safety is one of the important problems attached with ride sharing. Traveling with a stranger is an important concern of people planning to switch to ride share. Most of the ride sharing applications try to make travellers feel safe by authenticating every co-traveller by various ways. For example, 'liftO' does not allow users who does not have a linked-in account and a government ID card. Few other applications which are designed for people working in corporate offices does not any other to enter the corporate community. Only people having a corporate mail account can sign up to these applications.

Design implications
Even we are trying to build a ride sharing community in Hinjewadi. Hinjewadi being a corporate area, this way of authenticating a user working in a corporate sector can be good way of authentication. Authenticating by linked-in or corporate email id can be used to build a closer community.

- Liability (Accidents) [4]

As safety is important when you travel with a stranger, driving skills of the driver are also equally important . To ensure the driving skills, experience and other parameters defining a safe ride is very important for a ride sharing platform.

Design implications
Various, cab services uses user rating to rate the drive experience. A car pooling platform can have peer rating, by which he can rate the drive experience. Also, there are lot of things a quantified rating cannot capture. There can also be a text section where people can write about their peers and the ride experience.

- Bootstrapping (Community building) [7]

This is a classic problem of community building in a sustainable solution. Sustainable solutions like ride sharing or carpooling will work only if there are lot of people using it. Ride sharing is a solution which will work only if people find a ride from one place to another. People will find a ride only if there are enough car owners offering ride which expects a community of car owners and seekers. A solution

like this will work only if a community is built. A lot of ride sharing platforms are failing to work because there are not enough users using it. User comes to an app to find a ride, does not find a ride and hence never turns up to the app and eventually there are not many users. This typical problem is called bootstrapping.

Design implications
The design should enable, encourage and motivate people build a ride sharing community. A ride sharing will be successful only when lot of people find ride shares.

- Flexibility in stops and halts [4]

Commute is a different scenario of traveling, here people travel every day to office. Generally, people do lot of personal work in the transit like dropping and picking kids from school, buying vegetables and groceries, shopping, etc. Ride sharing takes away their flexibility of halts and stops.

Why people find carpooling worse

- Increase in travel time[4]:

Carpooling or ride sharing increases travel time than driving alone. Picking and dropping co-travellers, taking a detour for the same and matching to their commute timings introduce delays.

- Public transport is better than ride sharing[4]:

Major advantages of public transport are, it has frequent and fixed departures and cheaper transit. It also ensures anonymity of transit and users don't have to worry of parking. Flexibility also comes naturally as the rides are frequent and to all places.

How is ride sharing better than public transport

- More spatially flexible[4]

Carpools are more spatially flexible than public transport. If a user stays in outskirts of the city or some locations which involves a couple of kilometres of walk, public transport won't cater to the need of pick and drops nearer to home. But there is a possibility that a user might find a carpool in the next apartment. Hence, carpooling is more spatially flexible than public transport.

- Consumes less time[4]

Pickup or drops are less in carpooling than public transport.

Public transport option like buses or trains has to wait on every stop which consumes a lot of time whereas in carpooling, once all the members of the carpool are in, the car can go the destination non-stop.

- More comfort[4]

Definitely, car pool is more comfortable and luxurious than public transport.

Understanding socialisation theories:

What makes people socialise?

What all are the factors that enable socialisation? What are the triggers by which people socialise? Why people are so addicted to facebook? I tried to find answers to these questions. Success story of facebook was studied to understand how facebook uses socialisation theories to keep people glued to it.

Success story of Facebook[12]

- Quick access to more knowledge. Better over internet as it knows my interests and preferences.

Facebook knows its each user's interests and preferences from his likes. Facebook pushes posts related to topics I am interested in. It acts as a source of information like internet but not a wide internet but my interests' filtered internet.

People are interested in posts and topics that are related to them. These posts make them come back to Facebook. Using this, we can speculate that people might get interested in ridesharing if they find people who also are interested in similar topics. By meeting these people, they will know more about these topics from their co-travellers.

- Fulfils social and esteem needs

- Social comparison: According to social comparison theory, Facebook provides a platform to compare opinions, achievements, etc.

- It provides a forum for our egos: Human need of self-expression and self-expression followed by feedback

- Essential need of human connection

"Man is a social animal." Humans by nature are designed to socialise. Because of the fast moving world and people settling around various parts of globe for employment. Facebook provides a platform to socialise and get connected. Also, humans have esteem needs of flaunting about the things they do, their assets, etc. Facebook also enables its users to satisfy their esteem needs. So, I have

Meeting like minded people in the ride share, who are the people who share common interest among themselves might motivate people for ride sharing as they will get a platform where they can flaunt about the topic they are interested in and they know about. Finding people of a specific interest is a difficult task and arranging a meeting with them is another difficult task. Meeting such people in ride share and talking about that common interest to people who will acknowledge to it might interest and motivate people.

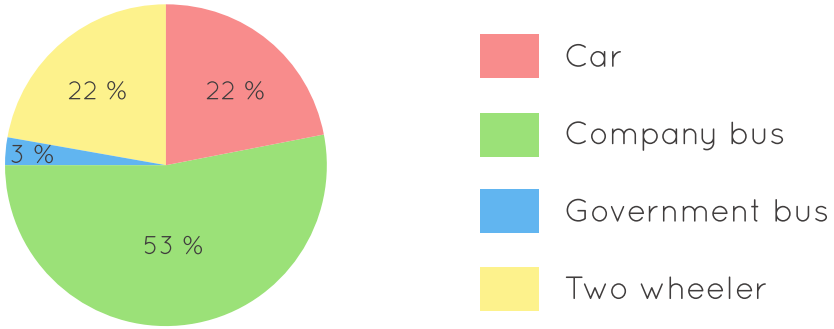
- Social aversion: People do not want to be an outlier. "Everyone is on Facebook, so I must be. So as to not miss out anything"

People care about their social presence. Success is also driven by lot of people signing in more as all their social circle is on Facebook and even they want to be a part of it.

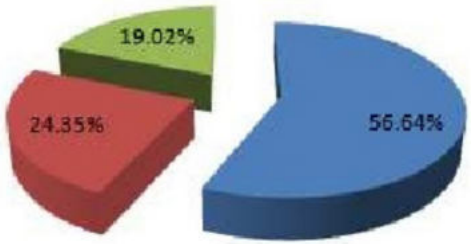
A social movemet of ride sharing can be created, in which people post about their ride sharing on social media, also by attaching a pride feeling of contributing in making the city green. From a little seed posts, people might get triggered to ride share, so that they post about their ride share on social media and be socially active.

- Socialisation for boredom

People turn up on Facebook whenever they get bored. They ping their friends, stalk profiles and check news feed with an intent to see what all is happening around. Facebook is used for socialisation on boredom.



Mode of transport used in Hinjewadi [1]

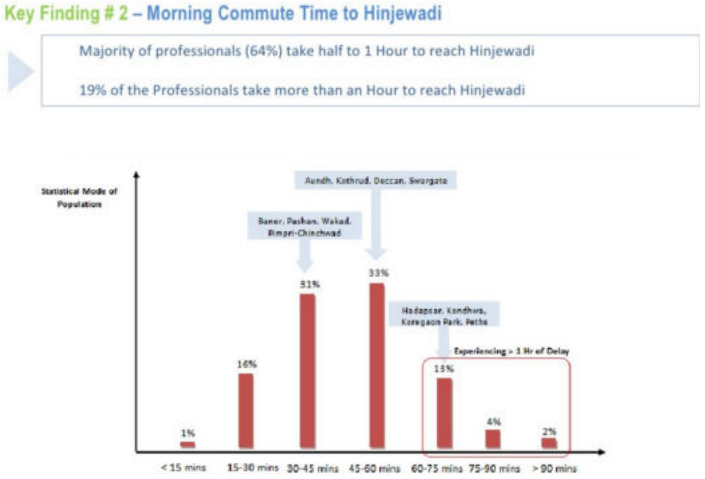


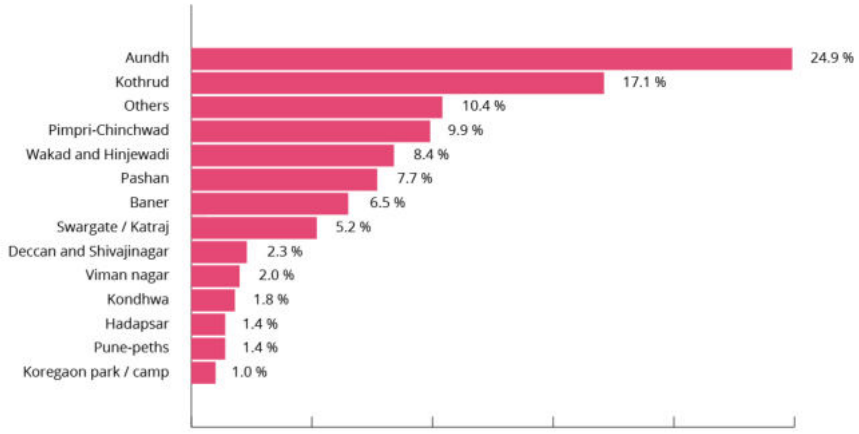
Inclination to switch to Car pooling [1]

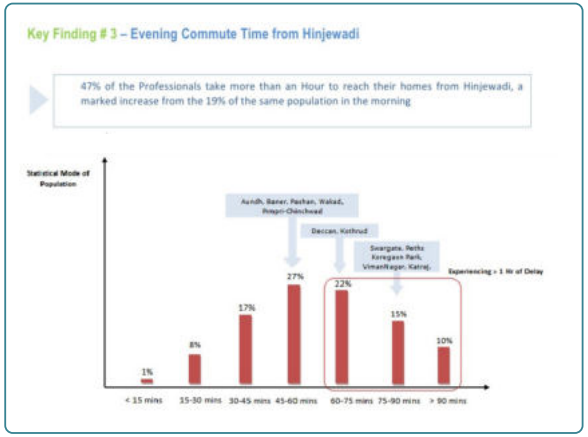
Hinjewadi transportation statistics

In the first image we can see the around 44% of the people travel by private transport, out of which 22% are cars and 22% are 2-wheelers and only 3% people travel by government public transport[1].

In the second image the question was asked by the survey coordinators regarding the inclination towards car pooling to car owners. 56.6% people were open to the thought of carpooling and were ready to switch.The response statistics are shown in the image[1].







Location and time statistics[1]

Top left and the top right figures show the morning commute details and evening commute details respectively. It can be seen that in morning commute, around 64% people spend about 30mins to 1 hour whereas in evening, around 47% people spend more than a hour in travelling.

The bottom left figure shows the population of commuters to Hinjewadi from different places of Pune.

Hinjewadi location and time statistics [1]

Existing Products

Existing ride sharing platforms

The existing ride sharing applications available for Pune are shown here. The applications are not doing good for only one major reason mentioned above which is bootstrapping.

Groupool:

Groupool is a static ride sharing application in which users create a post about their ride and post in on the app. People will discover the post in find or feed tab. A new feature which groupool has introduced is whatsapping the user who created the post.

Pros:

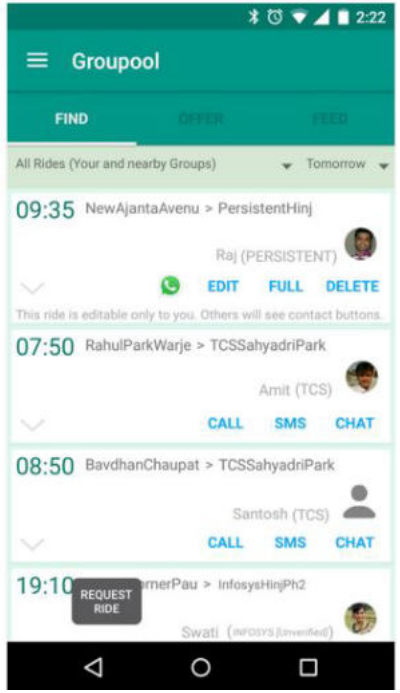
- Whatsapp is a most commonly used messenger these days than SMS. Sending a Whatsapp message through the app.

Cons:

- News feed section is full of information. The structure is very complex and it is difficult to get meaning out of it.

Implication

Here, people find rides from strangers and share with them. It is a static ride sharing that is once users find a ride, create a group and share ride with group mates until a member from the ride group drops. As it is static, more information of co-travllers for trust is not provided. The thought could have been, as it is static, users can meet, talk and then decide. For such ride creation, it will be okay to not have much prior information of co-travellers on the app.



Groupool [3]

CarEgiri and Rideshare:

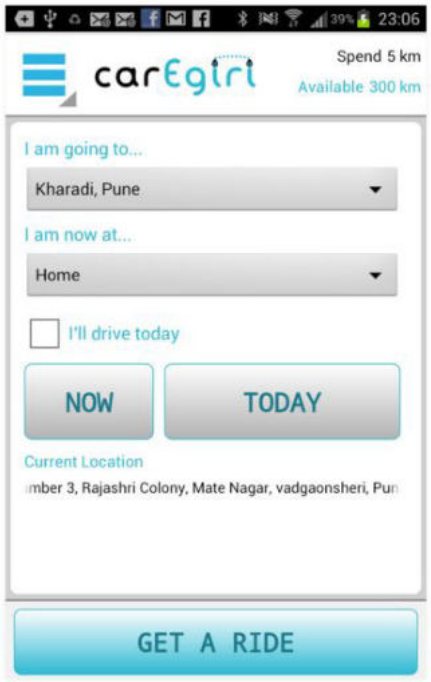
These are dynamic ride sharing platforms. Here users can look for a ride and offer ride dynamically. No, static post creation requirement for these apps. Apps has a feature to schedule a ride for future travel. Both the apps take liverage of the technological advancements in smartphones. Cars can be real time tracked using GPS. This helps ride seekers have an estimate of time and plan accordingly.

Pro:

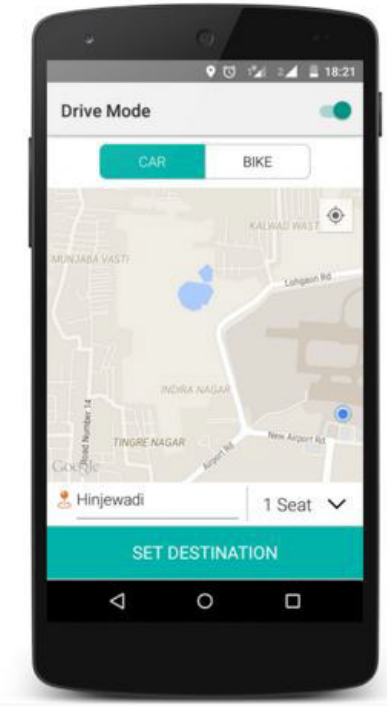
- It is dynamic ride sharing, no dependency on the fixed co travllers
- It allows bike as well as car sharing
- Dynamically tracking of car

Cons:

- No assurance of ride back home
- As the ride is dynamic, strangers everytime in travel, problems of safety, security, etc.



carEgiri [3]



Rideshare [3]

Design Implication

As the ride sharing is completely dynamic, user would be travelling with a stranger. Not much information is available about the co-travellers. Safety and security is particularly important in dynamic ride sharing.

