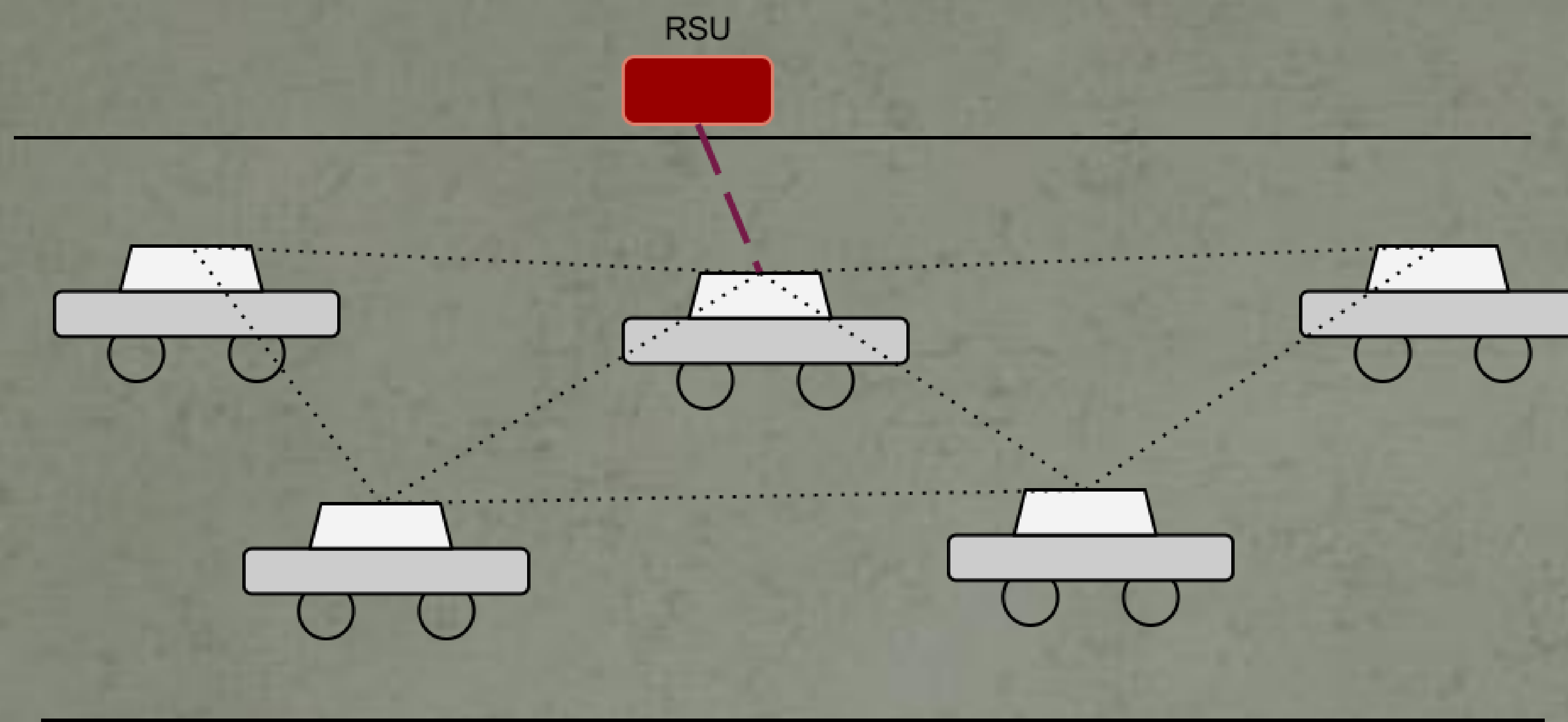


A Position-Aware Navigation Application with Local information on VANET

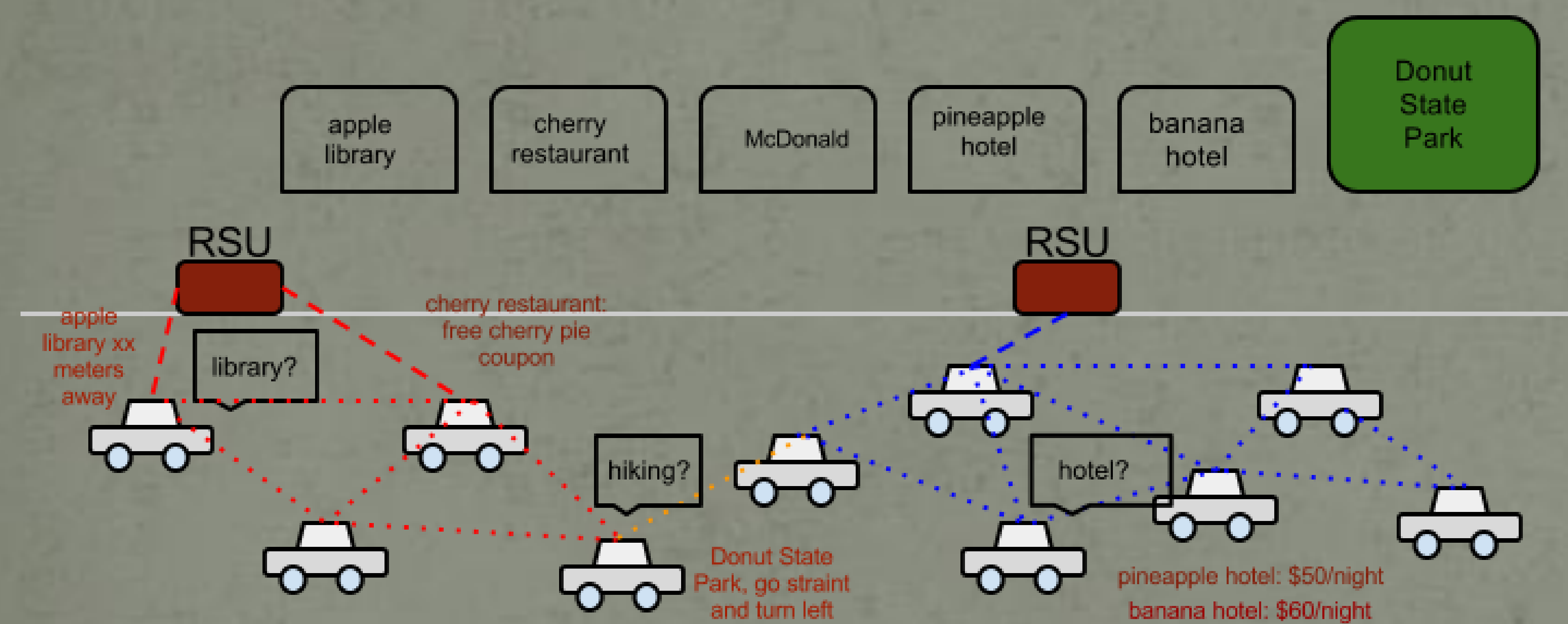
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In a Vehicular ad-hoc network. The RSU's signal don't need to cover each node in the net. The nodes transmit information with each other to form a network, so the network's range can be much bigger than the range which RSU's signal can cover.

In this research project, I develop an application based on Vehicular ad-hoc network (VANET). A VANET is a technology that uses moving vehicles with DSRC (Dedicated short-range communications) as nodes in a network to create a mobile network. This network enable vehicles to communicate with each other and position each other such that improve their safety. Advantages of DSRC technology are the capability for very low latency communications and the range of distance it can contact with other nodes (200-300 meters).



This figure shows how VANETs are constructed and how the application works.

The advantages of this application (compared to using mobile phone to look for information) are:

- Automatic and no input: it's very hard for drivers to stop and input the keywords they want to search when they drive on roads; and not everybody use mobile phone to access internet. My application can automatically show the information of an area when vehicles get into its range.
- High speed internet through VANET for free or at very little charge: other ways accessing internet in a moving vehicle are always expensive and not instant; and the speed of internet is usually not satisfying
- Low cost: Government will build all the RSU, and a DSRC device is cheap, even cheaper than a GPS! All a user need to do is install my application on his/her device.