Software Project Management Plan (SPMP) for Interpreting Soil Moisture Sensor Data to Provide Irrigation Recommendations to South Florida Users

Raulie Raulerson

Version 1.5

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1. Introduction

1.1 Project Overview

Having an adequate water supply is an important issue that all Floridians will have to address in the near future. One new technology that is an innovative tool for conserving water is the soil moisture sensor (SMS). This technology has the potential to significantly reduce a user's water usage, when irrigating, by allowing accurate measurement of the moisture content of the soil, how deep the water content has permeated, the soil's temperature, and even the soil's electrical conductivity (EC). One of the biggest challenges that threatens the use of this tool is the difficulty of interpreting the data produced by these sensors. This affects both agricultural producers and savvy urbanites.

This project's focus will be on the interpretation and analysis of the data provided by the soil moisture sensor(s) and other site-specific monitoring devices (i.e., weather stations). The project will utilize a recurrent neural network (RNN) to analyze input data from these sensors, and other devices, to provide a recommendation to the user about how best to operate their irrigation system. More specifically, this project will entail gathering and defining the requirements for this software system, completing the design for the system, and implementing the system.

1.2 Project Deliverables

The following deliverables will be given to the client before the completion of this project:

Deliverable 1 – Project Definition Report
Deliverable 2 – Progress Report 1 – Both Semesters
Deliverable 3 – Software Budget and Detailed Timeline Spreadsheet
Deliverable 4 – Software Project Management Plan
Deliverable 5 – Risk Management Document
Deliverable 6 – Risk Matrix
Deliverable 7 – Progress Report 2 – Both Semesters
Deliverable 8 – Software Requirements Specification
Deliverable 9 – Software Design Description
Deliverable 10 – PowerPoint Presentation – Both Semesters
Deliverable 11 – YouTube Presentation – Both Semesters
Deliverable 12 – User Interface Wireframe
Deliverable 13 – Project Code
Deliverable 14 – Software Testing Document
Deliverable 15 – User's Manual

1.3 Evolution of the SPMP

This document will continue to change throughout the course of this project. It will be updated biweekly to reflect changes to any referenced documents and any changes in the project management plan.

Version	Date	Author	Changes
1.0	7/8/2017	Raulie Raulerson	Initial version
1.1	7/21/2017	Raulie Raulerson	Added sections 2-5
1.2	7/22/2017	Raulie Raulerson	Added Appendix A

1.4	7/24/2017	Raulie Raulerson	Revised risk management section (3.3)
1.5	12/4/2017	Raulie Raulerson	Revised entire document

1.4 References

1.4.1 Project Definition Report

Version	1.2
Date	10/5/2017
Author	Raulie Raulerson

1.4.2 Software Requirements Specification (SRS)

Version	1.7
Date	12/4/2017
Author	Raulie Raulerson

1.4.3 Software Design Description (SDD)

Version	1.3
Date	12/5/2017
Author	Raulie Raulerson

1.4.4 Risk Management Document

Version	1.5
Date	12/4/2017
Author	Raulie Raulerson

Code Conventions for the Java Programming Language. (1999, April 20). Retrieved July 22, 2017, from http://www.oracle.com/technetwork/java/codeconvtoc-136057.html

Pressman, R. S., & Maxim, B. R. (2015). *Software engineering: A practitioner's approach* (8th ed.). New York: Mcgraw-Hill.

Software Project Management Plan (SPMP) for Nirvana National Bank ATM Software Project. (n.d.). Retrieved July 05, 2017, from http://buckley-golder.com/papers/mbg_SPMP_ProjectManagement.pdf

Software Project Management Plan Template. (2003, October 02). Retrieved July 05, 2017, from http://www.utdallas.edu/~chung/SP/SoftwareProjectManagementPlanTemplate.htm

