

## Hitchhiker app (The Electronic Thumb)



According to the U.S. census, the percentage of single occupancy cars on the road at any given time is nearly 75% on average, and is much greater in certain areas. Even a small reduction in the number of single occupancy vehicles would be very helpful to the environment. Also, many people (particularly students) don't have consistent access to a car. Carpooling is great, but it isn't always easy to set up, and it only works on a very fixed schedule - what about quick trips to the grocery store or a ride downtown? With so many people driving to and from so many places, chances are there is already someone driving an empty car to wherever you want to go. The problem is finding a way to connect people who want to go somewhere with people who are already going there, on a timely and as-needed basis, thus saving people from driving a empty cars when they don't need to be. With the advent of ubiquitous mobile phones with embedded GPS, there is a potential for creating a unique application that could do just that, with minimal effort from the user. This is by no means a new idea - although I came up with it independently, a little searching on the internet turned up a number of people suggesting the same general idea, but as far as I can tell no one has actually implemented it.

To be fair, the problem is somewhat more complex than simply connecting drivers to potential passengers. Many people will be uncomfortable simply hopping into a stranger's car, or allowing a stranger into their vehicle, and some system will need to be in place to build trust between users to overcome this discomfort. In reality, this is probably a bigger problem than simply connecting two people who want to travel in relatively the same direction at the same time. Fortunately, this trust issue is not unique to our situation, and some solutions have already been found by companies like eBay and Amazon for the case of online shopping.

There are two main problems to be solved: how to connect potential passengers to potential drivers, and how to generate trust between the two parties so that the connection can happen. To connect passengers to drivers, we need only know their current location, desired destination, and a time frame. For a driver, this means that if they wish to potentially provide a ride to another user, they need only input their destination with a time frame for when they will be leaving (or simply do so as they are about to leave, with a time frame of "now"). On a phone with gps, the application would know the current (starting) location and thus have all the information needed. For passengers, the process would be similar, except the time frame would need to be a window (e.g. "leaving between 9am and 11am"). Software could then find potential matches, and send a suggestion to the driver, who would accept or reject the potential passenger. If the driver accepts, a message would

be sent to the potential passenger, who may then confirm, and if all goes well, a pickup location can be suggested and agreed upon.

The main solution to the issue of trust is user profiles, feedback, and ratings. User profiles should have a photo of the user and, if they are a driver, a photo and/or description of the car(s) they will be driving. This will facilitate the connection between the driver and passenger, as each will be able to quickly recognize the other when contact is initiated. When a potential connection is suggested by the application between two users, each will be able to see the other's profile, including a rating (averaged over all interactions) and any feedback left by other users that the user has interacted with in the past. This has proved very effective in various other online communities where trust is necessary because money is being exchanged (such as eBay), and I think it would work quite well here. In general, when there are actual consequences for people's behavior, they tend to behave themselves. The system could easily be extended to allow users to "friend" each other and plan recurring trips (i.e. carpooling, which isn't exactly what this application is aimed at, but will still work).

My initial concept is for this to be a free service, with a "virtual money" point system to track user behavior and encourage users to both give and receive rides. Users would amass credit by giving rides and debt by receiving them. A user's "credit level" would appear in their profile, and since both potential drivers and passengers can see the others' profile, each could incorporate this into his or her decision of whether or not to give/receive a ride.

Drivers could also be given the option of returning a passenger's "virtual money" for any given trip, thus encouraging habitual passengers to tip the driver (with actual cash, i.e. gas money) in exchange allowing him to keep his "debt" small, so as not to be perceived as a leech. This system could easily be monetized as well (at the scale of a few dollars or so a trip), and users could have an account with which they could deposit or withdraw funds, and the application would take care of transferring funds between users when appropriate (the amount of money exchanged is assumed to be small, as this isn't meant to become an unlicensed taxi service).

#### Scenario Walkthrough:

Alice is about to make a trip from Capitol Hill to Northgate. As she is preparing to she enters her destination in the hitchhiker app, with a time frame of now. Almost immediately, the app suggests that Bob, a few blocks away, is looking for a ride to Northgate. Alice checks over his profile, sees that he has use the service numerous time and a good rating, and decides to accept the suggestion to give Bob a lift. Within moments the app alerts Bob that he has a potential ride, leaving now. Bob looks over Alice's profile and sees that this is the first time she has used the service, but decides to take the risk anyway and accepts.

The app suggests to both Alice and Bob that she pick him up from the corner of Broadway and Republican, a block from Bob's house, and right along Alice's route to Northgate. Both Alice and Bob accept the suggested pickup point, and the connection is confirmed. A few minutes later, Alice pulls up to the corner of Broadway and Republican where Bob is waiting.

Each of them recognizes the other from their photo in the profile, and Bob hops in and gets a ride to where he was going.