Carpooling in India

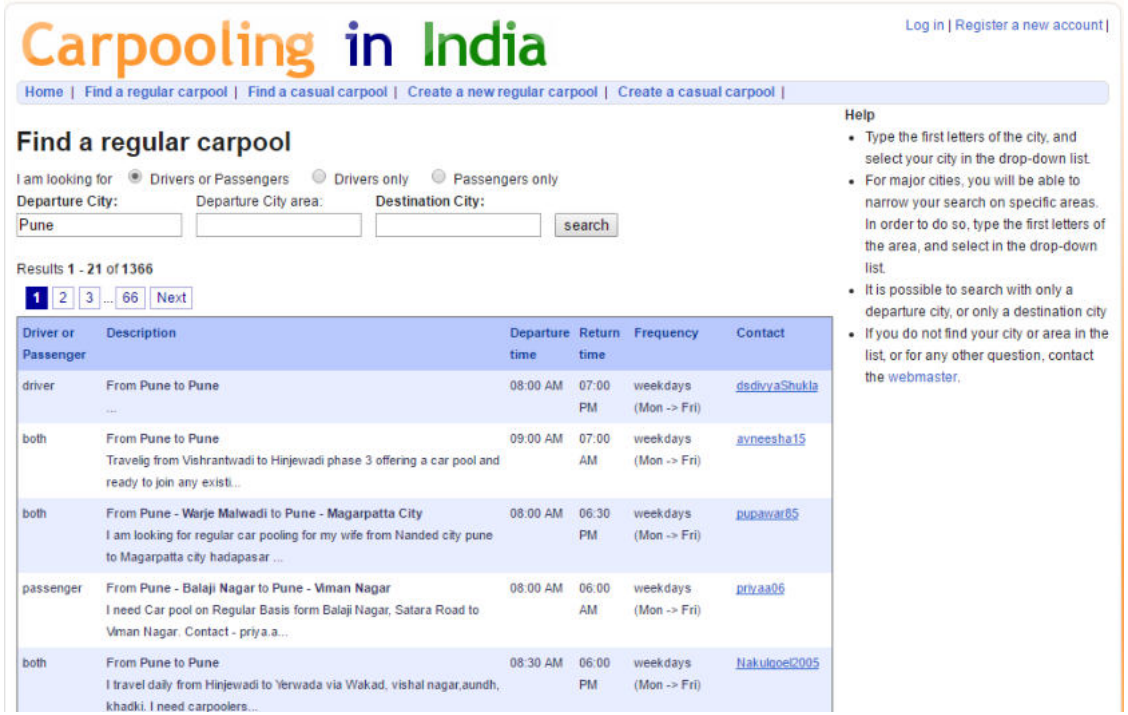
Carpooling in India is a web portal to find and offer car pools. It is available for various cities in India.

Pros:

The user need not sign in to see the rides available from his source to destination. User needs to sign in only after he/she finds a ride and want to now contact co travellers.

Cons:

The solution is designed for intercity travel. It was observed that people started using the intercity portal for intracity. Cost being a deciding factor while selecting a pool, here user cannot define or see cost of the ride upfront. Only after contacting the car owner, the cost of the trip can be known.



Design Implication

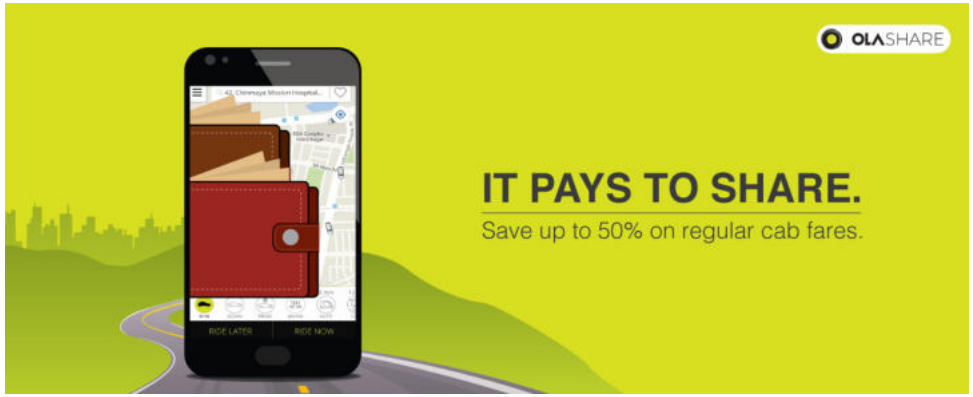
Here, users can view if there is even a ride available on the route he want to travel and he signs in only when he finds a ride. We are trying to create a community of ride sharers, so even when the ride is not available, we want users to log in. Users can be notified when a ride is available. Also, probably someone might create a group which motivates other to offer ride. Users should be able to browse through the groups and discover themselves.

uberPool / Ola share

These are point to point cab service for intercity transport. These are dynamic ridesharing platforms. User has to opt for ride sharing after s/he books a cab. Users on the same route at the same time who have also opted for ridesharing are connected and they share a ride. The cost of the ride is split among the users.

Pros:
These being cab services, the dependability on another passenger for a ride is reduced. User can always prefer to travel alone and bare the entire ride cost, if he does not find a ride sharer. User can decide to share his/her ride or not to share anytime at his/her discretion.

Cons:
As the match making is dynamic, users travel with strangers. Safety and security is the major concern in dynamic ridesharing. There is no surety that user will get a ride share in the journey. User might want to take a cab in a commute only when he/she finds a rideshare. In a commute, users look for good relationship.



OLA Share [13]

uberPool [14]

Primary Research

The process followed in primary research was:

1. Interviews and analysis
2. Observations
3. Initiatives for building community:
   Online google form and printed form survey
4. Facebook page
5. Creating groups

Interviews

Semi structured interviews were conducted with commuters of Hinjewadi which use different modes of transport everyday. The following questions were asked to the commuters.

1. Demographic questions:

Questions regarding users' office timings, routes they follow, mode of tansport they use, etc.

Intend: These questions were asked to know the mobility patterns of the commuters and also to know the modes of transport they use.

2. Uncertainities in timings:

When and what are the reasons when they have to change their commute timings? How much time bofore these reasons are known? If they share a ride, how do they manage these uncertain timing situations?

3. Social circles:
How is their current social structure like? How do they socialise? What are the places they use for socialisation?

4. Capturing ride sharing experiences:

Few questions were asked to ask their car pooling experiences. What are the talks they generally have in a car, especially in commutes. Problems faced during car pools.

5. Inclination towards car pooling:

Are they inclined towards carpooling? Will commuters who drive alone will switch to car pooling? If not, reasons for not sharing and if yes, what is stoping them now?

6. Commute activities:

Things they do in commutes. What kind of things they would like to do in commute. Do they pre plan things they would do in commutes?

Findings

Common Interest as ice-breaking and conversation starter

It was observed that, whenever strangers of the same or different companies meet, they generally talk about the project and technology they are working on. The common things in people of Hinjewadi is that they all are working for some or the other tech company and that is always the ice breaker. It was observed beyond this, strangers could keep conversing only if they both have a common topic to talk. One of the user said,

"We need triggers for conversations. It is always something in common. Otherwise you will maximum talk about the project and technology "

Bringing this common interests upfront in the final solution which people can see while browsing through rides, might trigger people to meet them.

Friendship introduces awkwardness

One of the user said, socialisation will enable good relationships with the co-travellers. Once users become friends, they monetary transactions would be awkward.

"If I socialise, I will be friend with that person offering ride, then I won't pay him"

This might turn out to be a very common scenario. Different payment policies and strategies should be thought of for such a solution.

Personal inhibition

It was observed that the age group of 35-45, is the group where people are managers of companies. They mostly don't prefer car pooling as they want their personal space in car.

"I've seen my manager skipping calls, as he knew the person calling is asking for a ride"

People who are interested in either ridesharing or socialising or both are the target audience for the project. As these people are not into ridesharing, bringing socialisation and finding like minded people should be primary for this audience.

Just ride sharing

Few people mentioned that they are not socialites and they still want to carpool and they don't know whether they want to meet new people.

"I like to meet new people, listen to them. But, I don't talk much. Then is the platform for me?"

The solution should cater to needs of people who are not socialites. Not all users should create a group and find people, solution should allow sharing ride anyways.

Facebook stalking for building trust
Facebook was observed to be a platform where people stalk profiles and build a initial trust. The initial judgement is done based on the kind of posts or photos a person shares. One of the user mentioned, how she used Facebook during her sister's marriage.
"My sister is getting lot of marriage proposals these days. We always stalk the profile of the guy on Facebook. From the posts he share, his photos and overall profile, we kind of judge the boy"

Integration of facebook profile which co travellers can see to build initial trust.

Conversations build trust
Trust is not just built by knowing about the demographic data of any person but also by talking to the person. Platform should provide a provision to talk before they ride for trust building.
"Trust is generally built after you talk to the person"

The solution should let users communicate before they actually share ride.

No need of a leader
In all the such meetings there is an agenda of the meeting and a leader who drives the meeting. In these scenarios who would be that? What is it that people will do if they meet people with similar interests in car?
"In all such group meetings, there is a moderator and agenda of meeting. Moderator drives the conversation"

There shouldn't be a moderator or leader, the conversation should flow in the natural way. The primary objective of the people socialising in car is to travel from one point to another. It is okay if in any of the journey, they do not talk.

Observations

These are the few of the observations which were made during Primary Research. These are also the issues faced by people in ride sharing

- Interdependence:

Users sharing a ride have to depend on the other co-travellers. Any of the co-traveller getting late implies the entire group will get late. This interdependence is one of the important problem lot of current ride sharing problems are not been able to cater to.

The current ride sharing which happens in Hinejwadi is static. People find other people from their companies, their teams with whom they can share ride. So, there exist a lot of dependance on the other co-traveller and the ride sharing is not flexible. This inhibits people from ride sharing. If the companies are able to find co-travellers across companies real time, this interdependence can be reduced. This will make the ride sharing dynamic.

- Difficult to find people from a particular location

This is also a by-product of bootstrapping. As users are less, they generally not find a ride from their home location and to share ride they have to take a detour. This generally demotivates people from ride sharing.

- Awkward small transactions for intra city journeys

Intra city journeys implies travelling for small distances. Monetary exchanges for such small distances are very awkward. Paying by each ride is specifically a trouble which a lot of ride sharing platforms have observed for intra city. This is an important reason why intercity ride shares are more popular than intra city.

- Loss of Privacy:

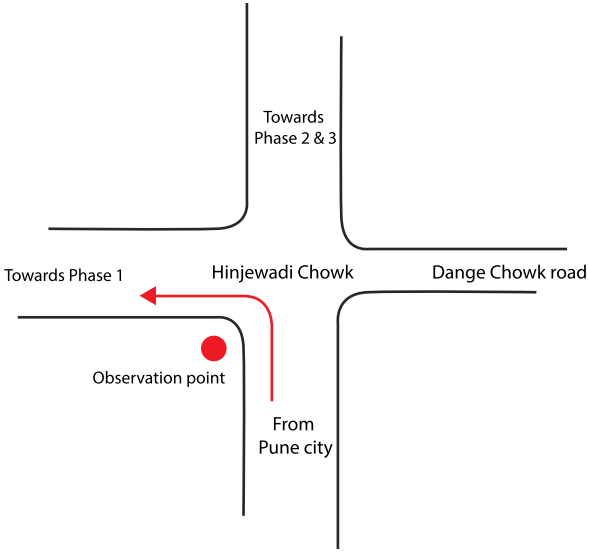
Privacy while travelling is lost in sharing ride[4]. From user studies also it was observed, specifically in commute, people take lot of their personal and official calls where they need privacy. This is one of the strong demotivating factor in a commute scenario.
they do not talk.

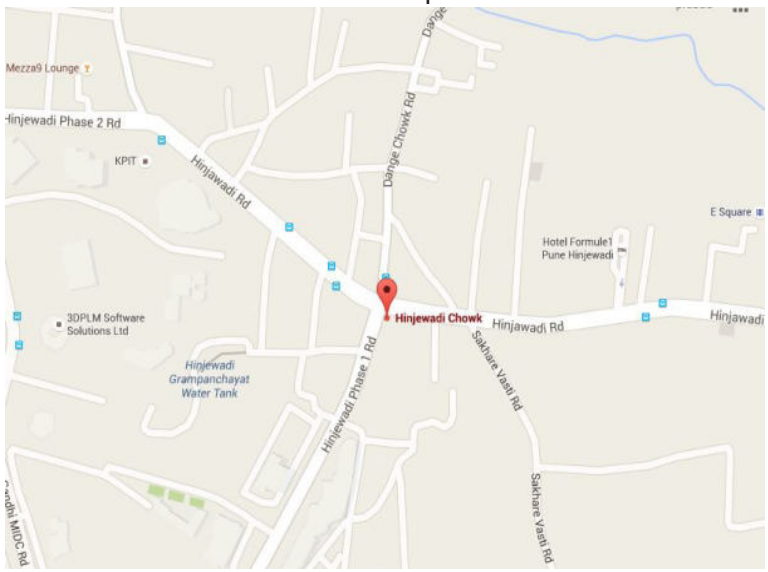
Observational study

A observational study of Hinjewadi traffic was carried to understand the patterns on number of people travelling in car. First set of observations were carried on a non-traffic expected day for 10 mins during 11:12 am -11:22 am for just vehicles going towards Phase I from Pune city (as marked in the map). There were around 120 cars travelling to Phase I. 77 (64.16%) cars were single seated, 33 (27.5%) cars were two seated, 9 (7.5%) cars were three seated and only 1 (0.85%) car was four seated. The data was captured manually by counting the number of cars and the passengers travelling.

The observations were made one more time between 11:47 am -11:58 am (11 mins), total 161 cars were observed going on the same road. Out of which, 89 (55.27 %) cars were single occupancy, 57 (35.4%) cars were two seated, 9 (5.6%) cars were three seated and 6 (3.7%) cars were four seated.

More than 90% of the cars coming to Hinjewadi are 1 or 2 seated.

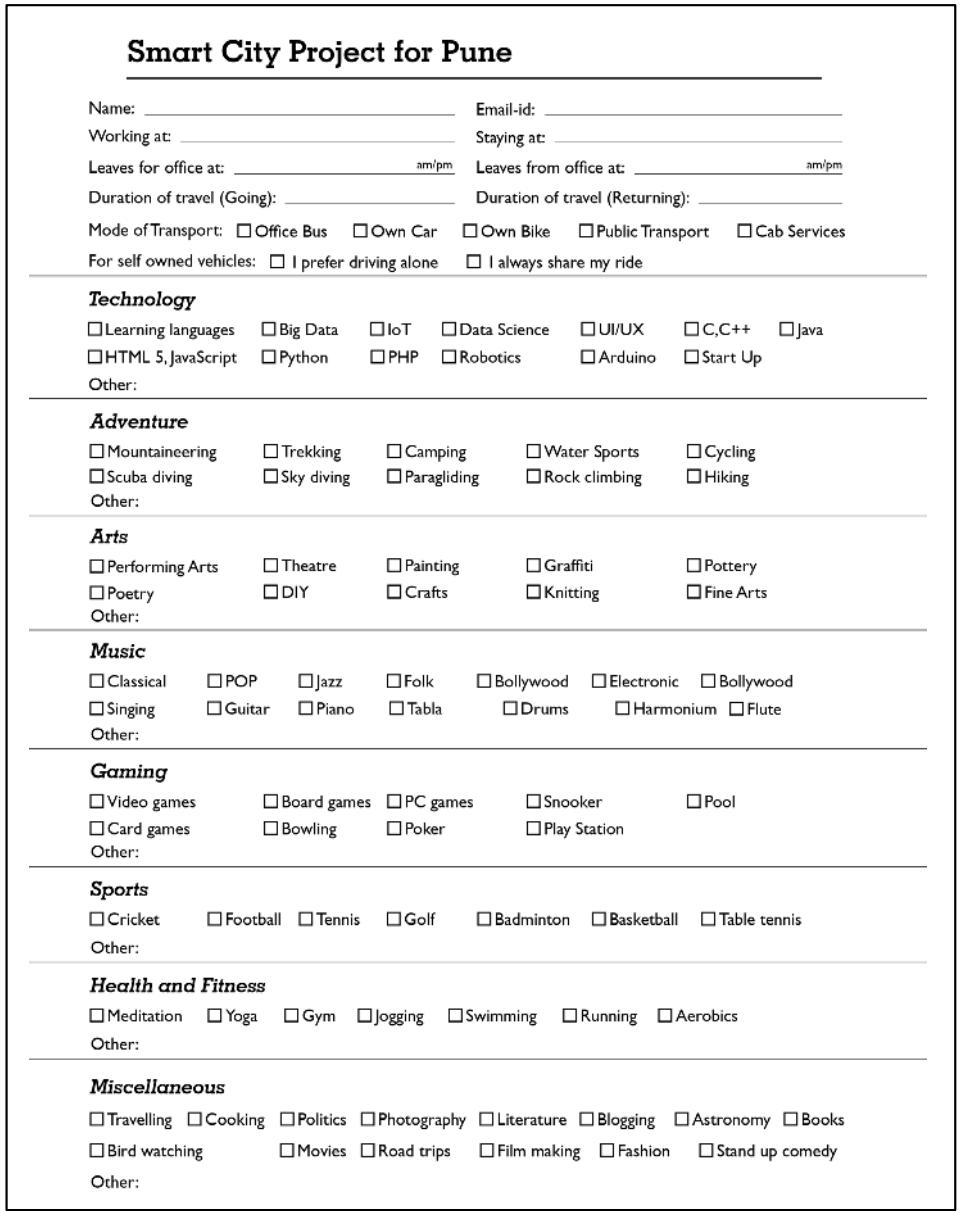




Initiatives for building community: Online google form and printed form survey

From user studies and secondary research it was observed that, the real problem for the current solutions not being effective is bootstrapping (as mentioned in secondary research). A bigger community of ride-sharers is important for a solution to work. People will find rides only when there are enough rides.