1.5 Definitions, Acronyms, Abbreviations

API – Application Programming Interface

EC – Electrical Conductivity

FDACS – Florida Department of Agriculture and Consumer Services

RNN – Recurrent Neural Network

SBDTS - Software Budget and Detailed Timeline Spreadsheet

SDD – Software Design Description

SDLC – Software Development Life Cycle

SPMP – Software Project Management Plan

SMS – Soil Moisture Sensor

SRS – Software Requirements Specification

STD – Software Testing Document

UI – User Interface

2. Project Organization

2.1 Process Model

A prototyping, evolutionary process model will be employed in the development of this project. This process model will be combined with the Agile Software Development methodology. This model focuses on communicating often with the client and providing the client with prototypes produced for the project at a number of iterations throughout the project. This model also allows the client to provide frequent feedback. By obtaining feedback from the client frequently, this will help mitigate any major modifications to the project that would otherwise arise when the client requests a change to the requirements that were originally identified (Pressman & Maxim, 2015).

2.2 Organizational Structure, Boundaries, and Interfaces

The organizational structure will consist of one internal individual, Raulie Raulerson, that will assume all of the roles and responsibilities for the project laid out in section 2.3. Mr. Raulerson will be the project manager for this project. The project manager will interface with both the client and his mentor/manager to elicit frequent feedback on the direction and scope of the project. The client is Katie Hallas, Environmental Administrator for the Florida Department of Agriculture and Consumer Services' Office of Ag Water Policy. The mentor is Dr. Donna Lohr, University of West Florida professor in the Computer Science department. It is also important to note that Dr. Lohr will also act as the management staff in this structure. She will advise the project manager on the status and progress of the project and provide feedback, when appropriate.

The project manager will interface with the client and mentor/manager to convey any feedback to or from either of them. The project manager will present the all deliverables identified in section 1.3 to the client by 12/6/2017. The client will certify that they have received and approved these deliverables by signing a client acceptance letter. This letter will be passed on to the project manager's mentor/manager to indicate whether the client approve/rejects the deliverables that are provided.

2.3 Project Responsibilities

As was noted in section 2.2, the internal structure for this project will consists of only one individual, Raulie Raulerson. Mr. Raulerson will take on the following roles over the course of the project:

- Project Manager
- Requirements Analyst
- Software Architect/Designer
- Programmer
- Tester
- Technical Writer
- Configuration Manager
- Risk Manager

Mrs. Katie Hallas will be the client for the project. Dr. Donna Lohr will act as both the project manager's mentor and as the manager overseeing the project manager and all deliverables that are produced.

3. Managerial Process

3.1 Managerial Objectives and Priorities

The objective of the managerial staff is to ensure that the project finishes on time and under budget with a satisfied client. Another objective of the managerial staff is to provide adequate time and resources to the project manager so that they can succeed.

One managerial priority will be completing all the deliverables identified in section 1.3 by 12/6/2017. Management will assess the progress in meeting this priority by receiving and reviewing weekly status updates/progress reports on a weekly basis over the course of the project.

Another priority will be to ensure that the client is satisfied throughout the process and with the end product that is generated.

3.2 Assumptions, Dependencies, and Constraints

The following assumptions will be made for this project:

- Irrigation users know how to utilize computer-based programs
- The parameter set that irrigation users will input consists of a minimum of soil temperature (degrees Celsius), electrical conductivity, soil moisture content (mm), rainfall (mm), relative humidity (%), soil type, and crop being grown.
- The system will be designed to function on the Mac OSX operating system (Sierra).

The following dependencies exist for this project:

- The project code is dependent on the SRS, SDD, and User Interface being completed prior to starting coding.
- The STD cannot be completed until the project code is completed, the product is reviewed and feedback is provided by the client, and all client feedback is addressed.

- The user's manual cannot be completed until the STD is completed and all client feedback is addressed.
- The mentor/management will rely on the project manager to complete all deliverables on time to ensure successful completion of the project.

The following items will place constraints on this project:

- This project's budget shall not exceed $20,350.00.
- This project will be completed within two semesters with a due date of 12/6/2017.
- There is no maintenance associated with this project.
- There will only be one individual working on this software project.

