Sri Lanka Institute of Information Technology

B.Sc. (Hons) Information Technology Specializing in Data Science

Research Project - IT4010

Lelkada L L P S M

IT19001708

Logbook

May 2023

DECLARATION

I declare that this is my own work and this proposal does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any other university or Institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

Name	Student ID	Signature
Lelkada L L P S M	IT19001708	

Signature of the Cover- up Supervisor   Date

 (Mr. Jagath Wickramarathne)

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July - 2022

Week 1 03/07/2022 - 09/07/2022	Brainstorming with group members to find out research problems. Performing background research on selected topics to analyze feasibility of providing a solution
Week 2 10/07/2022 - 16/07/2022	Discussing with an educator about the educational background of hearing-impaired children Preparing topic assessment document with team members Review and revise topic assessment document with supervisor
Week 3 17/07/2022 - 23/07/2022	Research about existing NLP for ASL Research about importance of developing linguistic skills at an early age Adding more content to the topic assessment document based on the findings
Week 4 24/07/2022 - 30/07/2022	Review and revise topic assessment document with group members TAF document submission

August - 2022

Week 5 31/07/2022 - 06/08/2022	Research existing solutions to develop language skills at early stages Prepare a questionnaire for field visit
Week 6 07/08/2022 - 13/08/2022	Field visit to Ratmalana Deaf School Field visit to Ratmalana Audiology Center Meeting with co-supervisor to clarify some doubts regarding the project
Week 7 14/08/2022 - 20/08/2022	Collecting kid's story books to create demo corpus. Discussion on field visit with supervisors Research and understanding how word2vec algorithm works
Week 8 21/08/2022 - 27/08/2022	Discussion on field visit with supervisors Field visit to Wickramarachchi hearing care center
Week 9 28/08/2022 - 03/09/2022	Proposal report & proposal presentation planning with team members Progress discussion with supervisor and co-supervisor Proposal report - individual diagram finetuning with team members

September - 2022	
Week 10 04/09/2022 - 10/09/2022	Proposal report progress discussion with co-supervisor
Week 11 11/09/2022 - 17/09/2022	Field visit to Ratmalana Deaf School Finalized the individual component diagram.
Week 12 18/09/2022 - 24/09/2022	Requested permission for a field visit to CEHIC Individual component workload planning with team members Writing proposal report
Week 13 25/09/2022 - 01/10/2022	Background research for proposal report Writing proposal report

October - 2022	
Week 14 02/10/2022 - 08/10/2022	Background research for proposal report Writing proposal report Meeting with supervisor
Week 15 09/10/2022 - 15/10/2022	CEHIC visit Proposal report refinements based on findings on the visit to CEHIC. Training data cleaning
Week 16 16/10/2022 - 22/10/2022	Prepare for proposal presentation. Proposal presentation
Week 17 23/10/2022 - 29/10/2022	Word2Vec model Word2Vec model performance evaluation

November - 2022	
Week 18 30/10/2022 - 05/11/2022	Refine application flow with group members. Presenting refined application flow to supervisors. Modify application based on supervisor feedback
Week 19 06/11/2022 - 12/11/2022	Testing GloVe model for word Evaluate glove model
Week 20 13/11/2022 - 19/11/2022	Model performance comparison with Glove vs Word2Vec
Week 21 20/11/2022 - 26/11/2022	Research on how to improve model performance in GloVe and Word2Vec
Week 22 27/11/2022 - 03/12/2022	Research alternative methods for generating words. Field visits to CEHIC