As an initiative to make a community of ride sharers, online google form was circulated across various tech groups in Pune. Also, it was circulated with people in Hinjewadi. The intend of the google form was to understand mobility patterns, interests and timing information of people working in Hinjewadi and circulated in the city. Also distributed the printed version of same forms in Hinjewadi area. This form was shared with friends and acquaintances working in Hinjewadi. Also, they were asked to share this form with their colleagues, teammates and other people in their company and whom they know who works in Hinjewadi.



Smart City Project for Pune

Name: _____ Email-id: _____

Working at: _____ Staying at: _____

Leaves for office at: _____ am/pm Leaves from office at: _____ am/pm

Duration of travel (Going): _____ Duration of travel (Returning): _____

Mode of Transport: ☐ Office Bus ☐ Own Car ☐ Own Bike ☐ Public Transport ☐ Cab Services

For self owned vehicles: ☐ I prefer driving alone ☐ I always share my ride

Technology

☐ Learning languages ☐ Big Data ☐ IoT ☐ Data Science ☐ UI/UX ☐ C,C++ ☐ Java
☐ HTML 5, JavaScript ☐ Python ☐ PHP ☐ Robotics ☐ Arduino ☐ Start Up
Other:

Adventure

☐ Mountaineering ☐ Trekking ☐ Camping ☐ Water Sports ☐ Cycling
☐ Scuba diving ☐ Sky diving ☐ Paragliding ☐ Rock climbing ☐ Hiking
Other:

Arts

☐ Performing Arts ☐ Theatre ☐ Painting ☐ Graffiti ☐ Pottery
☐ Poetry ☐ DIY ☐ Crafts ☐ Knitting ☐ Fine Arts
Other:

Music

☐ Classical ☐ POP ☐ Jazz ☐ Folk ☐ Bollywood ☐ Electronic ☐ Bollywood
☐ Singing ☐ Guitar ☐ Piano ☐ Tabla ☐ Drums ☐ Harmonium ☐ Flute
Other:

Gaming

☐ Video games ☐ Board games ☐ PC games ☐ Snooker ☐ Pool
☐ Card games ☐ Bowling ☐ Poker ☐ Play Station
Other:

Sports

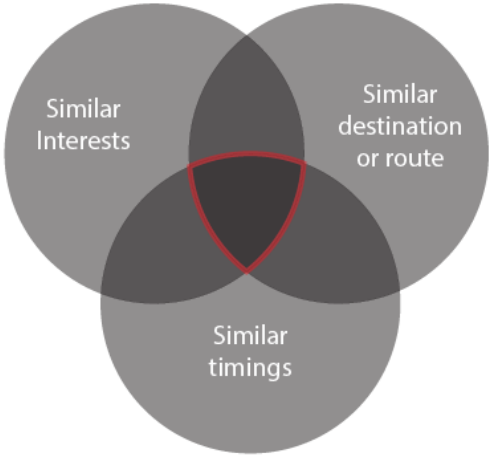
☐ Cricket ☐ Football ☐ Tennis ☐ Golf ☐ Badminton ☐ Basketball ☐ Table tennis
Other:

Health and Fitness

☐ Meditation ☐ Yoga ☐ Gym ☐ Jogging ☐ Swimming ☐ Running ☐ Aerobics
Other:

Miscellaneous

☐ Travelling ☐ Cooking ☐ Politics ☐ Photography ☐ Literature ☐ Blogging ☐ Astronomy ☐ Books
☐ Bird watching ☐ Movies ☐ Road trips ☐ Film making ☐ Fashion ☐ Stand up comedy
Other:



As shown in the diagram above, the idea was to find people who fall in the intersection highlighted. People who live and work in same area, have common commute timings and also share some common interests.

Insights

Reluctant in spreading the word as it appears to be a promotional activity

This google form was circulated with friends and acquaintances working in Hinjewadi. They were asked to share the form with their teammates and colleagues . It was observed that they were reluctant in sharing this survey, when asked they mentioned they receive a lot of surveys and people generally ignore such surveys. They did not share the survey as it appeared to be a promotional activity.

The only motivation for filling the form was as it was for an academic project.

Users who filled the form mentioned that the only motivation for them to fill the form was, it was for an academic project.

Asking personal interest for ride sharing was a set back, not many read the description of the project.

Users had a conceptual model of the project that they are filling the form to make a ride-sharing community. The moment they were asked their personal interests for match making in the form, they stopped filling the form.

Managers mentioned they won't forward it to their team, they can fill it themselves.

In general there was a negligence towards the form as it was appearing to be just an academic project and nothing will come out to market.

Data collection was difficult, people won't share data as long as they see immediate benefit for them.

In feedback, they mentioned need of a platform by which they will share their details and can see how actually the data is getting used for ride sharing.

Girls denied to give personal information, specially email id.

Need of an in between person always.

Key Insight:

Probably, the form was not reaching the audience which might get interested by the concept. Different strategies to reach out to more people in Hinjewadi.

Take away:

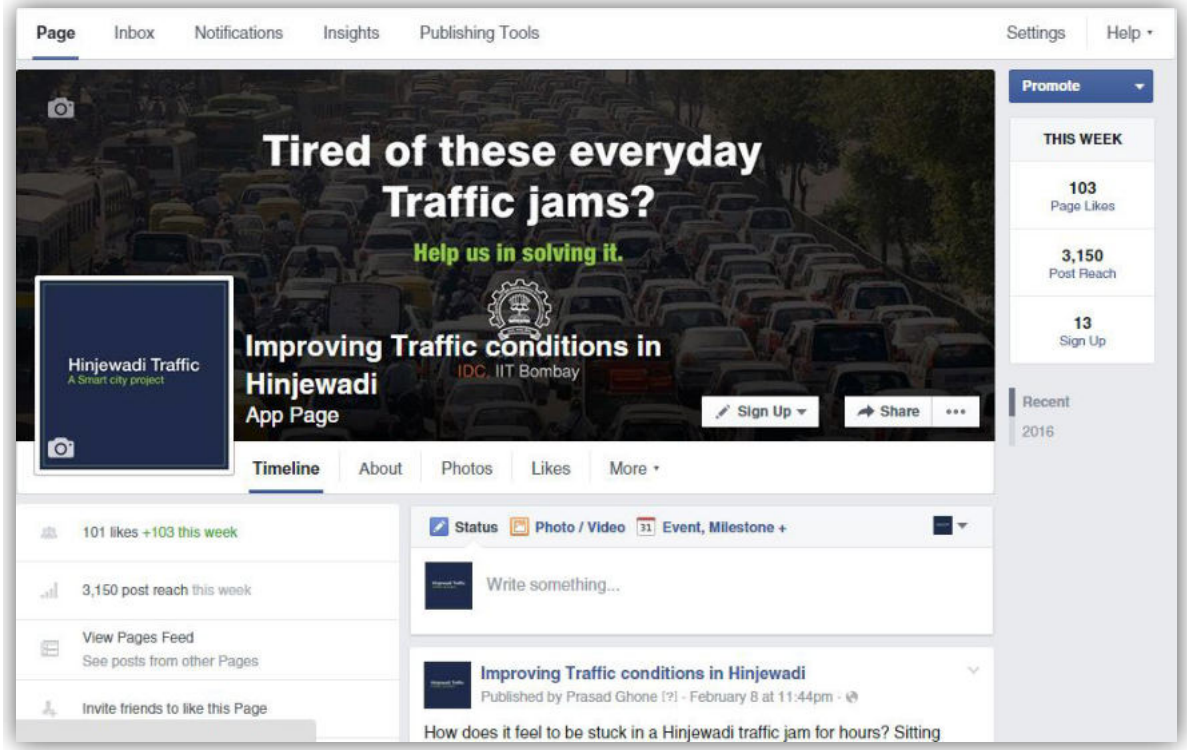
It was assumed that people working in Hinjewadi will share the survey. Not everyone will fill the form was anticipated but people will not even share it with the people they know was unexpected. Reaching out to more people to build the community was necessary. Creating a form and expecting it to get shared didn't work. Other strategies to reach out to more people should be thought.

Facebook page was created to promote sign up activity for community building.

Various promotional posts and posters were created and published on social media to reach out to more people in Hinjewadi.

To reach out to more people working in Hinjewadi was the primary intend. Also, to promote the survey form created through Facebook. Create visually appealing promotional material to make the conceptual model clear.

Here are the posters which were created in the process.



Summary

The facebook page created had 116 likes out of which most of them were friends. Only around 15 people were a working professional from Hinjewadi. The maximum reach of a post from that group was 2.8k people. The page was also promoted to the facebook users from Pune and Pimpri chinchwad and with tags of various technologies.

Insights

Facebook page appeared to be amateur. It should be accompanied with a website of the concept is what users mentioned. People knew tenure of an academic project is small and they felt it as an academic project idea which won't be in market in the course.

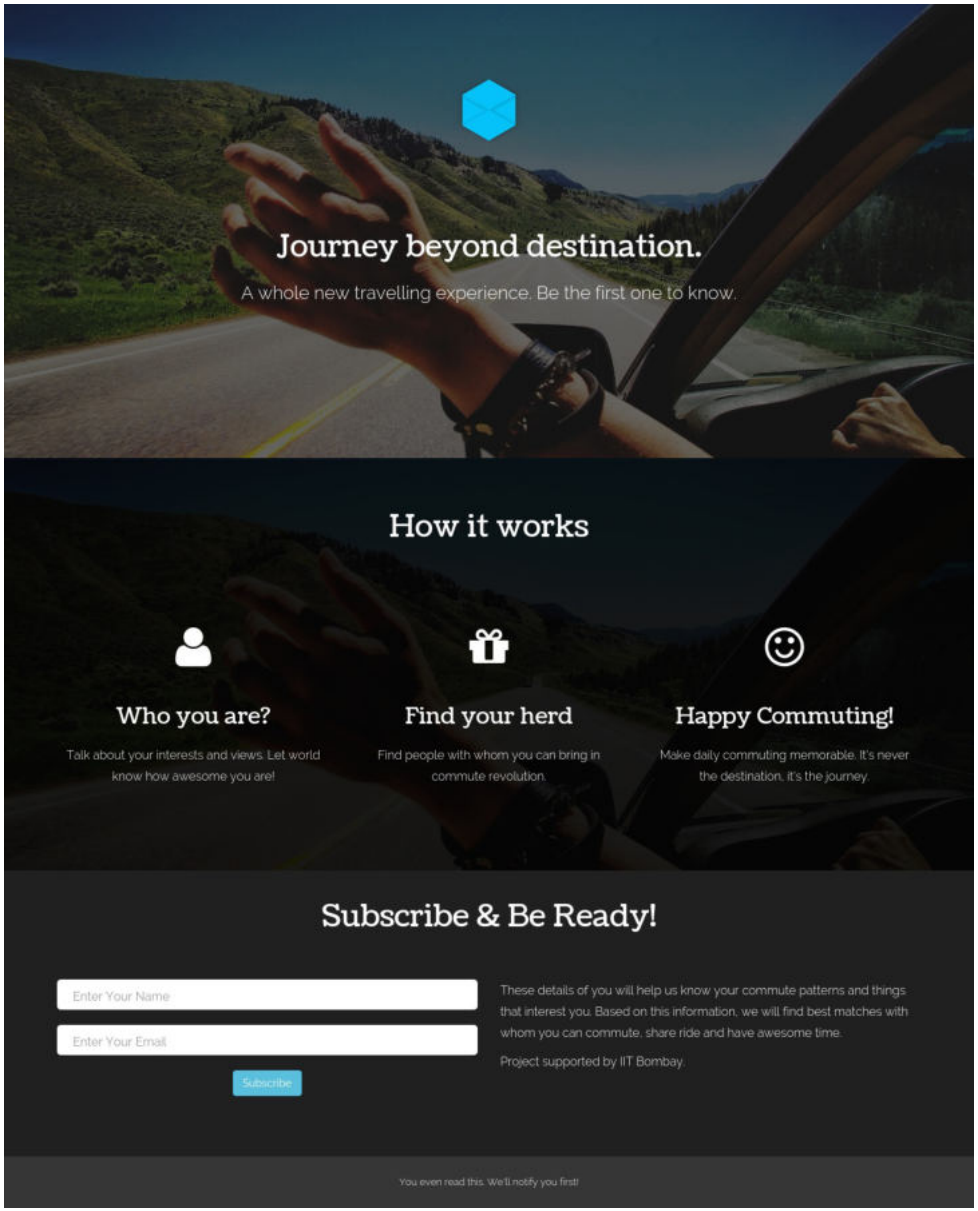
Triggering Ride sharing through socialisation

Coming Soon Website

A coming soon website of the solution was created and shared along with the Facebook page. The intend of the website was to make people of Hinjewadi understand that something is coming up very soon. Also, creating a visually appealing landing page to create conceptual model of the solution. On the website, users were asked to sign up. Only if a user signs up, s/he was asked through a mail to fill in the data to join the ride sharing community.