3.3 Risk Management

The risk management plan for this project is a separate document and is listed in section 1.4.4. This plan identifies, evaluates, categorizes, and prioritizes risks that have been assessed in the project. The categorization of these risks will aid the project manager in identifying what part of the SDLC to expect a specific risk to possibly occur.

The risk mitigation plan within the referenced document also lays out the countermeasures for dealing with each specific risk.

As this project progresses, any additional risks that are identified will be added to the risk management plan listed in section 1.4.4.

3.4 Monitoring and Controlling Mechanisms

One of the critical monitoring and controlling mechanisms in the managerial process is a risk management plan. This plan will consist of identified risks with a rank that indicates how severe they are thought to be in affecting the project's success. A critical piece of this plan is to identify how to mitigate or completely avoid these risks by developing a strategy to deal with each specific risk. The risks associated with this project and their mitigation strategies can be found in the Risk Management Document as well as in section 3.3.

Another monitoring and controlling mechanism that will be used throughout this project is the development of status updates and progress reports. A status update or progress report will be submitted to management at least weekly during the course of the project. The updates/reports will let management ascertain the progress of the project and provide feedback to the project manager on the project. These reports will allow management to decide where additional resources may need to be focused to successfully complete the project.

One additional mechanism that will be utilized is a Change Request form. This form will allow the project manager to document any substantial requirement changes that the client may request and solicit feedback from management about whether or not to approve/reject the change. This process will help ensure that the project stays on track.

4. Technical Process

4.1 Methods, Tools, and Techniques

4.1.1 Methods

This project will use the Agile Software Development methodology to successfully complete this project. This software development methodology is provided by the Agile Alliance. In addition, the evolutionary, prototyping process model will also be used to develop this project. This model was chosen because it ensures frequent communication between the client and the project manager as well as emphasizes feedback from the client. Prototypes are generated iteratively to provide to the client and gather feedback about the progress and direction of the product. This process model also handles changing requirements well, when compared to other process models, and helps mitigate what could otherwise cause lead to issues with the final product (Pressman & Maxim, 2015).

4.1.2 Tools

The tools below will be used to complete the categories of work listed below:

- Project Management
  - Microsoft Excel (Office 365)
  - Microsoft Word (Office 365)
  - Adobe Acrobat
- Requirements Analysis
  - Microsoft Word (Office 365)
  - Adobe Acrobat
  - StarUML (software modeling tool)
- Software Design
  - Microsoft Word (Office 365)
  - Adobe Acrobat
  - StarUML (software modeling tool)
- Programming
  - IntelliJ IDEA (Version 2016.3.6)
  - Java Runtime Environment: 1.8.0_112-release-408-b6 x86_64
  - Java Virtual Machine: OpenJDK 64-Bit Server VM by JetBrains s.r.o
  - Java Coding Conventions
  - DeepLearning4J API
  - Maven
- Testing
  - IntelliJ IDEA (Version 2016.3.6)
  - Java Runtime Environment: 1.8.0_112-release-408-b6 x86_64
  - Java Virtual Machine: OpenJDK 64-Bit Server VM by JetBrains s.r.o
  - Java Coding Conventions
  - DeepLearning4J API
  - Maven
- Technical Writing
  - Microsoft Excel (Office 365)
  - Microsoft Word (Office 365)
  - Adobe Acrobat
- Configuration Management
  - Change Request form
  - Microsoft Word (Office 365)
  - Adobe Acrobat
- Risk Management
  - Microsoft Excel (Office 365)
  - Microsoft Word (Office 365)

- Adobe Acrobat

4.1.3 Techniques

This project will be developed using object-oriented programming and design concepts. In addition, the design model laid out by Roger Pressman and Bruce Maxim will be used. This model consists of focusing on the following elements: data design, architectural design, interface design, component-level design, and deployment level design (Pressman & Maxim, 2015). This will allow the software designer/architect to concentrate on higher levels of abstraction initially and move his focus to lower-level components of the system as the design progresses.

