

Sri Lanka Institute of Information Technology

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

Research Project - IT4010




B.W.E.K. Senarathna – IT19142838

Log book

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
B.W.E.K. Senarathna	I19142838	

Signature of the Supervisor

Date

(Mr. Jagath Wickramarathne)


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July 2022

Week 1: July 4, 2022 - July 10, 2022	Initial meeting with the supervisor and pitching the idea with the expected project scope and implementation plan
Week 2: July 11, 2022 - July 17, 2022	Identifying approaches to the project, preparing the topic assessment form with the supervision of the supervisor
Week 3: July 18, 2022 - July 24, 2022	Drawing the complete System Overview diagram of the proposed research
Week 4: July 25, 2022 - July 31, 2022	Drawing the component overview diagrams for each components

August 2022

Week 1: Aug 1, 2022 - Aug 7, 2022	<p>Visiting the Deaf School in Rathmalana to gather information about current teaching techniques for hearing impaired students.</p> 
Week 2: Aug 8, 2022 - Aug 14, 2022	Analyzed the major finding from the visit to the Rathmalana Deaf School. Discussing about the perspectives which can be initiated within the project.
Week 3: Aug 15, 2022 - Aug 21, 2022	Discussion with the supervisors regarding the field visit.
Week 4: Aug 22, 2022 - Aug 28, 2022	Creating the project with the inputs from the supervisor and the field visit.
Week 5: Aug 29, 2022 - Sept 4, 2022	Project charter submission. With the finalized project.


September 2022	
Week 2: Sept 5, 2022 - Sept 11, 2022	Discussions within the team to fine tune the tech stack of the application development and research domain.
Week 3: Sept 12,2022 - Sept 18,2022	Discussions within the team to fine tune the tech stack of the application development and research domain.
Week 4: Sept 19,2022 - Sept 25,2022	Gathering information to write the proposal report and to get an understanding of existing solutions and research in the domain.
Week 5: Sept 26, 2022 - Oct 2, 2022	Analyzing the previous research in the domain for the literature review

October 2022	
Week 1: Oct 3, 2022 - Oct 9, 2022	Writing the project proposal report.
Week 2: Oct 10, 2022 - Oct 16, 2022	Submission of the proposal report of the project.
Week 3: Oct 17, 2022 - Oct 23, 2022	Proposal presentation of the project. Getting feedback from the panel and planning the research accordingly
Week 4: Oct 24, 2022 - Oct 30, 2022	Working on the updates proposed to expand the component scope of mine in the research.

November 2022

<p>Week 1: Oct 31, 2022 - Nov 6, 2022</p>	<p>Visiting CEHIC for the first time to get understanding about the current teaching techniques. Visiting for the 2nd time to get hands on experience on learning materials used in the organization.</p> 
<p>Week 2: Nov 7, 2022 - Nov 13, 2022</p>	<p>Providing updates to the supervisor regarding the visit to the CEHIC and discussed about the change of the scope of the research accordingly.</p>
<p>Week 3: Nov 14, 2022 - Nov 20, 2022</p>	<p>Involved in discussions within the team and planned for the scope of research and implementation of the project.</p>
<p>Week 4: Nov 21, 2022 - Nov 27, 2022</p>	<p>Started implementations of the project. Started learning Unity to create the gaming environment</p>

December 2022

Week 1: Nov 28, 2022 - Dec 4, 2022	<p>Created a simple Drag and drop Game using unity</p> 
Week 2: Dec 5, 2022 - Dec 11, 2022	<p>Researched on the compatibility of running object detection models with Unity.</p>
Week 3: Dec 12, 2022 - Dec 18, 2022	<p>Continued the research on running object detection models in Unity. Found out that YOLOv2 is the only supported version of object detection model which is compatible with unity.</p>
Week 4: Dec19, 2022 - Dec 25, 2022	<p>Researched on alternative approaches in Unity to tackle object detection.</p>
Week 5: Dec 26, 2022 - Jan 1, 2023	<p>Started working on the one-shot learning model for object Classification.</p>


January 2023

Week 1: Jan 2, 2023 – Jan 8, 2023	<p>Testing One-shot learning models and notice the background plays and important role regarding the accuracy of the model.</p>
Week 2: Jan 9, 2023 - Jan 15, 2023	<p>Progress updating to the supervisor on the current status of the project. And working on the updates received from him</p>
Week 3: Jan 16, 2023 - Jan 22, 2023	<p>Testing on the One shot learning method to output best model for the object Classification and planned the way of integration of the model with the YOLOv5</p>
Week 4: Jan 23, 2023 - Jan 29, 2023	<p>Started working on an algorithm to reduce the complexity of the objects detected with in the frame.</p>

February 2023

Week 5: Jan30, 2023 - Feb 5, 2023	Progress presentation 1. Presenting the 50% completion of the project to the panel
Week 2: Feb 6, 2023 - Feb 12, 2023	Working on the changes as proposed in the progress presentation 1. Improved the object detection in the application
Week 3: Feb 13, 2023 - Feb 19, 2023	Tested out the object detection models in the mobile environment. The YOLOv2, YOLOv3 showed very less performance in the mobile environment. YOLOv5 showed optimum performance in mobile environment.
Week 4: Feb 20, 2023 - Feb 26, 2023	Started integrating the object detection model to run Realtime in the mobile. Had issues in integrating it with the React application

March 2023

Week 1: Feb 27, 2023 - March 5, 2023	Writing the research paper and submission of the research paper
Week 2: March 6, 2023 - March 12, 2023	Improved the Siamese one-shot learning model, created the new UI for the application 
Week 3: March 13, 2023 - March 19, 2023	Improved the created model to reduce the complexity in objects tracked within a single frame.
Week 4: March 20, 2023 - March 26, 2023	Start finding conferences to publish the research paper.

April 2023

Week 1: March 27, 2023 - April 2, 2023	Updating the research paper based on the inputs from the supervisor.
Week 2: April 3, 2023 - April 9, 2023	Research paper review discussion with the co-supervisor. And working on the updates give by the supervisor
Week 3: April 10, 2023 - April 16, 2023	Preparing for the progress presentation 2 and completing the remaining parts of the application as an integrated application
Week 4: April 17, 2023 - April 23, 2023	Progress Presentation 2. Presenting the 90% completion of the project.
Week 5: April 24, 2023 - April 30, 2023	Start finalizing the final report of the research

May 2023

Week 1: May 1, 2023 - May 7, 2023	Submitting the draft of the Final Report.
Week 2: May 8, 2023 - May 14, 2023	Submission of the status document 2 and the final logbook.