Insights

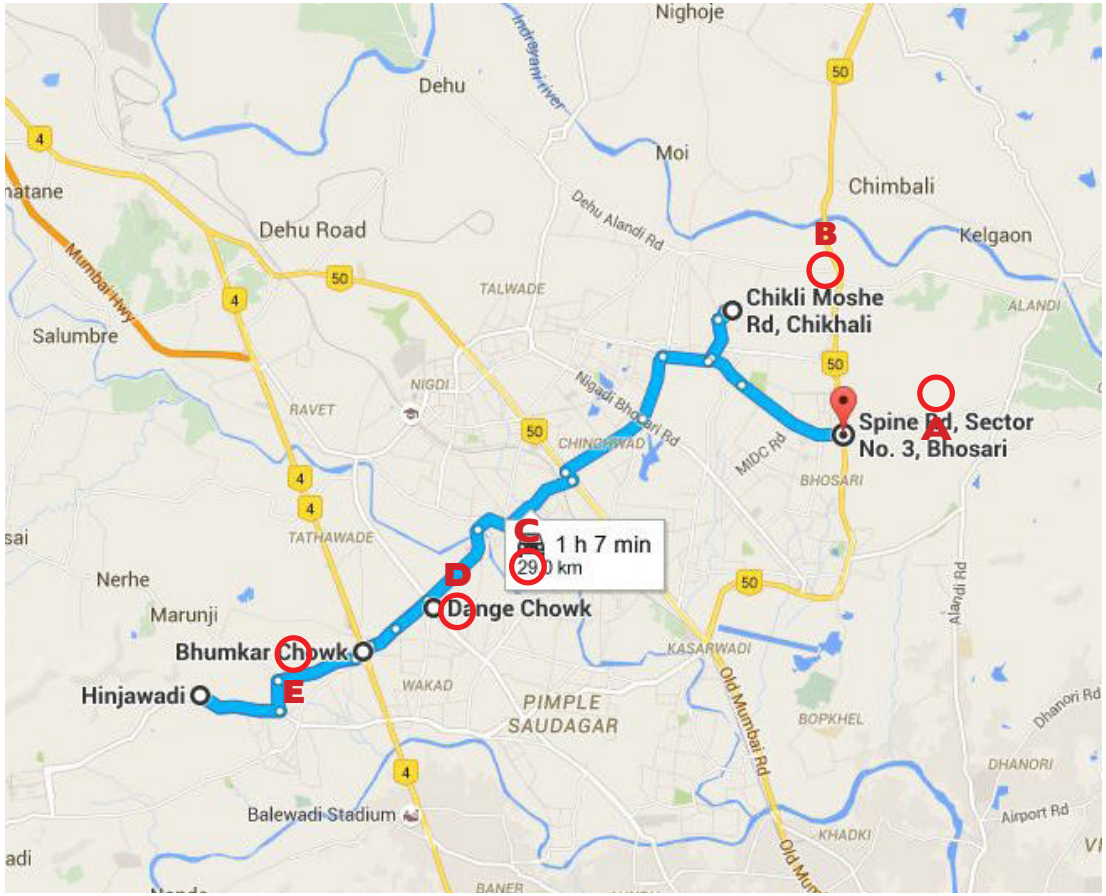
Same problems persisted even after creating the website. The website could not reach to target audience in masses. It did not reach till the people who might be interested in such a concept.



Creating Groups: Prototyping the solution

From the circulated and distributed forms, around 66 entries were collected from users who are working in Hinjewadi. These entries had name of the person, their office location, home location, commute timings, mode of transport used for commute and interests. Based on this information, creation of ride sharing groups were attempted.

One group was created with 4 users, out of which 3 were male users and 1 female. One of the male user (Age 36), staying at point A (shown on map) was commuting using his own car alone. He was travelling alone everyday. Another user (Age 24), staying at point B (shown on map) was commuting by his bike alone. Another male user (Age 28), staying at point C (shown on map), used to commute using government public transport and the last female user, staying at point D (shown on map) and using own bike to commute to office. All the users travel to point E (shown on map).



The timings and route of these people matched. The common interest among them was cricket. This group was asked to share their ride.

One of the member who was staying in Dange chowk never turned up for ride sharing. He prefered public transport. We could not reach him to ask reasons for not joining the group.

The other 3 members of the group started sharing ride. The girl were sharing sharing ride for around 20 days then she dropped the plan. In the post-drop interview, she mentioned, she generally goes out for lunch for with her office colleagues, she could not go now as she did not had bike for these outings. She also said she sometimes goes to bank in lunch breaks, which started becoming a problem as she had to ask someone for bike. She also mentioned, once there was a power cut in their office, all her team mates planned for a movie but she had to find a person with whom she can go for the movie. For all these reasons, she said she stopped ride sharing.

Ride sharing takes away the liberty of run-time plannings. It also creates problem in emergencies.

The other 2 members of the group are still sharing their ride. For initial days, only the user staying at point A was carring his car but later, they started pooling. User living at point B also started getting his car. They started using each others car on alternate days.

On asking about cricket as their common interest, they mentioned they hardly talked about cricket in these days. There were few times when they talked about ipl because of the current ipl season but the conversation triggered from updates of the scores. They mentioned they do talk about lot of things, things they have discussed a lot these days were technology, news related to Kanhaiya Kumar and JNU, etc. They mentioned, user staying at point A is planning to buy a new car, past few days they are discussing about various car makes, models, etc.

These 2 users are still sharing their ride and having good time travelling together.

Interest is not something which users will talk about all the time. It is just a joiner to make people come together to share ride. Group is by the people and not by the interest.

Problem definition:

Primary Objective:

To motivate people to share their ride in commute

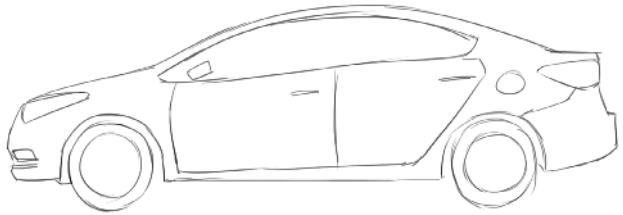
To create a solution for ride sharing through which people will be able share their ride and also find interesting and like minded people for ride sharing. People should be able to meet people with whom they can spend their commute time productively and eventually reduce their carbon footprint. The main objective is to make ride sharing a fun activity to do.

Problem scenario:

Ramesh is a 32 year old guy.

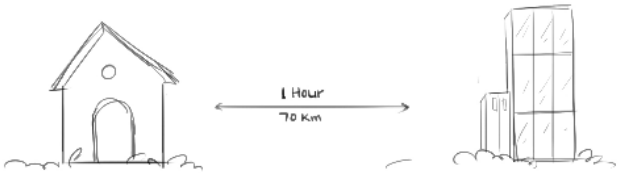
He stays in Kharadi and works at Hinjewadi

He is married and has one kid



He travels in his honda city car every day to office.

He loves classical music



He travels around 70 kms each day and it takes about 1 hour for him to reach to office and back.

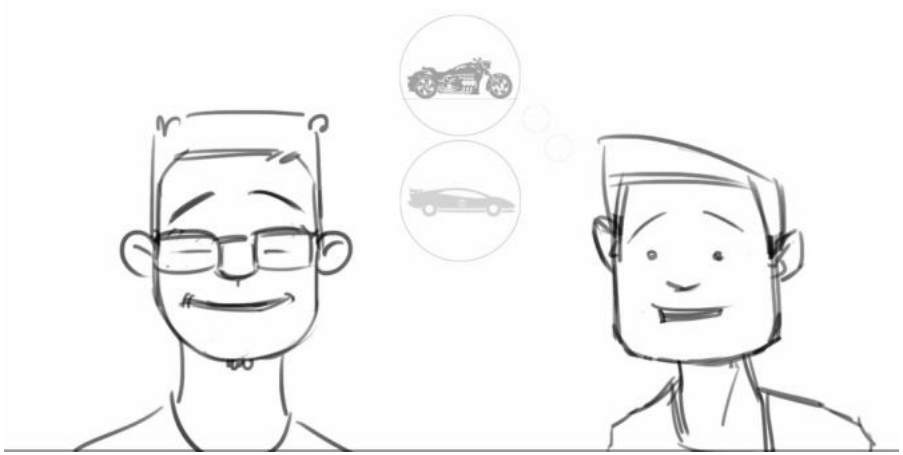
He listens to his favourite classical tracks while travelling

Recently he observed, he is spending a lot on his travelling

He thinks of an idea to share his car to cut down his expenses.

He finds two youngsters Rahul and Akash who are interested to share his car.

Rahul and Akash didn't like his classical music and started asking Ramesh to switch it off while travelling



Rahul and Akash were interested in racing cars and bikes and they use to talk about it all the time in the car.

Ramesh started getting bored as he was niether interested in racing cars and bikes nor he could listen to his favourite classical tracks

Ramesh thought what if he could find
people who stays around his place, works
in Hinjewadi and loves classical Music

Design Ideas

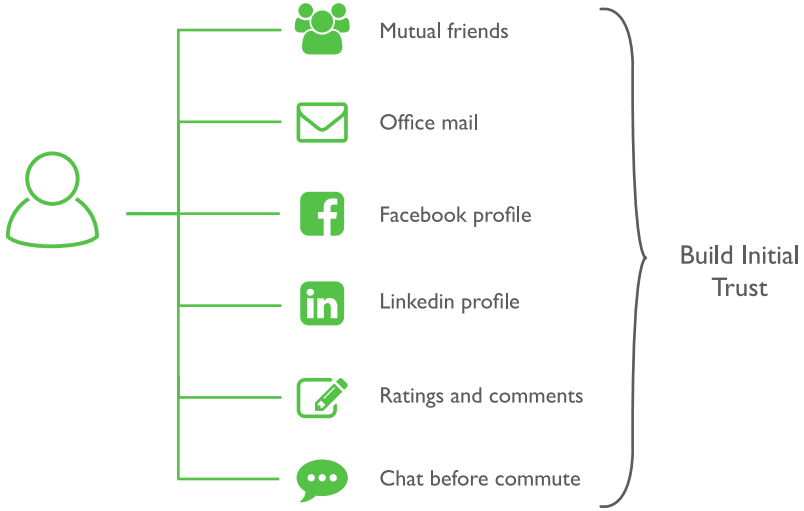
These are the problems which were identified and needs to solved. Below are few of the potential design ideas which was thought for the problems identified. These design ideas are based on insights of user studies and secondary research.

Safety:

Can know common friends (Initial trust)
Knowing common friends between strangers always triggers a conversation. Also, the initial trust is built as we know someone knows the person.

Sign-in with office mail id (Sense of security)
As corporate offices, go through rigourous process of validating the authenticity of employees while hiring. We can bank on their authentication and just validate the user if he/she uses office email id.

Facebook profile view (Initial trust)
Facebook profile helps in building initial trust. It was observed from user studies that facebook is used to stalk people and make initial judgements based on the posts the person shares.



Linked in profile view (Initial trust)
People use linked in for professional socialising. Linked in profile will helps to know the work history of a person. This helps in knowing the person better.

Rating and comments of previous travellers
Qualitative feedback from travellers before helps as they narrate their experience. This is well known pattern of peer feedback.

Emergency contact SOS (Location, car details and info of co travellers)
An SOS contact which will recieve the Location, car details and co-travellers information when an emergency SOS button is pressed.

Talk before you commute (Initial trust)
In user studies, when asked to current carpoolers, they mentioned whenever someone drops from the pool, and is the time to decide on the new member, all the co-travellers first meet the new member, have a talk and then decide whether he should join the pool or not.

Liability:

Licensing information of the driver
Driving license details of the car owner is an early certificate to trust the driving skills of the driver. This is not the only but an important information.

Number of kilometres car pooled
The number of kilometers car owner has car pooled is an important factor which a user mentioned in user study. This also helps in knowing the experience of the driver.

Rating and comments
Testimonials of the previous travellers narrates their experience.

Interdependability:

Plan journey beforehand
Planning and confirming on a particular time reduces the dependability.

2-way Rating
If any of the cotravellers still cancels the ride on the last moment, his activity can be recorded in the form of a rating or a review.

Larger group
Instead of creating a small car pool groups limited to a size a car can afford, if there is a large group, which goes from one point to another, room for flexibility will be created.

Loss of privacy:

Actionable figures of cost saving after car pool and contribution to Green city

At the cost of what is the loss of privacy should be clear to the users. People might not care of their privacy if they could see how much they are contributing to make green city was an insight from user study.

Social awkwardness:

Meet people with whom might not be awkward

Meet like minded people, with whom user will have atleast something to talk and there won't be awkward silence. That can act as an ice breaker. Also, that common interest can be a common goal to achieve or a common thing to do. There is also an opportunity of collaboration if that common thing can be done in car. Or even something which needs to be done off the car but planning should be done together. All these activities can be done in car.

Community building:

Motivation

A carpooling solution is successful only if people find rides on it. More number of users ensures more rides. A bigger community is an essential part of a sustainable ride sharing solution. Motivate people to join the community is the first step towards them sharing a ride.
Design ideas on how to motivate people to join the community are described in the next section.

Incentivise

Reciprocity: Give something, people will repay by joining

Humans cannot be in debt, give users some incentive and do not ask for any favour against it. They will sign up to the community in return.

Motivation to share a ride

People must be motivated to switch to car pooling or ride sharing, here are few strategies that can be used to motivate people

Environmental impact
Let them know, how they alone can make a difference in environment. How much reduction in carbon only he/she can do by carpooling.

Gamification
Ride sharing should be gamified by which users will be motivated to share ride. The gamification should be how much impact you are making by ride sharing. Gamifying the impact on nature.

Gamification of carpooling

Cheaper and comfortable ride
How by sharing ride you can travel cheaper, save money and what you can do with that extra saved money. Also, tell them how comfortable it would be if you easily get a cab-like-ride with one forth cost of cab and you don't even have to worry about traffic.

Brag about their car-pooling
Users should be able to brag about their carpooling on social media. Making carpooling a trendy thing to do.

Sharing carpooling activity on social media

Change the boring daily commute
Motivate users by making them realise how boring travelling alone is, and how interesting it would be by ride-sharing

Meet interesting people
Make people understand how by carpooling you can grow your networks across companies. Also, how their grown network

will help them in their professional career.

Incentivise car pooling
Some policy level changes like subsidised fuel, easy parking space, dedicated traffic free driving lane, carbon credits, etc. could be made as an incentive to motivate people to ride share.

Very easy to use solution
The solution by which they will look for a ride or offer a ride should be very easy to use and should have less steps to get a ride. This will make people not leave ride sharing.

Design Explorations

In the final concept, users will create groups based on their interests and people with common interests will join the group. If users commute at similar timings and also stay nearby and have common interests, they will share ride. Interests will help people find like minded people and spend their time productively in commute.

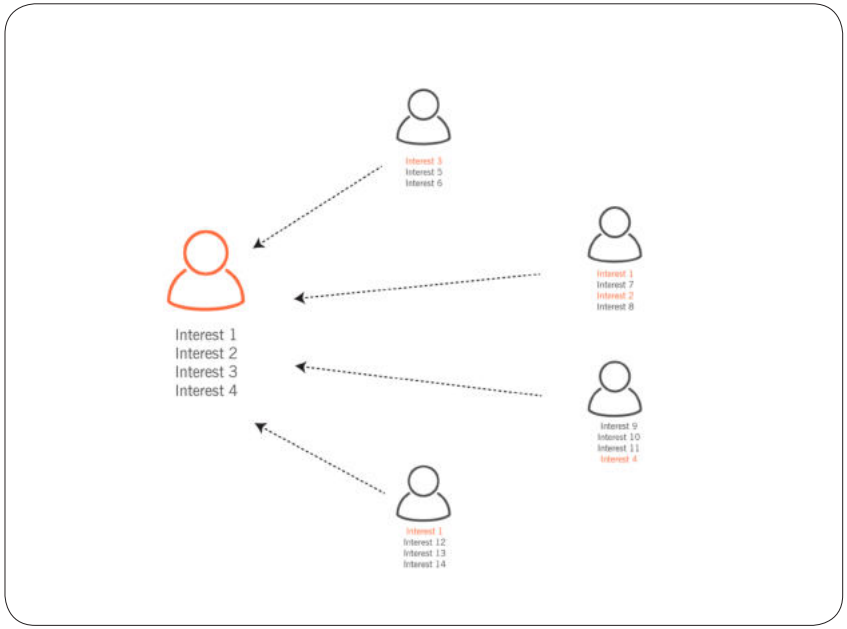
1. A new user connects to:

Connect to	A person	A group

How group formation should essentially be?
connect to a group or connect to an individual.

