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JAIST
JAPAN
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Japan Advanced Institute of Science and Technology

An Audio-only Navigation System for JAIST Campus

Isao Watanabe

School of Knowledge Science,
Japan Advanced Institute of Science and Technology

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We propose in this thesis a navigation system using local-PS system and a positioning server.

In recent years, in our institute Japan Advanced Institute of Science and Technology(JAIST), the number of visitors is increasing from year to year. In JAIST, there are problems due to the change of the environment. In the result, it can prevent visitors from smooth act because guides than visitors. Visitors also spend a lot of time in vain due to the specific construction of the campus("wide area", "complex campus", "many similar places").

Focusing on this aspect, we consider our navigation system, CommNavi, to be a solution for those problems. In JAIST, there is no means to provide visitors with the information about it. We hand visitors that Personal-Stastion(PS) registered to our local-PS system. In the result, visitors can save their time.

CommNavi exhibits aspect, the first one is input or output of information through speech interface. Visitors and CommNavi communicate with each other using PS. In the result, visitors can get precise information. Second, CommNavi can navige visitors in JAIST. In JAIST is set Positioning Server that it can get locate infomation through PS. Therefore the target partner of visitors has PS by there understand target partner locate information. In the result, we constructed system with which visitors can get pricise information smoothy.

In the experiment, we did mainly the navigation using speech interface and communication, analyzed action of examinee. We have driven four types of experments which differ

in timing of providing navigate informarion. In the evaluation, three sub-experiments are used for quantitative analysis by protocol-analysis, one main-experient is used quantitative analysis by questionary and the other qualitative analysis by a way for navigation.

Consequently, we obtained good results when CommNavi provided route on visitors inputed information and supportive information by positioning server. In the short-cut of Communication, experiencer was used more experimental than beginner, In result, experiencer get more early infomation. We proposed importance of communication stream for user level.

In this thesis, we present CommNavi for navigation and give personal information in institute JAIST. CommNavi is then proved to be effective through a series of experiments. In future, We will expect that we can do much contribution towards the construction of knowledge-sharing specialized by personal strategy, and assistance of more useful for open office environment, by advancing accuracy of speech recognition.