**MEMORANDUM**

Date: June 6, 2015

To: Li Wendong Dr.

From: Ma Rong, 2013213136

**Design report of**

**support system for the blind**

**INTRODUCTION SUMMARY**

When you assigned the work that asked us to write an informal report, I found out my entry of Electric Competition and verified it into report form. This report is about a supporting system for the blind to let them go out themselves more easily.

**AIM OF BUILDING THIS SYSTEM**

Members of our group found that it is not easy for the blind to keep the safety of their daily travel. So it occurs to us that we can design a support system which meet these demands and is convenient for the going out of the blind.

First we made a investigation about “what`s the biggest obstacle of the blind for going out ”,then we found that the most problem which demands prompt solution is traffic problem, and this problem reflected in the following three main part:

·Difficulty of telling the traffic light.

·Difficulty of knowing the cars come from right turn lane

·Difficulty of arriving at unfamiliar destination

So we managed to design a brand new SUAM to solving theses problems. Here is the E-R modeling diagram of our system:

**BASIC PRINCIPLES OF SYSTEM RUNNING**

# Our system is mainly composed by four part: user side(smart band),signal box, regional informational station, and monitoring aid.

# When users who wear the smart band get close to a facility such as traffic pole which equipped with the signal box, box will send in formations to smart band. the information includes: color and rest time of traffic light ,whether there are cars come from right turn lane, geographic information of surrounding buildings, and users can choose to use the voice navigation or not.

**TYPES OF INFORMATION:**

**·ASPECT 1: Dynamic information**:

1traffic signal

2 right turn lane signal

3navigation

The dynamic information that needs to send to the blind is about traffic conditions. It mainly includes route information and traffic lights’ information. When pedestrians’ lights turn on, the right turn lane’s information will also send to the blind by vibration. If voice prompts are needed, earphones are necessary.

For smart navigation, this function can only be realized with earphones. And some smart maps which can plan the route and guide you the whole trip have appeared on the market already. So, we will assemble these functions into our band-to- station system. User can voice language query the destination they want to go to the band and through the speech recognition the place signal will transmit to the base station via Internet.

**·ASPECT 2:Static information:**

The static information about nearby constructions includes its location and brief introduction. As static information caught by the primary user device, smart band, some other accessories like earphones whether to adorn can be decided by users. The most basic way to let the blind know there is a barrier nearby is by band’s vibration. The frequency of vibration can predict the distances from the user. If using with earphones that matched with band by Bluetooth, you will get more details of the nearby constructions through the voice prompt.

**CONCLUSION:**

Owing to that our group members share no effort to exploring and researching during the last few months, a brand new support system for the blind that aimed at help the blind improve the quality of life was schemed out. We hope this designing can contribute to promote social progress and solve some social problems.

***Thanks for paying time to finish this report and hope you are satisfied with my work.***

***Sincerely,***

***Ma Rong***