

2010

Tetris Project

Software Checklist



Class: CECS 491
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1. Preface

This document is a summarization of the major requirements lists in the Tetris Project Software Requirements document. It does not enumerate all requirements, but should serve well enough to help developers and reviewers ensure the software has met the primary requirements. Each requirement will be broken down into categories and will be marked as completed, completed with minor modifications, completed with major modifications, or not completed. There will also be an area for a description about how the requirement was completed.

The chart below is a general break down of how work was divided for the project. Please note that the importance of each section is not weighted equally.

Section	Damon	Matt
Game Design and Project Vision	70%	30%
Project Documentation	30%	70%
Code Documentation	50%	50%
Project Management	50%	50%
Code framework and structure	15%	85%
3D Graphics Engine	85%	15%
3D Lighting Engine	100%	0%
Screen Manager Engine	5%	95%
2D Graphics Engine	80%	20%
User Input Engine	75%	25%
Audio Engine	50%	50%
High Score Engine	0%	100%
Menu Engine	30%	70%
Options Engine	10%	90%
Tetris Engine	30%	70%
Tetris Pieces	60%	40%
Splash Screens	70%	30%
Visual Effects	50%	50%
Audio Effects	90%	10%
Testing and Validation	40%	60%
Graphic Textures	95%	5%
Audio Media	100%	0%
Spellchecking	100%	0%

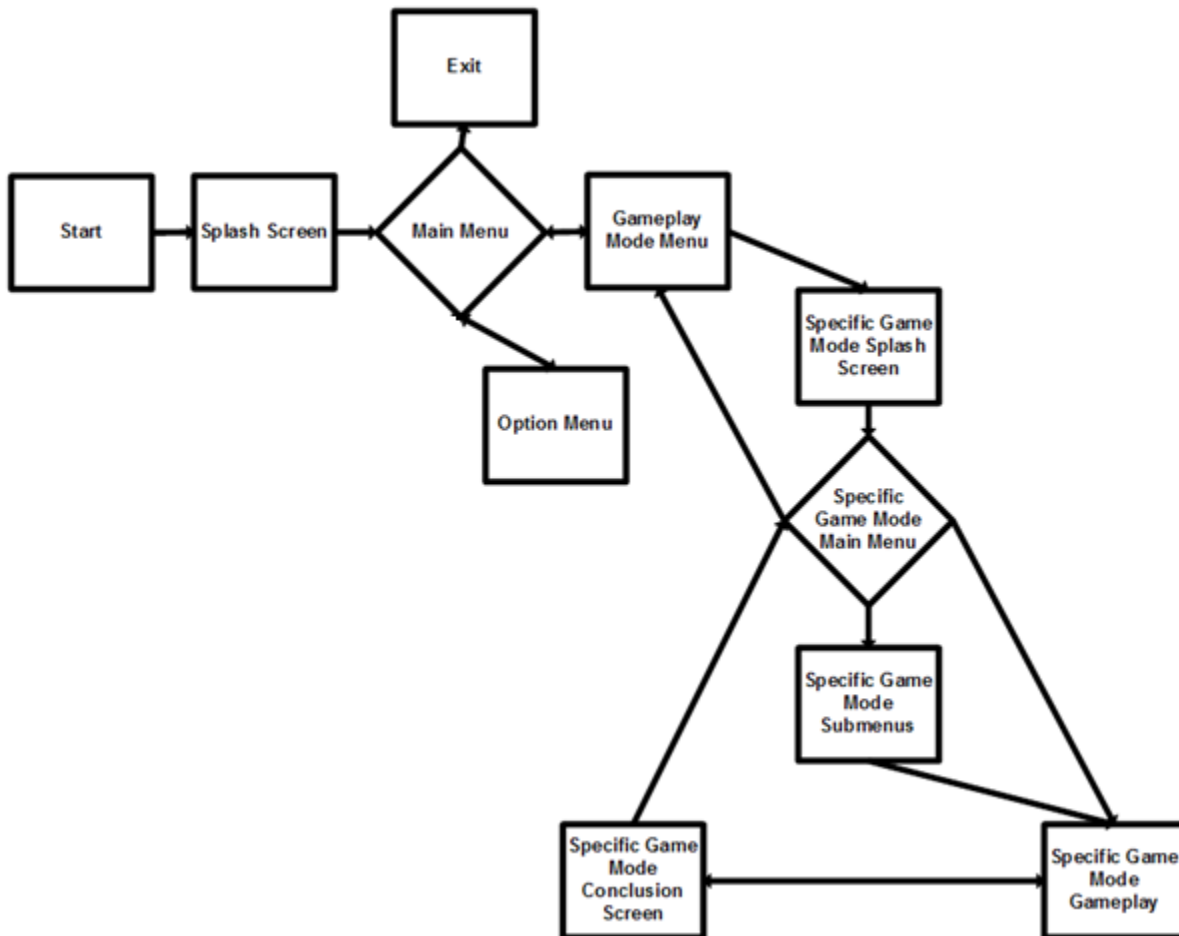
Overall: Workload was divided 50% Damon Chastain and 50% Matthew Urtnowski

Damon Chastain did the majority of his work getting the project started and making design decisions, creating a 3D Engine, rendering objects in the 2D Engine, creating the Sound Effects engine, creating all 2D, 3D, and Audio media, and creating the early versions of the Tetris Engine.

