Mini Project Progress Journal

2024

DEPARTMENT OF SOFTWARE ENGINEERING
FACULTY OF COMPUTING
SABARAGAMUWA UNIVERSITY OF SRI LANKA

Compiled and Published by:
Department of Software Engineering
Faculty of Computing
Sabaragamuwa University of Sri Lanka
Belihuloya, 70140, Sri Lanka

The information in this document was correct and up to date at the time of publication. The Department reserves the right to modify any statement if necessary by the departmental examination/assessment panel.

Version 2.0 January 2023

Contents

Introduction to Mini Projects

Overview

Mini Project (SE 5104) is a compulsory course module to complete the Bachelor of Science Honours Degree Programme in Information Systems offered by the Department of Software Engineering (DSE), Faculty of Computing, Sabaragamuwa University of Sri Lanka. Every Student should have to complete this Mini Project in their Semester V as an individual project. This course will enable students to carry out a project work to implement a solution for real world IT problem, under the supervision of an internal supervisor and a mentor provided by the Department. The Internal Supervisor are responsible to help students if they have any internal matters and they should monitor the interaction between the students and mentors and evaluate the progress of the students. The mentors should aware the students about the emerging technologies and current trends in the Software Industry and guide the students to apply those technologies with their projects. Also Mentors should monitor the progress of the student continuously and all the students are required to submit a Project Progress Journal once in three weeks to the mentor and the Internal Supervisor. Mentors and Internal Supervisors can schedule meetings with the students to assess the progress as well as to discuss about the project work. A student is responsible to update the progress of the project and address the feedbacks given by the mentors throughout the semester and complete the final software product before the end of the semester by covering all the requirements and the scope defined initially. The Mini Project is evaluated by the internal supervisors and a same panel of evaluators in the Proposal Presentation, Prototype Demonstration I, and in the Final Evaluation.

The duration for the Mini Project is 15 Weeks (One Semester) and it weighted 2 credits. Upon successful completion of this course, the student will be able to identify the requirements for the real-world IT problems, study & enhance software/ hardware skills, demonstrate & build the project successfully by hardware requirements, coding and emulating & testing Report & present the findings of the study conducted in the preferred domain.

.

Vision

Our vision is to guide the Software Engineering (SE) Students to achieve their individual goals and to lead the next generation of IT professionals in advancing Information Technology and Business Process Management (IT/BPM) industry.

Mission

Our mission is to produce computing graduates to design and develop quality software solutions, work effectively within challenging environments and being good professionals. Since the field of computing has rapidly grown and diversified, we have to create computing graduates who is with high-quality standards, broad-based education and experiential learning in computing, create knowledge through pioneering scholarship and impactful research, enrich our students' development andleadership skills, and nurture the inherent innovation of our students.

Objectives

Objectives of the Mini Project work:

- Offer students a glimpse into real world problems and challenges that need IT based solutions
- Enable students to create very precise specifications of the IT solution to be designed.
- Introduce students to the vast array of literature available of the various research challenges in the field of IT
- Create awareness among the students of the characteristics of several domain areas where IT can be effectively used.
- Enable students to use all concepts of IT in creating a solution for a problem
- Improve the team building, communication and management skills of the students.
- Helps in exploring career opportunities in their areas of interest.
- Gives an insight into the working of the real organizations/companies.
- Develop students' ability to apply knowledge and techniques learnt in theoretical classes to develop software products for real world problems.
- Gives an insight of a real working environment of an organization to the students
- Assist students in exploring career opportunities in their areas of interest.
- Develop students' reporting, presenting and demonstrating ability.

Intended Learning Outcomes

Upon successful completion of this course, the student will be able to:

ILO1 Discover potential research/Development areas in the field of IT
ILO2 Conduct a survey of several available literature in the preferred field of study.

