

HopCar!

Segments - based urban vehicle sharing



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unique features

- HopCar! makes car sharing easy for today's busy people that wants to share or ride shared vehicles without having to think about schedule or timelines. It also has distinctive features to respect privacy and integrate private and public transportation, making use of abundant existing traffic flow in modern cities.

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it's easier to understand based on what it lacks

- No scheduling (users just Hop! into available seats of members' private shared cars, taxis or bus lines that join the system).
- No money transactions between private users (members get tax or city benefits but don't charge any costs to passengers).
- No isolation or "Transport Systems Guerrillas" as it integrates private cars, taxis and public buses.
- No privacy risks: the full trip is unknown.

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advantages

- No scheduling: busy and active people can use the system on the fly (to share or find shared seats). No impossible scheduling needed.
- No money transactions: the system is not aiming to eliminate other transport means. All are welcome and the community is benefited from lower pollution, reduced waste and faster connections.
- Privacy: the only important data is “how many blocks will this vehicle take me closer to my destination”. No full trips disclosure from any member.
- Convenience: Drivers don't have to detour to pick up passengers. They are in its expected path because “riders” approach existing “seats flow” in the city.
- Security: Portal based registration and in app “alarm based sensing” of suspicious events (like a car stopping nowhere, or an unfinished trip) helps user be safer in risky cities.

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components

- Driver: private member that shares a vehicle. Uses a GPS driven app to share/unshare, accept/reject passengers.
- Rider: private member that rides a shared vehicle. Uses a map app to locate available shared seats in vehicles, and to tell Drivers to stop for pick up.
- City Portal: validates and authenticates users. It is the layer of security between drivers and riders.
- Public Transport: taxi drivers can register and be shown as available transport in the rider's application. Bus lines could also report position, depending on city's strategy.

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mobile apps

- Driver's app: a GPS based application where the driver can input a destination and set "sharing mode" on or off at wish and in any moment, depending on his desire or personal situation.
- Rider's app: a map based application where riders see available seats in the form of moving shapes approaching him. This shapes show only direction and length data representing the number of streets or segments that a vehicle will remain in the current road.

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Driver's app specs

- GPS based application where the driver inputs the destination. It could offer driving directions or not.
- It is needed so the Rider's mapping apps know location and direction of available vehicles to be boarded.
- To be studied: maybe, it can just be an interface connecting popular GPS driving apps (like Waze) to Rider's mapping data apps.

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Security (1/2)

- The system can add add-hoc functions to aid in increasing security levels for members
- Example: if the phone detects a violent impact it can immediately send an alarm.
- The same with unexpected stops not stemming from traffic (I guess most attacks happen not in traffic jams)
- To make it more secure, the GPS function could be serviced by an independent device (not the smartphone).
- If the phone detects an unexpected change of route, it can trigger other alarm.

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Security (2/2)

- If the phone detects a change of movement pattern in a risky zone (from driving to walking) you could be suffering kidnapping.
- Also, the members are registered and screened, and the trips record who rode with who, so I don't know up to what level it could be insecure, as an attacker should have to steal an identity to be able to see the info about available cars.
- Other: as the sharing can be set on or off on demand, we could also define "red zones" where car stops sharing automatically, or can be in "friends only mode" where you are visible only for friends or past passengers or drivers that are already linked to you in some way.

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Demo movies

- Basic Info
- <http://youtu.be/Q8cGdhrmbMA>
- Demo situation
- <http://youtu.be/6wT0yqcejnY>