Triggering ride sharing through socialisation

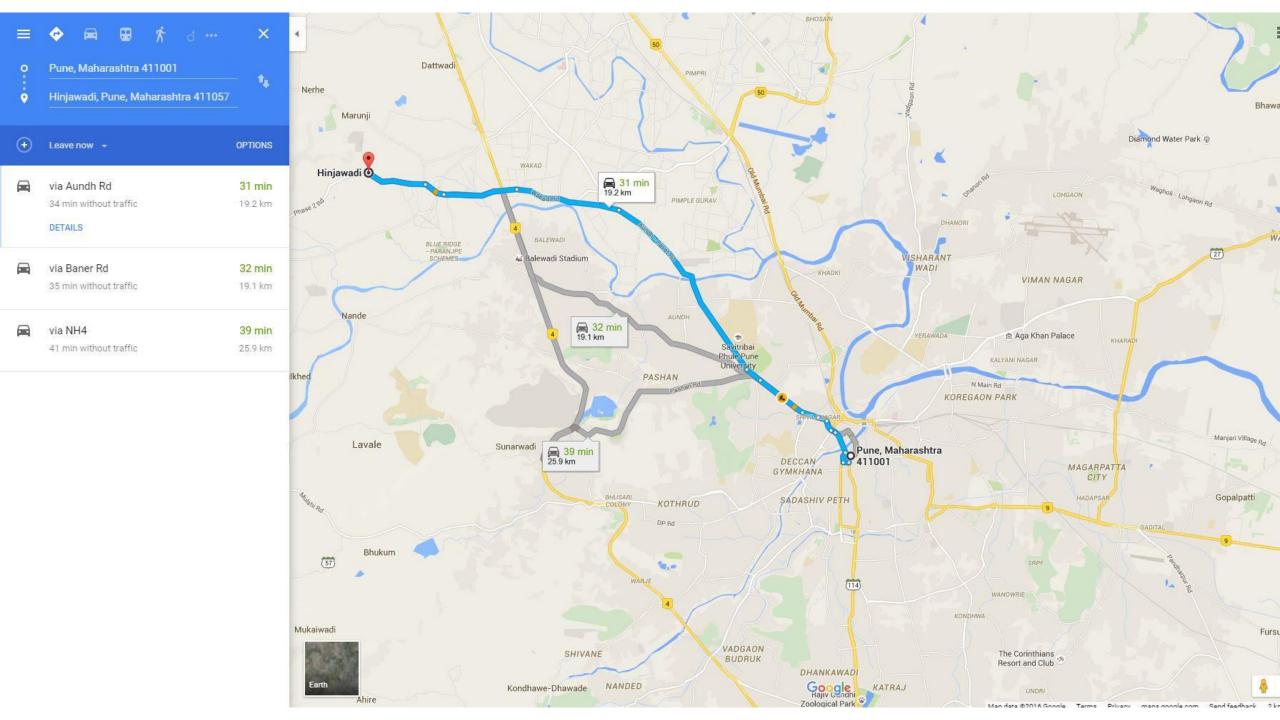
Guided By: Prof. Anirudha Joshi

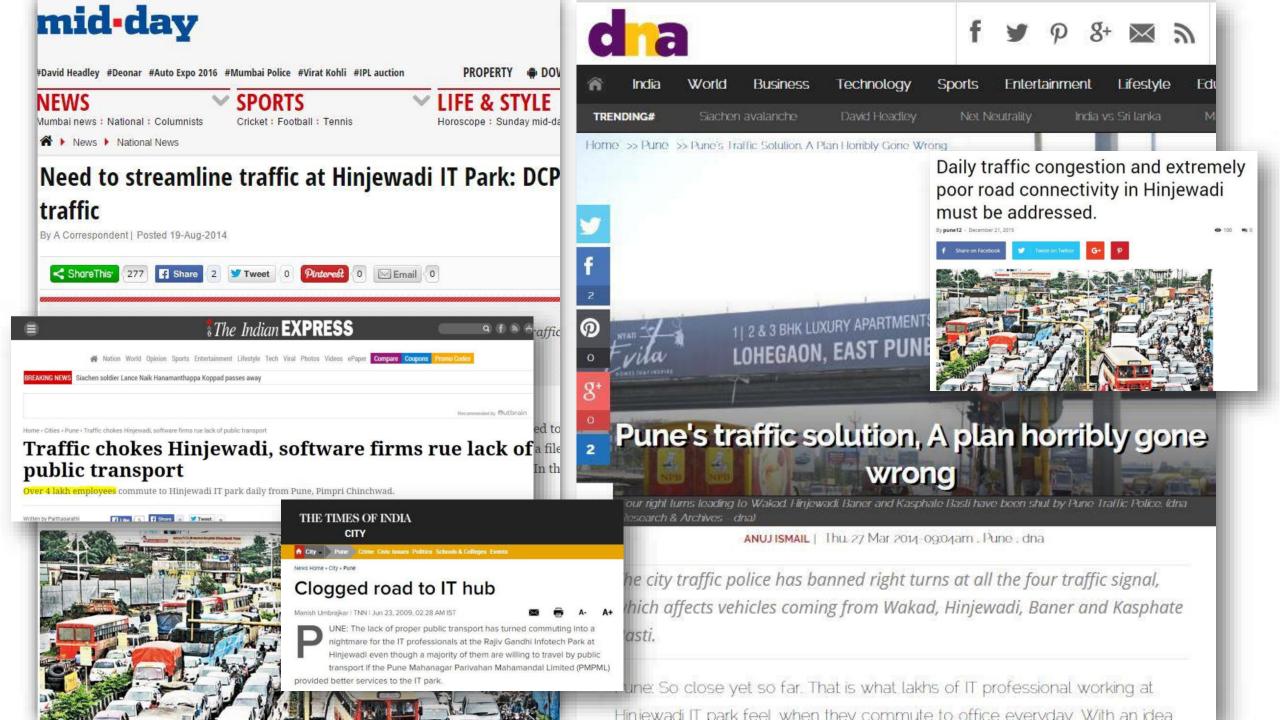
Prasad Ghone 146330010 | Sr. Interaction

