Résumé du projet de recherche (Langue 1)

Associating wireless information to certain physical locations is an interesting feature that many applications can benefit from. This capability is known as geocasting. Just like pictures are tagged with the location where they have been clicked, geocasting enables to tag a real physical location by wirelessly transmitting data that are only decodable within desired delimited areas. Thus, users can receive information related to the place where they are. This is what is achieved to some extent by applications like Google map where metadata related to user’s location are sent. To do so, GPS coordinates of users are required. These systems are limited in terms of spatial resolution, especially in indoor environments, and necessitate some time to calculate user’s locations, thereby introducing a delay, which can be a real limitation. Furthermore, as a general matter, all systems that are based upon user’s locations lead to privacy issues. The geocasting scheme proposed in GEOHYPE is fundamentally different. The idea is to transmit data related to locations whether a user is present or not. So instead of considering a user who locates himself with respect to a global reference system and then correlate his position to some databases to discover surrounding locations of interest, the user is able to read the data only when he is located at the right spot. In that case, it is really the location that is tagged, and not the person. This approach therefore respects users’ privacy and does not introduce any delay as the data is always sent to the desired location (it is up to the user to decide whether or not he wants to listen). Furthermore, since GEOHYPE does not require positioning capability, all the classical positioning system infrastructure (e.g. satellites, multiple base stations…) is not required anymore. The only added infrastructure is the capability for base stations to focus data to specific spots. For this scheme to be attractive enough, this feature has to be performed with minimum complexity, cost, and size.