Connect to a person
Whenever a new user joins a group, he/she and other co-travellers tries to connect to the individual who is the car owner as shown in adjacent figure. If a user finds common interests with the car owner, then he joins the owner for the ride. In this way group is created and expanded.

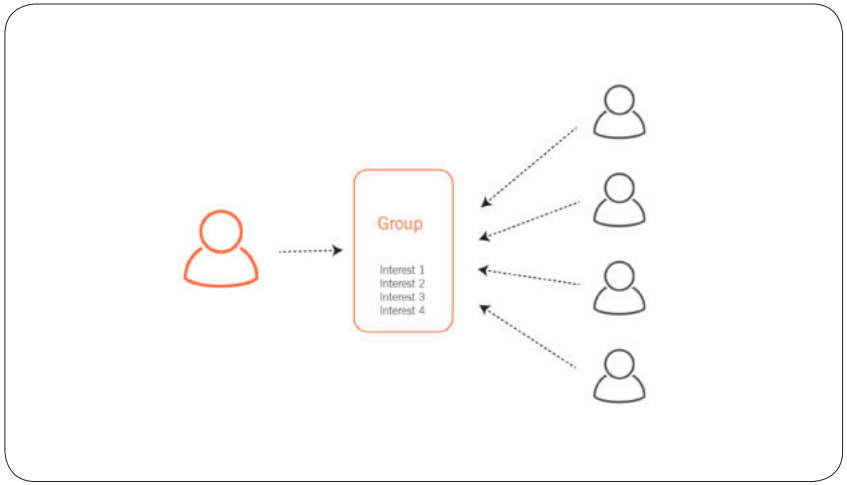
This kind of group creation is helpful when there is no activity defined to do in car (Ex: group listens to jazz music). This kind of creation, will trigger conversations between strangers.



Group created by connecting to a person

Connect to a group
Any user of the solution (car owner or the ride seeker) creates a group with a name and tag interests to it as shown in adjacent figure. Each user finds this group, the interests and then connects to the group.

This kind of group creation will be helpful when there is an activity which commuters define to do in car. This activity can then be a group and people join the group to be the part of the activity.



Group created by connecting to a group

2. A group created should be:

Group should be	Static	Semi Dynamic	Fully Dynamic

Static
In this kind of group, a commuter looks for people with whom he can share ride through the application. Once he/she find co-travellers, he/she will make an permanent agreement to travel with them until any of the co-traveller drops from the group. Once a group is created, everything is handled offline by the members of group and there will be no interaction with the application.

Pros:

Once the group is created, user need not come to the application until there is a need to find a new commuter.
Ensures a better and long relationship with the co traveller.
Trust, safety, security, etc. are no more problems as the commuters will know each other.

Cons:

Does not allow flexibility: A static group induces dependability. Travellers have to depend and manage according to other co-

travellers timings.
If car-owner wants to go to some other location instead of regular location, he cannot go as other travellers are dependent on him.
Pre-decide the schedule: The schedule of the ride should be pre-decided as other travellers decides and co-ordinates accordingly. No run-time management is possible.

Dynamic

In this kind of group, a new user looks for a ride on a temporary basis. Car owner offers and users avail a single ride. In this kind of group, common interests help in ice breaking as users travel with strangers.

Pros:

Flexibility: As there is no rigid fixed time of travel, users will look for a ride when they actually want to travel, this allows flexibility.
Surprise and randomise: There exists an element of surprise when you meet new people, it enables networking.

Cons:

Social awkwardness: As the co-travellers will be new for every time, if there is no ice-breaker, there can be awkward silences and the journey might be miserable.
Safety and security: As users travel with strangers all the time, problems of safety and security are severe and solution should solve these issues.

Semi Dynamic

In this kind of group, the features of both static and dynamic groups are incorporated. In this kind of groups, the groups are static but the number is not limited to the size of the car.

Pros:

Allows flexibility: More members in the static group will enable flexibility as a person getting late can inform co-travellers and join the next available sub group.
Safe and secure: As the group being static and not completely dynamic, members might know each other.

Cons:

Clash of users rescheduling ride: If a user, reschedules his ride and decides to join the next car pool, the member in the other car pool will have to look for other. This is one major drawback of the semi-dynamic groups.

3. Who can create a group:

Who can create a group?	Car owner	Ride seeker

Car Owner

On a ride sharing platform, a group is an entity which has no meaning if there is no car owner who can offer ride to other travellers. If a group has meaning only after a car owner is present, let a car owner who will offer ride create a group.

Ride seeker

On the other hand, if a ride seeker is also given an authority to create a group, he/she might create a group in which he defines an activity which the group would be doing in car. Now, if a person who is not into ride sharing, discovers this activity and gets interested and if this motivates him/her to offer his car just to be a part of the group to do the activity, this might motivate lot of car owners who are not into ride sharing.

4. What should be the size of the group:

Size of the group	Limited to car size	Limited but not to car size	Unlimited

Limited to car size

The number of people in a group are limited to the limit a car can handle. This implies a static group creation and all the pros and cons of static group applies here.

Limited but not to car size

Here, the number of people are not limited to limit of car but it is below a threshold (say, ex: 20). This is essentially a semi-dynamic group.

Unlimited

Here, any number of members in the group can be added. Increase in the number of members increases flexib ility and reduces dependability but on the other hand reduces safety and security.

5. Objective of socialisation:

Socialisation	Primary	Secondary

Primary

Making socialisation a primary objective of the solution. Designing the solution considering people will join and be motivated to share ride for socialisation.

Secondary
Masking the socialisation and bringing ride sharing upfront. Design considering users might or might not socialise in commute. The solution should not be socialisation centric but ride sharing centric.

6. How should a group be created:

Group	Interest based	Activity based

Interest based
The groups will be created based on common interests. For example, one group might have people who loves horse riding and playing flute. The group does not depict what is the activity they will be doing in car. Interest is just used as a conversation starter.

Activity based
Groups are made based on the activity the group will be doing in car. For example, listening to a particular genre of music or artist.

7. How will common interests help:

Common interest is for	Just match making	Ice break	Activity in the car	Activity off car

Just match making
The users of the solution will use interests to find people who has similar interests as them. Interest can just remain till match making. Once, users finds a user and connects with them then it is left to the users to decide upon how do they want to take this common interest forward.

Ice break
Users can use common interest as an ice breaker with a stranger. It remains mere a conversation starter.

Activity in the car
It is same as activity based group discussed in the above 6th point.
Groups are made based on the activity the group will be doing in car. For example, listening to a particular genre of music or artist.

Activity off the car
Users can create groups based on the activity that they can do off the car. They will utilise the travel time in car for planning. For example, group can be '101 Weekend treks', where in people of the group trek every weekend and they utilise the time in car for planning this trek.

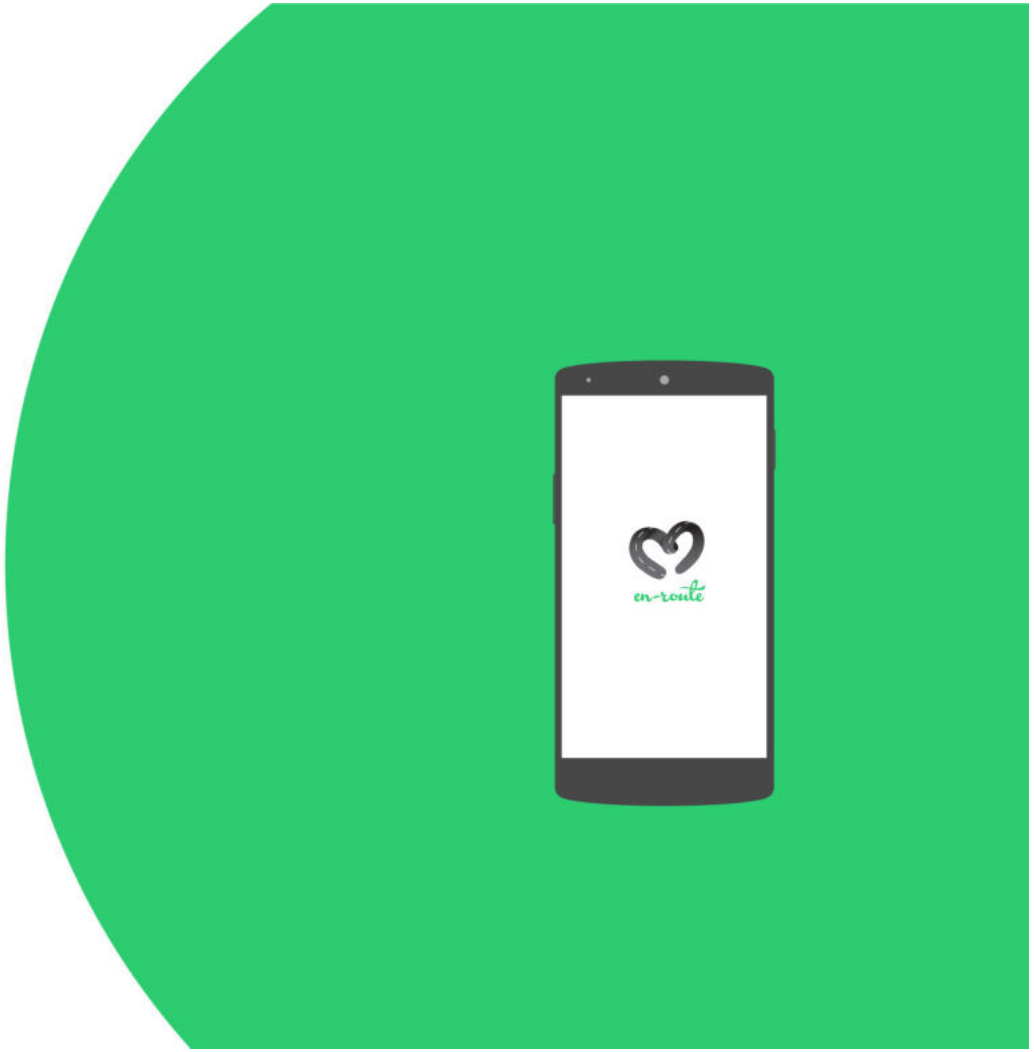
Final Design

Final concept was selected based on the explorations made and from the design ideas. The final set of requirements of the design were decided and from the requirements, final design was created. Final solution is a mobile application by which people can share ride. They can create groups based on the interests and find interesting people to share ride with. They can also brag about their carpooling on social media.

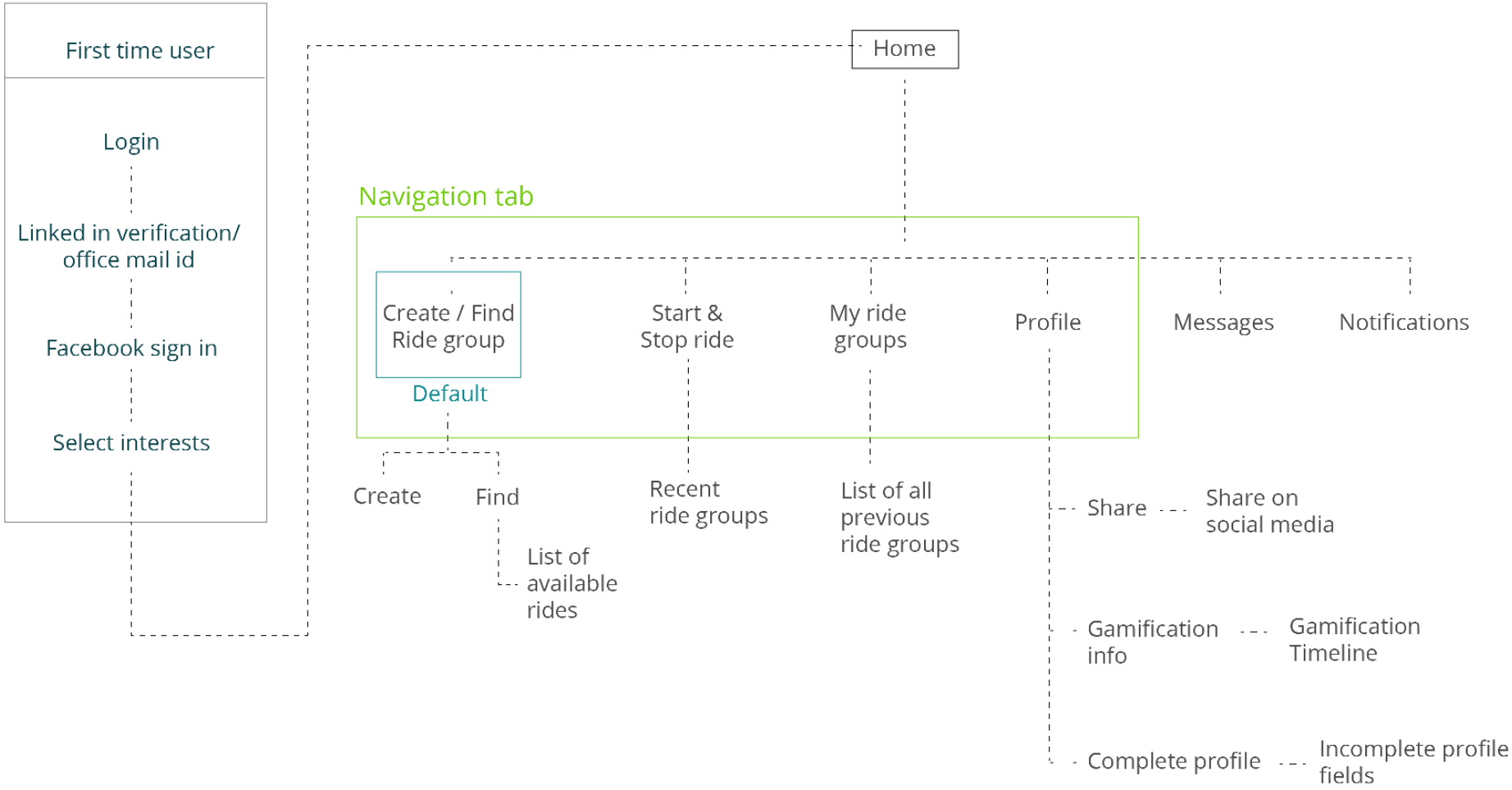
The final requirements of the design

- Openness of group for various possibilities: Group creation should cater all needs. Interest should be used for a match making, ice-breaking and also as an entity to create activities.
- Reduce dependency and allow flexibility: Design should allow people change their plans and look for another ride but also have few static group creation characteristics to build relationships.
- Social bragging of car pooling for motivation: People should have a medium by which they flaunt about their carpooling on social media.
- Gamification of carpooling for motivation: Solution should gamify carpooling for motivation.
- Ensure safety and security: It should take care of safety and security concerns of users and provide a safe ride.
- Sharing ride on other social media: To help users bring in more people to join the community, there should be a provision by which users can share ride on other popular social media.
- Reduce awkward monetary transactions: The solution should also have an option of cashless payment as for intra city the ride cost will be low.