Matthew Urtnowski did the majority of his work designing and restructuring how the code was organized, optimizing which resources are loaded to maximize performance, creating the final version of the Tetris Engine, managing project documentation, and creating the music engine.

Tetris was team project and neither Damon nor Matt could have completed the project alone. Each team member made substantial contributions to the project.

The following diagram is a finite state machine of how the program should generally progress for reference and clarity purposes:



2. Start

2.1 Description:

The user starts the program by double-clicking on an executable file

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The program can be installed via a disc with all of the dependencies included. The program can be run from the installed executable. Additionally, the program may be downloaded from www.silodt.com instead of installing from a disc.

2.2 Description:

The program should run on Windows XP, Windows Vista, and Windows 7.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The program will run all of these operating systems

2.3 Description:

When the program starts it should be with a series of Splash Screen displaying information about the game.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The program starts with a splash screen with the same functional operations as the SRS document. The modification is with what information is displayed in the initial Splash Screen. In order to make the game more fun and not take a long time for the user to be able to play, we removed all of the safety information from the splash screens.

3. Splash Screen

3.1 Description:

The splash screen displays the projects author's name: Damon Chastain & Matthew Urtnowski

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The author names are displayed

3.2 Description:

The splash screen displays the projects instructor's name: Dr. Alvaro Monge

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: Dr. Alvaro's name is displayed

3.3 Description:

The splash screen displays the course title: CECS 491

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The course title is displayed

3.4 Description: The course title is displayed

The splash screen shows the term for this course: Fall 2010

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: We forgot to include the date of the project

3.5 Description:

The splash screen shows displays health hazards and dangers of using the game

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation:In order to make the game more fun and no take a long time for the user to be able to play, we removed all of the safety information from the splash screens.

3.6 Description:

The splash screen displays the purpose of the program

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation:In order to make the game more fun and no take a long time for the user to be able to play, we removed the general description of the game as we felt it was distracting and the game spoke for itself

3.7 Description:

The splash screen displays the appropriate uses of the program

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: In order to make the game more fun and not take a long time for the user to be able to play, we removed this information about the game. We felt it was distracting and we didn't want the user to have to read a dozen splash screens before playing.

The text on the splash screen is easy to read

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: We used a bright, large font to make it easy to read, we also didn't display all of the text at once so the user wasn't overwhelmed

3.9 Description:

The user cannot skip the splash screens

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The user can't skip the splash screen

4. Main Menu

4.1 Description:

The Main Menu contains a text list of the navigable choices: Gameplay Mode Menu, Option Menu, and Exit Menu.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: All of the main options are displayed

4.2 Description:

The user can highlight a navigable choice.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The red cursor will follow what the user is highlighting to make it easy to use

4.3 Description:

The user can navigate to a highlighted choice.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: All of the menu items are selectable

4.4 Description:

When the user navigates to Gameplay Mode Menu he is brought to the menu of all the playable Game Modes.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The user can navigate to the gameplay mode menu

4.5 Description:

When the user navigates to Option Menu he is brought to the Option Menu

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The user can navigate to the options menu

4.6 Description:

When the user navigates to Exit the program ends and the window closes.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The game is able to exit

5. Exit

5.1 Description:

The program closes cleanly without any crashing or freezing the computer.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The game ends seamlessly

6. Specific Game Mode High Score

6.1 Description:

The Game Mode shows a list of the current top 10 scores for that game mode

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: After the game is completed the 10 ten scores are visible

6.2 Description:

The top 10 scores are preserved even if the program is closed and reopened

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The scores are preserved in a file and remain after the game has been closed

7. Options Menu

7.1 Description:

The user can navigate back to the Main Menu by pushing a button

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The user can navigate from the options screen to the main menu

7.2 Description:

The user can assign a value of 0 to 10 to the Music Volume

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: We have our music scale from 1 to 10

7.3 Description:

The numeric Music Volume affects the in-game music volume where 0 is mute and 10 is full volume.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The music ranges from 1 to 10 where 1 is muted and 10 is full volume

7.4 Description:

The user can assign a value of 0 to 10 to the Game Volume

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: We ranged the volume from 1 to 10

7.5 Description:

The numeric Game Volume affects the in-game volume where 0 is mute and 10 is full volume.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The music ranges from 1 to 10 where 1 is muted and 10 is full volume

8. Gameplay Mode Menu

8.1 Description:

The user can navigate back to the Main Menu by pushing a button

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The user can navigate back to the main menu

8.2 Description:

The Gameplay Mode Menu shows a text list of all of the game mode choices the user can play

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: Each playable game mode is shown

8.3 Description:

The user can highlight a game mode to play

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: A cursor follows the users choices

8.4 Description:

When the user highlights a game mode a brief description of that game mode appears on the screen

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: Each game mode has a description

8.5 Description:

The user can navigate to a highlighted game mode

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: You can navigate to the game mode

8.6 Description:

When the user navigates to a highlighted game mode, it navigates to the correct game mode

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The menu options all point to the correct places

8.7 Description:

When the user navigates to a game mode the user is first brought to the splash screens for that game mode

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: In order to stream line the game we removed the splash screen so the user wouldn't have to wait to play. It's the same reason why we removed many of the slash screens at the beginning when the program is booted. The amount of waiting and splash screens made the game "boring".

