Prototype for a Ride-Sharing App

It is proposed that a ride-sharing app could be developed to help solve a number of issues relating to transportation, including:
- road congestion from many single-user cars
- air pollution and climate change from many single-use cars
- expense of car ownership, maintenance & petrol
- lack of frequent and convenient public transportation

When people don't know who else might be going to an event they would like to attend, they will often make travel plans on their own.

The idea of this app is to make it possible for people to check an app to find other people near them who are planning to make the same trip and to organize a shared ride.

For the purposes of this project, such trips might include:
- getting to and from campus on a daily or occasional basis (for those who don't live nearby)
- travelling back to visit family in the holidays
- trips for big events likely to attract students (eg a concert)

Core requirements of the app would be:
- need for trustworthy registration (Facebook or Google or both, eg)
- private threaded correspondence capability

At a very basic level, an app could be developed to allow noticeboard-style interaction whereby one person would post a need or an offer and others would respond and match-ups would occur. If Facebook were the sole sign-up mechanism, this could easily be integrated through a Facebook private group.

Ideally, however, more advanced features would include:
- option to create a user-profile with user-reviews
- integration with map api (eg Google maps)
- scheduling capability
- cost-sharing payment functionality

A group of students might choose to develop such an app with a selection of one or more of the more optional features according to:
- their research-based perception of what would be most useful
- their programming strengths and interests

Technical Details:

Programming language may be chosen by the students, based on their strengths but with a view to creating a prototype that could be scaled up to a more complex app. Use of open-source technologies is encouraged. The choice of developing an Android or iOS app is also open to the group's preference.

Deliverables:

The final product should be capable of being easily used by any student at the University of Waikato to check to either post a request for a ride on a certain date/time to a certain event/location or to post an offer of a ride on a certain date/time to a certain event/location—and for those who post to easily connect with each other and arrange the ride details. If the app involves any of the more advanced features, so much the better.