Final Design



Information Architecture

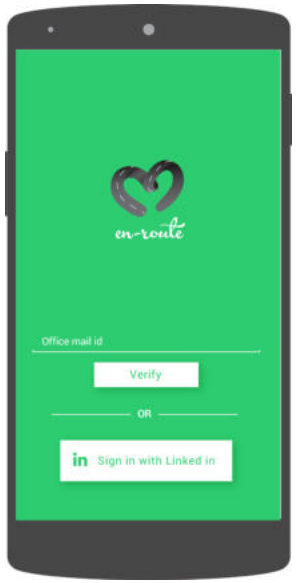


Solution Scenario

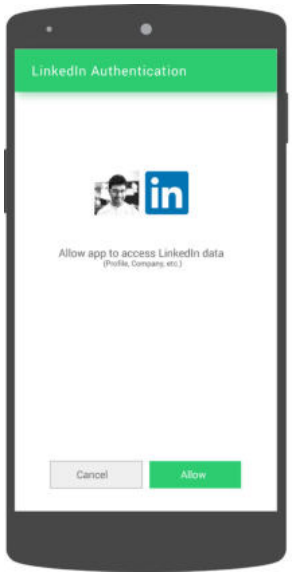
Creating a ride:

In this scenario, user creates a ride and posts it on the app.

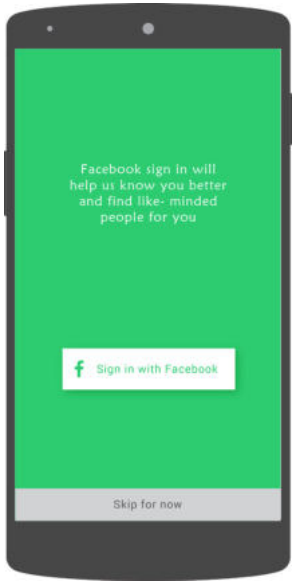
Akash, stays in Bibwewadi and works in Hinjewadi, a DIY enthusiast and interested in tech hacks. He knows about the application and what it does. He is here to create his own group with whom he can travel and work on cool DIY projects.



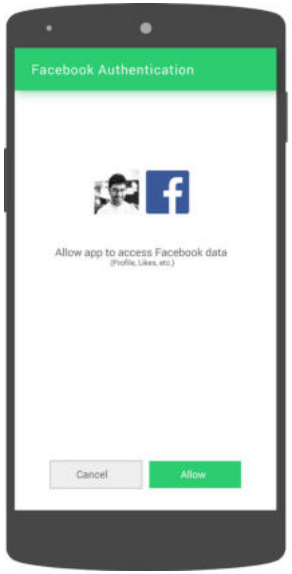
Signs up the app using his Linked in account



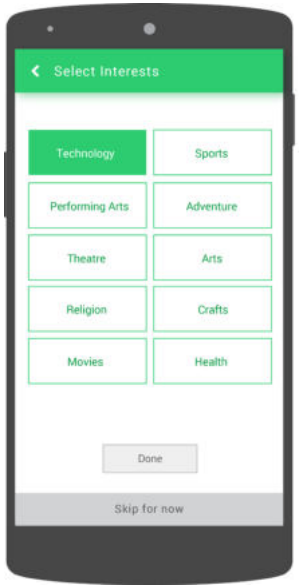
Authenticates his Linked account, allows reading LinkedIn data



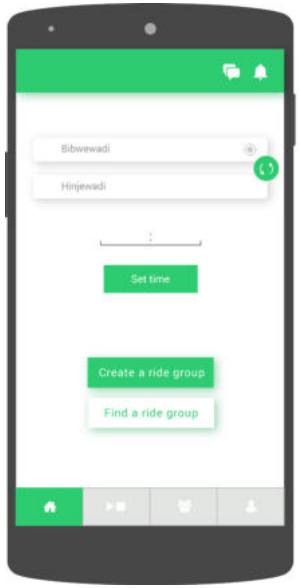
He clicks on facebook button and also integrates his facebook account.



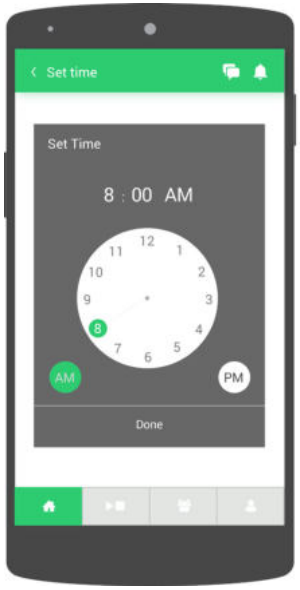
Authenticates his Facebook account and allows application to read his Facebook public data



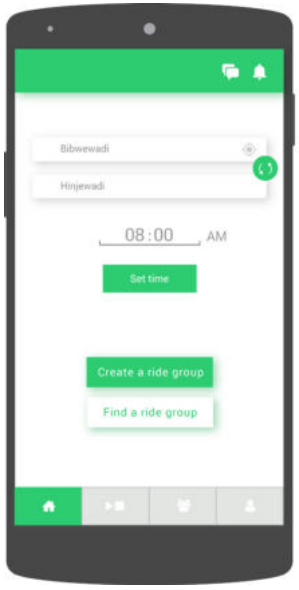
He selects his interests from the list, as he is interested in DIY, he selects technology



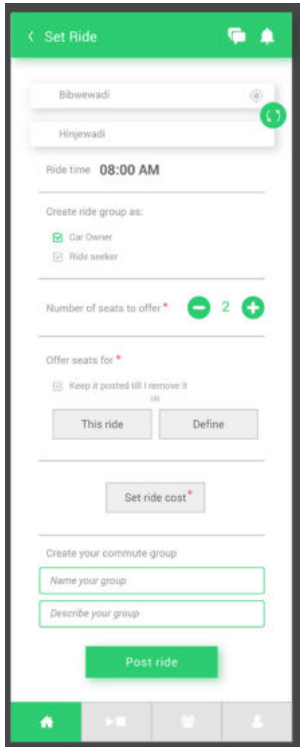
He then inputs source as Bibwewadi and destination as Hinjewadi and then taps on set time to define the time of ride



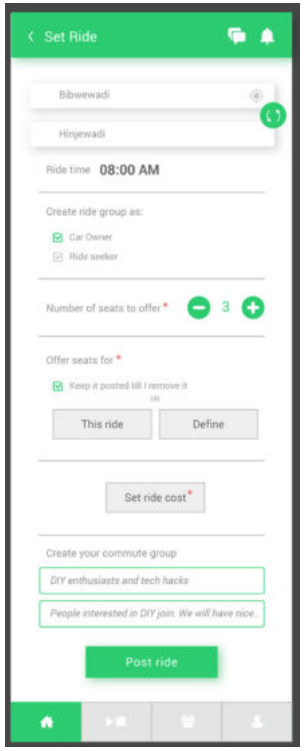
He then sets the time of travel and then taps on done



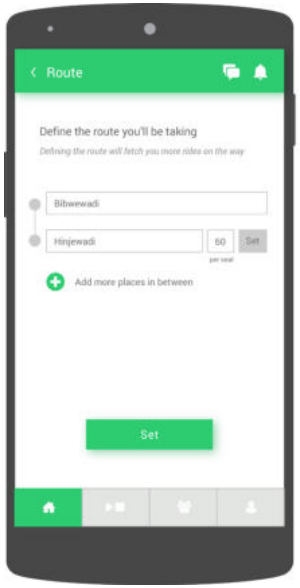
Once the time is set, the he taps on create ride group



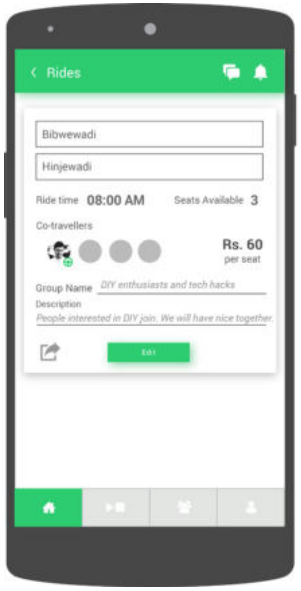
After creating the ride group, he lands to this page. Here he defines that he will keep the ride posted till he gets co-travellers



He then creates a group with a name "DIY enthusiasts and tech hacks", writes description for it. Also defines the number of seats he wants to offer



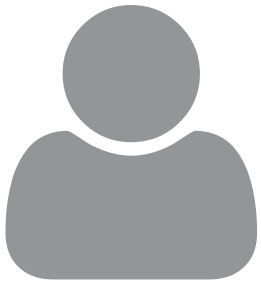
After tapping on set ride cost, source and destination are auto filled, he can add intermediate stops he will be taking if he want. Here, he does not defines any intermediate stops to define route as he is open to route explorations if he finds a co-traveller. Application predicts the cost which he should charge, he can either set that or edit it and set.



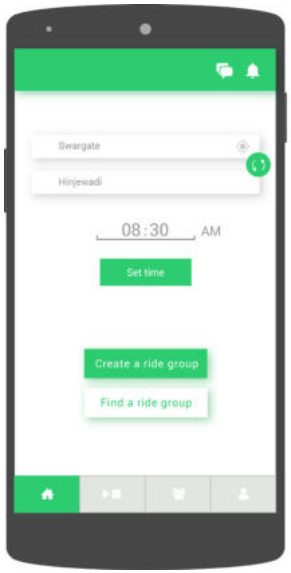
Once he creates the ride, he can see his ride group created which others will see.

Discovering the ride and requesting for ride share

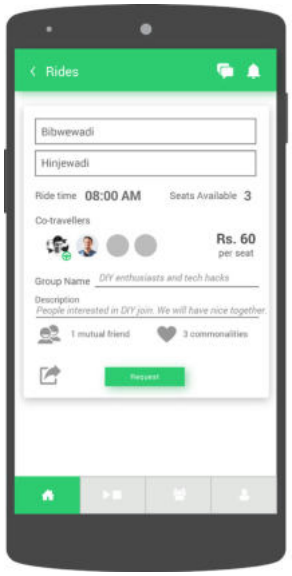
In this scenario, another user who is having similar interests, travelling on the same route and have similar commute timings discovers the ride and requests for ride share.



Sameer, who leaves in Swargate, also interested in technoloy is looking for a ride share and tries to find the ride on the app.



He inputs source, destination and timings and taps on look for ride

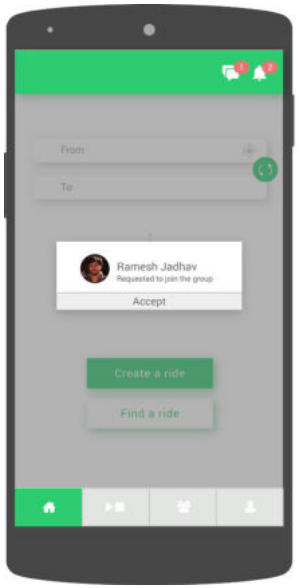


He finds list of car owners offering ride on his path. He then looks at the groups and finds this group

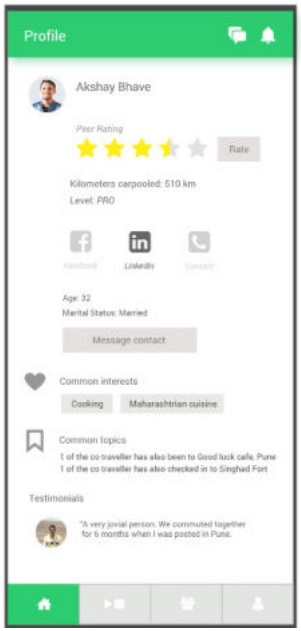
Accepting Request

Approval of ride creator to join the group and start sharing ride.

He finds the group created by Akash interesting, he then stalks his facebook profile and linked in profile and once convinced, he sends him a request to join group



Akash recieves a notification of Sameer willing to join the group.

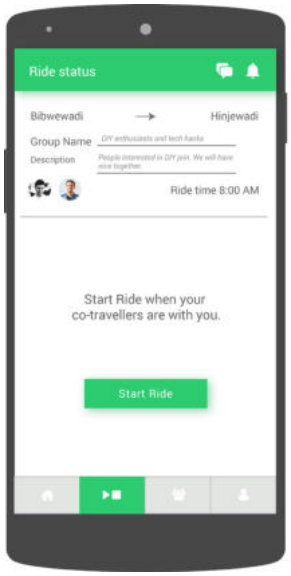


Akash stalks other co-traveller's profile and then accepts request. Once the connection is established, they start communication over message and then decide to meet. They decide on pick up and drop locations and started sharing ride.

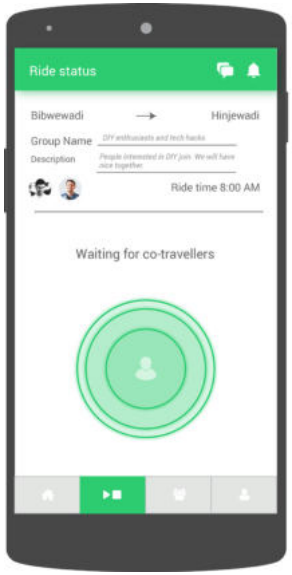
Using application during ride share

In this scenario, how both users use app while commuting is explained.

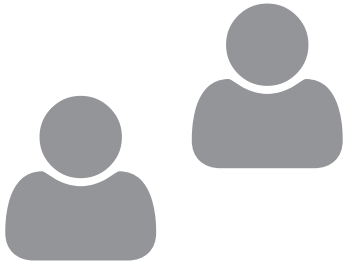
Akash and Sameer start ride sharing, initially when Akash starts the journey, he uses his app to start his ride.



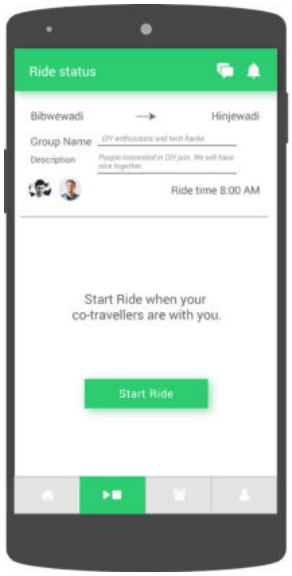
In start/stop ride tab, he can see the list of rides he is associated with, he selects one of them and taps on start ride



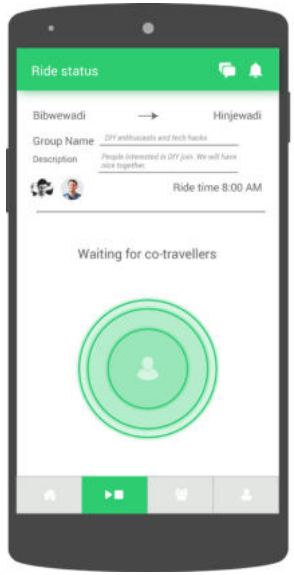
Once he starts ride, the app is waiting for other co-travellers's GPS to be within the circle to start ride sharing



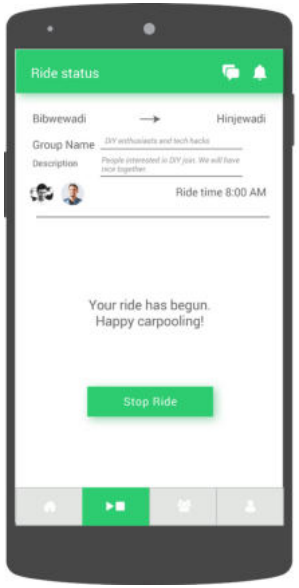
Akash picks up Sameer and they start ride.