ILO3 Compare and contrast the several existing solutions for research/development challenge

ILO4 Demonstrate an ability to work in teams and manage the conduct of the research study or Development project

ILO5 Formulate and propose a plan for creating a solution for the research/development plan identified

ILO6 To report and present the findings of the study conducted in the preferred domain

Introduction to Mini Project Progress Journal

Mini Project Progress Journal is

- A way to document all Mini Project activities throughout the semester.
- An important mechanism for the internal supervisors and mentor to evaluate and assess a student's attitude and ability and also to monitor the status of the student's project throughout the semester.

Students are

- Required to write clearly and honestly all activities performed and then to summarize their work every week.
- Highly encourage to maintain a separate file/folder to compile all their findings/ printouts/ datasheets as a complement to this progress journal.

Reminder to students

- This journal must be presented to your Mentor and the Internal Supervisor once in three weeks.
- All activities conducted must be recorded at the activities section in the Project Progress Journal. Signatures of relevant persons can also be recorded as proof of your claim at the activities section (optional but highly recommended).
- This journal must be submitted to your internal supervisor and mentor along with your Final Report to be graded by your internal supervisor and the mentor at the required date (Refer to Mini Project Guidelines).

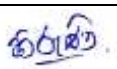
Student Information

Full Name	Gamaralalage Hiruni Tharuka Wijerathna	
Registration No	20APSE4850	
Email	ghtwijerathna@std.appsc.sab.ac.lk	
Telephone Number	070 2555944	
Internal Supervisors' Details	**Name**	Mr. Sathsara Weerakkodi
	Profession	Lecturer (Temp.)
	Contact Details	sathsara@foc.sab.ac.lk
Mentors' Details	**Name**	Mr. S. A. H. Hansaka
	Profession	Software Engineer
	Contact Details	Hansakahiran97@gmail.com
Mentors' Details	**Name**	
	Profession	
	Contact Details	
Project Title	CropCare - Crop Disease Detection App	
Project Description	CropCare is a mobile application designed to assist farmers in detecting crop diseases early, focusing initially on potato, tomato, and bean crops. Utilizing advanced Convolutional Neural Network (CNN) models and real-time diagnosis capabilities, the app provides accurate and immediate feedback on crop health. Built with a user-friendly interface using Flutter for cross-platform compatibility, CropCare ensures accessibility for farmers of all technical skill levels. The project aims to reduce crop losses, improve agricultural productivity, and enhance user satisfaction by offering a scalable, innovative solution for early disease detection in crops.	

Week 1

Duration	**Start Date**	17/06/2024	**End Date**	23/06/2024
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
17/06/2024	Meeting with the mentor	To gain more ideas about design principles	None	None
18/06/2024	Meeting with the group members	To share the knowledge gained between members	None	None
19/06/2024	Requirements gathering for the design	To understand the necessary features and specifications	None	None
20/06/2024	Analyzing UI designs of existing applications	Understand existing designs	None	None
21/06/2024	Meeting with the group members	Discuss more about designing features	None	None
22/06/2024	Discuss pros and cons of designs	Evaluate design options with team	None	None
23/06/2024	Started designing	For the UI.	None	None
Summary for the week	Gained insights on design principles, shared knowledge among team members, and started designing.			
Task for the next week	Continue UI designs and finalize the basic structure of the application.			
Remarks				
Signature of the Student			**Date**	23/06/2024
Signature of the Mentor			**Date**	23/06/2024

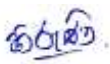
Week 2

Duration	**Start Date**	24/06/2024	**End Date**	30/06/2024
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
24/06/2024	Meeting with the mentor	Report the current progress of the project	None	None
25/06/2024	Meeting with the group members	Start to work and resubmit the proposal	None	None
26/06/2024	Finalize the proposal	Complete the proposal for submission	None	None
27/06/2024	Meeting with the internal supervisor	Get further adjustments on the proposal	None	None
28/06/2024	Resubmit the proposal		None	None
29/06/2024	Finalize the UI	To get an idea about the app interface.	None	None
30/06/2024	Meeting with the mentor.	To show the mentor the final interface of the app.	None	None
Summary for the week	Planned and finalized the UI design structure and resubmitted the proposal			
Task for the next week	Learning about technologies.			
Remarks				
Signature of the Student			**Date**	30/06/2024
Signature of the Mentor			**Date**	30/06/2024