December - 2022	
Week 23 04/12/2022 - 10/12/2022	Integration of word generation model with image to text model in backend Create a script for extracting text data from pdf children story books. Clean extracted text data set from pdf children's storybooks
Week 24 11/12/2022 - 17/12/2022	Find publicly available children's storybook datasets. Retrain word generation model with new datasets. Evaluate performance
Week 25 18/12/2022 - 24/12/2022	Research how to utilize clustering techniques to improve performance in existing word generation models.
Week 26 25/12/2022 - 31/12/2022	Develop word clustering method to cluster training dataset words. Model change of word2vec to BERT for word generation Present current progress to supervisors
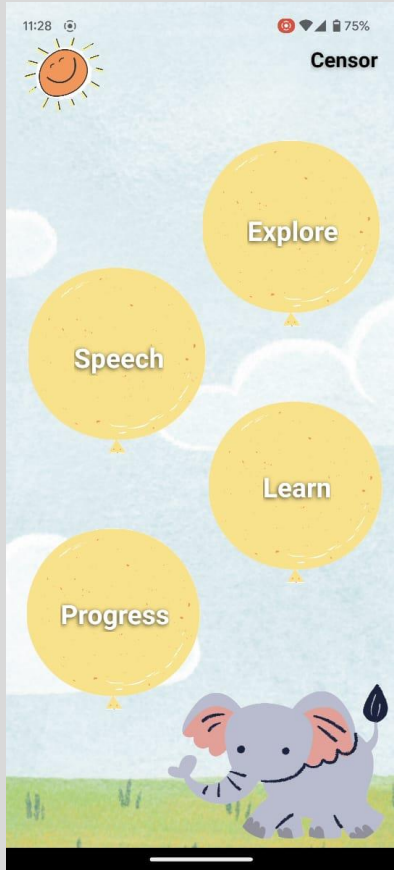
January - 2023	
Week 27 01/01/2023 - 07/01/2023	Develop BERT embedding model for word generation and integrate word clustering. Evaluate overall performance of word generation process. Research how to personalize image generation with Style GANs
Week 28 08/01/2023 - 14/01/2023	Develop style transfer GAN for generation of Integration of image generation process with word generation process
Week 29 15/01/2023 - 21/01/2023	Include Database connection to the word. Minor modifications win word generation process
Week 30 22/01/2023 - 28/01/2023	Field visit to CEHIC Include new data to the training dataset and retrain the models

Week 31 29/01/2023 - 04/02/2023	Prepare status document 1

February - 2023

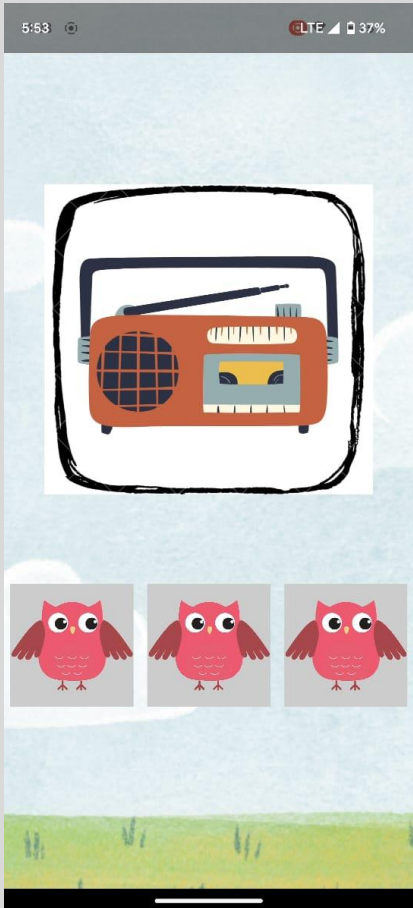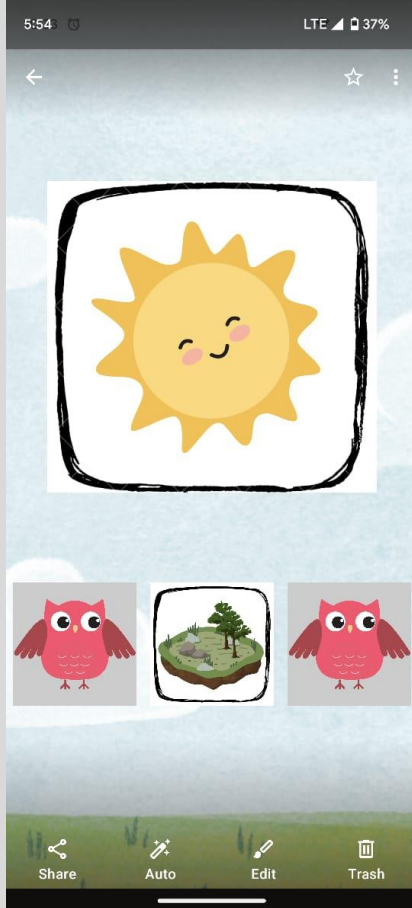|	
Week 32 05/02/2023 - 11/02/2023	Preparation for progress presentation 1 Progress presentation 1 Discuss panel feedback with supervisors.
Week 33 12/02/2023 - 18/02/2023	Plan on how to include features that were suggested by panel during progress presentation 1. Background research on how to develop new features
Week 34 19/02/2023 - 25/02/2023	Evaluate new features with supervisors. Develop new features
Week 35 26/02/2023 - 04/03/2023	Refinements in existing models Refine new features. Test the entire flow performance