Hinjewadi Info Tech park, Pune

- Over 4 lakh employees travelling from all over the Pune and around to this place
 [5]
- More than 150 companies [1]
- Around **3.5 lakh vehicles** running on the Hinjewadi road everyday [6]







Bottle necks

Lack of public transport

Violation of traffic rules

Lot of private vehicles

Bottle necks

Lack of public transport

Violation of traffic rules

Lot of private vehicles

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Bottle necks

Lack of public transport

Violation of traffic rules

Lot of private vehicles

Reliable and flexible

Bad public transport

Bottle necks

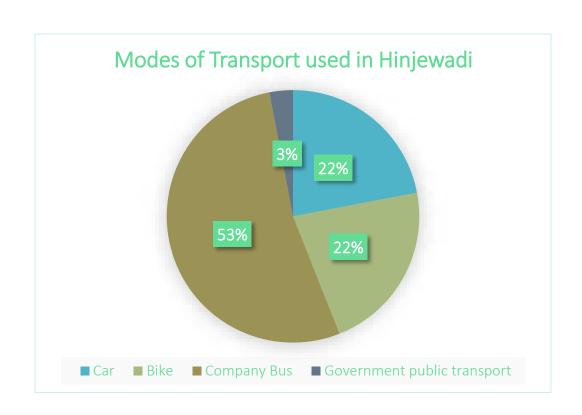
Lack of public transport

Violation of traffic rules

Lot of private vehicles

Reliable and flexible

Bad public transport



- 44 % travel by private vehicles
- 22 % are cars and 22 % are two-wheelers

Observations

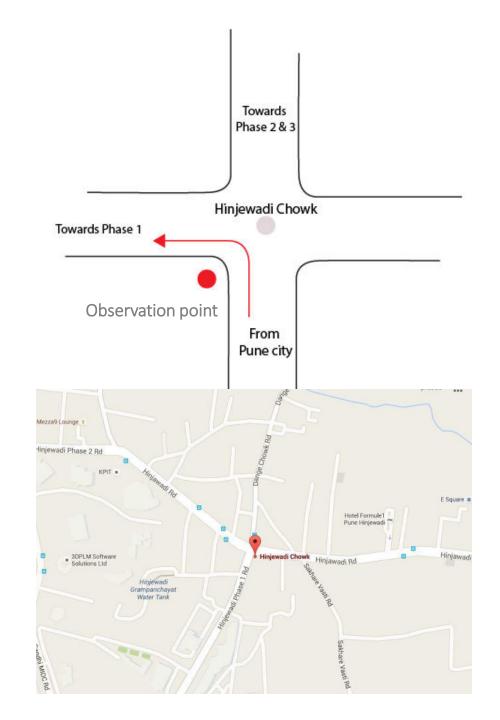
• 25th Jan, 11:12 am -11:22 am (10 mins) | **120 cars**

```
Traveling alone: 77 cars:: 64.16 % } 91.66 % 2 people : 33 cars:: 27.50 % } 91.66 % 3 people : 9 cars:: 7.5 %
```

4 people : 1 car :: 0.83 %

• 27th Jan, 11:47 am -11:58 am (11 mins) | **161 cars**

```
Traveling alone: 89 cars:: 55.27% 2 people : 57 cars:: 35.4% 3 people : 9 cars:: 5.6% 4 people : 6 car :: 3.7%
```



Hypothesis

- Socialization can be a trigger to motivate people to share their ride.
- People will switch to carpooling if they find that their commute time which they generally waste can be spent productively.
- People tend to have nice time with like minded people, like mindedness can be calculated from the common interests they share.