4.2 Software Documentation

Software documentation consists of two different categories. The first is the documentation that will be produced for the requirements analysis, detailed design, testing, and other stages of the project. The documents that fall in this category are the SPMP, Risk Management Document, SRS, SDD, STD, and the User's Manual. These works will first be approved by the project manager. The client and mentor/management will also need to approve of these documents before they will be finalized. Any requests for substantial changes to these documents made by the client and/or the mentor/management will be documented in a Change Request form. The project manager will solicit feedback from management on whether they support the change, while determining if there are adequate resources available to implement the change. Please note that the change history/evolution will be indicated in each document and any substantial revisions to these documents will be noted in the revision history for each document.

The second category of documentation is the comments made in the code produced for this project. These comments will follow the conventions Java Coding Conventions specified by Sun Microsystems, Inc. in 1997 (revised April 20, 1999). This documentation will be reviewed during the testing phase of the project by the tester. Any substantial changes that need to be made will be documented in a Change Request form. The tester/project manager will solicit feedback from management on whether they support the change, while determining if there are adequate resources available to implement the change.

4.3 Project Support Functions

The project manager will be responsible for providing all other project support functions. This may include completing formal reviews/audits of the documentation produced during the course of this project.

5. Work Elements, Schedule, and Budget

5.1 Work Elements

Section 2.3 documented the roles and responsibilities will be needed to successfully complete this project. The following text documents who will be responsible for each deliverable throughout the project.

The requirements analyst and technical writer will be responsible for completing the SRS. The software architect/designer and technical writer will be responsible for completing the SDD as well as the User Interface design and wireframe. The programmer will be responsible for completing, debugging,

and fixing all project code. The tester and technical writer will be responsible for testing the project code and completing the STD. The configuration manager and technical writer will be responsible for noting any substantial changes requested by the mentor/management and/or the client in a Change Request form. The risk manager and technical writer will be responsible for updating the Risk Management Plan throughout course of the project. The project manager will solicit feedback from management on whether to proceed with any formal change requests. If the change is approved, the configuration manager will document the revisions to the affected document in the appropriate change history and allow the technical writer, along with any other relevant staff (i.e., tester will aid in making changes to the STD), to make the approved change(s). The project manager will be responsible for all coordination with the client and the mentor/management. The project manager will also need to approve all documents before they are conveyed to the client and the mentor/management for approval. Please note that changes made to the design for implementation purposes will not require a Change Request form. These forms are only needed when the client, the mentor, or management requests a substantial change to the functionality of the system.

5.2 Schedule

See Appendix A for a detailed work breakdown schedule of the remaining work to be done to complete the project. Please note that this schedule is dynamic and will frequently change throughout the course of the project.

5.3 Budget

Deliverable	Projected Hours	Actual Hours	Projected Client Hours	Actual Client Hours	Projected Mentor Hours	Actual Mentor Hours	Projected Budget	Actual Cost
SPMP	27.00	22.00	0.00	1.00	0.00	0.00	$ 1,350.00	$ 1,150.00
Risk Management Plan	13.00	10.00	0.00	0.00	1.00	0.00	$ 725.00	$ 500.00
SRS	20.00	25.00	3.00	3.00	1.00	0.00	$ 1,225.00	$ 1,400.00
SDD	20.00	15.00	4.00	2.00	2.00	0.00	$ 1,350.00	$ 850.00
Presentations	13.00	14.00	4.00	3.00	8.00	0.00	$ 1,450.00	$ 850.00
User Interface Design	24.00	12.00	6.00	1.00	0.00	0.00	$ 1,500.00	$ 650.00
Project Code	138.00	102.00	2.00	1.00	1.00	0.00	$ 7,075.00	$ 5,150.00
STD + Testing	41.00	41.00	0.50	1.00	0.00	0.00	$ 2,075.00	$ 2,100.00
Client Acceptance	18.00	20.00	15.50	7.00	2.00	0.00	$ 1,825.00	$ 1,350.00
User's Manual	23.00	13.00	2.00	1.00	1.00	0.00	$ 1,325.00	$ 700.00
Revise Deliverables	6.00	7.00	1.50	1.00	1.00	0.00	$ 450.00	$ 400.00
Total	**337.00**	**274.00**	**37.00**	**20.00**	**16.00**	**0.00**	**$ 20,350.00**	**$ 15,100.00**