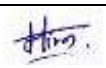
Week 3

Duration	**Start Date**	01/07/2024	**End Date**	07/07/2024
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
01/07/2024	Meeting with mentor	Discuss future work	None	None
02/07/2024	Learn about Anaconda	Get familiar with the Anaconda platform	Installation issues due to system compatibility	Refer to official documentation and community forums for troubleshooting
03/07/2024	Learn about TensorFlow	Understand the basics of TensorFlow	Initial difficulty in setting up the environment	Follow tutorials and practical examples to ease learning
04/07/2024	Learn about CNN	Understand the basics of Convolutional Neural Networks	Finding it challenging to grasp complex concepts	Break down concepts into manageable parts
05/07/2024	Learn about CNN	Deepen understanding of CNN	Difficulty in understanding and implementing advanced CNN techniques	Review additional resources and practice with sample projects
06/07/2024	Learn about CNN	Deepen understanding of CNN	Implementation challenges	Seek help from mentor
07/07/2024	Meeting with the group members	Share the knowledge gained between members	None	None
Summary for the week	Started learning necessary tools for model development.			
Task for the next week	Continue learning about CNN and start creating the model.			
Remarks				
Signature of the Student			**Date**	07/07/2024
Signature of the Mentor			**Date**	07/07/2024

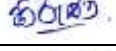
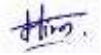
Week 4

Duration	**Start Date**	08/07/2024	**End Date**	14/07/2024
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
08/07/2024	Start to create a model for tomato using CNN	Apply CNN knowledge to a practical project	None	None
09/07/2024	Data Preprocessing	prepare data for the CNN model	None	None
10/07/2024	Model Training	Train the CNN model with the preprocessed data	None	None
11/07/2024	Model Evaluation	Evaluate the performance of the trained model	None	None
12/07/2024	Meeting with the group members	Share the knowledge gained between members	None	None
13/07/2024	Meeting with the group members	Share the knowledge gained between members	None	None
14/07/2024	Meeting with the mentor	Review progress and plan next steps	None	None
Summary for the week	Focused on learning CNN, started, and finalized the model for tomato.			
Task for the next week	Train the model			
Remarks				
Signature of the Student			**Date**	14/07/2024
Signature of the Mentor			**Date**	14/07/2024

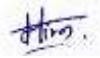
Week 5

Duration	**Start Date**	15/07/2024	**End Date**	21/07/2024
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
15/07/2024	Meeting with the mentor	Review progress of the tomato CNN model and discuss future steps for potato , bean and anomaly models	None	None
16/07/2024	Model Training	Retrain the CNN model for higher accuracy	Issues in Accuracy	None
17/07/2024	Model Training	Retrain the CNN model for higher accuracy	Issues in Accuracy	None
18/07/2024	Model Training	Retrain the CNN model for higher accuracy	Issues in Accuracy	None
19/07/2024	Model Training	Retrain the CNN model for higher accuracy	None	None
20/07/2024	Meeting with the group members	Share the knowledge gained between members	None	None
21/07/2024	Meeting with the mentor	Review progress and plan next steps	None	None
Summary for the week	Model retraining and debugging			
Task for the next week	Achieve more than 90% model accuracy			
Remarks				
Signature of the Student			**Date**	21/07/2024
Signature of the Mentor			**Date**	21/07/2024

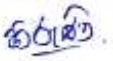
Week 6

Duration	**Start Date**	22/07/2024	**End Date**	28/07/2024
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
22/07/2024	Model Training	Retrain the CNN model for higher accuracy	None	None
23/07/2024	Meeting with the mentor	Review progress	None	None
24/07/2024	Model Training	Retrain the CNN model for higher accuracy	Issues in Accuracy	None
25/07/2024	Meeting with the group members	A discussion on the status of each other's model training	None	None
26/07/2024	Model Training	Retrain the CNN model for higher accuracy	None	None
27/07/2024	Meeting with the mentor	Review progress	None	None
28/07/2024	Model Training	Retrain the CNN model for higher accuracy	None	None
Summary for the week	Model retraining and debugging			
Task for the next week	Achieve more than 90% model accuracy through continued training and optimization.			
Remarks				
Signature of the Student			**Date**	
Signature of the Mentor			**Date**	

