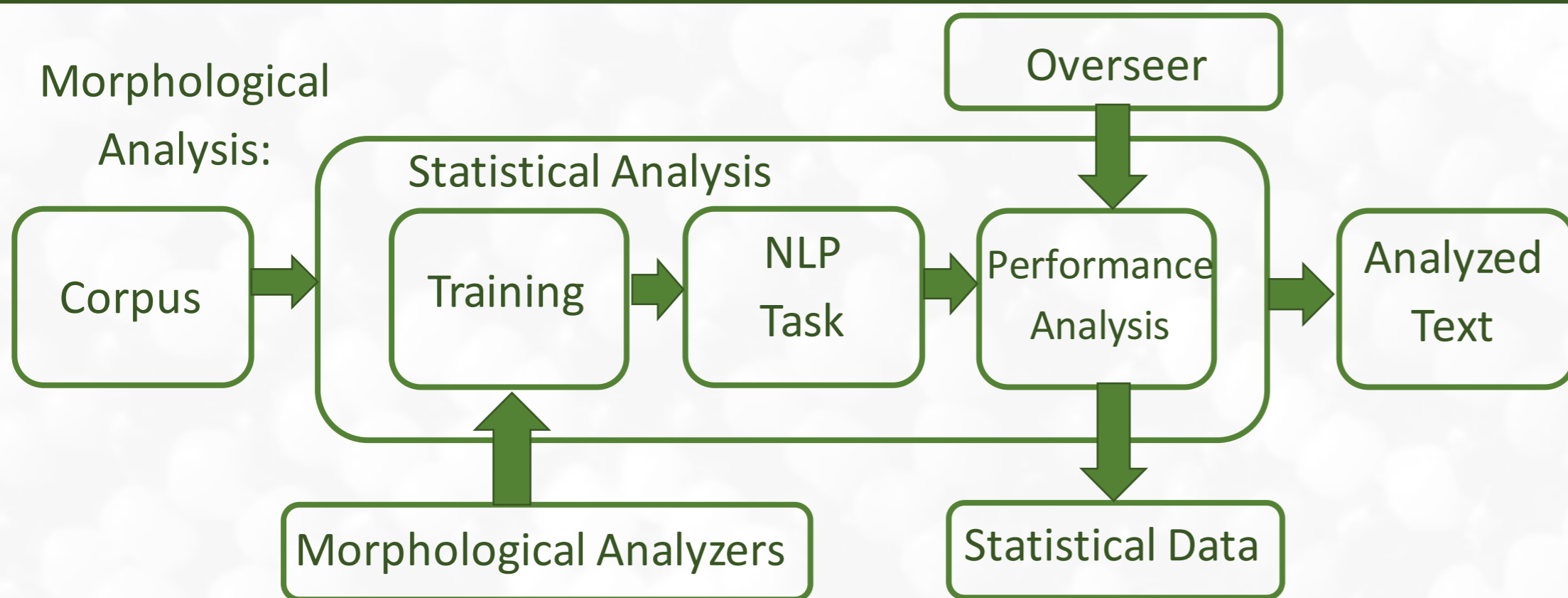


ALlex

Automated Marking of Language Learning Exercises



OBJECTIVE

To create a computer-assisted language learning platform, capable of automated question generation, difficulty evaluation and automatic grading of isiZulu language exercises.

Morphological Analysis

Seeks to select a segmentation metric for isiZulu morphological analysis algorithms through statistical analysis, that scores analyzers based on a performance metric.

Segmentation Metric: A metric by which morphological analyzers make segmentation decisions

Performance Metric: A score based on statistical achievement of a morphological analyzer