March - 2023	
Week 36 05/03/2023 - 11/03/2023	Find datasets for violent, abusive language for content filtration process. Develop blacklist of the content filtration process Prepare research paper draft
Week 37 12/03/2023 - 18/03/2023	Application UI design Application UI development Content filtration Research paper review with supervisor
Week 38 19/03/2023 - 25/03/2023	Home screen UI development Content filtration process whitelist development Connect database for whitelist and backlist of the content filtration process. Research paper refinements
Week 39 26/03/2023 - 01/04/2023	Word generation game 1 development in React Native Status document 2 Research paper refinement with supervisor

April - 2023	
Week 40 02/04/2023 - 08/04/2023	Word generation game 1 UI debug Integrate word generation with object exploration component. Submit research paper to a conference
Week 41 09/04/2023 - 15/04/2023	Word generation game UI 2 development Word generation Game UI 2 debugging Research paper refinements Submit research paper to a conference.
Week 42 16/04/2023 - 22/04/2023	Develop demo UI for content filtration. Preparation for progress presentation 2. Progress presentation 2 Submit research paper to a conference
Week 43 23/04/2023 - 29/04/2023	Overall application UI improvements Submit research paper to a conference. Final thesis draft preparation

May - 2023	
Week 44 **30/04/2023 - 06/05/2023**	Final thesis proofread and refinements. Website development App UX improvements
Week 45 **07/05/2023 - 13/05/2023**	App UX improvements Logbook preparation Prepare final presentation. Website development

Gantt Chart
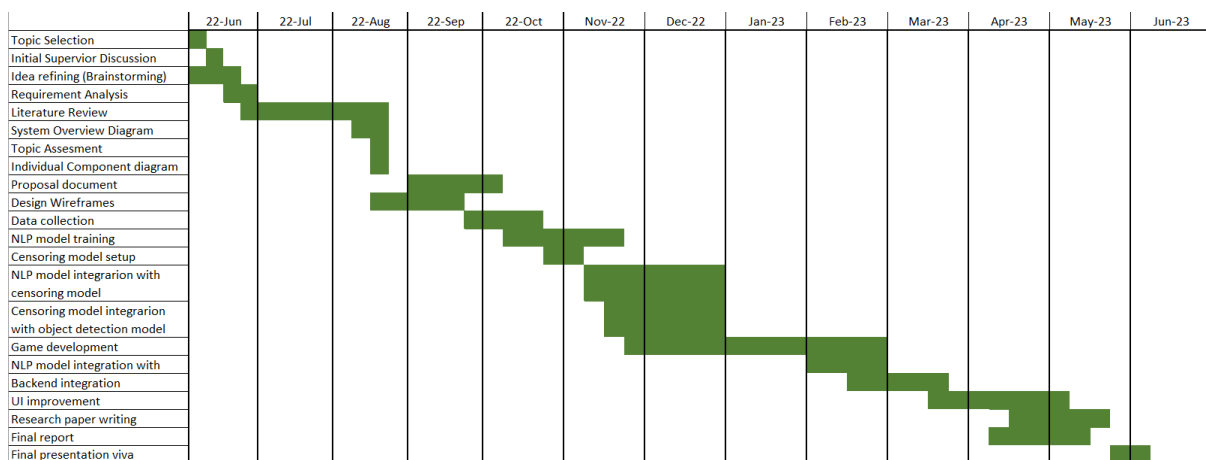
GitLab Commit History

it19001708

155 commits (it19001708@my.sliit.lk)

Commits Avg: 783m · Max: 7

master   22_23-j-18   Filter by commit message

19 Apr, 2023 6 commits

remove cache files   e8bd9aa3
Lelkada L L P S M authored 3 weeks ago

Merge branch 'it19001708' into 'master' ...   8fa2389c
Lelkada L L P S M authored 3 weeks ago

game changes   aa46d8d4
Lelkada L L P S M authored 3 weeks ago

card game images, audio from urls   3cfe670f
Lelkada L L P S M authored 3 weeks ago

backend api call for flip card contents   979b9747
Lelkada L L P S M authored 3 weeks ago

word generation save mongo   b5c46f5d
Lelkada L L P S M authored 3 weeks ago

18 Apr, 2023 13 commits

Add new file   6807c444
Lelkada L L P S M authored 3 weeks ago

removed unnecassary files   93d2cf97
Lelkada L L P S M authored 3 weeks ago

Merge branch 'it19001708_p' into 'master' ...   91b0cd14