6. SPMP Approval

Project Manager Signature 

Client Signature Katie Hallas

Mentor/Management Signature _____

Appendix A

		Task/Component Name	Estimated Effort (hrs)	Actual Effort (hrs)	Projected Client Hours	Actual Client Hours	Projected Mentor Hours	Actual Mentor Hours	Start Date	Completion Date
Week 1	May 15 - 21	**Module 1 - Course Introduction**								
		Start Brainstorming Ideas for Project	2.00	3.00	0.00	0.00	0.00	?	5/15/2017	5/22/2017
Week 2	May 22 - 28	**Module 2 - Define Project**								
		Project Definition Background	4.00	6.00	0.25	0.25	0.00	?	5/24/2017	5/28/2017
Week 3	May 29 - June 4	**Module 3 - Project Definition Section 1**								
		Project Definition Section 1	6.00	6.00	1.00	0.50	1.00	?	6/1/2017	6/4/2017
Week 4	June 5 - 11	**Module 4 - Project Definition Section 2, Project Status 1**								
		Project Definition Section 2	8.00	11.00	0.00	0.00	0.50	?	6/3/2017	6/11/2017
		Project Status 1	2.00	2.00	1.00	0.25	0.50	?	6/10/2017	6/11/2017
Week 5	June 12 - 18	**Module 5 - Project Definition Section 3, Project Status 2**								
		Project Definition Section 3	5.00	4.00	0.00	1.00	0.50	?	6/12/2017	6/18/2017
		Project Status 2	2.00	2.00	1.00	0.25	0.50	?	6/17/2017	6/18/2017
		Create Risk Management Plan	2.00	2.00	0.00	0.00	0.50	?	6/14/2017	6/18/2017
		Create Risk Matrix	1.00	1.00	0.00	0.00	0.50	?	6/14/2017	6/18/2017
Week 6	June 19 - 25	**Module 6 - Project Definition Section WBS, Project Status 3**								
		Project Definition Section WBS	5.00	6.00	0.00	0.00	0.50	?	6/20/2017	6/25/2017
		Project Status 3	2.00	2.00	1.00	0.25	0.50	?	6/24/2017	6/25/2017
		Start Software Project Management Plan (SPMP)	3.00	3.00	0.00	0.00	0.00	?	6/19/2017	6/25/2017
		Create software budget and detailed timeline spreadsheet (SBDTS)	3.00	5.00	1.00	1.00	0.50	?	6/19/2017	6/25/2017
		Continue Working on Risk Management Plan	3.00	2.00	0.00	0.00	0.00	?	6/22/2017	6/25/2017
Week 7	June 26 - July 2	**Module 7 - Progress Report 1**								
		Progress Report 1	3.00	5.00	2.00	0.00	0.50	?	6/30/2017	7/2/2017
		Continue Working on Risk Management Plan	3.00	1.00	0.00	0.00	0.00	?	6/30/2017	7/2/2017
		Continue Working on SPMP	8.00	0.00	0.00	0.00	0.00	?	7/2/2017	7/2/2017
		Update SBDTS	1.00	0.50	0.50	0.00	0.50	?	7/2/2017	7/2/2017
Week 8	July 3 - 9	**Module 8 - Project Status Update 4**								
		Project Status Update 4	2.00	2.00	1.00	0.50	0.50	?	7/9/2017	7/9/2017
		Continue Working on Risk Management Plan	2.00	2.00	0.00	0.00	0.00	?	7/3/2017	7/9/2017
		Continue Working on SPMP	3.00	5.00	2.00	0.00	0.00	?	7/5/2017	7/9/2017
		Update SBDTS	1.00	0.50	0.50	0.00	0.50	?	7/9/2017	7/9/2017
Week 9	July 10 - 16	**Module 9 - Project Status Update 5**								
		Project Status Update 5	2.00	1.00	1.00	0.50	0.50	?	7/16/2017	7/16/2017
		Finish Risk Management Plan	2.00	2.00	0.00	0.00	0.00	?	7/12/2017	7/16/2017
		Continue Working on SPMP	8.00	5.00	0.00	0.00	0.00	?	7/12/2017	7/16/2017
		Update SBDTS	1.00	1.00	0.50	0.50	0.50	?	7/16/2017	7/16/2017
Week 10	July 17 - 23	**Module 10 - Progress Report 2**								
		Progress Report 2	3.00	2.00	2.00	1.00	0.50	?	7/23/2017	7/23/2017
		Start Working on PowerPoint Presentation	3.00	1.00	0.00	0.00	0.00	?	7/23/2017	7/23/2017
		Start Working on Software Requirements Specification (SRS)	10.00	8.00	2.00	1.00	0.50	?	7/22/2017	7/23/2017
		Finish SPMP	5.00	9.00	2.00	1.00	0.00	?	7/17/2017	7/22/2017
		Update SBDTS	1.00	1.00	0.50	0.50	0.50	?	7/22/2017	7/23/2017
Week 11	July 24 - 30	**Module 11 - Project Status Update 6**								
		Project Status Update 6	2.00	1.00	1.00	1.00	0.50	?	7/30/2017	7/30/2017
		Finish SRS	10.00	17.00	1.00	2.00	0.50	?	7/24/2017	7/30/2017
		Start Software Design Description (SDD)	10.00	3.00	2.00	1.00	0.00	?	7/28/2017	7/30/2017