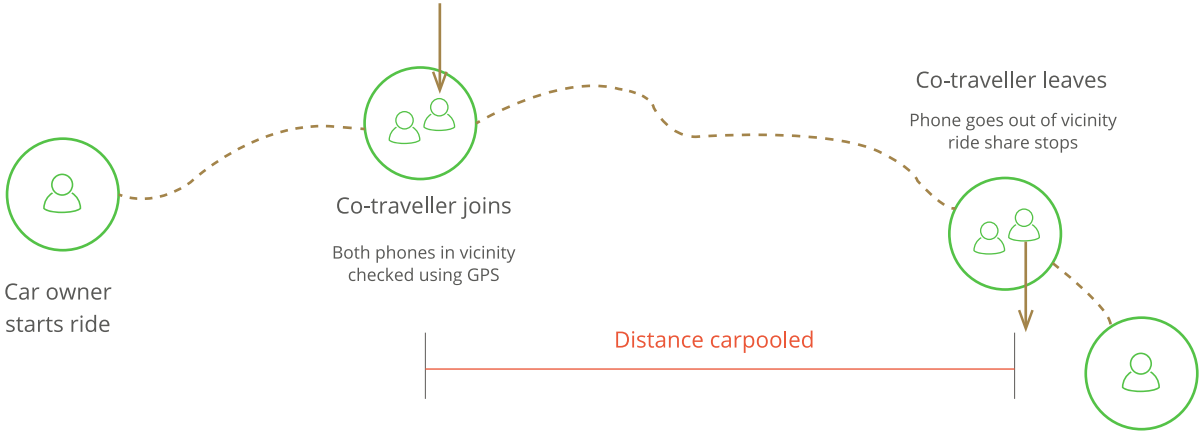
Now Sameer, selects the ride and starts ride



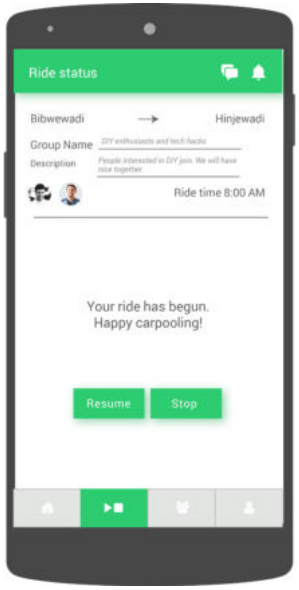
GPS is waiting for Sameer's data and once GPS gets a lock and application finds it within the circle, ride starts



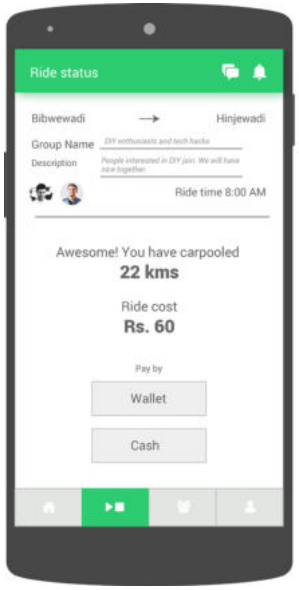
Once application finds they are in vicinity, the ride begins



Calculating the carpooling distance



Sameer gets down at his office and stops ride. Whenever the ride is stoped or the car poolers are out of vicinity, carpooling calculation stops.

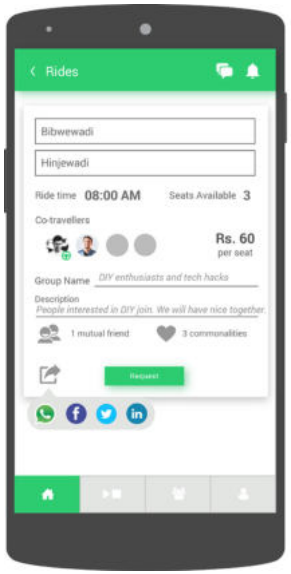


Sameer then can see the ride cost as decided by Aksash and decides to pay by cash. He pays by cash and the ride completes.

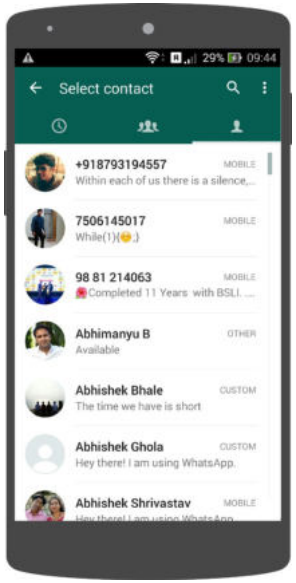
A person sharing ride card to grow ride sharing community

Rakesh is user of the application. He finds the ride group created by Akash. He knows friend Abhimanyu, who is not into ride sharing but might be interested in joining the group created by Akash.

Rakesh, user of the application. While he is looking for a ride, he finds a ride group created by Akash.



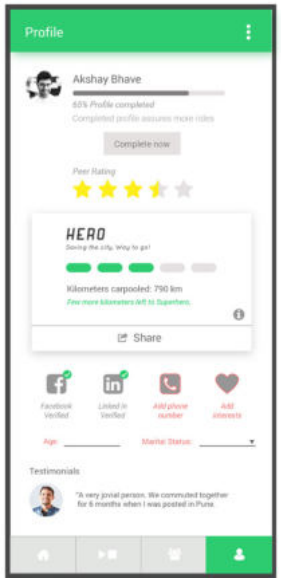
He thinks, his friend Abhimanyu, also working in Hinjewadi who is not in ride sharing, might be interested in joining the group.



He thens shares this ride card with his friend Abhimanyu on WhatsApp.

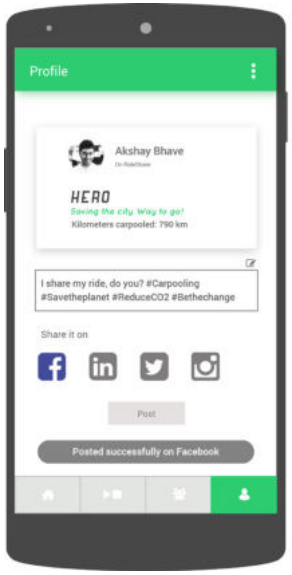
Sharing carpooling index on Social media

A user who finished his 750kms of carpooling and goes to the next 'Hero' level. He decides to share his carpooling index on social media.



He goes to his profile and sees his carpooling index.

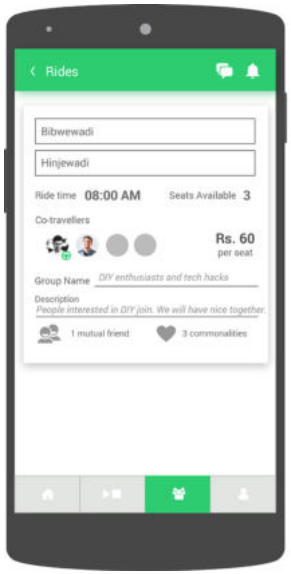
He finds his level on the gamification page.



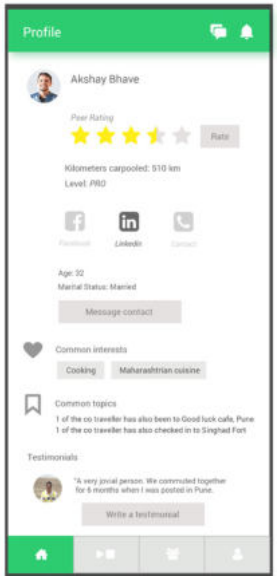
He then shares his carpooling index on Facebook with a predefined hashtags which he can edit as well.

Rate a co-traveller

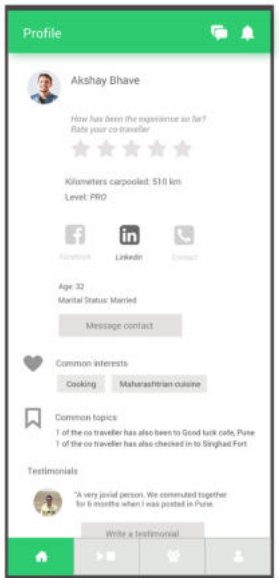
A user defines to decide a co-traveller after a wonderful ridesharing experience with that co-traveller.



User goes to his 'My ride groups' tab, where he can find ride groups he has been associated with. He finds the group where he wants to rate his co-traveller.



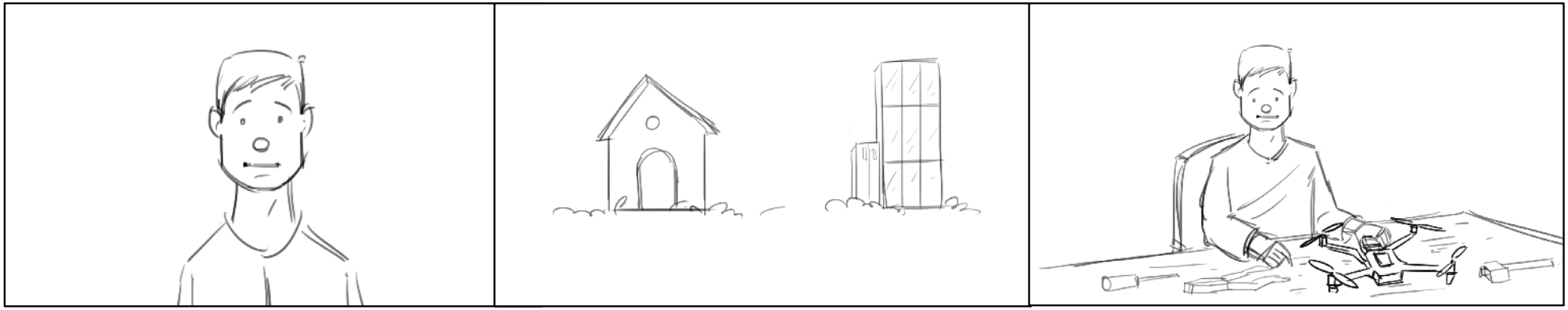
He then goes to the profile of the co-traveller he wants to rate and taps on rate.



Then he rates his co-traveller on the scale of 0-5 by the experience he has with the co-traveller.

Scenarios:

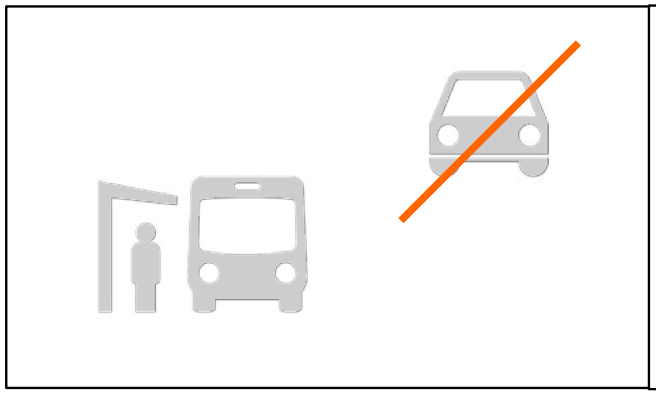
1. Interest is just a parameter, group is by the people:



He is Mukesh, he has been transfered to Pune. He was previously working in Bangalore.

He stays in Padmavati and works in Synechron, Hinjewadi Phase III.

He is interested In quadcopters and likes to do DIY things.



He does not own a car and so he drives by bus everyday to office

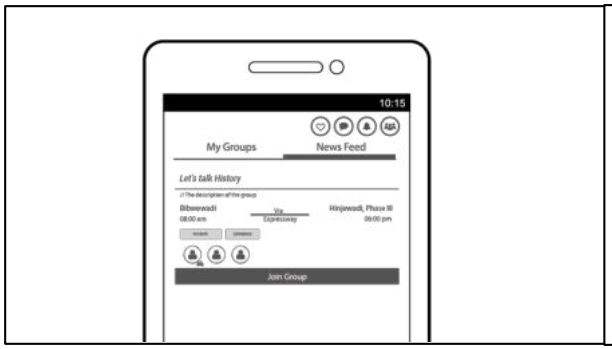
He finds bus journey tiring, as the bus timings are uncertain and sometimes they are full

He thinks of buying a bike to commute to office but, a bike is out of budget for him currently.

He gets an idea of trying out to share a ride with someone already commuting instead of buying a new bike.

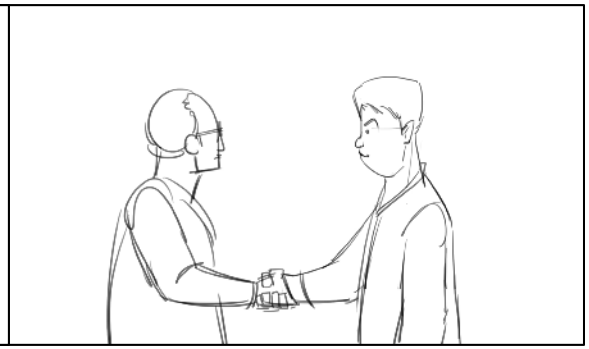
He looks for an app and finds an app which will match him to a group with topics that he might be interested in

He tries looking for DIY, quadcopters or similar groups but didn't find any such group.

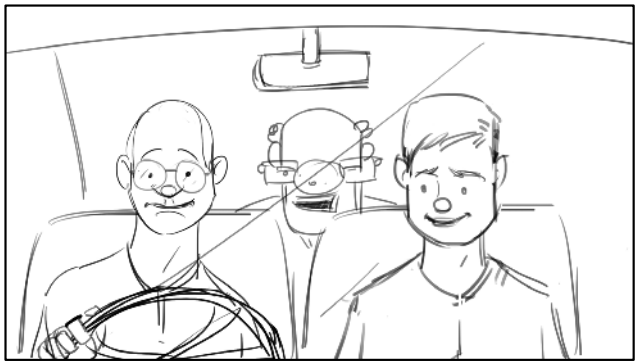


But instead he finds only one group travelling through his path and matching his office timings. The group he finds is a group of history lovers and Mukesh hates history.

He was disappointed with the group he found, but as he doesn't have an option, so he decides to travel with them



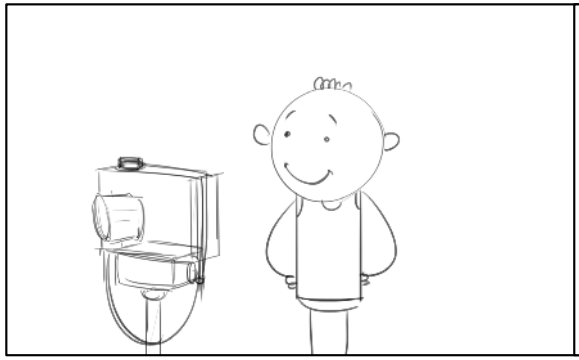
He meets the car owner and decides upon the timing and the pick ups



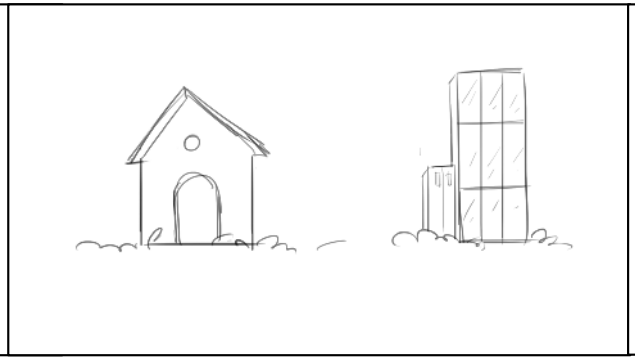
Only after travelling with the group, Mukesh finds that the group is not always talking about History. He found the people in the group interesting and in spite of not being history lover, Mukesh loves travelling with his group

Scenarios:

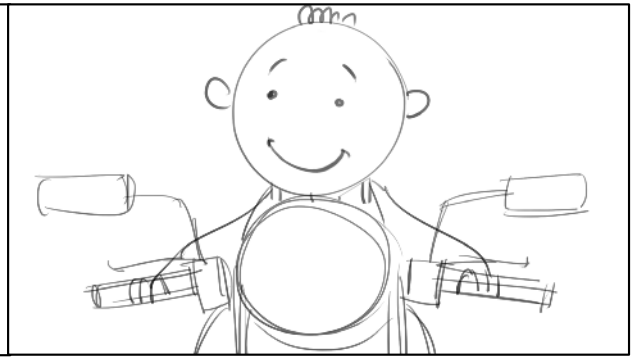
2. Car owner finds an interesting group



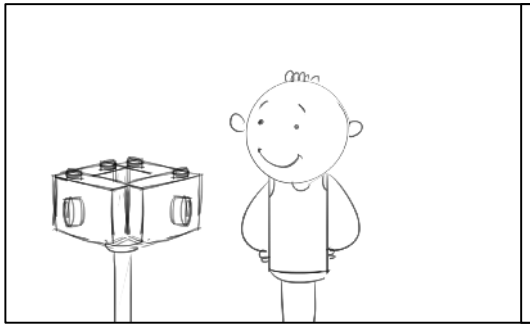
Jeetu is a photographer. He likes experimenting with photography.



