Checkers Computer Software Application
Traceability Matrix
Version 1.0
October 3, 2022
The Systems Squad

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Revision History

Date	Version	Description	Author(s)
October 3, 2022	1.0	Initial Version	Kylie Hall, Brittany Brenneman, Xan Weatherholtz, & Isabella Woel-Popovich

1. Introduction

1.1 Purpose

The purpose of the Traceability Matrix document is to clearly state the relationship between requirements and other artifacts through cross-references for the purpose of allowing access to how an activity relates to a requirement at any point in development.

1.2 Scope

The Traceability Matrix establishes each of the requirements for the project, as well as each of the aspects of the project that fulfill the requirements with the goal of ensuring that each of the requirements are met with an aspect. Section 2 of the document contains a list with every requirement numbered, another list with every aspect numbered, and a traceability table with the list of requirements crossed with the list of aspects. In this table, boxes are marked with an 'X' where an aspect meets a requirement.

1.3 Definitions, Acronyms, and Abbreviations

Acronym	Meaning
SDD	Software Design Document
SDP	Software Development Plan
SRS	Software Requirements Specification
STP	Software Test Plan

1.4 Document References

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

Software Requirements Specification	1.0	September 26, 2022	Kylie Hall, Brittany Brenneman, Xan Weatherholtz, & Isabella Woel-Popovich
Traceability Matrix	1.0	October 3, 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. The application will be delivered in a hard copy format where no installation is required and must be compatible with Windows DLLs.

2. Traceability

2.1 Requirements List

Requirement Number	SRS Section Number	SRS Section Title
R1	2.1.1.1	Checkerboard Outline
R2	2.1.1.2	Checkerboard Pattern
R3	2.1.1.3	Checkerboard Pattern Placement
R4	2.1.1.4	Checkerboard Playing Piece Placement
R5	2.1.1.5	Checkerboard Display

R6	2.1.2.1	Display Menu
R7	2.1.2.2	Restart in Menu
R8	2.1.2.3	Undo in Menu
R9	2.1.2.4	Quit from Menu
R10	2.1.3.1	User Names
R11	2.1.3.2	Highlight User Names
R12	2.1.3.3	Display Score
R13	2.1.4.1	Display First User Input of Name
R14	2.1.4.2	Display User Input to Submit Second User
R15	2.1.4.3	Display Second User Input of Name
R16	2.1.4.4	Display User Input to Load Checkerboard Screen
R17	2.1.5.1	Endgame Winner Display
R18	2.2.1.1	Selection of Checker Piece and Checker Square
R19	2.2.2.1	Number of Users
R20	2.2.3.1	Checkerboard Square Boundaries
R21	2.2.3.2	Allowed Movement of Non-King Checker Pieces
R22	2.2.3.3	Allowed Movement Without Capture
R23	2.2.3.4	Alternating Gameplay
R24	2.2.3.5	Movement of King Piece
R25	2.2.3.6	Valid Movement

R26	2.2.3.7	Invalid Movement
R27	2.2.4.1	User Capture
R28	2.2.4.2	Capture Removal
R29	2.2.5.1	Playable Movement Assistance
R30	2.2.6.1	Winner Declaration
R31	2.2.6.2	Tiebreaker
R32	3.1.1	Compatibility With Computer Hardware
R33	3.1.2	Required Hardware for User Input
R34	3.2.1	Software Compatibility
R35	4.1	Standalone Program
R36	4.2	Use of Windows DLLs
R37	4.3	Human Interfaces
R38	5.1	Launch Performance
R39	5.2	Launch Checkerboard Screen
R40	5.3	User Response
R41	6.1	Software Delivery

2.2 Aspects List

Aspect Number	Aspect (Subsystem) Description
A1	Accept 2 names

A2	Display 2 names
A3	Display Menu
A4	Accept Menu Input
A5	Display Checkerboard with Pieces
A6	Display Whose Turn it is
A7	Accept move input
A8	Accept Valid Move Input
A9	Accept Invalid Move Input
A10	Display User Assistance
A11	Display Move Following Input
A12	Accept Moves with Capture
A13	Display Score
A14	Display Winner or Tie
A15	Display Number of Games Won
A16	Accept Hardware Compatible with Software
A17	Accept Compatible Operating System
A18	Accept Interfaces
A19	Accept Required Performance Data
A20	Accept Delivery of Software

2.3 Traceability Table

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
R1					X															
R2					X															
R3					X															
R4					X															
R5					X															
R6			X																	
R7				X																
R8			X	X		X					X									
R9	X			X																
R10		X				X														
R11						X														
R12													X		X					
R13		X																		
R14	X	X																		
R15	X	X																		
R16					X															
R17													X	X	X					
R18							X	X	X		X									
R19	X																			
R20								X	X											

R21							X	X	X		X								
R22							X	X	X		X								
R23						X													
R24							X	X	X										
R25							X	X			X	X							
R26							X		X	X									
R27							X	X				X	X						
R28												X	X	X					
R29									X	X									
R30														X	X				
R31														X	X				
R32																X			
R33																X		X	
R34																	X		
R35																		X	
R36																X	X		
R37																		X	
R38																			X
R39																			X
R40																			X
R41																			X

3. Miscellaneous

There are no miscellaneous items at this time.