		Update SBDTS	1.00	1.00	0.50	0.00	0.50	?	7/30/2017	7/30/2017
		Continue Working on PowerPoint Presentation	2.00	2.00	0.00	0.00	0.00	?	7/24/2017	7/30/2017
Week 12	July 31 - August 2	**Module 12 - Final Report, YouTube and PowerPoint Presentations, Client Acceptance Letter, and all Project Artifacts**								
		Final Report	5.00	3.00	1.00	1.00	2.00	?	7/31/2017	8/2/2017
		YouTube Presentation	3.00	3.00	1.00	1.00	2.00	?	7/31/2017	8/2/2017
		Finish PowerPoint Presentation	1.00	2.00	1.00	0.50	2.00	?	7/31/2017	8/2/2017
		Client Acceptance Correspondence	1.00	1.00	3.00	1.00	0.50	?	8/2/2017	8/2/2017
		Finish Working on SDD	10.00	12.00	2.00	1.00	2.00	?	8/2/2017	8/2/2017
		Update SBDTS	1.00	0.50	0.50	0.00	0.50	?	8/2/2017	8/2/2017
Week 13	August 3 - 6	**Module 13**								
		Start Designing User Interface	8.00	5.00	2.00	1.00	0.00	?	8/6/2017	8/6/2017
		Update SBDTS	1.00	1.00	0.50	0.00	0.50	?	8/6/2017	8/6/2017
Week 14	August 7 - 13	**Module 14**								
		Continue Working on Designing User Interface	8.00	3.00	2.00	0.00	0.00	?	8/7/2017	8/13/2017
		Update SBDTS	1.00	0.50	0.50	0.00	0.50	?	8/7/2017	8/13/2017
Week 15	August 14 - 20	**Module 15**								
		Finish Working on User Interface	8.00	4.00	2.00	0.00	0.00	?	8/14/2017	8/20/2017
		Update SBDTS	1.00	0.50	0.50	0.00	0.50	?	8/14/2017	8/20/2017
Week 16	August 21 - 27	**Module 16**								
		Start Coding Project	10.00	2.00	0.00	0.00	0.00	?	8/21/2017	8/27/2017
		Update SBDTS	1.00	0.50	0.50	0.00	0.50	?	8/21/2017	8/27/2017
Week 17	August 28 - September 3	**Module 17**								
		Continue Coding Project	10.00	5.00	0.00	0.00	0.00	?	8/28/2017	9/3/2017
		Update SBDTS	1.00	0.50	0.50	0.00	0.50	?	8/28/2017	9/3/2017
Week 18	September 4 - 10	**Module 18**								
		Continue Coding Project	10.00	4.00	0.00	0.00	0.00	?	9/4/2017	9/10/2017
		Convert Project Definition Background to Report Format	1.00	2.00	0.00	0.00	0.50	?	9/4/2017	9/10/2017
		Update SBDTS	1.00	0.50	0.50	0.00	0.50	?	9/4/2017	9/10/2017
Week 19	September 11 - 17	**Module 19**								
		Continue Coding Project	10.00	6.00	0.00	0.00	0.00	?	9/11/2017	9/17/2017
		Convert Project Definition Section 1 to Report Format	2.00	2.00	0.50	0.50	0.50	?	9/11/2017	9/17/2017
		Update SBDTS	1.00	0.50	0.50	0.00	0.50	?	9/11/2017	9/17/2017
Week 20	September 18 - 24	**Module 20**								
		Continue Coding Project	10.00	4.00	0.00	0.00	0.00	?	9/18/2017	9/24/2017
		Project Status Update 1	2.00	2.00	0.50	0.50	0.50	?	9/18/2017	9/24/2017
		Convert Project Definition Section 2 to Report Format	1.00	1.00	0.00	0.00	0.50	?	9/18/2017	9/24/2017
		Update SBDTS	1.00	0.50	0.50	0.00	0.50	?	9/18/2017	9/24/2017
Week 21	September 25 - October 1	**Module 21**								
		Continue Coding Project	10.00	8.00	0.00	0.00	0.00	?	9/25/2017	10/1/2017
		Project Status Update 2	2.00	1.00	0.50	0.00	0.50	?	9/25/2017	10/1/2017
		Convert Project Definition Section 3 and WBS to Report Format	1.00	1.00	0.00	0.00	0.50	?	9/25/2017	10/1/2017
		Update SBDTS	1.00	0.50	0.50	0.00	0.50	?	9/25/2017	10/1/2017
Week 22	ctober 2 - 8	**Module 22**								
		Continue Coding Project	10.00	5.00	0.00	0.00	0.00	?	10/2/2017	10/8/2017
		Project Status Update 3	2.00	1.00	0.50	0.00	0.50	?	10/2/2017	10/8/2017