Secondary Research

Problems with current ride sharing

Issues in ride sharing

- Safety (Travelling with strangers)
- Liability (Accidents) [4]
- Bootstrapping (Community building) [7]
- Flexibility in stops and halts [4]
- Awkward small transactions for intra city journeys

Why car pooling is inferior?

- Increase in travel time
- Loss of privacy
- Public transport is better as it has frequent and fixed departures, cheaper transit, anonymity of transit, No worries of parking

Car pooling over public transport

- More spatially flexible
- Commuters can set time if they stay in proximity
- Consumes less time
- More comfort

What makes people socialise on Facebook?

Understanding why is Facebook successful

A platform to stalk people
 DI: Facebook to build initial trust

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

IN: Facebook to have more knowledge about the things that interests me

• Fulfils social and esteem needs

DI: People want to flaunt about the expertise, platform to show it

"Everyone is on Facebook, so I must be. So as to not miss out anything"
 IN: Care about social presence

• Quantified friendship: No measure of relationship but just quantification, tool used to boost self esteem DI: Feature to make online friends

What makes people socialise on Facebook?

Understanding why is Facebook successful

- Social comparison: According to social comparison theory, Facebook provides a platform to compare opinions, achievements, etc.
- Socialisation for boredom
- Quick relief from loneliness
- It provides a forum for our egos: Human need of self expression and self expression followed by feedback
- Essential need of human connection

Primary Research

User studies

- User studies was conducted with 14 participants (11 Men, 3 Women)
- Semi structured interviews were conducted with the following key questions
 - Experiences with car pooling
 - How do they socialise?
 - What kind of talks happen generally in car when you travel with office people? How is different from friends?
 - Public transport experience
 - Ever tried to share a ride by either offering or asking for ride? Is there awkwardness?
 - When they travel in company cab services, what do they do? Do they talk? Is there awkwardness?

User study insights

- "We need triggers for conversations. It is always something in common. Otherwise you will maximum talk about the project and technology"
- "If I socialise, I will be friend with that person offering ride, then I won't pay him"

 DI: Payment policy for these situations
- Meeting new people and socialising attracts youth. Different strategy for people with age 40+
- "I've seen my manager skipping calls, as he knew the person calling is asking for a ride"

 IN: Different strategy for this user group
- Social awkwardness in a group will still be there, need of the moderator always

 IN: The primary objective in these meetings is commuting so no need of leader

User study insights

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

 DI: Grouping strategy to cater these needs
- Monetary transactions are small for intra city, awkwardness in collecting money DI: A cashless technology to have small transactions
- "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"

DI: Facebook to build initial trust

"Trust is generally built after you talk to the person"

DI: Provision of conversation to build trust

Existing Products

Existing platforms





Help

Type the first letters of the city, select your city in the drop-dow

For major cities, you will be ab narrow your search on specific in order to do so, type the first if the area, and select in the drop

 It is possible to search with onle departure city, or only a destination.

 If you do not find your city or ar list, or for any other question, of the webmaster.

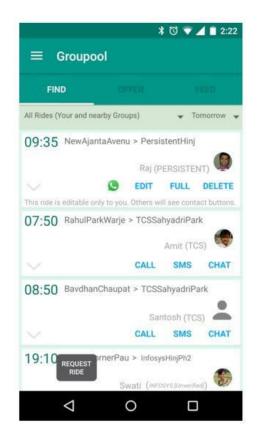
HOW RYDE WORKS? COMMUNITY RYDE WORKWITH US STORIES

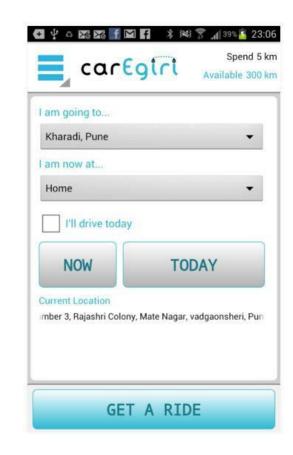
FIND City to City Shared Rydes.

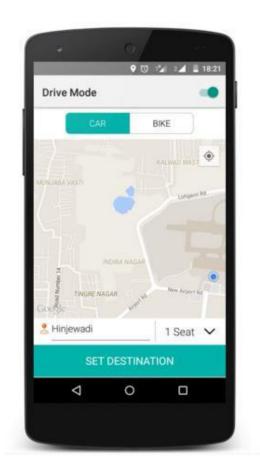
FIND A RYDE OFFER A RYDE

Enter source Enter destination FIND NOW

Current Applications available for Pune







Groupool

CarEgiri

Rideshare

Why people not share ride

Problems like

Safety and Security

Flexibility

Dependability

Liability

Social Awkwardness

Monetary Awkwardness

Why people not share ride

Problems like

Motivation

Safety and Security

Flexibility

Dependability

Liability

Social Awkwardness

Monetary Awkwardness

Not interested in carpooling

Why people not share ride

Problems like

Motivation

Larger community

Safety and Security

Not interested in carpooling

Interested in carpooling

Flexibility

Dependability

Liability

Social Awkwardness

Monetary Awkwardness

Initiatives to build community

Survey form using google forms and printed version

- Created a google form to understand mobility patterns, interests and timing information of people working in Hinjewadi and circulated in the city
- Also distributed the same forms in Hinjewadi area

