

Automated Answer Paper Evaluation using Deep Learning & NLP

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Project Objectives

- Manual evaluation time consuming.
- Automated system preferred for fast evaluation.
- A handwriting recognition system based on a RNN architecture used for digital conversion of answer paper.
- A NLP model used for semantic evaluation of digital answer paper using provided answer key.

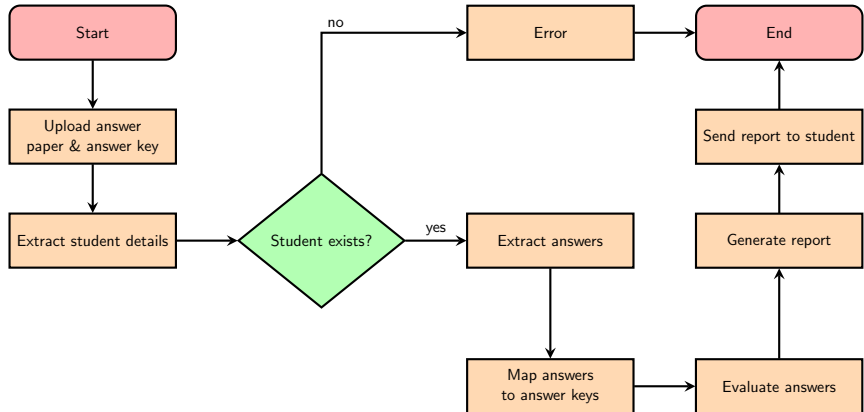
Functional Requirements

- The system must provide the teachers with a GUI to upload answer paper and the answer key.
- The system must convert the handwritten text in answer scripts to digital text.
- The system must separate answers from the recognized text and map them to each question.
- The system must perform answer paper evaluation based on the digital text extracted and the answer key.

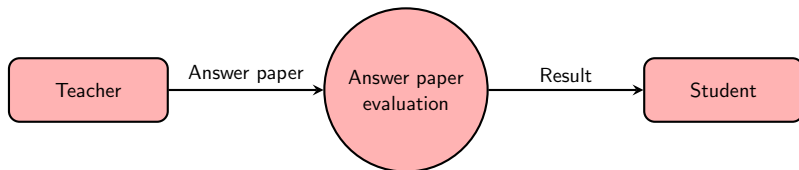
Non-Functional Requirements

- The system shall be able to perform evaluation with reasonable performance compared to manual evaluation.
- The system shall be accurate in recognizing handwriting from the answer papers.
- Apart from the initial cost, the system shall be less costly to maintain.
- The system shall be open-source.
- The system shall be usable on any platform.

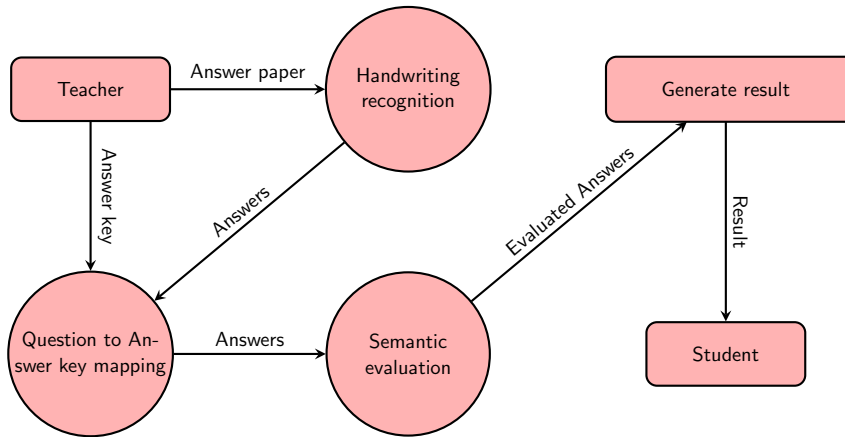
Flow Charts



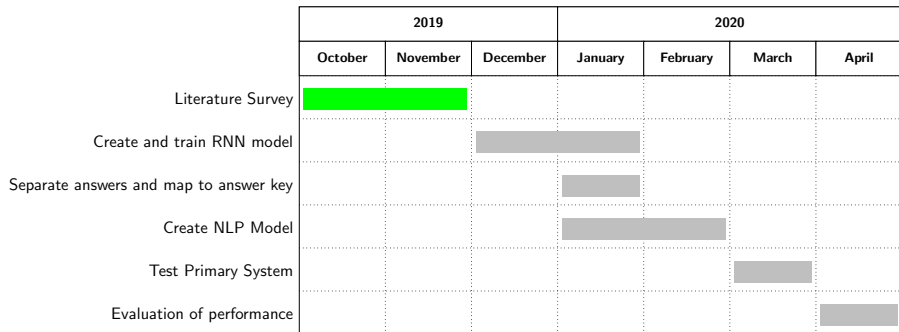
Data Flow Diagram - Level 0



Data Flow Diagram - Level 1



Work Plan - Gantt Chart



Conclusion and Future Scope

- We presented a method to recognize handwritten texts using a system based on LSTM-RNNs, model widely applied to transcribe isolated text lines, and is inspired from the recent attention-based models.
- The answers recognized are fed to a NLP model along with a the answer key to evaluate the answer paper.
- In future, we plan to provide features for sending answer paper copies to student.
- We also plan to carry out revaluation requests.

References



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Thank You