		Update SBDTS	1.00	0.50	0.50	0.00	0.50	?	10/2/2017	10/8/2017
Week 23	October 9 - 15	**Module 23**								
		Continue Coding Project	10.00	3.00	0.00	0.00	0.00	?	10/9/2017	10/15/2017
		Progress Report 1	3.00	2.00	0.50	0.00	0.50	?	10/9/2017	10/15/2017
		Update SBDTS	1.00	2.00	0.50	0.00	0.50	?	10/9/2017	10/15/2017
Week 24	October 16 - 22	**Module 24**								
		Continue Coding Project	20.00	10.00	0.00	0.00	0.00	?	10/16/2017	10/22/2017
		Project Status Update 4	2.00	2.00	0.50	0.00	0.50	?	10/16/2017	10/22/2017
		Update SBDTS	1.00	1.00	0.50	0.00	0.50	?	10/16/2017	10/22/2017
Week 25	October 23 - 29	**Module 25**								
		Continue Coding Project	20.00	20.00	0.00	0.00	0.00	?	10/23/2017	10/29/2017
		Project Status Update 5	2.00	2.00	0.50	0.50	0.50	?	10/23/2017	10/29/2017
		Update SBDTS	1.00	1.00	0.50	0.00	0.50	?	10/23/2017	10/29/2017
Week 26	October 30 - November 5	**Module 26**								
		Continue Coding Project	10.00	25.00	0.00	0.00	0.00	?	10/30/2017	11/5/2017
		Start Testing Project	4.00	2.00	0.00	0.00	0.00	?	10/30/2017	11/5/2017
		Start Software Testing Document (STD)	2.00	2.00	0.00	0.00	0.00	?	10/30/2017	11/5/2017
		Progress Report 2	3.00	2.00	0.50	0.00	0.50	?	10/30/2017	11/5/2017
		Update SBDTS	1.00	1.00	0.50	0.00	0.50	?	10/30/2017	11/5/2017
Week 27	November 6 - 12	**Module 27**								
		Finish Coding Project	8.00	10.00	2.00	1.00	1.00	?	11/6/2017	11/12/2017
		Continue Testing Project	10.00	5.00	0.00	0.00	0.00	?	11/6/2017	11/12/2017
		Continue Working on STD	4.00	5.00	0.00	0.00	0.00	?	11/6/2017	11/12/2017
		Start on User's Manual	6.00	2.00	0.00	0.00	0.00	?	11/6/2017	11/12/2017
		Project Status Update 6	2.00	1.00	0.50	0.00	0.50	?	11/6/2017	11/12/2017
		Update SBDTS	1.00	1.00	0.50	0.00	0.50	?	11/6/2017	11/12/2017
Week 28	November 13 - 19	**Module 28**								
		Continue Working on User's Manual	6.00	4.00	0.00	0.00	0.00	?	11/13/2017	11/19/2017