Smart City Project for Pune

Name:		Email-id:					
Working at:							
Leaves for office at: _	am/	Leaves from office at:	am/pm				
Duration of travel (Go	oing):	Duration of travel (Returning	g):				
Mode of Transport: [☐ Office Bus ☐ Own Car	Own Bike Public Tran	sport				
For self owned vehicle	es: 🔲 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 ☐ Cam	ping Water Sports	☐ Cycling				
☐ Scuba diving	☐ Sky diving ☐ Parag	gliding Rock climbing	☐ Hiking				
Other:							
Arts		<u> </u>					
☐ Performing Arts	☐Theatre ☐ Paint		☐ Pottery ☐ Fine Arts				
☐ Poetry Other:		ts	☐ Fine Arts				
Music							
□ Classical □ PC	OP □Jazz □Folk	☐ Bollywood ☐ Electroni	c Bollywood				
☐ Singing ☐ Gu		The second secon	onium				
Other:							
Gaming							
□Video games	☐Board games ☐PC g	ames Snooker	Pool				
☐ Card games	☐ Bowling ☐ Poke						
Other:	Care ver	***					
Sports							
☐ Cricket ☐ Fo	ootball Tennis Golf	☐ Badminton ☐ Basketba	II ☐ Table tennis				
Other:							
Health and Fitne	ess						
☐ Meditation ☐ Yo	oga □Gym □Jogging	□Swimming □Running □	Aerobics				
Other:		S. (Extraordinates •)					
Miscellaneous							
muscendifiedus							
	ing Delities Delatario	neby Olitorature OBlessins	Astronomy Realis				
☐ Travelling ☐ Cook☐ Bird watching	king □Politics □Photogra □Movies □Road trip	aphy □Literature □Blogging os □Film making □Fashion					

Initiatives to build community

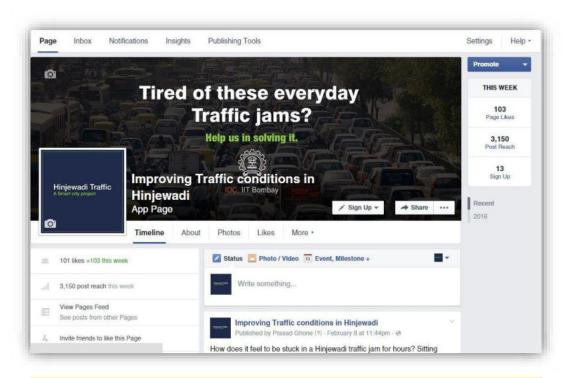
Insights

- Reluctant in spreading the word as it appears to be a promotional activity
- The only motivation for filling the form was as it was for an academic project.
- Asking personal interest for ride sharing was a set back, not many read the description of the project.
- Managers mentioned they won't forward it to their team, they can fill it themselves.
- 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.
- When talked to random people from Hinjewadi. Girls denied to give personal information, specially email id.
- Need of an in between person always.
- 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.

Facebook page

Intend

To reach out to more people working in Hinjewadi. Promote the survey form created through Facebook. Create visually appealing promotional material to make the conceptual model clear.





Facebook page





Facebook page

- 116 likes, Maximum reach of a post 2.8k people.
- Mostly friends, less than 15 people from Hinjewadi.
- Promoted page using Facebook promotions and by tagging different technologies.
- Making the post reach to the right audience was difficult.
- Facebook page appears to be amateur
- A website appeals users as they see something really is setting up and it is not just an academic project.

People from Hinjewadi

View the post

Opens the post

Fills the form

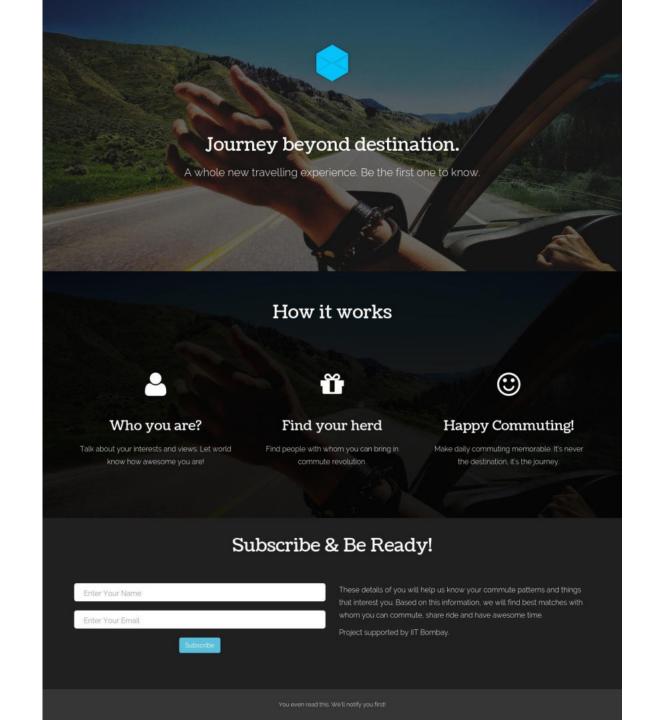
Completes the form

Website

Intend

To make an illusion of something is coming up very soon. Ask users to fill in their data and they will be reminded when the system goes live.

