A Robust Voice-Based Retrieval System for Email and Other Information

SM2-02
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How to get more information in a short time is becoming a more serious problem in the information explosion era. Therefore, we built an information retrieval system for getting email and searching restaurants, which can be widely used in the society. In order to let the customer use the system is a more easily way, we built a more user friendly system: our system can not only get the customer’s required information quickly and accurately, but also can be used in a noisy environment. Furthermore, it can also allow the customer use the system in a more flexible way. Significant technology in automatic speech recognition has been used to support our system.

The SMS output for the restaurant information retrieval
System Block Diagram

SMS generation and delivery process

Information retrieval

User

Speech recognizer

Main controller

Recognition Result:
Command Food Location

Robust & Filler word rejection

Email retrieval system

Administration
The Process of Restaurant Information Retrieval

The email output for the restaurant information retrieval

**Recognition Result and Speed**

<table>
<thead>
<tr>
<th></th>
<th>Accuracy</th>
<th>Speed</th>
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<tbody>
<tr>
<td>Data with only Key Word</td>
<td>95.67%</td>
<td>3s</td>
</tr>
<tr>
<td>Data with whole sentences</td>
<td>84.25%</td>
<td>7s</td>
</tr>
<tr>
<td>Data with noise from Atrium</td>
<td>94.38s</td>
<td>3.5s</td>
</tr>
<tr>
<td>Date with noise from Academic Concourse</td>
<td>94.44%</td>
<td>3.5s</td>
</tr>
<tr>
<td>Data with noise from LG5</td>
<td>88.055%</td>
<td>3.5s</td>
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