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Appendix A

Approach in Practice

The input for this system is an ancient Sri Lankan Inscription. As the first step it is needed to load the ancient Sri Lankan inscription into the front-end using the load option in the File menu. After loading the inscription it will be displayed as shown in Figure A.1.

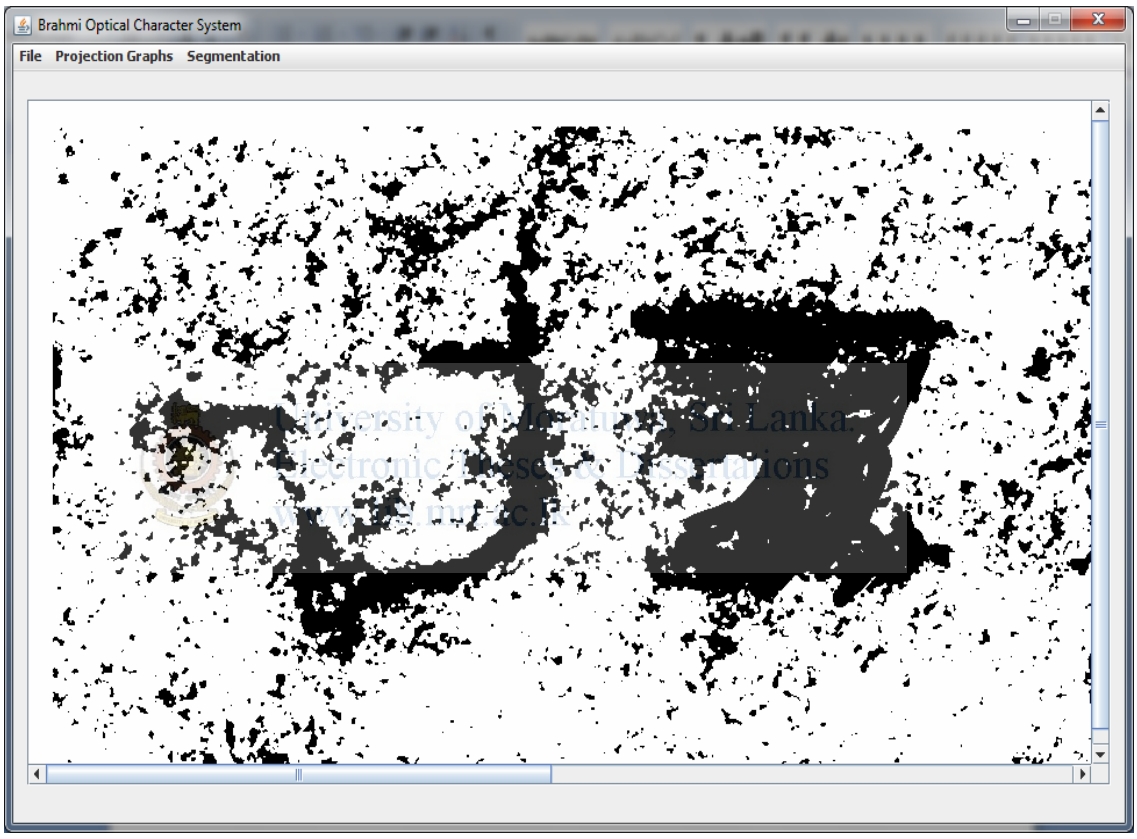

Figure A.1 : A loaded Inscription

After loading the inscription the user has to segment the lines of characters. This is achieved by segment line option. The user has provided the facility to select the threshold value by simply changing the threshold value by a slider. Base on the user selected threshold value the black lines will be drawn for the rows where the total number of black pixels in the row is greater than the user defined threshold value. The user has to select the appropriate line by selecting the check box attached to the particular line as shown in Figure A.2.