Same problems, could not reach to people to more people.



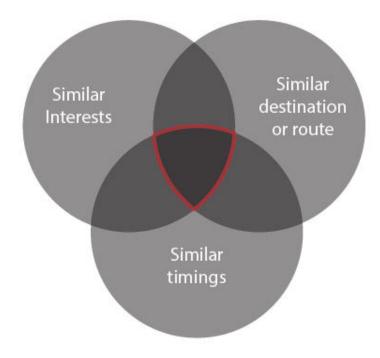
Creating a ride group

- The data collected had **66 entries** of people from Hinjewadi
- It had entries of people from different parts of the city using different modes of transport
- People whose route or destination match, timings of commute match and also have common interests among them were found.

'Name	Working at	Staying at	Mode of transport to go to office	(Only if you drive to your office) Leave	s for office at	Leaves from office at	Duration of travel (going t	Duration of travel (leaving	Email	Contact Number	Technology	Adventure	Arts
Rishi Hisariya	Airstacks Networks	Baner	Own Bike	I always share my ride with som	9:00:00 AM	6:00:00 PN	0:45:00	0:50:00			Big Data, IoT, Java, Startup	Trekking	
Chetan G. Bendre	Synechron	Akurdi	Office bus services	I always share my ride with som	10:00:00 AM	7:00:00 PN	1:00:00	1:00:00	chetan 1109@gmail.com	9890203097	Java, Python, Startup	Trekking, Camping	
harish t	techmahindra	wakad	Public Transport		10:00:00 AM	9:30:00 PN	0:40:00	0:20:00	harisht707@gmail.com	7720074299	operations		
Shubhra	Tech mahindra	Wakad	Office bus services	I always share my ride with som	8:15:00 AM	6:30:00 PN	0:30:00	0:30:00	Sshubhra31@gmail.com	9869571477	Learning Languages, Big Data, IoT, Data Science	Trekking, Moutaineerin	ng. Performing
Saurabh Gadariya	Techmahindra	Aundh	Office bus services		10:00:00 AM	8:40:00 PN	1:00:00	0:45:00	gadariyasaurabh@gmail.com	9028662737	Learning Languages, Big Data, IoT, Data Science	Trekking, Moutaineerin	ig, Camping, W
Ruben Jogi	Tech Mahindra Ltd	Wakad	Own Car	I prefer driving alone	12:00:00 PM	11:00:00 PN	0:45:00	0:20:00	Ruben.jogi@techmahindra.com	8554927475			
Saurabh	Cognizant	Deccan	Car pooling	I always share my ride with som	9:00:00 AM	7:00:00 PN	1:05:00	1:15:00	Kulkamiscp@gmail.com	7387233741	Learning Languages, Unix sql	Trekking, Water sports,	, Cycling, Rock
Amit Karambelkar		Akurdi	Own Bike		10:00:00 AM	7:00:00 PN	0:45:00	0:45:00	amit.karambelkar@gmail.com	9820857744			
Prithvi Vadaviya	IBM	Vishal nagar	Own Bike	I always share my ride with som	1:30:00 AM	10:30:00 AN	0:30:00	0:25:00	pruthvi3593@gmail.com	8861186892	Mainframe	Water sports, Paraglidi	ing Theatre
Utkarsh	IBM india Pvt Ltd.	Sangavi	Own Bike	I prefer driving alone	8:30:00 AM	6:30:00 PN	0:40:00	1:00:00	bagalutkarsh@gmail.com	8861093094	Learning Languages, Big Data, UI/UX, Java, HT	1 Trekking, Moutaineerin	ng. Painting
Amit	Tata Technologies Limited	Wakad	Own Bike	I always share my ride with som	7:40:00 AM	6:00:00 PN	0:25:00	0:25:00	Amit.m@tatamotors.com	8237008392	Administration	Trekking, Camping	
Chirayu Shah	IBM India Pvt. Ltd	Vishal Nagar (Wakad)	Public Transport		8:15:00 AM	6:30:00 AN	1:00:00	1:00:00	chirayu25@gmail.com	8983704007	C# .NET	Trekking	
Manoj Agarwal	TCS	Pimple Saudagar	Own Bike	I always share my ride with som	10:20:00 AM	8:28:00 AN	35:00:00	25:00:00	manoj28it@gmail.com	9975374372	SAP	Trekking, Sky diving, S	Scuba diving
Madhusudan malve	Cognizant	Balewadi	Own Bike	I always share my ride with som	9:45:00 AM	7:30:00 AN	0:45:00	0:45:00	Mdmalve@gmail.com	7588188221	C, C++, Java	Trekking, Moutaineerin	ng Writing
Neha	CTS	Wakad	Own Bike	I always share my ride with som	9:30:00 AM	7:00:00 PN	0:45:00	0:45:00	Neha.pagar@gmail.com	9730595877	Testing	Trekking, Camping, Wa	ater sports, Sci
Dileep Mohanan	Not working	Viman Nagar	Public Transport	I always share my ride with som	10:00:00 AM	8:00:00 PN	0:20:00	0:20:00	dil33pm@yahoo.com	7738692830	IoT, UI/UX, Java, HTML5, Javascript, Robotics	Trekking, Camping	Crafts, DIY
Siddharth Rathod	Btci	Market yard	Office bus services		7:15:00 AM	5:30:00 PN	1:30:00	2:00:00	Sidrathod@gmail.com	N/a	IoT, UI/UX, HTML5, Javascript, Arduino	Trekking, Moutaineerin	ng, Painting, P
Priyanka	Tech Mahindra	Swargate	Office bus services		9:40:00 AM	8:40:00 PN	1:20:00	1:20:00	Priyankachaudhari73@gmail.co	or 7798959662			(a)
Vaibhav	Tech Mahindra	Bavdhan	Office bus services		10:00:00 AM	8:30:00 AN	1:00:00	1:20:00	catchvs.09@gmail.com	7276823418	Big Data	Paragliding	
Raunak	KPIT	Katraj	Office bus services	I always drive alone	7:40:00 AM	6:00:00 PN	0:45:00	1:00:00	ronakjagdale@gmail.com	9890872433		Trekking, Scuba diving	a