Natural Language Generation

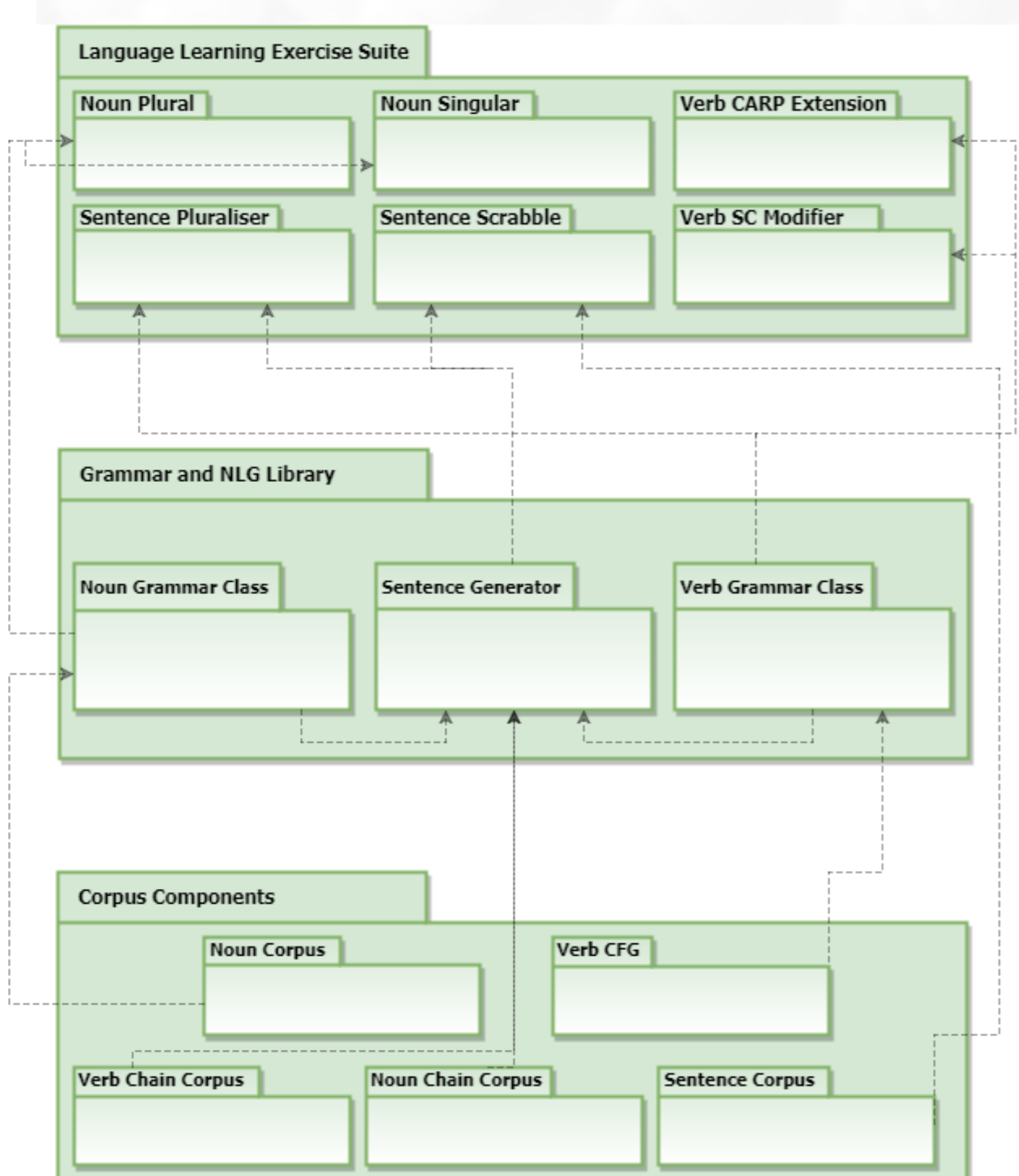
Implement a library that models the grammatical rules of isiZulu and generates natural language which can develop language learning exercises.

Grammar Library: Noun Grammar Rules, Verb Grammar Rules, Natural Language Generator
Language Exercises: Noun Pluralization, Noun Singularisation, Verb Pluralization, Verb Subject Concord Modifier, Sentence Scramble, Sentence Pluralizing

Difficulty Evaluation & Composition

Compose balanced isiZulu language learning exercises which can have its responses automatically graded and provide feedback.

Composition: Done so in accordance with Bloom's taxonomy. Effects of this was investigated.
Difficulty Evaluation: Using internal question complexity measure developed for isiZulu language learning questions



System architecture of question generation system

CONCLUSIONS

Morphological Analysis: Produced a statistical analysis of the performance of isiZulu morphological analyzers on separate analysis tasks.

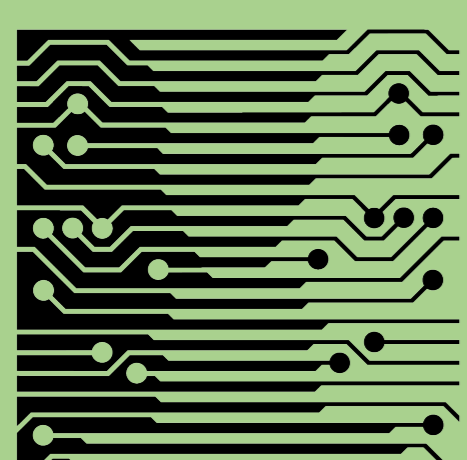
Natural Language Generation: Successful development of the isiZulu grammar and natural language generation library as well as successful use of the library to generate language learning exercises.

Difficulty Evaluation & Composition: Average score obtained for a question decreases and average question complexity increases as one progresses through the levels of Bloom's taxonomy.

Configuration Tool

Exercise

Feedback Window



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