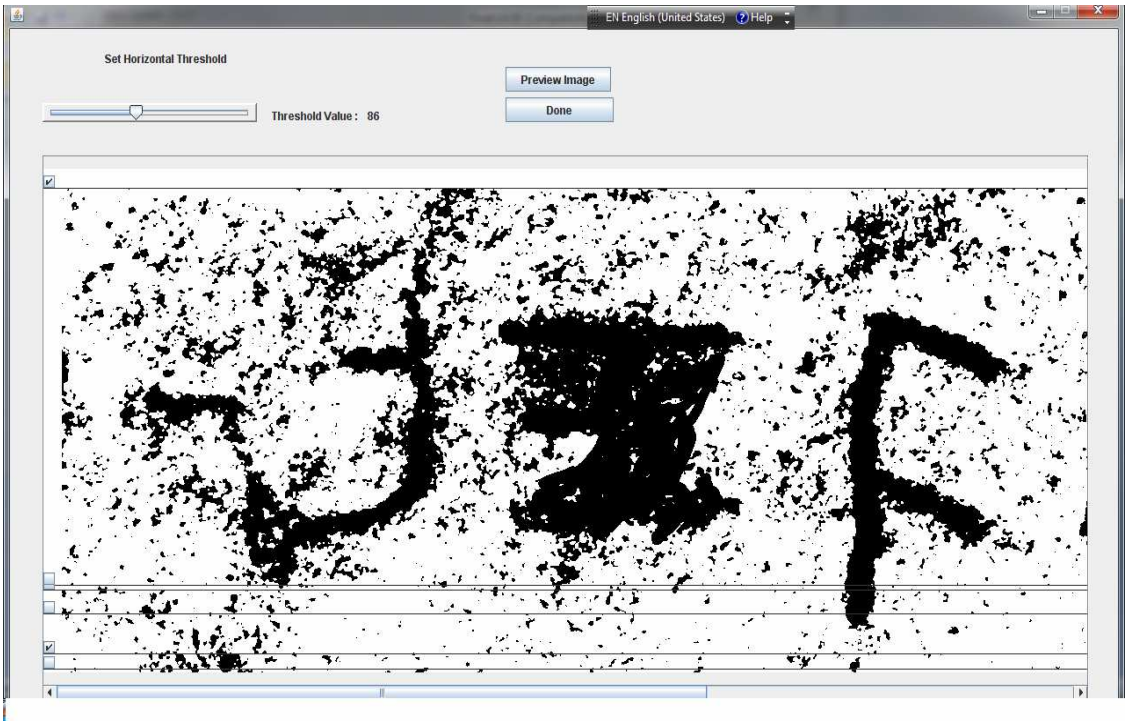

Figure A.2 : Line Segmentation

The character segmentation is also done in a similar manner by sketching the required segmentation lines in the image base on the user defined threshold as shown in Figure A.3.

Figure A.3 : Character Segmentation

These characters will be segmented from the user defined starting and ending boundaries. The system will extract the required features of the character and convert the character image into ones and zeros. These values will be sent to the artificial neural network in order to identify the character. After the recognition phase the neural network will send the recognized character string to the post processing module. The lexical agent constructs sentences base on the neural network output and present to the other agents for verification. Figure A.4 displays an instance where the sentence constructed by the lexical agent is rejected by both the structure analyst agent and the semantic agent.