9. Specific Game Mode Splash Screen

9.1 Description:

The user cannot skip the splash screen

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: We removed Game Mode splash screens because they were "boring"

9.2 Description:

The splash screen shows all required splash screen information for that game mode

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: We removed Game Mode splash screens because they were "boring"

9.3 Description:

The information displayed on the splash screen is easy to read

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: We removed Game Mode splash screens because they were "boring"

9.4 Description:

After the splash screens the user is brought to the main menu for that game mode

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: We removed Game Mode splash screens because they were “boring”

10. 3D Classic Tetris Gameplay

10.1 Description:

The user can push a button and pause the game

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: ‘Esc’ pauses the game

10.2 Description:

When the game is paused the user can push a button and unpauses the game

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The user can resume the game by pushing a button

10.3 Description:

The music stops when the game is paused

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The music stops

10.4 Description:

The music resumes when the game is unpaused

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The music resumes when the game is unpaused

10.5 Description:

The user can control a piece to move left or right

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: Pieces move left and right

10.6 Description:

The user can control a piece to go down faster

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: Pieces can move down

10.7 Description:

The user can rotate a piece 90 degrees clockwise

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: All pieces rotate when the up arrow is press

10.8 Description:

The user can move the camera angle around to get a different perspective on the game field

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: 'Q', 'W', 'A', 'S' can be used to move the camera

10.9 Description:

The player cannon move a piece through another piece

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: Pieces interact with each other

10.10 Description:

The user cannot move a piece off the game field.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: Tetris pieces stay on the board

10.11 Description:

When a piece reaches the bottom of the game field it locks in place and the user gets control of a new game piece

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: Works as specified

10.12 Description:

When the user creates a horizontal line the line is cleared

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: Lines clear

10.13 Description:

When a line is cleared all blocks above that line move down one block

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The board reconfigures correctly

10.14 Description:

Pieces 'Wall Kick' away from a wall when a rotation occurs near wall

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: Wall kicks work

10.15 Description:

All Tetrominoe pieces are implemented in the game. I, J, L, O, S, Z and T blocks.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: All Tetris pieces are implemented

10.16 Description:

All Tetrominoes are colored correctly. The I block is Cyan, the J block is blue, the L block is orange, the O block is grey, the S block is lime, the T block is purple, and the Z block is red.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: We changed the colors of the Tetris blocks to make them more vibrant and fun. Each block does have its own color though

10.17 Description:

The user scores 100 points for each line cleared

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: 100 points are awarded for clearing a line

10.18 Description:

The user receives 700 bonus points for clearing 4 lines at once

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The user is award 400 points for clearing lines and 700 bonus points

10.19 Description:

When the user clears 10 lines he progressed to the next level

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: Levels progress

10.20 Description:

Levels get faster as they get higher and progress linearly.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The game speeds up as the levels get higher

10.21 Description:

The lowest level is zero and the highest level is level 10

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: Classic Tetris ends when level 10 is completed

10.22 Description:

The game field is a 2D grid 10 wide by 20 tall

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The playable game field is the correct dimensions

10.23 Description:

The game is over when the user places a block such that a piece of it exceeds the 20 tall game field.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The game ends when the blocks get to high

10.24 Description:

After the game is completed the user is brought to the 3D Classic Tetris Game Conclusion Screen.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: There is a game over screen

11. 3D Classic Tetris Game Conclusion Screen

11.1 Description:

The user is shown his final score

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: When the game ends it freezes and the user has enough time to read his score

11.2 Description:

The user is shown the current top 10 scores

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The top ten scores are displayed

11.3 Description:

If the user scored high enough he is able to enter his name into the high score list

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The user can get on the high score

11.4 Description:

The users name may not exceed 10 characters

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: To give the game more of an arcade feel, we restricted the user to only be able to enter their initials

11.5 Description:

The user is given an option to play again

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The user can play again

11.6 Description:

The user is given an option to return to Main Menu

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation:

12. Performance

12.1 Description:

The game is not laggy or causes the computer to slow down

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: We limited the amount of loaded resources so we don't lock up the system

12.2 Description:

The game does not have bugs or problems which distract the user.

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Completed Completed w/ minor mods Completed w/ major mods Not Completed

Explanation: The gameplay is smooth and there are no glaring bugs