

INTERACTION MODULE FOR HUMANOID ROBOT

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ABSTRACT

Speech recognition and related tasks for many languages are gaining more importance in the present scenario. In the case of Malayalam language, recognizing speech is a tiresome task. This report presents a speech recognition and response phase of an Interaction module in Malayalam language. The system is speaker independent with limited vocabulary and considers only isolated words. Interaction module will listen to the audio queries of the user and respond to them with audio output. **CMUSphinx** open source tool is used for the creation of speech recognizer and custom mapping algorithm is used for mapping output audio with the recognized text.

PROBLEM STATEMENT

Development of an interaction module ,which can understand and reply to queries in Malayalam language.

ARCHITECTURE

- The proposed system is divided into
- Speech recognition phase
 - Output speech mapping phsae

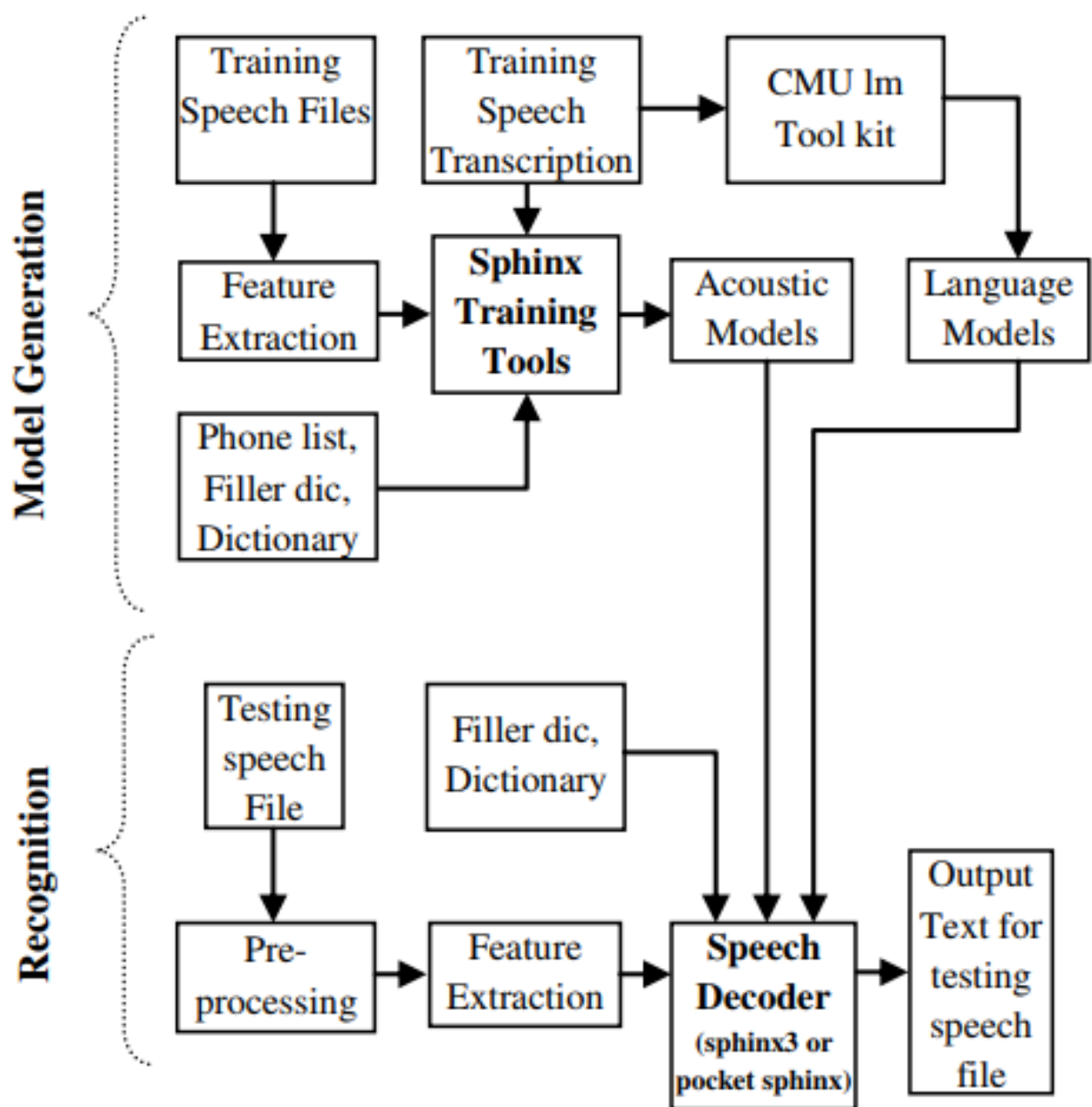


Fig. 1: speech recognition phase

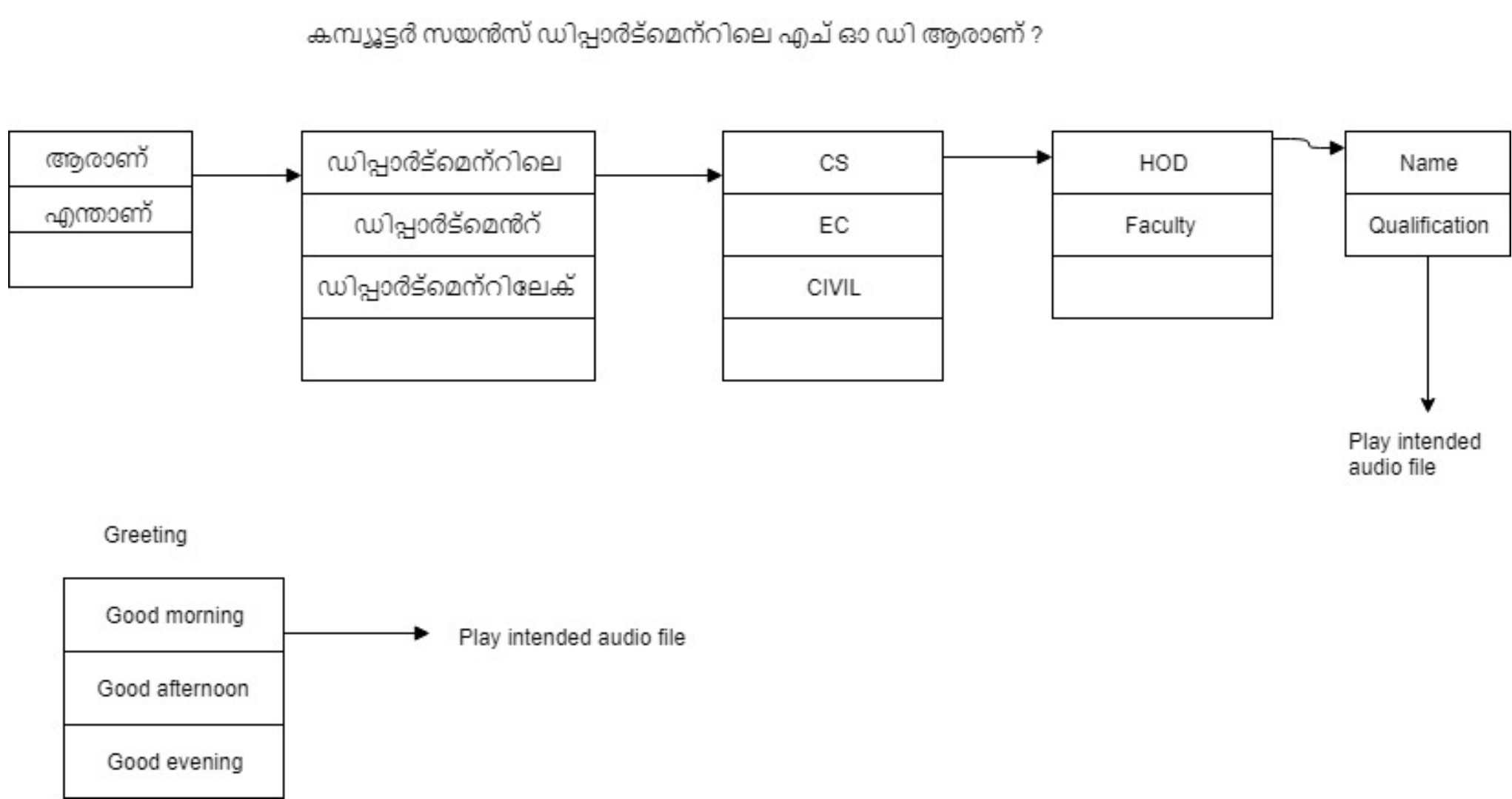


Fig. 2: response phase

METHOD

NOVELTIES AND CHALLENGES

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- .

APPLICATIONS

- Everybody can easily interact since interaction module is capable of replying in Malayalam.
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RESULT

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66.67%
Insertions: 0 Deletions: 0 Substitutions: 1
TOTAL Words: 210 Correct: 103 Errors: 111
TOTAL Percent correct = 49.05% Error = 52.86% Accuracy = 47.14%
TOTAL Insertions: 4 Deletions: 43 Substitutions: 64
gokul@gokul-HP-Notebook:~/Desktop/project/humanoid_test1/LM/new am$
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Fig. 3: (a) Accuracy of recognition phase

REFERENCES

Department of Computer Science and Engineering
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