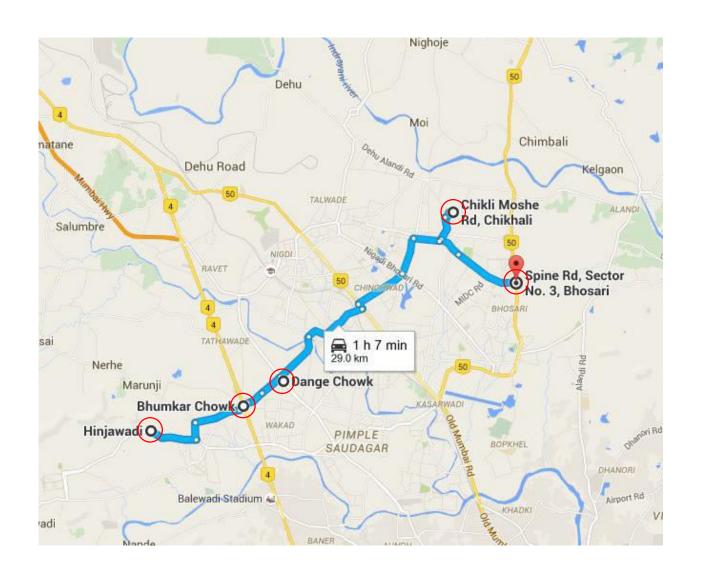
Creating a ride share group

- Finding people with *similar interests*, *similar destination* or *route* and *similar timings* is difficult. On top of that, people whose these requirements match, either of them should be *travelling by car* and they should be *inclined to car pooling*.
- Finding this sample from the acquired data was difficult.
- Only one group with these requirements could be created. The common interest which was found among them was cricket.



Created a ride share group

- 4 people: (3 Male and 1 Female)
- Starts at Spine Road, Bhosari
- Ends at Hinjewadi Phase III
- Cricket was a common interest among the group



Created a ride share group

Insights

- One of the member never turned up
- The girl continued the ride for around 15 days and then left because she found, she needs her bike for lot of other things which she does in between office timing.
- The never really talked about cricket, no even when they knew that they are sharing ride as they have cricket in common
- Cricket was sometimes a topic of discussion during IPL season.
- They talked about new cars, different car models, JNU and Kanhaiya Kumar, different technologies, openings in other companies, etc.

Project Brief

Primary Objective

- To motivate people to share their ride in commute
- Make ride sharing a fun activity to do

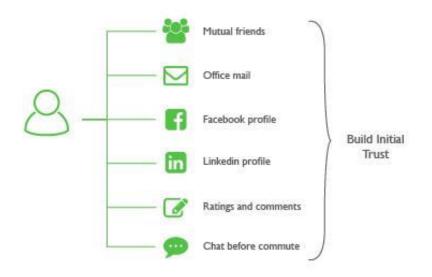
Secondary Objective

- Help people find like minded people for ride share
- Help people make their commute time productive
- Ensure people have safe and secure ride
- Faster ice break between strangers sharing their ride

Initial Design Ideas

- Incentivise car pooling
 - Prioritized parking
 - Subsidy in fuel cost
- To make car pooling a prestigious activity
- Let's not call it car pooling