He lives at Swargate and works at Hinjewadi phase II

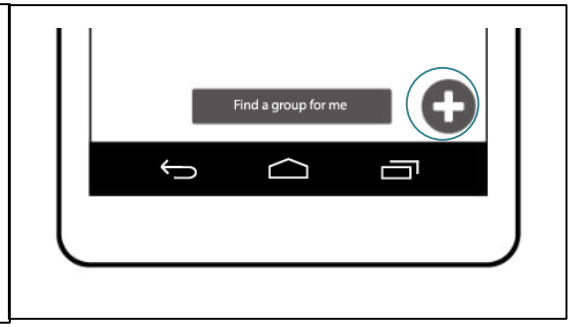


He drives his bike everyday to office.

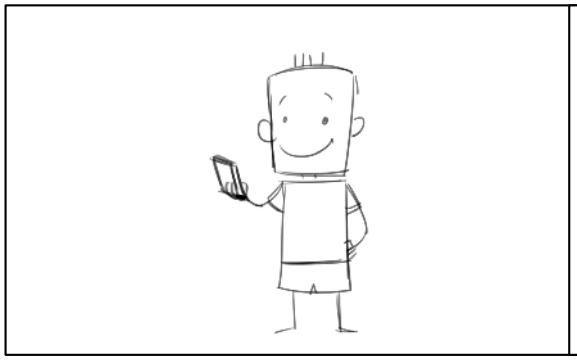


Recently, he has been interested in Virtual Reality and is planning to make a short VR movie. As, he is working, he cannot afford to dedicatedly allot time everyday on this project.

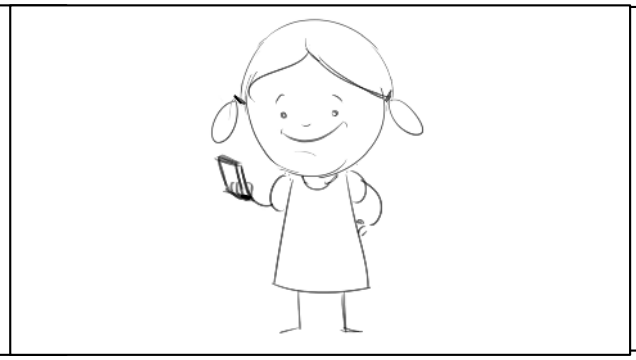
He thought of looking for people with whom he can commute to office and also build on to the project.



He tried finding a group of the same but couldn't find one, so he created a group

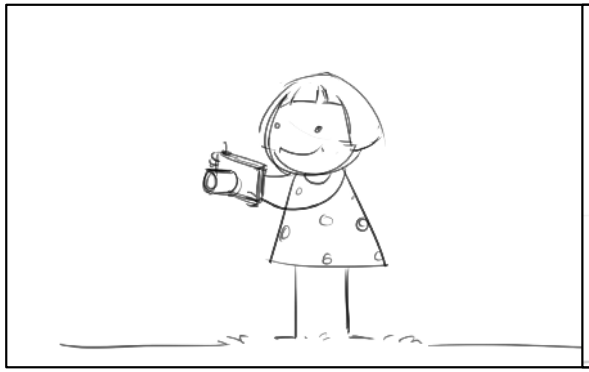


Mayur, who is also an IT professional, staying in Kothrud and working in Hinjewadi. He takes his bike to office everyday. He is an amateur photographer and is exploring and learning photography. He saw the group, got interested immediately and joined the group.

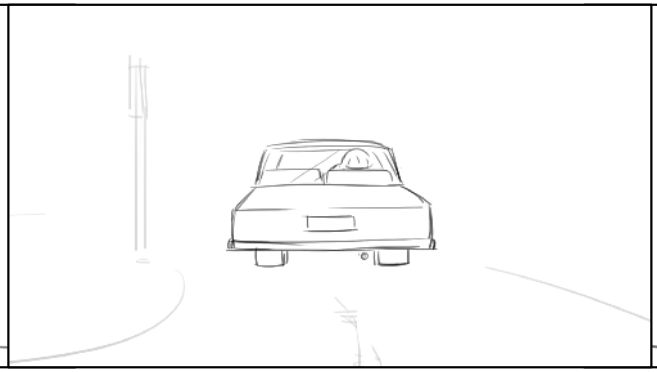


Sonal, who is also working in Hinjewadi and she is staying at Warje. She is a freelance photographer. She travels by office cab services. She found this group, got interested and joined the group.

Now, the group created have 3 members but none of them own a car. So, they are waiting for a car owner to join a group and they can start sharing a ride

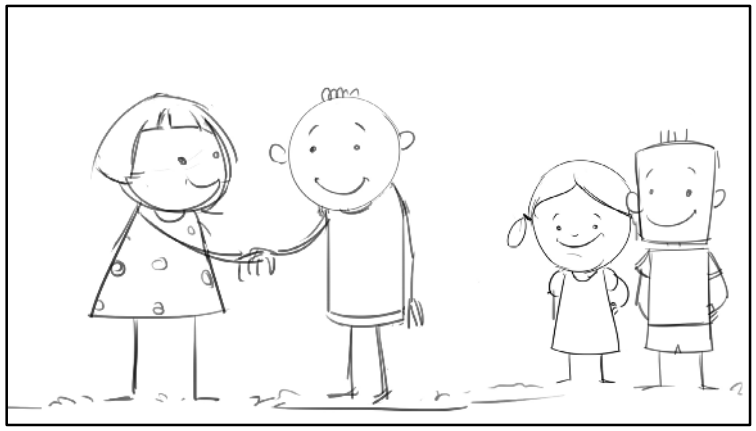


Kajal, is a designer working in Hinjewadi. She works in Hinjewadi and lives in Katraj. She is also a freelance photography and does wedding photography as a hobby.

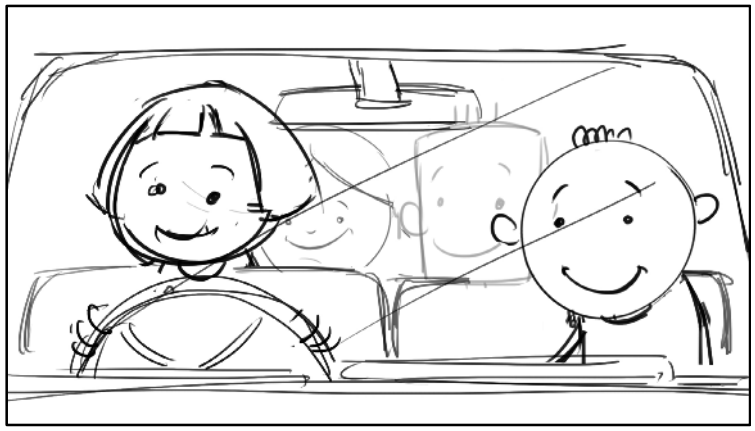


She drives alone everyday to Hinjewadi from Katraj. She takes Highway to go to office.

She found the group created by Jeetu and found the members joined the group. Fortunately, their commute timings matched and she too joined the group as a car owner



They met and decided on the pick ups. Kajal who was taking a highway before, now decides to take a longer city road as this is going to be interesting



Now they share a ride to Hinjewadi everyday, also are building on a concept to make a VR short movie and having a nice time together.

Evaluation

Key Questions
The evaluation was conducted to answer the following key questions. The structure followed for the evaluation and post tasks interviews was open and contextual.

- How open the users are to the thought of meeting like minded people in commute?
- Will users create such common interests group? What kind of groups would they create? What kind of groups they would like to find on the app?
- Is the concept motivating people to atleast make them join the community of ridesharing.
- Are they able to do certain tasks which will define the usablility of the application.

Evaluation was done with the prototype created of the final solution. Product was first heuristically evaluated by the group of interaction designers. Product was also tested with the actual target audience of Hinjewadi. The tests conducted could capture the usability of the solution and how interested are people to the project idea.

The idea was also tested in the social space by actually asking a group from Hinjewadi who were connected by a common interest to travel for 3 months. The insights from this test were documented and are presented in the report.

Heuristic Evaluation:
Heuristic evaluation was conducted with a group of 4 interaction design students. The prototype was evaluated heuristically. Usability of the application was pilot tested with these users. The set of insights generated from this evaluation was used to create the next iteration of the prototype.

Evaluation Plan:
Evaluation was conducted in the following order.

- Screen users
- Conduct a pre-test
- Task based usability evaluation
- Post test

Screen Users:
Initial screening of the users was done by checking their inclination towards ridesharing or socialisation or both. Few personas were identified in the user studies, these personas were shown to the screened users and were asked to select personas which they think they can relate to. 14 users, working in Hinjewadi were

Pre-test:

A semi-structured pre-test was conducted to icebreak with the screened users, contextualise the test with the demographics collected and also to know their general views about ridesharing and the concept. Following questions mentioned below were asked which followed a contextual enquiry structure later.

- Demographics of the user (Mode of transport used, time of commute, residential place)
- Opinion about the concept. Would you use it?
- Would you recommend such a concept to friends? If Yes, which friends? Why those? If not, why?
- Which persona you could relate to more?
- Have you ever done carpooling before? What was the experience? How did you find people? Are you still doing? Yes/ No, reason.
- Have you used any carpooling platforms earlier

Task based Usability Test (Think Aloud test):

Users were asked to perform 6 Tasks on the prototype created of the solution. A think aloud test was conducted while the users were performing these tasks. The tasks which users performed are mentioned below:

Task 1: Create a ride share group with following considerations

- Sign in using office mail id
- Select interests as Tech, Sports, Theatre and Movies
- Sync your Facebook account with app
- You are a car owner and want to offer a ride
- Ride should be offered from Bibwewadi to Hinjewadi
- It starts at 8:00 am in morning.
- Offer a ride for 3 car seekers.
- Set the ride cost as 60 rupees.

- The group need not have a group name and description
- Keep the ride posted till you find all the co-travellers for your ride.

Task 2: Share your ride on WhatsApp

The ride which you have created, share it on WhatsApp.

Task 3: Create a ride share group which does a specific activity in commute

- Similar details mentioned in the above task of creating rideshare group
- Add two stopovers Swargate and Aundh with ride cost 50 and 30 respectively.
- Create a group with name “GRE Aspirants of Bibwewadi”
- Keep even this ride posted till you get all people for your ride.

Task 4: Find a ride group

- You are travelling from Indira nagar to Hinjewadi at 8.30 am
- Have a look on the members of the ride found
- Check Facebook profile of the driver.
- Request for the ride being offered

Task 5: Share carpooling index on Social media

Share your carpooling index on Facebook

Task 6: In commute scenario

- Find the ride you want to travel with today from My rides option
- Select the ride and start ride-sharing in the app
- Stop ride when done and make the payment wallet

Post test:

A semi structured contextual enquiry was conducted with the following questions. The post test was conducted to see, Is the conceptual model of the solution created by the users in the pre-test is met or not. Also, Are users are able to do the tasks the persona

Insights

they could relate to would do.

- If something like this goes live, would you use it?
- Will you create groups with the app? What kind of groups would you create?
- Would you now still recommend this app to your friends? What do you think, which friends of yours will like it most?
- What kind of groups would you expect or look for?
- Would you share your carpooling index on social media?
- Are you okay sharing your Facebook and linkedin profiles?
- Out of the information provided which all information would you use to validate the user?
- What will be your motivation to carpool?
- What makes carpooling more interesting to you? Is the product achieving that?

"Instead of all girls as a group which I have to create, there should be an option to select all girls groups, so that only girls can see my Facebook profile."

One of the girl user mentioned that the openness of the group can be used to create all girls group, but there should be a special provision to make a group as all girls than just naming a group as all girls group. She mentioned, that she doesn't want all users to see her facebook profile.

"The information which helps me in deciding which ride to take if I have options like rating, preferences, etc. should be upfront."

Some of the information which was important in making the decision in ride was deep hidden in the information architecture. Few of this information should be brought up in the architecture.

"If we find a person annoying after few rides, how can we remove that person from the group politely."

"I never thought commute can be productive, now after listening to the concept, I can think of so many ideas"

Users started of thinking groups which they will create or would like to be a part of, if such a solution will goes live.

"I tried Pune Mumbai carpool with Blah blah car before, there I don't know whom I will be sharing ride with. Here I can see my co-travellers"

Current ride sharing platforms, does not allow to view information of the co-travellers. User mentioned, Blah blah car allows to see the information of the ride provider but not the co-travellers user will be travelling with.

"I am not active on Facebook, I will feel bad if someone checks out my

Facebook profile and declines my request to join group"

Few users does not have an active facebook account and do not really keep it updated. Using facebook to make judgement is not a good measure is what one of the user mentioned.

"I will share my carpooling index on social media, not to brag about myself but for awareness so that other people also know"

Not everyone want to brag about their carpooling on social media. But people will still share their carpooling index on social media, not to tell that they are doing something great but to make the reach of the movement go masses. A user mentioned, lot of people will start carpooling when they see their facebook news feed filled with these posts and he would share his carpooling index for that to happen.

Insights from Heuristic Evaluation

Rating

The journey is about the group and not about the person. User should be able to rate the group than a user. There can be instances though where he might as well want to rate a particular person, so even that need should be catered. While rating, Is user rating another user or a group should be very evident.

Information Architecture

Options like inviting friends, uploading ids and other settings are hidden in the profile tab. It is hard to discover these settings. It should come up in hierarchy. The settings should be on the home page. Specially, inviting friends should be highlighted and brought up.

Defining in between stops

Defining places or route the person is going to take is still ambiguous. When a person is adding places he is going to take, are those the stop overs and the car owner will might only want to stop at those places or is it just about defining the path of the journey is not clear. In dynamic approach, defining in between cost is a problem. For example, if a person has added A-B-C-D-E-F, where he is starting his journey from A and going to F. Setting the cost for B to E is difficult. Also, the cost tag should be on the first initial point as the destination is fixed.

Tutorials and Feedback

Lot of pages have help text missing on various options. It is assumed that the user will know what the application is doing beforehand. For a completely new user, the conceptual model of

Conclusion

More technological interventions will not improve the ride-sharing problem. Ride sharing is essentially a community building problem. Motivation for ride sharing is another very important problem. Attempts were made to motivate people to ride share. Also, to make a bigger ride sharing community.

Socialisation was used as a prime motivating factor to bring people together to ride share and meet like minded people. However, within the academic span of the project, it was observed that this intrinsic motivation of socialisation was not that important when it comes to commute. In a commute scenario, convenience was observed to be the most important reason to share ride.

Current ride-sharing platforms are struggling finding people who have common route and travel on same timings. As the ride sharing community is still growing. Adding one more filter to find people with common interest was observed to be a practical limitation. Project idea of finding like minded people for ride-sharing was speculated to be a hindrance in the adoption of the solution. However, It was observed that people were open and welcoming to the project idea.

Even after development of the application, is socialisation triggering ride-sharing can only be tested when people use it and find like minded ride sharers. Promotional campaigns to promote the application is important to reach out to target audience. Also, mass media campaigns to motivate people to ride share is required.

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