

3.3 Map

Map function includes GPS navigating system which is a core function of this system. Once it is performed, the map is appeared based on the position information of the users. If the user is a group leader, the position information of group members is displayed as the Fig. 2. Also, leader can set the restricted territory as a circle in the map and alarming is alerted if the position of any members is out of the restricted territory.



Fig. 2. Screen shot of map menu

4 Conclusion

In this paper, convenient and practical management system of group tours was designed and realized. The outcomes from the proposed system using GPS navigation and Bluetooth call the roll for the management of group tours are as follows. By quick call the roll with convenient operation of smartphone application, the time and effort could be saved to provide the tourists with more convenience. GPS was used to find and control the positions of members. Setting the restricted areas by host, alarm is delivered to host in case that members get out of the area so as to be well controlled. Also, emergency alarm function can respond to the crimes and call the roll by Bluetooth makes the efficient tours. However, further studies are required to solve the problems like difficulty in finding the position of members in the locations where the data transmission is difficult such as indoor areas.

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