Security



- Can know common friends (Initial trust)
- Sign-in with office mail id (Sense of security)
- Facebook profile view (Initial trust)
- Linked in profile view (Initial trust)
- Rating and comments of previous travellers
- Emergency contact SOS (Location, car details and info of co travellers)
- Talk before you commute (Initial trust)

Liability

- Licensing information of the driver
- Number of kilometres car pooled
- Rating and comments

Dependability

- Plan journey beforehand
- 2-way Rating

Loss of privacy

- Actionable figures of cost saving after car pool
- How am I contributing to Green city

Social awkwardness

Meet people with whom it might not be awkward

- Meet like minded people, something in common to initiate conversation
- Find people with whom they can talk and spend time productively
- Can be people who have a same goal to achieve, place to visit, things of know, etc.

Community building

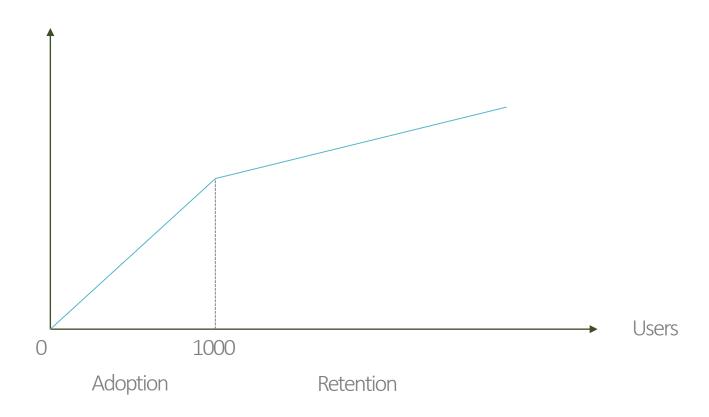
- Motivation
- Incentivise

 Reciprocity: Give something, people will repay by joining
- Option to share ride details on other social media

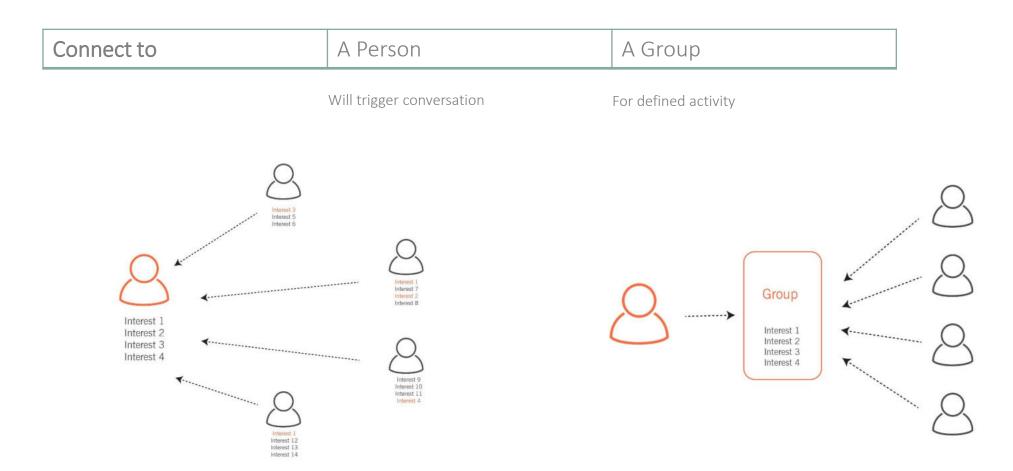
Motivation

- Environmental impact
- Cheaper and comfortable ride
- Brag about their car-pooling
- Change the boring daily commute
- Meet interesting people
- Incentivise car pooling
- Very easy to use solution

The solution should have users acquisition model



Connect to a person



Connect to a group

Group should be	Static	Dynamic	Semi dynamic
	 Better and long relation with co-traveller Trust, safety, security, etc. are no more problems No flexibility 	 Allows Flexibility Random and surprise Problems of safety, security Social awkwardness 	Allows flexibilityClash of rescheduling

Who can create a group	Car owner	Ride seeker
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Size of the group	Limited to car size	Limited but not to car size	Unlimited	
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Socialisation	Primary	Secondary
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Group	Interest based	Activity based
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Common interest is for	Just matching	Ice break	Activity in car	Activity off car
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Connect to	A Person	A Group		
				-
Group should be	Static	Dynamic	Semi dynamic	
			7	
Who can create a group	Car owner	Ride seeker		
				-
Size of the group	Limited to car size	Limited but not to car size	Unlimited	
			_	-
Socialisation	Primary	Secondary		
			_	
Group	Interest based	Activity based		
Common interest is for	Just matching	Ice break	Activity in car	Activity off car