Week 7

Duration	**Start Date**	29/07/2024	**End Date**	04/08/2024
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
29/07/2024	Meeting with the mentor	Review progress	None	None
30/07/2024	Continue model training	Retrain the CNN model for higher accuracy	None	None
31/07/2024	Model Training	Further optimize to achieve >90% accuracy	None	None
01/08/2024	Meeting with mentor	Discuss achieving target accuracy	None	None
02/08/2024	Finalize model training	Confirm accuracy >90%	None	None
03/08/2024	Learn flutter	Understand basics of Flutter, set up environment, and build a simple app	None	None
04/08/2024	Meeting with the group members	Share the knowledge gained between members	None	None
Summary for the week	Achieved over 90% model accuracy through continuous training and optimization.			
Task for the next week	Learn flutter			
Remarks				
Signature of the Student			**Date**	
Signature of the Mentor			**Date**	

Week 8

Duration	**Start Date**	05/08/2024	**End Date**	11/08/2024
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
05/08/2024	None	None	None	None
06/08/2024	Meeting with the mentor	Discuss API creation steps	None	None
07/08/2024	Learn flutter	Understand basics of Flutter, set up environment, and build a simple app	None	None
08/08/2024	None	None	None	None
09/08/2024	Learn flutter	Understand basics of Flutter, set up environment, and build a simple app	None	None
10/08/2024	Meeting with the group members	Share the knowledge gained between members	None	None
11/08/2024	Prepare for frontend development	Plan frontend structure and integration	None	None
Summary for the week	Learn flutter			
Task for the next week	Start developing the frontend.			
Remarks				
Signature of the Student			**Date**	
Signature of the Mentor			**Date**	

Week 9

Duration	**Start Date**		**End Date**	
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
Summary for the week				
Task for the next week				
Remarks				
Signature of the Student			**Date**	
Signature of the Mentor			**Date**	

Week 10

Duration	**Start Date**		**End Date**	
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
Summary for the week				
Task for the next week				
Remarks				
Signature of the Student			**Date**	
Signature of the Mentor			**Date**	

Week 11

Duration	**Start Date**		**End Date**	
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
Summary for the week				
Task for the next week				
Remarks				
Signature of the Student			**Date**	
Signature of the Mentor			**Date**	

Week 12

Duration	**Start Date**		**End Date**	
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
Summary for the week				
Task for the next week				
Remarks				
Signature of the Student			**Date**	
Signature of the Mentor			**Date**	

Week 13

Duration	**Start Date**		**End Date**	
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
Summary for the week				
Task for the next week				
Remarks				
Signature of the Student			**Date**	
Signature of the Mentor			**Date**	

Week 14

Duration	**Start Date**		**End Date**	
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
Summary for the week				
Task for the next week				
Remarks				
Signature of the Student			**Date**	
Signature of the Mentor			**Date**	

Week 15

Duration	**Start Date**		**End Date**	
Date	**Task Completed**	**Objectives of the tasks**	**Problems**	**Solutions**
Summary for the week				
Task for the next week				
Remarks				
Signature of the Student			**Date**	
Signature of the Mentor			**Date**	

Mentor/(s) Approval for the Final Submission

Comments from the Mentor	
Signature of the Mentor	
Date	

Internal Supervisor/(s) Approval for the Final Submission

Comments from the Mentor	
Signature of the Internal Supervisor	
Date	

Any other Remarks

Department of Software Engineering
Faculty of Computing
Sabaragamuwa University of Sri Lanka
Belihuloya, 70140, Sri Lanka