		Provide Project to Client for Review	1.00	2.00	6.00	2.00	1.00	?	11/13/2017	11/19/2017
		Finish Testing Project	5.00	10.00	0.00	0.00	0.00	?	11/13/2017	11/19/2017
		Continue Working on STD	4.00	3.00	0.00	0.00	0.00	?	11/13/2017	11/19/2017
		Update SBDTS	1.00	1.00	0.50	0.00	0.50	?	11/13/2017	11/19/2017
		Project Status Update 7	2.00	1.00	0.50	0.50	0.50	?	11/13/2017	11/19/2017
		Receive Feedback from Client on Project	1.00	1.00	6.00	2.00	1.00	?	11/13/2017	11/19/2017
Week 29	November 20 - 26	**Module 29**								
		Address Feedback from Client	10.00	11.00	3.00	2.00	0.00	?	11/20/2017	11/26/2017
		Finish STD	7.00	11.00	0.00	0.00	0.00	?	11/20/2017	11/26/2017
		Continue Working on User's Manual	6.00	2.00	0.00	0.00	0.00	?	11/20/2017	11/26/2017
		Revise SDD, SRS, SPMP, Risk Mitigation Plan as needed	5.00	6.00	1.00	1.00	0.50	?	11/20/2017	11/26/2017
		Update SBDTS	1.00	1.00	0.50	0.00	0.50	?	11/20/2017	11/26/2017
Week 30	November 27 - December 3	**Module 30**								
		Address Feedback from Client	5.00	5.00	0.50	1.00	0.00	?	11/27/2017	12/3/2017
		Finish User's Manual	5.00	5.00	2.00	1.00	1.00	?	11/27/2017	12/3/2017
		Test Fixes Based on Client Feedback	5.00	3.00	0.50	1.00	0.00	?	11/27/2017	12/3/2017
		Project Status Update 8	2.00	1.00	0.50	1.00	0.50	?	11/27/2017	12/3/2017
		Update SBDTS	1.00	1.00	0.50	1.00	0.50	?	11/27/2017	12/3/2017

Week 31	December 4 - 6	**Module 31**								
		Touch Up Project and Submit	5.00	5.00	0.50	0.00	5.00	?	12/4/2017	12/6/2017
		Final Report	5.00	2.00	1.00	1.00	2.00	?	12/4/2017	12/6/2017
		YouTube Presentation	3.00	5.00	1.00	1.00	2.00	?	12/4/2017	12/6/2017
		Finish PowerPoint Presentation	1.00	1.00	1.00	0.50	2.00	?	12/4/2017	12/6/2017
		Client Acceptance Correspondence	1.00	1.00	3.00	1.00	0.50	?	12/4/2017	12/6/2017
		Finalize SBDTS	1.00	1.00	0.50	0.00	0.50	?	12/4/2017	12/6/2017