Checkers Computer Software Application
Software Development Plan
Version 1.0
September 14, 2022
The Systems Squad

Team Members:

Kylie Hall
Brittany Brenneman
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Isabella Woel-Popovich

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Revision History

Date	Version	Description	Author(s)

1. Introduction

1.1 Purpose

The purpose of this Software Development Plan (SDP) is to materialize all information necessary to successfully manage the development and execution of the product in a controlled manner. The SDP is the leading framework constructed to serve as directional guidelines for the development team as well as a reference and timeline for the stakeholder.

1.2 Scope

This Software Development Plan (SDP) establishes a thoroughly detailed overall plan for the software implementations, testing, deployment, and qualifications for the Checkers Computer Software Application. This SDP is broken into a total of five sections. Excluding the first section being the introduction, the remaining four sections individually cover the project overview (Section 2), project organization (Section 3), and management process (Section 4), which go into detail pertaining to the information necessary to reference for the duration of development accurately. The approaches encompassed within this document are contingent on the product requirements provided by the client's description as they were comprehended at the time of writing. The complete statement of the product requirements will soon officially be documented in the Software Requirements Specification (SRS).

1.3 Definitions, Acronyms, and Abbreviations

Acronym	Meaning
SDP	Software Development Plan
SRS	Software Requirements Specification

1.4 Document References

Document Title	Version	Date	Author(s)
Software Requirements Specification	1.0	September 14, 2022	Kylie Hall, Brittany Brenneman, Xan Weatherholtz, & Isabella Woel-Popovich

1.5 System Overview

The software system being developed is a standard or classic checkers game application that requires two users to play from one computer and will require the user to use a mouse to select each move. It will automatically display an 8x8 frame size with 24 disk-shaped autogenerated playing pieces placed on the user's designated starting side. The system will include two sets of 12 playing pieces, one set being red and the other set being black for each user to be able to monitor which pieces belong to them. Additionally, both users must input their names which will determine which set they will be assigned, while also serving as a way to keep the score of any pieces conquered throughout the duration of each game. The first user to input their name will be assigned black and the second user will be assigned red. Furthermore, the user assigned to black will go first and start the game. The game will end once a player has collected all of the other player's pieces, or if a player decides to quit the game the winner is decided based on which player has the most pieces left or collected. The system will offer a one-use undo option per game for each player as well as a reset option to clear the score and names to begin a new match.

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2. Project Overview

2.1 Project Purpose, Scope, and Objectives

The purpose of this project is to create a working checkers game to the specifications given by the client. The checkers game itself has one end target delivery date of December 5, 2022. Furthermore, the project requires six documents to be constructed and delivered to the client: (1) The Software Development Plan; (2) The Software Requirements Specification; (3) The Traceability Matrix; (4) The Software Design;(5) The Software Test Plan.

2.2 Assumptions and Constraints

- Project must be finished by December 5, 2022
- Four project team members: Kylie Hall, Brittany Brenneman, Xan Weatherholtz, Isabella Woel-popovich
- Equipment: personal computers and any free software that can be downloaded and use

2.3 Project Deliverables

- Software Development Plan (SDP)
    - Target delivery date:
        - Version 1: September 14, 2022
        - Version 2: October 17, 2022
- Software Requirements Specification (SRS)
    - Target delivery date:
        - Version 1: September 26, 2022
        - Version 2: October 24, 2022
- Traceability Matrix
    - Target delivery date:
        - Version 1: October 3, 2022
        - Version 2: October 26, 2022
- Software Design Document (SDD)
    - Target delivery date:
        - Version 1: October 12, 2022
        - Version 2: November 2, 2022

- Software Test Plan (STP)
    - Target delivery date:
        - Version 1: November 9, 2022
        - Version 2: November 21, 2022
- Delivery list of documentation, media, etc.
    - Target delivery date: November 30, 2022
- Project presentation
    - Target delivery date: December 5, 2022
- Source code
    - Target delivery date: December 5, 2022

2.4 Evolution of the Software Development Plan

Expected Release Date	Version Number	Remarks
September 14, 2022	1	First version of the SDP, getting all of the criteria down before anything else is done.
October 17, 2022	2	New version of the plan after other documents and more progress on the project has been made, so more information has been gained.

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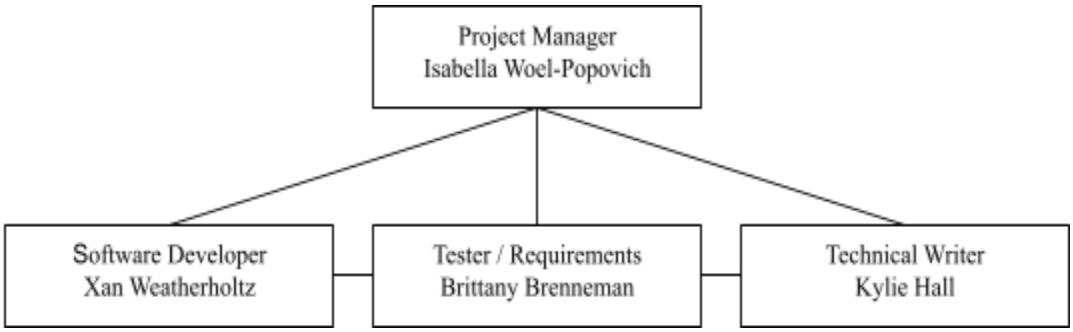
3. Project Organization

3.1 Organizational Structure



3.2 External Interfaces

The external contact for this project is Professor Bob Tracy with St.Mary's College of Maryland.

