FIT9133 Assignment - 2

Child Narration Visualizer

A basic language analyser to
investigate the linguistic characteristics of children
Semester 2 2018

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Contents

Introduction

Child Narration visualizer is a basic language analyser to investigate the linguistic characteristics of children with some form of language disorders. The analyser is able to perform basic statistical analysis on a number of linguistic features and also to present the analysis results using some form of visualisation

Child Narration Filter
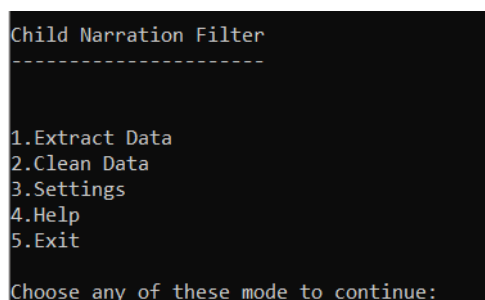
The menu for child Narration Filter will look like Fig 1


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Child Narration Filter
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1.Extract Data
2.Clean Data
3.Settings
4.Help
5.Exit

Choose any of these mode to continue:
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Fig 1

Extract Data

If this option is being chosen, then based on the data type settings chosen in settings respective data's child narration data will be extracted and saved into file with the same name as it was present in the SLI or TD directory name. The new extracted file is saved in the directory extractedDirectoryPrefix + respective SLI or TD directory name chosen in settings

Clean Data

If this option is being chosen, then based on the data type settings chosen in settings respective data's child narration data will be extracted and filtered and saved into file with the same name as it was present in the SLI or TD directory name. The new cleaned file is saved in the directory cleanedDirectoryPrefix + respective SLI or TD directory name chosen in settings

Settings

If this option is been chosen then we can see the various settings currently set. Here we can also edit the settings. The settings menu will look like fig 2

Fig 2

If you wish to edit any of the settings, then choose the respective settings number then it will display a list of options for the respective settings similar to fig 3

Fig 3

From this menu if we choose 'e' then we can edit the respective setting.
If we choose 'r' then that setting will be reset to its default value.
If we choose 'l' then it will leave the settings as it is.

So in this manner we can edit the first 4 settings where we will enter the respective path or prefix name for the respective setting.

Data Type
If we choose 'e' for this setting, then the available options will look like fig 4

Fig 4

Where SLI Only denotes that from now onwards only SLI data will be processed
Similarly, TD only denoted from now onwards only TD data will be processed
Similarly, both denotes both SLI and TD data will be processed'

SLI and TD legend label denotes the respective legend label that will be used while analysing and visualizing data.

Restore settings to default: If we choose this option then all the settings will be restored to default value
Help: If we choose this option then we can see help regarding the respective settings
Go back to the previous menu: If we choose this option then we will go back to main menu

Child Narration Analyser

The Menu for Child Narration Analyser will look like Fig 5

Fig 5

Analyse Data
If this option is being chosen, then based on the data type selected in settings SLI or TD data analysed result will be displayed. Like in the fig 6

Fig 6

Note: The no of grammatical error is found based on the count of regex [* as all grammatical error follows this pattern that is [* then the grammatical error like +m:ed or just +m

Rest of the features are same as that in the Child narration Filter app

Child Narration Visualizer

The menu for child Narration Visualizer looks like fig 7

Fig 7

Visualise Data

If we choose this option, the data will be visualised for various features based on the settings chosen like bar chart or simple plot.

Clean Data

This is same as in Child narration Filter app

Settings

If we choose this option, then the settings menu will look like Fig 8

Settings

1.SLI Files Directory Path: SLI\
2.TD Files Directory Path: TD\
3.Extracted Files Directory Prefix: Extracted-
4.Cleaned Files Directory Prefix: Cleaned-
5.Data Type: Both
6.SLI Legend Label: SLI
7.TD Legend Label: TD
8.Plot Type: Bar Plot
9.Column Name: Mean Data

10.Restore to Default Settings
11.Help
12.Go back to previous menu

Choose any of the above options to continue:

Fig 8

The first 7 settings are same as that in the Child Narration Filter app.

Plot Type
If we choose this setting, then we can choose what type of plot we need. The various options available for plot type will look like Fig 9

1.Bar Plot
2.Simple Plot
Choose any of the above options to continue:

Fig 9

Column Name
If we choose this setting, then we can choose on what columns the plot has to be drawn. Its menu will look like Fig 10

1.Show Mean Data
2.Choose Columns Manually
3.Go back to Settings
Choose any of the above options to continue:

Fig 10

Where if we choose show mean data then the graphs will be plotted for the mean data of the datatypes that we have chosen.
If we choose columns manually option, then we can choose which all columns data has to be displayed out of the sample data given. Its menu will look like Fig 11

Current Column list Selected : set()
1.Pauses Made
2.Grammatical Errors
3.Retracing Words
4.Repeated Words
5.Statements
6.Unique Words

7.Done Selecting Columns
8.Go back To Settings Menu

Choose any of the above options to continue:

Fig 11

As we keep on choosing columns it will be appended to selected list then it will look like Fig 12

Fig 12

Once you have done selecting columns you can choose the option done selecting columns to save the settings and go back to settings menu
If you choose go back to settings menu, then column name list will be restored to previous value that is the new selected columns will not be applied.
Rest of the settings are same as in Child narration Filter

sample visualised data for various settings are shown below

Data values Vs Sample Data Name For SLI

Data values Vs Sample Data Name For SLI and TD

Data values Vs Column Names For SLI and TD

Data values Vs Column Names For SLI and TD