Abstract—This project aims to develop an IoV with speech processing capabilities. The system speech processing functions can be divided into three portions of preprocessing, Speech Recognition and Speaker Recognition. In this project, we apply the proposed speech processing function developed to the IoV, so that the drivers can easily control the Internet of Vehicles system via speech control. In addition, the system distinguishes among different speakers and provides with corresponding usage privileges, which will improve drive safety and in-time awareness of the general vehicle status.

**I. System architecture**

![System Architecture Diagram](image1)

**II. Pre-processing steps for voice signals**

The four steps involved in voice signal pre-processing, digital sampling, pre-emphasis, framing and windowing.

![Pre-processing Steps Diagram](image2)

**III. Voice recognition**

![Voice Recognition Flow Chart](image3)

**IV. Speaker identification**

![Speaker Identification Flow Chart](image4)

**V. Result**

![ Implemented speaker identification system to IoV](image5)

**VI. Conclusion**

The results of voice processing were transmitted to the IoV system. The IoV system can monitor the vehicle situation via sensors and activate the related services automatically based on the IoT concept. We have submitted the project results to the The International Conference on Science, Engineering, Vocational Education and Novelty, 2017.