Email Address: rttracy@smcm.edu

Phone Number: 301-301-7503

3.3 Roles and Responsibilities

Name	Project Role(s)
Isabella Woel-Popovich	Coordinate weekly meetings for project progress and review/edit required documentation
Xan Weatherholtz	Develop the software for the project and provide assistance with documentation
Brittany Brenneman	Validate that software requirements are satisfied and provide assistance with documentation
Kylie Hall	Prepare the required documents to team members and prepare the project's user instructions

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4. Management Process

4.1 Project Estimates

There is no applicable overall cost to this project; The software shall cost $0, but the software shall cost 15 weeks of time. No re-estimation in cost shall occur throughout the project.

4.2 Project Plan

4.2.1 Phase Plan

Project phases shall occur sequentially in the waterfall model with some instances of iteration: as stated in *4.2.2 Iteration Objectives*. Communication and planning shall happen concurrently with stakeholders or customers involved in the phases. Modeling shall not happen concurrently with coding and constructing the software, instead it shall be in sequential order. Deployment shall be sequential from construction and shall take place on 11/30/22 with a delivery list of documentation, media, etc. along with a demonstration of the software and source code 12/5/22.

4.2.2 Iteration Objectives

The project shall have one iteration in planning and modeling. The objectives below shall be the outcome of the iteration.

1. Changes in planning shall be communicated to the supplied documents in this project.
2. Changes in scheduling shall be reported to supplied documentation
3. Iterations in planning and modeling shall create alterations to the modeling phase, and therefore documentation within both phases
4. The iteration shall create a more defined and permanent model for the team to begin construction confidently and with enough information

4.2.3 Releases

The outcome of this project will yield one software release over the entire project duration.

4.2.4 Project Schedule

	Start	Finish	Duration (# of days)	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15
Software Development Plan Document	9/7/2022	9/14/2022	7															
Software Requirements Specification Document	9/12/22	9/26/22	14															
Traceability Matrix	9/19/22	10/3/22	21															
Software Design Document	9/26/22	10/12/22	17															
Coding	10/12/22	10/26/22	14															
Updated Software Development Plan Document	10/13/22	10/17/22	4															
Updated Software Requirements Specification Document	10/18/22	10/24/22	6															
Updated Traceability Matrix Document	10/25/22	10/26/22	1															
Updated Software Design Document	10/27/22	11/2/22	7															
Software Test Plan Document	11/3/22	11/9/22	6															
Testing	11/10/22	11/21/22	11															
Updated STP Document	11/10/22	11/21/22	11															
Delivery (Documentation, Media, etc.)	11/30/22	11/30/22	0															
Project Presentation, Source Code	12/5/22	12/5/22	0															

4.2.5 Project Resourcing

The type of staff required for this project include a project manager, a software developer, a tester, and a technical writer. Therefore, this project shall have four members with experience in each specialization, with no special skills required. There shall not be any special training required, and therefore no target dates for specialized training will be provided.

4.3 Project Monitoring and Control

4.3.1 Requirements Management

Changes made to product requirements shall be provided in a fully updated version of the document which shall be reported. This document shall provide scheduled dates where updated documentation shall be provided: *4.2.4 Project Schedule.* Reference the list of document updates below.

	Start Date	Finish Date	Duration
Software Development Plan Document	10/13/22	10/17/22	4 days
Software Requirements Specification Document	10/18/22	10/24/22	6 days
Traceability Matrix Document	10/25/22	10/26/22	1 day
Software Design Document	10/27/22	11/2/22	7 days
STP Document	11/10/22	11/21/22	11 days

4.3.2 Quality Control

The quality of the project will be evaluated in the number of defects in the software. Defects will be recorded and tracked as Change Requests to track quality control of the software.

All defects will go through a required review process to ensure that each deliverable is of acceptable quality, using guidelines and checklists.

To ensure corrective actions are prioritized, any defects found during the review process that are not corrected prior to release for integration shall be recorded as Change Requests so that they are not forgotten in sequential development stages.

4.3.3 Reporting and Measurement

Appropriate documents will be updated as the project progresses. In each iteration of this document the revision history, any schedule changes, and changes in project estimates will be updated.

4.3.4 Risk Management

The approach to identify risks shall be used throughout the entire lifecycle of the project. To prioritize risk, it will be essential to evaluate at least once per iteration, and must be documented by the project manager in communication with the software developer. The risk will then be analyzed and further monitored throughout

the project to mitigate potential risks in future iterations and development. All risks will identify and rank the possibility of risks occurring along with the consequences and mitigation strategies.

4.3.5 Configuration Management

All major project changes will be reported in the appropriate documents.

Information about project and product artifacts (such as system software, models, components, etc.) is all included in the appropriate design documents. The artifacts that are customer deliverables will be included in the final version of the project.

The project team will review plans for major changes and approve them before those changes are implemented.

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5. Miscellaneous

There are no miscellaneous items at this time.