Final Design





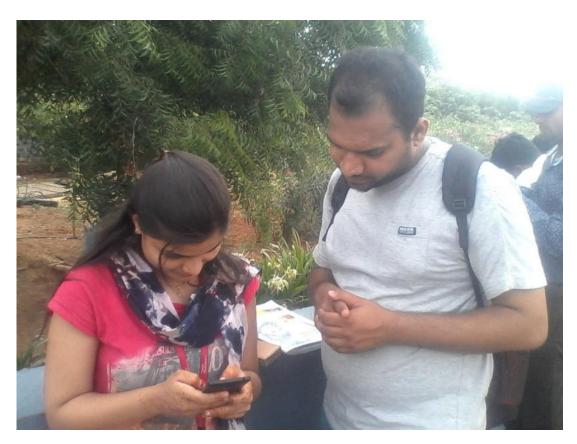
Final Concept

Features

- Common interest is used for match making, ice breaking and also to create activities
- Allow flexibility and reduce dependability
- Social bragging of car pooling
- Gamification of carpooling
- Safety and security ensured
- Share ride on other social media
- Wallet to reduce awkward monetary transactions

Evaluation

- Heuristic evaluation with 4 interaction designers
- Task based usability test
- Semi structured questionnaire based contextual evaluation

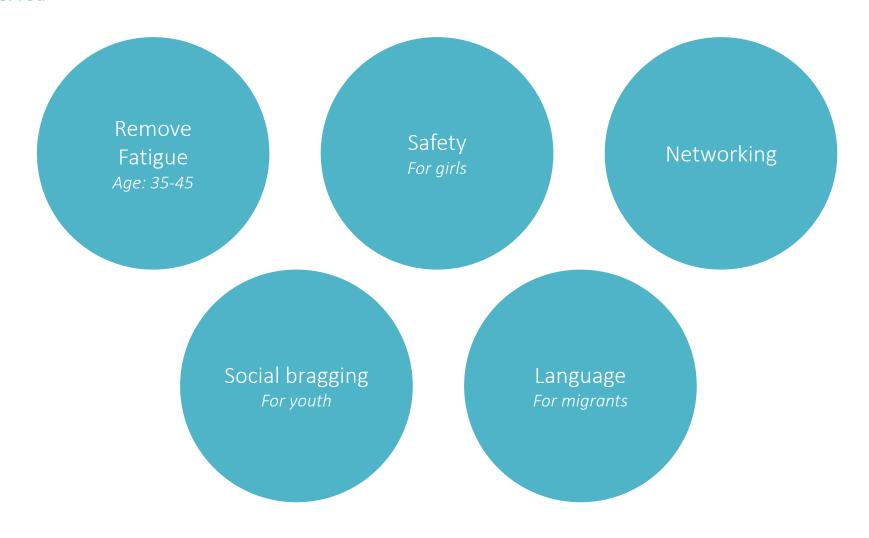




Protocol

- Screen users for the evaluation, people who are inclined to either ride sharing or socialisation or both. Users will be asked to go through the personas and try to find out which persona they can relate to.
- Explain them the concept of the project and ask them to create a conceptual model
- Conduct a pre-test
- Show them the app and let them explore
- Ask them if you were the above persona, does it help you now. Also see if the conceptual model they had after listening to concept is met after exploring the app
- Usability test (Task based think aloud test)
- Semi structured feedback of the app

Personas observed



Pre test

- The questions for the pre-test would be:
 - 1. Demographics of the user (Mode of transport used, time of commute, residential place)
 - 2. Opinion about the concept. Would you use it?
 - 3. Would you recommend such concept to friends? If Yes, which friends? Why those? If not, why?
 - 4. Which persona could you relate to more?
 - 5. Have you ever done carpooling before? What was the experience? How did you find people? Are you still doing? Yes/No, reason.
 - 6. Have you used any car pooling platforms earlier

Usability test (Think aloud task based test)

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.

Usability test (Think aloud task based test)

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

- Similar details mentioned in the above task of creating ride share 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

Usability test (Think aloud task based test)

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 questionnaire

- 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 linked in 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?

Evaluation









Evaluation Insights

"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."

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

"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

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

Evaluation Insights

"I am not active on Facebook, I will feel bad if someone checks out my Facebook profile and declines my request to join group"

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

Insights from Heuristic Evaluation

- Rating a group than a person
- Options are hidden in the profile. It is hard to discover. It should come up in hierarchy.
- Defining charges for rides in between.
- Feedback of number of steps in the first time setup
- Text to explain what should I do on each page? What is a group? What does it do?
- The cost should be on the first initial point as the destination is fixed.

Future Scope

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- Incorporate the changes raised after evaluation
- Iterate on the design and test again
- Development of the mobile application
- Making application go live.
- Campaigns to promote
- Seed Data collection from companies

Conclusion

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- Even after development, it will be a mobile application. Triggering ride sharing can only be tested if people use it. People will use it only if they know about it.
- Requirement of massive promotion for the application to work.
- Requirement of mass media campaigns for a bigger reach and to motivate people on a larger scale to ride share.

References

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