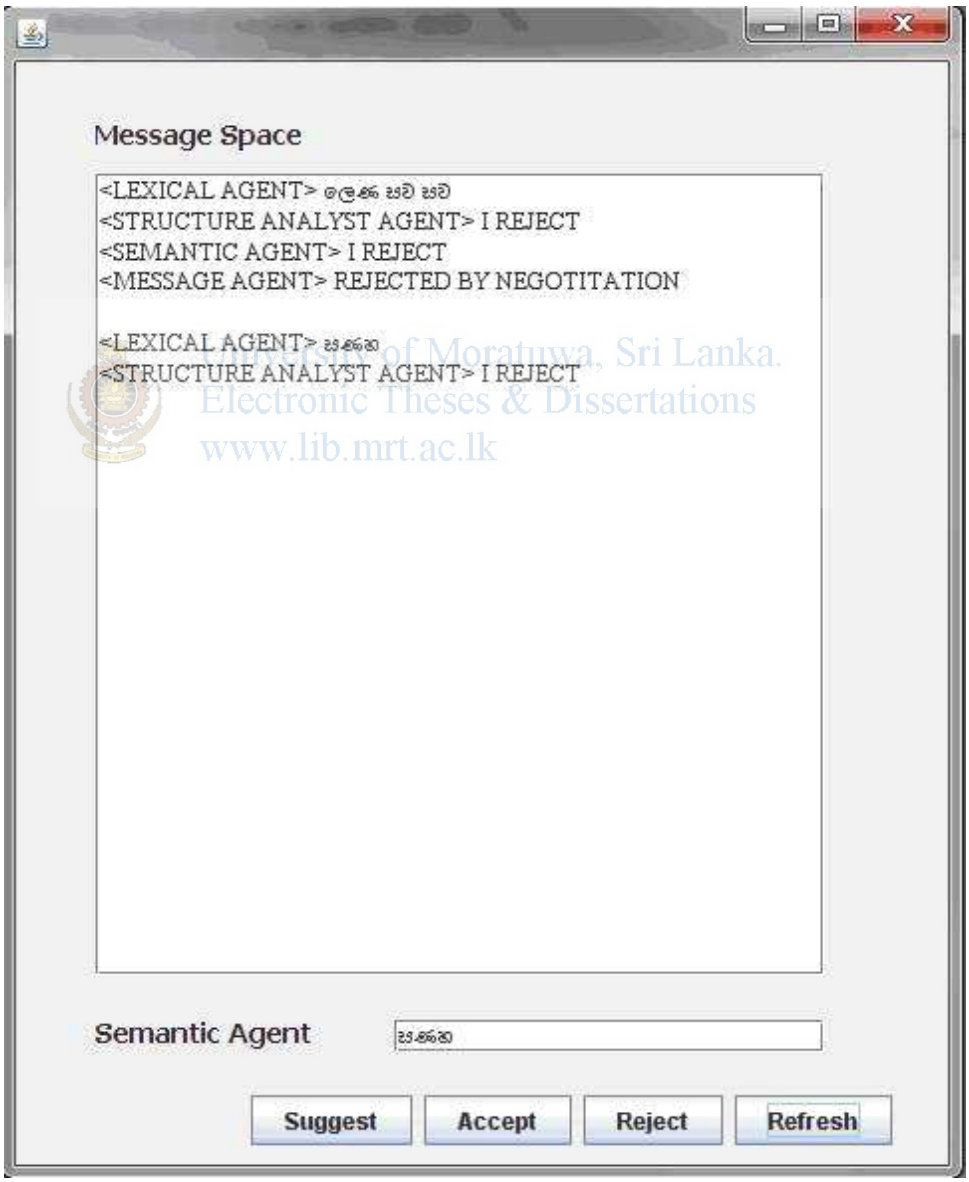

Figure A.4 : A Sentence Rejected by Agent Negotiation

Figure A.5 displays a scenario where the output sentence constructed by the lexical agent is accepted by both the structure analyst agent and the semantic agent.

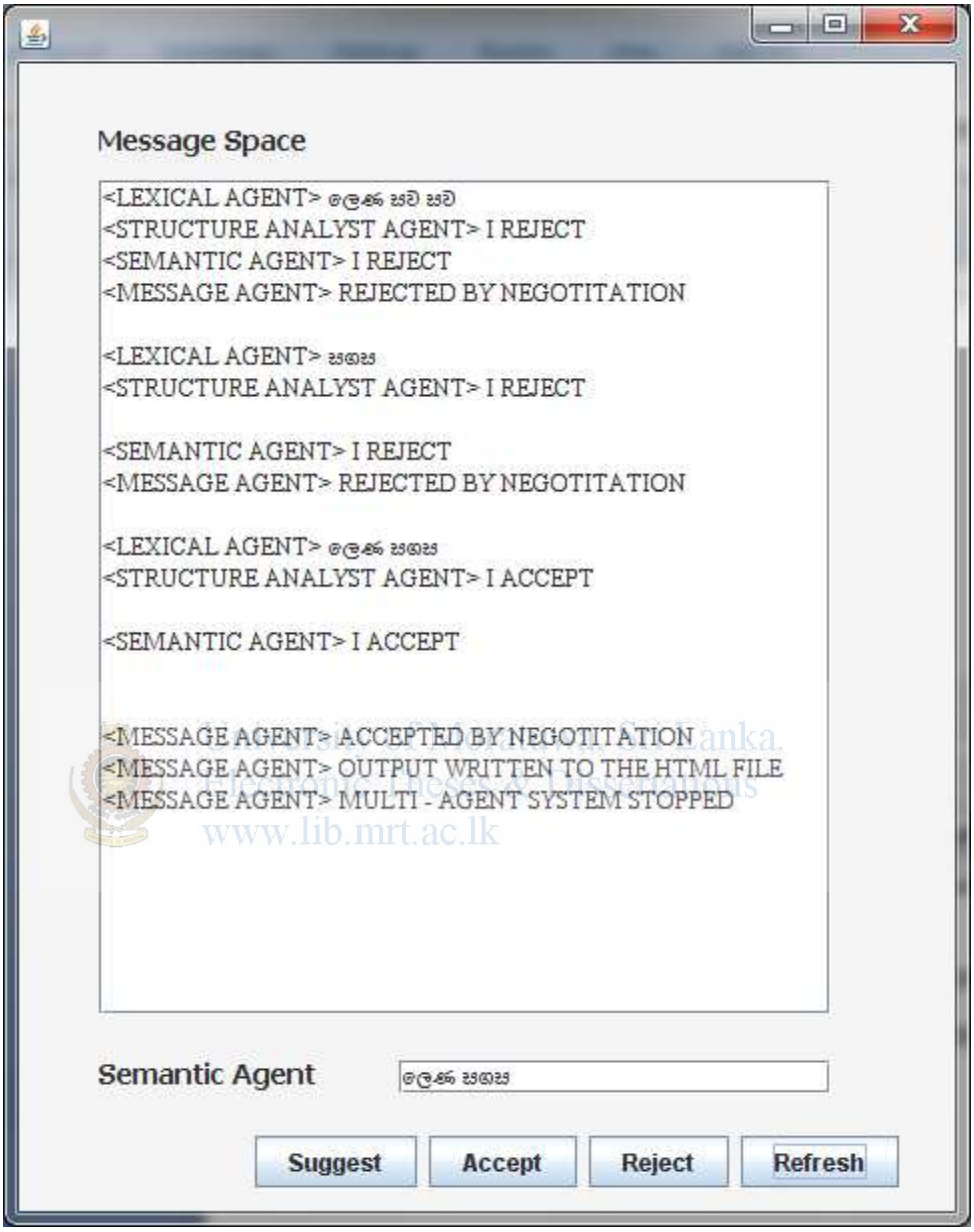

Figure A.5 : A Sentence Accepted by Agent Negotiation