<Individual Project>

Verification & Validation Plan

Version Number: <1.0>
Version Date: <03/23/2021>

Document History

<Provide information on how the development and distribution of the Independent Verification and Validation Plan is controlled and tracked. Use the table below to provide the version number, date, author, and a brief description of the reason for creating the revised version.>

Version No.	Date	Author	Revision Description
<1.0>	*<03/23/21>*	*< Michael Dutzman>*	*< Initial document>*

Contents

1. Approach

1.1 Organization

<The V&V Plan describes the approach for having an independent third party check (in this case the professor) that the solution/service meets specifications and that it fulfills its intended purpose. In this section, describe the organization of the V&V effort.

Use the table below to provide a brief description of the tasks to be accomplished in preparing for and responding to V&V assessment activities and reviews for the project. Identify the stakeholders/roles responsible for each step of the process, the estimated timeframe for completing the steps, and the planned approach.>

V&V Process Task	Responsibility	Estimated Timeframe	Approach
Obtain approval for the V&V approach	*Michael Dutzman*	*3 days*	*Prepare approval documentation*
Prepare V&V solicitation	Michael Dutzman	1	
Select V&V provider	Michael Dutzman	1	
Orient project team and V&V provider	Michael Dutzman	1	
Provide materials and system access to V&V provider	Michael Dutzman	3	
Manage V&V provider	Michael Dutzman	2	
Review V&V reports	Michael Dutzman	1	
Develop plans for improvement based on V&V findings	Michael Dutzman	1	
Communicate V&V findings and the project's response	Michael Dutzman	1	
Track action items	Michael Dutzman	1	

Table 1 - Summary of IV&V Approach, Responsibilities, and Schedule

1.2 Scope and Activities

<Describe and outline the scope of the V&V effort. List and define the V&V activities that are appropriate to the project given the size and risk factors. V&V activities are tasks that the V&V provider completes when verifying and validating the various areas of the project. Activities for consideration include:

- *Verification of requirement against defined specifications*
- *Verification of design against defined specifications*
- *Verification of product code against defined standards*
- *Verification of terms, conditions, payment, etc., against contracts*
- *Code reviews – Systematic examination of the product's source code*
- *Inspections – Peer review of work products and documentation*
- *Walkthroughs – Inspecting source code by following logical paths through the algorithms or code as determined by input conditions and choices made along the way*

- *Unit testing – Validates that individual units of product are working as designed*
- *Integration testing – Units of product are combined and tested as a group*
- *Function testing - Involves validating product functionality against defined requirements*
- *System testing – Testing of both hardware and software on a completely integrated system*
- *User acceptance testing – Black-box testing of product functionality to obtain release acceptance*
- *Determining the types and levels of product integrity to be verified and validated*
- *Developing performance metrics to allow tracking of project completion against defined milestones*
- *Identifying an integrity schema to measure the project's conformity to requirements*
- *Planning and scheduling of IV&V activities considering the project management plan and schedule*
- *Consulting with stakeholders to assess their involvement and buy-in regarding system functionality and the system's ability to meet their needs*
- *Reviewing and providing recommendations to improve both the management and technical aspects of the project including evaluating project progresses, resources, budgets, schedules, and reporting*
- *Reviewing and analyzing project management and software development activities, performance, and operational policies, processes, documentation, and products for accuracy and completeness*
- *Reviewing product architecture for feasibility, consistency, and adherence to related industry and UC standards*
- *Reviewing traceability of product functions to original requirements*
- *Documenting IV&V activities and assessment results in the form of task reports, activity summary reports, anomaly reports, test documents, and eventually a final IV&V summary report>*

All the above are in the SPMP document as well as documents with the corresponding labels.

individualSPMP_WBS.pdf, Requirements.pdf, UseCasesAndSD.pdf, IndividualTesting.pdf, individualHLA-CD.pdf

1.3 Reporting Requirements

<List and define the V&V assessment reviews that are appropriate to the project given the size and risk factors. Use this section to outline the deliverables to be completed by the V&V effort.>

Requirements are in Requirements.pdf

1.4 V&V Deliverable(s)

<Describe planned deliverables that the project team will expect the selected V&V provider to produce. This may include an V&V management plan, assessment reports, and a final V&V report.>

Deliverables are as specified on Blackboard.

1.5 Assumptions and Constraints

<Include a detailed explanation of any assumptions and/or constraints applied to the information documented within this V&V Plan.>

I assume everything I have stated about the project can be done in all constraints. The time constraint is that everything needs to be done by 4/26/21. Money will also be constrained to 0 dollars. I also cannot use and self-build websites like wix.com.

Appendix A: V&V Plan Approval

The undersigned acknowledge that they have reviewed the **Verification & Validation Plan** and agree with the information presented within this document. Changes to this **Verification & Validation Plan** will be coordinated with, and approved by, the undersigned, or their designated representatives.

[List the individuals whose signatures are desired. Examples of such individuals are Business Owner, Project Manager, and any appropriate stakeholders. Add additional lines for signature as necessary.]

Signature: _____Michael Dutzman_____   Date: _____3/23/21_____

Print Name: _____Michael Dutzman_____

Title: _____Boss_____

Role: _____everything_____

Signature: _____   Date: _____

Print Name: _____

Title: _____

Role: _____

Appendix B: References

<Insert the name, version number, description, and physical location of any documents referenced in this document. Add rows to the table as necessary.>

Table 2 below summarizes the documents referenced in this document.

Document Name	Description	Location
individualSPMP_WBS.pdf	*SPMP and WBS*	*https://github.com/MichaelDutzman/MichaelDutzman/blob/main/individualSPMP_WBS.pdf*
Requirements.pdf	*Requirements*	*https://github.com/MichaelDutzman/MichaelDutzman/blob/main/Requirements.pdf*
UseCasesAndSD.pdf	*Use cases and Sequence diagrams*	*https://github.com/MichaelDutzman/MichaelDutzman/blob/main/UseCasesAndSD.pdf*

| IndividualTesting.pdf | *Unit, integration, end-to-end, and regression testing* | *https://github.com/MichaelDutzman/MichaelDutzman/blob/main/IndividualTesting.pdf* |
| individualHLA-CD.pdf | *HLA and Class Diagrams* | *https://github.com/MichaelDutzman/MichaelDutzman/blob/main/individualHLA-CD.pdf* |

Table 2 - Appendix A: References

Appendix C: Key Terms

Table 3 below provides definitions and explanations for terms and acronyms relevant to the content presented within this document.

Term	Definition
SPMP	*Software Project Management Plan*
WBS	**Work Breakdown Structure**
HLA	**High Level Assembly**

Table 3 - Appendix B: Key Terms